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Harnessing the Placebo Effect: A New Model for Mind-Body Healing Mechanisms

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The placebo effect is a phenomenon that has confounded Western medicine and research for over sixty years. While the field has historically and continues to be rife with misconceptions and confusion, recent research aims to reignite the art of medicine by turning the effect's underlying mechanisms to therapeutic benefit. However, researchers may not have the appropriate theoretical framework to do so. While significant progress has been made in identifying a number of the placebo effect's underlying mechanisms, conceptual deficiencies hinder application of advances in the field. In part, this is because the placebo effect unearths a number of problematic philosophical assumptions inherent to the biomedical model that inhibit an understanding and harnessing of the placebo effect in its true potential. This gives cause for these assumptions' reconsideration, within an understanding that the placebo effect offers evidence of mind-body interaction. With an eye toward advancing the field of placebo effect research, as well as connect this field with related fields in mind-body medicine, a new model for understanding the placebo effect is proposed. Based in transpersonal psychology's participatory model and Daniel Siegel's mindsight, the placebo effect is defined as *any non-pharmacological or mind-based intervention which positively affects one's energetic and informational patterns, resulting in improved embodiment and relationship*. This article explores how one might arrive at such a definition and the implications it may hold for placebo-related phenomena.

Keywords: ***Placebo, placebo effect, expectancy, expectation, meaning, context, transpersonal, participatory, mindsight, mind-body***

In the past several years, there has been a surge in research into the mechanisms underlying the *placebo effect* in both scientific research and medical practice (Colloca, Jonas, Killen, Miller, & Shurtleff, 2015). Building upon new theoretical models advanced in the past three decades (Benson & Friedman, 1996; Brody & Brody, 2000; Harrington, 1997; Kaptchuk, 2002; Moerman & Jonas, 2002; White, Tursky, & Schwarz, 1985), this research has been driven in large part by increased interest in the mind-body connection, with a goal toward harnessing the placebo effect toward greater therapeutic outcomes in clinical encounters, as well as improving research methodologies and understanding the science underlying the phenomenon (Miller, Colloca, & Kaptchuk, 2009). Indeed, this interest has been so pronounced that we might "consider the study of placebos as an emerging scientific discipline" (Thompson, 2005, p. 15). Since Thompson made this claim, research and interest has only continued to grow (Miller et al., 2009; Colloca et al., 2015).

Why all the interest? As Miller et al. (2009) argued, "Placebo research has the potential to bridge the chasm between the science and the art of medicine" (p. 12). The reason for this hinges on the understanding, emerging in Western medical practice, that "the real success of any treatment relies on whether it facilitates a positive change in the patient's condition" (Medoff & Colloca, 2015, p. 90). Given the ability of both placebo effects and evidence-based medicine (EBM) to accomplish this feat, it is becoming increasingly clear that placebos as broadly defined play a role in the "repertoire of every healer," (Thompson, 2005, p. 11) and that both elements (placebos and EBM) are essential to providing effective care.

However, while significant progress has been made in understanding the placebo effect and its underlying mechanisms, the field has also been hindered

by misunderstandings about the nature and reality of the placebo effect, stigmatization within the scientific and medical communities, and competing theoretical models that speak to philosophical quandaries underlying Western science and medical practice (Jonas, 2011; Miller et al., 2009). These challenges have required researchers to disentangle core concepts in explaining results to their audiences, and led many to attempt to relabel the placebo effect based on a more accurate understanding of the phenomenon (Brody, 2000; Benson & Friedman, 1996; Moerman & Jonas, 2002; Miller et al., 2009; Di Blasi & Kleijnen, 2003; Kaptchuk, 2002). While these attempts have advanced the field, the existing theoretical frames and proposals nonetheless remain partial and unsatisfactory. They remain so in part because the assumptions of the biomedical and Western scientific model, rooted in Cartesian dualism, remain partly submerged and unacknowledged and therefore inherent to the viewpoints advanced. It is here, I will argue, that the field of transpersonal psychology and its associated theoretical perspective can make a distinct contribution.

In the following, I will advance the thesis that contemporary attempts to rename the placebo effect point to the philosophical assumptions inherent in that term and the need for their reconsideration. I will argue furthermore that existing attempts in the field at this reconsideration are, to date, insufficient, especially when considered from a transpersonal perspective. After a brief overview of the placebo effect field and the evolving definitions of *placebo* and *placebo effect*, the major attempts in the field to relabel the placebo effect will be presented, along with the main contemporary theories of the placebo effect that accompany them. A brief exploration of transpersonal theory will follow, and given its ability to make sense of different placebo effect theories and connect placebo effect research with other mind-body fields, the argument will be made that a transpersonally informed, mind-based, participatory model is the proper lens through which to understand and advance research into the placebo effect at this time. The paper will conclude with a discussion of the possibilities such revisions indicate and some of the limitations that remain.

A Historical Overview of the Placebo Effect

The Western scientific and medical view toward placebos has traditionally been a negative one. This is clear when considering that the term *placebo*, related etymologically to *placate* and meaning "I will please," while originating much earlier, came into modern use with the establishment of the medical clinic in the late 18th century (Finness, Kaptchuk, Miller & Benedetti, 2010). This context, informed by Cartesian dualism and rooted in evidence-based practices, took placebos and their effects to refer pejoratively to any treatment that pleased rather than benefited the patient, in a clinical sense (Morris, 1997). Thus, from the outset of Western medical practice, placebo effects have been considered in some sense "not real." This view has been accelerated by the randomized controlled trial (RCT) of the past 60 years, which has, as a natural outgrowth of its focus on the substance or treatment under study, equated lack of performance beyond the placebo effect as a failure to demonstrate treatment value. Even after Henry Beecher's seminal 1955 article, "The Powerful Placebo," spoke to the power of the placebo effect itself, the field has until recently largely held a dismissive view. This is summed up by the article, "The placebo: Is it much ado about nothing?" (Shapiro & Shapiro, 1997), written by two of the leading researchers in the field at the time, in which the authors denigrated modern claims of placebo effect efficacy as "faddish exaggerations" (p. 12) and argued, "that the current exaggerated belief in the effectiveness of the placebo (including myriad psychotherapeutic equivalents) is largely a placebo effect (Shapiro & Shapiro, 1984)" (p. 27).

Nonetheless, interest in placebos has continued to boom over the past 30 years, with PubMed citations of "the placebo effect" growing in the three decades from 1977 to 2006 from 214 to 651 to 1675 (Miller & Kaptchuk, 2008). Despite the reticence of many, in recent years the debate has shifted from whether placebos work—that is, whether the placebo effect is "real" by the classical terms of Western medical science (i.e., eliciting a physiological rather than purely psychological response)—to a consideration of *how* placebos work, considering the avalanche of data that suggests that they do (Morris, 1997; Stewart-Williams & Podd, 2004; Finniss et al., 2010). That an idea, feeling, or relationship can have a real effect on the body is now established (Spiegel, 2004). Studies have shown that psychological factors link to psychoneurobiological mechanisms with regards to the placebo effect (Beauregard, 2007; Colloca, Klinger, Flor, & Bingel, 2013). Release of endogenous neuropeptides such as opioids, cannabinoids, and dopamine arise in conjunction with placebo responses;

placebo effects also correlate to specific areas of brain activity, brain structure, and activity in the frontal lobes, including activity in the dorsolateral prefrontal cortex (DLPFC), the rostral anterior cingulate cortex (rACC), hypothalamus and amygdala (Medoff & Colloca, 2015). Debate remains as to whether placebos affect illness (experience of disease) or disease itself (Spiro, 1997), with some data tending to indicate it is much more the former (Miller et al., 2009), and some studies continuing to argue that placebo effects have in fact little clinical significance, beyond the patient's experience of pain (Hróbjartsson, A. & Gøtzsche, P. C., 2010). Nonetheless, despite these ongoing controversies, "current knowledge of placebo effects provides direct evidence for mechanisms in the human brain which can be activated by conscious and unconscious manipulations of expectations" (Medoff & Colloca, 2015, p. 94). Beauregard (2007) added that placebo effects and related subjective processes affect brain processing and brain plasticity. Taken as a whole, these emerging discoveries of the past 30 years, greatly accelerated by advances in brain imaging techniques in the last decade (Faria, Fredrikson, & Furmark, 2008), "have given scientific credibility to the placebo phenomenon" (Benedetti, 2009, p. 75), even as scientists seek more fully to understand it. In so doing, the placebo effect has completed its transformation, at least in the research fields, from a discarded irrelevancy to a "well-recognized and clinically-important phenomenon," (Colloca et al., 2015, p. 1) deserving of research in its own right.

But what exactly are placebo effects? As will be seen, this shift in appraisal has not resolved much of the controversy and confusion surrounding them.

Placebo Effects: An Evolving Definition

It is hard to define 'placebo effect' without engaging in a small-scale project to reform modern medical thinking (Brody, 1997, p. 79).

The placebo effect does not have a standard definition (Miller et al., 2009). As Brody's quote indicates, definitions are inherently and historically difficult when it comes to placebos and placebo effects (Stewart-Williams & Podd, 2004). This is due partly to the misconceptions and biases outlined above, partly to the self-contradictory nature of placebos as they have traditionally been conceived, and partly to the philosophical shortcomings of the cultural mind that conceived of them as such. While placebos have been defined as something *inert*, and therefore by definition unable to elicit an effect, they nonetheless do elicit effects, which are then called the placebo effect (Finness et al., 2010). This renders the term *placebo effect* an oxymoron. As Moerman and Jonas (2002) pointed out, "The one thing of which we can be absolutely certain is that placebos do *not* cause placebo effects. Placebos are inert and don't cause anything" (p. 471).

Among others, Miller and Kaptchuk (2008) provided a sound overview of the problems such issues cause, including a number of the assumptions and quandaries they unearth. These include: 1) an unscientific tendency to define placebo treatments as nonspecific and inert; 2) the tendency to equate placebo treatments with "no treatment"; 3) the subsequent devaluation of the placebo effect as a "sham," "noise," and/or "bias"; 4) the notion of a singular "placebo effect" when research has shown there are multiple biological and psychological pathways for placebo effects to take place; 5) the view that the utilization of placebos, whatever their form, is unethical and deceptive; 6) the mistaken belief that placebo treatments are necessarily causally linked to subsequent effect; and 7) the resultant confusion and generally negative and distrustful orientation that the above factors help to generate. To these it should be added (and indeed much of the above could be couched within) the medical model's historical assumption of Cartesian dualism, separation of subjective and objective phenomena and dismissal of the subjective, and subsequent inability to conceptualize how psychological and physiological factors might interrelate (Engel, 1992). Due to the psychosomatic premise placebo effects advance, the conditions for misconception are ripe.

The limitations described here have led scholars in two interrelated directions: first, the qualification of the placebo effect as a temporary (Spiro, 1997), "wastebucket term" (Brody, 1997, p. 89), used "to refer to any effect for which we have no mechanistic explanation" (Ader, 1997, p. 138); and, second, the search for new terminology and theoretical frameworks to describe and make sense of these phenomena. Noting the "lack of any theoretical positions(s) within which to organize data" (Ader, 1997, p. 138), and that "the poverty of theory has continued to characterize placebo research" (Miller et al., 2009, p. 1), a number of proposals have been made for renaming the placebo effect. These have included: "placebo response" and "inner pharmacy" within the context of a "meaning model" (Brody, 2000); "remembered wellness" (Benson & Friedman, 1996); "meaning response" (Moerman

& Jonas, 2002; Walach & Jonas, 2004); "context-based healing" (Kaptchuk, 2002); "contextual healing" (Miller & Kaptchuk, 2008); "context effects" (Di Blasi & Kleijnen, 2003); and, "interpersonal healing" (Miller et al., 2009). As Colloca et al. (2015) summarized, "The study of the placebo effect is increasingly being framed as the investigation of the psychosocial context and inner factors surrounding the patient and any medical treatments, and the effect of this context on the patient's mind, brain and body when one expects a therapeutic benefit" (p. 2).

Nonetheless, despite these proposed definitions, placebos and the placebo effect are so culturally significant and recognizable as terms that they are unlikely to be disposed of soon (Miller et al., 2009). Therefore, for the sake of common understanding, and due to the fact that this paper in large part deals with the theoretical and philosophical conceptions that these terms reflect, I will use the terms *placebo* and *placebo effect* to refer to those phenomena indicated by all the suggested terms above. While this phenomenon is elusive, I will here as a working definition use *placebo* to refer to *treatment interventions lacking in pharmacological and physiological properties known to treat a specific condition in question*. I will define *the placebo effect* and *placebo effects* as *any physiologically evident healing effect that originates from the mind*. While this definition implicitly suggests a dualism of mind and physiology that could be considered problematic (Hartelius & Ferrer, 2013; Tarnas, 1991), it is nonetheless sufficient and appropriate for the subject matter presented here, due to its particular usefulness in making sense of causal relationships and mechanisms involved in placebo effects as they are generally understood today. This issue can partially be addressed by defining *mind*, by which I mean that definition forwarded by Daniel Siegel: "*a relational and embodied process that regulates the flow of energy and information*" (Siegel, 2010, p. 52, emphasis added). In addition, issues of dualism will be addressed in the discussion. With these definitions established, it is now possible to disentangling the complex notions ensnaring the placebo effect.

Disentangling the Placebo Effect and Identifying Root Causes

Consideration of two specific distinctions will aid in a constructive reframing of placebo effects: expectancy versus conditioning, and context versus meaning.

Expectancy versus Conditioning

One of the primary subjects of debate regarding the placebo effect is the mechanism by which it is expressed. Until new advances in recent years, this has largely revolved around the debate of classical conditioning versus expectancy theory (Price & Fields, 1997; Fields & Price, 1997; Stewart-Williams & Podd, 2004). From the viewpoint of classical conditioning, placebo effects take place because the placebo recipient is conditioned from past experience to experience healing in a certain circumstance, for example when taking a medical pill administered by a doctor, or in carrying out a clinician-recommended protocol. The repeated association of a neutral stimulus (the placebo) with an active healing agent (unconditioned stimulus) can later result in the neutral stimulus bringing forth the effects expected from the unconditioned stimulus (Finniss et al., 2010). Here, in a classical Pavlovian framework, the placebo recipient unconsciously responds based on a previous coupling of active and inactive agents, and then acts based upon these established patterns.

By contrast, in expectancy theory it is the placebo recipient's expectation of healing that brings about the placebo effect. This is sometimes expanded to include the recipients desire to heal (Price & Fields, 1997), and can be elicited via verbal instruction, learning, and social factors (Medell & Colloca, 2015). This can be distinguished from classical conditioning on the basis that no prior experience with the particular stimuli in question is necessarily needed to elicit the placebo effect. As Price and Fields argued, "*expectation* for relief may cause a placebo response without prior exposure to a therapeutic agent" (p. 123). In other words, positive thinking is not a sham: expecting a positive outcome will more likely yield one, and the placebo effect is the data to back it up. This principle is clearly demonstrated in the now well-known study (Crum & Langer, 2007) of female hotel room attendants who were taught how their regular work amounted to healthy exercise, meeting or exceeding the Surgeon General's requirements, and then were compared to a control group that was not given such information. While both groups' activity remained the same, over the course of the study the percentage of the informed subjects who reported exercising regularly doubled, the amount of exercise they perceived to be getting increased by 20 percent, and these shifts in mind-set were correlated by statistically significant improvements in their physiological health not exhibited

by the control. From an expectancy perspective, these changes were brought about by simple education and verbal and social cues.

This debate between classical conditioning and expectancy can be characterized from one vantage point as a debate over the level of active involvement the placebo recipient plays in the generation of the placebo effect. In expectancy theory, the recipient plays a more active role in eliciting the placebo effect, while in classical conditioning, the recipient is more of a passive agent at the disposal of unconscious forces. While disguised within arguments over mechanism, elements of the Cartesian debate can here be seen at play. The classical conditioning viewpoint, being predisposed to ascribe a passive role to the patient can imagine the patient as being misled by the illusory effects of the inert placebo. This allows implicitly for a continued dismissal of subjective experience and phenomena. By contrast, the expectancy model explicitly empowers the patient as an active agent in her own healing, thus suggesting that one's subjective, conscious experience may play a role in shaping one's reality. This shift from passive fool to empowered actor is summed up by Price and Fields (1997):

> Suppose the experiential factors that are necessary and sufficient for the placebo effect become established and well-characterized. Knowledge of these factors could then be more directly and optimally utilized by both patients and healthcare providers. The concept of "placebo manipulations" would shift in emphasis from reliance on outside authority to the patients' active participation in developing optimal psychological conditions for therapeutic effects. (p. 134)

Thus, in the question of classical conditioning versus expectancy, one encounters the divide between the passive patient, the fooled recipient who exhibits the placebo effect (embarrassingly), and the active participant, who with superior awareness and knowledge wields the power of mind to affect physiology, experience, and indeed, reality.

This debate has resulted simultaneously in two outcomes: a victory for expectancy, and a draw. While expectations, desires, and other related factors are definitely mechanisms for the placebo effect, so is, at times, classical conditioning (Finniss et al., 2010). Brody (2000) has argued that the two mechanisms may simply be describing the same process from different vantage points, as expectations can arise as a result of learning (conditioning), and, if yielding of results, will also contribute to future conditioning. Classical conditioning and expectancy are now most commonly described as compatible (Stewart-Williams & Podd, 2004) and entangled (Finniss et al., 2010), with recent research suggesting that "expectancy is first, conditioning follows and is dependent on the success of the first encounter" (Finniss et al., 2010, p. 3). That said, considering the constant conditioning taking place within culture, it is easily possible to reverse this order, especially outside of a controlled research environment.

To summarize it simply from another view, placebo effects are sometimes mediated by conscious experience (expectancy+conditioning), and sometimes not (pure conditioning; Stewart-Williams & Podd, 2004). Nonetheless, while both mechanisms are now accepted as causes of placebo effects (the draw), this remains a victory for expectancy proponents, as, (most crucially, from a transpersonal viewpoint), the active agency of the human subject in eliciting placebo effects is, among other mechanisms, sometimes, affirmed.

Context versus Meaning

With the above debate between expectancy and classical conditioning to some extent resolved, researchers have attempted more recently to construct suitable theories for the placebo effect that stray increasingly from the traditional domain of biomedicine. These theories increasingly recognize both the ability of the placebo recipient to elicit self-healing responses (Reilly, 2001), and for the placebo administrator and environment to affect healing via contextual and interpersonal means (Miller et al., 2009). As noted above, these new frameworks have been accompanied by attempts to rename the placebo effect, with the main proposals falling into two main camps—the "meaning response" (Brody, 1997; Brody, 2000; Moerman & Jonas, 2002; Walach & Jonas, 2004) and "contextual healing" (Kaptchuk, 2002; Miller & Kaptchuk, 2008; Di Blasi & Kleijnen, 2003), also sometimes characterized as "interpersonal healing" (Miller et al., 2009).

The meaning response is advanced by Brody (2000) as the placebo effect that occurs when the meaning associated with illness is positively transformed. This is based on an understanding of the placebo not merely as a pill or even procedure but as a symbol (Spiro, 1997) that acquires meaning through previous learning (Fields & Price, 1997). Moerman & Jonas (2002) brought

the example of red pills versus blue holding different significances (red generally meaning hot and fast, blue meaning cold and relaxed) and therefore eliciting different responses, even if the pills are both placebos in the classical sense. The same principle can extend to quantity (two pills have more impact than one), and a host of other factors. Given that most information humans are privy to is ignored due to its sheer volume, altering our symbolic attachments and interpretations (i.e., influencing which information is taken in and how it is taken in) can elicit changed outcomes (Brody, 2000). This could be understood as well as the meaningful interpretation of symbols within the context of a coherent, satisfying narrative, making it largely compatible with theories of many disciplines in the humanities. For example, this interpretation shares obvious, though unfortunately unacknowledged views with humanistic psychology and its conceptions of the importance of meaning to human experience (Frankl, 1959; Battista & Almond, 1973).

By contrast, Miller et al. (2009) critiqued the meaning response as overly broad and suggestive of an "explanatory psychosocial hypothesis" (p. 8) that requires cognitive interpretation and therefore leaves some mechanisms of the placebo effect, for example, classical conditioning, unaddressed. In its place, they suggested "interpersonal healing," which can be linked generally to other definitions related to context. These models emphasize the role of the therapeutic relationship between clinician and patient in eliciting the placebo effect (Colloca et al., 2015; Spiegel, 2004), and suggest that social and environmental factors are the main generators of expectancies that cue healing. From the viewpoint of context-based theories, placebo effects are the result of healing rituals (Kaptchuk, 2002) that take place within a complex cultural web. This prompts the observation that "social-cultural-psychological events have physiological *aspects*" (Hahn, 1997, p. 71), and that "humans activate the neurobiological circuits required for placebo effects through the subtle and diffuse experience of living within the inescapably meaning-rich domain of culture" (Morris, 1997, p. 189). This is furthermore a basis suggested for the efficacy of some complementary and alternative medicines (Kaptchuk, 2002; Reilly, 2001). Interestingly enough, these models also overlap with a humanistic viewpoint in their emphasis on the therapeutic relationship (Elkins, 2007; Elkins, 2008; Lambert & Barley, 2001). However, as will be seen in the next section, this relationship is not mere coincidence. Indeed, a deeper understanding of the mechanisms at play is greatly aided by the humanistic movement's friend and offspring, transpersonal psychology.

Discussion: Transpersonal Reconceptions, Possibilities, and Limitations

If the placebo effect can be reconceptualized with the use of particiatory elements from contemporary transpersonal theory, this may lead to more useful characterizations. It may also aid in developing measured characerizations of the phenomenon that neither dismiss nor uncritically exaggerate its potentials.

Transpersonal Reconceptions of Placebo Effect Theories

As seen above, the placebo effect has already poked holes in Western medicine's traditional distinction between mind and body (Brody, 1997; Fields & Price, 1997). Clearly, subject and object influence one another, and as emerging models for the placebo effect demonstrate, the ability of the mind to affect physiology, whether through expectancy, meaning, or context, is increasingly accepted. However, the full implications and potential of these developments might not be clear without taking into account a transpersonal perspective. While the exact mechanisms of mind-body interaction may remain unclear for quite some time, there is much one can already gain through a brief theoretical inquiry.

Firstly, by more closely examining the context/meaning debate in contemporary placebo effect research, one can see that it too, like the conditioning/expectancy debate before it, may be a result of complementary rather than competing attempts to describe the same phenomenon. This viewpoint is one transpersonal psychology is particularly well-situated to articulate, considering the recent emergence of participatory theory (Ferrer, 2002; Hartelius & Ferrer, 2013), which can be interpreted to suggest that *all* meaning is inherently contextual. To arrive at this understanding, we can begin by understanding that participatory theory presents "a substantive challenge to Cartesian dualism" (Hartelius & Ferrer, p. 15). It does so by arguing that rather than being inherently separate, "mind and nature are necessarily woven of the same fabric" (p. 16). Rather than a materialistic dualism that treats reality as inert, reality is seen as in some way sentient and alive, with both subjective and objective aspects of experience emerging from a shared mystery.

This may seem highly theoretical, whimsical even, but it is useful when examining the placebo effect theories encountered above. Following the reasoning of the meaning-based proponents above, the mind activates meaning through the interpretation of received information, whether in the form of expectancy or prior conditioning. However, in the context of participatory theory, this does not take place in an abstract, metaphysical vacuum, as Cartesian dualism would suggest. Rather, this process "is woven back into the fabric of life... [the ego] is no longer the observer who can take in the whole painting from afar; it is part of the canvas, and it is *located* on that canvas" (p. 19). Indeed, the ego "cannot escape its *locatedness*" (p. 19), which, framed in the terms of our current debate, is to say, its *context*. If one understands the ego to be synonymous in this instance with the meaning-making mind posited above, it can be deduced that the mind's understanding of meaning is therefore inseparable and derived in part from its context. The mind is part of reality. It is embedded within it; enmeshed. In this way, the interrelatedness of meaning and context becomes clear. In other words, placebos are meaningful symbols that become expressed through relational contexts.

This reconception of prevailing placebo effect theories can potentially provide the field with a coherent theoretical frame that synthesizes context and meaning. However, it may be possible to expand upon this further to advance a reconceived definition of the placebo effect that speaks more fully to its true potential. This can be done by first returning to Siegel's (2010)definition of mind. In doing so, it should be noted that while mind and subjective-based factors are implicit in many of the emerging terminologies proposed in the study of placebo effects, the explicit naming of mind is virtually nonexistent. This may be due in part to the medical model's uneasiness with the term. Nonetheless, research has shown that the mind, through its expectations and other subjective factors, can manifest its aims across a range of neurobiological mechanisms (Finniss et al., 2010). Placebo-induced pain relief, for example, involves the release of endogenous neuropeptides, but placebo-induced relief from addiction involves metabolic changes in different brain regions (Volkow et al., 2003), and for Alzheimer's the mechanism involves functional connectivity in prefontal areas and prefrontal executive control (Benedetti et al., 2006). The physiological mechanism changes, but the mind remains constant. Therefore, mind as it is understood here is an indispensable factor.

With this established, it is possible to turn to consider the nature of expectations. Given that expectancy is derived from verbal and social cues that convey information, as well as learned conditions (conditioning) from information conveyed in the past, it is clear that expectancy is essentially an informational model (Kirsch, 1997). This emphasis on *information* is a useful building block in constructing an understanding of "mind," and indeed corroborates to Siegel's (2010) definition of the mind as "a relational and embodied process that regulates the flow of energy and information" (p. 52). Because this information is not abstract but rather embodied and embedded within relational vectors, the transformation of this information will necessarily impact these factors of the mind's process. Changes in information will cause physical changes and changes in physical experience, because here the mind is not above, separate from, or interpreting the body, but is itself part of it. Relationality and embodiment are intertwined, as are energy and information; thus, it is natural that informational regulation (e.g., in the form of placebos) simultaneously affects the mind's embodiment, which in turn triggers changes in the energetic vector as well (i.e., eliciting a physical or psychosomatic response). From this vantage point, while meaning and context are crucial enablers of the placebo effect, both serve only as indirect proxy to the patterns by which information and energy transform and interrelate. Through conscious intervention, perhaps via meaning and context but also possibly directly, these patterns can be changed positively and guided toward healing outcomes. Thus, the placebo effect becomes *any non-pharmacological or mind-based intervention that positively affects one's energetic and informational patterns, resulting in improved embodiment and relationship*. On the whole, I would argue that this is a more direct, precise, and sensible definition than those existing proposals advanced by researchers in the field.

New and Improved:
Possibilities for the Placebo Effect in Action

The above reconception is not mere philosophical rhetoric and hot air. On the contrary, such a theoretical framing is crucially important, as it allows for the placebo effect to extend beyond its conventional context and become connected with other mind-based, healing phenomena. This in turn creates a new lens

through which to understand such phenomena, as well as the prospect for potentially harnessing the placebo effect to a greater degree than is currently understood as possible. While rituals and clinical encounters allow access to new meaning (information) through context, the placebo effect may not be limited to these relational tropes. Indeed, there may already be a number of useful interventions a patient can undertake on their own to activate self-healing (for example, meditation, positive thinking, self-directed healing rituals, mind-focusing activities, invoking of certain healing qualities and information, etc.). These practices in turn overlap with other mind-based interventions such as mindfulness-based stress reduction, somatic practices such as yoga and qigong, and biofield therapies such as distance healing, qi therapy, energy healing, and so on, allowing for a theoretical coherence between placebo effects and other alternative practices that can guide research and may advance understanding of these practices, as well as create opportunity for their improvement. While a discussion of ethical considerations involved in the clinical application of placebo effects extends beyond the scope of this paper, it is worth noting that the unifying theoretical model advanced here links placebo responses with complementary and alternative medicines (CAM), as well as research in the emerging field of biofield therapies (Rubik, 2015; Rubik, Muehsam, Hammerschlag, & Jain, 2015; Kreitzer & Saper, 2015). As such, a number of healing "placebo" or complementary and alternative applications can be understood as useful interventions that sidestep any need for subterfuge or deceit.

In so doing, it may be possible to inquire more scientifically into the nature of practices traditionally understood as nonscientific. Insofar as faith and hope "implicitly contain the dimensions of need or desire and expectation" (Price & Fields, 1997, p. 128), the placebo effect can also be understood as a manifestation of so-called "faith healing." From the transpersonal vantage point articulated here, placebo effects might therefore be understood as the scientific demonstrations of supposed miraculous and religiously-based healing experiences. Framed in these terms, it is easy to understand how modern science, considering its cultural assumptions and historical location, would be primed to dismiss placebo effect-related phenomena. However, rather than delegitimize science, the placebo effect when properly understood provides an opportunity to understand more clearly the true factors and science at play in faith healing, and even improve upon them. Faith and hope, for example, may both be limited by their nature as nonspecific factors (Kirsch, 1997). Information, by contrast, can be very specific. By marshalling faith and hope within the context of the embodied and relational mind, it may be possible to access and manipulate specific information to enact specific energetic and physiological responses that approximate or exceed those of faith healing "miracles."

Similarly, this synthesized transpersonal viewpoint might facilitate improved dialogue between conventional and alternative and complementary medicines (CAM). It is, after all, possibly due in part to the public's renewed interested in CAM that placebo effect research has increased (Kaptchuk, 2002; Reilly, 2001). Understanding the underlying mechanisms proposed here, namely the changing of energy and information through relational and embodied practices, might significantly reduce confusion and malpractice and streamline the ability to understand and harness the tools CAM and biofield therapies provide. As whole-person care becomes more scientifically necessary (Reilly, 2001), and as conventional training leaves many Western doctors lacking in this regard, the mechanisms and tools of integrative treatments have migrated to the center of the contemporary medical conversation. While from a conventional Western viewpoint it remains unclear how understanding of the placebo effect's mechanisms might translate into clinical tools (Medoff & Colloca, 2015), CAM and biofield therapies can offer a number of ready-made practices, developed in some cases over centuries and millennia, that can be submitted for research and compared within this theoretical frame.

This is a time of exploding healthcare costs that is marked by an over-reliance on so-called evidence-based treatments. Research now suggests that antidepressants are perhaps no more impactful than placebo effects (Kirsch, 2010; Kirsch & Sapirstein, 1998), and cognitive therapies, once the darling of empirically-supported treatments, are arguably no more effective than the therapeutic alliance, which was of course dismissed as a placebo (Elkins, 2007). In such a climate, how profoundly valuable might it be to know that the healthiest thing you could do for yourself today might be to simply invoke positive information such as gratitude, openness, harmony and love, while feeling into your body and heart and the world around you.

Limitations to Placebo Enthusiasm

All that said, there are limitations to place on placebo enthusiasm. This should be expected with any discipline that has been subject to as much challenge and confusion as this one has, over such an extended period of time. It can legitimately be asked, despite theoretical cohesion, whether we can talk about "a neurobiology of meaning" (Brody, 1997, p. 85) at the level of specificity proposed here. It remains to be seen, for example, whether expecting the release of neuropeptides can trigger such exact responses, or whether the average clinician, trained in the prevailing medical models of the day, will have the interest, energy, and time to apply placebo-based protocols, or even the ability to comprehend what might appear, on first glance, as esoteric and far-flung. Meanwhile, from the patient's standpoint, there are almost certainly limitations to expectation and desire for relief. Perhaps not if one expect differently and *really* wants it(!), but until further notice, it is safe to assume that the physical world exerts constraints on the mind as much as minds constrain the physical world (Gazzaniga, 2011). While our minds, especially when more fully understood and utilized, may be able to affect a great deal, there will likely still remain a great deal beyond individual or even collective control.

One vector by which to understand this is the distinction between illness and disease. As Spiro (1997) articulated, "*disease* is what the doctor sees and finds, *illness* is what the patient feels and suffers" (p. 45). While this distinction has "fuzzy borders," (p. 45), existing research has seemed to indicate for the most part that the placebo effect can help heal illness, but may not contribute as significantly to the curing of disease (Miller et al., 2009). While these results may be due in part to the unacknowledged contextual biases of culture present in these studies, they would nonetheless seem to be corroborated by the centuries of largely placebo-based medicine (Shapiro & Shapiro, 1997) that gave rise to the need for evidence-based medicine to begin with. Conventional wisdom suggests that there must be a point at which a certain New Age trope has taken hold, and in one's belief in and yearning for placebo effects, one loses touch with the true ground of reality.

If so, however, where is that point? It is not so easily identifiable or defined. After all, there is not much about placebo effects that has proven conventional to date. Might it be possible that the "distinction between 'disease' and 'illness' is circular" (Harrington, 1997, p. 213), with no definite point at which they intersect? Can disease be something "solidly biological and intransigent" (p. 213), with no psychological factor, if the integrated nature of reality suggests that such a notion is a paradox? Could it be possible that disease is partly wrought through "the whole process of diagnosis and objectification," (p. 213-4), begging the question "of whether, so to speak, there can be a 'disease' falling in the woods with no one there to hear it?" (p. 214). There are, after all, contested reports of tumors shrinking through Qigong therapy (Ooi, Simm, & Tann, 2013), less contested accounts that placebo effects have extended even to the realm of surgery (Dimond, Kittle, & Crockett,1960; Cobb, Thomas, Dillard, Merendino, & Bruce, 1959), and serious consideration of the notion that placebo effects might have the capacity to affect pathophysiological effects as significant as cancer (Price & Fields, 1997). It may be, as research progresses in this field, that even limitations have their limit.

Finally, it bears mentioning the most obvious and critical limitation, if also unfortunately the most commonly transgressed: retaining a respect and appreciation for both the placebo effects and the evidence-based treatments that good, reputable science demonstrates. While this discussion has touched upon the tendency for Western clinicians to eschew placebo effects for pure EBM, it is equally important to name the tendency of many people, particularly spiritually-oriented individuals and alternative practitioners, to eschew EBM for pure placebo effects. In this regard, the problem with substituting placebo effects for evidence-based treatments, rather than utilizing the two in tandem, cannot be overstressed. Such an approach can be harmful and deceitful both to oneself and others, and cause much unnecessary suffering and confusion, not to mention reinforce conventional biases around placebo effects.

Conclusion

Renewed interest in and research into the placebo effect have yielded much new understanding as to both the mind-based and physiological mechanisms involved in the phenomenon. At the same time, these discoveries have highlighted challenges with some of the core assumptions underlying the Western biomedical model, and spawned the need for their reconsideration. As this paper has sought to demonstrate, these reconsiderations are best undertaken by the lens provided by emerging

transpersonal theories, including participatory philosophy and a meaning- and context-based understanding of mind as a regulator of energy and information. On the whole, such perspectives allow for the placebo effect to be understood as *any non-pharmacological or mind-based intervention that positively affects one's energetic and informational patterns, resulting in improved embodiment and relationship*. This definition resolves past issues between the expectancy and conditioning camps, as well as meaning and context perspectives, in that it does not assume a dualistic distinction between mind and body, and acknowledges the ways in which mind and matter are intertwined and mutually influencing. Through the coherence such a definition provides, it may be possible to make advances in our understanding of the placebo effect and its connection to complementary healing practices and biofield therapies, bridge the gaps between conventional and alternative medicines, and enhance our ability to unlock the mind-body unity's innate healing capacities. Given the rising cost of health care and the increasing interest in alternative and complementary medicine, such advances would be exceedingly timely and welcomed.

Finally, in closing, one secondary implication of participatory theory suggests both constraints and directions for further placebo research. This is that the locatedness of mind demonstrates, as researchers have begun to identify, that there is no singular, universal placebo effect. There are instead placebo effects, and these will vary infinitely based upon the infinite positions of locatedness existing in reality. As Spiro (1997) wisely names, "How placebos are defined will depend ... . One person's placebo effect is another's active agent" (p. 44). Debates in the field of placebo effects such as those described above, based around the attempt to define, universally, how placebo effects work, are therefore in some respect nonsensical. While the seeking for an absolute truth has been of service in exploring material reality, such an approach rarely goes as well when applied to the subjective or psychological domain. Such evolving understandings may continue to influence the type of information considered to be valid or positive, the conception and definition of our research goals, and the manner in which energy is exerted to pursue them.

On that note, it is worth offering a few brief thoughts as to the direction future research in this field might take. While one can expect significant advances to continue to emerge in the field, even within the next few years (Medoff & Colloca, 2015), I maintain that the exact mechanisms and nature of the phenomena now known as the placebo effect will remain essentially, and necessarily, mysterious. This is because ultimately, such mechanisms arise from a paradoxical mystery (Hartelius & Ferrer, 2013) that is at once necessary to understand and approach and simultaneously incomprehensible and unattainable. While this might frustrate contemporary orientations toward progress and solutions, and may indeed sound to many like nonsense, mystery is one element of ancient understandings that could perhaps be better integrated into modern lives (Brody, 2000). While advances in understanding the placebo effect certainly do offer the opportunity "to pull back the veil surrounding the art of medicine, by elucidating the way in which specific contextual factors in the clinical encounter contribute to therapeutic outcomes" (Miller & Kaptchuk, 2008, p. 224), one should pursue these understandings while keeping an eye to the vanishing point from which all epistemologies arise. While it is unnecessary to go on at length with regards to metaphysics, they nonetheless bear mentioning if unconscious attempts at absolute claims cannot be entirely quarried. In that regard, essential mysteriousness and paradox are, by my estimation, about the only metaphysical absolutes worth claiming. Certainly, understanding will advance, but just as certainly, there will always be some curious element that refuses to fit in the box.

This is not something to bemoan. Rather, I maintain, it is a good, health-promoting understanding that is to be cherished for its empirically demonstrable benefits. Acceptance, harmony, and equanimity are all qualities with which we can more meaningfully and beautifully, and therefore more healthfully, meet those aspects of existence that remain beyond our understanding and control. This too is a form of contextual healing. It arises with creativity and respect out of the living, intersubjective engagement with this paradoxical quandary, and its attendant uncertainty, that underlies all of life, and from which the inner pharmacy emerges and all innate healing capacities grow.

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