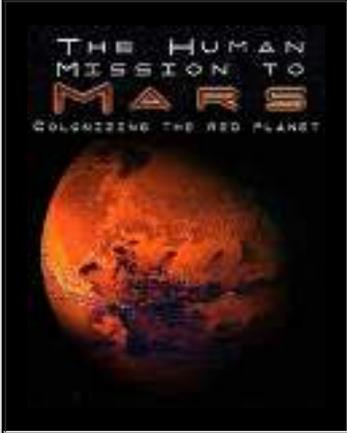


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## Speculations about the Direct Effects of Intention on Physical Manifestation

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### Abstract

A possible mechanism by which mental acts may be synchronized with physical states is postulated. It is argued that a layer of *deep consciousness*, similar to David Bohm's implicate order, underlies and gives rise to both subjective, intentional consciousness and objective, physical manifestation. The influence of volition at the level of intentional consciousness can be conceptualized in the context of the Kochen-Specker theorem as the exercise of the unconstrained choice of observables, and, at the level of deep consciousness, as modulation of the activity of the creation and annihilation operators of a quantum field. The discrete nature of observations in quantum theory leads to the notion of a flicker universe in which temporal continuity of physical structures is maintained by morphic fields.

**keywords:** consciousness, quantum fields, Kochen-Specker theorem, flicker universe, morphic fields

In order to try to find a mechanism for the direct effects of intention on physical manifestation, I want to bring together four ideas, namely, the primacy of consciousness; the activity of a quantum field; the notion of a flicker universe; and the significance of morphic fields. Let me explain each of these in the sections below after first giving some basis for taking seriously the idea that intention can have direct effects on physical manifestation.

### 1. Direct Effects of Intention on Physical Manifestation

Over the course of the past 75 years (Radin, 1997), there has been a gradual accumulation of empirical evidence in support of a direct connection between mentally expressed intention and physical manifestation. Much of this research has been done using *random event generators* (REGs) in laboratory settings (e.g., Jahn and Dunne, 2005). Even when overall effects of intention are not found or are small in size, there are meaningful secondary characteristics in the database revealing the apparent agency of the participant (e.g., Jahn et al., 2000). Large scale effects have been noted under a variety of conditions. For instance, such was the case in the Scole experiment, in which physical manifestation mediums ostensibly communicated with the

deceased. Various markings, including drawings and writing in a variety of languages, were found on unopened rolls of photographic film that had been brought to the sessions by independent investigators (Keen, Ellison, and Fontana, 1999). In another case, Ted Owens, whom Jeffrey Mishlove investigated over the course of a decade, successfully produced or predicted anomalous events at least 75 times that had less than one percent probability of occurrence. For example, Owens could apparently direct lightning strikes to locations requested by others (Mishlove, 2000).

There have also been instances of healing that seem to not have followed ordinary biological processes. This would include the remission of cancer in mice following the "laying on of hands" (Bengston and Krinsley, 2000) and cases of spontaneous healing of those who had visited Lourdes (Gesler, 1996). More recently, dramatic changes in physical manifestation have been claimed for *Matrix Energetics* (ME), a system of transformation and healing developed by Richard Bartlett. For example, Bartlett has cited cases of both people and animals in which broken bones have instantaneously healed at least sufficiently to restore function (Bartlett, 2007, 2009). In a formal study of distance healing using techniques derived from ME that I initiated, one of my participants correctly wondered whether I were doing a healing session for her without knowing until afterwards that I had actually been doing so at the time. She said that the distress that she had been feeling had dissipated and that she had felt as though she had been "effortlessly lifted from a state of low energy to a higher more harmonious state." There have been several summaries of evidence for these sorts of phenomena in trade books (e.g., Radin, 1997; McTaggart, 2007). While continuing to be controversial, there is sufficient empirical evidence at this time to take seriously the notion that direct effects of intention on physical manifestation exist.

## 2. The Primacy of Consciousness

The conventional research programs for understanding consciousness as an emergent property of neurological or information-processing systems have failed to deliver. For example, as one of the developers of functionalist cognitive theories has said, "I would have thought that the last forty or fifty years have demonstrated pretty clearly that there are aspects of higher mental processes into which the current armamentarium of computational models, theories, and experimental techniques offers vanishingly little insight" (Fodor, 2000, p. 2). The hard problem of consciousness, namely, to give an account of why consciousness is conscious (Eccles, 1966), remains intractable (Chalmers, 2007). This suggests that consciousness is ontologically an additional element to matter — or that matter itself is a byproduct of consciousness (Barušs, 2008; Chalmers, 2003). So much quantum weirdness has been uncovered since the end of the nineteenth century that matter no longer resembles our naive intuitions about its nature. "It seems more than time to recognize that quantum entities are *neither waves nor particles*" (Lévy-Leblond, 1988, p. 20). Matter has literally disappeared, given that elementary particles have no spatial extension. (Otherwise it would seem reasonable to suppose that they would blow up to galactic sizes in expanding spacetimes (cf. Mukhanov and Winitzki, 2007). This opens the possibility that matter could be a particular manifestation of consciousness, a position that has been receiving increasing support (e.g., Pfeiffer and Mack, 2007) and one which I adopt here.

In considering the phenomenological structure of consciousness, two distinct aspects of consciousness can be identified. I have called these *subjective consciousness<sub>2</sub>* and *consciousness<sub>3</sub>*.

Subjective consciousness<sub>2</sub> refers to the stream of subjective experience characterized by intentionality, whereas consciousness<sub>3</sub> is the sense of existence of the subject of mental acts. This is essentially the distinction between the contents of experience and the feeling of experience going on at all (Barušs, 1987). This suggests a natural stratification of consciousness. From a phenomenological perspective, the sense of existence appears to be a prerequisite for any specific existents in the sense that without existence there are no existents. In other words, for there to be contents of experience, there must be experience in the first place. Insofar as transcendent states of consciousness can occur apparently without objective contents (Foreman, 1998) and without objects or a subject (Merrell-Wolff, 1994; 1995), consciousness<sub>3</sub> can be thought of as a gateway for an ontologically primitive layer of consciousness that underlies the experiences of the ordinary waking state. I have also called this deeper layer of consciousness *deep consciousness* (Barušs, 2008).

Perhaps the clearest characterization of deep consciousness is given by Franklin Wolff's description of *consciousness-without-an-object-and-without-a-subject*, which occurred for Wolff after he turned the stream of outgoing consciousness, so to speak, back to its source. That source, as I conceptualize it, is just consciousness<sub>3</sub>, the presence of the self. But, upon achieving that reorientation, the distinction between the subject and the object disappeared, leaving Wolff in a fluid realm identified with all that exists (Barušs, 2007; Merrell-Wolff, 1994, 1995). Such non-dual consciousness, in some cases accessed through consciousness<sub>3</sub>, is what I mean by deep consciousness.

David Bohm suggested that underlying both consciousness and physical manifestation is an *implicate order* from which both emerge (Bohm, 1983). To my mind, but without accepting Bohm's quantum formalism (Bohm & Hiley, 1993), the implicate order is deep consciousness as well as being the *prephysical substrate* from which physical manifestation emerges. Volition, at the level of subjective consciousness<sub>2</sub> invokes deep consciousness which gives shape to physical manifestation. Or, to put it perhaps more precisely, subjective

consciousness<sub>2</sub> is *synchronized* with deep consciousness. Such a mechanism is consistent with Robert Jahn and Brenda Dunne's M<sup>5</sup> model, which itself is supported by the empirical REG evidence (Jahn and Dunne, 2001). And we thereby have a way of conceptualizing the primacy of consciousness.

### 3. A Little Quantum Field Theory

It seems to me that the most obvious access point within quantum theory for the effects of intention on physical manifestation would be given by the *Kochen-Specker theorem*, which addresses the consequences of assuming that physical variables have definite values prior to their selection for measurement. Indeed, one way of understanding the theorem is to say that either physical variables have no values before the observables to be measured are selected or that *contextuality* exists.

Contextuality refers to the idea that the values measured for observables would differ depending upon which other observables were also being measured (Kochen & Specker, 1967). Quantum theory itself does not appear to determine the selection of observables, so that there is room for human intention to act in choosing which of them is to be measured. Henry Stapp, without reference to the Kochen-Specker theorem, uses this as the insertion point for volition in his quantum mind theory (Stapp, 2004, 2007, 2009). Another strategy has been to suppose that intention affects stochastic processes, thereby, in effect, removing actual randomness. Variations of this can be found in the work of Jean Burns (2002), Evan Harris-Walker (1970, 1977, 2000), and Amit Goswami (Goswami, Reed and Goswami, 1993).

In light of such deliberations, let us consider the quantum fluctuations of a quantum field, such as the *Klein-Gordon Field* on curved spacetime given by:

$$\left( \frac{1}{\sqrt{-\det[g_{\mu\nu}(x)]}} \frac{\partial}{\partial x^\mu} g^{\mu\nu}(x) \sqrt{-\det[g_{\mu\nu}(x)]} \frac{\partial}{\partial x^\nu} + m^2 \right) \hat{\Phi}(x,t) = 0$$

where  $\Phi$  represents a scalar quantum field, all other symbols have their usual quantum-theoretic meanings, and Einstein summation convention is being used. Solutions of the appropriate equations of motion yield:

$$\hat{\Phi}(x,t) = \sum_k \left( u_k(x,t) a_k + u_k^*(x,t) a_k^+ \right)$$

where the  $u_k$  are complex number-valued mode functions, the  $a_k$  and  $a_k^+$  are annihilation and creation operators respectively, and the remaining symbols all have their usual meanings. The idea is that volition could be acting through the creation and annihilation operators thereby affecting the number of particles in the appropriate *Fock space* representing physical manifestation. And, through *backreaction*, spacetime curvature would change as given by the Einstein equation:

$$R_{\mu\nu}(x) - \frac{1}{2} g_{\mu\nu}(x) R(x) + \Lambda g_{\mu\nu}(x) = -8\pi G T_{\mu\nu}(x)$$

where  $x$  is a position 4-vector,  $T_{\mu\nu}$  is the energy-momentum tensor, and the remaining symbols all have their usual meanings (mathematical text based on Kempf, 2008).

### 4. A Flicker Universe

As I have noted previously, in *collapse-type quantum mind theories*, the supposition is made that whatever collapses the state vector during measurement in formal experiments in subatomic physics must carry over to the activity of individual people experiencing the reality that they do (Barušs, 2008). The idea is that it is unreasonable to suppose that quantum events can distinguish between the irreversible acts of amplification associated with formal experimentation and everyday observation (Barušs, 1986) and that, hence, they must occur informally for everyone. That means that whatever process collapses the state vector, including any *decoherence* mechanisms, must be extracted from the notion of observation in the context of subatomic experimentation and applied to the situation of everyday life. And whatever that process is, it cannot just occur once in a while, but must be ongoing. The *watched pot never boils* theorem states that a quantum system cannot change if it is being continuously observed (Sudbery, 1986), so that these volitional acts of observation must be closely-spaced, iterated, discrete ones. For Henry Stapp, the time-scale of intentional acts is of the order of tens of milliseconds (Stapp, 2007). If, by the Kochen-Specker theorem, observables cannot have fixed values before they are selected for observation, and acts of observation are discrete, then is there anything physically present at all between observations? On a positivist interpretation, the answer is no.

One of the characteristics of transcendent experiences is their noetic quality (Barušs, 2003). And, while we can, of course, question the validity of knowledge stemming from altered states of consciousness, nonetheless

it can be fruitful to examine some of the contentions arrived at therein. John Wren-Lewis said of his transcendent experience that ". . . what I perceive with my eyes and other senses is a whole world that seems to be coming fresh-minted into existence *moment by moment*" (Wren-Lewis, 1988, p. 116). The idea is that perhaps the universe flickers, such that the implicate order remains, but its explication as the experiential stream and physical manifestation is constantly being constructed and deconstructed. With regard to the latter, it is not just that the substance of physical manifestation appears and disappears but, given the Einstein equation, so do space (cf. Aerts & Aerts, 2005) and time, as we ordinarily conceptualize them. I have proposed, from the point of view of physical manifestation in spacetime, that the *flicker rate* could be once per Planck time. Following Jack Ng (2003), we can conceptualize a spacetime lattice (with Planck length spacelike separation and Planck time timelike separation) which, in effect, disappears between explications of the implicate order (Barušs, 2008).

William James famously proposed that, for all that there appear to be breaks in them, our thoughts are actually not like a train but, rather, continuous as a stream (James, 1890/1983). Reversing James's metaphor, we could say that, because our experience flickers along with physical manifestation, what appears to be a continuous stream is actually more like a train whose individual boxcars become blurred as they occur for us as intentional mental acts.

## 5. Morphic Fields

From a conventional point of view, the usual problem is to understand how the mind can affect a physically closed material system made up of continuously existent matter. Now the inverse problem presents itself, namely, if physical manifestation flickers on and off, what provides for any continuity at all between its iterations? The answer might lie in the notion of *morphic fields*, patterns that are not themselves physical, but that physical manifestation follows (Sheldrake, 1988). These can also be regarded as *thoughtforms*, using more psychological terminology (Barušs, 1996). There is some empirical evidence for the existence of such fields (Sheldrake, 1988). The idea is that the morphic fields are present at the level of the prephysical substrate from whence they shape physical spacetime manifestation. And they can be not only selected, but also created, by volition acting at the level of deep consciousness. Hence, while in the nonmanifest state, a selection of a different morphic field can be made, resulting instantaneously in a different physical outcome through the activity represented by the creation and annihilation operators. This could account for some of the more dramatic instances of radical transformation described in the first section of this paper.

## 6. Conclusion

There are, of course, many unanswered questions. One is the relation of the flicker rate to changeable rates of observational acts and the consequent timing of intention. My guess would be that intention, at the level of deep consciousness, persists across iterations of the universe, but that changes in intention could be registered within a single Planck time between instances of manifestation. However, intention expressed within the experiential stream of subjective consciousness<sub>2</sub> could require longer time periods to synchronize with deep consciousness. But this just raises the problem of the relationship of subjective consciousness<sub>2</sub> to deep consciousness and the degree to which it can function autonomously from deep consciousness. My sense is that subjective consciousness<sub>2</sub> does not exist on its own, but that its functioning could be largely synchronized with the same "automatic" mechanisms that support morphic fields and only sometimes coincide with creative volitional acts that manipulate the automatic processes. It is also possible that this scheme is too simple and that the mechanisms that maintain the "laws" and patterns of physical manifestation do not stem from the same domain as intentional acts. In particular, creative volitional acts could stem from a deeper level of reality than the automatic processes that sustain morphic fields (cf. Barušs, 1996). Of course, an even more basic concern is the extent to which these speculations can hold up to a more thorough examination of the empirical evidence than that to which allusion has been made in this paper. All that I have done here is to try to suggest a mechanism to account for the empirical observation that intention can apparently directly affect physical manifestation.

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