2010

Beyond Scientific Materialism: Toward a Transcendent Theory of Consciousness

Imants Barušs
King's University College, baruss@uwo.ca

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Imants Barušs
Department of Psychology, King's University College at The University of Western Ontario

Abstract

Analysis of the social-cognitive substrate of scientific activity reveals that much of science functions in an inauthentic mode whereby a materialist world view constrains the authentic practice of science. But materialism cannot explain matter, as evidenced by empirical data concerning the nature of physical manifestation. Nor, then, should materialism be the basis for our interpretation of consciousness. It is time to move beyond scientific materialism and develop transcendent theories of consciousness. Such theories should minimally meet the following criteria: they should be based on all of the usual empirical data concerning consciousness, including altered states of consciousness; they should take into account data about anomalous phenomena and transcendent states of consciousness; they should address the issue of existential meaning and provide soteriological guidance; and they should be consistent with the most accurate theories of physical manifestation, such as relativistic quantum field theories. Speculating within a quantum-theoretic context, consciousness could be inserted as a primitive element into reality by providing a role for intention in the selection process of observables, the collapse of the state vector, or the ordering of quantum fluctuations. But consciousness could be more fundamental, in the sense of a deep consciousness coinciding with a pre-physical substrate, from which intention shapes both mental experience and physical manifestation. If any significance can be attached to the mathematical formalism of relativistic quantum field theories, perhaps creation and annihilation operators, which determine the fluctuations of a quantum field, can metaphorically be regarded as the avenue through which intention acts. Morphic fields within the pre-physical substrate could hold in place patterns that shape the reality that we experience. Among such morphic fields could be ones that correspond to the world view of scientism. By becoming authentic, one could break from such constraints and consider alternative possibilities that can include various forms of radical transformation.

Questioning Assumptions

In *Being and Time*, Martin Heidegger (1962) distinguished two modes of being, the *inauthentic* and the *authentic*. The inauthentic mode of being is characterized by compliance with the expectations of others for our interpretation of reality. Since the time of Heidegger's writing, humanistic psychologists have presented the same idea using somewhat different conceptual schemata (e.g., Rogers, 1967), and social psychologists have identified mechanisms of influence through which compliant behaviour is elicited (e.g., Cialdini, 1988). Inauthenticity, by its nature, is such that it usually functions unacknowledged, although some of its features are more readily noticeable in cults. For instance, there is tacit acquiescence by cult members not to question the fundamental beliefs upon which the cult is based. In a UFO cult, for example, it could be unacceptable to question whether or not the Ashtar Command is really sitting behind the asteroid belt waiting to save the true believers during the upcoming apocalypse. Asking such questions could lead to retribution against the apostate in the form of intensified brainwashing (Barušs, 1996).

Scientific activity, since it is embedded within a social framework, is not exempt from social pressures. Indeed, much of science functions in an inauthentic mode, which is sometimes called *scientism*. At the core of scientism is the belief in materialism (Barušs, 1996; cf. Tart, 2009), which is held in place through the politics of science (cf. Kellehear, 1996). For much of scientific activity, belief in materialism makes little difference. But that is not the case with the scientific study of consciousness, which naturally intrudes on the protected territory of the fundamental beliefs of scientism. Questioning these beliefs can lead to ostracization of anyone doing such questioning, so that the heretic cannot get academic promotions, receive research funding, supervise graduate students, publish in the top journals in her field, and so on (cf. Jahn, 2001). It is in this way that science itself can function as a cult (Barušs, 1996).

Authenticity involves acting on the basis of one's own understanding rather than following the dictates of social norms. This translates into scientists pursuing research springing from their own knowledge, which itself is based on the empirical evidence that is available to them, in part, through the scientific community. In particular, in its essence, science is about asking questions and seeking answers to them, including questions about socially protected assumptions, rather than simply accepting authoritative statements about the nature of reality (Barušs, 1996).

In consciousness studies, questioning assumptions can include questioning functionalism as a useful way of thinking about consciousness. Jerry Fodor, for instance, has said that he "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). Logicians, such as Jon Barwise (1986), have questioned the very basis for such an enterprise. For instance, as Dan Dennett has pointed out, for computationalism to work, there needs to be a formal language running in the brain, which he dubbed *mentalese* (Dennett, 1978). But such a language has never been found, nor, from what I have heard from them, do computationalists believe that such a language will ever be found. And there is no recourse to be sought in connectionism, given that connectionist models are all probably Turing-computable and, hence, formally equivalent to conventional computational models (Pylkkö, 1998). If we disregard the need for *mentalese* then we just end up with dynamical systems theory, in which differential or difference equations are used to simulate cognitive processes

(Giunti, 1995; van Gelder & Port, 1995), and we are back to where we were historically before the promise of functionalism. This is the sort of thing that we open up if we start to question our assumptions.

Maybe we are looking for consciousness at the wrong level by assuming that consciousness must somehow arise from cellular interactions, as we do in computationalist, connectionist, and dynamical models. For instance, Patricia Churchland's efforts to understand mental events did not rest at the neurological stratum. She said that "For purists, the real bottom will of course belong not to neuroscience but to physics" (Churchland, 1980, p. 207). So let us consider the real bottom.

The Real Bottom

It is in searching for the real bottom that we encounter materialism. In my experience, it seems that many of us think that we already know what that bottom looks like. So let me say a little bit about that. We think that the real bottom looks like tiny billiard balls (atoms, bosons, or some such) with predictable trajectories upon which all else supervenes. Let us take that as our definition of materialism. We see that it contains two critical ideas, one of which is the notion that the bottom is made of discrete continuously existent particles and the other is that these particles behave in a predictable manner. We have inherited both of these from our Western intellectual tradition.

Historically, the early Greek notion of atomism was resuscitated by seventeenth century philosophers such as Pierre Gassendi and Robert Boyle, who reintroduced the idea that the physical world is made up of changeless, indivisible particles (Chalmers, 2008). Around 1695 (Scott, 1997), Gottfried Leibniz used the metaphor of the universe as clockwork (Shapin, 1981). In 1748 David Hume used the motion of billiard balls to discuss causation (Hume, 1748). And by 1814, we have Pierre-Simon Laplace's famous contention that we would know the past and future if we were but to know all the forces at play in the present (Laplace, 1814/1951). In other words, if we could determine all the partial differential equations along with their initial conditions describing the movements of basic particles, then we would know everything about physical reality. And thus we have inherited the belief that the universe is made out of tiny billiard balls with predictable trajectories.

Once we have taken up an interpretation from *das Man*, to use Heideggerian terminology, it is kept in place by protective cognitive processes and used as a judgmental heuristic for reasoning. For example, when we think about birds, we do not invoke a concept of birds that is based on the actual genetic variants of birds, but we reason using a prototype that looks something like a robin (cf. Rips, 1975). Similarly, when we think about the nature of matter, instead of considering what is actually known about physical reality, we appear to conjure up in our minds a billiard-ball schema as a prototype of what matter is like. Once schemata have been established, whatever they are, they are resistant to change (Baron, Earhard, & Ozier, 1995), so that ". . . the overwhelming majority of people, including, I fear, the overwhelming majority of PhD physicists, adhere to a fundamental view of the nature of our world that is simply wrong" (Henry, 2008, pp. 589–590).

The problem is, of course, that the billiard-ball schema does not have a good fit with the empirical evidence about the nature of matter. Events at the subatomic level do not behave like billiard balls. "We often talk about 'particles' as though they really exist . . . . But in fact we cannot substantiate that image" (Davies, 1984, p. 71). Sometimes a wave description seems to be more

appropriate. But even some sort of *wave-particle duality* is inadequate for the actual events as they have revealed themselves. "It seems more than time to recognize that quantum entities are *neither* waves, *nor* particles." The appellation *quantons* "would not only dispose of the cumbersome and ill-defined 'wave-particle duality' but would also offer definite pedagogical help by stressing for the student the radical novelty of quantum theory and the danger of naive classical pictures" (Lévy-Leblond, 1988, p. 20). Of course, even the notion of "quantons" has limitations in that it implies a plurality that might not reflect an actual unity of physical manifestation. But at the least, we can say that there are no billiard balls down there at the real bottom.

For those unfamiliar with the quantum weirdness that constitutes today's understanding of matter, let me mention some examples of its incompatibility with naive intuitions about the nature of matter. In contemporary quantum theory as supported by empirical evidence, it appears to be generally accepted that elementary particles have no spatial extension. Clearly, however, billiard balls necessarily have spatial extension. There is also some evidence that we live in a Friedmann-Robertson-Walker spacetime, with space slowly expanding at the rate of the Hubble flow. In such a scenario, particle-antiparticle pairs would be created as space is ripped apart. In fact, even without taking into account the possibility of expansion, by the Unruh effect, observers accelerated through a vacuum will see particles. More generally, in quantum field theory, particle creation and annihilation is considered to be continuously taking place, so that the notion of persisting particles as the fundamental building-blocks of matter becomes untenable (cf. Kempf, 2008). The point is that materialism cannot adequately explain what we think we know about matter.

The Trouble with Physicalism

The way out, for some materialists, is to acknowledge everything that I have said so far, and not tie themselves to the sinking ship of materialism, but rather to physicalism, asserting that everything is physical, whatever "physical" turns out to be according to physicists. But old habits die hard and some materialists have told physicists what they must find in order for their materialist theories to work. Or, rather, ". . . the best way . . . is to understand it, not as handing out orders, but as simply *predicting* what physicists will in fact end up positing in their final account of nature" (Lycan, 1987, p. 100). But this is just *promissory materialism*, promising us that physicists will find what is necessary for materialist theories to work. And, given the extent to which nature has surprised us in the past, I see no reason to take such promises seriously.

Actually, physicists generally appear to be reluctant to say anything about the nature of matter. I have found in my experience that the adage "Shut up and calculate!" is not just a joke. Relativistic quantum field theories, which give the best fit to empirical data regarding subatomic events, appear to often be considered as mathematical formalisms allowing researchers to get from one set of observations to another, without telling us anything about the nature of matter itself (Caponigro & Prakash, 2009; Davies, 1984; Mohrhoff, 2004; Mermin, 2009). This is essentially a pragmatic interpretation of quantum theory (Herbert, 1985). And I think it is fair, given the rather arbitrary nature of quantum formalism. For example, as a university student Erwin Schrödinger had neglected algebra and group theory but had completed a course on partial differential equations (Moore, 1989). That is what he knew, and that is the mathematics that he used. And by using smooth functions in his description of nature, he implicitly encouraged metaphors that entail continuity and

discouraged others that do not. In contrast, Bob Coecke has developed a quantum formalism using monoidal categories (Coecke & Pavlovic). But the categorical framework encourages metaphors of discreteness rather than continuity. In other words, there is no automatically given isomorphism between the mathematical constructions of quantum theories and events in nature.

I think that the way out of this conundrum is to determine the *goodness-of-fit* of any given version of a theory to the actual nature of reality using whatever means seem most reasonable at any given time. While existent empirical evidence can provide anchor points for a theory, other aspects of it could provide us with ways of thinking about reality that could reflect some of its actual features.

At the moment, however, physicists, philosophers, and others who are trying to make sense of what contemporary physics has to say about the nature of matter, beyond the sorts of things that I have already pointed out, are far from being in agreement with one another. This has become readily apparent to me while attending a conference such as the Philosophy of Quantum Field Theory Conference held April 24–26, 2009, at The University of Western Ontario. Or, of greater relevance to the study of consciousness, the Quantum Mind 2007 Conference at the University of Salzburg. Indeed, some physicists have said that when you look at the bottom what you find is the mind! Best known, perhaps, is the quotation from Sir James Jeans: "The universe can be best pictured, although still very imperfectly and inadequately, as consisting of pure thought, the thought of what, for want of a wider word, we must describe as a mathematical thinker" (Jeans, 1930/1937, p. 168). Or Richard Conn Henry: ". . . physicists today have utterly failed to inform the public to understanding the purely mental nature of the universe, with all that that implies for the meaning of human existence. That is a tragedy, and it should be rectified" (Henry, 2008, p. 590). So, to whom are we going to listen? By insisting on physicalism, according to some physicists, we would be insisting on its apparent opposite, the mental, and physicalism becomes mental monism. At any rate, what is clear is that it is time to relinquish scientific materialism and move on to transcendent interpretations of reality that will hopefully be more productive for the understanding of consciousness.

Criteria for a Transcendent Theory of Consciousness

I think that there are five criteria that need to be met by any theory of consciousness, including any transcendent theory. The first of those is that such a theory has to take into account all of the empirical data concerning consciousness. This is not as straightforward a matter as it might seem given that the boundary of what falls within the confines of "empirical data" will depend on the individual researcher. That itself is dependent on a number of variables such as the availability of data to any given investigator, the ability of an investigator to set aside biases in order to evaluate data objectively, and so on (cf. Barušs, 1996). And, of course, there are no data that are free of implicit interpretation, however minimal. Nonetheless, we need to do the best we can to accommodate data.

But that accommodation needs to include data from altered states of consciousness as well as the ordinary waking state. To give an example, one night while I was asleep, during a lucid dream, i.e., a dream in which I knew that I was dreaming (Barušs, 2003), I found myself in a room in a high-rise building. In this lucid dream, I also felt that I had considerable control over my actions, and feelings of reality in the dream were comparable to those I would have during the waking state. In

other words, my experience seemed to me to be the same as my experience would be while awake, except that I knew that I was dreaming.

When materialists encounter the challenge that physical manifestation does not actually have the solidity with which it presents itself to our sensory perceptions, they have sometimes responded by invoking Samuel Johnson's refutation of Bishop Berkley's idealism, which consisted of kicking a large stone (Boswell, 1823). And with that they think that they have dispelled the challenge (cf. Mermin, 2009). Of course that is a logically flawed "argument" but I sometimes hear it used anyway. During my lucid dream, I remembered this challenge and decided to take the materialists at their word. So I walked over to one of the walls and pounded on it with my fist, hard, a number of times. The wall was solid. There was no question about it. The environment in which I found myself was indistinguishable from physical manifestation. Clearly, finding the dream wall to be solid does not prove that my dreamscape is made out of billiard balls. Nor, or course, does such action while awake prove that the landscape of my ordinary waking state is made out of billiard balls. What it does, however, is to present some data about the nature of consciousness.

But there are further data that need to be taken into account. I am listing as a second criterion taking into account data from anomalous phenomena such as remote perception, remote influencing, and precognition. Again, as with materialism, it is necessary to free onself from *das Man* so as to examine the relevant data. And when that is done, it becomes apparent that something interesting is occurring, particularly as revealed by meta-analyses (e.g., Radin, 1997). Let me give just one example of the type of phenomenon that needs to be taken into account.

Several years ago, as part of an annual meeting of the Society for Scientific Exploration, I organized a field trip for participants to a beach on Lake Huron to watch the sunset. As the sun set, the fifteen or so of us who were present sat silently, mesmerized by the setting sun. Eventually, after the sun had set, we became reanimated and left the beach.

Unknown to me at the time, Roger Nelson had brought with him a portable random event generator interfaced with a palmtop computer. This *fieldREG*, as it is called, uses a micro-electronic noise source to produce a truly random string of zeros and ones. However, the following morning, when Nelson showed me a graph of the statistical output from the device, there was a striking deviation from random behaviour for the time period 30 minutes before to 30 minutes after the time that the sun had set. If the data during that one hour time period were to be considered as a pre-specified data segment, then the observed shift in behaviour of the *fieldREG* has a probability of p=.008, which is sufficiently rare to be considered an actual effect rather than just a statistical deviation (Nelson, 2000; Barušs, 2007). In fact, "group resonance" appears to be one of the parameters that contributes to deviations from random behaviour of random event generators.

One of my thesis students, Lindsay Morris, found some support for the role of group resonance in remote influencing. Twenty participants interacted individually, and sometimes as couples, with a random event generator (REG) that functions essentially the same as the *fieldREG* except that participants can intend to shift the output "high" (toward more matches with a random template than expected) or "low" (toward fewer matches with a random template than expected). The criterion variable was the difference score between high and low intentions. What Morris found was that, for the 10 participants who participated as part of opposite sex couples, there was a negative correlation between couples' difference scores and the degree of conflict within the relationship that they reported on measures of the quality of relationships ($r(18)=-.70$, $p<.10$, one-tailed). From an

analysis of the data, it appeared that couples who reported their relationship to be more conflicted generated results that were opposite to intention (Morris, 2009). Because of the small sample size, these results are suggestive only, but they are consistent with other research (e.g., Nelson, Jahn, Dunne, Dobyns, & Bradish, 1998) showing the significance of harmonious resonance for the occurrence of remote influencing.

Transcendence Criteria

There are also issues specific to transcendence that need to be taken into account in any transcendent theory of consciousness. Let this be the third criterion. Some of these issues are features of transcendent states of consciousness, such as the apparent noetic quality of such states. Those for whom they occur often think that they know something about the nature of reality as a result of the occurrence of such states that they did not know before. In particular, for instance, finding oneself in a non-dual state in which the subject/object dichotomy of ordinary waking consciousness has disappeared can lead one to think that an experiential stream of mentation characterized by intentionality is a restricted mode of consciousness (Barušs, 2007; Merrell-Wolff, 1966; 1994; 1995a; 1995b). Or one can conclude that there exists a universal consciousness freed from space-time constraints upon finding oneself identified with a primordial substrate (Barušs, 2007; Wren-Lewis, 1988; 1991; 1994).

Of course, we can challenge such contentions as hallucinations and delusions, as indeed we should. However, critical scrutiny, including assessment of feelings of knowing and feelings of reality, cuts so deeply that it undermines the epistemological value of the ordinary waking state as much, if not more, than that of some transcendent states, so that the waking state itself can come to be regarded as a hallucination and delusion (Barušs, 2007). We cannot take what we think we know about reality for granted. At the least, we need to remain open to what transcendent states can tell us about the nature of consciousness and to explore their evidential value.

A fourth criterion for a transcendent theory of consciousness arises naturally from surveys carried out by Robert Moore and myself about people's beliefs about consciousness and reality. One of the things that we found is that in transcendent versions of reality not only is emphasis placed on the importance of meaning, but, more specifically, it is consciousness that is seen to provide life with meaning. If it were not for consciousness, then there would be no meaning. The definitions of consciousness chosen by those who agreed with such contentions were subjective definitions of consciousness as an experiential stream and/or the sense of existence that accompanies such a stream (Barušs, 1990; 2008a). Given the apparent association of consciousness with meaning, is there a soteriological role for consciousness in resolving existential issues? And to what extent do transcendent states settle them? Any transcendent theory of consciousness should eventually also address such questions.

Consciousness in the Context of Quantum Theory

The fifth criterion should be apparent from the earlier discussion of quantum theories, namely, that any theory of consciousness should address its relationship to the best physical theories, which, at present, are relativistic quantum theories. So, for the rest of this paper, let me use this as

a starting point for sketching some tentative ideas for a transcendent theory of consciousness. In engaging in such speculation I am well aware that I am joining the cadre of scholars going madly off in all directions interpreting the quantum Rorschach blot and that not everyone will wish to come along this journey with me. However, for those who want to join me, here are some ideas I have had about quantum mind.

We could consider consciousness as a genuinely new element in nature in addition to whatever physical manifestation turns out to be, and then find insertion points for that element into physical manifestation. Such a theory would be a type-D dualist theory in David Chalmers' taxonomy (Chalmers, 2003). The most natural entry point, it seems to me, would be via the Kochen-Specker Theorem, which states, essentially, that either observables cannot have any values before the selection of which observables are to be measured, or *contextuality* exists, namely, that the observed values of a given observable will be different depending on whatever other observables are also measured (Kochen & Specker, 1967). Of course, both of these situations are unpalatable from a conventional point of view. Suppose we are interested in the position of a quanton. What the theorem states is that the quanton has no position at least until such time as we have chosen to look for it or that where we find it will depend on whatever else we decide to measure about it. In either case, our selections directly affect what physical manifestation will end up being. And the selections themselves are not constrained by quantum theory.

Albeit without reference to the Kochen-Specker Theorem, this is the entry-point used by Henry Stapp in his quantum theory of consciousness, in which he theorizes that mental effort enables the quantum Zeno effect thereby holding in place a template for action that allows our deliberate intentions to manifest behaviourally (Stapp, 2001; 2007). And Jeffrey Schwartz has invoked Stapp's theory to account for the self-directed neuroplasticity that he found using brain imaging in the right dorsomedial caudate nuclei of patients with obsessive compulsive disorder who had followed a regimen of cognitive behavioural therapy that included a mindfulness component (Schwartz, Stapp & Beauregard, 2005; Schwartz, 2005; Schwartz & Begley, 2002). This is one way of conceptualizing an interaction between consciousness and physical manifestation.

Sometimes intention is thought to act during the process of reducing the superposition of states in which physical manifestation finds itself prior to observation. That is to say, it is sometimes said that consciousness collapses the state vector, the *state vector* being a mathematical description of the superposed state of reality. Whether or not collapse even occurs upon observation has been contested in the last several decades (e.g., Blood, 2009), with some theorists arguing that decoherence resulting from the presence of background radiation at the time of measurement reduces the state vector to a single possibility (Polkinghorne, 2002; cf. Schlosshauer, 2007)), although that itself has been disputed (Adler, 2003; Weinstein, 2008). Chalmers has considered the possibility that it could be consciousness that is responsible for state reduction (Chalmers, 2003), and I have discussed the implications of such a position for the nature of reality (Barušs, 2008b).

Another entry point is to suppose that intention can play a role within the scope of quantum fluctuations, the stochastic variability of measurements of observables about their mean values (Daintith, 2005). Jean Burns, for example, has proposed that mental influence can order the quantum fluctuations of a particle's momentum. And that such an influence can act on the brain, so that about 4,000 molecules would need to be ordered for sufficient sodium ion channels to open, thereby producing action potentials, resulting in a desired bodily action (Burns, 2002).

Toward a Transcendent Theory of Consciousness

While there could be some truth to the insertion theories of the previous section, I feel that the relationship between consciousness and physical manifestation is more intimate than that made possible by such theories. Perhaps the situation is more akin to what Chalmers has called type-F monist theories, in particular, what he has dubbed *panprotopsychism* whereby properties of mind are already characteristic of whatever it is that constitutes physical manifestation (Chalmers, 2003). I like to think of this fundamental level of reality as a *prephysical substrate* from which physical reality as we encounter it emerges. Equivalently, this level can be thought of as *deep consciousness* — not the intentional experiential stream of everyday consciousness, but a form of transcendent consciousness accessed through the sense of presence that gives qualia their qualia-like properties (cf. Barušs, 2008a). This would correspond roughly to David Bohm's *implicate order* from which both physical and mental events arise, thereby explaining their uncanny correspondence (Bohm, 1980/1983).

Let us engage in some quantum speculation for a moment. Suppose we consider the idea of ordering quantum fluctuations as Burns has done, except that we apply the idea to a quantum field. For instance, the solutions to the equations of motion of a Free Klein-Gordon Field on a Friedmann-Robertson-Walker space-time can be expressed as sums of operators scaled by complex number-valued mode functions acting on the vectors of a Fock space. These operators are usually conceptualized as creation and annihilation operators, in that their effect is to increase or decrease the number of quantons represented by vectors in the Fock space. As the field fluctuates, the effect of the creation and annihilation operators changes, thereby affecting the Fock space representing the number of quantons that are present. Through backreaction determined by the Einstein equation, which couples space-time curvature to energy and momentum, we could predict that space-time would change as well. The idea here is that the effects of intention emanating from a level of deep consciousness, could be represented by changes to the creation and annihilation operators that symbolically shape physical manifestation, including its spatial and temporal parameters. What I am doing here is identifying a mathematical formalism, the annihilation and creation operators, as possibly modelling the influence of deep intention on physical manifestation (Barušs, 2009).

But let us step back out of the minutiae of quantum field theory into a broader context in which consciousness is seen to be stratified, in that there is a level of reality underlying both the experiential stream and physical manifestation from which both arise. We usually identify ourselves as the subject of the experiential stream. However, it could be that during transcendent states of consciousness, that self-identification changes so that one is identified with deep consciousness. John Wren-Lewis, for example, found himself embedded in an "impersonal consciousness" beyond space and time that "*seemed to know everything from the inside*" (Wren-Lewis, 1994, p. 110). Similarly Franklin Wolff found himself identified with "THAT which supports this universe" (Merrell-Wolff, 1995a, p. 51). While these self-observations are not necessarily evidential, they do suggest a particular metaphysical structure. And such a stratified structure is somewhat akin to *emanationism*, the theory that everything in existence arises as stepped down layers of a primaeval light (Smith, 2000).

More commonly, perhaps, it is not that self-identification changes, but that our intentions at the level of the experiential stream invoke a response from the pre-physical substrate. Well, using

such language suggests an upward causal mechanism between strata. More accurately, perhaps, we can say that our deliberate intentions correspond to changes of the pre-physical substrate which, in turn, correspond to changes in physical manifestation. And sometimes those correspondences have the nature of being synchronous, in that physical occurrences correspond in a semantically meaningful way to one's experiential contents, as in the case where a *fieldREG* deviates from random behaviour amidst a group of people entranced by a sunset, or, more dramatically, when dreams presage physical events (Barušs, 2003; Ullman & Krippner, 1973).

das Man Revisited

There is another ingredient that could be added to this theory. Rupert Sheldrake discussed the notion of *morphic fields* as information that structures the form that physical manifestation follows. And the more instances of a particular morphic field there have been in the past, the more powerful it is. For example, in the standard layout of a computer keyboard the keys are arranged in the QWERTY format. When someone learns to type, they encounter the morphic field of the QWERTY keyboard, used by millions of typists since its introduction in the 1870s, which guides them in their efforts to learn. There is some evidence that it is easier to learn to type on a QWERTY keyboard than other keyboards (Sheldrake, 1988). Such morphic fields could exist within the pre-physical level of reality as templates for physical manifestation.

When we consider the phenomenon of *das Man*, we can think of it as a morphic field. There are conventional ways of interpreting reality, and when we think about what it is that we want to think about, through *morphic resonance* we encounter the morphic field of *das Man* which shapes the way in which we are to think about it. It is in this way that we find ourselves in an inauthentic mode of being. If we passively exercise our volition, we act through the morphic field of the conventional interpretation of reality thereby strengthening the usual appearance of physical manifestation.

Authenticity entails breaking our connection with the *das Man* morphic field and placing the weight of interpretation on our own understanding. The idea is that as we do this, physical manifestation can appear to us in forms that it cannot take as long as we are locked into *das Man*. This could explain the informal observation that hypnosis takes on different characteristics depending upon the laboratory in which it is studied (Watkins & Watkins, 1986). And could contribute to an explanation of the sheep-goats effect, whereby anomalous phenomena are more likely to occur as intended for those who believe in them than those who do not (Irwin, 1994). The implication is that if we want to see something interesting happen, then we first have to create an openness to the possibility of its happening, lest we close off its occurrence with our conventional beliefs.

We can add yet another twist to this theory. If there is any validity to collapse-type quantum mind theories, then the temporally discrete nature of measurement implies that there is nothing physically present in manifest form between measurements. This suggests that we live in a flicker universe that emerges over and over again, perhaps at the rate of Planck time, from the pre-physical substrate (Barušs, 2008b; 2009). If that were to be the case, then the "momentum" carrying forward whatever physical events are occurring could be due to the morphic fields determining the structure of physical reality. Thus, changes to physical manifestation need not be considered as the impossible

dislodgement of continuously existent matter, but abnegation of conventional morphic fields allowing alternate selections of configurations of "matter" to emerge from the prephysical substrate on a moment-by-moment basis. In other words, dramatic changes to physical manifestation would be expected to occur as a result of relinquishment of investment in specific morphic fields.

Such features of a transcendent theory of consciousness clearly have practical implications, in that small-scale changes of consciousness could correspond to potentially instantaneous large-scale changes of physical manifestation. For example, although there needs to be additional documentation for them, claims of unusually rapid transformations exist (e.g., Pulos & Richman, 1990) including healing (e.g., Bartlett, 2007; Adam, 2003; West, 1957). Such phenomena, typically regarded as "impossible" from a conventional standpoint, would be regarded as natural occurrences by this theory. The problem is to determine the parameters of the shifts in consciousness that allow for such events to occur.

Conclusion

Let me summarize the main arguments in this paper. Scientific materialism has run its course and no longer fits the empirical data about reality. This is evident from an examination of what is now known about the nature of matter. However, it has remained entrenched as the world view of scientism and continues to affect notions of consciousness. It is time to release materialism, clearing the way for the development of transcendent theories of consciousness. Such theories should minimally meet the following criteria: they should be based on all of the usual empirical data concerning consciousness, including altered states of consciousness; they should take into account data about anomalous phenomena and transcendent states of consciousness; they should address the issue of existential meaning and provide soteriological guidance; and they should be consistent with the most accurate theories of physical manifestation.

Consciousness can be inserted as a primitive element into quantum mechanics by providing a role for intention in the selection process of observables, the collapse of the state vector, or the ordering of quantum fluctuations. But consciousness could be more fundamental, in the sense of a deep consciousness coinciding with a pre-physical substrate from which intention shapes both mental experience and physical manifestation. The mechanism for the latter could be mathematically expressed by the creation and annihilation operators that give rise to the fluctuations of a quantum field. Morphic fields within the pre-physical substrate could hold in place patterns that shape the reality that we experience. Among such morphic fields are ones that correspond to the world view of scientism. By becoming authentic, one could break from such constraints and consider alternative possibilities that can include various forms of radical transformation. And I think that as we begin to investigate consciousness in an atmosphere of greater intellectual freedom, we might come across features of consciousness that could surprise us!

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Author Note

This paper is based on a presentation with the same title given at the Toward a Science of Consciousness Conference at the Hong Kong Polytechnic University on June 14, 2009. I am grateful to Charles Whitehead for inviting me to submit this paper for this edition of the *Journal of Consciousness Studies*. I appreciate the comments made by three referees whose guidance I have tried to adequately take into account in this paper. I thank Shannon Foskett and Andrea Markland for their research assistance, and Shannon for her editorial work. And I thank King's University College for a research grant that was used to support this work. Requests for reprints should be sent to Imants Barušs, King's University College, 266 Epworth Ave., London, Ontario, Canada, N6A 2M3. Email: baruss@uwo.ca.