The Current Philosophy of Consciousness Landscape: Where Does LDS Thought Fit?

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so much depends
upon
a red wheel
barrow
glazed with rain
water
beside the white
chickens

–*William Carlos Williams*

Looking out of my window across my lawn, I see a red toy wheelbarrow tipped over, abandoned beside the sidewalk. Its redness is something I experience distinctly. Undeniably, I might be deceived, and there is no red wheelbarrow there. Maybe someone painted one on the window and I am confused, or maybe I am lying mad in a hospital bed and dreaming. Perhaps it is a hallucination. It could even be that I am the victim of a mania-

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cal government experiment in which scientists are stimulating my brain in a way that makes me think I am seeing a red wheelbarrow. Nevertheless, whatever the cause, *for me* it is clear—I am seeing a red wheelbarrow. I am conscious that there is a red wheelbarrow. I am a being who, as Descartes first pointed out, experiences qualia.[1] As Descartes put it: "*Cogito ergo sum*" (I think, therefore I am.)

What is consciousness? How does it arise? What are its correlates in the neuroarchitecture of our brain? What can science tell us about consciousness? Can science tell us anything about consciousness? A surfeit of books on consciousness from philosophical, biological, and psychological perspectives have recently appeared. These differing perspectives come to a variety of conclusions with little apparent agreement on how to even approach the problem of consciousness, let alone solve it. Nonetheless, there is value in examining how one's own worldview fits into the large picture of consciousness studies. LDS doctrine offers a unique and coherent view of consciousness and its place in the universe. This paper introduces some of the current ideas being discussed in consciousness studies. The challenge of writing a short introduction to such a broad topic is that, of necessity, I must leave out much and risk pleasing no one. Despite such built-in inadequacies, I hope that the essay will stir thinking in a wide variety of researchers and philosophers. My purpose is not to answer many of the nuances of consciousness studies and its relation to LDS thought but rather to point out an interesting area for further research.

The approach I take here is to examine several threads about consciousness that might be loosely captured under the heading of the philosophy of biology. As such, I will not be exploring other specific philosophic movements that parallel this area of thinking. Since studies about the philosophical nature of biological consciousness are an amalgamation of brain science, evolutionary biology, psychology, and philosophy, my focus will be on current problems receiving attention in the philosophy of science. However, some grounding on the other areas of consciousness studies will be necessary for understanding certain areas of overlap among the disciplines. While this review is neither comprehensive nor focused in one area, I hope that it is sufficient to begin a dialogue with other scholars

1. Qualia are the individual elements of experience. A pain, the experience of seeing a color, or the sound of a note of music are all examples of qualia.

interested in consciousness studies and its relationship with LDS thought.

The Hard Problem

Consciousness has been defined as "those subjective states of sentience or awareness that begin when one awakes in the morning from a dreamless sleep and continue throughout the day until one goes to sleep at night, or falls into a coma, or dies, or otherwise becomes, as one would say, 'unconscious.'"[2] This definition is not very precise. It does not capture the clarity that one would see in defining a plant or a mammal where clear criteria can be set forth. Consciousness is elusive, and no single definition has satisfied everyone. Rather than a clearly articulated concept, consciousness can be thought of as a set of family resemblances. I hope to be explicit about what aspect I mean when I use the word *consciousness*, but to date, the concept seems inherently vague.

Consciousness studies are usually divided into the "easy problems" and *the* "hard problem."[3] The easy problems, although actually quite difficult, are considered to be amenable to scientific exploration, e.g., how the brain processes colors, which neural pathways are involved in specific behaviors, and how the brain communicates among its different components. While many of these problems remain unsolved and constitute the research agenda of neuroscience, they are scientifically tractable and researchers believe that they can one day identify the mechanisms they employ.

In contrast, phenomenal consciousness is *the* hard problem in consciousness studies.[4] Phenomenal consciousness is the aspect of consciousness identified by that "what it is to be like" feeling that we associate with

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2. John R. Searle, *Consciousness and Language* (Cambridge, Eng.: Cambridge University Press, 2002), 7.

3. David J. Chalmers, "Facing Up to the Problem of Consciousness," *Journal of Consciousness Studies* 2, no. 3 (1995): 200–19; Güven Güzeldere, "Problems of Consciousness: A Perspective on Contemporary Issues, Current Debates," *Journal of Consciousness Studies* 2, no. 2 (1995): 112–43.

4. Benjamin Libet, "Solutions to the Hard Problem of Consciousness," *Journal of Consciousness Studies* 3, no. 1 (1996), 33–35; William S. Robinson, "The Hardness of the Hard Problems," ibid., 14–25.

personal subjectivity[5] and that subjective experience we have when seeing colors, hearing sounds, etc. It has several aspects: its sense of unity and irreducibility,[6] its continuity in space, and its apparent lack of spatial dimension, and the ineffable quality of qualia—for example, the experience of seeing red, hearing music, thinking, and even thinking about our thinking.[7] In addition to the consciousness apparent in the present, we can also bring up past qualia in our mind. We are subjectively all aware of our nearly indescribable sense of being.

This "hard problem" is difficult because nothing in biology predicts the emergence of consciousness. If it were not for the fact that we experience this unique subjectivity, there would be no reason to postulate its existence. Furthermore, there are apparently no scientific methods to identify its presence or absence.[8] For example, if thinking machines from another galaxy without such consciousness were to examine our species biologically they would have no reason at all to postulate consciousness.

Consciousness is also associated with a sense of what philosophers call *intentionality,* a technical term not to be confused with our ordinary use of "intend," which means we are planning some course of action. Intentionality here means that our thoughts are about something or are directed toward a particular purpose. This "aboutness" is an active part of many of our conscious features: Our thoughts, feelings, and sensations all are about something. Some argue that all mental states are intentional and are representative. Several philosophers have worked out a representational view of consciousness. They include Fred Dretske, who notes that

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5. Thomas Nagel, "What Is It Like to Be a Bat?" *Philosophical Review* 83 (1974): 435–50.

6. John R. Searle, "Reductionism and the Irreducibility of Consciousness," in *The Nature of Consciousness: The Philosophical Debates,* edited by Ned Block, Owen Flanagan, and David J. Chalmers (Cambridge, Mass.: MIT Press, 1997), 451–59.

7. William Seager, *Theories of Consciousness: An Introduction and Assessment* (London: Routledge, 1999), 44–45; John R. Searle, *The Mystery of Consciousness* (New York: New York Review of Books (1997), 28–29; Charles P. Siewert, *The Significance of Consciousness* (Princeton, N.J.: Princeton University Press, 1998), 85–99.

8. Alvin I. Goldman, "Can Science Know When You're Conscious? Epistemological Foundations of Consciousness Research," *Journal of Consciousness Studies* 7, no. 5 (2000): 3-22.

the way an object is presented to the mind is conditioned on the way our senses represent that object in our mind. He argues that, in this view, all mental facts are representative facts.[9]

Consciousness Studies Overview

Descartes is often mentioned as the founder of consciousness studies, or the first to carefully articulate the nature of the mind-body problem. He believed that the seat of consciousness lay in the pineal gland and argued that the mind and the brain were two separate things. He developed the idea of a "Cartesian Theater" in which the mind observes the on-going drama of our sensory input. The dualism that he espoused is still being argued about today.

Since that time, John Locke, David Hume, Immanuel Kant, Bishop George Berkeley, Ludwig Wittgenstein, Martin Heidegger, and Jean-Paul Sarte are among the many philosophers who have explored aspects of consciousness studies. While not explicitly exploring consciousness, Søren Kierkegaard devoted much of his writing to explications of subjectivity and its importance in understanding truth. Maurice Merleau-Ponty studied the relationship of consciousness and perception, arguing that the bodily nature of perception was intimately tied to consciousness.[10] Sigmund Freud developed the idea that the subconscious played an important part in our cognition and mental life. However, most of these philosophers did not engage directly with post-Darwinian biology—not that these philosophers are irrelevant to discussions of consciousness (for they certainly are relevant), but my purpose here is to explore where consciousness studies now stand in relation to mainstream philosophy of science, and space limitations preclude a more thorough exploration.[11]

Modern consciousness studies begin with two figures: Charles Darwin and William James. Darwin further anchored the world in scientific materialism as the *de facto* method of exploring the universe. While one

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9. Fred Dretske, *Naturalizing the Mind* (Cambridge, Mass.: MIT Press, 1995), 1–38; Michael Tye, *Ten Problems of Consciousness: A Representational Theory of the Mind* (Cambridge, Mass.: MIT Press, 1995), 100–105.

10. Glenn Braddock, "Beyond Reflection in Naturalized Phenomenology," *Journal of Consciousness Studies* 8, no. 11 (2001), 3–16.

11. Excellent reviews on the nature of consciousness are found in Karl Popper and John C. Eccles, *The Self and Its Brain* (New York: Routledge, 1977), 148–224; Güven Güzeldere, "The Many Faces of Consciousness: A Field Guide,"

need not assume strict materialism to use the scientific method, most recent explorations, including dualist positions, do. All modern positions on consciousness assume that the brain is the product of several million years of evolution.[12]

William James advanced modern studies of consciousness by tying studies of consciousness explicitly to psychology and brain science.[13] He was concerned with subjectivity and what its various states suggested about the nature of consciousness. Shortly after James, behaviorists like John Watson and B. F. Skinner discounted the value of subjectivity, thus influencing psychology away from the value of subjective information obtained through self-reports. In contrast, the last two decades have seen a resurgence of interest in subjectivity.[14] Since James's period at the turn of the twentieth century, three main schools of thought have gained prominence in explaining the nature of consciousness: functionalism, mysterianism, and dualism.

I will explore each perspective, how it relates to LDS ideas of consciousness, and how LDS views may contribute to current debates on the nature of consciousness. In particular, I examine the thoughts of Joseph Smith, B. H. Roberts, and other LDS thinkers, comparing them with current ideas in the philosophy and science of consciousness. The LDS doctrine that spirit and body constitutes the substance of consciousness is, I will argue, a philosophically valid and coherent approach to consciousness.

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in *The Nature of Consciousness: Philosophical Debates,* edited by Ned Block, Owen Flanagan, and Güven Güzeldere (Cambridge, Mass.: MIT Press, 1998), 1–67; and Seager, *Theories of Consciousness: An Introduction and Assessment.*

12. Merlin Donald, *A Mind So Rare: The Evolution of Human Consciousness* (New York: W. W. Norton & Company, 2001), 92–148; Steven Mithen, "Handaxes and Ice Age Carvings: Hard Evidence for the Evolution of Consciousness," in *Towards a Science of Consciousness III: The Third Tucson Discussions and Debates,* edited by Stuart R. Hameroff, Alfred W. Kaszniak, and David J. Chalmers (Cambridge, Mass.: MIT Press, 1999), 281–96.

13. William James, *Principles of Psychology* (1890; reprinted New York: H. Holt, 1952), 8–52.

14. Steven L. Peck, "Randomness, Contingency, and Faith: Is There a Science of Subjectivity?," *Zygon* 38, no. 1 (March 2003): 5–25; B. Alan Wallace, *The Taboo of Subjectivity: Toward a New Science of Consciousness* (New York: Oxford University Press, 2000), 3–13.

Brain Science

Recent efforts in neuroscience have made great strides in understanding the brain and its correlates with consciousness.[15] New techniques, such as using radioactive emissions from labeled glucose to image metabolically active areas of the brain, have allowed researchers to explore which parts of the brain are active during certain behaviors. Single photon emission-computed tomography (SPECT) cameras can image these metabolically active areas on a computer, identifying which areas of the brain are active during given conscious and unconscious activity, including religious experiences.[16] Consciousness, such studies suggest, is not centered in one part of the brain. During consciousness, the entire brain is active; no single neural system seems responsible for inducing consciousness. The difference between conscious and unconscious states ap-

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15. Donald, *A Mind So Rare*; J. Allan Hobson, *Consciousness* (New York: Scientific American Library, 1999), 96–99; James Newman, "Putting the Puzzle Together, Part 1: Towards a General Theory of the Neural Correlates of Consciousness," *Journal of Consciousness Studies* 4, no. 1 (1997), 47–66; James Newman, "Putting the Puzzle Together, Part II: Towards a General Theory of the Neural Correlates of Consciousness," *Journal of Consciousness Studies* 4, no. 2 (1997), 100–121.

16. Carol Rausch Albright, "The 'God Module' and the Complexifying Brain," *Zygon* 35, no. 4 (December 2000): 735–44; Andrew B. Newberg and Eugene G. d'Aquili, "The Creative Brain/The Creative Mind," *Zygon* 35, no. 1 (2000), 53–68; Andrew Newberg, Eugene d'Aquili, and Vince Rause, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2001), 113–27. These two authors, using SPECT cameras, investigated which areas of the brain are associated with religious experience. They and others have speculated on the existence of a "God Module" in the brain that processes feelings of religious engagement. Some have argued from this hypothesis that God therefore consists of sensations generated by the brain. However, these two authors point out that much of the brain interprets and processes data gathered from outside ourselves. For example, the eye picks up light signals that the visual centers of the brain interpret, just as the ears pick up and process sound waves. It may be that the "God Module," if it exists, interprets real signals instead of manufacturing false impressions. Therefore, the existence of a "God Module" is uninformative on the question of God's existence. See also Michael Shermer, *How We Believe: The Search for God in an Age of Science* (New York: W. H. Freeman and Company, 2000), 65–69; Michael Spezio, "Understanding Biology in Religious Experience: The Biogenetic Structuralist Approach of Eugene D'Aquili and Andrew Newberg," *Zygon* 36, no. 3 (September 2001): 477–84.

pears to be the specific type of neural activities occurring. During unconsciousness, signals among the neurons appear to be firing in lockstep at a given frequency. So while there is as much neural firing going on during periods of non-REM sleep, for example, the variance is very low. During consciousness, the variation in neural activity is strikingly high.[17]

Gerald Edelman and Giulio Tononi have found that the brain processes associated with consciousness are defined by a "dynamic core" of neural activity. They hypothesize that these neural pathways are being used in active consciousness through a Darwinian process of selection. For example, when you are driving home and suddenly remember to pick up milk, this remembrance would imply that the "remember to pick up milk" neural pathways and processes, suddenly were selected for consciousness among the competing pathways and processes. Through computer simulation and brain imaging techniques, Edelman's and Tononi's ideas are illuminating how the conscious brain coordinates and activates the neural processes associated with consciousness.[18]

Other methods of understanding the relationship between brain and consciousness include studies of patients with specific types of brain damage or other neural abnormalities.[19] Through these studies, researchers have associated various regions of the brain with behavioral correlates.

However, all of these studies give only the broadest generalizations about brain neurobiology. With 10^{10} neurons and as many as 10^{1000} possible connections in the brain, brain science is in its infancy in understanding how the brain works. For example, we lack a widely persuasive view of how memory works, how it is recovered, or what accounts for its indelibility. For example, There has been no widely accepted view of how memory works, how it is recovered, or what accounts for the indelibility of memory.

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17. Gerald M. Edelman and Giulio Tononi, *A Universe of Consciousness* (New York: Basic Books, 2000), 70–75.

18. Ibid.

19. Martha J. Farah, "Visual Perception and Visual Awareness after Brain Damage: A Tutorial Overview," in *The Nature of Consciousness: Philosophical Debates,* edited by Ned Block, Owen Flanagan, and Güven Güzeldere (Cambridge, Mass.: MIT Press, 1997), 203–36; F. X. Vollenveider, A. Gamma, and M. F. I. Vollenweider-Scherpenhuyzen, "Neural Correlates of Hallucinogen-Induced Altered States of Consciousness," in *Towards a Science of Consciousness III: The Third Tucson Discussions and Debates,* edited by Stuart R. Hameroff, Alfred W. Kaszniak, and David J. Chalmers (Cambridge, Mass.: MIT Press, 1999), 99–110.

However, despite this lack of information about basic brain function, a group of neural scientists and philosophers of science are arguing that the final arbitration of what consciousness is and how it arises will ultimately be made by brain science. How well do these arguments succeed?

Functionalist Materialists

Materialism—the idea that all causes are material and that the universe is closed to all but material objects and causes—is the most prevalent paradigm in the philosophy of consciousness today. While there are many materialist schools of thought, they share the underlying common assumption that the physical universe *in toto* is amenable to scientific discovery and manipulation. Functionalist materialists believe that brain science will eventually explain consciousness and that, if we understood all brain states, we would invariably understand consciousness. They see consciousness as an emergent property of the brain.[20]

Emergence theory has recently played an important role in how people view the universe. It is, in part, derived from chaos theory which demonstrates that complex, unpredictable behavior of relatively simple systems can emerge in a way that understanding the system's simpler components cannot predict. An "emergent property" is a higher-level property that cannot be predicted from the lower-level processes which together make up the higher-level property. For example, water's liquidity would be hard to predict if all we had were single hydrogen and oxygen atoms; rather, liquidity emerges from the interaction of hydrogen and oxygen atoms and is completely explained by these interactions. However, given only the atoms and their properties, it would have been nearly impossible to predict all of the properties we see in water: for example, freezing at 0 degrees C., boiling at 100 degrees C., its surface tension, etc.[21] Consciousness, likewise, in this reading is an emergent property of brain function.

Materialist functionalists argue that brains are a kind of computer: the brain is the hardware and consciousness is the software or the "wetware." This analogy, called strong AI (artificial intelligence), has been around since John von Neumann devised the first modern computers in

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20. Natika Newton, "Emergence and the Uniqueness of Consciousness," *Journal of Consciousness Studies* 8, nos. 9-10 (2001): 47-60; Michael Silberstein, "Converging on Emergence: Consciousness, Causation and Explanation," ibid., 61-98.

21. Searle, *The Mystery of Consciousness*, 80-86.

the late 1940s. Von Neumann speculated that computers some day would be conscious and suggested that we would recognize consciousness in a machine when, in a conversation with a computer, you could not tell that it was not a human, regardless of what questions were asked. However, philosophers of science have rejected this view.

John Searle, for one, has pointed out the inadequacies of this materialist position and developed the now famous Chinese Room argument.[22] In this argument, Searle takes the position that purely computational systems can never be conscious. He invites us to imagine a room in which a person submits questions written in Chinese to someone in the room. The answers that come back are written in fluent Chinese. One would naturally assume that the person in the room understood Chinese. However, in reality, the person in the room has a large book that is used to translate these questions. When the questions are submitted, she looks up the characters, then copies out the next line in the book, which always gives an appropriate answer to the question. She understands no Chinese whatsoever. In like manner, a computer can only take information, process it, and give whatever answer(s) are mandated by the specifics of its program. Consciousness, Searle argued, cannot arise in any computer program. The consciousness that arises from brains must be fundamentally different.

Roger Penrose likewise takes the position that strong AI is philosophically flawed and, further, that purely computational machines cannot produce conscious intelligence.[23] Ultimately, any computer or purely algorithmic machine is doing nothing more than executing a mathematical equation (granted, a potentially very complicated one) which can be written down on a piece of paper. It is hard to imagine how the execution of an equation could produce consciousness. Penrose argues strongly that quantum mechanics must play a role in consciousness—that "machines," biological or otherwise, must have more to them (possibly effects moderated by quantum mechanical influences) to produce consciousness.[24]

Some materialist versions suggest that the mind is not only an emergent feature of the brain but also that it arises epiphenomenally from the

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22. Ibid., 11–12.

23. Roger Penrose, *Shadows of the Mind: A Search for the Missing Science of Consciousness* (Oxford: Oxford University Press, 1994), 12–16.

24. Harry T. Hunt, "Some Perils of Quantum Consciousness:

brain.[25] Consciousness is then an after-effect that emerges solely because of the complex dynamics within the brain and the mind plays no real role in directing conscious action or decision. It does not feed information back to the brain or "will" the brain to do anything at all. It is more like foam floating on water that plays no role in what is going on below the surface. Evidence for this view comes largely from the widely discussed experiments of Benjamin Libet, Nobel Prize winning psychologist at the University of California, San Francisco.[26] Libet found that, when he asked patients to flex their hands according to the position of a dot moving on a clock, the action of flexing, as initiated by a nerve impulse to do so, occurred *before* their conscious intention of doing so. However, others have interpreted Libet's experiments in ways that throw suspicion on the epiphenomenalist view.[27]

However, the emergence of the mind seems unique among other known examples of emergence behavior such as the liquidity of water. The liquidity of water is constitutive. Once we understand liquidity as a principle we can go back to the basic components of H_2O and understand how liquidity arises. This is not true of the brain.[28] Currently there is no reductive materialist account of how the mind's emergence can be explained by the components and workings of the brain.

The biggest problem in understanding materialist versions of con-

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Epistemological Pan-Experientialism and the Emergence-Submergence of Consciousness," *Journal of Consciousness Studies* 8, no. 9–10 (2001): 35–45.

25. Robert Van Gulick, "Reduction, Emergence and Other Recent Options on the Mind/Body Problem: A Philosophic Overview," *Journal of Consciousness Studies* 8, nos. 9–10 (2001): 1–34; Francis Crick and Christof Koch, "Towards a Neurobiological Theory of Consciousness," *Seminars in the Neurosciences* 2 (1990): 263–75.

26. Susan Blackmore, *The Meme Machine* (Oxford, Eng.: Oxford University Press, 1999), 225–28; Benjamin Libet, "Unconscious Cerebral Initiative and the Role of Conscious Will in Voluntary Action," *Behavioral and Brain Sciences* 8, no. 4 (December 1985): 529–66.

27. Owen Flanagan, "Conscious Inessentialism and the Epiphenomenalist Suspicion," in *The Nature of Consciousness: Philosophical Debates*, edited by Ned Block, Owen Flanagan, and David J. Chalmers (Cambridge, Mass.: MIT Press, 1997), 357–73.

28. Todd E. Feinberg, "Why the Mind Is Not a Radically Emergent Feature of the Brain," *Journal of Consciousness Studies* 8, nos. 9-10 (2001): 123–45.

sciousness lies in explaining phenomenal consciousness–the subjective experience of, presumably, every person. There is no reason to speculate that consciousness is required to do the things that biological organisms have to do. Much of the consciousness literature proposes a thought experiment involving "zombies."[29] A zombie is a theoretical construct identical to a human in deed and action but completely without consciousness. For example, my zombie would be a doppelganger constructed by replicating my body and brain, but it would lack consciousness of any kind. It would act like me and say the things I would say in same circumstances. Even my wife and children would be unable to tell the difference between us. But there is a big difference. He (it?) has no conscious experience. The lights are on, but no one is home. There is no known biological reason that such a zombie could not exist, so why is someone (apparently) looking out of the window? Why is there (apparently?) an observer of the Cartesian theater?

The phenomenal nature of consciousness is so perplexing that some hardline materialists have chosen to deny the existence of consciousness and postulate that it is an illusion–although, in that case, I have to wonder whose illusion it is.[30] Daniel Dennett explains his thinking about the Cartesian Theater:

> Once we take a serious look backstage, we discover that we didn't actually see what we thought we saw onstage. The huge gap between phenomenology and physiology shrinks a bit: we see that some of the "obvious" features of phenomenology are not real at all: There is no filling in with figment; there are no intrinsic qualia; there is no central fount of meaning and action; there is no magic place where the understanding happens. In fact, there is no Cartesian Theater; the very distinction between onstage experiences and backstage processes loses its appeal. We still have plenty of amazing phenomena to explain, but a few of the most mind-boggling special effects just don't exist at all, and hence require no explanation.[31]

However, the common sense experience of consciousness demands

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29. Allin Cottrell, "Sniffing the Camembert: On the Conceivability of Zombies," *Journal of Consciousness Studies* 6, no. 1 (1999): 4–12; Owen Flanagan and Thomas Polger, "Zombies and the Function of Consciousness," *Journal of Consciousness Studies* 2, no. 4 (1995): 313–21.

30. Blackmore, *The Meme Machine*, 225; Daniel C. Dennett, *Consciousness Explained* (New York: Little Brown and Co., 1991), 219–34.

31. Dennett, *Consciousness Explained*, 434.

a more satisfying answer. Strong materialists have been accused of neglect in studying consciousness. Charles Siewert demonstrates this neglect by considering certain forms of blind-sight.[32] He argues that the most significant aspect of consciousness is the phenomenology of consciousness—which functionalist accounts ignore:

> The phenomenal features we have when we perceive, image, and think are not "mere sensations," but are themselves intentional features, abundant and subtly differentiated. And while it seems likely we would be able to engage in rather little intelligent behavior without consciousness, we value phenomenal features for more than what we think they enable us to do; and our valuing them in this way is enormously important for our attitude toward our own lives, and toward other people. Finally, an adequate philosophical or psychological theory of human thought and perception needs to account for, and not conflict with, how it seems to us to think and perceive—our having the phenomenal intentional features we have.[33]

The importance of the phenomenal nature of consciousness is illustrated by a thought experiment first articulated by philosopher Frank Jackson of Australian National University about a neurobiologist named Mary, who knows everything there is to know about the brain's processing of the color red.[34] She understands perfectly the neural pathways involved in processing red, the frequencies of light that contain red, and how they interact with the eye. She can objectively describe every activity in the brain involved in seeing red. However, Mary is color blind and has never experienced the color red directly. Can Mary be said then to understand the color red? Suppose she then has some special surgery that allows her to finally see the color. At this point, it becomes clear that, despite a complete biological understanding of sensing the color red, there was something else that she never knew about red—the phenomenal character

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32. In blind-sight, certain parts of the brain experience damage, resulting in blindness, even though nothing is wrong with the visual processing parts of the brain; however, the direct link between the images seen by the eye and interpreted by the brain cannot be passed to consciousness. Persons with this type of blind-sight can "guess" with almost 100 percent accuracy what object is being held before them but claim no ability to see it.

33. Siewert, *The Significance of Consciousness,* 338.

34. Frank Jackson, "Epiphenomenal Qualia," *Philosophical Quarterly* 32 (1982): 127–36; Frank Jackson, "What Mary Didn't Know," *Journal of Philosophy* 32 (1986): 291–95.

of experiencing red. This argument suggests that, even if we knew everything there was to know about the brain, the phenomenal experience of consciousness would not be explained fully. This explanatory gap is a failure in materialist explanations of consciousness.[35]

Materialists have also failed to provide testable hypotheses to determine when something is conscious and when it is not. Trying to decide if a slug or a fly is conscious has posed a difficult problem in materialist musings. Some, like Euan Macphail, have argued that only modern human children and adults are conscious, while human babies and animals are not,[36] while others argue that the higher vertebrates, at least, experience some sort of consciousness.[37]

Materialism then has failed to meet many of the benchmarks of what we recognize as a good theory of science. It makes no testable predictions. It has failed in many ways to provide testable hypotheses about any of its tenets. As an assumption, it provides no explanatory power to the extent that it demonstrates little merit in its application on the subject of consciousness.

Mysterian Musings

Mysterian arguments are materialist in that they begin with the premise that our mind is the result of natural processes in the universe and is a natural part of the universe. There is no spirit animating the mind; biology completely describes the mind. However, the mind was adapted to solve specific sorts of problems encountered during the evolutionary history of our species on the planet. Because of these limitations, there may be questions that the mind is not capable of exploring. One of these, mysterians hold, is the problem of consciousness.

The mysterian view is that consciousness will always remain a mystery. Our mind is adapted to be good at specific tasks like solving the sorts of problems from which our mathematical knowledge is gleaned. The

35. Joseph Levine, "On Leaving Out What It's Like," in *The Nature of Consciousness: Philosophical Debates,* edited by Ned Block, Owen Flanagan, and Güven Güzeldere (Cambridge, Mass.: MIT Press, 1997), 543–55; Colin McGinn, "Can We Solve the Mind-Body Problem," in ibid., 529–42.

36. Euan M. Macphail, *The Evolution of Consciousness* (Oxford: Oxford University Press, 1998), 204–37.

37. Donald R. Griffin, *Animal Minds: Beyond Cognition to Consciousness* (Chicago: University of Chicago Press, 1992), 17–18.

mind can tackle questions answered through the scientific method, e.g., rational thinking, the "if such and such, then such and such follows" type of problem. It can handle the type of questions best handled by the modern scientific method. However, our minds are not good at getting at problems like consciousness: "Our human intelligence is biased away from understanding consciousness. It is not that consciousness is objectively any more complex than the things we can understand; it's just that our faculties are not cut out to penetrate to its underlying nature."[38]

Mysterians point out that applying Gödel's theorem[39] to the scientific method itself suggests that reality has some problems that cannot be resolved using the scientific method. How much harder are questions that cannot even be addressed by the scientific method? Roger Penrose suggests that we must understand three worlds in order to understand consciousness: the mental world, the Platonic world of mathematic forms, and the physical world.[40] He argues that these worlds interact through quantum mechanics but that we do not yet know enough about the three worlds to make guesses about the nature of deep reality.

Does quantum mechanics in fact provide an answer? Many involved in consciousness studies have been intrigued with possible connections between the strange and counterintuitive world of quantum mechanics and the brain.[41] Quantum theory suggests that electrons orbiting the atom's nucleus are not like planets spinning around the sun but are rather spread over a probability space. The famous uncertainty principle claims that how you observe or measure an electron affects its nature. Because of the indeterminacy of quantum effects, an escape from the rigidity of strict determinism seems possible if quantum effects can bubble up into the macro world where humans live. Penrose points out that microtubules in the brain are of such a size that quantum effects might play a role. The most advanced thinking in this area has come from a group studying

38. Colin McGinn, *The Mysterious Flame: Conscious Minds in a Material World* (New York: Basic Books, 1999), 65.

39. Gödel's theorem showed that within an axiomatic system are true theorems that cannot be proved within the system itself.

40. Penrose, *Shadows of the Mind*, 348–92.

41. Henry P. Stapp, "The Hard Problem: A Quantum Approach," *Journal of Consciousness Studies* 3, no. 3 (1996): 194–210; Evan Harris Walker, *The Physics of Consciousness* (Cambridge, Mass.: Perseus Publishing, 2000), 216–37.

quantum field theory, a recent advance on quantum mechanics. Physicist Giuseppe Vitiello from the University of Salerno has demonstrated that the entire brain is a large coherent quantum structure.[42] This structure allows for communication among the parts of the brain to be instantaneous and explains much about memory, such as its large storage capacity and duration.

So far, however, ideas associating consciousness and quantum theory have not yielded testable hypotheses and thus remain speculative. Searle has criticized them as just substituting one mystery for another.[43]

Dualist Views of Consciousness

Modern dualists, while embracing the evolutionary origin of the brain as a biological structure, argue that the mind and the brain are separate things. There are two types of dualism: substance dualists and property dualists.[44] Substance dualists hold that the brain is animated by a substance, soul, or spirit composed of something unavailable for physical observation or manipulation. Descartes thought that the universe contained two substances: *res extensa* (lit., "extended substance," or the materials that occupy space) and *res cogitans* (lit., "thinking substance," or another substance of consciousness).[45] Property dualists, in contrast, suggest that consciousness may be a property of possibly all matter and can be found anywhere that matter is complex enough to contain information.

Brain researcher John Eccles has best articulated the former position. He holds that the mind and the brain are separate entities analogous to Karl Popper's three worlds.[46] The mind arises from Popper's World 2, with the mind and body interacting in the same way that World 1 and World 2 interact epistemologically. The substance in Eccles's theory is not

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42. Giuseppe Vitiello, My *Double Unveiled: The Dissipative Quantum Model of Brain* (Philadelphia: John Benjamins Publishing Company, 2001), 67–86.

43. Searle, *The Mystery of Consciousness,* 84.

44. Robert Van Gulick, "Reduction, Emergence and Other Recent Options on the Mind/Body Problem: A Philosophic Overview," *Journal of Consciousness Studies* 8, no. 9 (2002): 1–34.

45. Max Velmans, "The Relation of Consciousness to the Material World," *Journal of Consciousness Studies* 2, no. 3 (1995): 255–65.

46. Popper defines three ontological worlds. World 1 is composed of physical elements and includes everything from inorganic and biological objects and artifacts of human design such as art, machines, and books. World 2 is the subjec-

a spirit or soul as defined in the typical religious sense of the word but rather something that arises developmentally both in the ontogeny and evolutionary history of human brain development. But the substance of the mind consists of what he calls *psychons*, separate objects involved in the evolutionary development of the mind, which use quantum mechanics to influence the actual mind. These psychons form in association with specific dendrite bundles,[47] protoplasmic processes essential to the function of nerve cells. He sees the mind as existentially real and separate from the brain. It communicates with the brain, informs the brain with its will, and likewise is affected by the brain's perceptions of pain, pleasure, and other states derived from physical events: "It is proposed that the self-conscious mind is actively engaged in searching for brain events that are of its present interest, the operation of attention, but it also is the integrating agent, building the unity of conscious experience from all the diversity of the brain events. Even more importantly it is given the role of actively modifying the brain events according to its interest or desire, and the scanning operation by which it searches can be envisaged as having an active role in selection."[48]

It is important to point out, in view of LDS theology to be discussed below, that these hypothesized psychons have no independent existence prior to the evolution of the brain and the appearance of life on earth.[49]

The challenges to substance dualism have been around since the time of Descartes. If another substance or property exists, how does it interact with the physical reality that materialists assume to be ultimate? And if it can interface with this reality, then should there not be ways to detect it? For example, because this substance interacts with brain states, it seems reasonable that some kind of detector, constructed using the

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tive world of knowledge, perception, memories, and other informational states of subjective experience. World 3 is knowledge in an objective sense, such as the knowledge contained in libraries, human culture, and the paradigms of science. Karl Popper, *The Logic of Scientific Discovery* (New York: Harper and Row/Basic Books, 1959); Popper and Eccles, *The Self and Its Brain*, 36–50.

47. John C. Eccles, *How the Self Controls Its Brain* (New York: Springer-Verlag, 1994), 88.

48. Popper and Eccles, *The Self and Its Brain*, 373.

49. Eccles, *How the Self Controls Its Brain*, 178, acknowledges that animals have some consciousness.

same principles of physics that structure the brain, can be made to detect it. Early philosophers like Nicholas de Malebranche held that God was the source of the interaction. If my spirit wanted to move my arm, I willed it; and God sent the messages to the brain that it should be moved.[50] However, this proposal seems ontologically unsavory and most philosophers and theologians have rejected it as too convoluted. Nonetheless, some of the ideas of a quantum interface between brain states as postulated by Penrose and Eccles allow an interface between this and another world quite easily, thus offering a possible defense of substance dualism.

The second form of dualism, property dualism, in contrast, avoids some of these problems. John Chalmers, director of thd Center for Consciousness Studies at the University of Arizona, espousing a form of property dualism, suggests that consciousness is an independent attribute of the universe. Experience is an aspect of certain information states. He warns against construing this description as pan-psychism, because it is not matter itself that is experiential. Rather, he suggests that certain configurations of matter that use or convey information as a system are experiential. The more complex the informational states, the greater the quality of experience. That is why highly complex physical objects like the human brain have a highly developed consciousness. Chalmers, after arguing that even a thermostat might have a rudimentary form of consciousness, suggests: "It may be that some are unwilling to accept the possibility of conscious thermostats simply because we *understand* thermostats too well. We know everything about their processing, and there seems no reason to invoke consciousness. But thermostats are really no different from brains here. Even once we understand brain processing perfectly, there will still seem to be no reason to invoke consciousness."[51]

Another form of property dualism, sometimes referred to as process dualism, suggests that consciousness is an irreducible fundamental feature of the universe. In considering an elementary particle's charge or the gravitational attraction of two bodies, there is ultimately no answer

50. Popper and Eccles, *The Self and Its Brain*, 184.

51. David J. Chalmers, *The Conscious Mind*, edited by Owen Flanagen (Oxford, Eng.: Oxford University Press, 1996), 296.

to the question of why these phenomena occur.[52] It's just the way the universe is constructed. The assumption that matter is composed of nothing but vacuous particles (i.e., they have no experience) has been challenged by process dualists like philosopher Alfred North Whitehead and theologian David Griffin, School of Theology, Claremont Graduate University.[53] Griffin argues that the assumption that elementary forms of matter are without some form of awareness is unwarranted and instead contends that assuming otherwise makes for a more coherent theory of the underpinnings of the universe. Griffin, expanding on Whitehead's thought, argues that our own subjective experience with consciousness demonstrates that, at least in some form, consciousness is a natural part of the universe.[54] Why not assume that it is a phenomenon as basic as gravity? These process dualists suggest that, while less complete than our own consciousness, all things may have an awareness of sorts.

Pan-experientialism posits that, like these physical properties of nature, consciousness is a fundamental property of the universe. There is no point in asking why—it just is. Whitehead speculated that all existing entities have some form of consciousness.[55] Particles of matter do not endure but are rather "throbs of experience."[56] These "Actual Entities," as he calls all particles in our universe, exist only for a short time during which they form a relationship with all other actual entities. As actual entities go out of existence, they experience a "satisfaction" or a flash of

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52. Teilhard de Chardin, *The Phenomenon of Man,* translated by Bernard Wall (New York: Harper & Row, 1955), 54–60.

53. David Ray Griffin, *Reenchantment without Supernaturalism: A Process Philosophy of Religion,* edited by William P. Alston (Ithaca, NY: Cornell University Press, 2000), 94–128; Alfred North Whitehead, *Process and Reality,* corrected ed. (New York: Free Press, 1978), 46–51.

54. David Ray Griffin, *Unsnarling the World-Knot: Consciousness, Freedom, and the Mind-Body Problem* (Berkeley: University of California Press, 1998), 90.

55. Whitehead, *Process and Reality,* 18–20, viewed consciousness as arising only in complex individuals. He identified "prehensions" as the basic type of experience.

56. Shimon Malin, "What Does Quantum Mechanics Imply about the Nature of the Universe?," in *Towards a Science of Consciousness III: The Third Tucson Discussions and Debates,* edited by Stuart R. Hameroff, Alfred W. Kaszniak, and David J. Chalmers (Cambridge, Mass.: MIT Press, 1999), 313–16.

experience. In the process of their annihilation, new actual entities form, integrating the past history of all the previous actual entities ("prehension," in Whitehead's terminology) that have led to its creation. This process continues for all time, creating all the experiences that occur in the universe.[57] According to this view, consciousness is therefore the result of a process, as the term "process dualist" implies.

Panexperientialists claim their view runs counter to a kind of universal solipsism, one that denies consciousness to any of those without brains. However, just as there is no way to logically or scientifically argue for or against solipsism (because we have access only to our own subjectivity), pan-experientialism can never be proven by standard methods.

This brief overview of consciousness theory and philosophy suggests that things are at best unsettled and at worst a mess. There seems to be no theory or idea tending toward a consensus. What these views have in common is the shared assumption that consciousness—at least, human consciousness—begins no earlier than birth and ends with death. Where do LDS doctrines fit in this melee?

LDS Views of Consciousness

Little has been written about LDS thought on consciousness as such. Implicitly, however, Latter-day Saints have both a unique and a profound view of consciousness as informed by modern scriptures, by prophets, and by theology. We can garner three general themes from the scriptures: (1) The universe contains things that act and other things that are acted upon; (2) Consciousness in its basic form is not created; and (3) Consciousness can exist without the material world as we know it.

As to the first belief: Assuming that the scripture below is making ontological claims—which may or may not be the case—the universe contains two distinct types of entities: those that are to act and those that are to be acted upon: "And now, my sons, I speak unto you these things for your profit and learning; for there is a God, and he hath created all things, both the heavens and the earth, and all things that in them are, both things to act and things to be acted upon" (2 Ne. 2:14).

The scriptural underpinning for the second concept is a revelation received by Joseph Smith suggesting that there are two kinds of sub-

57. Whitehead, *Process and Reality,* 20–26.

stances in the universe: spirit and element: "For man is spirit. The elements are eternal, and spirit and element inseparably connected, receive a fulness of joy" (D&C 93:33).

Third, another revelation clarifies the nature of matter:

"There is no such thing as immaterial matter. All spirit is matter, but it is more fine or pure, and can only be discerned by purer eyes; We cannot see it; but when our bodies are purified we shall see that it is all matter" (D&C 131:7–8).

From the context of this scripture, it appears that "element" means the material world we experience through our physical senses, possibly enhanced with the instruments used in science. "Spirit" is a form of matter about which we know very little, except it is more "fine" than ordinary matter. What "pure" means is not clear, but we can assume that it is currently unavailable for observation from a scientific standpoint. Abraham 3:18–25 describes the organization of "intelligences" before the world. Of these the Lord says, "We will prove them herewith, to see if they will do all things whatsoever the Lord their God shall command them." This description implies that they were conscious beings capable of exercising free will. Doctrine and Covenants 93:29 points out that intelligence cannot be created or made. It is difficult to imagine intelligence without some sort of consciousness. Hence, these two scriptures seem to suggest: (1) Consciousness, an attribute of a preexistent being, is an aspect of existence in the universe which is not created or made and is coeternal with God; and (2) Consciousness can exist independently of the "material" world (as we know it) and is capable of growth and development. Therefore, ideas about consciousness are tied very closely to ideas about intelligence or intelligences.

Joseph Smith gave a further explication about the nature of intelligence in his King Follet discourse. There he taught that human beings have gone through a series of progressions from lesser to greater intelligence; their ultimate potential is to continue to grow until they reach a perfect state, like the level of existence God has reached. He explained, according to Wilford Woodruff's diary:

> I am dwelling on the immutability of the spirit of man, is it logic to say the spirit of man had no beginning and or end[?] It does not have a beginning or end. . . . God never had power to create the spirit of man. . . . Intelligence is Eternal and it is self existing. . . . All mind . . . is susceptible of improvement[.] . . . The relationship we have with God places us in a situation to advance in knowledge. God has power to institute laws to instruct the weaker intelligences that they may be exalted with himself[.] This is

> good doctrine, it tastes good, I can taste the principles of eternal life, so can you, they are given to me by the revelations of Jesus Christ and I know you believe it.[58]

Joseph Smith points out that consciousness does not come into existence *ex nihilo* but has always existed in some form and is capable of growth and improvement. Although he did not clarify the nature of this consciousness much further before his untimely death, other Church leaders and thinkers have speculated further on the nature of consciousness, incorporating the idea of intelligences.

One of the most prolific writers on this topic was B. H. Roberts (1885–1933). He served as president of the First Council of the Seventy and is considered one of Mormonism's preeminent thinkers and philosophers.[59] He was also one of the few LDS thinkers to discuss consciousness as such.

In *The Way, the Truth, and the Life,* a manuscript that was not published during his lifetime, Roberts explored the nature of consciousness. His definition differs somewhat from Searle's, which I quoted in the beginning of this paper. First, he differentiates between spirits and intelligences: "The difference between 'spirits' and 'intelligences' as herein used is this: Intelligences are uncreated entities, some inhabiting spiritual bodies—bodies composed of fine spirit elements, others are intelligences unembodied in either spirit bodies or other kinds of bodies."[60]

In his section on "Intelligence," he also lists several attributes of intelligences such as consciousness, ability to perceive *a priori* principles (probably in a Kantian sense), imagination, memory, the power to deliberate, form judgements, freedom of will, and indestructiblity. Roberts does not explicitly mention phenomenal consciousness as an attribute of intelligences. However, he implicitly refers to it when talking about mem-

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58. Andrew F. Ehat and Lyndon W. Cook, eds., *The Words of Joseph Smith: The Contemporary Accounts of the Nauvoo Discourses of the Prophet Joseph* (Provo, Utah: Brigham Young University, Religious Studies Center, 1980), 346; spelling and capitalization standardized, and terminal punctuation added to sentences.

59. Truman G. Madsen, "Philosophy," in *The Truth, the Way, the Life: An Elementary Treatise on Theology,* edited by John W. Welch (Provo, Utah: BYU Studies, 1996), 595–617.

60. B. H. Roberts, *The Truth, the Way, the Life: An Elementary Treatise on Theology,* edited by John W. Welch (Provo, UT: BYU Studies, 1996), 255.

ory. As an example, he describes his memory of an orange tree and its blossoms, ascribing the same ability to intelligences.

Further elaboration of Roberts's definition of intelligence may be seen in his *Seventy's Course in Theology* where he defines "Intelligence: Consciousness" by saying:

> In other words the term Intelligence is descriptive of the thing to which it is applied. Therefore Intelligence (mind) or Intelligences (minds), thus conceived are conscious. Conscious of *self* and of *notself*; of the *me* and the *not me*. Intelligence is that which sees itself, or is at once both subject and object. It knows itself as thinking, that is, as a subject; thinking of its self, it knows itself as an object of thought—of its own thought. And it knows itself as distinct from a vast universe of things which are not self; itself the while remaining constant as a distinct individuality amid the great universe of things *not self*. Fiske calls Consciousness the soul's fundamental fact; and the most fundamental of facts. It may be defined as the power by which Intelligence knows its own acts and states. It is an awareness of the mind. By reason of it an Intelligence, when dwelling in a body—as we best know it (man)—knows itself as seeing, hearing, smelling, tasting, touching; also as searching, and finding; as inquiring and answering; as active or at rest; as loving or hating; as contented or restless; as advancing or receding; as gaining or losing, and so following in all the activities in which Intelligences, as men, engage.[61]

Here Roberts seems to conclude that consciousness *is* self-consciousness. He attributes to consciousness qualities similar to those listed above, including several attributes of mind, the power of generalization, imagination, the power of forming new mental combinations, and the power of deliberation. He also notes that consciousness is a fundamental fact of the universe.[62]

In any event, it is clear that Roberts endows intelligences with many

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61. B. H. Roberts, *Seventy's Course in Theology*, 5 vols. (Salt Lake City: Deseret News, 1907–12), 4:2.

62. Roberts could be read as falling into the trap of denying consciousness to anything but humans, since most of these attributes would deny consciousness to animals. However, I do not believe that this was Roberts's intent. At the time of his writing, little was understood about an animal's reasoning power or mental abilities. Therefore, Roberts may not have considered animal consciousness at all. But I think he would be inclined to argue that, for example, a cat might fit these parameters. A cat is clearly aware of its spatial bounds (for example, it does not

of the same properties of consciousness that human beings find in themselves. He would agree that not all have the same degree of intelligence—God has the greatest measure of that attribute—but he clearly argues that intelligence involves some sort of conscious experiences.

Other early LDS theologians have also speculated on the origin of consciousness. For example, Apostle Orson Pratt (1811–81) anticipated the modern process theologies of Whitehead and Hartshorne by speculating that intelligence is a property of all elementary particles. After posing the question "What is intelligence?" he speculates that "it must either be a property of material atoms, or the result of the combination or contact of these atoms." He then argues that indeed material atoms must be possessed of some sort of rudimentary intelligence, which is eternal in nature and uncreated.[63] It must be kept in mind that his view of elementary particles preceded Niels Bohr's early twentieth-century articulation of our current understanding of the nature of the subatomic world and that he was looking at atoms as the fundamental building blocks of the universe. How his position would change with the new view of quantum electrodynamics we can only speculate.

Like Pratt, Apostle John A. Widtsoe (1921–52) also viewed the world as largely pan-experiential. In 1951, the year before he died, he wrote:

> We live then in a living universe which in all its component parts is intelligent. In addition to matter-energy, there are in the universe personal intelligences, having consciousness of varying degrees of advancement. These possess all the attributes of individuals. They have power of action. They can learn. They can act for themselves in their surroundings. Some of them are the men and women of earth.
>
> The highest of the universe intelligences is God. He possesses supreme knowledge and power. Indeed we have reason to believe that his knowledge is the sum of the knowledge possessed by all existing personal intelligences and that his power is the sum of the powers of such personal beings. His work with the intelligences inferior to his own constitutes the gospel story.
>
> In this universe of one eternal world are matter-energy and personal intelligences. Energy itself may be a form of intelligence, making all matter, to some degree, alive and intelligent. The whole universe is alive. The story

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move out of the way of a tree falling in the far distance), makes decisions (it chooses between lying by the fire or on the couch), etc.

63. *The Essential Orson Pratt* (Salt Lake City: Signature Books, 1991), 33.

> of eternity is the inter-action of matter-energy and personal intelligences. The things in the universe are under the control of law. To the extent that universal law is unchangeable, a limitation is placed upon all intelligences, who, as they rise, learn to control or use the law.[64]

Widtsoe seems well informed about the modern Einsteinian view that energy and matter are two sides of the same coin. He even speculates that energy may be involved in consciousness.

Roberts, Pratt, and Widtsoe exemplify one interpretation of the nature of intelligences from scripture and the early teachings of Joseph Smith. Another is found in the writings of then-Apostle Joseph Fielding Smith (1910–70; president of the Church, 1970–72) and his son-in-law, Bruce R. McConkie, a member of the First Council of Seventy (1946–72) and later an apostle (1972–85). Both men are less explicit and more cautious in their speculation about intelligence or intelligences. They taught that intelligence prior to a spirit birth was unorganized and that individual consciousness did not exist before spirits were organized.

Smith wrote in 1956: "Some of our writers have endeavored to explain what an intelligence is, but to do so is futile, for we have never been given any insight into this matter beyond what the Lord has fragmentarily revealed. We know, however, that there is something called intelligence which always existed. It is the real eternal part of man, which was not created nor made. This intelligence combined with the spirit constitutes a spiritual identity or individual."[65]

McConkie wrote in *Mormon Doctrine:* "The intelligence or spirit element became intelligences after the spirits were born as individual entities. (Abr. 3:22–74.) Use of this name designates both the primal element from which the spirit offspring were created and also their inherited capacity to grow in grace, knowledge, power and intelligence itself, until such intelligences, gaining the fulness of all things, become like their Father, the Supreme Intelligence."[66]

Rex Sears in his dissertation for Harvard University contrasts the

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64. John A. Widtsoe, *Joseph Smith: Seeker after Truth, Prophet of God* (Salt Lake City: Bookcraft, 1951), 150.

65. Joseph Fielding Smith, *Answers to Gospel Questions,* 5 vols. (Salt Lake City: Deseret News, 1957-67), 4:127.

66. Bruce R. McConkie, *Mormon Doctrine,* 2d ed. (Salt Lake City: Bookcraft, 1966), 84.

difference between McConkie's view of intelligences and Roberts's view, stressing that Roberts thought in terms of personal intelligences rather than as merely a life force:

> No current church sponsored publications endorse any interpretation of the doctrine of uncreated intelligence but the highly influential, recently deceased Mormon apostle Bruce R. McConkie held that intelligence is the uncreated and uncreatable substance out of which individual spirits are formed. . . . Roberts does not explicitly address McConkie's view in the article in which he defends his own view, suggesting that McConkie's view was not in circulation at that time. Roberts's explicitly opposes the view, no longer (so far as I am aware) in circulation, that intelligence refers to something like the intelligent life force of a conscious individual, which the parents of our spirits (God the Father and his spouse) transmit to their offspring. . . . It is this intelligent life force which has no beginning, being transmitted from parent to child through unending generations, but each discrete individual imbued with this force does have a beginning.[67]

However the two views are not necessarily incompatible. Process theologians like Griffin suggest that, while all things have experience, for elementary particles this level of consciousness is very low.[68] He argues that only in organized structures such as the brain is consciousness fully realized. This result occurs by bringing unorganized conscious entities into a kind of unity that allows a higher level of consciousness.[69] Smith and McConkie argue only that God organized the intelligent stuff of the universe and make few claims about what that intelligence was like, leaving room for both the speculation of Roberts, Pratt, and Widtsoe and their own. The single point upon which all agree is that consciousness can

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67. Lannie Rex Sears, "An Essay in Philosophical Mormon Theology" (Ph.D. diss., Harvard University, 1996), 34.

68. Consciousness philosophers including materialists, dualists, and process thinkers all speak of "degrees" or "orders" of consciousness, implying that an ape, say, has a higher order of consciousness than a slug. LDS theology also describes a similar ordering of intelligences (Abr. 3:19). These ideas are similar enough that the ideas of "degree" in the secular view of consciousness and LDS views on "orders" of intelligences seem to be talking about the same thing.

69. Griffin, *Unsnarling the World-Knot,* 77–116.

exist without a mortal body and that it is eternal (at least in some sense)—that it cannot be created or made.[70]

The idea that our fundamental consciousness is eternal has not changed significantly between Joseph Smith's early statements about intelligences and the present day. While ideas about consciousness are not explicitly clear in Joseph Smith's original teachings on the subject, as Van Hale explains,[71] subsequent prophets have taught that we move, by a "birth" process, from being an intelligence to being a spirit created in the physical form of our Heavenly Parents to our current stage of development where spirit and matter have been temporarily joined.[72] After the resurrection, this temporary bond will be made permanent (Alma 11:43-44). Harold B. Lee, then an apostle, emphasized the fundamental unity of these three stages of existence:

> As I thought about it I remarked that we do use words rather loosely when we speak of the "life before this, and this life, and the next life," as though we were a cat of nine lives, when as a matter of fact, we only have one life. This life we speak of did not begin with mortal birth. This life does not end with mortal death. There is something that is not created or made. The Scriptures called it "intelligence," which at a certain stage in the pre-existence was organized into a "spirit." After that spirit had grown to a certain stature it then was given the opportunity by an all-wise Father to come into another stage for its development. It was added upon, and after having lived its span and having attained to its purpose in mortality, another change took place. We go, not into another life in fact, but into another stage of the same life. There is something which was not created or made, and something which does not die, and that something shall live on forever.[73]

LDS teachings are unique among current arguments about consciousness. It is clear that we have a dual nature: body and spirit. But the

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70. For a more speculative view of the nature of intelligences, which places LDS theology in a postmodernist framework, see Daniel Wright Wotherspoon, "Awakening Joseph Smith: Mormon Resources for a Postmodern Worldview" (Ph.D. diss., Claremont Graduate University, 1996), 210–32.

71. Van Hale, "The Origin of the Human Spirit in Early Mormon Thought," in *Line upon Line: Essays on Mormon Doctrine*, edited by Gary James Bergera (Salt Lake City: Signature Books, 1989), 115–44.

72. Charles R. Harrell, "The Development of the Doctrine of Preexistence," *BYU Studies* 28, no. 2 (Spring 1988): 75–96.

73. Harold B. Lee, "Address at the Funeral of Edwin Marcellus Clark,"

nature of consciousness as it relates to spirit matter is not understood and has not been revealed. Because of our dual nature, one might be tempted to call us substance dualists; but from the writings discussed above, it is clear that we could be viewed as property dualists when it comes to the broader view of the nature of the universe which includes spirit matter. Therefore, the common distinction of property or substance dualism is not meaningful from the perspective of an LDS theology and perhaps should be avoided.

However, it is clear that we embrace some form of dualism. There is more to our consciousness than just the physical brain. Consciousness existed prior to the brain and can exist for some time without it—e.g., prior to the resurrection. It is important to keep in mind that an LDS view of consciousness is not incompatible with materialist assumptions about the origin of the brain through evolution.[74] Rather, it is in assumptions about the nature of the mind where LDS views differ.

Dualism has fallen out of favor with consciousness philosophers, not because dualism stands on a shakier philosophical basis, but rather because the nature of the dualism posited to exist is not detectable and therefore not amenable to scientific exploration, a position untenable under current philosophical paradigms. For example, Daniel Dennett states: "This fundamentally antiscientific stance of dualism is, to my mind, its most disqualifying feature, and is the reason why in this book I adopt the apparently dogmatic rule that dualism is to be avoided *at all costs*. It is not that I think I can give a knock-down proof that dualism, in all its forms, is false or incoherent, but that, given the way dualism wallows in mystery, accepting dualism is giving up."[75]

Dennett thus acknowledges that dualism is a coherent, valid way to view the universe. He is rejecting it "dogmatically," however, because science cannot get its hands on dualism. But other than by assumption, there is no more philosophical warrant for this hardline materialist posi-

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April 5, 1955, Harold Bingham Lee Addresses (1939–73), quoted in *Teachings of Presidents of the Church: Harold B. Lee* (Salt Lake City: Church of Jesus Christ of Latter-day Saints, 2000), 9.

74. Trent D. Stephens and D. Jeffrey Meldrum, *Evolution and Mormonism: A Quest for Understanding* (Salt Lake City: Signature Books, 2001), xvii–xix.

75. Dennett, *Consciousness Explained*, 37; emphasis his.

tion than that articulated in LDS theology, which is informed by revelation.

Conclusions

Some theologians have argued that dualism must be eliminated from religious discourse if there is to be any dialogue between neuroscience and theology.[76] However, that position seems to be more a result of indispensable materialist assumptions than of any argument that nondetectable substances cannot exist. Ironically, strict materialism may undermine the advancement of science and miss or ignore a more accurate view of the universe's development. For example, string theory predicts up to eleven dimensions, only four of which we have access to. Assuming that the universe consists only of what we can perceive may cause strict materialists to miss important insights. The dualist position is further defensible when enhanced by the belief that God can and does communicate with humans. There is no reason *a priori* to assume that only that which we can physically sense exists in the universe. This possibility seems especially likely when we consider subjective knowledge as a source of truth.[77] So far science, despite its importance and power in explaining the physical world, has been unable to shed much light on the nature of consciousness. But consciousness is a puzzling aspect of the universe that needs explaining.

LDS theology is graced, in addition to the above arguments, by the idea that God is in communication with us, his children, and has revealed that there is considerable more to the physical universe than we can observe with the instruments of our invention. Thus, dualism, while a philosophically valid position, is complemented by continuing revelation, supporting the belief that our consciousness is a combination of brain and spirit and placing LDS theological views in an internally coherent philosophical framework as far as consciousness is concerned.

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76. Philip Clayton, "Neuroscience, the Person and God: An Emergentist Account," *Zygon* 35, no. 3 (September 2000): 613–52; Nancy R. Howell, "Ecofeminism: What One Needs to Know," *Zygon* 32, no. 2 (June 1997): 231–41.

77. Peck, "Randomness, Contingency, and Faith," 5–24.