# Each Atom an Agent?

*Steven L. Peck*

> *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)*

## What Is an Agent?

An agent, broadly conceived, references something causally efficacious. More narrowly, the word *agent* is usually deployed in at least three senses. The first is as brute causality. For example, to say that water is an agent of erosion on vegetatively barren hillsides is to claim that water directly causes the removal of the soil in particular drainage systems. The second sense, used predominately in biology, recognizes an agent as an individual autonomous system that constrains the flow of energy and matter such that its actions are performed for particular functions or goals. For instance, a simple bacterium is drawn to move upward toward light where food is more abundant. Typically, this is a much more complicated agent, in which information is used to sense environmental conditions and to respond to those conditions through metabolic functions, such as when energy is used for things like movement, reproduction, or energy capture.[1] In these first two instances, we note that since the

1. See, for example, Alvaro Moreno and Matteo Mossio, *Biological Autonomy: A Philosophical and Theoretical Enquiry* (Dordrecht, Netherlands: Springer, 2015).

time of Isaac Newton, these simple kinds of agents were thought to be part of the clockwork universe—a perspective that conceived of everything in the universe as nothing but deterministic machines with no freewheeling parts. The third sense of the word *agent,* the one most of this paper engages, is that of intentional agents that have, at least in some sense, volitional attributes based on information with which they make choices, possibly free choices for some advanced animals (including most vertebrates).[2] These agents may be loosely described as having attributes such as sentience, sensing, consciousness, qualia detection, the ability to prehend,[3] and other terms that suggest awareness of at least some aspects of the universe. Examples include bees, cows, and humans, all of which are suspected of harboring some kind of awareness. Even such simple organisms as bacteria and earthworms may sense the world in certain ways. Determining how far down the "chain of being" this awareness exists may be an insoluble problem. Are individual atoms aware of anything? What about electrons? Quarks? Photons? In a real sense, we cannot even tell if our neighbor is conscious or whether a honeybee is aware of its world in any way analogous to what we experience, so determining which organisms share these experiential capabilities is tricky. And at least since the early Greek pre-Socratic philosophers, some people have speculated that these capacities might reach all the way down to the very fundamental atoms of the universe—an idea often called panpsychism.

**Panpsychism?**

One concept related to agency is worth exploring further: What is the nature of consciousness? Consciousness has been called the "Hard Problem"[4] because felt experience in the world seems detached from the causality of matter in motion. As Owen Flanagan asks, How can we explain "how mind is possible in a material world[?] How could the amazing private world of my consciousness emerge out of neuronal activity?"[5]

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2. Helen Steward, *A Metaphysics for Freedom* (Oxford: Oxford University Press, 2012).

3. "Prehension" is a word used by Alfred N. Whitehead to describe the ability of the individual components of matter or collections of such matter to sense God's aims and their place and relation to other components or collections of matter. See Franz G. Riffert, *Alfred North Whitehead on Learning and Education* (Newcastle, U.K.: Cambridge Scholars Press, 2005), 43.

4. David J. Chalmers, *The Conscious Mind: In Search of a Fundamental Theory* (New York: Oxford University Press, 1997).

5. Owen Flanagan, *The Really Hard Problem: Meaning in a Material World* (Cambridge, Mass.: MIT Press, 2009), xi.

Marilynne Robinson puts it nicely in her book *Absence of Mind*: "If the brain at the level of complex and nuanced interaction with itself does indeed become mind, then the reductionist approach insisted upon by writers on the subject is not capable of yielding evidence of mind's existence, let alone an account of its functioning."[6] There has been only a little attention to the nature of consciousness itself in theological considerations from thinkers within the Church;[7] even so, the subject of consciousness is relevant to panpsychism because it appears to be part of the explanatory apparatus that panpsychism seeks to address—that is, How does consciousness emerge in the world?

Another branch of thought we might explore is the relationship between spirit and material body, with the idea that spirit matter is the consciousness-bearing substance in the universe. University of Richmond professor emeritus Terryl Givens points out that there are at least two views on how spirit and intelligence are framed: (1) before spirit-birth, there is an eternal entity known as an "intelligence" that possesses identity, agency, and individuality; and (2) there is a primal spirit matter that is eternal, from which the spirit body was organized. He points out that both views have been held by Latter-day Saint leaders (for example, Elder B. H. Roberts and Elder Bruce R. McConkie, respectively).[8] Either view can be marshaled to provide support for a panpsychic cosmology, so we do not need to explore these speculations further except to note that these two views exist and that neither has risen to the status of official doctrine.

I will follow David Skrbina and define panpsychism as coincident with three main ideas: (1) objects have subjective experiences for themselves, (2) the experience is unified into one experience for each object, and (3) every physical thing made of matter has the first two properties.[9]

Moreover, there are at least two ways that matter can be sentient or be receptive to what might be called some sort of experience. Dualist views suggest that matter is combined with some (perhaps nonmaterial) aspect—for example, having a soul. Others include vitalistic views that there is a pervading spirit or light or field that enlivens matter, as is found

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6. Marilynne Robinson, *Absence of Mind: The Dispelling of Inwardness from the Modern Myth of the Self* (New Haven, Conn.: Yale University Press, 2010), 120.

7. Steven L. Peck, "The Current Philosophy of Consciousness Landscape: Where Does LDS Thought Fit?" in *Evolving Faith: Wanderings of a Mormon Biologist* (Provo, Utah: Neal A. Maxwell Institute of Religious Scholarship, 2015), 79–106.

8. Terryl L. Givens, *Wrestling the Angel,* vol. 1, *The Foundations of Mormon Thought: Cosmos, God, Humanity* (Oxford: Oxford University Press, 2015), 160–62.

9. David Skrbina, *Panpsychism in the West* (Cambridge, Mass.: MIT Press, 2005), 16.

in some forms of Buddhism and Hinduism and in animistic pagan religions. Still others hold monist views, in which there is ultimately one substance at some foundational level, and that thing is unitary; that is, at the most basic level all matter shares the same basic substance. Panpsychism would add that this foundational substance has some form of experience. Latter-day Saint thought can be viewed as either dualist, cashing out on our view that living things are composed of spirit and matter, or monist, because spirit matter is a form of matter (D&C 131:7–8).

## A Brief History of Panpsychism

Ancient thinkers had an organic sense that the world was alive and that this gave a kind of animate aspect of indwelling powers that were partaking in some ways of the powers of the gods. Before Socrates, early philosophers had various views on which essential elements constituted matter (fire, water, and so forth). Thales and Anaximander argued that motion demanded a causative agent and must have a mind. There were exceptions, such as those articulated by the physicalist pre-Socratic philosophers Leucippus and Democritus, but by the time the great philosophers Plato and Aristotle were teaching in the Lyceum, their complex views that might be termed panpsychism can be controversially recognized. To tease these out fully would require much more detail, but both Plato's "world-soul" and Aristotle's doctrine of the different kinds of souls (his theory of hylomorphism) that inhabit the objects and living things of the world can be read as relying on panpsychic articulations.[10]

As Carolyn Merchant has demonstrated, throughout much of antiquity the world was held to be feminine, animate, and organic.[11] For example, the minerals of the earth, like gold and silver, were assumed to grow in veins analogous to the way plants grow under the influence of the sun. The entire world was alive. These views tend to a vital dualism. With the rise of the Enlightenment, such views were replaced with a mechanistic ontology that pervades much of current Western thought. This transition, however, did not dispel panpsychism, as demonstrated by philosopher Gottfried Wilhelm Leibniz's monadology, the idea that the world was composed of blind monads, perceptual atoms that had written in their inner image the whole universe. Others who embraced a form of panpsychism include philosophers Margaret Cavendish, Baruch Spinoza, and Immanuel Kant. By the

10. Skrbina, *Panpsychism,* 37–39, 52–58.

11. Carolyn Merchant, *The Death of Nature: Women, Ecology, and the Scientific Revolution* (New York: HarperCollins, 1990).

late nineteenth century, panpsychism was being discussed broadly in philosophical and scientific circles with grounding from the German Romantics, influencing American thinkers such as Charles Sanders Peirce and William James, British process philosophers such as Alfred North Whitehead and Bertrand Russell, and French thinkers such as Henri Bergson.

Parallel to these transitions, the Western esoteric movement's views on panpsychic themes seem to have been influenced by occult knowledge such as that found in alchemy, Kabbalah, demonology, and magic. However, these views tended to see the world dualistically, with matter and spirit cleanly separated at its most basic level.[12]

## Panpsychism in Latter-day Saint Thought

The clearest articulations, and perhaps the origin, of panpsychism in Church thought comes through the writings of Orson Pratt and his brother, Parley P. Pratt. Their influences appear to include a mix of eighteenth- and nineteenth-century thinkers and ideas. As John L. Brooke points out, "Building on [Joseph] Smith's doctrine that 'all spirit is matter' and echoing Andrew Michael Ramsay, mediated by Scottish Common Sense, Mesmerism, and theories of electrical current, [Orson] Pratt argued that the Holy Spirit was 'a diffused fluid substance,' simultaneously inhabiting every particle of matter."[13] In addition, their reading of the book of Abraham inclined them toward panpsychic thinking. The clearest dissection of this concept is found in Terryl Given's work *Wrestling the Angel.* Givens points out that the Pratts' reading of the statement in Abraham 4:18, that the Gods "watched those things which they had ordered until they obeyed," indicated that "those things" must have agential characteristics to have the capacity to obey.[14] Orson Pratt is explicit in *The Seer* that "intelligence" is a fundamental aspect of the universe's constituents. After explicating the intelligence of "man," he explores the origin of conscious awareness: "Whence originated these capacities? When we speak of capacities we mean the original elementary capacities of the mind. . . . These . . . qualities, if analyzed, will be found in all instances to be the result of the combination of simple, elementary, original capacities. The question is, whence originated

12. Wouter J. Hanegraaff, *Western Esotericism: A Guide for the Perplexed* (London: Bloomsbury Publishing, 2013), 71.

13. John L. Brooke, *The Refiner's Fire: The Making of Mormon Cosmology, 1644–1844* (New York: Cambridge University Press, 1996), 275. Brooke is citing Orson Pratt, *The Seer* 1:117 (August 1853).

14. Givens, *Wrestling the Angel,* 59.

these elementary qualities of the mind? We answer, they are eternal. The capacities of all spiritual substance are eternal as the substance to which they belong. There is no substance in the universe which feels and thinks now, but what has eternally possessed that capacity."[15]

Orson Pratt sees these fundamental units of consciousness as being combined by God to form a spirit "infant" of which the individual parts work together to grow eventually into what we are today: "Each individual particle must consent, in the first place, to be organized with other similar particles, and after the union has taken place, they must learn, by experience, the necessity of being agreed in all their thoughts, affections, desires, feelings, and acts, that the union may be preserved from all contrary or contending forces, and that harmony may pervade every department of the organized system."[16]

Pratt goes further, coming into conflict with Brigham Young over several matters of theology, stating not only that this is how God formed his spirit children, but it is indeed how God likewise came into existence.[17] Pratt had apparently formed his views years before his public disagreement with Brigham Young. In his journal, Wilford Woodruff summarized a conversation he had with Orson Pratt and Albert Carrington while walking in the initial 1847 pioneer company. Woodruff recounts an explanation "given by Professor Pratt" that "was sumthing [*sic*] in the following language." According to Woodruff, Pratt believed that eternal particles of atoms, existing for all eternity, "might have joined their interest together[,] exchanged ideas," and eventually, "joined by other particles . . . formed A [*sic*] . . . body . . . through a long process." Thus embodied, they gained power and influence over other intelligences and became the race of Gods.[18] Pratt continued to teach this theory for many years.

Despite Young's condemnation of Orson Pratt's theology, Pratt's ideas spread among the Saints. Perhaps one of the most scientifically informed expressions of this view was found in B. H. Roberts's work *The Truth,*

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15. Orson Pratt, "The Pre-Existence of Man," *The Seer* 1, no. 7 (July 1853): 102.

16. Pratt, "Pre-Existence of Man," 103.

17. See Gary James Bergera, "The Orson Pratt–Brigham Young Controversies: Conflict within the Quorums, 1853 to 1868," *Dialogue: A Journal of Mormon Thought* 13, no. 2 (1980): 7–49.

18. Wilford Woodruff, journal, 3:216–17 (June 26, 1847), Wilford Woodruff Journals and Papers, 1828–1898, Church History Library, Salt Lake City, https://catalog.churchofjesuschrist.org/assets/a5c827b5-938d-4a08-b80e-71570704e323/0/73.

*the Way, the Life.*[19] Unpublished in his lifetime,[20] the book opens with a grand sweep through the best science of his day in an attempt to frame a complete expression of the gospel's power and scope. After exploring aspects of truth, knowledge, and contemporaneous conceptions of space and time (including references to Einstein), he argues that modern physics supports the notion of agential atoms. "All the new knowledge, however, respecting the atom and all that comes of it including resolving it into electrons, leaves us with the fact that it has within it something which 'acts,' and something which is 'acted upon'; a seemingly necessary positive and negative substance in action and reaction out of which things proceed, an atom; an aggregation of atoms, a world; or a universe of worlds. . . . May they not be the ultimate factors, spirit and matter, acting and re-acting upon each other by which the universe is up-builded and sustained?"[21]

Spirit matter, he argues, has the potential to act. He then argues, in ways reminiscent of Orson Pratt, that particles come together to create something greater than their individual instantiations. Roberts argues such particle-intelligences are bound together in unity of purpose manifest as the oneness of the universe. He does not explicitly state that atoms are conscious, but his hints make it clear that he sees them as agential and the basis, if not the essence, of intelligent behavior.

Since Roberts's time, one of the more interesting modern explorations of sentient elements comes from Process Theology articulated by early twentieth-century philosopher and mathematician Alfred North Whitehead. While Whitehead's ideas are too complex to explore in any detail here, there has been significant interest in using him and his followers to explore aspects of Church theology.[22] Whitehead saw the universe

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19. B. H. Roberts, *The Truth, the Way, the Life: An Elementary Treatise on Theology,* 2nd ed., ed. John W. Welch (Provo, Utah: BYU Studies, 1996), 85–90, for instance.

20. Roberts's *The Truth, the Way, the Life: An Elementary Treatise on Theology* was considered as a manual for the Melchizedek Priesthood course of instruction and then the Gospel Doctrine manual for the Sunday School. However, conflicts between Roberts and Apostle Joseph Fielding Smith's interpretation of scripture about contemporaneous scientific findings kept it from being published in his lifetime. James B. Allen, "The Story of The Truth, the Way, the Life," in Roberts, *The Truth, the Way, the Life,* 680–720.

21. Roberts, *The Truth, the Way, the Life,* 86.

22. Jacob T. Baker, "The Shadow of the Cathedral: On a Systematic Exposition of Mormon Theology," *Element* 4, no. 1 (2008); David Grandy, "Mormonism and Process Cosmology: A General Introduction," *Element* 6, no. 1 (2015); James McLachlan, "Fragments for a Process Theology of Mormonism," *Element* 1, no. 2 (2005); Max Nolan, "Materialism and the Mormon Faith," *Dialogue: A Journal of Mormon Thought* 22, no. 4

as fundamentally made up of experiential units called "actual occasions," which God persuades to join him in bringing about particular aims. These agents are free, individual, able to join in relational interactions, and endowed with an innate capacity to make choices. Miles specifically uses Whitehead's thought to show how a process theology, joined with the thinking of Pratt and Roberts, can be used to derive a coherent Restoration theology.[23]

Panpsychism has also made an appearance in less official elaborations of Church doctrine. Cleon Skousen, a popular (and controversial) expounder on gospel topics, developed a theory of atonement based on panpsychic elements. Strangely reversing the primacy of God and matter, he argued that the elements of the universe act freely to follow God because he is worship-worthy. Christ's suffering in the Atonement was intended to appease these agents, who otherwise would cease to obey God if he allowed violators of law to return to his presence.[24]

Panpsychic views have never been an official part of the received view of conventional Church doctrine. For example, I could find not a single reference to it in any general conference talk or any reference in Church educational material. Currently, it appears that the notion of atoms as agents is only a speculative venture that few members hold as part of their religious convictions. However, there are some intriguing possibilities that may be worth reconnoitering.

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(1989): 62–75; Garland E. Tickemyer, "Joseph Smith and Process Theology," *Dialogue* 17, no. 3 (1984): 75–85; Dan Wotherspoon, "Process Theology and Mormonism: Connections and Challenges," *Element* 6, no. 1 (2015).

23. Andrew Miles, "Toward a Mormon Metaphysics: Scripture, Process Theology, and the Mechanics of Faith," *Element* 4, no. 1 (2008).

24. W. C. Skousen, *Gospel Trilogy* (Salt Lake City: Ensign Publishing, 2012), 5–16.