

Science & Theology Op-Ed
“Materialism of the Gaps”

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Charles Darwin originally conceived evolution by natural selection as a theory, but since the twentieth century it has taken on the role of an ideology, which has an answer for every question about life, even before the question is presented. How did organic molecules become living organisms? Evolution did it! How did consciousness first arise in living organisms? Evolution! Why do humans have such greater intelligence than other primates, far more than is needed to survive and procreate? Evolution is the cause! Here is the modern version of Aristotle’s Unmoved Mover.

Just as theists may attribute the orderliness and majesty of the natural world to God, and Buddhists may explain such things in terms of karma, scientific materialists attribute everything to interactions of matter. With the advances of science in explaining natural phenomena, religious believers on the defense have tried to provide divine explanations for scientific mysteries, hence the phrase “God of the gaps.” But materialists have devised their substitute—materialism of the gaps—to account for these lacunas in scientific understanding, such as the origins of life and consciousness in the universe. Everything, they assure us, can eventually be explained in terms of functions and emergent properties of physical processes.

Why should we take the leap of faith that the objective world, independent of human percepts and concepts, conforms to our human notion of “physical”? Even if it does, to which theory of matter does reality conform? In terms of Newtonian physics, a material body may be defined as a fraction of space endowed with constitutive properties such as impenetrability and mass. But these criteria are challenged by quantum mechanics, which undermines the primitive concept of matter as a collection of inherently massive and spatially defined particulate bodies. The more closely we inspect the fundamental constituents of the physical world, the clearer it becomes that matter is not made out of matter, but oscillations of immaterial, abstract quantities in empty space.

Moreover, one implication of contemporary physics (the Wheeler-DeWitt equation) is that without reference to an observer, the universe as a whole does not change in time. So the notion of evolution is not applicable to the universe as a whole without an external observer with respect to the universe, and without an external clock that does not belong to the universe. While psychobiologists insist that the mind be explained in terms of biology, and biophysicists insist that living organisms be explained in terms of physics, theoretical physicists insist that the physical world be explained in terms of mathematics—Nature’s one true language. But the domain of mathematics, like the domain of ideas in general, appears to be inseparable from the mind. So this succession brings us to a full circle!

Despite the great success of reductionism as a methodology, ontologically it has its limitations:

- Mathematical theories alone do not define, predict or explain the emergence of a physical universe.
- Physical theories alone do not define, predict or explain the emergence of life in the universe.

- Biological theories alone do not define, predict or explain the emergence of consciousness in living organisms.

Without introducing an observer, we have a dead universe, which does not evolve in time, a conclusion that has led to the hypothesis of a *self-observing universe*. This is reminiscent of Einstein's affirmation of his "firm belief, a belief bound up with a deep feeling, in a superior mind that reveals itself in the world of experience." And such a view accords with the beliefs of many of the world's contemplative traditions, both theistic and nontheistic.

Science has always evolved in close interaction with the prevailing religions and philosophies of its host cultures, and it is vitally important that the history and philosophy of science be taught as part of science curricula. The current ideology of evolution is entwined with the metaphysical beliefs of nineteenth-century reductionism, set within a universe that is causally closed to all nonphysical influences. But evolution may also be viewed within the twenty-first century context of a participatory universe revealed through intersubjective experience. The choice of perspectives is ours.