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## Critique of Poetic Naturalism

By B. Alan Wallace

As presented in Sean Carroll, *The Big Picture: On the Origins of Life, Meaning, and the Universe Itself* (New York: Penguin Publishing Group, 2016)

- Sean Carroll on poetic naturalism:
  - Poetic naturalism is “poetic” because there are different stories we can tell about the world, many of them capturing some aspects of reality, and all useful in their appropriate context. (Kindle Locations 5456-5458).
  - Naturalism: “there is only one world, the natural world, exhibiting patterns we call the “laws of nature,” and which is discoverable by the methods of science and empirical investigation. There is no separate realm of the supernatural, spiritual, or divine; nor is there any cosmic teleology or transcendent purpose inherent in the nature of the universe or in human life. “Life” and “consciousness” do not denote essences distinct from matter; they are ways of talking about phenomena that emerge from the interplay of extraordinarily complex systems.” (Kindle Locations 215-219).
  - Email dated Jan. 24, 2017: “I don’t care much at all about the word ‘material,’ and I don’t use it other than in relatively informal contexts.”
- Philosophical Critique
  - Niels Bohr: “There is no quantum world. There is only an abstract physical description. It is wrong to think that the task of physics is to find out how nature is. Physics concerns what we can *say* about nature.”
    - This implies a quantum wave function of the world—is not the fundamental nature or reality, but is rather nothing more than “a convenient way of talking.”
  - Werner Heisenberg: Quantum theory is not about objective physical reality, but about physicists’ knowledge of their measurements of elementary particles.<sup>1</sup>
  - Sean Carroll citing Richard Feynman: “I think I can safely say that nobody understands quantum mechanics,” and Carroll acknowledges that this sentiment is equally applicable today.
  - His definition of “physical”: “the world that we can access empirically and universally, which exhibits regular law-like behavior.” Here, “empirically” means that we pose hypotheses and test them by making observations of the world. “Universally” means that anyone can make such observations, and be assured of getting compatible results (as long as they are relatively good at making the relevant observations).
    - Each individual’s mind, subjective experiences such as thoughts, desires, and emotions, appearances to the senses, dreams, and consciousness cannot be accessed empirically and universally, they have no physical characteristics, and cannot be detected with any physical measuring system. For all these reasons, they must be deemed nonphysical.

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<sup>1</sup> Werner Heisenberg, *Daedalus* 87, 95 (1958).

- For the same reasons, the individual discoveries of mathematicians must be nonphysical.
  - According to Everett's many-worlds interpretation of quantum mechanics, every time a quantum experiment with different possible outcomes is performed, all outcomes are obtained, each in a different world, even if we are only aware of the world with the outcome we have seen. In fact, quantum experiments take place everywhere and very often, not just in physics laboratories: even the irregular blinking of an old fluorescent bulb is a quantum experiment.
  - Then the innumerable other invisible worlds of Everett's many-world interpretation are not physical; so the vast majority of worlds throughout the universe are not-physical.
  - According to quantum mechanics, individual elementary particles do not exhibit regular law-like behavior; for their behavior, at least on occasion, appears random, with no identifiable prior causation. This would imply that individual particles are not physical, though when there are enough of them, statistically they do exhibit regular law-like behavior. This implies that large collections of elementary particles are physical, but this quality emerges from the aggregation of non-physical individual particles.
- 3171: "To a poetic naturalist, 'mind' is simply a way of talking about the behavior of certain collections of physical matter." AND: 4999: The mind is nothing more than a way of talking about what happens in the physical brain.
- But our own experience demonstrates the obvious fact that consciousness, appearances to our six senses, our emotions, desires, understanding, and dreams are not "ways of talking" at all. They precede talking!
  - 4932: Scientists know how all the neurons fit together in the flatworm known as a nematode, but "that doesn't tell us what the flatworm is thinking."
  - Location 4728: He states that the fish *Tiktaalik roseae* was the first to crawl onto land, thus enabling it to see farther. But this implies that it was able to see and was therefore subjectively conscious of its environment, even though it presumably had nothing to say about it. So it was conscious, but that was not, for it, a way of speaking, but rather a fundamental reality of its existence. Like Darwin, who had a theory for the evolution of life but none for the origins of life, Carrol has a theory for the evolution of consciousness but none for its origins.
  - Unborn human babies during the last trimester are evidently conscious (though science tells us nothing about when or how a human fetus first becomes conscious), but their awareness and mental states & processes are not "ways of talking," for they are not talking at all; and this remains true for months after they are born.
- A person has knowledge of something if they can (more or less) answer questions about it correctly, or carry out the actions associated with it effectively. (Kindle Locations 5296-5297). AND: 5399: "Consciousness" is simply a term we use to describe certain physical behaviors, so he's incapable of distinguishing between talking about an experience and having the experience.

- But a person is conscious and has knowledge of something **before** they can answer questions about it correctly, or carry out the actions associated with it effectively. This is obvious.
- 5398-5408: CS states his belief “that individual atoms don’t have experiences, but macroscopic agglomerations of them might very well, without invoking any additional ingredients.” A property dualist who believes in the separate reality of mental properties objects that no matter how many non-feeling atoms you pile together, they will never start having experiences. To which CS replies, “Yes, they will.”
  - Instead of atoms, consider a Turing machine made of Legos (which is hypothetically possible). CS is suggesting that if you pile together a lot of Legos into a sophisticated Turing machine that responds to stimuli in a way indistinguishable from a conscious being, then it would be conscious.
- In the brain, most of the hard work of thinking is done by the neurons. They are joined by glial cells, which help support and protect the neurons. Glial cells may play a role in how neurons talk to one another, but the information-carrying signals in the brain are carried by the neurons. A typical neuron will come equipped with two types of appendages: a large number of dendrites, which receive signals from outside, and (usually just one) axon, down which signals are sent. The body of a neuron is less than a tenth of a millimeter across, but axons can range from one millimeter all the way up to a full meter long. When a neuron wants to send a signal, it “fires” by pumping an electrochemical signal down its axon. (Kindle Locations 4893-4898).
  - Do individual neurons have consciousness? On what basis is any answer made, since consciousness cannot be physically detected by any instrument of technology?
  - In Location 5641 CS warns against mixing terminology of two very different explanatory contexts, for this is “the first step toward a morass of confusion from which it is difficult to extract ourselves.” This is precisely what he has done in the above passage in which neurons “think,” “talk to each other,” want to send and do send and receive “information-carrying signals.”
  - In so doing, he succumbs to the temptation to anthropomorphize the brain with all this talk about neurons “thinking,” “talking to each other,” sending “information-carrying signals,” and “wanting to send a signal,” and “receive signals,” at points known as synapses, but there’s no evidence that neurons, synapses, or dendrites are conscious or are the agents of conscious behavior.
  - So he dehumanizes people to robots and elevates neurons to thinking, talking, deciding, knowing entities—85 billion of them in the head, yet we don’t have 85 billion perspectives!
- To a poetic naturalist, “aboutness” isn’t an extra metaphysical quality that information can have; it’s simply a convenient way of talking about correlations between different parts of the physical world. (Kindle Locations 5087-5090).

- In this way, he, unlike John Wheeler, obliterates the meaning of “semantic information,” replacing it simply with “a convenient way of talking about correlations between different parts of the physical world.”
    - The meanings of our words and symbols have no physical characteristics, they cannot be detected by any mindless system of measurement, and they do not fulfill the criteria of Carroll’s definition of physical.
    - If there weren’t such a thing as non-physical, semantic, or meaningful information Carroll, could never express his views, and no one would understand them. The fact that he knows what his views are before he expresses them and that they are understood by anyone else refutes his belief that information corresponds to nothing more than correlations between different parts of the physical world.
- Pragmatic Critique
  - The National Academy of Sciences: “Whether God exists or not is a question about which science is neutral.” AND: “Because science is limited to explaining the natural world by means of natural processes, it cannot use supernatural causation in its explanations. Similarly, science is precluded from making statements about supernatural forces because these are outside its provenance.” (Kindle Locations 2026-2028).
    - The conflation of science with the metaphysical beliefs of scientific materialism (determinism, metaphysical realism, and physicalism; atheism), alienates 90% of Americans from science, resulting in the public turning away from science.
    - As a result, scientific knowledge among American students and the general population is very low, with 42% of Americans believing in New Earth Creationism, and 18% believing that the Sun goes around the Earth.
    - This undermines the role of science in government policies (e.g., global climate change) and imperils public funding for scientific research.
    - If it is legal to teach the beliefs of scientific materialism in schools, this opens the door to legalizing the teaching of other belief systems, such as Creationism as well.
    - This invites a backlash from religious fundamentalists the world over, who see science as a threat to their deepest values and way of life.
    - Closed-minded, dogmatic scientific materialists are to science what religious fundamentalists are to religion, and to what the Tea Party is to the Republican Party in the U.S. The more vociferous and uncompromising they are in their insistence that they alone are in the right, the more extreme, vociferous, and uncompromising becomes their opposition.
    - The more battles scientific materialists win in terms of dominating scientific research, education, the media, and government policy (including the allocation of funding for research), the more they lose the war with humanity. They are in fact the greatest threat to the integrity, credibility, influence, and progress of science.

- “We are collections of atoms, operating independently of any immaterial spirits or influences...” (Kindle Locations 132-133).
  - This is refuted by the evidence of the placebo effect, entailing influences on the body by immaterial influences such as trust, belief, expectation, faith, and desire. Research shows that these can influence the body in measurable ways just like the influence of drugs and medicines.
- If our belief in free will is predicated on the idea that “agents making choices” is part of the best theory we have of human behavior, then the existence of a better and more predictive understanding could undermine that belief. To the extent that neuroscience becomes better and better at predicting what we will do without reference to our personal volition, it will be less and less appropriate to treat people as freely acting agents. Predestination will become part of our real world. (Kindle Locations 5792-5796).
  - Since the atoms of which we are composed and the physical laws that dictate their behavior are amoral, in reality all our behavior is amoral as well. no immaterial influences on human behavior undermines ethics and moral responsibility, so he’s advocating “free will of the gaps,” and morality is just a way of talking, so it’s just something we make up.
  - When governments, such as that of the former Soviet Union and today’s Communist China, adopt this principle, then morality is whatever the government says it is, and that corresponds to whatever is needed to maintain and increase the power of the government.
- Under naturalism, there isn’t that much difference between a human being and a robot. We are all just complicated collections of matter moving in patterns, obeying impersonal laws of physics in an environment with an arrow of time. (Kindle Locations 4421-4422).
  - Since the time of Descartes, many scientists have denied the inner experiences of animals, saying there isn’t that much difference between animals and robots. And racists commonly regard humans of other races as being like animals. So this materialist reduction of humans to robots may be called “human racism,” for it denigrates our entire species.
- Carroll insists that it is a waste of time to conduct scientific research on any evidence that might not be compatible with the known laws of physics. (See Chapter 19: “How Much We Know” and Chapter 27: “Death is the End”)
  - Richard Feynman: “It is only through refined measurements and careful experimentation that we can have a wider vision. And then we see unexpected things: we see things that are far from what we would guess—far from what we could have imagined. . . . If science is to progress, what we need is the ability to experiment, honesty in reporting results—the results must be reported without somebody saying what they would like the results to have been . . . One of the ways of stopping science would be only to do experiments in the region where you know the law. But experimenters search most diligently, and with the greatest effort, in exactly those places where it seems most likely that we can prove our

theories wrong. In other words we are trying to prove ourselves wrong as quickly as possible, because only in that way can we find progress.<sup>2</sup>

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<sup>2</sup> Richard P. Feynman, *The Character of Physical Law* (Cambridge: MIT Press, 1967), 127, 148, 158.