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## Review of “Neuroscience and Dualism” by Michael Egnor

By Matt Welborn

### What is the human mind? What is its relationship to the brain?

These fundamental questions have captivated human thought for millennia. In the chapter “Neuroscience and Dualism” by Michael Egnor, part of the recently published book *Minding the Brain* (edited by Angus Menuge, Brian Krouse, and Robert J. Marks), Egnor offers a detailed exploration of these enduring philosophical and scientific issues through the lens of his extensive career in neurosurgery and neuroscience.

Egnor's chapter aims to examine how contemporary neuroscience intersects with philosophical theories of mind—specifically materialism, idealism, and dualism. He draws on decades of personal clinical experience, along with experimental research, to argue that the data from neuroscience can significantly inform our understanding of the mind-brain relationship.

### Science and the Mind: A Unique Challenge

Most sciences operate under a mechanistic paradigm: collecting evidence, analyzing mechanisms, and refining hypotheses. Neuroscience, however, presents a unique challenge to this approach. As Egnor notes, subjective experiences—memories, desires, intentions, and consciousness—are not easily described in terms of matter and forces alone. Despite this, he offers a compelling case that neuroscience does yield valuable insights into the nature of the mind.

### Three Metaphysical Models of the Mind

One of the strengths of this chapter is its clear overview of the major philosophical frameworks used to understand the mind:

1. *Materialism*: Mental states are entirely dependent on brain states. In this view, all cognitive processes can be reduced to physical activity in the brain.
2. *Idealism*: Reality is fundamentally mental. The brain, from this perspective, is not a material object but rather a manifestation or idea within the mind.

3. *Dualism*: Both the mind and the brain are real but fundamentally different kinds of things. They interact but are not reducible to one another.

These categories provide the framework for Egnor's analysis, as he attempts to assess which model aligns best with empirical data from neuroscience.

## Scientific Evaluation of the Mind

Egnor proposes to evaluate these metaphysical models through three core questions:

1. Is the mind metaphysically simple?
2. Are there immaterial powers of the mind?
3. Is free will real?

Each of these questions is addressed using evidence from neurosurgical procedures, patient studies, and cognitive neuroscience research.

### *Is the Mind Metaphysically Simple?*

Egnor presents evidence from split-brain surgeries, such as corpus callosotomies, performed to treat epilepsy. These procedures sever the corpus callosum, the primary communication pathway between the two brain hemispheres. Surprisingly, patients undergoing such operations often retain a unified sense of self and consciousness, even though sensory and motor functions may show hemisphere-specific alterations.

Roger Sperry, a Nobel Prize-winning neurophysiologist, conducted pioneering studies on such patients. His findings showed that although the brain's functional abilities could be divided, the patient's *self-awareness* and *identity* remained intact. This continuity of consciousness, even when the brain is split, suggests that the mind may not be divisible in the same way as the brain—a characteristic that supports dualism.

Other extreme surgical procedures, such as hemispherectomies (removal of an entire hemisphere) or even cases where the brain is partitioned into multiple separate regions, further reinforce this conclusion. Patients retain a coherent, unified consciousness, contrary to what strict materialism would predict.

### *Are There Immaterial Powers of the Mind?*

Another major question Egnor explores is whether some functions of the mind are immaterial—i.e., not dependent on specific brain regions. He references both 19th-century neurological localization studies and modern technologies like functional magnetic resonance imaging (MRI).

Motor and sensory functions are clearly localized to specific brain regions. However, higher cognitive functions—reasoning, abstraction, and free will—do not show the same precise localization. Despite extensive research, neuroscience has not been able to identify specific brain areas responsible for these intellectual capacities. This supports the idea that rational thought may not be entirely rooted in physical processes.

Egnor also draws heavily on the work of Dr. Wilder Penfield, a renowned neurosurgeon who performed surgeries on awake patients to map brain functions. Penfield found that while he could electrically stimulate the brain to trigger sensations or movements, he could not stimulate a patient to *willfully* act. The patient always recognized the difference between voluntary action and electrically-induced motion.

Penfield concluded:

...after years of striving to explain the mind on the basis of brain-action alone, I have come to the conclusion that it is simpler (and far easier to be logical) if one adopts the hypothesis that our being does consist of two fundamental elements.... The mind must be viewed as a basic element in itself.... That is to say, [the mind] has a continuing existence.<sup>1</sup>

Penfield's experiments strongly suggest that while the brain is necessary for mediating physical functions, it does not account for the full range of mental phenomena. In addition to his conclusions that the mind and brain are both fundamental elements, Penfield also developed a much deeper intuitive understanding of the mind-brain relationship over his long career:

It is what we have learned to call the mind that seems to focus attention. The mind is aware of what is going on. The mind reasons and makes new decisions. It understands. It acts as though endowed with an energy of its own. It can make decisions and put them into effect by calling on various brain mechanisms.... Mind decides what is to be learned and recorded.<sup>2</sup>

Further, Penfield explains how this independent, fundamental element of the mind uses the brain to learn and act:

The mind conditions the brain. It programs the computer so that it can carry out an increasing number of routine performances. And so, as years pass, the mind has more and more free time to explore the world of the intellect, its own and that of others.<sup>2</sup>

Additionally, on the question of immaterial powers of the mind and evidence from neuroscience, Egnor also talks about evidence of inexplicable brain activity in patients in persistent vegetative states (PVS). In some cases, there are measurable indications of brain activity (via MRI) and verifiable understanding and mental activity, despite the patient's massively damaged brain. To Egnor, this indicates that there is an immaterial component that is difficult to reconcile with the materialistic framework. Taken together, these lines of evidence indicate the existence of an immaterial mind independent of the brain.

## *Is Free Will Real?*

The final question Egnor examines is whether free will exists. Materialist accounts often struggle with this question, as deterministic brain mechanisms leave little room for autonomous agency. However, both dualism and idealism allow for the possibility that human beings are free agents capable of making real choices.

Egnor cites clinical and experimental data showing that decision-making often involves areas of the brain associated with evaluation and planning, yet the final "act of will" does not appear to originate from any specific

neural command center. This supports the view that free will is not an illusion generated by deterministic brain processes, but a real, non-material aspect of human cognition.

## Conclusion

Michael Egnor's chapter in *Minding the Brain* presents a provocative and well-argued case for dualism, supported by both historical and contemporary neuroscientific evidence. Through his thoughtful exploration of split-brain studies, brain localization, and free will, he shows that the mind exhibits qualities that cannot be easily explained by materialism. While some aspects of his argument may remain controversial, especially among strict physicalists, his case is thorough, well-documented, and rooted in real clinical experience.

For readers interested in the intersection of neuroscience and philosophy, this chapter offers a valuable perspective that challenges prevailing assumptions and encourages deeper reflection on what it means to be human. This chapter also presents the life-long journey and conclusions of multiple neuroscientists who came to believe deeply that the mind is far more than the materialist impressions of brains states. Based on evidence and experiences, they conclude that the human mind is an independent immaterial entity—a soul—that interacts with our physical brain to sense, perceive, control, and interact with this physical world around us.

## Further Reading

- Roger Sperry (1982) Some effects of disconnecting the cerebral hemispheres. *Science* 217 (4566): 1223–1226.
- Wilder Penfield (1975) *The Mystery of the Mind: A Critical Study of Consciousness and the Human Brain*. Princeton University Press, Princeton, NJ.
- Michael Egnor's published essays on mind-brain dualism in *Evolution News & Science Today*.
- Angus J. Menuge, Brian R. Krouse, and Robert J. Marks, eds. *Minding the Brain: Models of the Mind, Information, and Empirical Science*. Discovery Institute Press: Seattle, WA, 2023.

## References

- <sup>1</sup> Michael Egnor, "Neuroscience and Dualism," in *Minding the Brain: Models of the Mind, Information, and Empirical Science*, edited by Angus J. Menuge, Brian R. Krouse, and Robert J. Marks, (Discovery Institute Press: Seattle, WA, 2023), 248.
- <sup>2</sup> Egnor, "Neuroscience and Dualism," 250.