Evaluating Popular Theories of the Mind-Brain Relationship
https://mindmatters.ai/podcast/ep266

Michael Egnor:

Welcome to Mind Matters News. This is Mike Egnor, and I have with me Dr. Angus Menuge, who is the editor of a brand new book that is a wonderful book called Minding the Brain: Models of the Mind, Information, and Empirical Science. It's the best book on the mind-brain relationship that I've ever read. I actually read it for pleasure, which may sound strange, but it's a fascinating book. And Dr. Menuge is the chair of the philosophy department at Concordia University, has many books, and scholarly articles to his credit. So Angus, thank you for joining us.

Angus Menuge:

Thanks for having me, Mike.

Michael Egnor:

So in this segment, we might want to talk about the most popular dualistic theories of the relationship between the mind and the brain, which would include Cartesian dualism and Thomistic dualism. Could you tell us a little bit about those perspectives?

Angus Menuge:

So, the Cartesian dualist wants to say that mind and the body are substances of a fundamentally different kind. So as Descartes develops it, the mind is this immaterial substance that has no extension or location in space, and on the other hand, anything material does of course have an extension and location in space. And one of the reasons for his view is that in introspection, it would seem that the experiences and activities of the mind cannot be understood as separable parts of the mind. So, that is when you have an experience of a sunset and perhaps you hear cranes flying by and you smell a barbecue wafting down the breeze, it seems that they all refer to one and the same subject, and so that those experiences cannot be separated. And in general, he thinks that you can't separate a thought from a thinker in the way that you can separate a part of somebody's body or of their brain from their physical body.

So that his test seems to be this, that if it's physical, you can locate it and you can divide it up into parts, but the mind it seems is fundamentally simple. That's what leads him to think that they are fundamentally different kinds of substance. So, that's sort of the Cartesian view. The other main alternative to that already begins in Aristotle and is further developed by Aquinas is to say, "No, what the person is really one substance where a certain kind of being, a human being, which combines a rational soul and also the matter that makes up the human being, and we should understand then the rational soul not as an immaterial substance, but rather as the form of a human being, so that we are basically composite individuals." And of course then there seem to be some obvious advantages to this view.

It doesn't seem as if the same kind of mind-body problem arises for this view, as does for the Cartesian view, although that may be argued in the end, but that certainly seems to be the case. And it's interesting that as it's developed, the Aristotelian-Thomistic view sort of draws a boundary between those aspects of the mind, which are heavily dependent on the physical body and those that are more independent. And so that it will say that, "Well, of course, when you're dealing with sensation that depends on the physical apparatus of the sense organs and things of that kind." However, when you

move up to abstract thought and free will, it seems that you've reached a point that is independent of the physical organism to a high degree.

Michael Egnor:

Yes, and I must admit that my experience in neurosurgery and with neuroscience really led me to the Thomistic view because the Thomistic view dovetails so nicely with what we see in neuroscience, but there certainly is a lot to say for the Cartesian view, and the Cartesian view is enormously more plausible than, for example, the materialist way of looking at things. I see two big problems with the Cartesian view. Well, three perhaps. The first big problem is that I think Cartesian metaphysics is very much a step backward from hylomorphic metaphysics, from looking at the world as matter and form. Aristotle's way of looking at the world, I think, is a profound, beautiful way of understanding nature and Descartes' way of simply separating mental substances, the res cogitans from physical substances, res extensa, and describing physical substances being essentially just things that are extended in space is a real step backwards in terms of metaphysics. It's, I think, a pretty crude, primitive metaphysics that doesn't really explain much.

So, I don't like Cartesian metaphysics, so I don't think the mind is understood very clearly in a metaphysical system that's that deeply flawed. The other problem with Cartesian metaphysics is, I think... Or with Cartesian understanding of the mind-brain is the interaction problem, which is not as intractable as the materialists may claim, that is that it's certainly true that things can interact that don't share substantial properties, but they interact by formal causation, rather than by material or efficient causation. And so yes, I think the mind and brain could interact if there are separate substances by virtue of formal causation, but the problem is that if you're invoking formal causation, you're invoking an Aristotelian hylomorphic way of understanding the world. So, why not just jettison the Cartesian way and just accept hylomorphism? So, I think the interaction problem is fatal to Cartesianism, not because it's not solvable, but because it's only solvable by embracing a different metaphysical perspective than Cartesianism.

The third problem with Cartesianism is that, I believe, because I think it's basically a metaphysical error, it has led to some pretty terrible errors as the centuries have gone by. If you understand a human being as a composite of an immaterial substance, the mind and a material substance, the body, and you are of the opinion that immaterial substances don't exist, then you can just jettison the mind completely and take an entirely materialistic view, and that's basically what modern neuroscience has done. It's just said, "Well, modern neuroscientists are sort of closet Cartesians. They just accept res extensa and they deny res cogitans." And so, I think Descartes kind of set us up for this modern materialistic clown show that we experience nowadays.

Angus Menuge:

I think it's certainly true that one thing that I find problematic about Descartes, despite brilliant defenders of his view like Richard Swinburne, is that it moved away from the understanding that you see in Aristotle and earlier thinkers that the soul isn't just there to explain consciousness, it's also there to explain life, what it means to be a life. And so, you had those several levels of the soul, the nutritive soul, the sensitive soul, and then the rational soul. And I think that the soul is also necessary to explain the unity of the organism. This is, by the way, one of my criticisms of animalism that says that people are just human animals and that can be a physicalist view. The problem is that the unity of the organism can only be explained if you have some sort of non-material principle because we now know that there are vast exchanges of the particular bits of matter in our body and in our brain during our lifetime, and yet we think that the same person persists.

So, it seems as if you need to have some kind of organizing principle that makes you still be you, despite the fact that you've lost lots of bits of matter and acquired lots of other bits of matter. So, I think that certainly is an issue. I find Descartes myself most plausible in his account of the unity of consciousness. I think there he is helpful, but I agree with you that the danger with his metaphysics is that you end up simply with conscious beings, so God and human beings, and then the rest is turned into a machine. Descartes' view is that even the human body is just a machine, and everything in the world is a machine.

And I tell my students there's a danger here that Descartes sets us up for a kind of a deistic view because everything in the world carries on mechanically by itself, and the human body is actually essentially an organic robot, and it's not surprising that eventually you're going to have modern thinkers who say, "Well, perhaps it can all manage just by itself," and they get rid of the immaterial altogether. Whereas if it's baked into what it means to be a living organism in the first place and it organizes our life and our reason in a more holistic way, then it's going to be a lot more difficult to get rid of it.

Michael Egnor:

Yes, it's funny that you mentioned that the strength of the Cartesian view is that it explains in a very natural way the unity of the soul, and I think you're right. That's the one thing in the Thomistic view that has always made me a little bit uncomfortable is that understanding the rational soul of a human being, which is a composite of immaterial and material powers, leaves you as a composite, but we all know that we're not composites. I'm me, there's a unity to me that's not material and immaterial powers, it's just me.

And it always seemed to me that the Thomistic view had to strain a little bit, that we call the human soul a spiritual soul, and I think that's kind of the solution to the problem, that we have a special soul that's spiritual, but Descartes may be explained that in a more natural way as a separate substance. Of course, St. Thomas would say that we have a subsistent soul, that is a soul that is capable of existence independently of matter, and that confers on us eternal life, but I can see where Descartes did offer a more compelling account for the unity of the soul.

Angus Menuge:

And that's kind of an interesting thing that Josh Farris and some mothers investigate in their chapters in the book. And there's this other issue too of, what are we to make of the so-called evidential near death experiences where it seems as if people after being resuscitated are able to report things that they had some sort of conscious experience of, but at a time where there was no measurable brain activity and they can't be dismissed as confabulations of the waking brain because they can be independently verified as true? So, such as being able to recall the exact serial number of a medical machine on top of the machine far above the patient's head, and of course, we're all going to struggle to make sense of these things, but nonetheless, that evidence is strikingly robust, even when you get rid of many stories which are not reliable. Those ones where you can independently confirm this is factual seem to have some serious weight.

Michael Egnor:

Yes, the near death experiences, the reality is that they would be accepted in science as being very well established, obviously, true science that some people do have continuing experiences after cessation of brain activity of a very specific nature. And the only reason that that's not accepted is because of the materialist, even atheist bias of modern science because the evidence is compelling. There's massive evidence for it, and the only kind of evidence we don't yet have, and people are working on this, I have a friend named Sam Parnia who's doing research on near death experiences at NYU and is trying to solve

this problem, but the only problem is that it's very hard to do prospective studies on near death experiences, and prospective studies are sort of thought of as the gold standard for scientific studies. And obviously a near death experience is something that almost always happens in an unexpected situation, and there's a panic and people are trying desperately to save someone's life.

And so, how do you prospectively study that? That's a difficult thing to do, but the nature of the evidence right now is retrospective largely and relatively anecdotal, but it's absolutely massive, and there are probably at least 20% of near death experiences are veridical, meaning that they can be checked, and the people have awareness of things during the time that brain function has stopped that they could not have been aware of by any normal physiological way. And even if there was some remnant of brain function going on, as you've pointed out, they know things that they could not physically see, as serial numbers hidden away or what's written on someone's back instead of someone's front while they're providing care. There's a million different examples of that. One of the examples that fascinates me was one that was given by Katherine Kubler-Ross, who was a psychiatrist from, I think she was in Switzerland, who studied death and dying and was very famous for that.

And she reports in one of her books that she was on call in a hospital as a psychiatry consult, and a child came in from a car accident, very severely injured, and the child had had a cardiac arrest at the scene of the car accident, had been resuscitated, and was in the emergency room waiting to go into the operating room to have further surgery. So, Ross went there to comfort the little girl, she was like 10 years old. And Ross asked her, "What was your experience like?" And little girl said, "Well, when I had the accident, I found myself in this dark room and going down a tunnel and there was a beautiful light, and I saw my mother and my sister there, and my mother and sister said, 'You can't come here now, but you'll be joining us soon.'" So, the little girl came right back down the tunnel, and then she was resuscitated. So, the child was taken into the operating room and died during the surgery.

And Ross then checked and she had a father and a brother and a sister and a mother who were with her in the car and the sister and the mother had died at a different hospital, but the father and brother lived. So, the little girl knew that her mother and sister had died from the near death experience, although she had no way of knowing that otherwise, and they told her in the near-death experiences, "You'll be joining us soon," so near death literature is full of things like that. So it's unequivocally real science, good science, and as I said, if it wasn't for the materialist bias in science, this would be accepted as a scientific fact.

Angus Menuge:

And that's a good example of just the overall purpose of the book is to just call people's attention to as wide-ranging as possible examples of data and theories which are not being taken seriously by the mainstream, but actually have been developed with considerable rigor and really leaving it to them. There's many options on the table, but we leave it to them to draw their own conclusions about what's useful and plausible and what they might apply to their work, and having an open-minded perspective we argue would help them to be better investigators.

Michael Egnor:

Yes, there's a chapter at the end of the book by Bill Dembski entitled How Information Realism Dissolves the Mind-Body Problem, and I'm kind of trying to wade through it. It's brilliant, but there's a lot in it. Do you have any perspectives on that that could help me or could help our audience about information realism?

Angus Menuge:

Well, Dembski has always been a kind of iconoclast who's willing to say something that's very different from everyone else and therefore will cause you to rethink. And what's interesting about the way he sets up his theory is, "Why don't we begin from something that we all know, that's not one of the things that's in contention?" And that is that there are all kinds of transactions of information going on into the world. And then we start out from there, and as we analyze the transmission of information, so there's a signal, there's something that sends the signal, there's something that receives it, we can then ask this metaphysical question of, what would make most sense of all of these informational transactions? And the beauty of that way of setting is up is it would seem to be a level playing field because physicalists are always talking about information being processed by the brain.

And dualists also, such as myself, talk about information that's going on. For example, when I will my arm to move and my arm goes up, it seems as if that involves a transaction of information going from a mental form to a physical form, so that you can start with his framework and then develop from there an open-minded understanding of what is the best metaphysic to make sense of it all. Can we capture everything we know about the transmission of information using a kind of machine-like model? If we can, then materialism presumably wins, but what if we can't? What if there are reasons, and there are many chapters in the book that will look at this as well, for thinking that there are aspects of cognition that will not be captured by any kind of a machine? Then, we're going to need something that's different to account for these informational transactions.

Michael Egnor:

Very interesting. One question that I have, and I've been asking people this question for a couple of decades now because I still have a little trouble wrapping my mind around it, although I kind of know the dictionary definitions, but what is information in this context?

Angus Menuge:

Well, information can be understood in lots of different ways. So as it was developed to understand signals, you have, for example, measures of information like Shannon information, and you have other measures which try to understand it in terms of bits, but the intuitive idea is that information involves a reduction of possibilities. So when you ask somebody what they're doing, and if they say like a teenager, "Stuff," well, unfortunately stuff doesn't actually exclude any possibilities, and so it doesn't convey any information. But if on the other hand they say, "Well, I'm going out to the store," well, that gives you a bit more information.

Or take something more concrete, if you're trying to figure out what cards somebody else has in their hand when you're playing cards and maybe you're good at counting and you're trying to figure it out, and when they play a certain card, you say, "Okay then, I can figure out what those other cards are." Well, that reduces a huge number of possibilities, and therefore you just gained a whole lot of information. So, I see that what's really going on in a transfer of information is the reduction of possibilities, but there are indeed many different ways that it can be measured if you have on... Robert Marks, he's a specialist in this area, and can tell you about Chaitin-Kolmogorov information, for example, and there are many different ways of understanding it.

Michael Egnor:

In some sense, and I know that this plays a role in thermodynamics, and there are ways of looking at information in terms of entropy, that information relates to the amount of entropy in a system, and basically that a low entropy state is a high information state because it's a marked reduction of possibilities in the system. Clearly information is a fundamentally important thing in the world, and I've

always wished that we had a more rigorous... I wouldn't say rigorous, but a more unified definition of what it is, but it's a fascinating thing. In some ways, it's analogous to energy, that is that energy is such an important thing in everything we do in science and everyday life, but what really is energy, and it's a rather tricky question philosophically.

Angus Menuge:

It is, and I think that this is a case where it is wise to investigate the phenomenon at first with the intuitive concepts that we have because if we settle too early on a specific definition that's drawn, for example, from the use of information in computer science, it might turn out that that's wholly inappropriate for understanding how the mind works. So, I'm sort of always in favor of, in any area of philosophy, I think you should investigate the phenomenon on its own terms. So, what is language? Unlike the physicalist who wants to say, "Well, from the outside you're making certain sounds or you're making certain marks on a page." But we know what language is from the inside because we're language users, and it's the same issue with understanding the mind.

We sort of know what it's like to gain some information by solving a problem in logic or making a decision where we weigh up various alternatives, and then again, there's that reduction of possibilities. There were many things I can do, now I find a decisive reason to do this one and not the others. So, I tend to think we need to start with that intuitive idea and be open to persuasion as to which is the best sort of precise model.

Michael Egnor:

I think you're exactly right. It's interesting, I've as of late become kind of a fan of Wittgenstein because he addresses issues like this, I think, in very clear and very important ways, and his viewpoint on philosophy is that the real work of philosophy is to clarify things, not to explain things. The work of philosophy is to learn to express ourselves as clearly as possible, in many ways, as simply as possible. And the final line in his Tractatus, which I think is one of the most beautiful lines ever written in philosophy, where, and I paraphrase that what we can say, we can say clearly, but what we cannot say, we must pass over in silence. And it may be that in trying to define things, even to define the mind, or to define information, or energy, or things like this, that our efforts to define it necessarily move us further away from really understanding what it is.

Angus Menuge:

That's a great point, to parallel something Chesterton said, he said that the logician tries to fit the heavens into his head, and it's his head that splits, whereas the poet is content to put his head into the heavens. And so, he's sort of saying that when we adopt reductionist models, and what we end up doing is try to force everything into that mold, and we'll just end up falsifying the phenomenon. We should get as far as we can, and if we can see that something is there, we should acknowledge it's there whether it fits our current theories or models or not. And I think for many paradigms, the near death experiences or the unity of consciousness are just like that, but we should never do is deny them because our model doesn't make sense of them.

Michael Egnor:

Are you acquainted at all with the work of Bennett and Hacker?

Angus Menuge:

Yes.

Michael Egnor:

For our listeners, they're a neuroscientist, Bennett, and a philosopher, Hacker, who have published a number of books, including one of their most famous is the Philosophical Basis of Neuroscience, and I really love their approach. There's a real strain of Wittgenstein in their approach that these reductionist, materialist ways of explaining neuroscience generally lead us much farther away from really understanding the phenomenon, and that there are phenomena that we just have. We just have thoughts, you don't have to explain it in terms of the chemicals, and it's really not explainable in terms of chemicals. The neurotransmitters are different things than thoughts, and there can be correlations and correspondences between particular brain states and mind states, but a mind state is not a brain state and vice versa, and I think the approach they take is a very good one.

Angus Menuge:

And it's rather like the approach of Brentano and Husserl. They're the great phenomenologists, and they did such incredible work exploring the nature of intentional states from within, just saying, "Well, look, these are given to us. What are they like?" Without worrying about, "Oh, how can these fit within a modern scientific view? Forget that part of it. Let's first of all find out just what the phenomena really are on their own terms."

Michael Egnor:

Yes.

Angus Menuge:

And I think that that's always valid to do, and I like some of the things in the book, for example, there's a chapter in there on social psychology, pointing out that social psychologists have to accept just to do their work, a relational view of human beings, which is utterly incompatible with materialism, and the people who are doing this, they may think of themselves as materialists, but it's simply that the nature of their study forces them to adopt a different paradigm. And once you've had that thought, it makes you think, "Well, so why should I assume that I have to accept that paradigm in other areas?" If it works, fine, but if it's not working, let's say a neuroscience, at least be open to the idea that there are very serious, competent neuroscientists who have found value in adopting a different perspective.

Michael Egnor:

Absolutely, I really enjoyed in Bennett and Hacker the comments that they make in a number of places that in order for a neuroscientific perspective to be helpful and in understanding some aspect of the mind, it first just has to make sense. And there are many things that neuroscientists say that simply don't make any sense, like the fallacy of saying that the occipital lobe of the brain sees things and where you could say, we see things by virtue of the activity of the occipital lobe, but there's no vision in the lobe itself. The inside of the skull is dark, you can't see anything there. And what they recommend, which I think is vitally needed in neuroscience, probably more so than practically any other kind of science, is what they call conceptual hygiene. We need to clean up our concepts. There's a lot of work to do there.

Angus Menuge:

No, that's a great point that they make. In other words, that we don't solve difficult philosophical problems by simply attributing mental qualities to different parts of the brain. That's kind of a form of cheating. It's like, "Oh, what these neurons are doing now is they're thinking about lunch."

Michael Egnor:

Right, and they actually make a point that I thought was absolutely fascinating, but it's so true. They point out that even such a common and seemingly intuitively obvious thing that our brain stores memories or that we store memories. They say that's just conceptually inexplicable, that is that memories are not the kinds of things that can be stored. You can't have a pocket of memories. You can't say, "Well, I've stored a lot of memories, but I'm reaching the capacity, so I'm going to have to get another memory storage area." That's not how memories work. Now, some of that may come from the use of the word memory for a computer, where information is stored on a computer, and indeed that is a storage matter, but memories themselves can't be stored. It makes no sense to say that.

Angus Menuge:

That's very interesting because one, here's the term engrams, and the idea is that as you have studied something and you memorize it, then there are these traces left in the brain. Although those traces obviously play some kind of role when you recall something later, it doesn't seem to make sense to say that they themselves are the memories because when you remember something, your memory is about something. So, when Thomas Reid is remembering the Battle of Culloden in the Highlands, well, what he's remembering there is some event that happened earlier in his lifetime. That's what it's about, but the engram is not about that. It's simply a physical trace in the brain, so that's a great example.

Michael Egnor:

One of the ways I think about the engram memory issue is with the idea that an engram is a map essentially, and engrams probably exist in one form or another in the brain, although we don't have a good handle on exactly how they exist, but there probably are brain states that more or less correspond to memory states, but it's just a correspondence. It's not an identity, and engram is a map of a memory, but a map always presupposes that which it represents. So if I have a map of New York City, the map itself is not New York City. New York City is just what's represented in the map. So if I ask a neuroscientist, what is a memory? And he points to an engram, he isn't explaining anything, he's simply pointing to something that correlates with the memory, but the memory remains unexplained.

Angus Menuge:

Right, and it's similar to Wilder Penfield's observation when he was doing his pioneering work, he concluded that while there are some things that you can make somebody do by the stimulation of electrode, there are other things that you cannot, or if you do make them do something, they will still distinguish it from their own action and his conclusion that the relationship of the mind to the brain is a bit like the relationship between the programmer of a computer and the computer because obviously we know that the brain is a highly dynamic system and all the evidence of neuroplasticity, but what is it that lays down these pathways in the first place? What is it that leads you to do one particular action when you're entertaining many possibilities? How is it that you end up changing the programming, as it were, of the brain? It seems that that requires there to be a distinction between the programmer and the computer.

Michael Egnor:

It's kind of funny that Penfield's observations, which were fascinating and just earth shaking, have been completely ignored in neuroscience. That is that I've mentioned this notion that one question Penfield asked is, why are there no mind seizures? And I think what he meant by mind seizures really was sort of intellectual seizures, no seizures that involve kind of abstract thought and things like that. And he

pointed out that there are only four different kinds of neurological states that can be evoked by a seizure. There's movement, there's perception, there's memory, and there's emotion, but there's never abstract thought. There are no calculus seizures, there are no logic seizures. We can't stop talking about modus ponens, and Penfield said, "That's really odd that so much of what goes on in our mind has this abstract nature to it, but that never happens during a seizure. It's never evoked, so maybe that aspect of the mind doesn't come from the brain," and you would think that that would revolutionize the way neuroscientists understand the mind and brain, but it's basically been ignored.

Angus Menuge:

The sad thing is in any area of science and neuroscience seems to be no exception, is you get what Thomas Kuhn called a development of normal science within a paradigm. And people say, "Well, we'll accept these default assumptions and do our investigations within them," but the pioneers in all of these areas, what's so interesting, the real giants, because they're thinking about the foundations of their discipline, they do step back and they are willing to ask these questions. "Are there some things here that really don't fit what I expected?" And they're more willing to accept that those phenomena are real.

Michael Egnor:

Right, it's kind of funny. I've mentioned to some friends who are neuroscientists these particular viewpoints, and they're basically kind of informally open to them. They think it's interesting, but you can tell in their eyes as I'm talking to them, that they're thinking, "If I ever said this publicly, it would be the end of my career," that they'd be thought of as crazy, even though it's solid neuroscience, it's very good neuroscience. It's just there are certain things in neuroscience that you don't say out loud.

Angus Menuge:

And scientific progress though in the end seems to depend on people who are willing to be the gadfly, like Socrates and kind of stand outside the accepted views. And the class I'm doing now with Godel, he had to go against a whole slew of mathematicians that were absolutely convinced that you could reduce all mathematics to logic, and you could make mathematics purely mechanical and-

Michael Egnor:

Russell and Whitehead.

Angus Menuge:

And these are all very smart people, but because he accepted something that was transcendent, because Godel in this case was a mathematical Platonist, he wasn't convinced that truth could ever be reduced to something that we can compute. That was his gut feeling, and so then he went about investigating, "Well, can you find examples of things like this?" And I think that's a sort of a solitary thing for any scientist who is in love with a particular model or a theory, are you, as Karl Popper would advise, looking for the things that don't fit? Because that's where the progress and the new understanding is going to come.

Michael Egnor:

Sure, the problem is, to push the Socrates analogy a little further, that there's always somebody waiting with a cup of hemlock. So, it's why I think a lot of these penetrating ideas are made by either very well-established scientists who don't have a lot to fear or retired scientists.

Angus Menuge:

Well, at least hopefully, that they've got nothing to fear from just reading a book in the comfort of their own home.

Michael Egnor:

It's a great book to read, and we won't tell anybody if people read it, so it's just our little secret. So, this is Mike Egnor. I've had the great pleasure of having a wonderful conversation with Angus Menuge, and Angus is the editor of a great book called Minding the Brain: Models of the Mind, Information, and Empirical Science, recently published by the Discovery Press. I'm reading it for pleasure because it's such a great book, and I encourage everyone to get it. It goes into the kind of fascinating stuff that we've been talking about here in great detail, and it's highly readable. So thank you, Angus, for joining us, and this is Mike Egnor from Mind Matters News.

Angus Menuge:

Thank you very much, Mike.

Announcer:

This has been Mind Matters News. Explore more at mindmatters.ai, that's mindmatters.ai. Mind Matters News is directed and edited by Austin Egbert. The opinions expressed on this program are solely those of the speakers. Mind Matters News is produced and copyrighted by the Walter Bradley Center for Natural and Artificial Intelligence at Discovery Institute.