Angus Menuge: The Mind-Body Problem (Part I)

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Robert J. Marks:

Is there a part of you that is not physical? That's the topic today on Mind Matters News.

Announcer:

Welcome to Mind Matters News, where artificial and natural intelligence meet head on. Here's your host, Robert J. Marks.

Robert J. Marks:

Are we meat puppets limited to scientific analysis described totally by the laws of nature? The question is addressed in the so-called mind-body problem. The mind-body problem dialogue is part of a field called the philosophy of mind, and the debate has a very long history. The debate is especially important today because of artificial intelligence. If humans and our minds can be described by materialism, there is a chance that so-called artificial general intelligence or AGI is possible. AGI is the goal of designing a machine with all of the capabilities of humans. So discussion of the mind-body problem is of more practical importance now than ever.

Robert J. Marks:

Our guests today to discuss this, we're honored to have Dr. Angus Menuge, who is a professor and chair of the philosophy department at Concordia University. And he's the past president of the Evangelical Philosophical Society. His research interests include philosophy of mind, philosophy of science, apologetics, and one of my heroes, C.S. Lewis. He's the editor of Religious Liberty and the Law, and he is the co-editor along with Jonathan Loose and J.P. Moreland of the Blackwell Companion to Substance Dualism. We will provide links for that in the podcast notes. Angus, welcome. It's good to have you and talk to you.

Angus Menuge:

Thanks for having me.

Robert J. Marks:

You and I met in 2011, it was a conference at Cornell. And the funny thing, you go to conferences, you have introductions, and often you forget those introductions, but we introduced ourselves to each other and we both remember it because it was kind of unusual. Could you relate that story? It's kind of amusing.

Angus Menuge:

Yeah. Well, the part that I remember is that seeing that my name was Angus, you quickly associated me with Angus Young of AC/DC. And I kind of regret it in light of the compensation which philosophers receive that that simply was not the case.

Robert J. Marks:

Yeah, that was hilarious. If you're not familiar with AC/DC, they're a heavy metal group and their lead guitarist is Angus Young. He's kind of the front man for the group and very different from Angus Menuge, but they both share the name of Angus. And I guess that Angus is a common name in some places of the world, but you're only the second Angus that I'm aware of. Plus I think the audience can tell that you have kind of an accent. But Menuge, I think you mentioned is a French name, but you have a British accent. What happened?

Angus Menuge:

Well, I grew up in England. My father's parents were both from Normandy, France, however, so that's where the French surname comes from. My grandfather though, his folks were from Dundee, Scotland, and my mother decided to give me a Scottish name. So I am slightly Scottish as well. So I'm a bit of a strange mix.

Robert J. Marks:

I talked to a guy that speaks the King's English. And I mentioned to him that in the United States, anybody that talks with a beautiful English accent sounds like their IQ is about 20 points higher. He interrupted me and he said, "No, no, no. 30 points." And he's right. So there's something about the sophistication of the British accent which I think is very impressive for some reason across the United States. Well, let's get to what we want to talk about. I know that you are an expert in the philosophy of mind and including the mind body problem. What is the mind body problem? How can you explain it in a high level?

Angus Menuge:

Well, the real question is how two such different realms can relate. The classical mind-body problem is if you think of mind and body as substances in the fundamental category of thing, then it would seem that if something is physical, if it's a body, it's extended in space, it's located in space, it's publicly observable, it's quantifiable and measurable. But if we think of the mind as a thing, going back to the former idea of the soul, then the soul does not seem to take up space, or at least not in the same way. It doesn't exclude other physical objects from space. It has no definite location in space, and it's not the sort of thing that can be publicly observed as we expect in science, where we're acquainted with our mind or our soul most directly through introspection. I can introspect my mind and you can introspect yours, but I cannot observe your mind and nor can I introspect your mind.

Angus Menuge:

So you have these two very different realms, these two very different kinds of things. And the obvious question is: How can such two very different kinds of thing interact? And Princess Elizabeth raised this question to Rene Descartes asking, "Well, if the mind, for example, moves the body, it seems that bodies are moved by some sort of impulse or contact, but how can something which is non-physical impart an impulse, how can it touch or contact a body?" And so really, the mind-body problem is a question of what is the medium or intermediary between these two realms. And if one cannot answer that question, many will argue, well, then you have to abandon the idea of dualism that there are these two different kinds of substance altogether.

Robert J. Marks:

Okay. Okay. I think, help me out because I'm not an expert in the field, but it seems to me that we only have empirical evidence of the differentiation of the mind and the body recently through so-called near-

death experiences. This has got a lot of play in the last, I don't know, few decades, because right now we have the ability to raise people who have been clinically dead and they talk about their minds separating from their body. So, I think this is empirical evidence that the mind and the body are not the same or that there's part of the mind which is not part of the body. Is there any other evidence? And what do you think of... Do you think this near-death experience is compelling evidence for the difference between the mind and the body?

Angus Menuge:

Well, there's two kinds of evidence that one could give. One is just from a phenomenological analysis of the mind. What is it like to have an experience? The fact that we can have thoughts about other things, intentionality. So subjectivity and intentionality are properties that we meet in introspection, but which none of the physical sciences seem to disclose when you look at somebody's brain in a brain scan, or when you think of a person in terms of chemical or electrical or other physical events, there's no reason ever to postulate either subjectivity or intentionality. Now the near-death experiences that have recently been studied, it's really only recent because it's only in the past few decades that there have been a large number of people who have been successfully resuscitated and are able to report these experiences. The evidence here, which is most extraordinary and telling are so-called evidential near-death experiences.

Angus Menuge:

That is to say that the patient reports from the time at which there was no measurable brain function, witnessing numbers on medical machines, or the location of items like shoes, or facts that were subsequently independently verified. They actually recall things which we know objectively are true, which they could not have observed from their position when they were unconscious, certainly could not have seen through their eyes because their eyes were closed, and they cannot be written off by hallucinations or a waking brain phenomenon as the person returns because of course, if it were a hallucination, the chances that that hallucination would line up with something we know independently to be fact are next to nothing, especially when somebody accurately reports all the serial numbers on a medical machine, and those numbers would only be observable in the normal way if you were many feet above where the patient's body was. They seem to provide evidence that there is a possibility of a consciousness which is separate from, distinct from normal brain functioning.

Robert J. Marks:

That's just fascinating. I find this topic just very fascinating. You mentioned Descartes, and so this mind-body problem has been around for a long time. What's some of the history of the mind-body problem?

Angus Menuge:

Well, one can probably go back further. If you think about the history of thinking about the soul, initially the soul was thought of as the form of the body, what gives a body its life as well as, in rational beings like ourselves, our consciousness. This was the understanding that you have in Aristotle and Aquinas, for example. The mind-body problem starts to become severe when you get to the point of Descartes, because Descartes does an analysis of the essence of different kinds of substance. And he's very careful about this. When he looks at the mind, he sees that what's distinctive about the mind is that its states and activities cannot be separated from it, so that you can be wanting something and thinking about something and feeling about something, but it's one eye that's doing all of them. And likewise, you can

have multiple experiences at the same time yet they all belong to one subject. And so he recognizes that his thoughts and experiences cannot be separated from him.

Angus Menuge:

What's different about physical things is they seem to be aggregates of separable parts. So if you think about a table, for example, it's made up of parts. The table top on the legs, or you could keep on going down to the level of molecules and atoms and all the rest of it. And it's possible for those parts to be detached and for them to exist separately. But it doesn't seem that thoughts and experiences are like that at all. It doesn't seem that one person's pain could actually exist outside their mind or be transferred to anybody else's mind, either. Part of its identity is tied to the one who is feeling the pain and the same thing for thoughts in general. And so his analysis seems to show that mind and matter all fundamentally different kinds of thing or substances.

Angus Menuge:

And so from that point on, we seem to have an interaction problem. Many philosophers, materialists like Hobbs, but even people sympathetic with Descartes, raised this issue that they couldn't really see what was the mechanism or the medium by which mind and matter could interact. So when I wanted to raise my arm, my wanting seems to be something, an immaterial property of my mind. And yet my arm raising is obviously a physical, physiological, measurable activity. How do we get from one to the other? Likewise, if I damage my toe and the nerve signals are sent through my nervous system, eventually I have a quail, that is to say, there's an experience of what it's like to be in pain. How is it that there is a kind of a translation between the purely physical and objective and the mental and subjective? That, I think... And by the way people have thought you can solve this problem, later on they say, "Oh, well, I could believe an organism is purely physical as a substance, but we have two different kinds of properties." We have physical properties and mental properties.

Angus Menuge:

However, Jaegwon Kim, I think rightly points out that here there is what he calls Descartes' revenge. People who think they can solve the problem this way haven't thought hard enough because the fact remains that mental properties - like subjectivity, intentionality, that your thoughts are about things - are so different than physical properties that the mind-body problem arises all over again at the level of properties. In other words: Why should my thinking about something or my wanting a drink of milk, why should that mental property have any ability to produce changes in physical properties in my body, such as opening the fridge? So the mind-body problem actually is much harder to get out of than people think. And so this of course led in the 20th century to many philosophers embracing physicalism and saying, well, really, the only way that we can answer this problem is to somehow show that the mental either reduces to the physical, or at least it's entirely determined by the physical, so that we don't really end up giving this independent causal power to the mind.

Robert J. Marks:

Yeah. I've done a lot of work in artificial intelligence on emergence. And I think if you're a materialist, you have to believe that evolutionary-wise, that the mind developed as an emergence of the brain. Yet, there's all of this evidence that indeed, this is not the case, that the mind is much greater than the body can ever be. So I'm sure that there's a number of different models of the mind-body problem. What are some of the main mind-body problem models that are popular and discussed today?

Angus Menuge:

Well, there are some like Richard Swinburne who is really a defender of a modified form of Cartesian substance dualism. And he, along with other substance dualists has gone back to this original challenge and argued that it's not compelling. So one solution is simply to point out that in fact, in general, there doesn't have to be a conceptual or logical connection between causes and effects. That isn't even true at the physical level. There isn't really any logical connection between a drop in temperature and water turning to ice. Nonetheless, that we discover that there is a reliable connection between the two. And so some dualists have argued that we don't have to have a theory about how mind and body interact, to accept that we have good evidence that they interact. And so Swinburne, for example, gives the example that we've known for centuries, that if you stick a pin in someone, it causes pain. So there is a clear path between the physical event and a psychological reaction. And it appears, all our evidence says that there is a clear causal connection between a mental volition to raise one's arm and the arm being raised.

Angus Menuge:

So one solution is just to say, we will go with the facts. This is what happens even if we cannot give a fully satisfying explanation. Others though, would try to say, well, we'll have to re-conceive the mind, we'll have to view it as supervening or emerging from the brain. This though, ends up with a serious difficulty, which again, Kim addresses. If you want to take the physicalist line and say that the physical really is where the causal power resides, and then you say, well, from that, these thoughts emerge, it seems that those thoughts have to be epiphenomenal. They can't really cause anything because they're preempted by the states of the brain.

Robert J. Marks:

That's a big word. Could you define, epiphenomenal?

Angus Menuge:

Yeah. Epiphenomenal means that something is caused by something else. So for example, your desire to open the fridge is caused by a brain state, but on this view, your desire is not what causes your body to open the fridge, your brain state does. And you see this outrageous view, for example, in Daniel Wagner's book, The Illusion of Conscious Will, where he says that in reality, your desires to do things are just causally powerless previews of what your brain is going to make your body do. Now, most physicalists don't want that. They would like to have a view of mental causation because after all, if we don't do things because of our beliefs and desires, it looks like our behavior isn't rational.

Angus Menuge:

If I don't, for example, write down the answer to a logic problem, because I could see that that's what followed from certain premises, in other words, because of my mental reasoning, then it looks as if I'm not really reasoning. Rather I am doing much the same as most of our computers do. I look as if I'm reasoning because the engineers put in an arithmetic and logic unit, which guarantees that my operations agree with reasoning, but it's not that we think the ordinary computer at least, has any insight into logic. It doesn't see that that conclusion follows, it's simply designed so that it will reach the correct conclusion.

Angus Menuge:

So there's problems with these kinds of physicalist solutions. And it's interesting that over time, they have moved more and more in non-reductionist directions, there are more and more who will use the language of emergence. And yet they seem to be in an unstable place. They want the mind to be able to do something because they recognize that if your thoughts don't really direct your actions, they're no longer rational. We can't make sense of why you do things. Trouble is, there are people like Jaegwon Kim waiting to say that it's hard to see how the mental qualities, the mental properties, of you could cause anything. And he calls this the exclusion problem, because everything about your states is really caused by the brain. Aren't those brain states also sufficient to cause the next state of your nervous system and also everything that your body does? And if they are, then there really isn't any room for your mind to do anything. It becomes a redundant sort of rider, kind of like the surf on the top of a wave. So it's thrown up by the brain, but there's no work for it really to do.

Angus Menuge:

Or Huxley's analogy was, with a steam locomotive, the steam drives the engine and it also is used for the whistle, but the whistle's blowing doesn't contribute anything to the motion of the locomotive. And that's where you seem to end up with that sort of problem. And then, it's amazing now that there are oppositions that are being endorsed, which would have seemed quite desperate. Such as panpsychism, such as the idea, well, maybe everything physical has something mind-like about it, and so that eventually mind-like properties are emerge. So there's been extraordinary proliferation of theories, and about the only thing that people can agree on in philosophy of mind is that all of them have problems. The one thing they have in common is that they all seem to have serious difficulties and are unsatisfactory in one way rather than another.

Robert J. Marks:

That leads me to the question. What is your take? Where do you fall in these different models?

Angus Menuge:

Where I would fall on this is, I think there is some truth to substance dualism, although I don't myself entirely like the Cartesian approach. I think that Augustine was right, that we can think of the soul or the mind as being present in space, it's just we have to think in terms of different ways things can be present. After all, when God is... we speak of Him as being omnipresent, we don't think that that is by way of being a physical object or by excluding other physical objects. He can be present wherever physical objects are. And Augustine's view is that the soul is present in the body, wherever sensation is, so it isn't somehow this bizarre entity that Descartes seemed to describe that had no real location.

Angus Menuge:

But I think as well, it's unsatisfactory to just say that, well, mind and body interact, that's it, and it's a mystery, but we have good evidence that they do. I would hope that we can say something illuminating. My own view, and I hear I'm influenced by my background in computers, is that I see all the time evidence that there is transmission of information between two realms. So when a computer scientist thinks of an algorithm in the abstract, such as, say, the quick sort, well, then once he has that idea-

Robert J. Marks:

Describe this quick sort. I guess it's a way of arranging random numbers in order, is that right?

Angus Menuge:

Yeah. The idea of the quick sort is just that you have a list of elements in random order, it selects a pivot, and then it is a kind of amazing recursive function that partitions the set, and then it once for each of those subsets, it partitions them. And it's really a brilliant, brilliant algorithm. And when it's all done, everything has been sorted just by dividing them into the categories of pivot, things less than the pivot and things greater than or equal to the pivot, over and over again. It's a thing of real beauty.

Robert J. Marks:

So you have an algorithm now that is a step-by-step recursive procedure to do something.

Angus Menuge:

Yeah. I mean, the point is that it's a universal procedure. It transcends any physical embodiment in this way, that once you have that correct algorithm and you have verified it, you can write an indefinite, potentially infinite number of programs to implement it. It could be encoded at the hardware level an indefinite number of times. So the idea is very abstract and it can be encoded physically over and over again. Or what's interesting is we just went from something which is intangible and abstract, the algorithm to an implementation, right? Which it ultimately is, is a machine switches being on and off, which is thoroughly physical. And yet information exists in both forms. So my view is the information has the right sort of Janus-faced quality to be the intermediary between mind and body.

Angus Menuge:

Simple everyday example is reading and writing. When I read my eyes interact with physical marks on a page, and yet as a result, I have thoughts, then I can store memories. And it seems that these engrams in my brain, they're physical as well. And likewise, as I'm thinking about an essay, I have ideas in my mind, they're translated into things that I can write down.

Angus Menuge:

So my thinking is that we need to think of the human being as an integrated system. And that integrated system has within it, an automatic translation function. And what that means is that we can go from, for example, an abstract volition, where you notice that when you want to raise your arm, you don't have to have taken a PhD in physiology and know what's really going on, right?

Robert J. Marks:

Right.

Angus Menuge:

You have an incredibly abstract specification. Raise my arm. And every time you do it, it's probably different. And yet the motor program, or probably a suite of motor programs takes over. So what happens? I think what happens is that your volition is translated into a physical instruction that then implements that volition. Likewise, going the other way, when you stub your toe and signals are sent back to the brain, there is an automatic translation that then gives you a subjective feeling of pain, which we say is in the toe. It's kind of interesting. It points to where the damage is, which is what you need to know, but it doesn't tell you all about the specific neurological events that have gone on. And you wouldn't want to know that anyway, because what really guides your action are very general things.

Angus Menuge:

It would be a very poorly designed system if every time we wanted to raise our arm, we'd have to know how to adjust each and every molecule in our arm or what specific pattern of nerve signals we would have to send. Well, then we'd be unable to act. And likewise, if what matters is that I don't stub my toe again, all I've got to remember is, don't push your toe like that rather than worrying about how I did it this time, because the odds are, I'd never do the same physical movement again.

Robert J. Marks:

Yeah. Some of us are slow learners, I guess.

Angus Menuge:

Yeah, you're right.

Robert J. Marks:

Okay. Well, this is great. We've gone for a long time here, but I still have one more question that I want to ask you. And I wonder if you've thought about this. Artificial intelligence and artificial general intelligence now is pushing towards a machine that can totally duplicate the functions of the human. Now, if dualism is true and the mind is not totally contained in the brain, there's something non-algorithmic which is happening external to the human mind or the human brain, if you will. And that seems to have great implications on whether or not artificial general intelligence can ever be implemented. If indeed dualism is true, doesn't that mean that we will never be able to have artificial general intelligence where we have a strict duplication of human performance?

Angus Menuge:

Yeah, I think it does. I mean, I think that there will be artificial general intelligence in the sense that there are very sophisticated learning algorithms that can generalize, and so they can move from their initial training domain to work in new areas. So at the level of just being able to formally solve problems, that's to say that there is a transformation from a problem to a solution, I think that in that sense, you could say there'll be artificial general intelligence. However, what you're asking about is will it really duplicate everything about the human mind? And there I think, no, because I don't see any reason from these amazing enhancements of the complexity of these systems to think that the system would move from not having subjective awareness to having it or from moving to its states having true intentionality to be about anything beyond themselves.

Angus Menuge:

So I think that the fundamental issues are metaphysical. We're aware that there's something it's like to be us and that we can think about the world. And we can also think about things which is arguable, no physical system ought to be able to think about - abstract principles, like the laws of logic, or when we prove theorems about prime numbers. Well, no physical system has ever physically interacted with any of these things. So the very contents of our thoughts seem to suggest that we have access to a realm. In a way it's a somewhat platonic realm, but without getting into that issue, that's certainly a realm of things which are not purely physical.

Angus Menuge:

We know, for example, lots of things about the set of integers. There's an infinite number of integers, and we can prove theorems by, for example, by mathematical induction that apply to every one of them, but all physical causal interactions seem to be finite. How then can an AI physical system ever get

to the point where it can truly be said to understand or know things about these sets? Yes, it will be able to follow through rules that will come out with the right output that agrees with the mathematicians output. This is true. But I don't think it can be said really to understand what an infinite set is or what prime numbers are.

Robert J. Marks:

Even on the most fundamental level, a computer can add the numbers two and three, but it has no understanding of what the numbers two and three is nor does it really understand addition. It can do the operation, but has no understanding of what's going on. And so yeah, I agree with you. I don't think artificial general intelligence, where we have a strict duplication - not a mimicking, I think mimicking is possible - but a strict duplication of human performance, I don't think that that's going to be possible. I think that that is a hard ceiling for artificial intelligence. Angus, thank you very much. This has been fascinating and I've learned a lot. We've been talking to Dr. Angus Menuge, who is a professor and chair of philosophy at Concordia University. We're going to have him back for another podcast for some other interesting questions to talk about on Mind Matters News. And until then, be of good cheer.

Announcer:

This has been Mind Matters News with your host, Robert J. Marks. 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.