The Primacy of Information Over Matter

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Michael Egnor:

Thank you for joining us at Mind Matters News. This is Mike Egnor. I have the great privilege of talking with Bill Dembski. Bill is a senior fellow at the Discovery Institute Center for Science and Culture, and a distinguished fellow with the Walter Bradley Center for Natural and Artificial Intelligence. Bill has written a great chapter in a new book called Minding the Brain: Models of Mind, Information, and Empirical Science. And Bill's chapter is on information, and the title is How Informational Realism Dissolves the Mind-Body Problem.

I just wanted to ask Bill a couple of questions. This is the second in a series of these podcasts that we're doing. I guess we can start with, how does informational realism help us understand the relationship between the mind and the body?

William A. Dembski:

My point really, the article that I wrote for that book in which you also have an essay, is dissolving the mind-body problem; how informational realism dissolves the mind-body problem. And I think my point is that if you no longer give primacy to matter, because if you have matter and especially a mechanistic view of matter, that naturally leads to... Well, you have to think of the mind, consciousness and everything as being some sort of byproduct of matter in motion, or matter in its various modifications. But if matter is no longer fundamental, if it is information that's fundamental, and that things disclose themselves to other things informationally, and that things themselves are only understood by the information they exchange, then it seems that you don't have a mechanistic reduction.

Information is not constrained by the speed of light. You see that information is exchanged by correlations. We see that, for instance, in quantum mechanics, when we have what looks like action at a distance, where you measure one electron in one place when it was paired with another, and then instantly there are these correlations. So we know that there's an informational exchange, or there's some sort of common informationality going on there, but it's entirely in the correlation that we understand the information that's there. Once information becomes real and not shackled to a mechanistic, materialistic view, it seems that you don't have to think of neuroscience as being something reductively materialistic, or that the brain has to be, a la Ray Kurzweil, a computational system.

One thing I do say is informational realism, it's ontologically, metaphysically minimalist. So it could be that matter is in the end all that there is, in the sense that all information expresses itself through matter, and that the mind may just be this materialistic substratum. But it's not required. In fact, I think that would be utter nonsense. But from a materialist vantage though, what else could the mind be? There are no other options.

That's why I really close that essay by saying, if you're a materialist, there's only one answer you can give. But if you're an informational realist, you can let reality be what it is. And if it discloses itself in mechanistic, materialist terms, fine; let's examine that. But that doesn't have to be the only answer we get. It's whatever the information tells us. In a sense, informational realism says at a very fundamental level, follow the evidence. Follow the information where it leads, and don't constrain it, because materialism would say that that sort of information is not possible.

I think to your point, I think you touch on near-death experiences in your essay for the volume. And when you have people who are undergoing NDEs who suddenly have access to some information about

what's going on in another operating theater or whatnot, they're getting information, but there's no way to account for that in terms of any sort of chain of physical causation.

But why should that be a problem? The world could be a stranger place than we suspect, but not if you're a materialist. If you're a materialist, that's verboten. You can't allow that. That's not the way the world works; we know that. Well, how do you know it? Well, because we're materialists, and we know that materialism is right. Well, what about all those miracles? Well, they can't happen. So you see the constraint that a worldview brings, how it really shackles the mind.

Michael Egnor:

I was watching an interview with Christof Koch a couple days ago. He's a neuroscientist who has written extensively on the mind-body problem, and he mentioned, to his credit, that he's really rethinking the issue of free will, because there simply isn't any materialist way of accounting for free will. However, free will does seem to be real in a very meaningful sense. It's one example of many that I've seen where I just want to beat my head on the desk and say, if you would just let go of materialism, so many of these problems, these mind-body problems, would just vanish; that we've locked ourselves into this materialist prism, this conceptual prism, and we've created our own problems. And things make so much more sense if you step outside of that materialist framework.

William A. Dembski:

It's refreshing when people admit to that. I remember John Searle years back. That was his line. On the one hand, he's materialist. It's like, I don't understand. There's no way to account for this scientifically. And yet, I've got free will. If I want to raise my arm, there it goes. That was his point. But he was willing to live with the tension.

Michael Egnor:

And I think a materialist denial of free will, which frankly virtual materialists do deny it, it's not simply scientifically wrong. There's a fair amount of scientific research that supports the reality of free will. But in addition, the materialist denial I think is self-refuting, because if you have no free will, then within the materialist framework, it means that your actions are entirely determined by physics, by the chemistry and physics of the processes going on in your brain.

But the chemistry and physics of processes going on in your brain are not propositions. They don't have truth value. So essentially what's coming out of your mind when you express an opinion like "free will isn't real" is just some kind of secretion, and why would anybody pay any attention to it? They're saying, I'm a meat robot, so listen to me. I don't really want to listen to meat robots.

William A. Dembski:

Well, you could take the view also, well, if you're right, then I'm just going to believe that I do have free will, because I'm determined to believe that I have free will. So I'm just going to enjoy that.

Michael Egnor:

Right. Who's to say what's right? It just reduces to gibberish.

William A. Dembski:

Even better is the atheist Sam Harris, who has neuroscience training, where he starts one of his lectures, "Today, I'm going to convince you that you do not have free will." Why should he care? What does this conviction mean that he's able to impart? There's so much irony there, and yet....

Michael Egnor:

Well, and the process of convincing someone by making an argument and getting them to agree with you implies the reality of free will. Basically what he's saying is, I'm going to take you hostage and force you to believe in free will in some fashion, which is just bizarre. It's a pitiful scenario actually, but it has a lot of purchase in our culture today, unfortunately.

On the topic of information, because I'm fascinated by the concept of energy, just as a matter of physics. I think it's an intriguing concept. There was an article by David Oderberg in the Australasian Journal of Philosophy back in 2023: Is Prime Matter Energy? And Oderberg went into this idea that the Aristotelian concept of prime matter that is a pure potency or pure contingency, is that energy? He gives a partially affirmative and partially negative answer to that.

But it seems to me that information could be understood as Aristotelian act, and energy as Aristotelian potency. So I find that I think that information may be as fundamental a concept in the natural world as energy is, and they may be analogous to the hylomorphic ideas about potency and act.

William A. Dembski:

That sounds... I'm certainly sympathetic to that. There's a book that I did almost 10 years ago now, I guess it was 10 years ago that I was writing it, called Being as Communion: A Metaphysics of Information, that came out in a science and religion series with Ashgate. But I take this idea of information and informational realism, which is in that article that I wrote for our anthology, and developed it further there. I have a chapter on energy, but the way I describe energy there is what... I'm actually turned to right now, what causes information to undergo such dynamic transformations. And information does change. It's imparted, it causes things to happen. So I say the usual word to answer this question is energy.

It does seem that information, as it is acting, as it is taking things from potency to actuality, there's energy. I'm not sure you can just separate it from... There's this sharp dichotomy between energy and information. We gave the example of striking a golf ball and trying to send it into a hole. There's energy that's imparted, but there's information that's imparted: it's being sent here and not there. There's even teleology: the aim is to send it into that hole. So I think they're intimately related notions. It's energy that imparts information. Information requires energy.

We talk about constraint of contingency or narrowing of possibilities. That narrowing, that's a verb. What allows that narrowing to take place? I think it's reasonable to describe that energy in energetic terms. I think that it's going to be consistent with much of physics, but it's going to go beyond that, because I think lots of information, just even if you think of information in our minds as we think new thoughts, as we create things, I think that's not something you can necessarily describe in physical terms.

The physicalists, the reductionists who want to reduce mind to matter, they're going to say that there has to be such a reduction. But I would say there's no evidence that when we think some great thought, that there's necessarily any more energy or less energy in the sense of physics being imparted. And yet there may be quite a bit more information in the one than in the other.

Michael Egnor:

You mentioned at the end of The Design Inference about conservation of information, and mentioned that you hopefully would publish more on that. Do you believe that information is conserved? And how is that? How does that work?

William A. Dembski:

The information that's being described by conservation of information, it's a bit narrower notion of information that comes up in search. It is still this notion of constraining contingency or narrowing possibilities. With search, you always have a target, and there's a search space. The interesting searches tend to be needle-in-a-haystack searches where you've got a very small target and you're trying to find it. So there's information that's required.

That target, often there's an inherent teleology there. How do you get to that target? You can do a calculation. For instance, you can have some sort of measure of size of the target versus the size of the space, and the smaller the target, the more information that's going to be imparted. Often you cash this out in probabilistic terms, or do a logarithmic transformation, and so then you put it in terms of bits.

But the point is though, when we're talking about conservation of information... I think I'd better just give a brief example of what's at stake, and then it'll become clear what actually conservation of information means. Let's say your target is an Easter egg, and you've got this vast field. It is so big that there's no way an exhaustive search or a random search will find that Easter egg with any sort of reasonable probability. So highly improbable.

But then you're on the field and somebody shouts out to you as you're wandering around, "Warmer," "colder," "warmer," "warmer," "hotter," "hotter," "you're burning up." And as they say "you're burning up," you look down, dig a little bit, and there's that egg. What happened? What allowed you to find that egg? Well, you were getting information being shouted out to you. But the question is, well, where did the person who was shouting out that information get that information in turn? How did that person know that those were the right instructions, as opposed to some other instructions?

In a sense, what you've substituted is just a random search for a search within a set of instructions, what you might call a search for the search. Originally, you were just on the field left to your own devices. You were doing a search trying to find that Easter egg. Now, you've got those instructions that helped you to find it, but where did you get those instructions? Because every instruction that says "go right," "go left," "go right," "go left," could be also "go left," "go right." You can reverse the instructions.

So the instruction space is itself a search space. There are only going to be certain instructions that take you to the egg, and others that won't. What you've done is you've substituted for the original search, another search. Now it's a search in the instruction space. It turns out when you do the mathematics of it, the search in the instruction space is always at least as difficult as the search on the original space, so that you don't gain anything by saying, I'm going to find the right set of instructions, and that's going to get me to the egg. If anything, typically, those search spaces are exponentially larger, so it actually ends up being a more difficult search.

So conservation of information in this context means that the best you can do by going in this case to an instruction space is to have the problem not be any worse than your original problem. It may get worse. It's a conservation of information. It holds in this search and search for search context, and it's deeply relevant to Darwinism.

I can just give you an example. Over 20 years ago, I was on the campus of Stanford. I was being interviewed by Peter Robinson on his program Uncommon Knowledge, and Eugenie Scott was there. That old trope about monkeys typing Shakespeare randomly came up, and Eugenie Scott said, well, within Darwinism, you shouldn't think of it as the monkeys randomly typing. You need to think of it as

the monkeys are typing, but there's a lab tech behind the monkeys with a vast vat of white-out, and as soon as the monkey types a wrong character, he whites it out. Then the monkey keeps going, and that's how you can get Shakespeare.

Well, notice how the problem has been shifted. It's monkeys randomly typing; now you have this error-correcting lab tech on whom the burden of getting Shakespeare out. But how did the lab tech know what to white out? This is what I kept finding. The Darwinist says, we got this Darwinian search, which can really do a lot better than random search. But what makes the Darwinian search work, if it works -- I think in many contexts it doesn't even work -- But if it works, it's because it's been informed. It's been given information that allows it to work.

So what conservation of information does really, it's an accounting principle that says as you track the information, you find that the information problem in fact is either staying constant, that's conservation, or it's getting worse. Now, this is exactly the opposite of what Darwinian evolution would say. This is one of Richard Dawkins' favorite lines, is that what makes evolution such a wonderful theory is how you get complexity from primordial simplicity. That's what he calls it.

Basically, Darwinism is looking for a free lunch. It's looking, how do you get all this biological complexity from something that's much simpler, that didn't have all that information? And conservation of information says, no, if you got information out, there had to be at least as much information in, at least in these evolutionary contexts.

That's conservation of information. I mentioned it briefly in the epilogue of second edition of The Design Inference. We were actually going to include that in the second edition, but it was getting too unwieldy, and it deserves a full treatment of its own. So that's in a sequel book that's in the works.

Michael Egnor:

It's fascinating, and certainly natural selection strikes me as an information-rich process. There's a great deal of information imparted during the process of natural selection that the Darwinists simply can't account for. There's an analogy, of course, between conservation of information and conservation of energy. Is there anything analogous in information theory to the second law of thermodynamics: that is, entropy?

William A. Dembski:

Yeah.

Michael Egnor:

I think that's a very interesting question.

William A. Dembski:

Certainly, the language of conservation is the same with the first law, although with the first law, there's this exact identity that's being held. Whereas conservation of information, it's either equality or the information problem gets worse, where there's more information is required as you backtrack causally.

But I would say that in terms of the second law conservation of information, I wrote a book 20 years ago called No Free Lunch: Why Specified Complexity Cannot Be Purchased Without Intelligence. At that time, there were a number of ideas and number of ways of referring to things, and people were even talking about the fourth law of thermodynamics. That at the time was an inverse law to the second law.

I would say one of the key thought experiments involving the second law is this Maxwell's demon, where a demon is opening and closing a shutter and allowing fast or slow-moving air molecules to move

between chambers, and then create a difference in pressure. And moving the shutter takes virtually no energy. It's interesting: when Leo Szilard introduced or wrote about that, he talked in terms of this is an intelligent intervention.

So there's a sense in which information in this conservation of information sense can reverse the entropy. Because the natural state of these gas molecules will be to be diffused, and not to have that differential. When you've got something cold in contact with something hot, the thing that's hot gets colder and the thing that's cold gets hotter. But it could be that the hot gets hotter and the cold gets colder if you can judiciously move the hot and the cold molecules. But that, it seems, requires information, a particular type of information, then to reverse it. So I would say conservation of information is not an exact opposite or counterpart to the second law, but the notion is there is some coherence there.

Michael Egnor:

I almost get a sense, and this may just be fantasizing, but that when you look back at the history of thermodynamics, which I think is a fascinating thing to look at, in the 19th century, as it became clear that there was this thing called energy and that it was a fundamental principle of the way the world worked, you almost get the sense that we're now in an analogous position with understanding information in nature. It's a fascinating science, very interesting stuff.

William A. Dembski:

That would be nice if we are at some sort of tipping point with information, because I think it's much more conducive to a non-materialist, even theistic, worldview than certainly materialism. It's no accident that somebody like Karl Marx wrote his dissertation. It's pushed to this dialectical materialism, but his dissertation was on Democritus and Epicurus, two great materialist philosophers of the ancient world. So there's a resonance, I think, with materialism and atheism.

On the other hand, an informational realism, something that takes information as fundamental, it seems is going to be much more open to a spiritual, platonic, theistic worldview.

Michael Egnor:

And metaphysics has very profound real-world consequences, as you point out, with Marx and with Marx's materialism. And I certainly think we could do better with idealism. I think things haven't worked out so well with the materialist way of looking at things.

Well, I thank you very much, Bill.

William A. Dembski:

Thank you, Mike.

Michael Egnor:

This is Mike Egnor from Mind Matters News. I've had the privilege of speaking with Bill Dembski. Bill is the author of the second edition of The Design Inference, and also contributed a fascinating chapter in Minding the Brain: Models of Mind, Information, and Empirical Science, from The Discovery Institute Press. I just want to thank Bill, and thank you all for listening.

Announcer:

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