

## Experimental Theology: The Key to Science and Wisdom?

Baker, Bruce; Himma, Ken

It's great to have you all here and a lot of fun to actually see Jurgen Moltmann in person after being familiar with his books. It is a great thing to have him on campus. Ken and I are looking forward to a good discussion today. So we are going to put you all to work in a few minutes. So we are going to try to get the conversation started and then will have some discussion in a few small groups and try to get some take-aways for this meeting about what it means for a university to excel in both science and faith and how these disciplines speak to each other. That is a long-standing question that we have been dealing with for thousands of years. So why am I interested in this subject in particular is because I come out of a scientific background having majored in physics and gone into high tech industry. As a nonbeliever and in midlife, things change I have come to faith and I find myself studying theology. Science continues to be fascinating to me and this realm of dialog between science and faith fascinates me so now I find myself having gone off to Scotland at the moment to do my Ph. D in this topic or something related to this topic of theology. The area that I am looking into has to do with the theology of the soul. Here is why. Isn't it interesting what we are learning more and more through neuroscience and bio-chemistry and genetics about who we are, about what a human being is. I believe that what happened just a few short years ago, in the year 2000 which is called the century of genetics when the human genome project resulted in the sequencing of a human geno. I believe that that is equivalent to the role the telescope has played in history. For 500 years we have been dealing with the ramifications of the telescope and how this is revealed more about nature to us. The same thing is happening in our lifetime with genetics and neuroscience. It is revealing more, new tools are available and guess what? Just like 500 years ago, theologians today are grappling with this question. They are trying to make sense out of this wealth of new information we have. They one little example that I happen to be working has to do with the new theologies of the soul. Now many of these theologies are dealing with the overlap and understanding of the human being as a physical mechanism. One conclusion you can come to is that the soul is actually is not a real thing. It is an artifact. It is an illusion. It is a complex organism is a word we use to explain and experience the things we have. But it is not a real thing; you see it is all material. There are some theological theories that are all very nicely, very thoughtfully to deal with this. For example you end up with things like non-reductive physicalism which says yes it is all physical and the soul is an emergent property that appears on top of the physical organism. However, it is all physical. But it is not reductable. You can't boil it down to electrons and protons and corks. There's

something irreducible about emergent properties. And that is what we call the soul. So these are the types of theories that are coming about in theology and to me this gives just an example. We are not going to spend an hour talking about that. But I wanted to lift that up as an example of how theology and science are forced into this dialog over and over again as new technology comes around. That is why I believe this topic paints us a picture of kind of like Jason and the Argonauts you know, you have got to sail between the pillars. You have got to sail between the Scylla and Charybdis and our motto for our university actually is like that. On one hand we want to get you some culture, alright? So we have to understand of to dialog with the culture, we have to get good with the tools of the culture, and be good and science and business and chemistry and economics and on the other hand, we also want to change the world. We and to in other words, we are actually a part of God's redeeming work in changing the world. That is what we are a part of. That is the core truth. So it is both and. I think the same thing happens with the discussion over science and theology. Scylla and Charybdis. What are the two theologies? Well in this case, let me propose is the Pillar of Natural Theology which says that we will learn of God through studying nature. There is a debate there. If you go too far that direction, you end up with a physicalism that operates on its own independently of the other spiritual realities that it does not know how to handle or reserve or measure or do experiment on. On the other end of the spectrum you can end up saying, no there really is no overlap whatsoever. There must be a clear line drawn and there is no discussion between science and faith. None! Now, it is probably not fair for me to call that non-overlapping magisterial. That is a phrase that is used to describe that point of view to that and are probably pushing that point too far but I am pushing it because I am trying to show that what we do in theology is that we operate between Scylla and Charybdis. That is the realm for us. What we are going to talk about for a few minutes together is how do we do that to the other? How do we do that to a university? How do we engage the site and the culture around us in a discussion that is informed by theology and how do we view theology in a way that is informed by natural science? How do you do that? Where are the boundaries? Where should there be boundaries? Where should there be boundaries? Let me just start there, Ken. Let me pause and turn to you and see if you would like to chime in on any of this or give us some other things to think about.

Well I have a couple reactions and not exactly reactions that I anticipated. I was hoping to preach a message of hope here because I generally think that Christians think that there is an antagonism between faith and science that is absolutely thorough going and the two just can't be reconciled so we have to choose between our theology or our science. For example, that sort of view you find expressed

in the controversy between creationists and evolutionists. A lot of creationists, young earth creationists in particular seem to think that evolution and the theory of evolution is incompatible with Christianity. Now the concern here when I hear for what it is worth I am not

a young earth creationist and I certainly wouldn't presume to try to change the minds of someone who is. But I will say something about young earth creationism. In order to take that position, you have to deny a whole lot of science; I mean it goes well beyond evolution and its connection with the other sciences. In particular you have to deny for example common dating techniques. What I mean by dating techniques is not dating as in walking up to someone and asking them out. I mean dating techniques in the sense of getting a sense of how old something is. I just don't sweat that particular controversy a lot because I think evolution is perfectly compatible with God's existence. The idea that we evolved through a process of mutations that are random in the sense that we don't know how to explain or predict them is perfectly compatible that the triune God exists and is guiding the process. So I wanted to get up here and say hey, there is hope. There is lots of hope in the dialogue between faith and science. Problem is Bruce has hit on the one area where the uni-play between faith and science to me seems somewhat antagonistic. When I worry more about scientific results, I worry about exactly the stuff that is being done in neurophysiology. See for years people took the view, and this has been sort of assumed as being the official view of Christianity for a fairly long time, that we are composites of immaterial souls and physical bodies and so souls and bodies are interacting. An event in my soul, namely a willing. Right? I am going to make it happen now. I will start with something that I assume is taking place in my soul. I am going to will that my right arm go up. Okay? Wait for it? There it goes. There is some mental event that happens in my soul. A volition it is called that I raise my right arm and I take it that that mental event causes my right arm to go up and conversely, physical events cause events in my soul. I am having this very complex perception that includes visual elements, namely all of you, as well as an awareness, tactile elements. For example this vague awareness that this backside is being supported by a stool. I can't say I have any perceptions of smell, although there doesn't seem to have any smells in the room. And also auditory elements.

Now the thing I worry about is that Neurophysiology is to be pushing in the direction of claiming that there is no such thing as souls. That would make us purely material beings. Now here is why that scares me. There are Christians that have responded to that by just taking the position. Look, no big deal. I am a Christian, and I am a physicalist. Human beings are purely physical objects. Everything that happens with respect to our conscious mental logs can be explained in terms of neurophysiology deal. Why? Because the afterlife is, one, that involves the physical resurrection of the body. See I think there s a big

problem here though. And not everyone is going to agree whether or not you think this was a problem or not is going to depend on what your prior theological commitments are. For me, my faith history nears Bruce's. I was an agnostic for most of my life. I actually had to reason most of myself to faith which is kind of tricky to do. But foundational for me is the view that we have free will. If our behavior, if our acts are not freely chosen, then I can't make sense of a whole lot

that is absolutely central to Christianity in particular. I can't make sense of the idea that we are ethically responsible for our behavior. If I can't make sense that we are ethically responsible for our behavior then the doctrine of the divine judgment seems to fall because it presupposes that it is just to judge us, judge our behavior and respond with something that resembles a reward of something that resembles a punishment. Now how one explains free will even on the assumption that we have souls is tricky business. The notion of free will is just absolutely complicated. But it seems to me that if we are purely, I mean my big worry about this is that if we are purely physical beings, then that means that the causes of your behavior will be purely physical causes that don't differ in principle from the operation of causes and effects that govern this computer, your automobile, the lights that go on here. That would suggest to me that our behavior is mechanicalistically determined. If that is the case then it is very hard for me to make sense of the doctrine of hell, how to make sense of the doctrine of divine judgment and then of course if we can't make sense of that then the doctrine of atonement is no longer necessary. Just for me, if you give up the notion of free will, if it is just me. Whether or not you agree with this depends on your prior theological commitments. The whole edifies comes down. Do I have to admit, while I wanted to get up here and say, "hey, science and faith, we can hug each other and love each other all the time and there is no reason to think that they are ever going to conflict that the dialogue can be completely fruitful and unantagonistic. Bruce actually likes that one issue. Where think there is a real conflict...

Those neurons are firing. Your neurons are reacting to this.

That is right. My whole response to this was mechanistically determined so I am not responsible for its content.

Now, I don't have to stop you but save me a moment. I want a response which I think would come from our Professor Moltmann on that. Just let me do that here when you are ready. Because it think Professor Moltmann in his Theology of Hope does give us a way to respond to that. And in this book, that gave us the title for today, Science and Wisdom, he loves to raise this Hebrew theological teaching which would be from really I think simple temple times. The Origins of Zeem Zoom in the dialect. What

this has to do is that he translates it into a more modern language. Moltmann translates this into something that has to do with kenosis. Now you think of kenao, the Greek word in the Old Testament which Paul uses in Phillipians 2 to talk about Christ in emptying of himself, right? This is where this word comes from and what Moltmann is talking about is primordial kenosis. What he is describing is that God actually is exercising the almighty power of being God in a kenotic way. Moltmann call this the primordial kenosis. Alright, now, so what? So is that some topic of some theology paper alone that doesn't have anything to speak to science to this room? No. No it is not. I think it is very important for what we are talking about. If this is the

very essence of God, this primordial kenosis, it has something that has to do with the presence of God and therefore the creation the way that God reveals Himself, then that means that our study of science will be informed but this and we can study it, even. We can study it because it is the way God is. Because God is capable of creating something that does not contain himself. He is capable withdrawing from my neuro-physical genetic reality. He is capable for throwing that far enough and some mysterious way that I don't understand in some way to where I can have free will so I think that is connected to the Theology of Hope that Moltmann develops. Another way Moltmann likes to address this and in this morning he brought it up very briefly. I don't know if you caught it but at one point he talked about the future. He likes to talk about the future as a source of the present. The future actually is the greater of all these things because it is the potentiality, it is the opportunity. It is the open-endedness. But it is an open-endedness that is under the purpose driven purposes of God is where this future resides and it is out of that future that possibilities emerge. That is one reason I think we can live without fear in these topics. That is one reason we can ask and give an opportunity of living as people of hope, as the God of hope, has to do with God's ability to operate in that way, as primordial kenosis. So there is one way of trying to deal with this from a theological point of view we start talking about the study of science. I think this is the study of the soul. Let me give you an example. One of the things that is disturbing Ken presuming, is studies like this. How many of you in studying neuro-science has come across and read about mirror-neurons? Mirror-neurons has become a hot topic in the past couple years. A mirror-neuron has been studied in monkeys and has been able to wire up the brains to the point where you can actually measure activity. What they discovered is there is a certain area of synopsis that is repeatable. It is a repeatable experiment that fires when the monkey sees another monkey doing something. It is the monkey sees monkey do neuron but there is something real going on here. It interesting this is it represents this whole realm of ethics because it has to do when that monkey is receiving something when I am not. How come that monkey is getting this gift and I am not? There is a kind of ethical response that you can trace. So this is something we have to deal with in terms of grade science. Now my view of it is there is a given within this neuron structure of the brain that is very physical but there is a space and an involvement created within the structure. Our soul interacts with God through the Holy Spirit. Something that can be explained away. There never will be. I don't live in fear for studying science and I am not troubled by the discovery of something like the mirror-neuron. I can never explain away the mysterious reality of God which operates in a different sphere. And they don't refute each other nor can they. It would be illogical of me to think that they could refute one another. There is one take on that. Ken, want to take another minute before we dive into our discussion?

Just so you all don't think I am some kind of wimp, I am not scared of science either. What I will say is this. This is the one place where I think science does begin to make claims that are

antagonistic to our faith. Honestly I don't worry a lot about these particular results because as a matter of scientific methodology, that they can show that the soul doesn't exist. Scientific methodology is such that it is limited to hypothesis of observable events and the hypothesis have to be explained in terms of observable events and observable laws and by definition an immaterial soul isn't something that is observable so you can never by scientific methodology either prove the existence of souls of God or disprove the existence of souls or God on my view. So I really don't worry much about it. In terms of the free will issue is concerned, science can actually, in neurophysiology that does begin to call into question this issue that our decisions are freely chosen, that our caused. But again, I think the evidence is far from being conclusive, truly creates a problem for everybody because Christians aren't the only ones who account for ethics and ethical accountability. Agnostics, atheists, there are a whole lot of them who are committed to the objectivity of morality and the idea that we are moral agents who are justly rewarded for good behavior and justly punished for bad behavior and that is under the criminal justice system and there are a whole lot of people out there who are a part of the criminal justice system who participate as officials legal system in academia who are atheists. So the free will problem is a problem for everybody. Moral accountability is a problem for everybody and I just don't think science has come close to ruling it out. So I am very, very hopeful as far as that is concerned. I don't mean to suggest that I am afraid. I am not afraid. I guess I'll stop here. Rob...

Yeah. I am not terribly concerned about scientific methodology although you have to come clean. And that is the question why is it that science education results in so many people losing their faith? I think you have to deal with that square on because in fact it is the case that people of faith come to college,

take science classes, major in science, go on... And one thing that gets a positive along the way is the faith. What is it that is lacking? What is the focus of science education or even of scientific methodology that at least for many people results in the loss of faith? I think my question has to do more with Bruce's theological methodology where you take a theological metaphor like soul and it is a metaphor, a theological concept like soul, and you defer from that metaphor certain material properties that then are subject to scientific testing. I am not sure that that theological methodology flies. I just don't. If that is what is being put forward as the way in which science and theology gets integrated, I think there is a whole lot of work that needs to get done. I might not be tracking your particular theological methodology. That is what it sounds like to me.

May I respond to your first question then I will turn the mic over to Bruce? It is an interesting question. That is a really interesting question as to why people wind up losing their faith when they study science. These are hypothesis. These are actually scientific claims that require

scientific verification in the form of some sociological study so I offer these tentatively as a hypothesis. One, I would be willing to bet that a whole lot of people who teach science classes are themselves atheists and when they teach the theory of evolution, they may teach it that suggest that it's compatible with God's existence which is just a theological error. If you are sitting in a college science classroom and you are being taught by some world class expert on evolutionary theory that is incompatible with God's existence and you find the theory of evolution compelling then you are put the choice and you are going to chose to I guess the theory of evolution against and against faith. The second hypothesis is, I sometimes thing that we Christians talk in a way that sets us up to make that choice. People are welcome to disagree with the theory of evolution but I worry that all the attention that it gets sort of plants this idea in the minds of many people that science, what science is telling us about the world and that scripture tells us are incompatible. Once that is implanted, then they come into science classes, they hear the evidence of the theory of evolution, they hear the evidence for the Big Bang Theory and they walk away rejecting faith. Again, I think it is just not true. Faith and science aren't compatible but somehow, you know this is being done in part by us, and by atheists, people are getting the idea that they are incompatible so impressionable young minds out of good science classes making a very, very serious logical error.

Ken, I would have to agree. I guess the only thing I would have to add to that discussion is two questions. The first question is that there is a confusion often between worldview and science and when it is taught in a way and dealt with in such a way that presumes that there is a conflict or presumes that you can proof your science that is a null hypothesis, a meaningless concept, that is a presumption that

starts with a position of faith. It started there. So of course that is where it ends up. When there is a failure to recognize the difference between the worldview and the logic of science, then there is confusion that results and I think people can suffer philosophy through that confusion. I think is has always been that way. One of my favorite examples of that is during the era of Darwin and Darwin's contemporary who is a leading theologian of the time, Warfield who was the leading theologian at Princeton School of Theology writing on Biblical inerrancy saw no problem with the scientific ideas in Darwin's writing; he was perfectly fine with those ideas. E was capable however, recognizing that there was a worldview developing that presumed that there was no God and therefore tried to use those scientific ideas as a way for trying to justify that belief and faith position. Warfield saw this during Darwin's era and nothing has changed since. It is still happening. That fusion I think happens on both sides of the argument as well. So that is one take on that question. In terms of metaphor, Rob, I guess I am left the question: how do we do theology or science, either one? They are very similar in a lot of ways. How would you do any pursuit of knowledge in community without resorting to metaphors in some way in terms of human language? I don't know and so I guess if metaphors are at works in both

experimental science and theology whether it is experimental theology or not, doesn't matter. The question is how do those metaphors get tested. I think that is the question. That is what I got out of Moltmann's book. It seemed like that was the challenge that he wanted us to deal with. He wanted to force us to deal with this issue that however we speak in theological terms to watch out because if we are using metaphors those can change and they need to be tested. That is what I got out of it. Ok. We could take another question at this point or Ken and I can give you a little assignment here. Anyone have a burning question you want to bring up right now?

I am not sure I understood. The first time you talked you spoke about anatomy and physical evidence the second time you talked which got involved an entity about a soul.

Not as a separate entity. In other words, trying to avoid any form of dualism that treats it as a separate entity. But then the second time you spoke you spoke of a soul or something that is not touched by these results. I am just trying to figure out how to pull those two together.

Good. So am I. I am not suggesting that we are forced to reconcile those two things. I was using NRP as an example.

What is a soul? When you speak of a soul, either in a materialist way or a theological way, what is it that you are talking about? What is a soul?

I understand what you are getting at in terms of Biblical psychology or in terms of the tradition. But it hasn't been defined thus far and I can't figure out what it is we are talking about.

May I? With much respect and reverence I disagree with your view that the soul is just a theological construct. Here is what I take the very minimum as a soul. Ok. A soul is a substance of a certain kind. It is a mental substance. Something is a substance to the extent that, something is a substance from properties right? I happen to be six feet, two inches tall. That is a property of me. That is something inheres in me and I take myself to be a substance of some kind. So a substance as a metaphysical matter is an entity that is capable of instantiating properties whose existence of which and that is causally efficacious, it can causally interact at least one other thing in the world and is capable of existing at least in principle independently of other created things. So a soul is going to be a thing of a certain kind. It is going to be a mental thing. I will give you a very minimalist conception of the soul because I don't know exactly how much work the soul does but ok, right now I am having a mental state. I am having a complex perception. I can distinguish two distinct elements of that perception. There is the content which included this visual field, the color splashed across my visual field and some other things. And there is the subject that is the experience of the content. See I take it that the soul, the thing that explains my subject of any mental experience is that I am qua subject and the immaterial soul. Something that is conscious, a locus of consciousness that is capable of existing



at least in principle independently of any created thing and can causally interact with many things including my body. SO I actually think it is not just a theological construct. I think that the human person is a composite of an immaterial substance and a material substance. An immaterial soul and a physical body. So that is how I would explain it.

SO if that is true, wouldn't we be able to set up an experiment where we have some sort of instrument, some sort of detector that the soul could deflect upon, that the soul could cause its emotion upon. Why don't we have that?

Well, what kind of detector would do that?

If there are those kinds of things physically, then there should be some kind of physical way of measure how it interacts? The problem I guess with that is you are talking about a technology that is going to be grounded in science. What we can observe is observable to the senses.

Scientific methodology is the grounded idea that its hypothesis concern its observable events and its explanations are limited to observable events. So it is just not clear to me. I haven't a clue of what one could construct that could detect the presence of souls. The sort of argument that convinces me, I mean there are two kinds of arguments that convince me that dualism is true. Some are theological. I just assume, and this is why my disagreement with Rob is both reverent and somewhat fearful in this case. I assume that some of what scripture has to tell us, tells us there are souls. But the elements that tell me that there are souls are philosophical in character, they are metaphysical in character. So the sort of argument that would be required to get the existences of souls or the existence of God, other immaterial things are going to metaphysical and hence philosophical in character. Scientific arguments just aren't built to that kind of work because the methodology is limited and in imperially observable and by definition souls and at least God the Father or the Holy Spirit are not observable.

You are fessing up to the very point I was going to make. That is to say, we call soul that which names the very kinds of experiences you were describing and you can line up all kind of body parts that are mentioned in scripture that are linked then to all kinds of different observable, felt experiences. The difficulty that I have in this particular discussion is exactly what Ben is saying, that you are taking a metaphor that is a name that we give to perception or a name that we give to gut feeling or a name that we give to that moment in which we are given a choice and creating a science, a way in which to test it, a way in which to put it in a lab and go out to the field to observe it and I just don't think that is possible.

I am not sure I... maybe I have misunderstood but I don't think I disagree with you. I think we can't do that scientifically and in fact, look either if you are a materialist, even if you are a physicalist in person and you are what is called a non reductive physicalist, a reductive physicalist says we will take some... There are two versions. One is just so implausible I think

there are only two people in this world who hold this view and they are married to each other. The view is called unlimitedism. According to the unlimitedist, there are no such things as mental states. Right? You don't have any beliefs, you don't have any desires, you don't have any perceptions. That is just folk talk that has gone systemically awry and we would be better off without that sort of talk. The other form comes close to denying that there are

mental states, states that are distinct from physical states in that they have characteristically different properties. That is called identity theory. According to the identity theory, mental states are nothing but brain states. That is all they are. So there is no ontological distance between them. I assume, I think you would agree with me on at least this much. If you are going to be a physicalist and a Christian, you are going to be a non-reductive physicalist. A non-reductive physicalist will say that mental states are in fact distinct from neuro-physiological states. There is a causal relationship between them but they are very different. Mental states, in fact, are different in a sense that they have a different essential characteristic properties are not solid. My visual perception isn't solid. Brain states of the other hand aren't solid. Mental states aren't extended in space where are physical states are. And scientists have exactly the same problem. We take for granted and a whole lot of non-reductable physicalists take for granted that mental states and physical states causally interact but there is no scientific device for detecting how it is that a mental state might causally interact with a physical state. So the non-reductable physicalists isn't exactly the same boat with respect to your question as the dualists is. I mean the science just can't do that kind of thing. It is not build to do so methodologically.

Thank you.

Ken, to me that is an example of why we need to test our metaphors. We are talking metaphorically on some level. I think that is what Moltmann is getting out with respect to experimental theology. I would like to open up this discussion a little bit more. If I could ask you to each turn to a neighbor, maybe in groups of two or three and can you come up with one or two take-aways on this question from today? So how do we come up with a hopeful openness in our teaching and learning, in our theology and all our academic disciplines? How do we actually go about doing that as a university? Maybe you have seen it, maybe you have experienced it, maybe there is something you wish had been tried before in one of your classes, something you have experienced as a teacher. Could you give us one or two take-aways from this question form today? Let me ask you to take a couple two or three minutes in small groups and please have some dialogue on that and please let me call you back together.