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Modelling Religion and the Integration of the Sciences and the Humanities in the Bio-cultural Study of Religion

Podcast with **Wesley J. Wildman** (9 October 2017).

Interviewed by **Thomas White**.

Transcribed by **Helen Bradstock**.

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Thomas White (**TW**): *Hello. I'm here in Dunedin, on the South Island of New Zealand at Otago University's recording studios, with Professor Wesley Wildman of Boston University. Yesterday evening we had the pleasure of Professor Wildman's delivering the Albert Moore Memorial Lecture. That's a lecture series celebrating fifty years of Religious Studies here at Otago University. The lecture title was "Integrating the Science and the Humanities in the Study of Religion". Professor Wildman has written and co-edited numerous books and seemingly innumerous academic articles and is the founding co-editor of the journal,* Religion, Brain and Behaviour. *He is also the founding director for the Centre for Mind and Culture. Presently Professor Wildman is also the Principal Investigator for the Modelling Religion Project, a sub-project under the umbrella of this Centre's broader Simulating Religion Project. Professor Wildman, welcome to the Religious Studies Project.*

Wesley Wildman (**WW**): Thanks, Tom.

TW: *So, I'll start my first question, if you don't mind. Professor Wildman, I understand that you work in the relatively new field of cognitive science of religion. Could you please give a brief summary of basic methods and principles that characterise this approach to the study of religion?*

WW: Sure. First of all , I'm a philosopher of religion by native orientation and I specialise in the scientific study of religion, generally. And I would describe the area of my work as in the bio-cultural

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study of religion rather than the cognitive science of religion. Cognitive science of religion – as a name for an activity – has become broader over time, having less to do, specifically, with cognitive science and more and more to do with integrating information coming from both the biological sciences and the sciences of culture. Most of the things that we care about in religion involve both the sciences of cognition and the sciences of culture. So we care about minds and brains and how they work, and we also care about the way these things in collectives produce emergent phenomena of great interest to us at the cultural level. Keeping both sides, culture and cognition together is crucial for being able to get anywhere in understanding these complex things. That's why the Centre for Mind and Culture has the name that it has, to indicate that it's bio-cultural in orientation. And the religion work that we do through the centre, which is done through the Institute for the Bio-cultural Study of Religion focuses on that phrase bio-cultural. Now the methods that you use, then, are extremely diverse. Because the sciences of cognition and culture cover a tremendous amount of territory. I don't know if it's worthwhile listing methods, but the point is sometimes you're doing qualitative research that's in-depth studies of groups of people, other times you're doing demography or social science-type statistics gathering, still other times you're working on interpretive aspects of the social sciences and Religious Studies. And on the other end, you're doing neuro-science studies – maybe eye-tracking or neuro-imagining – or you're doing psychological surveys, or you're doing medical tests to see how people respond to various conditions that might be related to religion, and so forth. The point is that all of these methods are available and you use whichever is the most useful for making sense of the problem that you've decided to tackle. And the fundamental principal is that you tackle those problems in a bio-cultural way.

TW: *Terrific. Thank you. That was a tremendously comprehensive response. That's great. And of course, this ties very neatly into the topic of last night's lecture: Integrating the Sciences and the Humanities in the Study of Religion. Could you, perhaps, please explain to our listeners your argument for why the Study of Religion really demands more engagement from an empirically scientific approach?*

WW: One of the fascinating things about the study of religion is how fast the empirical sciences have been making their contributions. Usually, from outside of the traditional Humanities/ Religious Studies area, people are making contributions on religion coming from Anthropology departments, or Sociology, or Psychology, or Medicine. The largest area is Medicine, but the others are quite large as well. The growth of literature which uses scientific methods of the empirical kind has been

phenomenal. And now, more than half of the literature produced in the study of religion every year comes from people who are using scientific methods. So, at the basic level, Religious Studies need to know about what is known about religion. And so much of that is coming from people who are using scientific methods. You can't keep up with the field unless you know something about what's happening on the scientific side of things. But there are other reasons as well. There's a lot of particular problems or research trajectories within religious studies where if you don't have the scientific input you're really missing the point, in a certain sense. (**5:00**) For example, if you want to try and answer the question: "Where does religion come from?" Or, "Where does belief in ancestor ghosts come from?" Or whatever it is – any type of question having to do with origins – you cannot address that question responsibly unless you deal explicitly with evolutionary questions: evolution of cognition, evolution of social patterns, and so forth. Or, if you want to deal with questions like intense spiritual experiences, it's impossible to deal with that question without paying some attention to the psychological sciences and what the neuro-sciences have to say about the way brains process information and produce subjectively intense experiences. So there are just a couple of examples. But the general argument there is that religion is extraordinarily complicated as an object of study. Lots of disciplines are involved. And if you limit yourself, somewhat arbitrarily, just to a certain subset of those disciplines, you'll pay a price.

TW: *Terrific. And I suppose this also ties into the other point you were making during your lecture where you were at pains to point out that an exclusively scientific approach is also, to some degree, equally weak and one that is lacking significant Humanities input is deeply problematic, too. Could you elaborate on that, perhaps, please?*

WW: Certainly. There's a fairly depressing experience that, as editors of *Religion, Brain and Behaviour,* we have quite often and that's' reading papers that don't seem to benefit even a little bit from the history of the study of religion from the Humanities side. People operationalise religion in a way that makes zero sense against the history of the debate of that question in Religious Studies. Or they have, what I would call "wooden" interpretations of something that's extremely subtle such as, for example, the subjective experience of feeling guilty. That's enormously complicated and you can get very wooden takes on that in scientific work at times. So you've got this problem that, when you just start deciding as a scientist that you're going to study religion, and you're not going to pay attention to the subtle readings, contextual sensitivity, historical awareness and so on that Humanities scholars bring to the study of religion, you end up reinventing the wheel: it's not efficient and of course, you're

nowhere near as good in your interpretive skills as those people who've been generating the deepest understanding of religion for the past hundred years or so. So you just wind up reinventing the wheel badly. And it's sad to see. What we stand for in *Religion, Brain and Behaviour* is trying to force people submitting journal articles to be excellent on both sides – or at least tolerably adequately aware of both sides of the Humanities and the Sciences.

TW: *Terrific. So some very strong arguments here for greater collaboration between the two disciplines or the two areas of the academy. What would you say are the main challenges that are holding back collaboration between the Sciences and the Humanities in the study of religion, whether these be institutional or ideological?*

WW: Yes, it's not easy putting them together. I think the most important fact here about collaboration is that it is quite natural when it happens. People who actually wok on both sides . . . usually in teams, of course, because it's difficult to be expert in both, right? So, you have Humanities people and Science people working together in teams. But those collaborations typically work brilliantly. So there doesn't seem to be a conceptual issue once you actually get into it. But there are fairly significant impediments to getting started. The first thing is insecurity, I think, on the Humanities side: "I don't know anything abut the Sciences. How can I do anything using the Sciences?" That comes partly, I think, from imagining that the Humanities person is supposed to be in complete individual control of everything that they do. But we've found that that's not the way the best work happens. The best work happens in teams. So, what's required is to learn how to work in teams. So: you represent an Area Studies person – so you do South Asian Buddhism or something – you work with a cognitive psychologist. And the cognitive psychologist has to be open, just like you're open to a collaboration, working together and you really get somewhere that way. So I would call that a practical problem, not an ideological problem. And it might be the largest impediment. (**10:00**) But there are ideological problems as well. There are people on the Humanities side – especially with the so-called "crisis of the Humanities" – that are deeply concerned about the way research universities are focussing all of their efforts, money and attention on the STEM subjects. And, of course, the Humanities get held in stasis or they shrink slowly over time, while that happens. And you can feel as though the prestige that you had in the university context has been turned over, against your will, to the happy scientists who hold the hegemony these days: the prestige in the university context. Therefore, you certainly don't want to invite them into traditional Humanities territory as in the Humanities' study of religion. That is an ideological argument. I think there's a real concern, but the way to solve the problem isn't to keep the

Sciences out, because that interferes with the quality of the research. It's to show that the Humanities are necessary for the Sciences to do excellent work. And that was the point I made in the previous question. That's the way to defend the Humanities in the university. You can't do excellent work in any field, including in the Sciences, unless the Humanities are active in helping people refine their interpretations, maintain their sensitivity to context – both cultural context and historical context. I do think there are ways of steering around that ideological worry about science taking over everything, by going on the attack and arguing that the Humanities are essential for excellent science. On the Science side there's also an ideological thing that's something more like neglect or arrogance: "We don't even understand what those Humanities people are doing. We're the ones who bring in all the money and do all the work, so we don't need to pay any attention to them." That's just intellectual laziness. But the way to solve that is to confront scientists with their mistakes, with the superficiality of their analyses. And Humanities people are in a very good position to do that: to demonstrate their importance in the scientific endeavour. Once those two forms of ideological resistance are mitigated then there are fewer impediments to actually getting started on forming teams and doing research. And after that, it happens naturally.

TW: *Terrific. And of course – thinking about the cultural nuances that need to be raised and brought to the attention of more scientifically practised academics – for me, this kind-of brings us toward the territory of religion as a cross-cultural category. A category that presumes to precisely and usefully identify beliefs, experiences and behaviours in various cultures, across the planet, with validity. And offer them as "of a kind". And, of course, this has been critiqued by Fitzgerald, the Critical Religion Group formed at Sterling University and many others in the Asadian school. How does your approach seek to address, or respond to, both the concerns of analytic accuracy and ethicality underlying this critique – that the category of religion elides crucial cultural difference and reinforces colonial power structures?*

WW: Well first, every category that human beings build is "built". That sounds like it might be redundant, but it's a very important point. Everything we do in the academic world, everything we do when we categorise anything, is built. Even species designations are built. The concept of a natural kind is a built concept or a socially constructed concept that actually is very difficult to realise in the crisp and clear way that it promises to be applied to the real world. So, we're in a world where we build categories, we construct ideas and we apply them to things. Every single time we do that we're going to be generalising. When we generalise, every sing time, there are going to be stress points

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where the generalisation does not fit the data. We need to be on the alert constantly, when we build categories, for the side effects of building them.We're cognitively lazy creatures on the whole, so we tend to get deeply attached to the categories that we build, rather than to the phenomena that they're intended to describe. That's where we really start to have problems, because we've been attached to an abstraction that distorts the thing we're trying to talk about. So, there has to be a constant conversation going on between the construction of a category on the one hand and the connection to details, contexts, periods, and so forth on the other hand. When that conversation's going on you actually check the dangers of generalisation and, in a certain way, unleash generalisation and make it useful for the academic study of whatever it is that you're looking at. (**15:00**) So that's a general principal that I present in my theory of inquiry, which has to do with the legitimacy of generalisation and its dangers, and how to manage the dangers in order to make generalisation useful. So it's against the background of that framework that I would say religion is a classic example of a category that's socially constructed – sometimes to serve political purposes. But the generalisations that lead to distortions in the use of the word "religion" can also be checked, they can be criticised, they can be managed in a certain way. So that you can continue to make the generalisation, if there's a reason to do so, and use the category of religion without ever falling prey to the delusional thinking associated with thinking that you didn't build the category in the first place. Now the particular school you mentioned, I think, over-simplify the history of the concept of religion. Plato talked about religion and he was thinking comparatively when he did. Whenever there's more than one who are doing something similar that we would be prepared to call religion now, there was stress to try to understand comparatively what was going on. You see this in Chinese debates between Confucians and Buddhists and Daoists in ancient China. And you see something similar in South Asian contexts. So people . . . whenever you've got any type of pluralistic setting with things that we might be prepared to call religion, you actually see the emergence of categorisations that allow people to say, "Well these things are 'of a kind'." It's not just a colonialist invention. The latest version of it in the West has been a colonial invention – there's no question about that. But that's not the only way the word comes up, or the idea comes up in the history of human thought. Again, what's happening there is people need to draw generalisations to understand complex things. And those generalisations will always distort, therefore they always need to be managed. The same principle applies today. We can keep using the word religion if we want, but we have to take responsibility for doing so. That's where the ethical side of it comes in. It's the taking responsibility for the generalisations that we use in academia and in the general discourse abut things in the world. Taking responsibility means checking what the distorting side effects might be of our use

of language. And consequently making adjustments where necessary, and sometimes abandoning words altogether.

TW: *Thank you. That's a formidable response. Now, let's move on to your research that's ongoing at the moment. As I mentioned earlier,you're the principal investigator for the Modelling Religion Project which sits within the broader Simulating Religion Project, being run by the Centre for Mind and Culture. So, starting from the top, what does simulating religion entail? What does it offer? And what are it's limits, if any?*

WW: Well, it's plainly limited! That's a very good place to start, in fact. If you're thinking about using computers to create models and run simulations in relation to religion, there's a whole bunch of limits that need to be confessed, right up front. And the beautiful simplicity of a feeling of peace that someone has in a religious ritual – we can't express that in a computer simulation, we just can't. So there's no point in trying to do that. So we're already sharply aware of so much that we can't do, when we try and use computer models to simulate religious social processes and psychological processes. If that was the only thing that mattered you'd never bother with computer engineering at all. You just wouldn't go there. But it's not the only thing that matters. There are a whole bunch of things for which computer modelling and simulation turn out to be extremely useful. So, you judge whether you use those techniques based on whether you can get anywhere with them. That's practical. It's a practical reason to use them. So we're not trying to pursue any agenda here. We don't have an ideological computers-will-take-over-the-world perspective – nothing like that! All we try to do is to use methods that are useful. Now, why would they be useful and in what contexts would they be useful? To begin with, it's quite common to find academics fighting over things. They have got competing theories. And so often, the theories aren't capable of being tested or even directly compared with one another. So you wind up having internal fights. Like, historians trying to decide about the spread of violence in the Radical Reformation. Did it come through congregational lineages? Or was it spread horizontally by firebrand travelling preachers, you know? Well, that fight's been going on for hundreds of years. (**20:00**) Can you resolve a fight like that? Could you use computer analysis or other techniques to be able to resolve a fight like that? We found that you can. That you can build models of both horizontal transmission and vertical transmission of violence among Anabaptists and you can produce support for one of those hypotheses that's stronger than support for the other. Now that doesn't prove anything, but it shifts the burden of proof. And what we found, when we actually did this study, was that vertical transmission is stronger than horizontal transmission. So, if you've got an historian who wants to

argue for horizontal transmission they have a larger burden now, because of the work that we did: a larger burden to show that they're right, despite the fact that this group showed that vertical transmission is stronger. So that's an example of bringing in a method when it's useful, to help with an intractable enquiry. Other kinds of intractable enquiries are important as well. If you're trying to think about the way people deal with religion in modernity: the way it arises; the way they have experiences; the way they have beliefs; the way secularisation impacts them; the way a thousand other factors – economics, healthcare – affects the way people operate religiously. If you want to understand that, there are an awful lot of theories out there that have been offered that do that. And some of them are conflicting with one another. For example, you got the Stark-style supply side economic-style theories of religion versus the demand side theories that are pursued by lots of other people. That conflict is a fight to death conflict. Is one of them going to be right and one of them going to be wrong? One of the brilliant things about computer modelling is that you can build models that incorporate both of these viewpoints together. Of course, not in the same respect, because there's a genuine conflict between the two of them. But if you've got a supply and demand-type set up in your computer model it's obvious that there could be demand factors and it's obvious that there could be supply factors. There's no problem putting them together. But you need a complex structure to express conceptually precisely what you mean by combining those two theories, so that you can see how they are actually – or could be actually – consistent with one another. After that, what you've got is a model that you could run against data. If you can produce better predictions of data using your combined model, then you've succeeded in transcending this fight to the death between supply side and demand side theories abut religion in modernity. So it's when it's useful that we go there. And when it's not useful we don't try.

TW*: Great. It sounds like that there's a lot of rich and important work to be done in that field. Where do you see the modelling approach in the study of religion transforming in the future? What do you think its ambitions ought to be?*

WW: Well, for one thing, they should be modest. Because it's a hard road. The collaboration involved in making this work is quite extreme, in a certain sense, because you need specialists associated with any particular model that you build: you need generalists who know about Religious Studies in general from a Humanities perspective, for example; you need computer engineers who are actually going to build models. So it's hard to organise groups of people like that and it takes a lot of energy and actually, frankly, a lot of money to be able to pull it off. So the first thing is to be cautious about claiming that too much will change in the future. But there's something about computer modelling

that's generative. It's been called "the key to generative social science" because it generates new ways of thinking. It generates new hypotheses for testing and so forth. It produces results that are surprising, sometimes, that you weren't ready for. Very often, coding low-level behaviours and interactions between simulated agents – like people – or sometimes groups of agents, but whatever. You're coding at the lower level, how they relate to each other, how they think in their own minds, how they process information, how they communicate. And you validate that against experimental work in Psychology of Religion and Sociology of Religion and so forth. Then, when you run a simulation, these interactions combine in a complex system to produce emergent properties. Those emergent properties aren't coded in at the bottom. They come out of the system. (**25:00**) And it's the emergent properties, of course, that you really care about. Because the other things you've got high level data on – population data. So you can test the model to see whether the architecture you built at the low level is any good, by looking at what emergent features it produces.

TW: *Can you give an example of something that you've worked on that represents that?*

WW: Sure. Think about mutually escalating religious violence. Two groups that have religious impulses and they're trying to . . . they use those impulses to motivate and to rationalise the violent behaviours that they engage in. Sometimes this produces mutual escalation: one groups hits, the other group hits back harder, and so forth, until you get to a certain threshold and then everyone takes a breather and calms down again, for a while. Well, we've been able to produce mutually escalating religious violence in a computer model. But not by programming it in. Rather, by defining relationships among people as they interact with one another – as in, insiders in their own group and outsider in a threatening, outside group. These programmed-in behaviours at the low level don't predict anything at the high level. And yet, what we do get is mutually escalating violence with cool-down periods. That emergent feature of mutually escalating violence with cool-down periods can be compared to actual historical episodes. And we've used the Irish Troubles and the Gujarat riots and various other things to try and make sense of what's going on there. So that's one of the pieces that's in publication at the moment. What's really going on there is that you've got a complex system in the real world that connects minds – lots of minds – and culture, say, emergent features such as violence. Those connections are very complex, too complex to understand analytically, so you use another complex system to model it. That is, you build a complex system in a computer to get a handle on the complex system in the real world. And that's what produces generative social science: new hypotheses that you couldn't get a hold of any other way. You can solve problems and tackle research problems

using computers even in Religious Studies, that you can do in no other way.

TW: *Great. Thank you very much, Professor Wildman. I'll just finish with one final question. For younger scholars and students inspired by the application of computer technology – those digital natives that are coming up through their careers and the greater use of scientific approaches in the study of religion – what advice would you give to them, in terms of the skills and knowledge that they should really seek to be developing in preparation for a career in this field?*

WW: When we look for collaborators, it's easy for us to find people in computer engineering who have some interest in religion. They don't know anything about the study of religion but they're fascinated by religion even if they're not personally religious. So, finding people who are excited to take on this kind of research turns out to be very easy. The danger there is that if someone is like that, and they run off and try to do that research by themselves, they'll be operating in the dark. They won't be aware of what Religious Studies really means from a Humanities point of view. So they really need to find collaborators. And on the other side, when people . . . maybe they learned programming in high school and they're coming through doing a PhD or a Master's, or something, in Religious Studies, and they're thinking "Oh, wouldn't it be great to do modelling and simulation!" . . . . It's actually extremely technical, and just because they know a programming language, it might not be quite enough. They also need to make teams. In general, my advice is find teams: don't suppose that you can be expert at everything but, rather, collaborate with people who can provide form of expertise that you don't already possess. And you can contribute your own forms of expertise and learn a lot in the process. Now there are other things you can do, like look for high-level graduate training where you get trained on both sides. That does exist – it's not very common but there are a few places that do that. But I think, fundamentally, anyone can get started on this so long as they're thoughtful about finding team mates to work with. These days the scientific study of religion is a team sport.

TW: *Inspiring stuff! Well thank you very much, Professor Wildman, for joining me this morning, and I really enjoyed your lecture yesterday evening, and thank you very much for your time.*

WW: My pleasure.

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