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From science-and-religion to science-engaged theology

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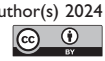

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Abstract
Science-engaged theology has become all the rage lately. But what is 'science-engaged theology' and how does it relate to the pre-existing field of science-and-religion? This article argues that the field of science-and-religion and science-engaged theology seek to answer quite different questions. Science-and-religion asks about the relationship between separate disciplines or beliefs. Science-engaged theology asks how scientific research can be a source for Christian thought and practice. In so doing, science-engaged theology destabilizes the concepts 'science', 'religion' and 'theology' upon which both these approaches depend.

Keywords
methodology, religion, science, sources, theology, typologies

Introduction

Science-engaged theology has become all the rage lately.[1] But what is 'science-engaged theology' and how does it relate to the pre-existing field of science-and-religion? This article suggests that, at their cores, the field of science-and-religion and science-engaged theology seek to answer quite different questions.

Science-and-religion asks, 'What is the relationship between science and religion?' Sometimes, science-and-religion scholars are more specific and ask, for

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example, 'How does quantum mechanics relate to divine action?' or 'Can a Christian believe in Darwinian evolution?' But the approach of the science-and-religion field has almost always been to take two seemingly separate areas of enquiry, which already contain established and identifiable claims, and ask about the relationship between them. As a result, the field of science-and-religion is characterized by an enthusiasm for typologies, which offer a range of ways in which science and theology might relate to one another.

Science-engaged theology asks, 'How can this specific method, practice, theory or dataset help a specific area of theological reflection or practice?' While science-and-religion can and does sometimes ask specific questions, science-engaged theology must, by definition, always be specific. But specificity is not the only difference. Science-engaged theology sees other disciplines – their practices, discoveries and methods of discovery – as sources for theological reflection. In that sense, rather than seeing 'science' and 'theology' as separate sets of propositions that can be brought into a conflictual or harmonious relationship, science-engaged theology sees all knowledge-seeking practices as in some sense already (proto-)theological.

To say that science-engaged theology asks different kinds of questions to science-and-religion is not to be neutral: science-engaged theology claims to ask *better* questions. Will science-engaged theology then replace science-and-religion? No – or at least, not exactly. Some have argued that, since science-and-religion is already a diverse interdisciplinary area of research, it should be able to expand to include science-engaged theology.[2] Maybe this is correct, but this article concludes that it may not be so simple. The development of science-engaged theology may spell the end of science-and-religion.

Typologies of science-and-religion

The field of science-and-religion is often said to have begun with Ian Barbour's 1966 book, *Issues in Science and Religion*.[3] Barbour was hardly the first person to wonder about the relationship between faith and the study of the natural world, but his book serves as a useful point of origin for science-and-religion because its big-picture typology has served as a blueprint for the field ever since.[4]

Ian Barbour's simple, fourfold typology – conflict, independence, dialogue and integration – has been an undeniably useful resource, both for challenging the monolithic myth that science and religion are (always, or almost always) in conflict and for teaching wide audiences. Perhaps, therefore, it should be unsurprising that just about anyone who is anyone in science-and-religion has tried their hand at the typology game.

In the 1980s, Arthur Peacocke published an eightfold typology, which Robert Russell reformatted into a 'four-dimensional model which allows for a continuum between opposite positions'.[5] Nancey Murphy appropriated H. Richard Niebuhr's classic culture and theology typology for science and theology, hoping that theology could transform science.[6] In 1995, John Haught developed a fourfold (and alliterative!) typology – conflict, contrast, contact and confirmation – which closely

paralleled Barbour.[7] By this point, just four categories seemed insufficient. Willem Drees expanded the genre to a ninefold typology in 1996 that sought to show new ideas interacting with different areas where science and religion overlap.[8] In 1998, Philip Clayton constructed a sevenfold typology around power relations and Ted Peters' eightfold typology sought to incorporate denominational differences.[9]

This endless tweaking of typologies continued into the new millennium.[10] However, by the turn of the century, constructing a new typology was becoming an increasingly complicated task. In 2004, Mikael Stenmark published a whole monograph dedicated to typologies in science-and-religion that sought to clarify how different 'types' work on different logical levels.[11] In short, Stenmark wrote a (very helpful) typology of typologies! Alvin Plantinga's 2011 *Where the Conflict Really Lies* is another book-length typology of 'alleged conflict', 'superficial conflict', 'concord' and 'deep conflict', one that sought to make the argument that naturalism, and not natural science, is incompatible with Christian theology.[12] More clearly than most, Plantinga's important contribution to the typology game highlights that, despite appearances, typologies are not a neutral buffet of options – in choosing what options to include or exclude, and the order in which to present the options to readers, typologies make normative arguments.

It is clear that the quest for the perfect typology has been something of an obsession for the field of science-and-religion. This is not, in and of itself, a bad thing. If your goal is to answer questions about how two well-defined things should relate to one another, then a clear list of the options is extremely helpful. But there is an unfortunate consequence of the field's reliance on this genre. Although one is offered a veritable smörgåsbord of options for how science and religion might relate to one another, typologies leave the relata, 'science' and 'religion', uninterrogated. Once we realize that it is not only the idea of 'conflict' or 'independence' that is an imagined category, but 'science' and 'religion' themselves are artificial and contingent groups of diverse practices, communities and beliefs that differ substantially across different societies, then the whole typology game becomes hopelessly unstable. Put another way, typologies help us see that 'conflict' is not the only option; but they do not help us see that 'science' and 'religion' are not the only options too. It is possible to think about human spirituality and enquiries into nature in altogether different ways.

Sources of science-engaged theology

If the field of science-and-religion started in 1966, then science-engaged theology can be described as both far newer and far older. The label 'science-engaged theology' originated as a strategic priority of the John Templeton Foundation (JTF), a philanthropic organization, round 2017. The JTF defined the goal of this funding initiative as 'to advance efforts by theologians to substantively engage with the sciences in their research and inquiry about the divine and other spiritual realities'.[13] Over the last seven years, many JTF-funded projects claimed to be doing science-engaged theology, often by training (early-career) theologians, seminarians, priests

and congregations to be literate in contemporary scientific research and be wise in employing scientific theories and methods within their theological research, sermons and spiritual practices. By 2024, I estimate that hundreds of scholars and priests have been involved in these grants and, as a result, have reshaped their work and practice to more explicitly and consciously engage with scientific literature and methods and/or collaborate with working scientists.

Although the label is somewhat new, the concept and the approach of science-engaged theology is far older. I might even say that science-engaged theology is the original or traditional approach whereby, before academia was demarcated into different disciplines and institutional faculties, Christians sought to make sense of and draw near to God, God's creation, and the hope found in Jesus Christ by whatever methods proved illuminating. Put another way, science-engaged theology is about using the natural and psychological sciences (but not only these) as a source for theological reflection and practice.

If you have studied theology, then the claim that the sciences are a 'source' for theology might call to mind the Wesleyan Quadrilateral. The eighteenth-century English Methodist theologian, John Wesley, taught that doctrine should be revealed in 'Scripture, illuminated by tradition, brought to life in experience, and confirmed by reason'.[14] One should note that, not only are there four sources of theology, but, for Wesley, the sources have a particular order and particular roles in how they should inform doctrine. By contrast, the Anglican theologian Richard Hooker argued for just three sources: reason, revelation and tradition. John Owen, the Puritan non-conformist, wrote that 'there is no need of Tradition . . . no need of the Authority of any Churches' – experience and Scripture are enough.[15] So, how many sources should we have? Wesley counted four, Hooker counted three, Own counted two, and Zwingli, at points, seems to count only one. Furthermore, does speaking of science as a source for theology make a fifth possible source? Or would science fit into one of the traditional four options?

These are bad questions. Much like the question 'How do science and religion relate?', to ask 'How many sources?' or 'Which one of these sources does science fit into?' creates the illusion that the concepts of 'science' and 'tradition' are like concrete containers that remain stable across history and cultures, the illusion that there always has been and always will be something called 'science', which closely resembles what the people we currently call scientists do today. Why does this matter? Well, identifying the work of the newly christened 'scientists' with one of the sources of theology was what created the myth of conflict in the first place. John Draper's *History of the Conflict between Religion and Science* (1875) and Andrew Dickson White's *A History of the Warfare of Science and Theology in Christendom* (1896) both used the word 'science' as a cypher for particular forms of Christianity that prioritized reason. Draper and White never really argued that the collections of disciplines which we call 'science' and 'religion' or 'theology' were incompatible. Instead, they were advocating for a liberal Protestantism, over and against Roman Catholicism.[16] Co-opting the cultural authority of 'science' to win

internal theological debates about which theological source has the highest authority, and so which denomination or Christian sub-tradition is on the side of 'science', has been altogether unhelpful. It is not something science-engaged theology should repeat.

Instead, we might say that, when it comes to talking about the sources of theology, 'source' is an uncountable noun (like progress, oxygen and love). The fact that, at least in English, 'source' is considered a countable noun distorts the grammar of theology. We should see the diverse group of knowledge-seeking activities currently labelled 'natural sciences' to be implicated within all four sources of theology. Reason is the most obvious place to start – which, of course, is all that is meant by the medieval *scientia*. It was natural philosophy that morphed into what we now call natural science. *Scientia* and philosophy have long been considered the 'handmaids of theology', to use a medieval phrase.[17]

However, the natural sciences as we currently understand them do not solely fit into the category of reason: although they are a discourse based on evidence, logic, debate and intellectual discernment and epistemic virtue, they are also practising, testing, observing, measuring and recording. There is a sense in which the practices of the sciences rationalize, by narrowing, replicating and operationalizing, the theological source of experience. Experience is often thought of as least and last, but not because it is weak or unpersuasive. On the contrary, experience, or rather *enthusiasm*, is too persuasive, too easily deemed sufficient, too difficult to be held in check by other sources. Indeed, Kathryn Tanner points out that the early-modern Puritans used a comparison to the 'empirical philosophies and scientific methods of the day' to show that 'the experience itself is self-validating in an uncontestable way'.[18] Experience, as a source for theology, is often associated with immediate, private and explicitly religious experiences. I think this is a mistake. I think we should accept a much wider notion of experience, one that includes the testimony of creation, the movements of providence, and the political-material structures of human culture, in addition to the interior movements of the Holy Spirit.

Scientific discourse can also be described as a tradition, as a historically bounded and contingent form of reasoning, interpreting and learning. Moreover, the tradition of Western science is deeply reliant on Christian theological commitments, such as the law-like order and intelligibility of the universe created by a rational law-giving God that undergirds induction; the cognitive consequences of sin such that knowledge is fallible and requires testing; and the vocation of humanity to explore, discover and cultivate the natural world. We lose sight of this theological heritage underpinning the natural sciences when scientists claim to be doing something theologically neutral called 'methodological naturalism', which is largely an illusion. The empirical sciences are a tradition for reading the natural world, the 'Book of Nature', in certain ways (and not in other ways). This tradition not only emerged out of Christian theological commitments in the distant past; it also remains implicitly reliant on theological ideas to this day.[19]

This brings me finally to the source of Scripture. When issues such as Darwinian evolution dominate, as they so often have, then scriptural authority seems pitted

against scientific authority. There is, however, a more interesting and important story to be told about the relationship of Christian Scripture to Western explorations into the workings of the natural world. This story focuses on the interplay and constant exchange between the various methods of scriptural interpretation and the methods of empirical investigation. The allegorical method of scriptural interpretation was not only mirrored in but substantially overlapped with the ancient interpretation of the cosmos, as evidenced by medieval bestiaries. Luther's prioritizing of plain-text reading and Huldrych Zwingli's more exclusive insistence on the 'natural sense of Scripture' are part of the intellectual origins of the scientific revolution. Isaac Newton's search for meaning in the numerical systems of biblical texts and his *Principia Mathematica* go hand in hand. This overlap in practices of interpretation between Scripture and cosmos also flows in the other direction (from nature to Scripture), as the rise of historical-critical hermeneutics and Bultmann's 'demythologization' project show. This reciprocal influence between how we read Scripture and how we read nature continues today as new scientific methods are applied to biblical scholarship, as in cognitive linguistics, and vice versa, as postmodern theories of reading impact scientific thought and practice.

Examples of science-engaged theology

By seeing the sciences as among the (uncountable) sources of theology, science-engaged theology cannot ask about 'science' per se. Instead, science-engaged theology attempts to answer theological questions and is open to the possibility that the tools and methods that have been perfected by other disciplines may well be useful in answering such questions to the best of our current ability. What do I mean by a theological question? I don't think there is any a priori way to define what a theological question is that clearly demarcates it from a non-theological question. I think we can loosely define a theological question and whatever question a theologian, even a Christian, asks that helps them know and love God more. The best way to show how science-engaged theology works, therefore, is to provide some examples.

One of the principal ways in which Christians seek to grow in love and knowledge of God is by reading Scripture. But Scripture raises all sorts of perplexing questions. Simeon Zahl has shown how recent work on social cognition and social emotion in psychology helps us understand Paul's doctrine of justification as neither exclusively 'individualistic' nor 'communal', but as experiential, embodied, and social[20] – along the lines of Susan Eastman's work in *Paul and the Person*,[21] which also engages constructively with developmental psychology. What about biblical injunctions such as 'always be joyful' (Phil. 4.4), 'do not be anxious' (Matt. 6.25) or 'do not fear' (Isa. 41.10)? Is it possible to control our emotions as these Scriptures imply? If not, what are believers to do when considering such verses? Matthew Johnson and Rachel Robertson use positive psychology and embodied cognition to argue that, while beyond direct voluntary control, ritual

practices orient participants towards or away from these emotional states.[22] This example already highlights another way in which Christians seek to grow in love and knowledge: namely, via communal worship. What type of actions or music might be best suited to enabling people to encounter the living God? Joshua Cockayne and Gideon Salter use psychological theories about attention to help answer this kind of question.[23] But, of course, worship is not only what Christians do together in church services. How might we grow in love of God and neighbour in other ways? Brittany Tausen and Katherine Douglas use social psychology to explore how the sharing of meals can help counteract the tendency to perceive people in marginalized social groups as less human than oneself.[24] Tobias Tanton explores how churches can overcome innate in-group bias and prejudices.[25]

Christian discipline is not always a smooth upward trajectory. All Christians experience obstacles and hardships along the way for which theology can be either a hinderance or a help. Preston Hill and Dan Sartor explore how Jesus' cry of dereliction can provide empathetic healing to traumatized believers who feel alienated from God.[26] Kate Finley uses empirical methods to discover how religious practices enable believers to make positive meaning out of experiences of mental disorder.[27] There are other examples where Christians, or the Church as an institution, face complex questions and need to make a practical decision. One of the earliest examples of science-engaged theology was the quite practical question 'Can intersex persons be ordained as Catholic priests?'[28] Engagement with contemporary evolutionary biology and human physiology is needed to inform numerous decisions currently being made regarding human sexuality, sex and gender.[29]

The list of examples could go on.[30] What we see from this, however, is that science-engaged theology is not a form of natural theology over and against the special revelation of Scripture because sometimes knowledge of the natural world can help us interpret Scripture. Science-engaged theology will often help the Church with its most practical questions about what to do and how to act in any given situation by providing information and making predictions that can all be a part of spiritual discernment. Evidence-based knowledge cannot decide ethical questions absolutely – but it is beneficial to be as well informed as possible. There is not just one way to engage the range of methods and theories that we call 'the natural sciences'. All that unifies science-engaged theology is the belief that theology does not seek answers purely in its own strength; it asks for help from expertise in other fields.

Conclusion

What, then, can be said for the relationship between science-and-religion and science-engaged theology? As conflicting, independent, in dialogue or integrated – joke (kind of)! These are messy, overlapping fields that often bleed into one another; there is no clear demarcation between them. For simplicity's sake, I have characterized them as asking different kinds of questions. Whereas the field of science-and-religion characteristically asks questions about the relationship

between science and religion, or between scientific beliefs and religious beliefs, science-engaged theology puts so-called scientific concepts, methods and theories to the service of theology. In so doing, science-engaged theology questions the very idea that 'science' and 'religion' are separate entities and rejects the naturalistic assumption that, for a belief to be properly scientific, it must be kept separate from religion.

A charitable way to characterize the relationship between science-and-religion and science-engaged theology, then, is to view science-engaged theology as a particular approach that could sit under the expansive and loosely defined umbrella of science-and-religion. In this sense, science-and-religion encapsulates historians, philosophers and sociologists, as well as scientists and theologians of various kinds – just about anyone who has an interest in how various knowledge-seeking practices concerning the natural world relate to human spirituality. If science-and-religion is understood in this extremely broad sense, then I see no reason why science-engaged theology cannot be merely a new emphasis, something like a new monastic order emerging from within a pre-existing Church.

And yet, this charitable approach fails to appreciate the radical consequences of the loss of any stable sense of 'science' or 'religion'. The more polemical way to characterize the relationship is to view science-engaged theology as an attempt at a reformation, a protest against some deeply entrenched mistakes in the field of science-and-religion as it has been primarily practised since Ian Barbour's *Issues in Science and Religion* in 1966. Chief among these mistakes is the idea that we can easily identify what we mean by 'science', 'religion' and 'theology'. Once this challenge is fully recognized, it becomes difficult to speak of science-and-religion at all, or indeed of science-engaged theology.

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Notes

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