Assimilation, Accommodation and Appropriation: Three attitudes to truth in science and religion

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This article addresses the relationship between experience and belief, focusing on the role of science in the debate between secular Humanism and Christianity. It suggests that the possibility of appropriating experience to belief – taking action to bring experience into line with belief – distinguishes spiritual belief from systematic belief (in which the object is independent of beliefs about it); but that the boundary between these two forms of belief is itself a matter of (metaphysical) belief. Understanding science and religion, Humanism and Christianity in relationship to systematic and spiritual belief-structures helps to bring clarity to the debate.

SCIENCE • RELIGION • HUMANISM • EXPERIENCE • BELIEF

Introduction

What should we do when our experience contradicts our beliefs? For John Wesley it was attentiveness to his experience that led him to change beliefs he had inherited about cherished Christian practices – for example, beliefs about instantaneous justification, field preaching and lay preachers.[1] For this reason, experience has become for Methodists a fundamental source of theology alongside Scripture, reason and tradition.[2] Yet Wesley's experiences of working for the spiritual and material benefit of the poor did not change his political beliefs concerning the status of the working classes.[3] Neither did the accumulated evidence of conflict with the Established Church alter his belief that his Societies should remain within its fold.[4]

Like Wesley we are constantly faced with questions about when we should adapt our beliefs to our experiences, when we are justified in ignoring experiences that contradict our beliefs, and when we feel called to change the world as we experience it in order to shape it to our beliefs. These issues are central to human existence, and central to an understanding of faith. Yet they have become obscured by acrimonious debate between Christians and secular Humanists, which often focuses on the role played by the discipline of science. In this article I will look behind the debate about science and religion, and focus on the relationship between our understanding of the world as we experience it, the world as we interpret it to be and the world as we dream that it could be.

Science and Religion

In the ongoing debate between Christianity and secular Humanism, the role played by science remains central.[5] For many commentators the willingness of scientists to change what they believe in response to evidence is what distinguishes science from religion as a form of knowledge. The philosopher Stephen Law, for example, highlights the way in which scientists seek confirmation for the theory of evolution by making predictions that might be proved wrong.[6] He contrasts this willingness to accommodate belief to the evidence of experience with the way in which Young Earth Creationists seek evidence to fit their beliefs about the creation of the world. Law argues that by avoiding contradictory evidence, religion protects its beliefs from rational scrutiny.[7] Jacqueline Watson makes a similar distinction between scientific and religious beliefs, but suggests that the two disciplines have different roles. She considers the legitimacy of religious truths to reside in our unwillingness to

accommodate them to experience. It is this certainty that distinguishes them from scientific truths 'precisely because it [science] does not (or should not) admit such certainty'.[8]

Elaine Ecklund and Elizabeth Long interviewed 275 American natural and social scientists, and found that many distinguished between religion and science as ways of knowing on the basis of how evidence related to belief. They also found a distinction between attitudes towards religion and towards spirituality. Among the 26% of the scientists who professed some form of spirituality, there was a congruence between their understanding of spirituality and that of science. Like science, spirituality was regarded as a search for truth 'that can never be final', suggesting that spiritual beliefs are subject to change in the light of experience in the same way that scientific beliefs are.[9] Indeed, Martin Walton, wrestling with the vexed question of how to define spirituality, characterises it as 'a receptivity in which the experience of otherness and a transformation of the self play a significant role'.[10] This reflects a long history of Christian spirituality in which openness to experiencing the otherness of God, through prayer and through the reading of the Bible, challenges and changes established belief.[11]

It is apparent that both science and religion encounter situations where belief is contradicted by experience. That both science and religion are capable of responding, at least in some circumstances, by changing the belief suggests that a willingness to accommodate belief to experience is not the criterion that distinguishes these two disciplines.[12] In an attempt to clarify this distinction, and thus to refine this aspect of the debate between Christianity and secular Humanism, I will first consider the role of accommodation within the natural and the human sciences in more detail. I will go on to examine two further attitudes towards the truth of belief – assimilation and appropriation – and suggest that it is the possibility of appropriating experience to belief that distinguishes the human sciences (including religion) from the natural sciences. This analysis leads to a distinction between systematic belief (the object of which is independent of the belief) and spiritual belief (where the object itself is partially constructed by the belief). I will conclude that both Christianity and Humanism are examples of spiritual belief, and that the debate between them can be clarified by focusing on structures of thought rather than on the disciplines and institutions of science and religion.

Three possible objections to this enterprise are worth considering at the outset. First, some would argue that religion and science should not be compared as

forms of knowledge,[13] and others would contest that any comparison should certainly not be reduced to a question of belief.[14] Second, it might be objected that to talk of 'science' and (especially) 'religion' is to overgeneralise what is essentially a localised debate between some scientists and some Christians.[15] Both of these objections offer a valid challenge to the terms of debate between Humanism and Christianity, and my conclusion will go some way towards addressing them. Nevertheless, having located this discussion within the Humanist–Christian debate, I will continue to use (albeit on sufferance) the terms in which that debate has been expressed by prominent Humanist and Christian writers.

A third initial objection might be that to talk of science in terms of belief is unduly pejorative, and skews the argument in favour of religion from the outset. Science is about knowledge, the argument might go; religion is about belief. However, the question at hand is precisely what it is about science that underwrites its ability to produce knowledge. If a belief is regarded simply as a mental attitude which 'takes a stance' that a proposition correctly represents 'how things stand in the world',[16] then the same challenge can be put to both science and religion: what do you do when the stance you have taken comes into conflict with the evidence of experience? This is the challenge that I shall attempt to address.

Accommodating Beliefs to Experience

Karl Popper argued that if a belief was to be considered to be a statement about empirical reality, it must be capable of being shown to be false by experiential evidence.[17] In this view, if a belief is not rejected in the face of contradictory experience, the belief ceases to be empirically based. Moreover, Popper claimed the possibility of falsifying a belief as a demarcation criterion for science.[18] Whereas scientific observations could refute a belief if they provided contrary evidence, if such evidence did not result in a change of belief it amounted to no more than an 'interpretation' of the observations in light of the belief.[19] Popper regarded some disciplines to be inherently unscientific because of the nature of their object. In particular, the historical sciences were of necessity interpretative because 'history is characterized by interest in actual, singular, or specific events, rather than in laws or generalization'.[20]

Hans Georg Gadamer recognised that the human sciences lie outside the methodology of natural science and that their task is one of interpretation.

Nevertheless, his approach to interpretation[21] incorporated Popper's logic of falsification (albeit not by that name. I will use Piaget's term, *accommodation* to avoid confusion).[22] Gadamer recognised that unless the singular 'texts' of art and history could speak independently of our beliefs about them, the interpretation of human artefacts would do no more than reflect back our presuppositions.[23] He introduced accommodation to the study of singular historical or artistic artefacts by means of the 'logic of the question'.

> Thus a person who wants to understand must question what lies behind what is said. He must understand it as an answer to a question. If we go back behind what is said, then we inevitably ask questions beyond what is said. We understand the sense of the text only by acquiring the horizon of the question—a horizon that, as such, necessarily includes other possible answers.[24]

In empirical science, according to Popper, the possibility of accommodation (falsification) arises from the possibility that experience will reveal the world to be different from how it is believed to be. In the human sciences, according to Gadamer, the possibility of accommodation arises from understanding how a unique artefact might have been other than it is. Only by re-imagining other possible answers to a question – answers that the artefact excludes – does it become possible for the inquirer to see past the horizon of their own presuppositions. 'To encounter another person's horizon through dialogue is to allow our own horizon to be potentially changed.'[25] For the human sciences, according to Gadamer, accommodation is thus made possible by the attitude of the inquirer towards the text.

Philosophers subsequent to Popper have come to the conclusion that for science, too, accommodation has more to do with the attitude of the scientist than the nature of the discipline. This is because even hypotheses that are expressed in such a way that they can be falsified still rely upon auxiliary hypotheses to test them. For example, the hypothesis 'all swans are white' is falsifiable, but relies upon the auxiliary hypothesis 'this bird is a swan' in order to test it. The apparent discovery of a black swan might signal an error in either of the two hypotheses, making it impossible to know whether it is the belief about swans or the belief about the particular bird that is wrong.[26] This leads Alex Rosenberg to conclude:

> Popper's claim about falsifiability may be best treated as a description of the attitudes of scientists towards their hypotheses,

and/or a prescriptive claim about what the attitudes of good scientists should be, instead of a claim about statements or propositions independent of attitudes towards testing.[27]

It would seem that in both the natural and the human sciences, the possibility of showing a belief to be inconsistent with experience relies upon the attitude of the person holding the belief rather than any characteristic of the belief itself. A belief that is held with an attitude that is open to accommodation can be described as *experiential* because it holds open the possibility of changing the belief in response to the evidence of experience. Its claim to truth rests in the possibility of representing how things stand in the world independently of the presuppositions of the observer. Thus, spiritual beliefs that are open to otherness, historical beliefs that respond to Gadamer's logic of the question and scientific beliefs that admit the possibility of refutation, can all be described as experiential and all claim to be true representations of their object.

Assimilating Experiences to Belief

What if an inquirer's attitude leads them to retain a belief despite apparently contradictory evidence and thus protect the belief from the possibility of change? Popper would describe this as an *interpretation* of experience, but given Gadamer's use of this word, I will again borrow from Piaget and refer to the *assimilation* of an experience to the belief.[28] Is there a legitimate role for beliefs that lead us to assimilate our experience rather than to challenge our beliefs? Or do these beliefs simply sidestep critique in the manner described by Stephen Law as forming an 'intellectual black hole'?[29] To answer this question, I will first consider whether there is a legitimate role for assimilation within the natural sciences, and then consider it in relation to the human sciences.

That assimilation does have a role to play in the natural sciences is most simply illustrated by the way scientists use a 'line of best fit'. Data plotted on a graph is construed to lie on a straight line or a curve with a standard mathematical formula, allowing the data to be described and manipulated even though they represent no more than an approximation to an assumed theoretical model. Thomas Kuhn argued that such approximations and anomalies are part of what he describes as 'normal science'. Unlike Popper, he maintained that, historically, most scientific activity has not sought to falsify hypotheses, but rather to

extend the range of facts that could be interpreted by means of a prevailing paradigm.[30] Among these facts 'there are always some discrepancies. Even the most stubborn ones usually respond at last to normal practice'.[31] These contradictory experiences are *assimilated* to the beliefs of normal practice. In Stephen Law's terms, science protects these beliefs from rational scrutiny.

The benefit to scientists of assimilating unexpected data as anomalies within a stable body of belief, rather than as refutations of a belief is, precisely, stability. It means that scientists know what they are looking for and what equipment they need in order to find appropriate data. It enables them to distinguish relevant data from other readings due to observational error, equipment malfunction or imperfect experimental design. It provides continuity in a programme of work that supports investment in institutions and equipment.[32] The assimilation of data to accepted beliefs does not insulate scientific beliefs entirely from change. Kuhn identifies periodic shifts of paradigm in which an attitude of assimilation is replaced by one of accommodation. This involves a shift to a new paradigm, which is often adopted by one section of the scientific community to start with.[33] However, these moments of accommodation are made possible by the intervening periods of stability in which observations acquire meaning in relation to the prevailing body of belief.

For Gadamer, too, an attitude of accommodation presupposes one of assimilation. The fusion of horizons with a text (artistic or historical) which might disclose alternative answers to a question is the result of a conversation with the text in which the interpreter remains open to revising their presuppositions. However, the starting point for such a conversation could only be the concepts and assumptions brought to the text by the interpreter from their particular situation in the world. For Gadamer, we are always participants, and not observers in the world.[34] Therefore interpretation can only start from, and is meaningless without, the assimilation of a text by the interpreter. 'To interpret means precisely to bring one's own preconceptions into play so that a text's meaning can really be made to speak for us.'[35] To be sure, understanding that does not proceed beyond the initial assimilation of a text to the interpreter's beliefs will remain constrained by those beliefs; but without the initial process of construal, no meaning will arise from the encounter between a person and a text.

Assimilation involves the recognition of the familiar, in which the evidence of experience is construed to signify something that is already believed to be true.[36] Such a belief can be described as *symbolic* in the same way that a

metaphor is symbolic. Aspects of one thing are taken to stand for aspects of another, so that the object 'becomes semantically charged with secondary meanings'.[37] However, metaphors are 'typically literally false'.[38] They derive symbolic truth, not from the accuracy with which they represent experience, but from the truthfulness or integrity with which they are applied and from their consistency with other metaphors. Moreover, metaphorical meaning is ambiguous, both internally because it does not specify precisely how we relate our belief to our experience, and externally in that it is not always apparent what is a metaphor and what is not.[39]

In summary, like accommodation, assimilation plays a role in both the natural and human sciences that is not only legitimate, but essential. The process of assimilation makes our experience meaningful *for us* by relating it to the familiarity of prior beliefs, but also enriches our understanding by creating metaphorical meaning. Assimilation thus gives rise to *symbolic* truth, established by consistency within a network of beliefs. Without adopting this attitude in relation to some elements of our experience for some of the time there would be no foundation from which to support an attitude of accommodation towards other aspects of experience.

The Attitude of Appropriation

That both the natural and human sciences rely on an attitude of assimilation as well as accommodation has led some theorists to regard natural science as 'a wholly social product, a mere set of *conventions* generated by social practice'.[40] This, in turn, has prompted natural scientists to reassert the objectivity of scientific belief. For example, Keith Ashman writes:

> I see no way of escaping the rather fundamental observation that the Earth travels around the Sun. I am also convinced that if every sentient being on Earth believed that the Earth was stationary and at the center of the universe this would not make it so.[41]

Ashman is arguing that the earth orbits the sun independently of our beliefs. No amount of believing will change the facts. However, the situation would be different in the case of an object that was made by humans – an artefact. Consider music, for example. If every sentient being believed that music was tonal, that is, based on the relationship between the first and fifth notes of a diatonic scale – as they did in Western Europe from approximately the

eighteenth until the early twentieth century – then that is what music would be. However, had Arnold Schoenberg succeeded in persuading every sentient being that music was, instead, based on 'twelve tones which are related only with one another'[42] music would in fact consist precisely of this. Equally, had every sentient being agreed with John Cage that 'the music I prefer, even to my own or anybody else's, is what we are hearing if we are just quiet',[43] then this is what music would have become. This is not a question of what is regarded as good music or bad music, for there are good and bad examples of both tonal and twelve-tone compositions. It is a question of what music actually *is*, hence, the critical responses to Schoenberg's twelve-tone music as 'a kind of engineering'[44] (rather than music) and to Cage's *4'33"* as a hoax or a joke or a thought experiment, but not music.[45] As it happens, neither Schoenberg nor Cage succeeded in redefining music entirely, but they did expand its definition beyond tonal music. Unlike the reality of the earth orbiting the sun, the reality of music has changed as a result of what people believe. We could say that experience has been *appropriated* to the belief.

Isaac Levi describes appropriation as 'choosing true'.[46] He gives the example of an individual deciding whether to go to a Woody Allen movie or a Michael Roehmer movie. In deciding between two possible propositions, and in choosing the latter, the individual makes this proposition true.[47]

The same might be said in relation to an example Richard Norman uses to illustrate how failing to adapt a belief to contrary experience can result in self-deception. Norman contrasts two cases.

    a) S acts as though p were true and thereby comes to believe p, where this is a case of self-deception or unthinking habit, inducing a belief which remains ungrounded.

    b) S acts as though p were true and thereby comes to see what it is that makes p true.[48]

Norman argues that if we are going to base our actions on a belief as if it were true, even though we cannot be sure at the outset that it *is* true, we need to have some reason for thinking that we are in situation b) rather than a). However, the option of appropriation, Levi's 'choosing true', adds a third possibility that Norman does not consider:

    c) S acts as though p were true, and thereby comes to make p true.

This describes, for example, what happened when the slave trade was abolished in Britain in the nineteenth century. When William Wilberforce spoke, in 1789, of men who were 'converted into goods' and 'subject to ravage just as goods are',[49] he was expressing a belief that slaves from Africa were human (rather than mere goods) and should not be treated in this way. His belief was in conflict with his experience; but he did not accommodate his belief to his experience of how African slaves were treated. Neither did he assimilate the experience to his belief, to maintain (as some did) that the slaves were treated humanely 'after the manner of their country'.[50] Rather, he maintained his belief in the humanity of the slaves *despite* his experience to the contrary, and set out to change the experience so that it became consistent with his belief. Wilberforce acted as though his belief in the humanity of the slaves was true, and thereby came to make it true. He *appropriated* his experience to his belief.

The potential for human agency to change history has been manifest as a fault line in the human sciences. How can society be studied scientifically, as if it were nature, when belief cannot change the physical reality of the earth's orbit around the sun but has changed the social reality of slavery? According to Jürgen Habermas, this was the problem with Gadamer's hermeneutics: he 'failed to provide a way to interject critical-rational change into our worldviews and traditions'.[51] Drawing on the critical tradition of Marx and Nietzsche, Habermas argues that our beliefs about how the world *is* are shaped by our expectations of how we want the world *to be*: 'The horizon open to the future, which is determined by expectations in the present, guides our access to the past'.[52] With an orientation to the future, we 'appropriate past experiences',[53] in order to reinterpret and reshape tradition. Habermas thus identifies a normative dimension of truth alongside the objective truth of a speech-act (its correspondence with facts) and its truthfulness (relating to the integrity of meaning for the speaker).[54] A belief can thus be *normatively* true in relation to an attitude of appropriation, just as it can be *experientially* true in relation to an attitude of accommodation or *symbolically* true in relation to an attitude of assimilation.

Appropriation and Non-overlapping *Magesteria*

That the spheres of natural and cultural sciences might be demarcated, not by an attitude of accommodation (as Popper suggested) but by one of appropriation, is comparable with the argument by Stephen Gould that science

and religion are two equal but non-overlapping *magesteria* (NOMA). Gould's view was that science 'tries to document the factual character of the natural world', whereas religion is concerned with 'human purposes, meanings and values'.[55]

The foregoing discussion of belief highlights two problems with NOMA. First, the two *magesteria* distinguished by Gould's criteria are not those of science and religion so much as the natural and the human sciences. Indeed, Gould observes that a concern with an 'ethical "ought", rather than a search for any factual "is"' has been the concern of disciplines 'traditionally grouped under the humanities – much of philosophy, and part of literature and history, for example'.[56] In his concern to distinguish scientific and religious beliefs, Gould reduces the humanities to religion as 'the central discourse of this *magisterium*'.[57] Focusing on the relationship between belief and experience, as we have done above, reverses this relationship: religion belongs to the wider family of the humanities because it shares with them the possibility of shaping its object by appropriating experience to belief.

The second problem is more fundamental, and raises the question of whether it is possible to distinguish neatly between objects that are shaped by human belief and action and those objects which are not. Richard Dawkins criticises NOMA on the basis that it doesn't reflect the reality of religion. He suggests that religion (specifically Christianity) does not restrict itself to values, but also makes factual claims about the world – for example about miracles and about creation.[58] Dawkins is right to observe that such claims break down the distinction between a natural world and a cultural world. If the physical world is God's creation, and if God can intervene in creation in ways that are capable of being influenced by prayer, then the agency of God extends the sphere of culture into that of nature. Belief in God offers – for at least some believers – the possibility that nature does not stand independently outside belief, but can be appropriated to it.
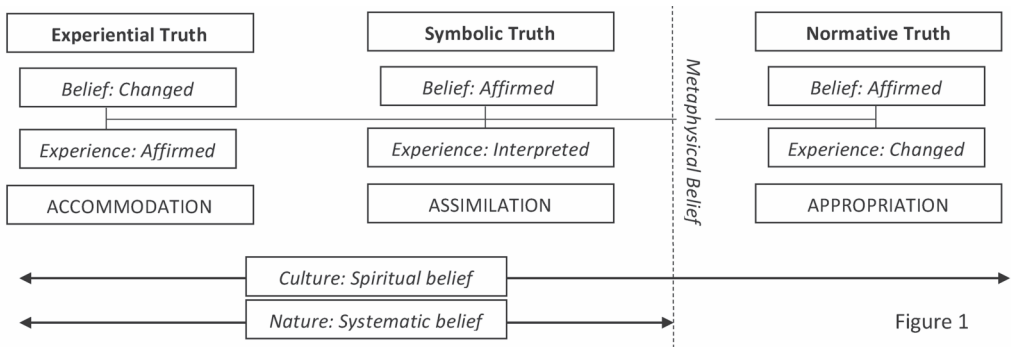
Conversely, Howard Kaye observes that, although the neat separation of *magisteria* might work well for physics and mathematics, scientific disciplines such as evolutionary biology, evolutionary psychology and neurobiology 'blur the boundaries' between fact and value.[59] In these disciplines, processes which humans might fondly believe to be matters of culture and choice are revealed to be grounded in natural systems. Kaye argues that science is not confined to the implacable world of nature, but seeks to reveal to us 'who we are, why we are here, and how we are to live'.[60]

Thus, whereas some religious believers seek to shrink the domain of nature that is independent of belief, some scientists seek to expand this domain. Gould acknowledges that the delineation of legitimate domains can be 'complex and difficult'.[61]

If we are to accept the impact of the first problem, that science is differentiated from the humanities (not religion) by the role played by belief in the formation of their object, then the second problem identifies another significant feature of these two *magisteria*. It suggests that the question of whether an object belongs to the sphere of nature, and is, therefore, separated from belief (like the earth orbiting the sun), or whether it belongs to the sphere of culture, and is, therefore, shaped by belief (like the music of John Cage), is itself a matter of belief. In other words, although there is a clearly-defined criterion as to whether an object is natural or cultural, where the demarcation line runs is a question of belief. If the beliefs we hold about an object are *physical* beliefs, then our beliefs about the extent to which the object is itself formed by our belief can appropriately be described as *metaphysical*.

There may be a high degree of consensus about metaphysical belief in relation to some objects. For example, it is likely that most people believe that they are unable to influence the orbit of the earth around the sun. It is equally likely that most people believe that music is formed through cultural choices rather than natural forces. However, for many other objects – perhaps even the majority of objects that concern most people for most of the time – the distinction between those things we can control and those we can't is far less obvious. At the centre of the debate about climate change, for example, has been the question of whether observable changes in our environment are the result of human action or of long-term, natural climactic processes.[62] If we believe – with the scientific consensus – that climate is an object capable of influence by human action, then we can take action to appropriate it to our beliefs about how it should be.[63] If we believe climate to be a natural phenomenon that is independent of our actions, then we will not think it possible to influence the future of the climate in accordance with what we might believe (and hope) it should be. Our physical beliefs about how to act towards the environment are shaped by our metaphysical beliefs about what constitutes the environment as an object.

Systematic and Spiritual Beliefs

Experiential Truth	Symbolic Truth		Normative Truth
Belief: Changed	*Belief: Affirmed*		*Belief: Affirmed*
Experience: Affirmed	*Experience: Interpreted*		*Experience: Changed*
ACCOMMODATION	ASSIMILATION	*Metaphysical Belief*	APPROPRIATION

Culture: Spiritual belief

Nature: Systematic belief

Figure 1

To summarise (see Figure 1): when the beliefs we form about the world come into conflict with our experience of the world, we have three options. We can adopt an attitude of accommodation and change our beliefs. We can adopt an attitude of assimilation and interpret our experience, bringing meaning to it in the light of our beliefs. Or we can appropriate our experience to our beliefs, acting on the world in order to change our experience so that it is consistent with what we believe. This last attitude is possible only if we hold the metaphysical belief that the particular part of the world we are experiencing can be changed. If we do not believe that this aspect of our experience can be influenced by human action, then we only have two options: to accommodate our beliefs to experience, or to assimilate our experience to our beliefs.

The analysis presented here points to two types of belief. Systematic belief is based on a metaphysics that regards the object of belief to be natural; that is, to be unaffected by beliefs that are held about the object. Natural science fosters systematic belief, but not exclusively so. Positivist approaches to the social sciences and the arts also regard their objects in this way. By contrast, spiritual belief is based on a metaphysics that regards the object of belief to be cultural: susceptible to change because it is an artefact rather than a natural or quasi-natural object. Some religious beliefs are of this type, but so are non-religious beliefs, such as the view of critical theory that society is shaped by ideology.

Metaphysical beliefs about an object distinguish between systematic and spiritual beliefs, but they do not necessarily determine the circumstances in which attitudes of accommodation, assimilation or appropriation are adopted. Within systematic beliefs there is tension between the attitudes of accom-modation and assimilation, that is, between the affirmation of belief or of

experience. These tensions are mediated by the practices of a discipline and the structure of doxastic commitments to which a belief belongs.[64] Thomas Kühn has argued that it takes an accumulation of circumstances to overcome a prevailing attitude of assimilation, so that a body of beliefs is adjusted to accommodate divergent experience.[65]

There is greater tension within spiritual beliefs because, in addition to questions about whether to retain a belief or accommodate it to experience, it may not be at all apparent when an attitude of appropriation should prevail in order to change a given set of circumstances. Again, beliefs do not occur in isolation; and attitudes towards the affirmation or change of experience and belief will depend in part on the stability of a network of beliefs and experiences. Practices have also developed in order to mediate between attitudes. In politics, for example, democratic elections perform this function by allowing the majority to influence which beliefs will become normative for society. In religion, prayer can be understood as a practice that mediates between the appropriation of the future to what is longed-for, and the transformation of the self to accommodate the reality of the present. This practice of mediation is expressed most succinctly in the words, 'thy will be done'.[66]

Conclusion

Distinguishing between systematic and spiritual beliefs rather than between science and religion has several important consequences. I shall conclude by drawing attention to these consequences in light of the debate between Stephen Law and the Young Earth Creationists with which I began.

First, focusing on the structures of belief rather than the respective disciplines and institutions of science and religion helps to clarify the issues by disentangling them from the politics of the debate. Ken Ham, in defending Young Earth Creationism, acknowledges that it is not scientific; indeed, it is anti-scientific. Ham rejects criticisms such as Law's – that his beliefs about creation are insulated from empirical falsification – because he rejects empirical grounds of belief in favour of biblical revelation.[67] This constitutes a metaphysical belief that all of creation is controlled by an omnipotent, supernatural God, with the effect of making all belief spiritual and non-systematic. If God controls everything in creation, then God can appropriate all experience to his will. In turn, humanity can petition God to exercise his will in a particular way, so that, through prayer, the sphere of culture is expanded

to encompass all of nature, subject to the will of God. This is not the occasion to argue the merits or otherwise of this position. What is relevant here is that Ham's position does not constitute a dividing line between religion and science, but rather is symptomatic of the metaphysical distinction between nature and culture, which has been a longstanding feature in both scientific and religious debate. For example, the debate in early Methodism between Calvinists such as George Whitefield and John Wesley's Arminianism was precisely to do with the agency of humanity and where its boundary lies, albeit expressed in the language of salvation.[68] This is a metaphysical debate that is shared by science and religion; not one that divides them.

Second, focusing on structures of belief helps to clarify the role that the discipline of science plays within both Humanist and Christian thinking. Responding to accusations of 'scientism' by religious writers attempting to limit the scope of science, Law cautiously acknowledges the logical gap identified by Hume between what empirically *is* the case, and what *ought* to be the case: 'science alone is incapable of justifying any moral position'.[69] Humanism may draw on science to provide evidence to support a course of action, and so does Christianity – in the theology of climate change, for example.[70] Yet, in doing so, both are engaging with spiritual structures of thought that balance claims to normative truth with claims to experiential and symbolic truth. Humanists and Christians should not be distinguished by their respective allegiance to science or religion, nor even to systematic and spiritual structures of thought. Rather, their differences (and similarities) need to be understood as two different forms of spiritual thinking.

Finally, by grounding the debate between science and religion in the structures of thought that they share and in the practices that inform the formation of attitudes towards belief, it becomes possible to focus more clearly on what is at stake in the contemporary debate between secular Humanism and Christianity. This is not primarily a debate about academic disciplines, but about how life is to be lived. Insofar as it is concerned with belief, this is a debate about the metaphysics of human agency; and it is a debate about when experience or belief should prevail over the other. However, it is also a debate about the practices involved in the formation of the attitudes which regulate belief; and it is a debate about the language in which these beliefs, attitudes and practices are expressed. Living involves (amongst other things) knowing when to interpret the world in the light of our existing beliefs and when to change those beliefs to reflect our experience. It involves knowing when to adapt our beliefs to a situation over which we have no control and when to take action to change

the situation so that it conforms more closely to what we believe is true. We do not form this knowledge in isolation, but alongside others, aligning ourselves with groups of people and established forms of thinking – some of which we call 'Christian' or 'Humanist'.

Yet this discussion has also made clear the extent to which it is inescapably ambiguous to speak of what 'is' a Humanist or a Christian. These creatures are human constructs – objects of spiritual belief – and, therefore, combine experiential, symbolic and normative truths. Any discussion of Humanism and Christianity will, therefore, be animated by negotiation about what these terms mean, about how they are in fact manifest as phenomena, and about what they should become. We can, however, bring some clarity to the debate by disentangling these approaches to living from the institutions of science and religion with which they have been historically enmeshed. And in bringing clarity, we can negotiate more adroitly the pathway from a shared under-standing of the world as it is to a shared vision of the future.

Notes

1. For discussions of Wesley's empiricism, see Heizenrater, p. 81; Tomkins, p. 61; Wellings, p.58.
2. For a discussion of the role of experience in Methodism, see Marsh.
3. See Marquardt.
4. See English.
5. See, for example, Williams and Tallis.
6. Law 2011a, Chapter 2.
7. Law 2011b, p. 1.
8. Watson, J., p. 315.
9. Ecklund and Long.
10. Watson, M., p. 8.
11. For example, see Thompson and Williams, Chapter1.
12. *pace* Law and Watson.
13. For example, Armstrong, p. xv.
14. For example, Smith.
15. See for example, Asad, p. 47.
16. Sayre, p. 35.
17. Popper 2005, p. 21.
18. Popper 2005, p. 17.
19. Popper 1989, p. 38, fn. 3.
20. Popper 1986, p. 143.
21. Gadamer, p. xx.

22.   Piaget, p. 6.
23.   Porter and Robinson, pp. 78–79.
24.   Gadamer, p. 363.
25.   Porter and Robinson, p. 94.
26.   This argument is drawn from Rosenberg, pp. 202–204.
27.   Rosenberg, p. 208.
28.   Piaget, p. 6.
29.   Law 2011a, p. 10.
30.   Kuhn, p. 24.
31.   Kuhn, p. 81.
32.   Kuhn, Chapter VI.
33.   Kuhn, p. 78.
34.   Porter and Robinson, p. 78.
35.   Gadamer, p. 389.
36.   Piaget, p. 187.
37.   Piaget, p. 187.
38.   Grey.
39.   Aaron, p. 1.
40.   Gross and Levitt, p. 11.
41.   Ashman, p. 114.
42.   Schoenberg 1975a, p. 218.
43.   Kostelanetz, p. 12.
44.   Schoenberg 1975b, p. 139.
45.   Gann, p. 11.
46.   Levi, p. 115.
47.   Levi, p. 115.
48.   Norman, p. 108.
49.   Wilberforce, ¶1.
50.   Wilberforce, ¶6.
51.   Porter and Robinson, p. 151.
52.   Habermas, p. 13.
53.   Habermas, p. 13.
54.   See Niemi.
55.   Gould 1999, p. 4.
56.   Gould 1999, p. 56.
57.   Gould 1999, p. 57.
58.   Dawkins, p. 85.
59.   Kaye 2008, p. 153.
60.   Kaye 2017, p. 2.
61.   See Gould 1997.
62.   See Berliner.
63.   See IPCC 2013.
64.   Levi, p. 8.
65.   Kuhn, p. 145.

66. Phillips, p. 122.
67. See Ham.
68. So, 'The main threat of the Calvinist view, as the Wesleyans saw it, was antinomianism,' Heitzenrater, p. 247.
69. Law 2017, p. 123.
70. See Pope Francis, ¶141.

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