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INTEGRATED PHYSICALITY AND THE ABSENCE OF GOD: SPIRITUAL TECHNOLOGIES IN THEOLOGICAL CONTEXT

SARAH LANE RITCHIE

Abstract

Why do some people effortlessly experience God and others do not, no matter how much they may desire to? In the Christian tradition, there are different answers to this question. Some have seen this as a result of the Fall, election, or as Sarah Coakley argues, the result of God's 'dark intimacy'. Could the fact that human experiences turn out to be, at least partly, within our own control help us choose among these theories of the hiddenness of God, or even pose an alternative account? Human experience and belief are embodied and as such are conditioned by intentional practices: for example, in daily prayer, liturgy, ritual, and charismatic activities. Research in cognitive science of religion and neurobiology suggests that the brain is essentially malleable, constantly changing in response to lived experience. This article argues for the possibility of using scientifically-informed tools to work *with* psychological and neurobiological realities to provide a deeper understanding of the cooperative, participatory nature of our embodied human engagement with Divine presence and absence.

1. Introduction

'Ask, and it will be given to you; seek, and you will find; knock, and it will be opened to you.' With these words, Matthew 7:7 offers an explicit suggestion of what so many Christians unquestioningly assume to be true: that for those who so desire and choose, a life of faith and relationship with God is theirs for the taking. And yet, it remains a puzzling and problematic reality that there are those who wish to experience belief in God, but do not—*no matter how much they may so desire*. These are the individuals who would echo the anguished words of John Wesley, prior to his encounter with God at Aldersgate: 'I want that faith which no one can have without knowing that he hath it.'¹ This is not so much a problem of intellectual assent to the plausibility of theological propositions (though many have treated the problem as such), but rather a deeply felt lack of experiential knowledge of God. This experiential deficit poses serious problems for those who view religious belief as a volitional choice, as well as for those who understand belief to be

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¹ John Wesley, 'The Journal of the Reverend John Wesley', in *The Works of the Reverend John Wesley* (London: John Mason, 1829), 77.

an unchosen gift or theological brute fact. In contemporary theology and philosophy of religion, this issue has become known as the ‘problem of divine hiddenness’, drawing both a variety of theological defences of God’s apparent absence in particular lives and minds, and also strident arguments highlighting the potential implications of divine hiddenness for the plausibility of God’s very existence.

What is lacking, however, is a full appreciation of contemporary science’s substantial contributions to debates about divine hiddenness. In recent years, a growing body of research has made it increasingly clear that thoughts, beliefs, and perceptions are not so far removed from human agency as is often assumed. At the same time, it seems equally true that what one believes (about God or any other aspect of reality) is not amenable to direct volitional choice. Rather, all human beliefs and experiences are embodied and, crucially, seemingly amenable to indirect influence, alteration, and development. Even when beliefs do not seem to be chosen or under individual control, it is yet the case that they are constantly being reinforced, encouraged, or discouraged indirectly through repetition, focused attention, communal context, ritual, and emotionally salient experiences. In short, what one believes to be true about God is not so much a matter of cognitive assent to theological propositions, but rather an experiential perception of reality. Further, if religious belief is neither a matter of disembodied reason and direct choice, nor simply a brute cognitive fact divorced from all human behaviour, context, and experience, then individual participation in the belief-formation process becomes a real biopsychosocial possibility. In what follows, I will argue that the embodied and flexible nature of *all* human experience and cognition renders one’s religious beliefs to be at least amenable to indirect influence, alteration, and development via the appropriate use of ‘spiritual technologies’: habits, practices, and curated experiences that holistically affect one’s openness to and experience of spiritual realities. This scientific reality offers invaluable resources to debates about divine hiddenness. Specifically, theologians are not limited to the development of elaborate defences about why God would choose not to make Godself known to individuals receptive to such knowledge. Rather, theologians are both scientifically and theologically warranted in exploring embodied methodologies of hope, pairing neurobiological research on belief formation with theological content.

As with all instances of science-engaged theology, however, scientific research can never be the whole theological story. Embracing the neurobiological and psychological sciences is both necessary and advantageous for theologians interested in belief formation, but there must be a theological framework justifying and guiding such integration. Science alone cannot do the theological ‘heavy lifting’ in regards to the problem of divine hiddenness, and an affirmation of human agency in one’s religious beliefs requires a theological foundation that includes theological anthropology and an account of the God-nature relationship. To that end, the following argument assumes 1) a theological affirmation of the human person that embraces what can be called ‘integrated physicality’—a nonreductionist affirmation of the human person that recognises the theological value of physicality itself, and 2) an expansive depiction of the God-nature relationship that positively affirms divine involvement with the physical world at all times and places, such that the natural, physical processes involved in belief formation need not be seen as theologically threatening, but as instances of creaturely participation in and with a God whose relational involvement with the created world defies strict binaries between the ‘spiritual’ and the physical.² James K. A. Smith expresses this well, writing that ‘nature, in a sense, is “suspended” in the Spirit of creation; or we might say that creation is “charged” with the Spirit’s presence.

² Theologically, there are various ways to argue for such a depiction of the God-nature relationship. For analyses of Thomistic, pantheistic, and pneumatological perspectives, see Sarah Lane Ritchie, *Divine Action and the Human Mind* (Cambridge: Cambridge University Press, 2019).

Nature, then, is always more than “the natural”.³ When one assumes that divine involvement with the created world is an ever-present reality, and that the integrated, nonreductionist physical nature of the human person is thus *inherently* involved with God in the first place, then the use of spiritual technologies as redemptive methodologies of hope is revealed to be very much a part of Christian theology and tradition.⁴

In sum, my argument here is that not only do the brain-related sciences offer invaluable insight into the embodied nature of belief formation (and hence the problem of divine hiddenness), but also that human agency in belief formation can be theologically affirmed (given a non-dualistic theological anthropology and a properly integrated model of the God-nature relationship). Indeed, this discussion is not only useful in addressing the more technical puzzles of belief formation; it may well be the case that this sustained exploration of the embodied nature of belief formation—of embodied, experiential knowledge of God—indicates suggestive possibilities for how one should think about normative theology more broadly. My goal is not to offer a definitive argument for a specific theological anthropology, or to offer a conclusive defence for a particular articulation of divine interaction with physical processes. Instead, this discussion is intended to be suggestive, exploring the sorts of theological possibilities that arise when the embodied nature of belief formation is taken seriously, and applied specifically to the particular problem of divine hiddenness. Such scientific engagement thus reaches ‘downward’ to the methodological and even practical specificities of agent-directed belief formation, and ‘upward’ toward suggestive discussions about the nature of the relationship between the divine nature, human desire and embodied agency, and physical processes in the natural world.

2. *The Problem of Divine Hiddenness*

While contemporary debates about the problem of divine hiddenness are usually highly technical and conducted using the methods of analytic philosophy, the phenomenological reality at issue is anything but a recent development. In its most basic and existential form, the problem of divine hiddenness can be described as an individual or communal lack of experiential knowledge of divine existence, presence, and/or relationship, and particularly within those who experience themselves as receptive to such experiential knowledge. Note the emphasis here on *experiential* knowledge: the hiddenness problem is not so much a matter of intellectual assent to basic doctrinal commitments or the basic claim that God exists. Nor is it meant to address the existence and experience of committed atheists who consider themselves fundamentally unreceptive to divine existence and communication. Rather, the hiddenness problem refers specifically to the experience of those who understand themselves to be receptive to and even desirous of relationship with God: ‘God is hidden, if not in fact at least in their experience’.⁵ Moreover, hiddenness debates tend to focus mostly (or even exclusively) on the relational God of Judeo-Christian monotheism, namely because these traditions’ conception of God prioritises the distinctively loving, relational, revelatory nature of the divine being. As Howard-Snyder and Moser summarise, ‘Jewish and Christian theists believe that their flourishing as persons depends on their being in a personal and social relationship with God. For many such theists, however, there is no such

³ James K. A. Smith, *Thinking in Tongues: Pentecostal Contributions to Christian Philosophy* (Grand Rapids, MI: Wm. B. Eerdmans Publishing Company, 2010), 40.

⁴ For a sustained discussion of the Christian tradition’s historical affirmation of human embodiment and divine involvement with natural, physical processes, see Michael C. Rea, *The Hiddenness of God* (Oxford: Oxford University Press, 2018).

⁵ Daniel Howard-Snyder and Paul K. Moser, ‘Introduction: The Hiddenness of God’, in *Divine Hiddenness: New Essays*, eds. Daniel Howard-Snyder and Paul K. Moser (Cambridge: Cambridge University Press, 2001), 1-23, at 2.

discernible relationship.⁶ This phenomenological fact, it is then argued, should be taken as theologically and philosophically significant.

Within contemporary philosophy of religion and analytic theology, the phenomenological puzzle of experiential divine absence has been developed into various technical discussions about its possible bearing on the plausibility of God's very existence. This more philosophical debate is not so much focused on the existential experience of God's absence contextualised within the life of faith; this divine absence is often known as a 'dark night of the soul', poignantly described by Mother Teresa when she writes, 'Lord, my God, who am I that You should forsake me? ... I call, I cling, I want—and there is no One to answer. ... What are You doing My God to one so small?'⁷ Rather, the contemporary discussion has emphasised cognitive belief states and the experience of those who are not able to affirm that God does, indeed, exist. As we will see below, these two modes of divine hiddenness are far less distinct, cognitively and neurobiologically, than has been assumed by the mainstream conversation. In any case, the contemporary discussion has largely been shaped by the work of J.L. Schellenberg, who argues that the obvious existence of non-resistant nonbelievers is positive evidence against the reality of the all-loving and personal God inherent to Judeo-Christian theism.⁸ As Howard-Snyder and Moser summarise the argument of Schellenberg's seminal 1993 book *Divine Hiddenness and Human Reason*, 'If there were a perfectly loving God, He would see to it that each person capable of a personal relationship with Him reasonably believes that He exists, unless a person culpably lacks such belief. But there are capable, inculpable nonbelievers. Therefore, there is no perfectly loving God.'⁹ Naturally, the debate about divine hiddenness has evolved rapidly and extensively since the publication of Schellenberg's 1993 book, with both theologians and philosophers analysing, critiquing, expanding, and defending various components of Schellenberg's argument, the contemporary version of which has been aptly summarised by Adam Green and Eleonore Stump:

1. If God exists, then God is perfectly loving, desiring loving relationship with all created persons.
2. If God is perfectly loving, then God would ensure that all persons can participate in relationship with God unless they have excluded themselves through some kind of resistance.
3. There are nonresistant nonbelievers.
4. Therefore, God does not exist.¹⁰

Unsurprisingly, the hiddenness argument against God's existence has drawn intense scrutiny and raised pertinent questions of clarification about nearly every word and concept in the argument: Who determines how divine love is manifest, and is a lack of experience of that love indicative that it is not operative? Similarly, is the status of a relationship with God determined by an individual's perception of that relationship? What does it mean for a nonbeliever to be non-resistant, and how can that non-resistance be identified and evaluated? What does it mean to be a believer or a nonbeliever—is it necessary to be in a cognitive state of belief in order to be in a relationship with God?

⁶ Ibid., 1-2.

⁷ Mother Teresa, *Come Be My Light: The Private Writings of the Saint of Calcutta*, ed. Brian Kolodiejchuk (New York: Doubleday, 2007), 186-87.

⁸ John L. Schellenberg, *Divine Hiddenness and Human Reason* (Ithaca, NY: Cornell University Press, 1993).

⁹ Howard-Snyder and Moser, *Introduction*, 4. The conversation around divine hiddenness has seen significant evolution since the publication of Schellenberg's 1993 book, including Schellenberg's own shift from language of 'culpability' in non-belief to conversations about resistance and non-resistance in unbelief. See John L. Schellenberg, *The Hiddenness Argument: Philosophy's New Challenge to Belief in God* (New York: Oxford University Press, 2015).

¹⁰ Adam Green and Eleonore Stump, *Hidden Divinity and Religious Belief: New Perspectives* (Cambridge: Cambridge University Press, 2015), 1.

While each of these questions has been rigorously examined in arguments defending and critiquing Schellenberg's core argument, it is most relevant for this article simply to highlight the general contours of common theological defenses against the argument from divine hiddenness.

Michael Murray and David Taylor suggest three general theological strategies for countering the argument from divine hiddenness.¹¹ First, one might question whether there really are inculpable or nonresistant nonbelievers. William Wainwright, for example, describes Jonathan Edwards' view that there is, indeed, sufficient evidence for any individual to believe in God, if that individual is so disposed: 'Evidence sufficient to bring about a belief in God's existence and goodness in everyone capable of such belief and not disposed to resist it is available'.¹² Second, a great many theologians respond to the hiddenness problem by describing various known goods that might result from the experience of divine hiddenness. For example, Michael Murray has argued that human free will *requires* a degree of divine hiddenness if an individual is to choose to love and worship God of her own accord. Murray writes that 'if God does not remain "hidden" to a certain extent, at least some of the free creatures He creates would be in the condition of being compelled in the context of a threat and, as a result, such creatures could not exercise their freedom in this robust, morally significant manner'.¹³ Sarah Coakley, on the other hand, engages with John of the Cross to argue that 'what appears to be divine "hiding" is actually a unique form of divine self-disclosure for the purposes of redemption; but the recognition of this redemptive undertaking involves a transformative process of human response that is both subtle and enormously demanding'.¹⁴ Coakley thus agrees with Schellenberg on the existence of nonresistant nonbelief, but takes such a state as a profound invitation to journey deeper into the 'dark intimacy' recognized in various ways by so many leading lights within the Christian tradition. Finally, one might respond to Schellenberg that there may well be unknown goods resulting from the experience of divine hiddenness. This last approach bears strong resemblance to the skeptical theism response to the problem of evil; indeed, many manifestations of the hiddenness debate are remarkably similar to parallel debates regarding the problem of evil.

My intention here is not to adjudicate between Schellenberg and the various responses to the problem of divine hiddenness. What is noteworthy, at this stage, is the way in which both Schellenberg and his critics often view religious belief or nonbelief as a static cognitive state beyond one's direct or indirect control. Indeed, it is striking to note the intricacies with which such arguments are elaborated, describing precise and complex reasons why an individual might not believe in God, and/or why God would choose not to make God's presence known to all who would be open to such a relationship. There is, I suggest, a place for such arguments. Nevertheless, what remains underexplored is a scientifically-informed theological appraisal of divine hiddenness that does not take one's current sense of belief as a permanent cognitive trait, but instead takes seriously the reality that humans have significant influence in what they experience, perceive, and even believe. I am not the first to suggest this theological possibility. For example, while Coakley sees the experience of divine absence as a necessary part of spiritual maturation and redemption, she does not see such nonbelief as a permanent state; rather, 'there is a clear, practiced pathway for responding to the apparent crisis of "hiddenness"', one which involves a

¹¹ Michael J. Murray and David E. Taylor, 'Hiddenness', in *The Routledge Companion to Philosophy of Religion*, second edition, eds. Chad Meister and Paul Copan (London and New York: Routledge, 2012), 368-77.

¹² William Wright, 'Jonathan Edwards and the Hiddenness of God', in *Divine Hiddenness: New Essays*, eds. Daniel Howard-Snyder and Paul K. Moser (Cambridge: Cambridge University Press, 2001), 98-119, at 98.

¹³ Michael Murray, 'Coercion and the Hiddenness of God', *American Philosophical Quarterly* 30, no. 1 (January 1993), 27-38, at 29.

¹⁴ Sarah Coakley, 'Divine Hiddenness or Dark Intimacy? How John of the Cross Dissolves a Contemporary Philosophical Dilemma', in *Hidden Divinity and Religious Belief: New Perspectives*, eds. Adam Green and Eleonore Stump (Cambridge: Cambridge University Press, 2015), 230.

contemplative practice.¹⁵ More to the point of this article, Michael Rea has recently developed a sustained and science-engaged argument that ‘experiential access to God’s presence is more widely available than many suppose it to be, more similar even to the most dramatic biblical experiences of God than many suppose it to be, and more similar to our ordinary experiences of other human persons than many suppose it to be’.¹⁶ This claim finds significant interdisciplinary support in the sciences, and has largely to do with the fact that belief itself is both natural and embodied.

3. *Religious Belief: Natural and Embodied*

What, exactly, is religious belief? For that matter, what does it mean to believe in *anything*? Epistemologists, philosophers, and theologians will offer varying responses to these questions, but neuroscientist Andrew Newberg offers a simple definition that is particularly useful in this interdisciplinary context: ‘A belief can be defined as any perception, cognition, or emotion that the brain assumes, consciously or unconsciously, to be true’.¹⁷ Scientifically, to believe something is simply to experience that ‘something’ as true, as indicative of what is simply the case about reality. There are philosophical correlates to Newberg’s definition; William Alston, for example, summarizes that ‘if S believes that p, then if someone asks S whether p, S will tend to respond affirmatively’.¹⁸ It is striking just how far this description of belief is from Mark Twain’s witty maxim that ‘faith is believing what you know ain’t so’: scientifically, an individual is not in a state of belief if the individual in question knows something ‘ain’t so’.¹⁹ William James describes this nicely, writing that doctrine alone is not enough to engender belief ‘out of whole cloth when our perception actively assures us of its opposite’.²⁰ In short, to believe something is not to affirm a proposition that one knows or suspects not to be true, but to experience that ‘something’ as real. One’s beliefs can certainly be incorrect and fail to correspond to reality, but that correspondence has little to do with the individual’s experience of that reality (at least prior to experiences that would challenge the belief in question).

Similarly, beliefs in general seem to be the product of natural, evolved cognitive responses to our environments—and are thus wholly embodied. Indeed, the ability to form beliefs about one’s environment is both fundamental and vital for the survival of many species, particularly humans. In an evolutionary context, beliefs can be seen as heuristic tools contributing to the ability to respond quickly and efficiently to agents and events in one’s surroundings. As such, beliefs (and the development of beliefs) can never be fully understood apart from a deep knowledge and appreciation of the physical, bodily, and cognitive mechanisms involved. Yes, the relative correspondence of such beliefs to reality can be analyzed using diverse tools and methods that seem to have little to do with human embodiment; but any effort to understand the human ability to believe—or the processes involved in belief formation—will be insufficient if the relevant physical and cognitive processes are ignored. One striking implication of the embodied nature of belief

¹⁵ Coakley, ‘Divine Hiddenness’, 240.

¹⁶ Rea, *The Hiddenness of God*, 11.

¹⁷ Andrew Newberg and Mark Robert Waldman, *Born to Believe: God, Science, and the Origin of Ordinary and Extraordinary Beliefs* (New York: Free Press, 2007), 21.

¹⁸ William P. Alston, ‘Belief, Acceptance, and Religious Faith’, in *Faith, Freedom, and Rationality*, eds. Jeff Jordan and Daniel Howard-Snyder (Lanham, MD: Rowman & Littlefield, 1996), 4; slightly altered for readability, as cited in Daniel Howard-Snyder.

¹⁹ Mark Twain, *The Pudd’nhead Maxims: Pudd’nhead Wilson’s New Calendar* (New York: Harper & Brothers, 1911).

²⁰ William James, *The Varieties of Religious Experience: A Study in Human Nature* (New York: Modern Library, 1994), 167.

is that it becomes untenable to treat beliefs as propositional abstractions to be simply chosen or decided upon after rational deliberation. Of course, reason and deliberation are important tools in the evaluation of beliefs, but are indirect and relatively inefficient means by which to encourage, alter, or discourage particular beliefs—within oneself or in others.

How, then, should the human ability to form beliefs be scientifically understood in the context of specifically religious belief? Religious belief is, of course, not something to be reduced to the empirical explanations on offer. Belief is multimodal, contextualised, social, embodied, and a complex product of culture, community, linguistic realities, and narrative frameworks. That being said, useful and persuasive explanations of belief formation are offered by cognitive science of religion on one hand, and neuroscientific research on ‘exceptional experiences’ on the other. What seems clear from these dual research pathways is that belief in general, and religious belief in particular, is natural (even intuitive²¹), embodied, and a product of both normal cognitive mechanisms and relatively more intense or immersive embodied experiences.

3.1. Cognitive Science of Religion

Researchers within cognitive science of religion (CSR) employ research and methods from a variety of psychological and evolutionary fields to examine, describe, and explain religious thought, belief, experience, and practice.²² While scholars naturally disagree on particular explanations for and approaches to religious belief and behaviour, there is consensus that specifically religious belief is a product of normal cognitive mechanisms that have developed within a natural and explicable evolutionary context. Put differently, one might say that religious belief comes easily and naturally to humans precisely because of the sorts of minds and bodies we have; our cognitive architecture is such that the development of religious belief is both predictable and normal.²³ CSR as a whole prioritises explanations for religious belief that emphasize the normal, everyday, even mundane nature of religious belief. CSR does *not* emphasise or privilege dramatic religious experiences or exceptional moments of transcendence (contrary to neuroscientific approaches discussed below). As with all beliefs, specifically religious beliefs are to be understood as normal cognitive products of holistic engagement with and interpretation of one’s environment.

The classic conceptual distinction within CSR is between the adaptation and byproduct approaches. Those opting for an adaptation approach to religious belief seek to understand how religious beliefs might have evolved due to their adaptive value within both individual lives and larger communities.²⁴ For example, the moral injunctions and divine omniscience often attending religious beliefs might lead to prosocial behaviour that positively affects the survival and flourishing of the community as a whole. Other researchers point to the existence of ‘costly signalling’, seemingly disadvantageous religious behaviours that indicate authentic commitment

²¹ Deborah Kelemen, ‘Are Children “Intuitive Theists?” Reasoning about Purpose and Design in Nature’, *Psychological Science* 15 (2004): 295–301.

²² This article accepts the legitimacy and value of CSR as an important scientific field, but it is worth noting that the field itself is not without its critics. For example, insofar as CSR involves hypotheses that are difficult to test and theories that are difficult to falsify, some claim that the field relies on ‘just so stories’ and is thus not properly scientific. See, for example, Gabriel Levy, ‘The Prospects and Pitfalls in “Just-So” Storytelling in Evolutionary Accounts of Religion’, *Method and Theory in the Study of Religion*, 25 (2013): 451–59. For a rebuttal of common critiques to CSR methodology, see Emma Cohen, Jonathan A. Lanman, Harvey Whitehouse, and Robert McCauley, ‘Common Criticisms of the Cognitive Science of Religion—Answered’, *CSSR: Bulletin* 37 (2008): 112–15.

²³ Robert McCauley, *Why Religion is Natural and Science is Not* (Oxford: Oxford University Press, 2011), 197.

²⁴ See, for example: Candace Alcorta and Richard Sosis, ‘Ritual, Emotion, and Sacred Symbols: The Evolution of Religion as an Adaptive Complex’, *Human Nature* 16 (2005): 323–59.

to the group, thereby promoting trust and social cohesion—which, in turn, may contribute to group survival and fitness.²⁵

By far the dominant approach in CSR, however, is the ‘byproduct’ or ‘spandrel’ approach. Leading CSR scholar Justin Barrett, for example, argues that specifically religious beliefs are byproducts of the human cognitive ability to form beliefs about our environments more generally.²⁶ In this approach, there is no need to posit adaptive advantages of religious beliefs; it is enough to describe how religious beliefs utilise the same cognitive mechanisms which our minds have evolved to navigate our surroundings more broadly. One classical example of the byproduct approach involves what Justin Barrett has termed the ‘hypersensitive agency detective device’ (HADD): this concept describes the cognitive predisposition to ascribe agency and intention to objects or events in our surroundings, whether or not those objects or events are, indeed, indicative of an intentional agent. This might be colloquially described as the ‘better safe than sorry’ approach. I am far more likely to survive if I *over*-attribute agency to noises in the forest than if I *under*-attribute agency. For Barrett, it is conceivable that this normal HADD is at least partially responsible for encouraging belief in superhuman or supernatural agents like spirits and gods.²⁷

In addition to the adaptation and byproduct approaches, some CSR scholars prefer the ‘dual inheritance’ approach, which recognizes religious beliefs as byproducts of cognitive mechanisms involved in belief formation more broadly, while still affirming that the resulting religious beliefs acquired prosocial adaptive value.²⁸ Religious beliefs may have originated as unexpected byproducts of normal cognitive functioning, but within cultural contexts may well have taken on adaptive lives of their own, so to speak.²⁹ Regardless of the many approaches and debates within CSR, the established core of the field’s literature suggests that religious belief is a natural and normal aspect of human cognition that has evolved because of the minds, bodies, and environments that humans have. The lingering question, of course, is whether the naturalness of religious belief has anything to say about the actual existence of a divine being. Critics of religion routinely consider scientific explanations of religious belief and behaviour to be a defeater of such belief’s epistemological validity; God is ‘in fact a psychological illusion, a sort of evolved blemish etched onto the core cognitive substrate of your brain’.³⁰ Other CSR researchers are often more measured in their evaluations. If a creator God exists and desires relationship with human beings, would we not expect that humans would naturally have the cognitive mechanisms required for such a relationship? Justin Barrett, for example, argues that cognitive science can be paired with philosophical and epistemological frameworks in such a way that natural religious belief is taken to be, in some sense, trustworthy or indicative of reality: ‘Cognitive science (particularly, CSR) *plus* a particular epistemology justifies holding natural religion as true *until* problems with these beliefs are demonstrated—and simply identifying a natural cause for them is

²⁵ Deborah L. Hall, Adam B. Cohen, Kaitlin K. Meyer, Allison H. Varley, and Gene A. Brewer, ‘Costly Signaling Increases Trust, Even Across Religious Affiliations’, *Psychological Science* 26, no. 9 (2015): 1368–76.

²⁶ Justin L. Barrett, *Born Believers: The Science of Children’s Religious Belief* (New York: Free Press, 2012).

²⁷ Justin Barrett, ‘Cognitive Science, Religion, and Theology’, in *The Believing Primate: Scientific, Philosophical, and Theological Reflections on the Origin of Religion*, eds. Jeffrey Schloss and Michael J. Murray (Oxford: Oxford University Press, 2009), 76–99.

²⁸ Scott Atran and Joseph Henrich, ‘The Evolution of Religion: How Cognitive By-Products, Adaptive Learning Heuristics, Ritual Displays, and Group Competition Generate Deep Commitments to Prosocial Religions’, *Biological Theory* 5 (2010): 18–30.

²⁹ And, indeed, provision for this possibility was made in Stephen Jay Gould’s own spandrel approach, taking the form of what Gould calls ‘exaptation’. See Stephen Jay Gould and Elisabeth S. Vrba, ‘Exaptation—A Missing Term in the Science of Form’, *Paleobiology* 8 (1982): 4–15.

³⁰ Jesse Bering, *The Belief Instinct: The Psychology of Souls, Destiny, and the Meaning of Life* (New York: W.W. Norton, 2011), 37.

insufficient'.³¹ It seems reasonable to conclude, then, that while scientific explanations for the evolution of religious belief depict it as wholly natural and embodied, such explanations need not be seen as theologically threatening.

3.2. Neuroscience and 'Exceptional Experience'

CSR is not the only scientific field analysing religious belief and behaviour. While CSR researchers prioritise the normal, everyday cognitive mechanisms involved in natural religious beliefs, other researchers in neuroscience and psychology explore the profound and lasting effects of more non-ordinary experiences, or what can be called 'exceptional experiences'.³² Such experiences have often been called 'religious experiences', but this terminology is perhaps unhelpful insofar as it suggests that exceptional experiences are always religious in nature (they are not) or that they always involve a mystical trance state (again, they do not).³³ Speaking of 'exceptional experiences', on the other hand, emphasises the non-ordinary, immersive, and transformative character of such experiences, without specifying exactly what form such experiences do, or should, take. Of course, it is very common for theologians and philosophers alike to downplay the role of exceptional experience, opting for a more 'responsible' or grounded, less emotive emphasis on doctrine, discipline, social justice, philosophical frameworks, etc. Indeed, speaking of emotion or religious experience can be felt as exceedingly disagreeable to modern sensibilities. My goal here is not to downplay the role of sound theology or reason—just the opposite—the goal is to offer a corrective: we are inherently embodied creatures, and robust theology and Christian practice are only enhanced by taking that embodiment seriously. And if, as neuroscience and psychology suggest, immersive, exceptional experiences are powerful, lasting factors in one's felt sense of God's reality and presence, then this aspect of embodiment needs to be fully appreciated.

Indeed, a science-engaged theological appreciation of relatively intense or non-ordinary experiences of God will be vital for the sort of hopeful, agent-centred, active approach to the problem of divine hiddenness explored here. Michael Rea, for instance, has made just this point in his recent book *The Hiddenness of God*. Here, Rea suggests not only that 'we might simply be wrong in thinking that God has somehow *ceased communication and contact* with substantial portions of humanity', but also that such 'communication and contact', or 'divine encounters', are 'and always have been, experientially available to a much greater degree than is typically credited in the literature on divine hiddenness'.³⁴ It is important to note that the exceptional experiences at issue here exist on a very wide spectrum, ranging from a profound sense of divine love and presence while deep in contemplative prayer, to a euphoric sense of awe and peace in the midst of a deep forest under a starry night sky. Rea also emphasises the inclusivity of a broad range of experiences; while not discounting the caricatured mystical trance, he highlights the

³¹ Justin Barrett, *Cognitive Science, Religion, and Theology: From Human Minds to Divine Minds* (West Conshohocken, PA: Templeton Press, 2011), 156.

³² As with CSR, reliance on neuroscientific explorations into religious belief and experience can be criticized. Most significantly, one could argue that neuroscientific studies on religion tend toward reductionist explanations of religion, when they are really limited in methodology to explanations of neural correlates accompanying religion. Such critiques being duly noted, it is worth mentioning that neuroscientists themselves are often the first to recognize these limitations.

³³ Of course, not all neuroscientists of religion focus on what I am calling 'exceptional experiences'. I highlight such experiences here simply because they are notably undervalued in CSR and science-engaged theology. For an example of neuroscientific work that deliberately avoids a focus on exceptional experiences, see the research of Uffe Schjoedt. For example, see Uffe Schjoedt, 'The Religious Brain: A General Introduction to the Experimental Neuroscience of Religion', in *Method and Theory in the Study of Religion* 21 (2009): 310-39.

³⁴ Rea, *The Hiddenness of God*, 92.

‘more common, phenomenologically low-grade sorts of encounters like sensing the majesty of God while watching waves crash on a beach or hiking down into the Grand Canyon, feeling awash in the love of God while singing hymns around a campfire, or feeling forgiven by God in the wake of confessing one’s sins in prayer’.³⁵ The relative intensity or dramatic nature of the experience is not nearly as important as the simple, sheer fact that one is experiencing the presence of God as a felt, salient reality. As William James presciently insisted, the key to understanding exceptional experiences is that they ‘seem to those who experience them to be also states of knowledge. . . . As a rule they carry with them a curious sense of authority’ even after the experience has passed.³⁶ Such experiences will occur on spectra of varying emotional saliences and intensities, but they share in common a felt sense that the experience is *real*.

Neurobiologically speaking, belief is not propositional, but primarily embodied and *felt*.³⁷ The neural correlates of belief studied by neuroscientists indicate that religious belief is a whole-body experience; calling God a ‘belief’ is thus ‘a misnomer. . . . It is a perception. We believe what we perceive’.³⁸ For example, researcher Nina Azari and her colleagues have used PET scans to demonstrate that religious practitioners reciting spiritual texts experience (neurally) the *perception of a relationship* with God or the Absolute.³⁹ Regardless of whether or not a divine being exists, the participants were indeed experiencing God as a felt reality, and this experiential reality was empirically identifiable. It is significant that this study, and many others like it, involved people exhibiting relatively ‘normal’ behaviours (i.e. reciting Scripture), but also experiencing the presence and relationship of God in an extremely salient and holistic manner. Such experiences may be considered *barely* exceptional, insofar as they involve nothing more than the recitation of meaningful texts by religious practitioners, but they are extremely important for instantiating *as real* the associated doctrinal content.

Moreover, such relatively mild experiences exist on a spectrum with more intense experiences, and these experiences also demand neuroscientific and theological attention. For example, agnostic philosopher Paul Draper insists that a lack of experiential knowledge of God is exactly what is at issue in the seeming inability to believe in God; he writes, ‘I simply do not have vivid experiences of the sort that directly cause people to believe in God. Seeing is believing, but if God is real then I suffer from religious blindness or at least blurred religious vision’.⁴⁰ Draper’s poignant admission echoes James’ conviction: ‘I doubt if dispassionate intellectual contemplation of the universe . . . would ever have resulted in religious philosophies such as we now possess’.⁴¹ Experiential knowledge of God is crucial for the formation and retention of religious belief; such experience can be dramatic or fairly quiet in flavour. (And here it should be noted that direct, powerfully intense experiences of God are far more common than theologians often assume; Tanya Luhrmann’s *When God Talks Back: Understanding the American Evangelical Relationship with God*, for example, is one powerful anthropological analysis of the very real, and intensely powerful, transformative experiences that seem to accompany many

³⁵ *Ibid.*, 92.

³⁶ James, *Varieties*, 291.

³⁷ Patrick McNamara, *The Neuroscience of Religious Experience* (Cambridge: Cambridge University Press), 14.

³⁸ Michael Graziano, *God, Soul, Mind, Brain* (Teaticket, MA: Leapfrog Press, 2010), 47.

³⁹ Nina P. Azari, John Missimer and Rudiger J. Seitz, ‘Religious Experience and Emotion: Evidence for Distinctive Cognitive Neural Patterns’, *The International Journal for the Psychology of Religion* 15 (2005): 263–81, at 274.

⁴⁰ Paul Draper, ‘Seeking but not Believing: Confessions of a Practicing Agnostic’, in *Divine Hiddenness: New Essays*, eds. Daniel Howard-Snyder and Paul K. Moser (Cambridge: Cambridge University Press, 2001), 197–214, at 197.

⁴¹ James, *Varieties*, 329.

thriving religious communities.⁴²) While exceptional experiences sometimes involve visions, a loss of bodily boundaries, or a sense of oneness with the universe, they can also be simpler—and perhaps more accessible—analogs of ‘normal’ experiences, such as feelings of joy, peace, wonder, love, and an overall sense of connection with God.⁴³ The actual mechanisms for inducing religious experience (intentionally or otherwise) involve such varied elements as rhythm, music, prayer, meditation, fasting, chanting, and psychedelics.⁴⁴ Such exceptional experiences are experienced as moments of transcendence that provide the individual with a felt sense of connection (often emotional in flavour) to God.

4. *Belief Formation and Human Agency in Theological Context*

The question at hand, then, is apparent: if it is true that both normal cognitive mechanisms and more exceptional experiences contribute to a felt belief in—or a felt *knowledge* of—God, is there anything non-believing individuals can do to initiate, encourage, and develop that felt, experiential sense of belief? Both theologically and scientifically, it seems that this is indeed a possibility worth taking seriously. Within the context of this discussion on divine hiddenness, the suggestion that non-believing individuals might be active participants in their own belief formation is, potentially, an immensely freeing invitation. Moreover, such a suggestion is not without theological warrant. In keeping with the above scientific conjunction of CSR’s emphasis on normal cognitive mechanisms and neuroscience’s prioritisation of more affective exceptional experiences, Michael Rea writes that ‘experiential access to God’s presence is more widely available than many suppose it to be, more similar even to the most dramatic biblical experiences of God than many suppose it to be, and more similar to our ordinary experiences of other human persons than many suppose it to be’.⁴⁵ While many responses to the problem of divine hiddenness presuppose the static nature of religious belief and resort to theodical explanations for God’s intentional silence or the individual’s Fall-based inability to believe, it is also possible that belief-inducing encounters with God are far more available than is usually supposed. This suggestion is theologically grounded in Christian tradition, particularly in the continued admonition to pursue spiritual disciplines as a means of participating more fully in the ever-active and ever-relational presence of God. As Rea notes, ‘the idea that experiencing the presence of God is a learnable skill is hardly new’.⁴⁶ Indeed, what is ‘new’ is not the affirmation that one might cultivate a relationship with God by rigorously pursuing habits, communities, and experiences that are most likely to contribute to the development of such a felt belief, but rather the assumption that a felt sense of divine reality and relationship would be manifest *without* such active engagement with a lifestyle of faith-oriented behaviours and experiences.

The seventeenth-century theologian, mathematician, and overall polymath Blaise Pascal offers a fascinating and pertinent example of not only the importance of an experientially rich belief in God, but also a striking description of just how deeply pragmatic the acquisition of such belief can be:

You would like to attain faith, and do not know the way; you would like to cure yourself of unbelief, and ask the remedy for it. Learn of those who have been bound like you, and who

⁴² See Tanya Luhrmann, *When God Talks Back: Understanding the American Evangelical Relationship with God* (New York: Vintage Books, 2012).

⁴³ Patrick McNamara, *The Neuroscience of Religious Experience* (Cambridge: Cambridge University Press), 18.

⁴⁴ Michael Winkelman, ‘Shamanism as the Original Neurotheology’, *Zygon* 39 (2004): 193–217, at 195.

⁴⁵ Rea, *The Hiddenness of God*, 11.

⁴⁶ *Ibid.*, 94.

now stake all their possessions. These are people who know the way which you would follow, and who are cured of an ill of which you would be cured. Follow the way by which they began; by acting as if they believed, taking the holy water, having masses said, etc. Even this will naturally make you believe, and deaden your acuteness.⁴⁷

As we will see, this injunction to ‘act as if’ one believed is remarkably prescient on Pascal’s part. He recognized that the seemingly mundane, normal, habitual actions associated with religious belief might contribute to the actualization of such belief in a previously non-believing individual who longed for a felt sense of such belief. However, it is equally important to remember that Pascal’s own religious belief had been transformed in what I have described above as an exceptional experience. Long after being intellectually converted to Christianity, Pascal had an intense religious experience that proved so pivotal to him that he had a record of it sewn into his coat, discovered by a servant only after his death. The record of this experience speaks to a decidedly non-ordinary encounter: ‘FIRE. GOD of Abraham, GOD of Isaac, GOD of Jacob not of the philosophers and of the learned. Certitude. Certitude. Feeling. Joy. Peace . . .’⁴⁸ What is perhaps most remarkable, then, is not that Pascal had presaged current neuroscientific research on habit-based cognitive change and belief formation, or that he had had a transformative religious encounter, but rather that he brought these realities together within his own psyche and thought. Perhaps more importantly, Pascal was not unique in this synthesis; ‘The medieval mystics held that the capacity to experience reliably and regularly the presence of God and communication from God is something that can be developed in a person with a great deal of practice and preparation. Many others in the Christian tradition both before and after them have held similar views’.⁴⁹ In other words, the Christian tradition is rife with descriptions of the religious path that take for granted both a lifestyle of seemingly normal, routine religious practices and behaviours, *and* occasional encounters with God that are felt as being relatively more exceptional and transcendent in flavour. Far from existing in opposition, the mundane and the exceptional exist in dynamic relationship.

5. Brain Plasticity and Belief Formation

If, then, we can agree theologically with Michael Rea that ‘there is indeed learnable skill involved in coming to experience God’,⁵⁰ two questions remain: 1) Do the various brain sciences suggest that beliefs can indeed be indirectly chosen via such ‘learnable skills’? And, 2) What sorts of experiences and skills are most conducive to the development of an experiential religious belief?

The consensus in contemporary neuroscience is that whatever the relationship between spiritual realities and the material world, any felt experience of God is at least mediated through the brain.⁵¹ Moreover, there is a strong link between qualitatively rich exceptional experiences of God on one hand, and religious habit, practices, and communal experiences on the other. Religious behaviours and practices impact the brain, and altered neural pathways in turn affect how one experiences reality. This reciprocal relationship is described by researchers studying brain plasticity, or neuroplasticity. The term ‘neuroplasticity’ describes the brain’s ability to alter

⁴⁷ Blaise Pascal, *Pensées of Blaise Pascal*, trans. W.F. Trotter (London: Dent, 1932), sec. III, n. 233.

⁴⁸ Blaise Pascal, *Oeuvres complètes* (Paris: Seuil, 1960), 618.

⁴⁹ Rea, *The Hiddenness of God*, 94.

⁵⁰ *Ibid.*, 98.

⁵¹ Eugene d’ Aquili and Andrew Newberg, *The Mystical Mind: Probing the Biology of Religious Experience* (Minneapolis, MN: Fortress Press, 1998), 16.

its function and even structure in response to experience, both mental and physical. As particular experiences cause adjacent neurons to be consistently activated simultaneously over time, the neural connections between them strengthen in service of neural efficiency. Colloquially, one can say that ‘neurons that fire together, wire together’.⁵² The implication of such microscopic neural change is not only that lived experience changes the brain, but also that the functionally altered brain will then have an effect on future lived experience.⁵³ Plasticity research thus highlights not only the importance of the brain for what humans experience, but also the agency that humans have in directing their own experiences of the world. That is, ‘neuroplasticity research marks a considerable shift in focus from reductionist, locationalist views to more holistic, or system-oriented, perspectives on the body-brain-environment nexus’.⁵⁴ Or as Joel Green describes it, this constant “becoming” is encoded in our brains by means of synaptic activity as both nature and nurture yield the same effect—namely, sculpting the brain (and thus shaping the mind) in ways that form and reform the developing self’.⁵⁵

Note that brain plasticity is essentially the neurobiological description of *learning*.⁵⁶ Few would be surprised to learn that intensive musical training changes brain functioning, or that being a taxi cab driver significantly alters the actual structure of the brain devoted to spatial orientation.⁵⁷ What is perhaps more surprising is the realisation that such neural change is always occurring, and that one can play an active role in the immensely complex, holistic processes involved. The brain is constantly changing in highly specific ways; this is normal, intrinsic, and occurs regardless of human intention or awareness.⁵⁸ However, it is also true that these neurobiological learning processes are not only amenable to self-direction, but also affect how our future selves experience and respond to the world.

This reality becomes immensely significant in the context of religious belief and experience. To the extent that religious belief is both a normal aspect of evolved cognitive functioning and heavily influenced by more salient, embodied, exceptional experiences, then religious ‘knowledge’ should be susceptible to the same sorts of neurobiological microprocesses involved in all learning. As Ian Barbour has written, just as ‘we use the skills of “knowing how” rather than the propositions of “knowing that”’ to learn to ride bicycles, so is religious belief inculcated ‘through interaction with our physical environments and other people’.⁵⁹ And indeed, it seems that the natural mechanisms of brain plasticity and subsequent cognitive change have long been utilized (unwittingly or not) by religious communities around the world. In other words, religious traditions have long been encouraging spiritual disciplines and experiences that are particularly likely to aid in the ‘learning’ of belief. Abstract reasoning alone is unlikely to give rise to a felt sense of

⁵² This saying is attributed to Carla Shatz at Stanford University. See Norman Doidge, *The Brain That Changes Itself* (New York: Penguin Books, 2007), 427.

⁵³ William Long, ‘Quantum Theory and Neuroplasticity: Implications for Social Theory’, *Journal of Theoretical and Philosophical Psychology* 26 (2006): 78–94.

⁵⁴ Florence Chiew, ‘Neuroplasticity as an Ecology of Mind: A Conversation with Gregory Bateson and Catherine Malabou’, *Journal of Consciousness Studies* 19 (2012): 32–54, at 34.

⁵⁵ Joel B. Green, *Conversion in Luke-Acts: Divine Action, Human Cognition, and the People of God* (Grand Rapids, MI: Baker Academic, 2008), 85.

⁵⁶ Eric Kandel, ‘The Molecular Biology of Memory Storage: A Dialogue between Genes and Synapses’, in *Nobel Lectures, Physiology or Medicine, 1996–2000*, ed. H. Jornvall (Singapore: World Scientific, 2003).

⁵⁷ Eleanor Maguire and others, ‘Navigation-Related Structural Change in the Hippocampi of Taxi Drivers’, *Proceedings of the National Academy of Sciences* 97 (2000): 4398–4403.

⁵⁸ Alvaro Pascual-Leone, Amir Amedi, Felipe Fregni, and Lofei B. Merabet, ‘The Plastic Human Brain Cortex’, *Annual Review of Neuroscience* 28 (2005): 377–401.

⁵⁹ Ian G. Barbour, ‘Neuroscience, Artificial Intelligence, and Human Nature: Theological and Philosophical Reflections’, *Zygon* 34 (1999): 361–98, at 375.

religious beliefs, for without holistic, embodied engagement with religious practices, ‘religious beliefs lack both emotional salience and motivational force’.⁶⁰

Supposing, for the moment, that one recognizes the importance and possibility of curating one’s own behaviors, practices, communities, and experiences toward the end of a felt sense or ‘knowledge’ of God, how might such holistic knowledge be pursued? While plasticity researchers examine a range of relevant factors contributing to long-term cognitive and affective change, three particularly important elements are focused attention, repetition, and emotional salience.⁶¹ When one selects and curates spiritual technologies that prioritise these factors, they are far more likely to be effective in contributing to a lasting sense of God’s reality and presence.

5.1. Focused Attention

One of the most important factors in whether a practice or experience leads to long-term neurobiological and cognitive change is focused attention. When the human mind is intentionally focused on a particular object or task, that object or task is far more likely to be incorporated into the subject’s future cognition and perception. For example, researcher Mike Merzenich conducted an experiment with monkeys wherein the animals had their fingers tapped for one hundred minutes a day for six weeks. At the same time as their fingers were being tapped, sounds were played over headphones on the monkeys’ ears. The animals were taught to pay attention to one or the other stimulus by being rewarded with sips of juice. Notably, the monkeys who learned to pay attention to the finger tapping exhibited a two- to three-fold increase in the amount of cortical area devoted to finger motion.⁶² The other monkeys, who experienced the *exact same* stimuli but paid attention to the music, did not exhibit this neural change. More to the point here is the work of neuropsychiatrist Jeffrey Schwartz, whose experimental work with obsessive-compulsive disorder (OCD) patients has demonstrated the cognitive and neural effects of changing the focus of one’s attention. Schwartz used mindfulness-based cognitive-behavior therapy to teach patients how to pay attention to their thoughts and emotions, observing and making note of them with focused attention. Subsequent PET scans demonstrated that the mental act of paying attention to their obsessional thoughts dramatically decreased activity in the orbital frontal cortex (essential to the OCD neural circuits), also changing the patients’ actual cognitions.⁶³

When it comes to religious belief and behavior, focused attention is particularly important. If it is indeed the case that religious behavior and experience can change cognition and beliefs, we would expect attention areas of the brain (namely the frontal lobes⁶⁴) to be particularly involved in many such behaviors and experience. This is indeed what current research indicates: for example, religious meditators and pray-ers demonstrate enhanced activity in brain regions associated with focused attention, and these regions are also associated with the processing of beliefs, memory, and language.⁶⁵ Perhaps even more striking, such religiously-focused attention is cor-

⁶⁰ Alcorta and Sosis, ‘Ritual, Emotion, and Sacred Symbols’, 323–59, at 344.

⁶¹ Aniruddh Patel, ‘Why Would Musical Training Benefit the Neural Encoding of Speech? The OPERA Hypothesis’, in *The Relationship Between Music and Language*, ed. Lutz Jäncke (Zurich: Frontiers Research Foundation, 2012).

⁶² Sharon Begley, *Train Your Mind, Change Your Brain* (New York: Random House, 2007), 159.

⁶³ Jeffrey M. Schwartz, Paula W. Stoessel, Lewis R. Baxter, Jr., et al., ‘Systematic Changes in Cerebral Glucose Metabolic Rate after Successful Behavior Modification Treatment of Obsessive-Compulsive Disorder’, *Archives of General Psychiatry* 53, no. 2 (February 1996): 109–13.

⁶⁴ Michael Posner and Steven Peterson, ‘The Attention System of the Human Brain’, *Washington University Department of Neurology* TR-89-1 (1989).

⁶⁵ Osamu Muramoto, ‘The Role of the Medial Prefrontal Cortex in Human Religious Activity’, *Medical Hypotheses* 62 (2004): 479–85.

related with changes in brain structure itself; long-term meditators exhibit thicker prefrontal regions of the brain than control groups.⁶⁶

In short, religious and spiritual activity involving sustained focused attention leads to significant and lasting changes in the brain and cognitive experience. What is notably striking, but perhaps not surprising, is just how many religious practices *already* prioritise prayer, liturgy, worship, contemplation, and meditation—all activities that call for an individual's attention to be directed toward the object of worship and relationship.

5.2. Ritual and Repetition

A second and related determinative factor in long-term neurobiological and cognitive change is repetition—or, in the context of worshipping communities, religious ritual. Neural changes are positively correlated with increased use of particular behaviors over time. This is perhaps self-evident; it seems common sense that the neurological changes accompanying learned skills like playing an instrument, performing an athletic action, or navigating city streets would increase over time and with practice.⁶⁷ Indeed, as individuals consistently choose particular actions, the brain forms new connections that strengthen, quite literally, into the path of least resistance for synaptic firing. In this way, actions that initially required volitional effort eventually become automatized. This automaticity is incredibly important for the long-term alteration of behaviors and beliefs. One key to changing thoughts and behaviors seems to be effectively managing the volitional effort that *is* available to automatise desired thoughts and behaviors slowly over time. In order to effectively alter beliefs and experiences, then, these desired alterations need to become embodied through habit and repetition.⁶⁸

It should be no surprise that religious rituals are immensely powerful agents of cognitive and affective change within individuals and communities. This is phenomenologically true, of course, but current scientific research also supports the claim that religious ritual can strengthen and even generate belief over time.⁶⁹ Religious rituals often involve immersive elements such as rhythm, music, movement, aesthetic alterations (e.g. incense and lighting), and are formally contextualized within a worshipping community.⁷⁰ Even seemingly 'normal' rituals, which so many religious participants experience on a weekly basis, can 'synchronize affective, perceptual-cognitive, and motor processes within the central nervous system of individual participants'.⁷¹ Within a particular religious context, rituals serve to unite doctrinal commitments and theological concepts with the embodied, affective experience of the individual; rituals turn doctrine into 'felt experiences, into mind-body, sensory, and cognitive events that "prove" their reality' to those involved.⁷²

⁶⁶ Sara W. Lazar, Catherine E. Kerr, Rachel H. Wasserman, et al., 'Meditation Experience Is Associated with Increased Cortical Thickness', *Neuroreport* 16, no. 17 (November 2005): 1893-97.

⁶⁷ Edward Jones, 'Cortical and Subcortical Contributions to Activity-Dependent Plasticity in Primate Somatosensory Cortex', *Annual Review of Neuroscience*, 23 (2000): 1-37.

⁶⁸ Clare Carlisle, 'The Question of Habit in Theology and Philosophy: From Hexis to Plasticity', *Body & Society* 19 (2013): 30-57, at 44.

⁶⁹ Richard Sosis, 'Why Aren't We All Hutterites? Costly Signaling Theory and Religious Behavior', *Human Nature* 14 (2003): 91-127.

⁷⁰ Eugene d'Aquili and Charles Laughlin, 'The Biopsychological Determinants of Religious Ritual Behavior', *Zygon* 10 (1975): 37.

⁷¹ Eugene d'Aquili and Charles Laughlin, 'Biopsychological Determinants', 38. Also see Udo Will and Gabe Turow, 'Introduction to Entrainment and Cognitive Ethnomusicology', in *Music, Science, and the Rhythmic Brain*, eds. Jonathan Berger and Gabe Turow (New York: Routledge, 2011).

⁷² Andrew Newberg, Eugene d'Aquili, and Vince Rause, *Why God Won't Go Away: Brain Science and the Biology of Belief* (New York: Ballantine Books, 2001), 91.

5.3. Emotional Salience

Finally, emotion can be an immensely powerful factor in long-term alteration of cognition, perception, and experience. Emotional salience seems to lead to greater neural change than repetitive behaviors lacking a meaningful sense of emotional engagement.⁷³ For example, presented with two stories of comparable length and facts but differing in levels of emotionally-charged content, an individual will remember far more factual details from the emotion-laden story.⁷⁴ The importance of emotional engagement for learning may even seem self-evident; humans learn quickly to avoid situations and behaviors associated with negative emotion and to gravitate toward those associated with positive emotion.⁷⁵ It is (partially) in this way that habits are formed. In fact, it seems that many of the structural brain changes involved in addiction (neuroplasticity's dark side) are linked to the neurochemical rewards (felt as positive emotions) induced by the drug.⁷⁶ Positive emotional states are significant facilitators of neurobiological change, triggering lasting changes in its structure and function that in turn alter perceptions and cognitions.⁷⁷ Though emotional engagement may seem entirely subjective and un-testable, the importance of emotional engagement for brain change is entirely falsifiable. One can imagine that a child forced to spend hours practicing piano music that she loathed might not exhibit as much neural change, if for no other reason than that the neurochemical reward systems (i.e. positive feelings) were not motivating her to keep practicing. In other words, emotion itself might not directly change neural structures (although it might, particularly in highly intense or traumatic situations⁷⁸), but it does seem to provide the motivating reward that keeps people engaging in repetitive behaviors—which, over time, change the neural functions and structures of the brain.

As discussed above, the role of emotion in religious belief is perhaps most obvious within the context of exceptional experiences; the more emotionally salient one's religiously contextualized experiences, the stronger one's felt sense of religious belief.⁷⁹ Research into religious experience⁸⁰ has focused on various aspects ranging from altered states of consciousness, the correlation of a 'felt' presence of God with electrical activity in the frontal and temporal lobes of the brain, and using brain scans to identify both the cognitive and emotional substrates of religious experience.⁸¹ What is clear is that such experiences need not be dramatic in order to be experientially and cognitively significant; even seemingly subtle or normal emotions can be powerfully transformative tools within the right context. Even institutionally sanctioned, normal religious rituals can serve to produce 'conditioned association of evoked emotions with specific

⁷³ James McGaugh, 'Significance and Remembrance: The Role of Neuromodulatory Systems', *Psychological Science* 1 (January 1990): 15–25.

⁷⁴ Antonio Damasio, *The Feeling of What Happens: Body and Emotion in the Making of Consciousness* (Orlando, FL: Harvest, 1999), 294.

⁷⁵ Natasa Jokic-Begic, 'Cognitive-Behavioral Therapy and Neuroscience: Towards Closer Integration', *Psychological Topics* 19 (2010): 235–254, at 239.

⁷⁶ National Institute on Drug Abuse, 'Section II: The Reward Pathway and Addiction', in *The Neurobiology of Drug Addiction* (2007), <<http://www.drugabuse.gov/publications/teaching-packets/neurobiology-drug-addiction/section-ii-reward-pathway-addiction>>.

⁷⁷ For a review of such changes, see Eric Garland and Matthew Owen Howard, 'Neuroplasticity, Psychosocial Genomics, and the Biopsychosocial Paradigm in the 21st Century', *Health & Social Work* 34, no. 3 (August 2009): 191–99.

⁷⁸ Joseph LeDoux, *The Emotional Brain: The Mysterious Underpinnings of Emotional Life* (New York: Simon and Schuster, 1996), 257.

⁷⁹ McNamara, *Neuroscience of Religious Experience*, 16.

⁸⁰ Uffe Schjoedt, 'The Religious Brain: A General Introduction to the Experimental Neuroscience of Religion', *Method and Theory in the Study of Religion*, 21 (2009): 310–339, at 312. Schjoedt's article provides a detailed review of current research.

⁸¹ Jensine Andresen and Robert Forman, 'Methodological Pluralism in the Study of Religion', *Journal of Consciousness Studies* 7 (2000): 7–14, at 13.

cognitive schema'.⁸² While the role of emotion in philosophical or theological discourse about religious belief is almost always minimized or dismissed altogether, neurobiological insights suggest that such disregard is at odds with the way the human person most naturally forms and sustains belief. Exceptional experiences are both natural and important to the development and sustaining of belief, and are also within experiential reach of many or most people. As Rea notes, 'people who have the relevant measurable traits and who cultivate the right kinds of spiritual habits will be more likely to have religious experiences of various kinds'.⁸³

6. Faith and/or Belief

This article has argued that one under-explored approach to the human experience of divine hiddenness involves a recognition of the wholly embodied, experiential, affective nature of belief. While humans have evolved in such a way that we are cognitively disposed to naturally form religious beliefs, this cognitive predisposition alone is not enough to create the sort of richly textured experiential knowledge of God that is so important for a life of faith. Nor is rational deliberation alone effective in creating a felt sense of God's existence and presence. Nevertheless, when the content of belief is paired with habits, practices, and experiences that prioritise focused attention, repetition, and emotional salience, it becomes far more likely that the belief one seeks may, indeed, become a felt reality. As William James notes, 'Truth *happens* to an idea. It *becomes true*, is *made true* by events'.⁸⁴

But the question must arise: Is this not a defense of brainwashing or manipulation? Does this argument not presuppose a willingness to be fooled or tricked into believing things that are unlikely to be true? Such spiritual technologies as those described above could well be put to dangerous use, after all.

In answer to this, it is first necessary to remember that humans exist in a state of constant change. Our brains, cognition, and experience are being altered on a daily basis, whether or not we are aware of it. Every time an individual goes to a film, attends a concert, falls in love, sheds tears after a favourite sports team loses a championship game—she exposes herself to experiences and contexts that will shape her holistic experience of reality in one way or another. We are *always* exposing ourselves to so-called 'manipulation'. Recognising this, it then becomes a question of how, precisely, we will allow ourselves to be changed. We may not be able to directly choose to believe in God or to experience the existence of God as a felt reality, but an individual *can* choose to put herself in a position where such belief becomes more likely. And this, I reiterate, is a theologically justified position, *if* one adopts what James K. A. Smith calls a 'dynamic, participatory ontology [that] refuses the static ontologies that presume the autonomy of nature'.⁸⁵ If one adopts the historical theological affirmation that all nature, all physical processes, are inherently involved with the creative and relational presence of God, and affirms 'material creation as "charged" with the presence of the Spirit', (including a 'nondualistic affirmation of embodiment and materiality'), then cooperating with that divine presence via the careful use of formative spiritual technologies is wholly appropriate.⁸⁶

⁸² Alcorta and Sosis, 'Ritual, Emotion, and Sacred Symbols', 341.

⁸³ Rea, *The Hiddenness of God*, 134.

⁸⁴ William James, *Pragmatism: A New Name for Some Old Ways of Thinking* (Cambridge, MA: Harvard University Press, 1907), 97.

⁸⁵ James K. A. Smith, 'Is the Universe Open for Surprise?', *Zygon* 43 (2008): 879-96, at 890.

⁸⁶ Smith, *Thinking in Tongues*, 12.

7. Conclusion

In closing, it is helpful to acknowledge a distinction between faith and belief. It is possible that one might pursue behaviors, practices, and experiences as acts of faith, even when one lacks cognitive belief. Jonathan Kvanvig, for example, defines faith in the following way:

[Faith] is an orientation of a person toward a longer-term goal, an orientation or disposition toward the retaining of the goal or plan or project in the face of difficulties in achieving it, one prompted by affections of various sorts and involving complex mental states that are fundamentally affective even if they involve cognitive dimensions as well. A plan, purpose, or goal is developed, and the culmination of this process involves a commitment by the individual to such a plan, and in following through on such a commitment the person displays the kind of faith that I am describing.⁸⁷

Here, faith is more of a holistic disposition and orientation than cognitive assent that something is or is not true. Daniel Howard-Snyder is also helpful here, further emphasizing that, ‘being in doubt is no impediment to faith. Doubt is not faith’s enemy; rather, the enemies of faith are misevaluation, indifference or hostility, and faintheartedness’.⁸⁸ A mere lack of belief need not necessarily entail a lack of faith. It is entirely possible that one might be compelled—for any number of reasons—to pursue a relationship with God, *even if* she currently experiences nothing but the hiddenness of God. To act in faith without the accompanying state of belief is not to pretend that something is true, but to *act as if* something is true, in faith that such a holistic cooperation with God might well result in the sort of active, robust knowledge of God that one seeks.

As intellectually and experientially difficult as the experience of divine hiddenness may be, mere acceptance and justification of such hiddenness may not be the appropriate theological response. Those who wish to embody a felt religious belief are both scientifically and theologically warranted in working *with* the biological processes involved in exceptional experience and belief formation, in cooperation with pre-existent evolved cognitive dispositions and mechanisms that make belief thoroughly natural, thereby altering one’s neurobiology and enhancing the organismic responsiveness necessary for a felt sense of belief. Such a suggestion is both hopeful and lies well within the bounds of Christian theology; as Rea contends, ‘there is consensus that the capacity to experience God can be developed through regular prayer, serious devotion to the cultivation of moral and spiritual virtue, and the development of various habits of mind that might reasonably be described as *seeking the presence of God, listening for God’s voice, reaching out to God in love, and the like*’.⁸⁹ What is remarkable here is how extraordinarily apt and scientifically grounded such traditional advice is turning out to be.

⁸⁷ Jonathan Kvanvig, ‘Affective Theism and People of Faith’, *Midwest Studies In Philosophy* 37 (2013): 109-128, at 111.

⁸⁸ Daniel Howard-Snyder, ‘Propositional Faith: What it is and What it is not’, *American Philosophical Quarterly* 50 (2013): 357-372, at 370.

⁸⁹ Rea, *The Hiddenness of God*, 94.