

WHY GOD WON'T GO AWAY

*Brain Science
and the Biology of Belief*

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and VINCE RAUSE

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To our families

A Ballantine Book

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WHY GOD WON'T GO AWAY

*The Metaphor of God
and the Mythology of Science*

*The one whom I bow to only knows to whom I bow
When I attempt the ineffable Name, murmuring Thou
And dream of Phaedian fancies and embrace in heart
Symbols (I know) which cannot be the thing thou art.
Thus always, taken at their word, all prayers blaspheme
Worshipping with frail images of folk-lore dream,
And all in their praying, self-deceived, address
The coinage of their own unquiet thoughts, unless
Thou in magnetic mercy to Thyself divert
Our arrows, aimed, unskillfully, beyond desert;
And all are idolators, crying unheard
To a deaf idol, if thou take them at thy word.
Take not, O Lord, our literal sense. Lord, in thy great,
Unspoken speech our limping metaphor translate.*

—C. S. Lewis

"A Footnote to All Prayers"

The prominent Christian apologist C. S. Lewis was never noted for his mystical sensibilities—he was an Oxford don who

relied upon intellect and meticulous scholarship to argue in defense of his faith, and whose writings have been embraced by millions of traditional, literalistic Christians around the world. In the poem above, however, he steps beyond mainstream orthodoxy to echo the essential transcendent wisdom of the mystics, that God is beyond all comprehension and description, and that all literal interpretations of his unknowable nature can never be more than symbols pointing toward a deeper, more mysterious truth.

The *unknowableness of God* is a defining principle for the mystically inclined religions of the East. Buddhism and Taoism, for example, leave little room for any personified deity. Even Hindus, who worship specific personalized deities, understand that these specific, identifiable gods are representations of the one-supreme Godhead, Brahman, who exists beyond form and description, and for whom "all illustrations are inadequate and truth is beyond words."¹

The concept of an unknowable, ungraspable God is more difficult for the monotheistic religions of the West. Judaism, Christianity, and Islam are all founded upon the revelation of a God who is a distinct Supreme Being: a specific supernatural entity, set apart from the natural world, with a name, a history, and a specific agenda for his people. The Western God speaks to the world through scriptures and prophets, he has moods and emotions, he is believed to be dramatically and empirically *real*. Such a strong divine personality does not lend itself easily to transcendent interpretations, but the mystics of the three great Western faiths have consistently and collectively insisted, in agreement with the teachings of the East, that the ultimate essence of God is far beyond the reach of human comprehension.

The high God of Kabbalistic mysticism, for example, sounds very much like the Hindu Brahman: a divine concept beyond the reach of human understanding, with no form or limits, and no dis-

inct personal attributes whatsoever. The Kabbalah calls this God *Ein-Sof*, which translates literally as "endless" or "infinite."

In *The Essential Kabbalah*, Judaic scholar Daniel Matt explains that God as *Ein-Sof* is beyond limits and comparisons. "Anything visible, and anything that can be grasped by thought is bounded," he says. "Anything bounded is finite. Anything finite is not undifferentiated. Conversely, the boundless is called *Ein-Sof*, Infinite. It is absolute undifferentiation in perfect, changeless oneness. . . ."

Islamic mystics have also understood the boundless ineffability of God, and have expressed the futility of trying to explain his unknowable nature. According to Rabi'a al-Adawiyya an eighth-century Islamic saint:

The one who explains, lies.
How can you describe the true form of Something
In whose presence you are blotted out?
And in whose being you still exist?²

The spiritual experiences of Christian mystics has likewise led them to conclude that the urge to understand God as a specific, literal being only leads us astray. "If you wish to be perfect and without sin," says the Catholic mystic Meister Eckhart, "then do not prattle about God. Also, you should not wish to understand anything about God, for God is beyond all understanding. A master says: 'If I had a God that I could understand, I would not regard him as God.' If you understand anything about him, then he is not in it, and by understanding something of him, you fall into ignorance. . . ."³

The conclusions of the mystics seem clear: God is by his nature unknowable. He is not an objective fact, or an actual being; he is, in fact, *being* itself, the absolute, undifferentiated oneness that is the ground of all existence. When we understand this truth, the

mystics claim, all religions connect us to this deeper, divine power. If we fail to understand it and we cling to the comforting images of a personal, knowable God—a God who exists entirely apart from the rest of creation as a distinct, individual being—we diminish the ultimate realness of God, and reduce his divinity to the stature of the small, "deaf idol" that Lewis's poetry so poignantly describes.

The mystics claim that the true nature of God can only be known through a direct, mystical encounter. Evelyn Underhill explains that "Mysticism, in its pure form, is the science of ultimates, the science of union with the Absolute and nothing else," and that "the mystic is the person who attains this union, not the person who talks about it. Not to know about, but to Be, is the mark of the real initiate."⁴

That doesn't mean, however, that the rest of us cannot appreciate the insights the mystics have shared. "Even if we are incapable of the higher states of consciousness achieved by a mystic," says Karen Armstrong, "we can learn that God does not exist in any simplistic sense, for example, or that the very word 'God' is only a symbol of a reality that ineffably transcends it."

For centuries, the existence of such a reality has been supported only by the claims of mysticism. Science has traditionally rejected these claims, but our work suggests that in the form of Absolute Unitary Being, the spiritual union the mystics describe feels at least as solidly and as literally real as any other experience of reality. The neurological and philosophical correlates of this conviction make it clear that Absolute Unitary Being would be a state of ultimate union and total undifferentiated oneness, a plane of existence in which all degrees of difference dissolve and comparisons become impossible. In Absolute Unitary Being, nothing is experienced but the pure and complete unity of all things, or of *no-things*. One thing cannot stand apart from another, so individual beings and objects cannot be perceived. The egotistical self cannot

exist, because it has no *non-self* against which to define itself. In the same fashion God cannot be set apart from this ultimate oneness as an identifiable, personalized being—to do so would be to conceive of a God who is less than absolutely real.

The perception of an absolute reality therefore, would demand that God be more than a knowable being, and make it clear that **all personifications of God are symbolic attempts to grasp the ungraspable.** This does not mean, however, that personalized conceptions of God are meaningless, or necessarily untrue. Instead, the state of Absolute Unitary Being impresses upon anyone who experiences it, the realization that **the God we can know is only a glimmer of a higher spiritual reality, in the same way, perhaps, that a single beam of light implies the glory of the sun.** In this sense, all personalized incarnations of God are rooted in the perception of a larger reality, the deepest, most sublime sense of realness the mind is able to experience. In this ultimate realness, which lies beyond material existence and subjective experience, all conflicts are resolved and the fundamental promise of all religions is fulfilled—suffering ends, unity and bliss are eternal.

In *The Mystic Heart*, Wayne Teasdale addresses the apparently Paradox irreconcilable conflict between belief in a personal God, and the acknowledgment of an impersonal higher reality. "In resolving these seemingly conflicting views," he says,

I think we are going to discover in coming years a more adequate view of the divine—something that can be verified in mystical experience—includes both personal and *transpersonal* reality. God is both a loving presence, compassionate, wise, kind, and merciful, and an impersonal principle of ultimate condition of consciousness, the basis of karma, *shunyata* or emptiness, and *nirvana*. They represent two sides of the same source, two fundamental insights, two mystical realizations of the ultimate mystery.⁵

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In other words, various incarnations of God are metaphorical interpretations of the same spiritual reality—the reality experienced as Absolute Unitary Being. When we realize that any specific conception of God is a piece of this larger puzzle, rooted in a mystical understanding of what's fundamentally real, then all religions become siblings, all faiths become true, and all incarnations of God can be understood as real.

But if we reject this crucial insight, if we cling to the image of God as a literal, knowable being, distinct and independent of the rest of reality, then we are left, at best, with a God that Lewis's poem describes as a "limping metaphor," as a symbol "which cannot be the thing thou art." At worst, we create a God who leads us away from unity and compassion, toward division and strife.

In terms of its impact upon human history, the concept of a personalized God is not necessarily negative. In *A History of God*, Karen Armstrong points out that the presence of just such a God, in fact, has made profoundly positive contributions to Western culture. "The personal God has helped monotheists to value the sacred and inalienable rights of the individual and to develop an appreciation of human personality," she says. "The Judeo-Christian tradition has thus helped the West to acquire the liberal humanism it values so highly."

But the same personal God, Armstrong warns, can become a grave liability. "[A personalized God] can be a mere idol carved in our own image," she points out,

a projection of our limited needs, fears, and desires. We can assume that he loves what we love and hates what we hate, endorsing our prejudices instead of compelling us to transcend them. When he seems to fail to prevent a catastrophe or seems even to desire a tragedy, he can seem callous and cruel. A facile belief that a disaster is the will of God can make us accept things that are fundamentally unacceptable. The very fact that, as a person, God has a gender is also

limiting: It means that the sexuality of half the human race is sacralized at the expense of the female and can lead to a neurotic and inadequate imbalance in human sexual mores. A personal God can be dangerous, therefore. Instead of pulling us beyond our limitations, "he" can encourage us to remain complacently within them; "he" can make us as cruel, callous, self-satisfied and partial as "he" seems to be. Instead of inspiring the compassion that should characterize all advanced religions, "he" can encourage us to judge, condemn, and marginalize.⁶

The God Armstrong describes is the God of witch-hunts, inquisitions, holy wars, fundamentalist intolerances, and countless other forms of religious persecution, all carried out with the confident presumption of divine endorsement. The authority to commit such atrocities is rooted in the assumption, made by believers, that their God is the only God, and their religion is the single, exclusive path to truth. As God's chosen people, they have the right, even the obligation, to oppose the "enemies of God" which is how they would describe the less holy, less *human* individuals who do not share their literal beliefs.

History suggests that religious intolerance is primarily a cultural phenomenon, based in ignorance, fear, xenophobic prejudice, and ethnocentric chauvinism. We believe, however, that intolerance is rooted in something deeper than mere narrow-mindedness; we believe it is based in the same transcendent experiences that foster belief in the absolute supremacy of personalized, partisan gods.

Transcendent states, as we've seen, exist along a continuum of progressively higher levels of unitary being that ultimately leads to the point at which unity becomes absolute. In the state of absolute unity, there are no competing versions of the truth; there is only truth itself, so conflicting beliefs, or conflicts of any kind for that matter, are not even possible.

If however, a mystic falls short of absolute unity—if, in neurological terms, the deafferentation of the orientation area is not complete—then subjective awareness would survive, and the mystic would interpret the experience as an ineffable union between the self and some mystical other. We examined the neurobiology of just such a state—the *Unio Mystica*—in our discussion of active meditation.

Like all advanced unitary states, this mysterious union would have a profound sense of realness; the mystics would viscerally feel that he or she had stood in the presence of absolute reality. A Christian might call this truth Jesus, a Muslim might invoke the name al-Lah, in primal cultures it might be interpreted as some powerful spirit of nature, but in every case it is experienced as a spiritual truth that stands apart from and above all others.

We've seen that the "discovery" of such truth through mystical experience, provides believers with a powerful sense of control over the otherwise uncontrollable whims of fate. The presence of a powerful spiritual ally convinces believers that their lives are a part of some comprehensible plan, that goodness rules the world, and even that death can ultimately be conquered.

What makes these beliefs more than hollow dreams is the fact that the God that stands behind them has been verified, through a direct mystical encounter, as literal, absolute truth. Any challenge to the authenticity of that truth, therefore, is an attack not only upon ideas about God, but also upon the deeper, neurobiologically endorsed assurances that make God real. If God is not real, neither is our most powerful source of hope and redemption. There can be only one absolute truth; it is a matter of existential survival. All others are threats of the most fundamental kind, and they must be exposed as impostors.

In other words, the presumption of "exclusive" truth, upon which religious intolerance is based, may rise out of incomplete states of neurobiological transcendence. Ironically, when the

process of transcendence is taken to the logical, and neurobiological, extreme, the mind is confronted with a state of absolute, uncompromising unity, in which all conflict, all contradictions, all competing variations of the Truth, disappear into harmonic, monolithic oneness. If we are right, if religions and the literal Gods they define are in fact interpretations of transcendent experience, then all interpretations of God are rooted, ultimately, in the same experience of transcendent unity. This holds true whether this ultimate reality actually exists, or is only a neurological perception generated by an unusual brain state. All religions, therefore, are kin. None of them can exclusively own the realist reality, but all of them, at their best, steer the heart and the mind in the right direction.

Human history shows that few religions have been willing to take such an inclusive and magnanimous view, and conflict has almost always been the norm. There are encouraging signs, however, that a number of important religious thinkers are beginning to accept the possibility, even the promise, that all religions share common spiritual bonds.

"Human beings naturally possess different interests and inclinations," says the Dali Lama.

Therefore, it should come as no surprise that we have many different religious traditions with different ways of thinking and behaving. But this variety is a way for everyone to be happy. If we only have bread, people who eat rice are left out. With a great variety of food, we are able to satisfy everyone's different needs and tastes. And people eat rice because it grows best where they live, not because it is either any better or worse than bread.⁷

"Because all the world's religious traditions share the same essential purpose, we must maintain respect and harmony among them."⁸ In his book *The Mystic Heart*, Catholic laymonk and

scholar Wayne Teasdale describes what he sees as the beginnings of the very kind of interreligious respect and harmony the Dalai Lama urges. Teasdale has coined the term "interspirituality" to describe this growing climate of dialogue and reconciliation between world religions, and to call attention to the essential spirituality that all religions share.

"Interspirituality is not about eliminating the world's rich diversity of religious expression," Teasdale says. "It is not about rejecting these traditions' individuality for a homogenous super-spirituality. It is not an attempt to create a new form of spiritual culture. Rather, it is an attempt to make available to everyone all the forms the spiritual journey assumes."

For Teasdale, that journey begins in the primal human urge for mystical union with some larger, all-embracing truth, a truth that humans sought long before religions existed to define it.

"For thousands of years before the dawn of the world religions as social organisms working their way through history, the mystical life thrived," Teasdale says. This mystical longing for connection with the divine, Teasdale believes, is at the heart of all genuine faith, and is the essence of all religions.

"The real religion of humankind can be said to be spirituality itself," claims Teasdale, "because mystical spirituality is the source of all the world's religions."

Teasdale's beliefs are based on faith, and on his personal experiences as a mystic, but his spiritual approach has led him to a conclusion that is also suggested by neurology: All religions arise from and are maintained by transcendent experiences, therefore, they all lead us, by different paths, toward the same goal of wholeness and unity, in which the specific claims of individual faiths converge into an absolute, undifferentiated whole.

For the proponents of interspirituality, the awareness of this fundamental unity has deep spiritual connotations, but it has profoundly pragmatic implications as well. As author and religion

scholar Dr. Beatrice Bruteau argues in the preface to *The Mystic Heart*, mysticism may provide the world with its last, best hope for a happier future, by allowing us to overcome the greed, mistrust and self-protective fears that have led to so many centuries of suffering and strife.

"Consider that domination, greed, cruelty, violence, and all our other ills arise from a sense of insufficient and insecure being," says Bruteau.

I need more power, more possessions, more respect and admiration. But it's never enough; the fear always remains. It comes from every side: from other people; from economic circumstances; from ideas, customs, and belief systems; from the natural environment; from our own bodies and minds. All these *others* intimidate us, threaten us, make us anxious. We can't control them. They are, to varying degrees, aliens. Our experience is: Where I am "I," they are "not-I."

According to Bruteau, mysticism allows us to transcend these egotistical fears. The awareness of mystical wholeness shows us that we are not so fundamentally alienated from one another and that, in fact, we do have all the *being* we need to be happy. When the appreciation of this mystical oneness rises to the surface, Bruteau says, "our motives, feelings, and actions turn from withdrawal, suspicion, rejection, hostility, and domination to openness, trust, inclusion, nurturance, and communion."

"This oneness—this freedom from alienation and insecurity—is the sure foundation for a better world," she says. "It means that we will try to help each other rather than hurt each other."

Anyone who reads the newspapers—anyone, for example, who has heard of Rwanda, Kosovo, Kashmir, or the Golan Heights—may find Bruteau's optimism poignantly naive. It's in our nature, it

seems, to define survival as a matter of competition and conquest, as the survival of the fittest, as a ruthless game of dog-eat-dog. The human brain, after all, evolved primarily for the purpose of making us ferociously efficient competitors. We have a natural genius for defining threats, for naming enemies, and for fiercely protecting our own best interests, no matter how narrowly or selfishly we define them.

This does not mean, however, that we are condemned by human nature to live in a world of dissension and discord, because the same brain that inclines us toward egotistic excess also provides the machinery with which the ego can be transcended. In these transcendent states, whatever their ultimate spiritual nature may be, suspicion and dissension disappear into the peace and love of an indescribable unity. The transforming power of these unitary states, is what makes mysticism our most practical and effective hope for improving human behavior, believes Beatrice Bruteau.

Q | "If we could arrange energy from within," she says, "if we more often nurtured our companions and promoted their well-being, we would suffer much less. Rearranging energy from within is what mysticism does."

Generations may pass before human society is ready for such transforming ideas, but it is intriguing to know that if such a time should arrive, the brain will be ready, possessing the machinery it needs to make those ideas real.

The neurology of transcendence can, at the very least, provide a biological framework within which all religions can be reconciled. But if the unitary states that the brain makes possible are, in fact, glimpses of an actual higher reality, then religions are reflections not only of neurological unity, but of a deeper absolute reality.

In the same sense, neurology can reconcile the rift between sci-

ence and religion, by showing them to be powerful but incomplete pathways to the same ultimate reality. The conflict between science and faith was propelled by the great discoveries of the scientific age, which arguably began when Galileo's observations verified Copernicus's view of the solar system. The revelation that the earth had not been lovingly set at the center of the universe by a dotting, divine creator was a devastating blow to orthodox Christian doctrine at that time. To make matters worse, when the Church tried to silence Galileo by proclaiming him a heretic, it showed itself, in the eyes of many rational people, to be more concerned with dogma than with truth.

As centuries passed, and science and philosophy found more and more rational explanations for mysteries which once could only be explained by a divine presence, thinking people found it increasingly difficult to maintain their belief in God. Then in the mid-nineteenth century, science produced two revolutionary theories that seemed to make God irrelevant in the scientific age.

The first appeared in Charles Lyell's book *Principles of Geology*, published in 1830. Lyell's research showed that the contours of the natural landscape were shaped by geological forces, not by the hand of God, and that the earth was much older than Bible stories claimed. Twenty-nine years later, *The Origin of Species* was released, and the world was rocked by Darwin's revolutionary theories that life-forms evolved through impartial biological adaptation over a span of millions of years, and not in a single flash of divine creative energy.

In the midst of this scientific revelation, Nietzsche proclaimed God dead. It's important, however, to realize that the God he thought science had killed, the God that was no longer compatible with rational thinking, was the personal Creator God of the Bible. There is nothing that we have found in science or reason to refute the concept of a higher mystical reality.

This does not mean that mainstream science has opened its arms to the possibility of mystically-discovered reality. The authority of science, after all, is rooted in the assumption that material reality is reality in its highest form; that nothing is more real than the physical, material stuff of the universe. But even from a scientific perspective, the nature of material reality may be more slippery than common sense would suggest. **Albert Einstein** certainly thought so. In 1938, he expressed his belief that scientific interpretations of the physical world may not be as reliable as rational materialists would like to believe:

Physical concepts are free creations of the human mind, and not, however it may seem, uniquely determined by the external world. In our endeavor to understand reality, we are somewhat like a man trying to understand the mechanism of a closed watch. **He sees the face and the moving hands, even hears it ticking, but he has no way of opening the case.** If he is ingenious he may form some picture of a mechanism which could be responsible for all the things he observes, but he may never be quite sure his picture is the only one which could explain his observations. He will never be able to compare his picture with the real mechanism and he cannot even imagine the possibility of the meaning of such a comparison.⁹

The best that science can give us is a metaphorical picture of what's real, and while that picture may make sense, it isn't necessarily true. **In this case, science is a type of mythology, a collection of explanatory stories that resolve the mysteries of existence and help us cope with the challenges of life.** This would be applicable even if material reality is, in fact, the highest level of reality, because despite science's preoccupation with objectively verified truth, the human mind is incapable of purely objective observations. All our

perceptions are subjective by their nature, and just as there's no way to peek inside Einstein's watch, there's no way we can slip free of the brain's subjectivity to see what's really out there. All knowledge, then, is metaphorical; even our most basic sensory perceptions of the world around us can be thought of as an explanatory story created by the brain.

Science, therefore, is mythological, and like all mythological systems of belief, it is based on a foundational assumption: *All that is real can be verified by scientific measurement, therefore, what can't be verified by science isn't really real.*

This kind of assumption, that one system is exclusive arbiter of what is true, makes science and religion incompatible. If Absolute Unitary Being does, indeed, exist, then science and religion find themselves in a paradoxical situation: The more literally we take their own foundational assumptions, the deeper they are in conflict with each other, and the further they fall from ultimate reality. But if we understand the metaphorical nature of their insights, then their incompatibilities are reconciled, and each becomes more powerfully and transcendently real.

If Absolute Unitary Being is real, then God, in all the personified ways humans know him, can only be a metaphor. But as C. S. Lewis's poem suggests, metaphors are not meaningless, they do not point at nothing. What gives the metaphor of God its enduring meaning is the very fact that it is rooted in something that is experienced as unconditionally real.

The neurobiological roots of spiritual transcendence show that Absolute Unitary Being is a plausible, even probable possibility. Of all the surprises our theory has to offer—that myths are driven by biological compulsion, that rituals are intuitively shaped to trigger unitary states, that mystics are, after all, not necessarily crazy, and that all religions are branches of the same spiritual tree—the

fact that this ultimate unitary state can be rationally supported intrigues us the most. The realness of Absolute Unitary Being is not conclusive proof that a higher God exists, but it makes a strong case that there is more to human existence than sheer material existence. Our minds are drawn by the intuition of this deeper reality, this utter sense of oneness, where suffering vanishes and all desires are at peace. As long as our brains are arranged the way they are, as long as our minds are capable of sensing this deeper reality, spirituality will continue to shape the human experience, and God, however we define that majestic, mysterious concept, will not go away.

EPILOGUE

So Just What Is Neurotheology Anyway?

The publication of *Why God Won't Go Away* has drawn widespread attention from the media, and has generated a tremendous amount of excitement and support, as well as controversy, from both the religious and scientific communities alike. One of the goals of our work, and the message we've tried to communicate in this book, is that science and religion do not have to be incompatible: One need not be wrong for the other to be right. This is a surprising and challenging concept, but a rigorous analysis of our research tells us it is true. It should also be mentioned that our body of research is based not only on our own brain imaging studies, but the theoretical development of our model is based on an extensive review of the neuroscientific and religious literature, and on a thorough philosophical and theological exploration of the relationship between the brain, religious practice, and spiritual experiences. We hope our work will provide a new way to explore the connection between science and the religious urge—the driving spiritual force behind all religions—in ways that not only shed new light on the origins and meaning of human spirituality, but also give us greater scientific insights into the mysterious workings of the human brain. It has always been our hope that our work will advance the exploration of the intersection of science and religion



in a way that allows each perspective to enhance, rather than diminish, the other.

At the heart of our theory is a neurological model that provides a link between mystical experience and observable brain function. In simplest terms, the brain seems to have the built-in ability to transcend the perception of an individual self. We have theorized that this talent for self-transcendence lies at the root of the religious urge. However, we do not mean to imply that all religious beliefs or behaviors are inherently mystical.

I'd like to be clear on this point, because it seems to have troubled some readers and critics. For example, at one of my speaking engagements I was approached by a middle-age woman who worried that our findings had diminished her own spirituality. She told me she had been religious her entire life, had attended services regularly, had prayed and been charitable and tried her best to be true to her faith. But she had never had the kind of mystical experience we describe in our book. "Does this mean I'm not really religious?" she asked.

My answer was, "Of course not." For better or worse, much of the attention we have received about our overall body of work has focused on our brain imaging studies of Tibetan Buddhists and Franciscan nuns. In these studies we examined the kinds of mystical states that people attain only after many years of spiritual practice. Spiritual experience is an important aspect of our theory, but its deeper meaning, and its relevance to everyday religious practices, have often been overlooked.

For one thing, our work tells us that these mystical experiences occur on a continuum. At the far end of this continuum are the profound states of spiritual unity described by saints and mystics. But the same complex brain function that makes such powerful states possible also enables us to feel much milder, and more "ordi-

nary," sensations of spiritual connection—the sense of uplift or absorption you feel during moments of prayer or contemplation, for example, or while joining in with your congregation to sing a hymn.

More broadly, our research gives us new ways to understand and address the connection between brain activity and many "everyday" religious and spiritual issues: the importance of community and family; ethics and morals; love, compassion, and forgiveness. These are things we must address if we are to understand the connection between religion and the brain with the kind of richness and dimension we hope to achieve.

There is important work being done in this field by several researchers who have focused exclusively on the brain's role in mystical experience. This work is extremely valuable, because all the world's great religions—and, we believe, all religious impulses—arise from the brain's ability to transcend the limited self and perceive a larger, more fundamental reality. Any attempt to create a biological theory of religion must address this point.

But if the aim is to understand the connection between biology and spirituality in a way that has practical relevance for religious people of all faiths and cultures, then it is vital that we widen the lens and address the issues of belief and behavior in ways most people can relate to.

This is precisely the goal of the emerging field of neurotheology, to understand the link between brain function and *all* important aspects of religion. To better explore the fascinating connection between mind, brain, and faith, we might consider how neurotheology can actually become a "metatheology" and "megatheology." These are intimidating phrases, but their meaning is quite simple. A metatheology is a way to describe how the specific theological principles of any given religion may have arisen. A megatheology is a way of approaching religion that focuses on the universal elements that all religions seem to share. The elements of

a megatheology theoretically could be integrated into any specific belief system. Importantly, while these elements must include an understanding of mystical experience, they must also address the more common aspects of religious behavior, including ideas about community and family, morality, love, devotion, forgiveness, a sense of belonging, and a sense of being a part of something greater than the self.

We believe neurotheology provides the best source for developing satisfying meta- and megatheologies. There are several reasons for this. A neurotheological approach, by its very nature, is universal. All human beings have a brain, and all of these brains work in a very similar fashion. So if we are ever going to get a sense of the universal aspects of religion, then the brain might be the best place to start. The neurotheological approach also can help to link religion to human psychology and the human body since all these factors appear to be intimately intertwined. As we have shown in this book, a neuroscientific approach can help explore many critical ingredients of religion, including myth, ritual, and mystical experience. My colleagues and I have also explored how such an approach can be used to understand forgiveness, community, and emotional feelings such as love. This approach also helps us understand many theological notions in terms of the origin of the concepts of causality, wholeness, and justice, not to mention specific conceptions of God.

For example, Christian theology has made tremendous efforts to reconcile how the three aspects of God—the Father, the Son, and the Holy Spirit—all exist as one God. By looking at how the brain works to perceive the parts as well as the whole, we might be able to explore these theological issues from a biological perspective. This will not necessarily solve the problems ontologically, but will provide some very important information that may help resolve and understand many of the theological issues faced in all religions.

As we have described in the book, myths almost always involve the resolution of seemingly irreconcilable opposites. After all, the primary goal of all great religions is to reconcile the frail, imperfect human being with the omnipotent, perfect, eternal being that is, in many ways, its true opposite. By understanding how the brain helps us to solve this, and all other mythic problems, we gain great insights into how theologies might generate new and ever more satisfying ways to understand the promises of religion.

The ability to explore theology from a neurological perspective can help us to understand, in very powerful ways, the human urge for religion and religious myth. It can also provide a framework from which we can explore any individual myth, whether this be the foundational myth from which the rest of a religion is developed or some small "side myth" that raises a single but important point about life. Thus, if we take our conception of any myth, we can to some extent find how various brain functions play out within that myth. We can identify the opposites, recognize the holistic answers, observe the emotional feelings, revel in the mystery of certain numbers, and even review how the entire myth is described through language, senses, and feelings.

In this way, while neurotheology cannot necessarily predict what types of myths will arise, it can help to provide the underpinnings for understanding any given myth. Theology itself then helps to analyze these basic tenets of a religion to better understand them and how they relate to human beings. Once again, we would argue that whatever analysis is brought to bear on a given religion, it is always the brain that is performing that analysis. For example, if we are striving to understand how God can be the ultimate cause of all things, we have to be aware of the need of the human brain to perceive cause in the world. What if we did not have this ability? What if we never understood why things happen? There are rare cases of patients who damage certain critical areas of the brain involved with causal reasoning. They have no understanding of why

things happen or why a doorbell implies that someone is at the door. It would be impossible for a brain devoid of causal thinking to consider religion and God from a causal perspective. In this circumstance, God might be understood on more of an emotional basis. Perhaps the focus would be that God is the ultimate love and goodness of the universe rather than its cause. This has no bearing on what God actually is, only on how we as human beings can conceive of God and how God manifests himself in the world.

The megatheology aspect of neurotheology is a bit more complicated because neuroscience itself appears to be unable to provide information regarding the ultimate level of reality, whether that level is called God, nirvana, or AUB (Absolute Unitary Being). The neurological approach taken in this book gets us to a very important launching point to be able to explore these ontological questions. In particular, we have shown that every human experience is at least on a par with every other experience in terms of being representative of reality. In other words, reality happens in the brain, and while our imaging studies do not prove the existence of a higher spiritual plane, they do strongly indicate that to the brain, these states are as real as any other. At this point, neurotheology requires us to attempt another level of analysis, beyond neurological function, in which we explore the "reality" of the experiences in and of themselves. Time and time again, people who have experienced intense mystical states insist that these states feel more real than everyday reality. Neurology can neither prove nor disprove this point, but informed speculation tells us that it's possible that AUB may be as real, if not more fundamentally real, than what we perceive as "ordinary" reality. As we described, it may even be the case that the state of AUB is a primary reality, one from which all objective and subjective perspectives of the world are derived. Whether or not AUB is ontologically real, it provides us with a common source of all spiritual urges and a universal goal that has been interpreted in myriad ways by all the great religions of the

past and present. In this way, the concept of AUB may provide a primal spiritual foundation upon which we can imagine a true megatheology.

While we still have some way to go before any perspective, including a neurotheological one, can help us to understand the vast complexity and richness of all different types of religious experiences and ideologies, we feel that neurotheology is a crucial factor and one that may offer the best way of helping to integrate science and religion, in a way that will enrich our understanding of both the world of the mind and the world of the spirit.