

# Neuroscience and the Person

*Scientific Perspectives on Divine Action*

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Vatican Observatory  
Publications,  
Vatican City State



Center for Theology and  
the Natural Sciences,  
Berkeley, California

1999

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Jointly published by the Vatican Observatory and  
the Center for Theology and the Natural Sciences

Distributed (except in Italy and the Vatican City State) by  
The University of Notre Dame Press  
Notre Dame, Indiana 46556  
U.S.A.

Distributed in Italy and the Vatican City State by  
Libreria Editrice Vaticana  
V-00120 Citta del Vaticano  
Vatican City State

ISBN 0-268-01490-6 (pbk.)

## ACKNOWLEDGMENTS

The editors wish to express their gratitude to the Vatican Observatory and the Center for Theology and the Natural Sciences for co-sponsoring this research. Particular appreciation goes to George Coyne and William Stoeger, whose leadership and vision made this series of conferences possible.

Editing for this volume began with an initial circulation of papers for critical responses and pre-conferences in Rome and Berkeley (1997) before the main conference in Pasierbiec, Poland (June, 1998), and continued with interactions between editors and authors after the main conference. The editors express their gratitude to all the participants for written responses to pre-conference drafts and for their enthusiastic discussions during the conferences.

Special thanks goes to Kirk Wegter-McNelly, CTNS Editing Coordinator, who devoted meticulous attention and long hours to every stage in the post-conference phases of the production of this volume while pursuing doctoral studies at the GTU. In consultation with the editors, Kirk was responsible for copy-editing the text, preparation of figures, layout of the volume, cover design, and the indices. Thanks go to George Coyne for overseeing printing and distribution.

On behalf of all the participants, the editors also thank staff members at CTNS, the Vatican Observatory, the retreat center at Pasierbiec, student assistants from the Pontifical University in Cracow, and especially Michael Heller for their work in organizing the main conference and pre-conferences.

The editors thank Fergus Kerr and the publisher for permission to reprint chapter one of Fergus Kerr, *Theology After Wittgenstein*, 2nd ed. (London: SPCK, 1997).

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# A NEUROPSYCHOLOGICAL-SEMIOTIC MODEL OF RELIGIOUS EXPERIENCES

Wesley J. Wildman & Leslie A. Brothers

## ***1 Introduction***

### ***1.1 Goal***

The goal of this essay is to present a richly textured interpretation of a large tract of the territory of religious experiences that we shall call *experiences of ultimacy*, a name that will be explained below. We develop this interpretation in two phases. First, we describe these religious experiences as objectively as possible, combining the descriptive precision of phenomenology informed by the neurosciences with a number of more obviously perspectival insights from psychology, sociology, theology, and ethics. Our hope is that the resulting taxonomy is compelling enough to suggest criteria for the plausibility of constructive efforts in theology and philosophy that depend upon an interpretation of religious experiences, including those in this book that attempt to speak of divine action in relation to human consciousness.

Second, we make two constructive ventures on the basis of this description. In the first, inspired by existing social processes used to identify authentic religious experiences, we describe a procedure whereby genuine experiences of ultimacy can be distinguished from mere claims to such experiences. This brings such experiences into the domain of public, scientific discussion as much as they can be, which is a great advantage from the point of view of encouraging more mainstream discussion of them by scientists and other intellectuals. The other constructive venture is a theory about the causation of ultimacy experiences. This is our attempt to evaluate claims made concerning the ultimate cause and value of experiences of ultimacy. The modeling procedure we adopt makes use of semiotic theory to plot not causal interactions themselves but rather their traces in the form of sign transformations—all terms that will be explained in detail later. In the language of semiotic theory, these causal traces take the form of richly intense sign transformations. This proposal keeps ontological presuppositions to a minimum by focusing on causal traces rather than on the nature of the cause itself. Nevertheless, it does offer a religiously or spiritually positive way of interpreting authentic ultimacy experiences, and at the end we offer a suggestion about the nature of the ultimate reality that might leave such causal traces.

### ***1.2 Motivation***

The motivation for the task we undertake here is primarily the intuition that religious experiences are important elements of human life, worthy of respectful and energetic interdisciplinary study. A word of explanation is required, however, because this intuition may seem obscure or trivial, depending on one's point of view. On the one hand, when religion is understood in the tradition of Emile Durkheim as the expression and codification of the most important cosmological and ethical

commitments of a group,<sup>1</sup> individual experiences may seem irrelevant to the account of religion proffered. Yet appearances in this case are misleading: as Durkheim himself understood, without personal religious experience in some form, whether aberrant or not, the cohesiveness of religious groups and the motivation for underlying cosmological and ethical commitments remain unintelligible features of human life. On the other hand, a religious interpretation of human life in terms of categories such as sin and salvation, suffering and liberation, will be so apt to emphasize individuals that religious experiences will seem inevitably preeminent. The danger here, however, is that the complexity and diversity of religious experience and practice will be reduced to fit what a particular religion's belief structure can comprehend. Juxtaposing these two points of view leads to the conclusion that religious experiences are important in any analysis of human life and that many different points of view need to be integrated in order to achieve a properly balanced theory.

This assessment of the general importance of the study of religious experiences needs to be related to several other motivating factors. First, the increasing obscurity of scriptural, ritual, and theological language about divine action in recent centuries has drawn attention to the individual person as a possible locus for the action of God or gods. In fact, to the extent that divine action in the natural order has been eclipsed by scientific accounts of nature, divine action directly in relation to human consciousness can have the significance of a last resort for making sense of such language. This adds a sense of urgency to the investigation of religious experiences, especially among those who have had them.

Second, the neurosciences have largely succeeded through their analyses of brain structure and function in portraying that which is distinctively human as continuous with regularities and forms of complexity observed throughout nature. This generally accepted conclusion about human beings reconfigures the whole question of religious experiences by proposing explanations for them that are independent of the assumption that they are experiences of anything properly called a religious object.<sup>2</sup> The rise of the neurosciences does not make this reductionistic challenge philosophically different in kind than it was previously, but it does demand that theories of religious experiences should attend to the neurosciences.

Third, although neuroscientific accounts have focused on isolated brains, there is growing interest in the social capacities of the human brain. This research area suggests an approach to theorizing about religious experiences that exploits fruitful links between isolated-brain neuroscience and the various forms of communal wisdom that traditionally have been vital to the understanding of religious experiences.

### ***1.3 Limitations***

So much for motivation. Our goal must also be qualified by several practical considerations. First, research into the nature of religious experiences is still in its

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<sup>1</sup> See Emile Durkheim, *The Elementary Forms of the Religious Life*, tr. from the French by Joseph Ward Swain (New York: The Free Press; London: Collier Macmillan Publishers, 1915).

<sup>2</sup> For an early and notable example of such a theory, see Julian Jaynes, *The Origin of Consciousness in the Breakdown of the Bicameral Mind* (Boston: Houghton Mifflin Company, 1976).

infancy in most respects. In particular, neuroscience—including cognitive neuroscience, the subdiscipline most pertinent to our current project—lacks a central theory capable of organizing the fragments of knowledge that we have. The field at present is a collection of part-concepts whose composition shifts with each new wave of experiments and interpretations.<sup>3</sup> Detailed neurobiological accounts are therefore premature: we can only make tentative suggestions, and nothing will get done without a sense of adventure. The same must be said of the phenomenology of religious experience. Disciplined and properly informed cross-cultural comparison has barely begun, and the means to determine agreement and disagreement between culturally bound descriptions of religious experiences remain obscure.<sup>4</sup>

Second, a cornerstone of our position is its neutrality. In the descriptive phase of the essay, we assume neither the reality nor the nonreality of that which is taken to be the object of an experience of ultimacy, and we take for granted neither the efficacy of belief in that object nor even the coherence of the idea. Subsequently, in the constructive phase of the essay, while we shall assume that ultimate reality leaves causal traces of a particular kind, we assume nothing about the nature of this ultimate reality; it could be anything from ontological emptiness to a supernatural God, from the self-grounding mystery of Godless nature to the wondrous divinity beyond being and not-being of the great mystics. We shall explain how this neutrality is possible below but state the two associated limitations here. First, there are some theological and existential-philosophical perspectives from which this posture of maximizing neutrality necessarily dooms our project because, it is held, ultimacy can only be discussed fairly if its reality and efficacy are fully accepted. We take this dictum seriously because it is the view of so many theologically serious viewpoints in the world's religions. We think, however, that it can only be evaluated empirically on the basis of the success or failure of projects that set it aside, as ours does. Second, our attempt to be as ontologically neutral as possible in the constructive phase of the essay avoids a self-defeating reductionism by making use of a philosophical framework drawn from semiotic theory (the theory of signs).<sup>5</sup> Some philosophical complexity is the inevitable result, but we try as much as possible to deal with the philosophical details in footnotes and only introduce them as they are needed toward the end of the essay.

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<sup>3</sup> A similar analysis holds good, we think, for cognitive science. This is as true now—see Fraser Watts's essay in this volume—as it was a quarter of a century ago; see Allen Newell, "You Can't Play 20 Questions with Nature and Win: Projective Comments on the Papers of This Symposium," in *Visual Information Processing: Proceedings of the Eighth Annual Carnegie Symposium on Cognition*, William Chase, ed. (New York: Academic Press, 1973), 283–308.

<sup>4</sup> One component of this challenge is to develop cross-cultural comparative religious categories and the means to criticize and improve them. This is the goal of a series of volumes forthcoming from the Cross-Cultural Comparative Religious Ideas Project, directed by Robert Cummings Neville, Peter L. Berger, and John H. Berthrong, to be published by SUNY Press. The first of these, *The Human Condition*, is scheduled for publication in 1999. Subsequent volumes, to appear in 2000, are *Ultimate Realities* and *Religious Truth*.

<sup>5</sup> The elements of semiotic theory that we use are drawn especially from the pragmatic philosophy of the North American philosopher Charles Saunders Peirce, whose paleopragsmatism (the apt designation of Robert C. Neville) is to be distinguished sharply from the neopragsmatism of Richard Rorty. See section 7, below, for a more detailed account of the salient points.



Third, we acknowledge other difficulties: our analysis of religious experiences is not, in fact, independent of considerations in the philosophy of mind bearing on the ontological complexities of the mind-brain problem.<sup>6</sup> Nor is it independent of the various problems of consciousness, including the “hard problem” of first-person experience.<sup>7</sup> And we are forced to take a provisional stand on the notoriously controverted problem of defining religious experience. We shall assume that we can pursue our own line of investigation in spite of these and other complications.

#### 1.4 Focus: “Experiences of Ultimacy”

Religious experiences include experiences in religious groups, as when worshipping, and experiences alone, as when meditating or in prayer. They may be mundane or sublime, wordlessly simple or replete with ideas. They include drawn-out periods of character transformation and spectacular episodes of conversion. This suggests too vast a diversity to describe all at once, so we need to define and name a target group of experiences.

The target group is determined by our interest in eventually developing a model that will be useful for discussing the ultimate causes and value of religious experiences (see section 7 below). We need to include experiences that religious people say are caused by God—whether correctly or mistakenly is unimportant at this stage. This narrow group of experiences conceivably might be called “God experiences.”<sup>8</sup> This phrase is inappropriate for designating experiences within non-theistic religions, however, so we use the vaguer, more inclusive phrase, “experiences of ultimacy,”<sup>9</sup> which also expands the target group significantly.

Defining experiences of ultimacy more precisely is a complicated task, for two reasons. On the one hand, the way people describe their experiences crucially depends on the particular social and linguistic contexts in which the descriptions are used. On the other hand, we cannot know with certainty the contents of other minds,

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<sup>6</sup> On the mind-brain problem, see Daniel C. Dennett, *Consciousness Explained* (Little-Brown and Co., 1991); Roger Penrose, *Shadows of the Mind* (Oxford and New York: Oxford University Press, 1994); and John R. Searle, *The Rediscovery of the Mind* (Cambridge and London: The MIT Press, 1993).

<sup>7</sup> On the “hard problem” of first-person consciousness, see David J. Chalmers, “Facing Up to the Problem of Consciousness,” *Journal of Consciousness Studies* 2.3 (1995): 200–19, and idem, *The Conscious Mind: In Search of a Fundamental Theory* (New York: Oxford University Press, 1996); J. Levine, “Materialism and Qualia: The Explanatory Gap,” *Pacific Philosophical Quarterly* 64 (1983): 354–61; and Thomas Nagel, “What Is It Like To Be a Bat?” *Philosophical Review* 83 (1974): 435–50.

<sup>8</sup> This is the terminology used in Michael A. Persinger, *Neuropsychological Bases of God Beliefs* (New York and London: Praeger, 1987).

<sup>9</sup> “Ultimacy” is a better category than “God” for registering the primary goal and object of a wide variety of religious traditions. Of course, the term “ultimacy” has to be construed sufficiently vaguely to comprehend the ultimate realities of religious traditions that think in such terms (such as most strands of the Abrahamic traditions and much of Hinduism), the ultimate paths or ways of religious traditions that subordinate questions of ultimate realities (such as strands of Buddhism and Hinduism), and the many ultimates of religious traditions that tend to avoid speaking of encompassing ultimates of either variety (such as strands of Chinese religion). In fact, most or perhaps all religious traditions thematize ultimacy in a variety of ways, ranging on one axis from ultimate realities to ultimate paths and on another axis from explicit to implicit formulations. When ultimacy is construed so as to take account of such variations, it is the optimal comparative category for our purposes.

so it is hard to know whether we are describing the same experiences even when we use identical descriptions within a single social-linguistic context. These considerations draw our attention to the hermeneutical circle connecting social-linguistic context and individual descriptions of ultimacy experiences.<sup>10</sup> While some might welcome relativism of descriptions as a way of protecting religious experience from scientific scrutiny, we treat it as a problem to be overcome. Our efforts can only be useful for questions about the causes and value of ultimacy experiences (the focus of section 7) if there is a way to determine, at least approximately, when and what sort of ultimacy experiences occur (the focus of section 6).<sup>11</sup>

Many attempts to define religious experiences have been made. We think most of them are flawed but we have found their insights quite helpful, as the following examples show. First, some definitions rely on phenomenological characteristics to circumvent the problem that people's descriptions are unreliable (for example, William James). This is wise, and we think that a sense of oneness with the divine and a sense of awe are good phenomenological markers for some experiences in our target group. Yet we cannot rely solely on a phenomenological approach to defining our target group because phenomenological reports are themselves subject to hermeneutical difficulties.<sup>12</sup> Second, some definitions focus on the irrational and usually spectacular elements of religious experience (for example, Rudolf Otto). This is useful because the phenomenological markers are easy to identify in those cases. However, we also want to include the more rational experiences surrounding the forming and changing of convictions and behaviors. Particularly interesting for understanding the causes and value of religious experiences are the sometimes mundane-seeming, sometimes spectacular experiences of conversion and character transformation, which typically involve both irrational and rational elements. Third, definitions focusing on individual experiences make obvious sense, and yet the role of the social-linguistic context is easy to overlook. We wish to pay close attention to the way social-linguistic contexts condition an individual's description of ultimacy experiences, for which a rich resource is the refined judgment of religious groups concerning the authenticity of claims to conversion and character transformation. Fourth, most definitions focus on what people are willing to call religious experiences, but we also want to include in our target group episodes in the lives of non-religious people who do not have the category "religious experience" at their

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<sup>10</sup> This hermeneutical circle can be described by defining the social-linguistic context as the domain (1) in which experiences of ultimacy are described and redescribed, (2) in relation to which people form their expectations about experiences of ultimacy, (3) under the influence of which people learn how to use the words that will later help them describe their own ultimacy experiences, and (4) by means of which people's descriptions of their experiences are assessed, corrected, and regulated.

<sup>11</sup> It is important to note that detecting authentic ultimacy experiences is not merely an academic instinct imposed on religious practice. It is a pressing concern for religious groups as well, many of which have developed sophisticated methods of discernment to help make the judgments they want to make about the authenticity of religious experiences.

<sup>12</sup> The difficulties of too narrowly phenomenological an approach to delimiting the target group are as follows. First, this approach is precarious through its exclusive dependence on people's descriptions of religious experiences; phenomenological description requires skills in reporting that most people do not have. Second, the exclusively phenomenological approach to definition tends toward too narrow a definition, de-emphasizing many important features of religious experiences, especially those surrounding conversion and character transformation.

disposal. Nonreligious people sometimes describe their experiences in ways that lead religious people to call them “religious experiences.”<sup>13</sup> Moreover, such experiences sometimes appear to be potent forces for character transformation. We conjecture that people’s self-identification as religious or nonreligious is not an overriding consideration in determining the causes and value of religious experiences.

Having pondered existing definitions of religious experience, we are forced to concede that a precise definition of ultimacy experiences is probably out of the question. Nevertheless, there are several sorts of markers for ultimacy experiences: people’s descriptions within social-linguistic contexts, phenomenological characteristics, the judgment of experts in religious discernment or of psychologists, the wisdom of generations encoded in theological and ethical traditions, and even neural signatures. These markers may not always be in complete harmony, as when a phenomenologically spectacular religious conversion is judged inauthentic by a religious group or when a person not affiliated with any religious group refuses to describe as religious an experience that utterly transforms his or her character. Nevertheless, such markers can still be used to evaluate putative experiences of ultimacy. In section 6 we shall give some examples of how this evaluation process might work. The point to be made here is that establishing a process of evaluating putative ultimacy experiences is equivalent to offering a dynamic definition for our model’s target group of religious experiences. The resulting definition is dynamic in two senses. On the one hand, applying the definition in any given instance requires running through the process of evaluating the various markers for ultimacy experiences and remembering at the same time that there is a complex taxonomy of such experiences whereby different types are associated with different sets of phenomenal characteristics. On the other hand, the definition is not dyadic, excluding some experiences and including others. It is more like a set of targets, with the ultimacy experiences closest to the bull’s eye for each type being those with the strongest agreement among markers.

Diagram 1 (see Appendix B) illustrates both the relation between ultimacy experiences and other experiences and the complex process of definition that we need to develop. The various considerations relevant to the description of ultimacy experiences are introduced in the next section and discussed in detail in sections 2–5. How all of this descriptive work contributes to a dynamic process of definition is described in section 6. The causal model of ultimacy experiences developed in section 7 is built on this descriptive foundation. As complicated as they are, we think experiences of ultimacy are delineated well enough for us to proceed with trying to describe them.

### ***1.5 Components: Four Perspectives on Ultimacy Experiences***

We gather the considerations we use for the description of ultimacy experiences into four groups. Two—the phenomenological and the social-psychological—refine our understanding of the fundamental dialectic between individuals and social-linguistic contexts; it is within that dialectical tension that the meanings of descriptions of ultimacy experiences are established. The other two components are less closely bound to the social-linguistic systems. One is neurology, which may in the future

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<sup>13</sup> There are accounts of this sort in William James, *Varieties of Religious Experience: A Study in Human Nature* (New York: Longmans, Green, 1902).

contribute criteria to the task of assessing ultimacy experiences. The other is theological or ethical convictions that stipulate criteria for authenticity of claims to experiences of ultimacy in the form of correlations between such experiences and the behavior of those that have them. Theology sometimes also ventures to stipulate the specific causes of certain kinds of ultimacy experiences. We shall introduce each of these four components briefly and then devote the next four sections to a more detailed discussion of each.

First, phenomenological description of ultimacy experiences furnishes a thick description of their quality and relations to other events and experiences.<sup>14</sup> Phenomenological description depends on intensifying a linguistic system with new vocabulary and meanings, which allows experiences to be described with great nuance and precision. We may think of Rudolf Otto's phenomenology of numinous experiences (see section 2.2). Or we may think of Søren Kierkegaard's three-staged phenomenology of religious conversion and character transformation from the aesthetic to the ethical to the religious (see section 2.5). These and other phenomenologies, we take it, often induce strong feelings of recognition in those who read them; they often succeed in evoking assent when the reader is sensitive enough to grasp the enhancements of the linguistic system that the phenomenologist is trying to establish.

The second set of considerations derives from neurology. It is questionable whether brain states and processes can be correlated with personal descriptions of purported experiences of ultimacy at the present time, or ever. To the extent that correlations become possible, however, they would promise objective access to internal experiences through functional imaging and other measurements of brain activity, even as phenomenology promises objective access to internal experiences through disciplined cultivation of descriptive expertise. Though both neurological scans and phenomenological analyses are somewhat removed from the day-to-day use of linguistic systems to describe ultimacy experiences, both are relevant factors in the hermeneutical mix and presumably neurological considerations will become more important with time, even at the level of the individual religious person's self-consciousness.<sup>15</sup> Furthermore, neurological correlates could conceivably lead to criteria for "false positives" with the potential to weigh against the authenticity of

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<sup>14</sup> We must provisionally set aside the philosophical commitment of phenomenologists such as Edmund Husserl to the possibility of achieving public, objective descriptions of internal conscious states through his phenomenological method. If this Husserlian claim is correct then the problem of other minds is essentially overcome and there is powerful evidence both for the autonomy of experiences of ultimacy and for the capacity of experiences of ultimacy to amend descriptions of them; it is not a matter of "hermeneutics all the way down" after all. Of course, even this result would say nothing about the cause of ultimacy experiences (though some phenomenologists would insist that this too could be determined), for their shared features may derive from the biological givenness of human beings or similar factors. But we cannot evaluate even this moderate claim adequately here and so must proceed by thinking of phenomenology as a disciplined development of part of a social-linguistic network so that that network becomes dense and sensitive enough to permit a properly trained person to make subtle discriminations among his or her experiences.

<sup>15</sup> This suggests a humorous image. Instead of demanding that group members handle poisonous snakes, speak in tongues, or give an enlightened answer to a koan, some religious groups might require specific sorts of brain activity as measured by functional imaging equipment. fMRI equipment in place of confessionals? While humorous, scenarios like this are surely not absurd or unlikely in the long term.

ultimacy experiences in spite of personal testimony. By contrast, if experiences of ultimacy turn out to be inconsistently realized or widely distributed across brain structures and variously expressed in brain processes, then they may have no obvious neurological correlates, and neurology would be of correspondingly little use as a criterion of authenticity. Of course, the situation is likely to be somewhere between these two extremes, but not enough is yet known to be sure how useful the neurological criterion will prove to be. And however well it serves as a criterion, it is an important element in any theory of ultimacy experiences.

Third, descriptions of experiences of ultimacy are greatly enriched by experts in psychology and sociology. These experts concern themselves less with the *thick* descriptions of experiences of ultimacy and more with the description of *typical* experiences of ultimacy, attending to how they cohere with other aspects of the human person by means of categories drawn from psychology, ethics, or spirituality. Understanding the processes of emotional and physical development in the typical human person, along with common aberrations, casts reports of experiences of ultimacy into a helpful light. Similarly, understanding the influences of religious groups on individuals allows experts to give nuanced descriptions of the complex social interactions within which many ultimacy experiences occur. Many religious people have at their disposal a vast database of first-hand and second-hand stories of ultimacy experiences in which the before and the after of the episode itself expose typical patterns of behavior. Of course, exceptions are unsurprising and even expected; expert psychoanalysts or religious advisors do not have privileged access to the experiences in question. But even exceptions have a kind of plausibility, perhaps due to thoroughly systematic ways in which typical patterns are broken. A person's chosen description of experiences of ultimacy and the meaning of that description in his or her social-linguistic context are profoundly influenced by such expert readings of the *typical* psychological and behavioral accompaniments of *typical* ultimacy experiences.

The fourth set of considerations is theological in character. Theological theories of ultimacy can be sufficiently detailed to permit stipulation of the psychological and behavioral correlates of experiences of ultimacy. For example, it is almost universally held in theological systems that experiences of ultimacy should transform people's character. The experience of samadhi in Buddhist meditation is supposed to make a person more caring toward other creatures and the experience of assurance in Christian piety is supposed to make a person unaccountably peaceful. These theologically-based beliefs are crucial in the operation of both individual spiritual direction and corporate discernment processes in religious groups, and we think they are also active in diffuse ways, perhaps also more generally ethical than specifically theological in character, in the secular analogues of discernment such as psychoanalysis. Of course, we might well say that theories of ultimacy of this kind should not count in forming our ideas of how experiences of ultimacy should affect people, but this would be an overreaction. Theological considerations function as a source of suggestions and hints as to what psychological and behavioral characteristics should be expected in the presence of an authentic claim of an experience of ultimacy. From this point of view, we would be justified in assuming that theological reflection and ethical theories over the centuries are well placed to give good hints, informed as they are by a wealth of individual and corporate experience. It is not the specifically normative character of theological or ethical reflection that makes these hints useful, therefore, but the long-term functionality of the theological or ethical theories themselves in religious and other groups.

The taxonomy of ultimacy experiences we develop draws chiefly from the phenomenological considerations, with crucial support coming from the neurologically important distinction between short-term and long-term episodes. Social-psychological and theological considerations play especially important roles in the process of distinguishing authentic ultimacy experiences (see section 6). Our model of the causation of ultimacy experiences (see section 7) has little direct use for phenomenological considerations, focusing instead on those that are neural, social-psychological, and theological.

## *2 Phenomenological Considerations*

Phenomenology of religion is a diverse collection of partly descriptive, partly interpretive approaches to religious phenomena.<sup>16</sup> Phenomenological approaches to religious experience typically have been oriented to mystical states and conversions, which are familiar instances of what we are calling experiences of ultimacy. Phenomenologists have directed less attention to other kinds of religious experiences, such as corporate ritual experience and long-term character transformation, which can also be instances of ultimacy experiences.<sup>17</sup> In view of this emphasis, it is unsurprising that studies of religious experiences have often taken over distinctions generated in the phenomenology of religion. As useful as these distinctions may prove in some studies, we use phenomenological observations to divide the territory of ultimacy experiences in a way more congenial to exploring connections with the neurosciences.

We first distinguish ultimacy experiences on the basis of temporal extension because there seems to be a vast phenomenological difference between shorter and longer experiences. The phenomenology of discrete states that can be described as ultimacy experiences involves components having to do with sensory awareness,

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<sup>16</sup> For a review, see Eric J. Sharpe, *Comparative Religion: A History*, 2nd ed. (La Salle: Open Court, 1986), especially chap. 10, pp. 220–50. Sharpe is careful to point out that the phenomenology of religion is basically an attempt at objective description of religious manifestations—places, people, actions, words—that respects the perspective of the religious person and that can help in the task of interpreting the nature of religion. It owes little more than a few key concepts to the philosophical phenomenology of Husserl, and its vaguely defined limits embrace numerous different methodological approaches. Sharpe's characterization is accurate so far as it goes, but the various methodological approaches he has in mind themselves have a history that lives on in their use within the phenomenology of religion. It follows that there is significantly more to the phenomenology of religion than simply objective description. These methodological approaches usually can be traced back to the needs of a discipline to which phenomenological techniques have been applied as a means to fuller understanding. Francisco J. Varela, Evan Thompson, and Eleanor Rosch identify several such methodology-defining allied disciplinary traditions that make extensive use of phenomenology: logical-philosophical analysis of human being, meta-analysis of patterns in existing theories (usually historical, sociological, or anthropological theories), and analysis of techniques used in clinical therapy. See *The Embodied Mind: Cognitive Science and Human Experience* (Cambridge: MIT Press, 1991), xvi–xvii. Theorists in the phenomenology of religion usually add to the basic goal of objective description the aims of one or more of these existing methods of applying phenomenological techniques.

<sup>17</sup> There are important phenomenological studies of the sacred, including sacred ritual and social transactions, which have some overlap with ultimacy experiences. See, for example, Gerardus van der Leeuw, *Religion in Essence and Manifestation*, 2nd ed. with a foreword by Ninian Smart (Princeton: Princeton University Press, 1964; tr. from the 2nd German ed. by Hans H. Penner, originally published 1933).

sense of self, presences, cognitions, and emotions. The phenomenology of extended experiences that can be described as ultimacy experiences divides into two classes. Dynamic processes of orientation and control help people maintain their relations to themselves, groups, and the wider world; these sometimes but not always fall under the ambit of ultimacy experiences. Gradual processes of transformation often take the form of experiences of ultimacy; these processes involve apparently lasting change in behavior, personality, and beliefs.

### 2.1 Discrete Ultimacy Experiences: Persinger

Michael Persinger includes interesting phenomenological characterizations of discrete ultimacy experiences in his book, *Neuropsychological Bases of God Beliefs*.<sup>18</sup> We find the book rhetorically unstable, with few links to the data he offers in support of his conclusions, few appropriate data in the articles to which he refers, and problematic patterns of interpreting his data.<sup>19</sup> In spite of the book's flaws, Persinger's extensive exploration of connections between temporal lobe function and religious experience leads him to a thoughtful characterization of what he calls God experiences, a phenomenological contribution worth quoting at length.

God Experiences are transient phenomena that are loaded with emotional references...

The God Experience exists for a few seconds or minutes at any given time. Multiple experiences can occur in quick succession. During this period, the person feels that the "self," or some reference indicating the "thinking entity" becomes united with or "at one" with the symbolic form of all space-time. It might be called Allah, God, Cosmic Consciousness, or even some idiosyncratic label. Slightly deviant forms include references to intellectual abstracts such as "mathematical balance," "consciousness of time," or "extraterrestrial intrusions." These phenomena are similar to mystical states and the more secular "peak experiences."

Usually the God Experience involves euphoric and positive emotions. The person reports a type of God high that is characterized by a sense of profound meaningfulness, peacefulness, and cosmic serenity. Invariably the state is perfused with references to reduction of death anxiety. It is defined as the anticipated extinction of the self-concept or "the thinking entity." During the God Experience, the person suddenly feels that he or she will not die. Instead, he or she will live forever as a part of subset of the symbol of all space-time. If the symbol is a father image, then the person expects to become a child of the father. If the symbol is "imageless," the person expects to become a part of the Universal Whole.

Sometimes God Experiences can have negative emotional valences. During these periods, the same sense of oneness is pervaded by anxiety and fear. It is the epitome of terror. These experiences rarely happen more than once, except in psychiatric patients; the consequences punish any further display. Labels applied to these experiences reflect the bad, aversive or generally evil components in the culture in which the person survives. Classic references involve "hell," "demon world," or the more abstract "nether world."

<sup>18</sup> Michael A. Persinger, *Neuropsychological Bases of God Beliefs* (New York and London: Praeger, 1987).

<sup>19</sup> See Persinger, "Religious and Mystical Experiences as Artifacts of Temporal Lobe Function: a General Hypothesis," *Perceptual and Motor Skills* 57 (1983): 1255–62; "Striking EEG Profiles from Single Episodes of Glossolalia and Transcendental Meditation," *Perceptual and Motor Skills* 58 (1994): 127–33; "People Who Report Religious Experiences May Also Display Enhanced Temporal-Lobe Signs," *Perceptual and Motor Skills* 58 (1994): 963–75; "Propensity to Report Paranormal Experiences Is Correlated with Temporal Lobe Signs," *Perceptual and Motor Skills* 59 (1994): 583–86; and "Death Anxiety as a Semantic Conditioned Suppression Paradigm," *Perceptual and Motor Skills* 60 (1995): 827–30.

They are not traditionally called God Experiences, although they are certainly derived from the same source of variance. The self, with respect to space-time and imminent dissolution (death), still dominates the experience.<sup>20</sup>

Persinger goes on to discuss God concepts and how God experiences and God concepts combine in God beliefs. His description of God experiences apparently derives from many interviews and clinical encounters with people who claim to have had them.<sup>21</sup> He strikes the main themes that recur in phenomenological descriptions of discrete ultimacy experiences: they involve modifications of sensory awareness, sense of self, sense of presences, cognitions, and emotions.

### 2.2 Discrete Ultimacy Experiences: Otto

In *The Idea of the Holy*, Rudolf Otto attempted to describe the irrational or supra-rational elements of religious experience.<sup>22</sup> He focused on what we are calling discrete rather than extended ultimacy experiences, calling them numinous experiences. He argued for the autonomy and uniqueness of numinous experience and he tried to show that it is involved in everything from faint religious stirrings to the most profound mystical experience. Otto characterized their two main features in the phrase "*mysterium tremendum*." He described *tremendum* in terms of three elements: awefulness, overpoweringness, and energy or urgency. He described *mysterium* in terms of the wholly other and fascination.

Otto also discussed the means of expression of the numinous, including how it is awakened in one mind upon seeing its experience described or enacted by another.<sup>23</sup> He pointed out that it cannot be taught or described in such a way to "pass" it on but rather that there must be some independent experience that answers to the descriptions of it that are passed around the group. Thus it can be expressed directly only through an individual's encounter with holy places, holy events, and holy people. It can be expressed indirectly by making use of the ways we express feelings similar to those with numinous elements. Thus he spoke of art and language that convey terror and dread, responses that are capable of evoking numinous feelings of the *tremendum* kind. Under this heading he also mentioned its higher expressions: grandeur and sublimity. Under the heading of the *mysterium* Otto mentioned expression in the form of miracle; that which cannot be comprehended serves as analogy for the *mysterium* and is capable of evoking it. Under this heading he also treated the only half-intelligible language of devotion, including liturgy, ritual, and some music, as well as many other types of analogies.

One of the great strengths of Otto's work is his focused exploration of the emotional content of numinous experiences. This focus is also a weakness with respect to the desire for completeness of phenomenological descriptions. But even

<sup>20</sup> Persinger, *Neuropsychological Bases of God Beliefs*, 1–2.

<sup>21</sup> *Ibid.*, xi.

<sup>22</sup> Rudolf Otto, *The Idea of the Holy: An Inquiry into the Non-rational Factor in the Idea of the Divine and its Relation to the Rational*, 3rd ed. (London: Oxford University Press, 1925; tr. from the ninth German ed. by John W. Harvey; first published 1917).

<sup>23</sup> See section 4, below, for a discussion of the function of mirror neurons. This can be thought of as one neurological consideration bearing on Otto's ideas about the awakening of numinous experiences acted on or described by one person in other people. This remains highly speculative, however, because mirror neurons have been studied primarily in relation to motor functions.





