CRISIS OF BRAIN AND SELF

by C. Don Keyes

Abstract. Neuroscientific evidence requires a monistic understanding of brain/mind. Truly appropriating what this means confronts us with the vulnerability of the human condition. Camus's absurd and Tillich's despair are extreme expressions of a similar confrontation. This crisis demands a type of courage that is consistent with scientific truth and does not undermine the spiritual dimension of life. That dimension is not a separate substance but the process by which brain/mind meaningfully wrestles with its crisis through aesthetic symbols, religious faith, and ethical affirmation. The validity of these activities does not depend upon human autonomy but instead upon the fact that they exist. Furthermore, they constitute the self, which Dennett calls a "center of narrative gravity."

Keywords: absurdity; aesthetics; brain/mind; courage; despair; ethics; meaninglessness; religious faith; self.

The gods pressed Sisyphus down by condemning him to the most absurd of all possible punishments. They made him roll a stone to the top of a hill; once he had done this, an unseen, sinister force rolled it to the bottom again. Then Sisyphus had to roll the stone to the top once more, and so on. The whole meaningless procedure would be repeated for all eternity. Some considered this a worse fate than the punishment of Ixion, who had to roll in a wheel forever, or the punishment of Tantalus, whose chin was in water but who could never quench his thirst because the water would always recede when he tried to drink. The fate of Sisyphus was perhaps more dreadful than even that of Prometheus, who was chained to a rock while a large bird pecked at his liver forever. Sisyphus was condemned to the despair of meaninglessness, the ultimate bad infinity.¹

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MEDITATION ON SISYPHUS

Ancient materialist Lucretius knows that this myth is a true statement of the human condition: "As for all those torments that are said to take place in the depths of Hell, they are actually present here and now, in our own lives." According to Lucretius, the meaning of the myth of Sisyphus goes beyond the fact that it is not to be taken literally:

In life too we have a Sisyphus before our eyes who is bent on asking from the people the rods and cruel axes, and always retires defeated and disappointed. For to ask for power . . . and always in the chase of it to undergo severe toil, this is forcing up-hill with much effort a stone which after all rolls back again from the summit and seeks in headlong haste the levels of the plain. (Lucretius [c. 54 B.C.E.] 1932, 117)

In our own time, Albert Camus says something similar:

Myths are made for the imagination to breathe life into them. As for this myth, one sees merely the whole effort of a body straining to raise the huge stone, to roll it and push it up a slope a hundred times over; one sees the face screwed up, the cheek tight against the stone, the shoulder bracing the clay-covered mass, the foot wedging it, the fresh start with arms outstretched, the wholly human security of two earth-clotted hands. (Camus [1942] 1955, 89)

According to Camus, the fate of Sisyphus is a statement of our absurd condition today. The absurd is this "divorce between man and his life, the actor and his setting," the collapse of the "stage sets" in our repetitive and futile struggle with time. The absurd is the "nausea" of the "incalculable tumble before the image of what we are," our endlessly frustrated "appetite for the absolute," an insatiable "nostalgia for unity." Sisyphus's fate is our "confrontation between the human need and the unreasonable silence of the world." It is the "denseness and that strangeness of the world." And it is the fact that "forever I shall be a stranger to myself." The inescapability of the absurd drives Camus to confess that "There is but one truly serious philosophical problem, and that is suicide" (Camus 1955, 3).

THE CRISIS

The despair of meaninglessness and our struggle against it are the crisis of self. Following Paul Tillich, I am going to conclude that "the act of accepting meaninglessness is in itself a meaningful act" (Tillich 1952, 176). Accepting this kind of despair is not giving in to it, but spiting it by getting on top of it and wrestling with it. This activity is *courage*.

Our brains, the supreme product of evolution, become aware of their own tragic state, the limitedness of their autonomy, and the inevitability of their death. This is the crisis of brain. Both the crisis of brain and the crisis of self demand a type of courage that does not undermine the spiritual dimension of life. This spiritual dimension is not a substance but an aesthetic process. Courage has power to resolve the crisis of brain and self *if* its roots go to the bottom of this aesthetic process. Neuroscience rightly asks how the brain produces such processes, even though their significance is beyond the limits of scientific judgment. While the resolution to the crisis of brain and self is beyond these limits, it must nevertheless be consistent with scientific evidence.

SCIENCE AND AESTHETICS

Immanuel Kant distinguishes between science and aesthetics, preserves the integrity of both, and also shows what they have in common. Both science and aesthetics are founded on the same set of categories, twelve mental structures that he also calls concepts of the understanding.²

Scientific knowledge is rational because it uses categories like substance and causality in accordance with our experience of nature. When categories determine sense perception in such a natural and factual way, Kant calls them *schemata*: "The schema is, properly, only the phenomenon, or sensible concept, of an object in agreement with the category" (Kant [1787] 1965, B 186).

Scientific judgment, in other words, never looks for supernatural causes or substances. Since science uses categories only as schemata, it limits its hypotheses to those it can at least in principle test empirically.

Aesthetic knowledge uses categories like substance and causality analogically. When categories have such an indirect and reflective relation to sense perception, Kant calls them *symbols*. For instance, a hand mill can symbolize the despotic state: "For between a despotic state and a hand mill there is, to be sure, no similarity; but there is a similarity in the rules according to which we reflect upon things and their causality" (Kant [1790] 1968, sec. 59).

Aesthetic judgment refers to supernatural causes and substances symbolically. Hence Kant continues by arguing that "all our knowledge of God is merely symbolical" and "the beautiful is the symbol of the morally good" (Kant [1790] 1968, sec. 59). Since aesthetics uses categories as symbols, no such references can be tested empirically. Symbols, however, are not arbitrary as the many suppose, since we can explain them with phenomenological rigor and practical cogency. Symbols are the roots of the courage that resolves the crisis of brain and self.

SOLIPSISM AND REALITY

The theory that external reality does not exist abuses idealism and is unwarranted. The brain does not have direct access to things-in-themselves. But it is not the source of the sensations that register in it. The suspicion that there are no things-in-themselves and that the brain is the source of the sensations is a philosophical elaboration essentially alien to Kant's position. Solipsism is the supreme unwarranted hypothesis. Science, aesthetics, and practical activity all attest to reality.

Science is essentially antisolipsistic because it seeks empirical knowledge. By its very nature, neuroscience studies the brain events that mediate our perceptions, not the external sources from whence they come. The methodological focus resembles solipsism only by faulty analogy. Manifestly, neuroscientists presume that the brains (other than their own) that they study actually exist. Francis Crick correctly hypothesizes that

there is indeed an outside world, and that it is largely independent of our observing it. We can never fully know this outside world, but we can obtain approximate information about some of its properties by using our senses and the operations of our brain. (Crick [1994] 1995, 12)

Aesthetics also shuns solipsism. The fine arts are essentially immersed in reality. What we sense, not merely that we sense, matters. Music instantiates this. Rhythm and harmony are neurobiological processes. But they are also out there beyond the brain. Music also has external status in the sense that we can hear somebody else playing it, and we can play it for others. We debate with them about it, analyze it mathematically, and study it historically. Music can inflame passion and communicate private feelings, even without words. It can produce social unity or subvert it.

External reality changes brain function, and brain function changes external reality. Events in the outside world are sources of misery and happiness, partly because of what our brains make of them and partly because of what they are in and of themselves. Courage wrestles with despair because it is an aesthetically volatilized practical activity. It awakens consciousness from the nightmare of being trapped in a solipsistic cocoon, grabs hold of reality, deconstructs it, reconstructs it, and returns to itself with something new.

ELIMINATIVE REDUCTIONISM

The theory that mental states have no validity abuses empiricism and is unwarranted. Scientific evidence seems to require that we view brain/mind as a unity. The evidence argues against substance dualism, the theory that brain and mind (soul) are two different kinds of reality that then interact with one another. Neuroscience supports the claim that all mental states are brain events. Neurobiological reduction eliminates the unreal split between brain events and mental states, removing the pseudo-distance between brain and consciousness. The reduction of those supposed dualities

to strict monism seems integral to the empirical evidence, bur speculative elaborations about how to interpret it are nonscience.

The claim that neurobiological reduction requires us to eliminate reference to consciousness and its contents is speculative elaboration. The supposed necessity for such an interpretative perspective is neither contained in nor integral to the evidence. Eliminative reductionism, actually a ghost of the more barbaric kind of behaviorist psychology, is defective interpretation because the mental states it denies are a part of reality. We know they are real because we actually experience them, but this does not mean that mental states are properties that emerge from the brain and subsequently interact with it. To recognize that mental states are real is not to say they are ghostly properties that come out of the brain.

True neurobiological reduction does not eliminate mental states that manifestly exist. Instead, it eliminates the unreal split between those states and brain events, removing the pseudo-distance between brain and consciousness. As James Ashbrook also writes, brain and mind are "not different" even when we distinguish them: "Brain' and 'mind' are interchangeable terms. As the subjective experience of objects, the brain is mind; as an objective system external to conscious experience, the mind is brain" (Ashbrook 1989, 75).

Mental states are brain events pushing themselves over a qualitative threshold that remains steadfastly identical to them. True neurobiological reduction maintains that identity. I argue that this position is both consistent with scientific evidence and does not undermine the spiritual dimension of life. At the same time, neurobiological reduction does not eliminate our tragic awareness of the brain's supreme vulnerability and the threat of meaninglessness and our struggle against it.

ARE WE DETERMINED?

The theory that human beings are totally determined is a questionable theory. Recent evidence linking genetic predisposition to such mental conditions as depression underscores the fact that we are significantly determined by our biological nature. Furthermore, the fact that drugs alter mental states with increasing effectiveness also confirms this truth. But the claim that we have no autonomy at all, like eliminative reductionism, is an instance of nonscience. Belief in total determinism is a philosophical theory. The opposing theory that we have some limited freedom is more reasonable. As some have claimed, we must assume agency or nothing happens. Agency is the power of self, however limited, to cause, to prevent, or to change events.

Assume for the sake of argument, however, that autonomy is an illusion. This assumption, whether reasonable or not, would not invalidate my central thesis that courage rooted in aesthetics is meaningful. The

mental states that belong to that process are identical to certain neurobiological events. The fact that such events exist in nature, that they spill over into consciousness and affect external reality, is what matters. Their causes are irrelevant.

DO SELVES EXIST?

It is also irrelevant to my thesis whether selves exist or not. In either case what matters is what Daniel Dennett calls the "center of narrative gravity." The reality of self has been doubted at least since David Hume discovered that "I" is nothing but a bundle of perceptions and therefore is not a *thing* that exists. Daniel Dennett's argument that the unity of consciousness is a fictional construct goes beyond this argument by building on it. We *believe* consciousness is unified, according to Dennett, not because it is *actually* unified but because the brain edits the multiplicity into a kind of fictional unity:

According to the Multiple Drafts model, all varieties of thought or mental activity ... are accomplished in the brain by parallel, multitrack processes of interpretation and elaboration of sensory inputs. Information entering the nervous system is under continuous "editorial revision." (Dennett 1991, 111)

We posit a single agent as a center of narrative gravity. This "narrative selfhood" is the product, not the source, of the tales that we think we spin, but which actually "spin us." Dennett writes:

These strings or streams of narrative issue forth as if from a single source—not just in the obvious physical sense of flowing from one mouth, one pencil or pen, but in a more subtle sense: their effect on any audience is to encourage them to (try to) posit a center of narrative gravity. (Dennett 1991, 418)

Even though this center we rightly call "self" is an abstraction, Dennett recognizes that it is "remarkably robust."

Brains, Souls, and Courage

Soul is not a substance, not a property, but a process, or brain/mind with a certain type of content. It is brain/mind engaged in particular kinds of symbolic activity that constitutes the spiritual dimension of life. The validity of courage does not depend upon a mind (or soul) separate from the brain.³ Its validity is in the fact that it wrestles. To wrestle with despair is to care, and to care is to affirm life.

Courage must have a cosmic dimension. Think about the facts of the universe and picture how precariously our absurd strangeness to ourselves and the unreasonable silence of the world are staged on the fragile earth. Step back and watch our planet orbit an obscure star in an insignificant part of the cosmos. Stand in that theater and identify courage.

Would I be brave if I buried my head in the sands of denial? Or if I puffed my ego up to infinity, would that be nobler? Does insensitive bravado master interstellar space? Are antitaste, power worship, and cruelty really brave? The truth is that cruelty, denial, and the other modes of cowardice all either capitulate to the absurd or excuse it. None of them wrestles with it. They are crutches used to swagger in the fields of impotent pretending.

Courage does not pretend. It redeems. Therefore it does not whistle in the dark as if the absurd did not exist. Courage affirms life and loves it in spite of the fact that it is absurd. If we struggle to lay hold of meaning in circumstances like these, then our spite redeems, regardless of how fragmentary our apprehension of our courage might be.

AESTHETICS: AS IF

The fine arts act "as if" aesthetic symbols had more validity than despair and spite it in that way. Nietzsche asserts this kind of courage when he writes that "it is only as an aesthetic phenomenon that existence and the world are eternally justified" (Nietzsche [1872] 1967, 52). Kierkegaard asks, "What is a poet?" His answer is remarkably similar: "An unhappy man who in his heart harbors a deep anguish, but whose lips are so fashioned that the moans and cries which pass over them are transformed into ravishing music" (Kierkegaard [1843] 1959, 19).

The aesthetic act that gives the void its colors affirms meaning in spite of meaninglessness. It transfigures reality by recasting experience and acting as if the product were more important than the material. This usually means conflicting with conventional "sanity."

An admittedly narrow but ruggedly marked and infinitely deep gulf marks the difference between this aesthetic way of standing outside oneself and madness. As Plato's *Phaedrus* explains, the "divine madness" (*enthousiasmos*) "of which the Muses are the source" is more beneficial than conventional sanity:

The greatest blessings come by way of madness, indeed of madness that is heaven sent. . . . This seizes a tender, virgin soul and stimulates it to rapt passionate expression, especially in lyric poetry, glorifying the countless mighty deeds of ancient times for the instruction of posterity. But if any man come to the gates of poetry without the madness of the Muses, persuaded that skill alone will make him a good poet, then shall he and his works of sanity with him be brought to naught by the poetry of madness, and behold, their place is nowhere to be found . . . this sort of madness is a gift of the gods. . . . And our proof assuredly will prevail with the wise, though not with the learned. (Plato [c. 399 B.C.E.] 1972, 244B–245C)

The gulf that divides this kind of madness, which Plato says is "heaven sent," from what I might call the madness of conventional sanity is

absolute. The two kinds of "madness" are opposite ways of responding to despair. The former affirms life; the latter breeds cynicism.

Ovid attests to the power of music to affirm life. He narrates how Orpheus went to Hades to find his wife, Eurydice, and bring her back. Even though his mission failed, the music he played and sang in the underworld temporarily suspended the punishments of the damned:

As he spoke thus, accompanying his words with the music of his lyre, the bloodless spirits wept; Tantalus did not catch at the fleeing wave; Ixion's wheel stopped in wonder; the vultures did not pluck at the liver [of Tityus]; the Belides rested from their urns, and thou, O Sisyphus, didst sit upon thy stone. Then . . . conquered by the song, the cheeks of the Eumenides were wet with tears; nor could the queen nor he who rules the lower world refuse the suppliant. They called Eurydice. (Ovid [c.8] 1976, 67)

Music is the clue to aesthetics, just as aesthetics is the clue to meaning as such. Religious symbols and ethical norms are meaningful because they have aesthetic characteristics. We have to make aesthetic judgments to detect or produce *meaning* as such.

RELIGION: ONLY IF

Religious faith spites despair "only if" it keeps a certain kind of symbols in a certain way.

Symbols are religious only if they are sublime in their own right. Pagan Longinus detects the sublime in Genesis: "God said'—what? 'let there be light,' and there was light. 'Let there be earth,' and there was earth" (Longinus [c. 60] 1965, 149). Despite the amusing misquotation, Longinus has perhaps inadvertently identified the nature of religion as such. It is aesthetic experience recast entirely as the "weight, grandeur, and energy" of "transcendent sublimity."

Longinus inspired a tradition of sensitivity to the sublime that extends through Kant to Rudolf Otto ([1917] 1969, 28), who describes the "holy" as "inherently 'wholly other" than ordinary experience. Faith exists only if it has the awe of the "mysterium tremendum" at its center. Its narrative has to be "uncanny" and overpowering in the massiveness of its plot. This gravity uplifts and does not press down. The sublime "elevates" and is "joyous," according to Longinus, just as Otto claims that the mystery of the holy "captivates and transports" and can fill us with a "strange ravishment."

Faith Keeps Its Symbols in Such a Manner that They Are True. Faith stakes belief on its object just as Socrates does on the hope of surviving death in the *Phaedo*. Similarly Kant postulates the existence of God through willing to do so, an act that leads to the claim of Søren Kierkegaard ([1846] 1992, 199) that faith is "acting in such a manner"

that there is a God relationship despite radical doubt. Tillich's radical faith is possibly the extreme case of staking belief in spite of despair. He claims that "the act of accepting meaninglessness is in itself a meaningful act" because it is "an act of faith" through which Being-itself (God) affirms itself: "The divine self-affirmation is the power that makes the self-affirmation of the finite being, the courage to be, possible. . . . Even in the despair about meaning, being affirms itself through us" (Tillich 1952, 176, 180).

CHRISTIAN FAITH AS ONLY IF

Biblical revelation, unlike some other religions, always has a historical point of reference since it is based on specific events. As a result, the symbols that express biblical events are invariably connected to particular times and places. However, biblical symbols do not cease to be aesthetically meaningful on account of this. As I write elsewhere, "religious symbols gain their validity from their aesthetic power to transfigure suffering" (Casserley 1990, xxiv). This also is true of Christian symbols, as Nicolas Berdyaev recognizes when he uses the word beauty to include the sublime: "Beauty will save the world, i.e., beauty is the salvation of the world. The transfiguration of the world is the attainment of beauty. The kingdom of God is beauty" (Berdyaev [1931] 1960, 247). Nietzsche's claim about the aesthetic justification of existence ironically helps explain biblical redemption.

Recognizing the aesthetics of Christian symbols in this way recollects the foundational "nonauthoritarian authority" of Christian doctrines, because it locates them in their liturgical setting. Liturgy is properly an aesthetically sublime spectacle that reenacts the events in which faith stakes belief. Liturgy is untrue to itself when it dries up and capitulates to triviality or sentimentality. Doctrines are inauthentic when they dry up and turn into rules to which the gullible acquiesce. Doctrines are, properly, ripe interpretations of an aesthetically sublime liturgical narrative. Julian Casserley suggests something like this when he writes that

it is the function of the liturgy to repeat and perpetuate the patterns of the divine redemption which we proclaim in the gospel and expound in our theology. In this sense the liturgy is the most authoritative element in Christian practice and provides us with the touchstone of authority. (Casserley 1960, 95)

Doctrines have nonauthoritarian authority if we regard them as interpretative categories. Casserley argues thus about "dogmas," religious and otherwise:

Our dogmas are logical tools of the utmost importance. They are not so much ideas which we question as concepts in terms of which we ask our questions. A set

of dogmas establish and compose a point of view from which we experience and interpret the world. To us dogma means very much the same thing as presupposition in Collingwood and category in Kant. Of course our dogmas can always be questioned, but that does not prevent them from being presupposed in most of our questions. A good example of one of the dogmas that have made the growth and development of the modern sciences possible is causality. (Casserley 1990, 74)

Christian faith, like every religious revelation, is symbolic, not schematic. Both fundamentalism and modernism mistakenly treat religious symbols as if they were schemata. Fundamentalism claims that the only way faith can stake belief in revelatory events is to treat them as facts. Modernism, as I define it here, invalidates revelatory events because they are not factual. The irrational literalism of the former and rational literalism of the latter are really two faces of the same anti-aesthetic head.

Each religion has a foundational narrative structure. This structure is always a certain set of symbols, some basic and others derivative. There is typically a wide range of ways they can be interpreted without destroying the structure. The death, Resurrection, Ascension, and Second Coming of Christ are the sublime redemptive events of Christian faith.

The Incarnation of Christ. One could argue that the Incarnation is the foundational Christian symbol because it contains the four redemptive events. It might be considered the primal Christian symbol: "And the Word was made flesh, and dwelt among us (and we beheld his glory, the glory as of the only begotten of the Father,) full of grace and truth" (John 1:14). This event includes Creation as well as Redemption, since the Word was the means by which God creates: "In the beginning was the Word, and the Word was with God, and the Word was God" (John 1:1). The Incarnation is antignostic; it means that flesh is essentially good, matter is real and important, and biological existence is a part of our self-identity.

Furthermore, the Incarnation validates our existence by bringing the divine and human natures into a dialectic of difference and identity. Richard Hooker describes this dialectic:

To gather therefore into one sum all that hitherto hath been spoken touching this point, there are but four things which concur to make complete the whole state of our Lord Jesus Christ: his deity, his manhood, the conjunction of both, and the distinction of the one from the other being joined in one. . . . In four words . . . truly, perfectly, indivisibly, distinctly; the first applied to his being God, and the second to his being Man, the third to his being of both One, and the fourth to his still continuing in that one Both: we may fully by way of abridgement comprise whatsoever antiquity hath at large handled . . . in declaration of Christian belief. . . . (Hooker [1594] 1954, 218)

This doctrine has authority, not because it was externally imposed by church councils, but because it is the interplay of divine and human

difference and identity stripped down to definitive simplicity. The Incarnation means that God became human, not vice versa. It enhances human autonomy (if it exists) but does not depend upon it.

Sacramental Presence. The incarnational mode of liturgical reenactment—sacramental presence—does not depend upon human autonomy either. Hans Urs Von Balthasar characterizes sacramental presence in the context of an analysis of tragedy:

Sacramenta . . . do indeed signify something, but not that which is other. They point to their own fullness and depth. They are not only symbolic but also that which is symbolized. They point to something (which embraces a mode of absence), because they are at the same time full of an abundant presence. In the act of absolution or of communion the pleroma is offered and is present. (Von Balthasar [1965] 1989,106)

ETHICS: EVEN IF

Ethical experience spites despair "even if" religious faith is illusion, since it finds value in the valuer. Our concern about the good makes us valuable. As I write elsewhere,

Life is worthy of respect, not because it is useful for something . . . but because it values. . . . Brain function is the biological basis of personal individuality, namely our awareness of pleasure and pain, intellect, decision, and feelings previously attributed to the heart. . . . This attests both to the material nature of a person and to the symbolic meanings that make bodies different from all other kinds of matter. (Keyes 1991, 29, 177)

Paul D. MacLean expresses the kind of concern about the good that attests to the value of the valuer when he reflects on the healing act. It is valid *even if* its effects are limited and impermanent:

In the words of T. S. Eliot, we might imagine that "The whole world is our hospital," and we might continue with Howard Sackler's comment . . . that "somehow to intervene, even briefly, between our fellow creatures and their suffering or death, is our most authentic answer to the question of our humanity." (MacLean 1992, 70)

CONCLUSION

The resolution of the crisis of brain and self is not a static result. It is the unfinished and unfinishable act negating the negativity of despair through the spiritual dimension of life in the following three ways: (1) The fine arts spite meaninglessness by acting "as if" aesthetic symbols had more validity than they do. (2) Religious faith spites meaninglessness "only if" it keeps certain aesthetic symbols in a particular way. (3) Ethical experience spites meaninglessness "even if" the good is illusion, since concern about it bestows value.

This resolution is consistent with neurobiological reduction because it is symbolic. Brain/mind is, among other things, symbolic activity. The duality is not between brain and mind (soul) but rather between brain/symbolic mind and things-in-themselves. We do not have direct access to them but nevertheless know them more or less as they are indirectly through phenomena. Solipsism is viable neither scientifically nor axiologically. The value of self, however, does not depend upon its existence except as a center of value-bestowing narratives. The spiritual dimension of life does not depend upon autonomy; the fact that we negate negativity, not what causes us to do so, validates us.

NOTES

1. This paragraph and certain other parts of this essay are drawn from or closely related to the short book I published in 1973.

Kant ([1787] 1965, B 106) lists the categories as follows:

I Of Quantity Unity Plurality Totality

II Of Quality Reality Negation Limitation Of Relation
Of Inherence and Subsistence
(substantia et accidens)
Of Causality and Dependence
(cause and effect)
Of Community (reciprocity
between agent and patient)

IV
Of Modality
Possibility—Impossibility
Existence—Nonexistence
Necessity—Contingency

3. This position leaves open the possibility of viewing life after death as resurrection, as in 1 Corinthians 15.

4. The use of this term to refer to religious faith was suggested by Hans Urs Von Balthasar ([1969]

5. The relation between the first and second stages of d'Aquili's "aesthetic-religious continuum" supports my argument that religious experience is an intensified form of aesthetics. The first is aesthetic beauty, "a sense of meaning and wholeness which transcends the constituent parts" of the beautiful object "whether a piece of music, a painting, a sculpture, or a sunset." D'Aquili describes this degree of transcendence as "slight to moderate." The second is the "numinosity" of religious myth and ritual, "a very marked sense of meaning and wholeness, expanding well beyond the parts perceived, or well beyond the image generated . . . the connotation of what is perceived vastly exceeds the denotation." Cosmic consciousness is the third stage. D'Aquili suggests that the degree to which the holistic operator based in the right cerebral functions determines location on the aesthetic-religious spectrum:

the point on this spectrum that any perception has depends on how far tilted it is in the direction of wholeness. In other words, the more the holistic operator functions in excess

of a state of balance with the analytic functions of the left hemisphere, the stronger will be the associated emotional charge. (d'Aquili 1986, 157)

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