DO DRUGS HAVE RELIGIOUS IMPORT?*

UNTIL six months ago, if I picked up my phone in the Cambridge area and dialed KISS-BIG, a voice would answer, "If-if." These were coincidences; KISS-BIG happened to be the letter equivalents of an arbitrarily assigned telephone number, and I.F.I.F. represented the initials of an organization with the improbable name of the International Federation for Internal Freedom. But the coincidences were apposite to the point of being poetic. "Kiss big" caught the euphoric, manic, life-embracing attitude that characterized this most publicized of the organizations formed to explore the newly synthesized consciousness-changing substances; the organization itself was surely one of the "iffy-est" phenomena to appear on our social and intellectual scene in some time. It produced the first firings in Harvard's history, an ultimatum to get out of Mexico in five days, and "the miracle of Marsh Chapel," in which, during a two-and-one-half-hour Good Friday service, ten theological students and professors ingested psilocybin and were visited by what they generally reported to be the deepest religious experiences of their lives.

Despite the last of these phenomena and its numerous if less dramatic parallels, students of religion appear by and large to be dismissing the psychedelic drugs that have sprung to our attention in the '60s as having little religious relevance. The position taken in one of the most forward-looking volumes of theological essays to have appeared in recent years—Soundings, edited by A. R. Vidler¹—accepts R. C. Zachner's Mysticism Sacred and Profane as having "fully examined and refuted" the religious claims for mescaline which Aldous Huxley sketched in The Doors of Perception. This closing of the case strikes me as premature, for it looks as if the drugs have light to throw on the history of religion,

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* The enclosed version of a paper presented to the Woodrow Wilson Society, Princeton University, on May 16, 1964.


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the phenomenology of religion, the philosophy of religion, and the
practice of the religious life itself.

1. Drugs and Religion Viewed Historically

In his trial-and-error life explorations man almost everywhere
has stumbled upon connections between vegetables (eaten or
brewed) and actions (yogi breathing exercises, whirling-dervish
dances, flagellations) that alter states of consciousness. From the
psychopharmacological standpoint we now understand these states
to be the products of changes in brain chemistry. From the socio-
logical perspective we see that they tend to be connected in some
way with religion. If we discount the wine used in Christian
communion services, the instances closest to us in time and space
are the peyote of The Native American [Indian] Church and
Mexico's 2000-year-old "sacred mushrooms," the latter rendered
in Aztec as "God's Flesh"—striking parallel to "the body of our
Lord" in the Christian eucharist. Beyond these neighboring in-
stances lie the soma of the Hindus, the haoma and hemp of the
Zoroastrians, the Dionysus of the Greeks who "everywhere . . .
taught men the culture of the vine and the mysteries of his worship
and everywhere [was] accepted as a god," the bSEMBin of South-
east Asia, Zen's tea whose fifth cup purifies and whose sixth "calls
to the realm of the immortals," the pituri of the Australian
aborigines, and probably the mystic kykeon that was eaten and
drunk at the climactic close of the sixth day of the Eleusinian mys-
teries. There is no need to extend the list, as a reasonably com-
plete account is available in Philippe de FÉLIE'S comprehensive
study of the subject, Poissons sacrés, sœurs divines.

More interesting than the fact that consciousness-changing
devices have been linked with religion is the possibility that they
actually initiated many of the religious perspectives which, taking
root in history, continued after their psychedelic origins were for-
gotten. Bergson saw the first movement of Hindus and Greeks
toward "dynamic religion" as associated with the "divine rapture"
found in intoxicating beverages; more recently Robert
Graves, Gordon Wasson, and Alan Watts have suggested that most
religions arose from such chemically induced theophanies. Mary

³ Quoted in Alan Watts, The Spirit of Zen (New York: Grove Press,
206–212.
Barnard is the most explicit proponent of this thesis. "Which ... was more likely to happen first," she asks, "the spontaneously generated idea of an afterlife in which the disembodied soul, liberated from the restrictions of time and space, experiences eternal bliss, or the accidental discovery of hallucinogenic plants that give a sense of euphoria, dislocate the center of consciousness, and distort time and space, making them balloon outward in greatly expanded vistas?" Her own answer is that "the [latter] experience might have had ... an almost explosive effect on the largely dormant minds of men, causing them to think of things they had never thought of before. This, if you like, is direct revelation." Her use of the subjunctive "might" renders this formulation of her answer equivocal, but she concludes her essay on a note that is completely unequivocal: "Looking at the matter coldly, un intoxicated and unentranced, I am willing to prophesy that fifty theobotanists working for fifty years would make the current theories concerning the origins of much mythology and theology as out-of-date as pre-Copernican astronomy."

This is an important hypothesis—one which must surely engage the attention of historians of religion for some time to come. But as I am concerned here only to spot the points at which the drugs erupt onto the field of serious religious study, not to ride the geysers to whatever heights, I shall not pursue Miss Barnard's thesis. Having located what appears to be the crux of the historical question, namely the extent to which drugs not merely duplicate or simulate theologically sponsored experiences but generate or shape theologies themselves, I turn to phenomenology.

2. Drugs and Religion Viewed Phenomenologically

Phenomenology attempts a careful description of human experience. The question the drugs pose for the phenomenology of religion, therefore, is whether the experiences they induce differ from religious experiences reached naturally, and if so how.

Even the Bible notes that chemically induced psychic states bear some resemblance to religious ones. Peter had to appeal to a circumstantial criterion—the early hour of the day—to defend those who were caught up in the Pentecostal experience against the charge that they were merely drunk: "These men are not drunk, as you suppose, since it is only the third hour of the day" (Acts 2:16); and Paul initiates the comparison when he admonishes the Ephesians not to "get drunk with wine ... but [to] be filled

with the spirit'' (Ephesians 5:18). Are such comparisons, paralleled in the accounts of virtually every religion, superficial? How far can they be pushed?

Not all the way, students of religion have thus far insisted. With respect to the new drugs, Prof. R. C. Zahnner has drawn the line emphatically. "The importance of Huxley's Doors of Perception," he writes, "is that in it the author clearly makes the claim that what he experienced under the influence of mescalin is closely comparable to a genuine mystical experience. If he is right, . . . the conclusions . . . are alarming."7 Zahnner thinks that Huxley is not right, but I fear that it is Zahnner who is mistaken.

There are, of course, innumerable drug experiences that have no religious feature; they can be sensual as readily as spiritual, trivial as readily as transforming, capricious as readily as sacramental. If there is one point about which every student of the drugs agrees, it is that there is no such thing as the drug experience per se—no experience that the drugs, as it were, merely secrete. Every experience is a mix of three ingredients: drug, set (the psychological make-up of the individual), and setting (the social and physical environment in which it is taken). But given the right set and setting, the drugs can induce religious experiences indistinguishable from experiences that occur spontaneously. Nor need set and setting be exceptional. The way the statistics are currently running, it looks as if from one-fourth to one-third of the general population will have religious experiences if they take the drugs under naturalistic conditions, meaning by this conditions in which the researcher supports the subject but does not try to influence the direction his experience will take. Among subjects who have strong religious inclinations to begin with, the proportion of those having religious experiences jumps to three-fourths. If they take the drugs in settings that are religious too, the ratio soars to nine in ten.

How do we know that the experiences these people have really are religious? We can begin with the fact that they say they are. The "one-fourth to one-third of the general population" figure is drawn from two sources. Ten months after they had had their experiences, 24 per cent of the 194 subjects in a study by the California psychiatrist Oscar Janiger characterized their experiences as having been religious.8 Thirty-two per cent of the 74

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subjects in Ditman and Hayman's study reported, looking back on their LSD experience, that it looked as if it had been "very much" or "quite a bit" a religious experience; 42 per cent checked as true the statement that they "were left with a greater awareness of God, or a higher power, or ultimate reality." The statement that three-fourths of subjects having religious "sets" will have religious experiences comes from the reports of sixty-nine religious professionals who took the drugs while the Harvard project was in progress.10

In the absence of (a) a single definition of religious experience acceptable to psychologists of religion generally and (b) fool-proof ways of ascertaining whether actual experiences exemplify any definition, I am not sure there is any better way of telling whether the experiences of the 333 men and women involved in the above studies were religious than by noting whether they seemed so to them. But if more rigorous methods are preferred, they exist; they have been utilized, and they confirm the conviction of the man in the street that drug experiences can indeed be religious. In his doctoral study at Harvard University, Walter Pahnke worked out a typology of religious experience (in this instance of the mystical variety) based on the classic cases of mystical experiences as summarized in Walter Stace's *Mysticism and Philosophy*. He then administered psilocybin to ten theology students and professors in the setting of a Good Friday service. The drug was given "double-blind," meaning that neither Dr. Pahnke nor his subjects knew which ten were getting psilocybin and which ten placebos to constitute a control group. Subsequently the reports the subjects wrote of their experiences were laid successively before three college-graduate housewives who, without being informed about the nature of the study, were asked to rate each statement as to the degree (strong, moderate, slight, or none) to which it exemplified each of the nine traits of mystical experience enumerated in the typology of mysticism worked out in advance. When the test of significance was applied to their statistics, it showed that "those subjects who received psilocybin experienced phenomena which were indistinguishable from, if not identical with . . . the categories defined by our typology of mysticism."11

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10 Ibid., pp. 45, 46.
11 "Drugs and Mysticism: An Analysis of the Relationship between Psychedelic Drugs and the Mystical Consciousness," a thesis presented to the Committee on Higher Degrees in History and Philosophy of Religion, Harvard University, June 1963.
With the thought that the reader might like to test his own powers of discernment on the question being considered, I insert here a simple test I gave to a group of Princeton students following a recent discussion sponsored by the Woodrow Wilson Society:

Below are accounts of two religious experiences. One occurred under the influence of drugs, one without their influence. Check the one you think was drug-induced.

I

Suddenly I burst into a vast, new, indescribably wonderful universe. Although I am writing this over a year later, the thrill of the surprise and amazement, the awesomeness of the revelation, the engulfment in an overwhelming feeling-wave of gratitude and blessed wonderment, are as fresh, and the memory of the experience is as vivid, as if it had happened five minutes ago. And yet to concoct anything by way of description that would even hint at the magnitude, the sense of ultimate reality... this seems such an impossible task. The knowledge which has infused and affected every aspect of my life came instantaneously and with such complete force of certainty that it was impossible, then or since, to doubt its validity.

II

All at once, without warning of any kind, I found myself wrapped in a flame-colored cloud. For an instant I thought of fire... the next, I knew that the fire was within myself. Directly afterward there came upon me a sense of exultation, of immense joyousness accompanied or immediately followed by an intellectual illumination impossible to describe. Among other things, I did not merely come to believe, but I saw that the universe is not composed of dead matter, but is, on the contrary, a living Presence; I became conscious in myself of eternal life... I saw that all men are immortal; that the cosmic order is such that without any preadventure all things work together for the good of each and all; that the foundation principle of the world... is what we call love, and that the happiness of each and all is in the long run absolutely certain.

On the occasion referred to, twice as many students (46) answered incorrectly as answered correctly (23). I bury the correct answer in a footnote to preserve the reader’s opportunity to test himself.12

Why, in the face of this considerable evidence, does Zehnder hold that drug experiences cannot be authentically religious? There appear to be three reasons:

12 The first account is quoted anonymously in “The Issue of the Consciousness-expanding Drugs,” Main Currents in Modern Thought, 26, 1 (September–October, 1965): 10–11. The second experience was that of Dr. B. M. Bucke, the author of Cosmic Consciousness, as quoted in William James, The Varieties of Religious Experience (New York: Modern Library, 1902), pp. 390–391. The former experience occurred under the influence of drugs; the latter did not.
1. His own experience was "utterly trivial." This of course proves that not all drug experiences are religious; it does not prove that no drug experiences are religious.

2. He thinks the experiences of others that appear religious to them are not truly so. Zahlner distinguishes three kinds of mysticism: nature mysticism, in which the soul is united with the natural world; monistic mysticism, in which the soul merges with an impersonal absolute; and theism, in which the soul confronts the living, personal God. He concedes that drugs can induce the first two species of mysticism, but not its supreme instance, the theistic. As proof, he analyzes Huxley's experience as recounted in *The Doors of Perception* to show that it produced at best a blend of nature and monistic mysticism. Even if we were to accept Zahlner's evaluation of the three forms of mysticism, Huxley's case, and indeed Zahlner's entire book, would prove only that not every mystical experience induced by the drugs is theistic. Insofar as Zahlner goes beyond this to imply that drugs do not and cannot induce theistic mysticism, he not only goes beyond the evidence but proceeds in the face of it. James Slotkin reports that the peyote Indians "see visions, which may be of Christ Himself. Sometimes they hear the voice of the Great Spirit. Sometimes they become aware of the presence of God and of those personal shortcomings which must be corrected if they are to do His will." And G. M. Carstairs, reporting on the use of psychedelic bhang in India, quotes a Brahmin as saying, "It gives good bhakti. . . . You get a very good bhakti with bhang," bhakti being precisely Hinduism's theistic variant.

3. There is a third reason why Zahlner might doubt that drugs can induce genuinely mystical experiences. Zahlner is a Roman Catholic, and Roman Catholic doctrine teaches that mystical rapture is a gift of grace and as such can never be reduced to man's control. This may be true; certainly the empirical evidence cited does not preclude the possibility of a genuine ontological or theological difference between natural and drug-induced religious experiences. At this point, however, we are considering phenomenology rather than ontology, description rather than interpretation, and on this level there is no difference. Descriptively, drug experiences cannot be distinguished from their natural religious counterpart. When the current philosophical authority on mysticism, W. T. Stace, was asked whether the drug experience is similar

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to the mystical experience, he answered, "It's not a matter of its being similar to mystical experience; it is mystical experience."

What we seem to be witnessing in Zahnker's Mysticism Sacred and Profane is a reenactment of the age-old pattern in the conflict between science and religion. Whenever a new controversy arises, religion's first impulse is to deny the disturbing evidence science has produced. Seen in perspective, Zahnker's refusal to admit that drugs can induce experiences descriptively indistinguishable from those which are spontaneously religious is the current counterpart of the seventeenth-century theologians' refusal to look through Galileo's telescope or, when they did, their persistence on dismissing what they saw as machinations of the devil. When the fact that drugs can trigger religious experiences becomes incontrovertible, discussion will move to the more difficult question of how this new fact is to be interpreted. The latter question leads beyond phenomenology into philosophy.

3. Drugs and Religion Viewed Philosophically

Why do people reject evidence? Because they find it threatening, we may suppose. Theologians are not the only professionals to utilize this mode of defense. In his Personal Knowledge, Michael Polanyi recounts the way the medical profession ignored such palpable facts as the painless amputation of human limbs, performed before their own eyes in hundreds of successive cases, concluding that the subjects were imposters who were either deluding their physicians or colluding with them. One physician, Eshaille, carried out about 300 major operations painlessly under mesmeric trance in India, but neither in India nor in Great Britain could he get medical journals to print accounts of his work. Polanyi attributes this closed-mindedness to "lack of a conceptual framework in which their discoveries could be separated from specious and untenable admixtures."

The "untenable admixture" in the fact that psychotomimetic drugs can induce religious experience is its apparent implicate: that religious disclosures are no more veridical than psychotic ones. For religious skeptics, this conclusion is obviously not untenable at all; it fits in beautifully with their thesis that all religion is at heart an escape from reality. Psychotics avoid reality by retiring into dream worlds of make-believe; what better evidence that religious visionaries do the same than the fact that identical changes in brain chemistry produce both states of mind?

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Had not Marx already warned us that religion is the "opiate" of the people—apparently he was more literally accurate than he supposed. Freud was likewise too mild. He "never doubted that religious phenomena are to be understood only on the model of the neurotic symptoms of the individual." He should have said "psychotic symptoms."

So the religious skeptic is likely to reason. What about the religious believer? Convinced that religious experiences are not fundamentally delusory, can he admit that psychotomimetic drugs can occasion them? To do so he needs (to return to Polanyi's words) "a conceptual framework in which [the discoveries can] be separated from specious and untenable admixtures," the "untenable admixture" being is this case the conclusion that religious experiences are in general delusory.

One way to effect the separation would be to argue that, despite phenomenological similarities between natural and drug-induced religious experiences, they are separated by a crucial ontological difference. Such an argument would follow the pattern of theologians who argue for the "real presence" of Christ's body and blood in the bread and wine of the Eucharist despite their admission that chemical analysis, confined as it is to the level of "accidents" rather than "essences," would not disclose this presence. But this distinction will not appeal to many today, for it turns on an essence-accident metaphysics which is not widely accepted. Instead of fighting a rear-guard action by insisting that if drug and non-drug religious experiences cannot be distinguished empirically there must be some transemipirical factor that distinguishes them and renders the drug experience profane, I wish to explore the possibility of accepting drug-induced experiences as religious without relinquishing confidence in the truth-claims of religious experience generally.

To begin with the weakest of all arguments, the argument from authority: William James did not discount his insights that occurred while his brain chemistry was altered. The paragraph in which he retrospectively evaluates his nitrous oxide experiences has become classic, but it is so pertinent to the present discussion that it merits quoting once again.

One conclusion was forced upon my mind at that time, and my impression of its truth has ever since remained unshaken. It is that our normal waking consciousness, rational consciousness as we call it, is but one special type of consciousness, whilst all about it, parted from it by the thinnest of screens, there lie potential forms of consciousness entirely different. We may go

through life without suspecting their existence; but apply the requisite stimulus, and at a touch they are there in all their completeness, definite types of mentality which probably somewhere have their field of application and adaptation. No account of the universe in its totality can be final which leaves these other forms of consciousness quite disregarded. How to regard them is the question—for they are so discontinuous with ordinary consciousness. Yet they may determine attitudes though they cannot furnish formulas, and open a region though they fail to give a map. At any rate, they forbid a premature closing of our accounts with reality. Looking back on my own experiences, they all converge toward a kind of insight to which I cannot help ascribing some metaphysical significance (op. cit., 378–379).

To this argument from authority, I add two arguments that try to provide something by ways of reasons. Drug experiences that assume a religious cast tend to have fearful and/or beatific features, and each of my hypotheses relates to one of these aspects of the experience.

Beginning with the ominous, “fear of the Lord,” aweful features, Gordon Wasson, the New York banker-turned-myecologist, describes these as he encountered them in his psilocybin experience as follows: “Ecstasy! In common parlance . . . ecstasy is fun. . . . But ecstasy is not fun. Your very soul is seized and shaken until it tingles. After all, who will choose to feel undiluted awe? . . . The unknowing vulgar abuse the word; we must recapture its full and terrifying sense.” 11 Emotionally the drug experience can be like having forty-foot waves crash over you for several hours while you cling desperately to a life-raft which may be swept from under you at any minute. It seems quite possible that such an ordeal, like any experience of a close call, could awaken rather fundamental sentiments respecting life and death and destiny and trigger the “no atheists in foxholes” effect. Similarly, as the subject emerges from the trauma and realizes that he is not going to be insane as he had feared, there may come over him an intensified appreciation like that frequently reported by patients recovering from critical illness. “It happened on the day when my bed was pushed out of doors to the open gallery of the hospital,” reads one such report:

I cannot now recall whether the revelation came suddenly or gradually; I only remember finding myself in the very midst of these wonderful moments, beholding life for the first time in all its young intoxication of loveliness, in its unspeakable joy, beauty, and importance. I cannot say exactly what the mysterious change was. I saw no new thing, but I saw all the usual things in a miraculous new light—in what I believe is their true light. I

saw for the first time how wildly beautiful and joyous, beyond any words
of mine to describe, is the whole of life. Every human being moving across
that porch, every sparrow that flew, every branch tossing in the wind, was
captured in and was a part of the whole mad ecstasy of loneliness, of joy, of
importance, of intoxication of life.\textsuperscript{19}

If we do not discount religious intuitions because they are prompted
by battlefields and \textit{physical} crises; if we regard the latter as "calling
us to our senses" more often than they seduce us into delusions,
we need comparable intuitions be discounted simply because the crises
that trigger them are of an inner, \textit{psychic} variety.\textsuperscript{19}

Turning from the hellish to the heavenly aspects of the drug
experience, some of the latter may be explainable by the hypothesis
just stated; that is, they may be occasioned by the relief that
attends the sense of escape from high danger. But this hypothesis
cannot possibly account for all the beatific episodes, for the simple
reason that the positive episodes often come first, or to persons who
experience no negative episodes whatever. Dr. Sanford Unger
of the National Institute of Mental Health reports that among his
subjects "50 to 60\% will not manifest any real disturbance
worthy of discussion," yet "around 75\% will have at least one
episode in which exaltation, rapture, and joy are the key descrip-
tions."\textsuperscript{19} How are we to account for the drug's capacity to induce
peak experiences, such as the following, which are \textit{not} preceded
by fear?\textsuperscript{19}

A feeling of great peace and contentment seemed to flow through my entire
body. All sound ceased and I seemed to be floating in a great, very
very still void or hemisphere. It is impossible to describe the overpowering feeling
of peace, contentment, and being a part of goodness itself that I felt. I
could feel my body dissolving and actually becoming a part of the goodness
and peace that was all around me. Words can't describe this. I feel an awe
and wonder that such a feeling could have occurred to me.\textsuperscript{20}

Consider the following line of argument. Like every other form
of life, man's nature has become distinctive through specialization.
Man has specialized in developing a cerebral cortex. The analytic
powers of this instrument are a standing wonder, but the instru-
ment seems less able to provide man with the sense that he is
meaningfully related to his environment: to life, the world, and
history in their wholeness. As Albert Camus describes the situa-

\textsuperscript{18} Margaret Prescott Montague, \textit{Twenty Minutes of Reality} (St. Paul,
\textsuperscript{19} "The Current Scientific Status of Psychodlic Drug Research," read
at the Conference on Methods in Philosophy and the Sciences, New School for
Social Research, May 5, 1964, and scheduled for publication in David Solomon,
\textsuperscript{20} Quoted by Dr. Unger in the paper just mentioned.
tion, "If I were . . . a cat among animals, this life would have a meaning, or rather this problem would not arise, for I should belong to this world. I would be this world to which I am now opposed by my whole consciousness." Note that it is Camus' consciousness that opposes him to his world. The drugs do not knock this consciousness out, but while they leave it operative they also activate areas of the brain that normally lie below its threshold of awareness. One of the clearest objective signs that the drugs are taking effect is the dilation they produce in the pupils of the eyes, and one of the most predictable subjective signs is the intensification of visual perception. Both of these responses are controlled by portions of the brain that lie deep, further to the rear than the mechanisms that govern consciousness. Meanwhile we know that the human organism is interlaced with its world in innumerable ways it normally cannot sense—through gravitational fields, body respiration, and the like: the list could be multiplied until man's skin began to seem more like a thoroughfare than a boundary. Perhaps the deeper regions of the brain which evolved earlier and are more like those of the lower animals—"If I were . . . a cat . . . I should belong to this world"—can sense this relatedness better than can the cerebral cortex which now dominates our awareness. If so, when the drugs rearrange the neurohumors that chemically transmit impulses across synapses between neurons, man's consciousness and his submerged, intuitive, ecological awareness might for a spell become interlaced. This is, of course, no more than a hypothesis, but how else are we to account for the extraordinary incidence under the drugs of that kind of insight the keynote of which James described as "invariably a reconciliation"?

"It is as if the opposites of the world, whose contradictoriness and conflict make all our difficulties and troubles, were melted into one and the same genus, but one of the species, the nobler and better one, is itself the genus, and so soaks up and absorbs its opposites into itself" (op. cit., 379).

4. The Drugs and Religion Viewed "Religiously"

Suppose that drugs can induce experiences indistinguishable from religious experiences and that we can respect their reports. Do they shed any light, not (we now ask) on life, but on the nature of the religious life?

One thing they may do is throw religious experience itself into perspective by clarifying its relation to the religious life as a whole. Drugs appear able to induce religious experiences; it is

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less evident that they can produce religious lives. It follows that
religion is more than religious experiences. This is hardly news,
but it may be a useful reminder, especially to those who incline
toward "the religion of religious experience"; which is to say
toward lives bent on the acquisition of desired states of experience
irrespective of their relation to life's other demands and com-
ponents.

Despite the dangers of faculty psychology, it remains useful
to regard man as having a mind, a will, and feelings. One of the
lessons of religious history is that, to be adequate, a faith must
rouse and involve all three components of man's nature. Religions
of reason grow arid; religions of duty, leaden. Religions of ex-
perience have their comparable pitfalls, as evidenced by Taoism's
struggle (not always successful) to keep from degenerating into
quietism, and the vehemence with which Zen Buddhism has in-
sisted that once students have attained satori, they must be driven
out of it, back into the world. The case of Zen is especially perti-
nent here, for it pivots on an enlightenment experience—satori, or
kensho—which some (but not all) Zenists say resembles LSD.
Alike or different, the point is that Zen recognizes that unless the
experience is joined to discipline, it will come to naught:

Even the Buddha . . . had to sit . . . Without joriki, the particular power
developed through zazen [seated meditation], the vision of oneness attained
in enlightenment . . . in time becomes clouded and eventually fades into a
pleasant memory instead of remaining an omnipresent reality shaping our
daily life. . . . To be able to live in accordance with what the Mind's eye
has revealed through satori requires, like the purification of character and
the development of personality, a ripening period of zazen.22

If the religion of religious experience is a snare and a delusion,
it follows that no religion that fixes its faith primarily in sub-
stances that induce religious experiences can be expected to come
to a good end. What promised to be a short cut will prove to be
a short circuit; what began as a religion will end as a religion sur-
rogate. Whether chemical substances can be helpful adjuncts to
faith is another question. The peyote-using Native American
Church seems to indicate that they can be; anthropologists give this
church a good report, noting among other things that members
resist alcohol and alcoholism better than do nonmembers.23 The
conclusion to which evidence currently points would seem to be
that chemicals can aid the religious life, but only where set within
a context of faith (meaning by this the conviction that what they

22 Philip Kapleau, Zen Practice and Attainment, a manuscript in process
of publication.
23 Slotkin, op. cit.
disclose is true) and discipline (meaning diligent exercise of the will in the attempt to work out the implications of the disclosures for the living of life in the everyday, common-sense world).

Nowhere today in Western civilization are these two conditions jointly fulfilled. Churches lack faith in the sense just mentioned; hipsters lack discipline. This might lead us to forget about the drugs, were it not for one fact: the distinctive religious emotion and the emotion that drugs unquestionably can occasion—Otto’s misterium tremendum, majestas, mysterium fascinans; in a phrase, the phenomenon of religious awe—seems to be declining sharply. As Paul Tillich said in an address to the Hillel Society at Harvard several years ago:

The question our century puts before us [is]: Is it possible to regain the lost dimension, the encounter with the Holy, the dimension which cuts through the world of subjectivity and objectivity and goes down to that which is not world but is the mystery of the Ground of Being?

Tillich may be right; this may be the religious question of our century. For if (as we have insisted) religion cannot be equated with religious experiences, neither can it long survive their absence.

HUSTON SMITH

AN EMPIRICAL BASIS FOR PSYCHOLOGICAL EGOISM

It is commonly believed in the philosophical world today that the age-old problem of psychological egoism is merely a pseudo-problem and that this is true just because the a priori philosophical arguments that have traditionally been given in favor of egoism depend in the main upon confusions about the logic of our ordinary language. It has been claimed, for example, that the well-known argument that we act selfishly even when we want to help others because in such cases we are still attempting to satisfy our own desire to help others, is fallaciously generated by misunderstandings of the proper use of terms like ‘want’, ‘satisfy’, and ‘desire’.1

In Butler’s Moral Philosophy, Austin Duncan-Jones, expressing Butler’s view, and, it seems from the context, his own as well, states that if there is something wrong with all the a priori philosophical arguments that have traditionally been given in favor of egoism (which he has earlier identified with the doctrine that

1 See P. H. Nowell-Smith’s Ethics (New York: Philosophical Library, 1957), ch. 10, passim.
PAHNKE’S “GOOD FRIDAY EXPERIMENT”:
A LONG-TERM FOLLOW-UP AND
METHODOLOGICAL CRITIQUE

Rick Doblin
Cambridge, Massachusetts

On Good Friday, 1962, before services commenced in Boston University's Marsh Chapel, Walter Pahnke administered small capsules to twenty Protestant divinity students. Thus began the most scientific experiment in the literature designed to investigate the potential of psychedelic drugs to facilitate mystical experience (Pahnke, 1963, 1966, 1967, 1970; Pahnke & Richards, 1969a, 1969b, 1969c). Half the capsules contained psilocybin (30mg), an extract of psychoactive mushrooms, and the other half contained a placebo. According to Pahnke, the experiment determined that "the persons who received psilocybin experienced to a greater extent than did the controls the phenomena described by our typology of mysticism" (Pahnke, 1963, p. 220).

This paper is a brief methodological critique and long-term follow-up study to the "Good Friday Experiment." Pahnke, who was both a physician and a minister, conducted the experiment in 1962 for his Ph.D. in Religion and Society at Harvard University, with Timothy Leary as his principal academic advisor (Leary, 1962, 1967, 1968). Describing the experiment, Walter Houston Clark, 1961 recipient of the American Psychological Association's William James Memorial Award for contributions to the psychology of religion, writes, "There are no experiments known to me in the history of the scientific study of religion better designed or clearer in their conclusions than this one" (Clark, 1969, p. 77).

Since a classic means of evaluating mystical experiences is by their fruits, follow-up data is of fundamental importance in evaluating the original experiment. A six-month follow-up was part of
the original experiment and a longer term follow-up would probably have been conducted by Pahnke himself had it not been for his death in 1971. For over twenty-five years it has not been legally possible to replicate or revise this experiment. Hence, this long-term follow-up study, conducted by the author, is offered as a way to advance scientific knowledge in the area of psychedelics and experimental mysticism. Lukoff, Zanger and Lu’s review (1990) of psychoactive substances and transpersonal states offers a recent overview of this topic.

Though all raw data from the original experiment is lost, including the uncoded list of participants, extensive research over a period of four years and the enthusiastic cooperation of most of the original subjects have resulted in the identification and location of nineteen out of the original twenty subjects. From November, 1986 to October, 1989, this author tape recorded personal interviews with sixteen of the original subjects, meeting fifteen in their home cities throughout the United States and interviewing one subject (from the control group) over the telephone. In addition to the interviews, all sixteen subjects participating in the long-term follow-up, nine from the control and seven from the experimental group, were re-administered the six-month 100-item follow-up questionnaire used in the original experiment.

Of the remaining three subjects from the experimental group, one is deceased. The identity of another is unknown. One declined to participate citing concerns about privacy. One subject, from the control group, declined to be interviewed or to fill out the questionnaire because he interpreted Pahnke’s pledge of confidentiality to mean that the subjects should not talk about the experiment to anyone. This author’s discussion of the meaning of confidentiality and mention of the explicit support for the long-term follow-up by Pahnke’s wife failed to enlist his participation.

Informal discussions were also conducted with seven out of the ten of Pahnke’s original research assistants for purposes of gathering background information about the experiment. At the time of the experiment, these people were professors or students of religion, psychology and philosophy at universities, colleges and seminaries in the Boston area.

METHODOLOGY OF THE ORIGINAL EXPERIMENT

Pahnke hypothesized that psychedelic drugs, in this case psilocybin, could facilitate a “mystical” experience in religiously inclined volunteers who took the drug in a religious setting. He further hypothesized that such experiences would result in persisting positive changes in attitudes and behavior.
Pahnke believed the most conducive environment for his experiment would be a community of believers participating in a familiar religious ceremony designed to elicit religious feelings, in effect creating an atmosphere similar to that of the tribes which used psilocybin-containing mushrooms for religious purposes (Harner, 1973; Hofmann, Ruck & Wasson, 1978; Hofmann & Schultes, 1979; Wasson, 1968). Accordingly, the experiment was designed to administer psilocybin to a previously acquainted group of Christian divinity students in church during a Good Friday service.

Methodologically, the study was designed as a randomized controlled, matched group, double-blind experiment using an active placebo. Prior to Good Friday, twenty white male Protestant volunteers, all of whom were students at the same theological school in the Boston area, were given a series of psychological and physical tests. Ten sets of closely matched pairs were created using variables such as past religious experience, religious background and training, and general psychological makeup. On the morning of the experiment, a helper who did not participate further in the experiment and who did not know any of the subjects, flipped a coin to determine to which group, psilocybin or placebo, each member of the pair would be assigned.

Three different methods were used to create numerical scales quantifying the experiences of the subjects in terms of an eight-category typology of mystical experiences designed by Pahnke especially for the experiment. Blind independent raters trained in content-analysis procedures scored descriptions of the experiences written by the subjects shortly after Good Friday as well as transcripts of three separate tape-recorded interviews conducted immediately, several days and six months after the experiment. A 147-item questionnaire was administered to the subjects one or two days after Good Friday and a 100-item questionnaire was administered six months after the experiment. The subject’s responses to the interview and the two questionnaires were transformed into three distinct scores averaging the percentage of the maximum possible score in each category. Each of the three complementary scores was then compared to each other.

Pahnke secured support and permission to use Marsh Chapel from Rev. Howard Thurman, Boston University’s dynamic black chaplain. Several small meeting rooms and a self-contained basement chapel were set aside on Good Friday for the participants in the experiment while the main service led by Rev. Thurman was taking place upstairs in the larger chapel. The two-and-a-half hour service was broadcast into the basement chapel, where altar, pews, stained glass windows and various religious symbols were permanently located.

Pahnke’s “Good Friday Experiment”
Pahnke gave an active placebo of nicotinic acid to the controls who were expecting to receive either the psilocybin or an inactive placebo. This was done in order to "potentiate suggestion in the control subjects, all of whom knew that psilocybin produced various somatic effects, but none of whom had ever had psilocybin or any related substance before the experiment" (Pahnke, 1963, p. 89).

The ten research assistants worked as part of the experimental team in order to provide emotional support to the subjects prior to and during the service. Subjects were divided into five groups of four with two research assistants, known as group leaders, assigned to each group. These small groups met for two hours prior to the service to build trust and facilitate group support. Subjects were encouraged to "go into the unexplored realms of experience during the actual experiment and not try to fight the effects of the drug even if the experience became very unusual or frightening" (Pahnke, 1963, p. 96).

As a precaution against biasing the subjects toward the typology of mystical experience, leaders were told not to discuss specific aspects of the psychedelic or mystical experience. The lack of overt bias was confirmed by all of the subjects in their long-term follow-up interviews. In a typical long-term follow-up report, psilocybin subject S.J. (all initials used to identify subjects are coded to preserve anonymity) made the following remarks both about the preparation phase of the experiment and the conduct of the group leaders:

None of the fine points of the mystical experience were given to us. We were not told to read any books such as Stace's book on mysticism or Jacob Boheme's books, nothing like that. They did not bias us in any way towards that, not at all.

At the insistence of one of the group leaders as well as Pahnke's faculty sponsor, Timothy Leary, but over the objections of Pahnke, all of the group leaders were also given a pill prior to the service (Leary, 1984, p. 107). This was done in a double-blind manner with one of each group's leaders receiving a half dose of psilocybin (15 mg) and the other the placebo. Pahnke was concerned this would lead to charges of experimenter bias being leveled against the study, but Leary and the group leader felt that the full involvement of the group leaders would create more of a community feeling and lend necessary confidence to the subjects. Though administered a capsule at the Good Friday service, the group leaders' reactions were not tape recorded, nor did they fill out questionnaires. Pahnke himself refrained from having any personal experiences with any psychedelic drug until after the experiment and follow-up had been completed.
Difficulties with the Double-Blind

The double-blind was successfully sustained through all of the preparation phases of the experiment up to and including ingestion of the capsule. The double-blind was even sustained for a portion of the Good Friday service itself because of the use of nicotinic acid as an active placebo. Nicotinic acid acts more quickly than does psilocybin and produces a warm flush through vasodilation of blood vessels in the skin and general relaxation. Subjects in the placebo group mistakenly concluded, in the early stages of the experiment, that they were the ones who had received the psilocybin (Pahnke, 1963, p. 212). The group leaders, unaware that an active placebo was going to be used, were also initially unable to distinguish whether subjects had received the psilocybin or the placebo.

Psilocybin’s powerful subjective effects were eventually obvious to all subjects who received it, even though they had not previously ingested the drug or anything similar to it (Pahnke, 1963, p. 212). Inevitably, the double-blind was broken during the service as the psychoactive effects of the psilocybin deepened and the physiological effects of the nicotinic acid faded. At the end of the day of the experiment, all subjects correctly determined whether they had received the psilocybin or the placebo even though they were never told which group they were in (Pahnke, 1963, p. 210). Pahnke himself remained technically blind until after the six-month follow-up. The comments of subject O.W., gathered in the course of this author’s long-term follow-up, are typical of members of the control group.

After about a half hour I got this burning sensation. It was more like indigestion than a burning sensation. And I said to T.B., “Do you feel anything?” And he said, “No, not yet.” We kept asking, “Do you feel anything?” I said, “You know, I’ve got this burning sensation, and it’s kind of uncomfortable.” And T.B. said, “My God, I don’t have it, you got the psilocybin, I don’t have it.” I thought, “Jeez, at least I was lucky in this trial. I’m sorry T.B. didn’t get it, but I’m gonna’ find out.” I figured, with my luck, I’d probably get the sugar pill, or whatever it is. And I said to Y.M., “Do you feel anything?” No, he didn’t feel anything. So I sat there, and I remember sitting there, and I thought, “Well, Leary told me to chart my course so I’m gonna’ concentrate on that.” And I kept concentrating and sitting there and all I did was get more indigestion and uncomfortable.

Nothing much more happened and within another 40 minutes, 45 minutes, everybody was really quiet and sitting there. Y.M. was sitting there and looking ahead, and all of the sudden T.B. says to me, “Those lights are unbelievable.” And I said, “What lights?” He says, “Look at the candles.” He says, “Can you believe that?” And I looked at the candles, and I thought, “They look like candles.” He says, “Can’t you see something strange about them?” So I remember
squinting and looking. I couldn’t see anything strange. And he says, “You know it’s just spectacular.” And I looked at Y.M. and he was sitting there saying, “Yeah.” And I thought, “They got it, I didn’t.”

The follow-up interviews yielded no evidence that the experimental team consciously used their knowledge of which pill the subjects had received to bias the results. However, unconscious bias resulting in an “expectancy effect” cannot be ruled out (Barber, 1976). Still, valuable information can be generated without the successful use of the double-blind methodology. Louis Lasagna, Director of the Center for the Study of Drug Development at Tufts University, writes,

We have witnessed the ascendency of the randomized, double-blind, controlled clinical trial (RCCT), to the point where many in positions of authority now believe that data obtained via this technique should constitute the only basis for registering a drug or indeed for coming to any conclusions about its efficacy at any time in the drug’s career. My thesis is that this viewpoint is untenable, needlessly rigid, unrealistic, and at times unethical. . . . Modern trial techniques [were not] necessary to recognize the therapeutic potential of chloral hydrate, the barbiturates, ether, nitrous oxide, chloroform, curare, aspirin, quinine, insulin, thyroid, epinephrine, local anesthetics, belladonna, antacids, sulfonamides, and penicillin, to give a partial list . . . (Lasagna, 1985, p. 48).

Commenting about the attempt to remove the experimenter from the experiment completely, Tooley and Pratt remark:

In certain participant-observer situations (e.g. psychotherapy, education, change induction, action research) the purpose might be to influence the system under investigation as much as possible, but still accounting for (though now exploiting) the variance within the system attributable to the several significant and relevant aspects of the investigator’s participant observation. . . . From this perspective, the quixotic attempt to eliminate the effects of participant-observation in the name of a misplaced pseudo-objectivity is fruitless, not so much because it is impossible but because it is unproductive. . . . From our point of view . . . the question becomes not how to eliminate bias (unaccounted-for influence) of participant observation, but how optimally to account for and exploit the effects of the participant observation transaction in terms of the purposes of the research (Tooley & Pratt, 1964, p. 254-56).

The loss of the double-blind makes it impossible to determine the relative contributions of psilocybin and suggestion in producing the subjects’ reported experiences. If the experiment were designed specifically to measure the pure drug effects of psilocybin, the failure of the double-blind would be quite damaging. In this instance the loss of the double-blind is of lesser significance because the entire experiment was explicitly designed to maximize the combined effect of psilocybin and suggestion. The
setting was religious, the participants were religiously inclined and the mood was positive and expectant. Pahnke did not set out to investigate whether psilocybin was able to produce mystical experiences irrespective of preparation and context. He designed the experiment to determine whether volunteers who received psilocybin within a highly supportive, suggestive environment similar to that found in the ritual use of psychoactive substances by various native cultures would report more elements of a classical mystical experience (as defined by the questionnaires) than volunteers who did not receive psilocybin. The loss of the double-blind may have enhanced the power of suggestion to some extent and suggests that restraint should be used in attributing the experiences of the experimental group exclusively to the psilocybin (Zinberg, 1984).

Critique of the Questionnaire

Pahnke designed the questionnaire he used to measure the occurrence of a mystical experience specifically for the experiment. No similar questionnaires existed at the time (Larson, 1986; Rue, 1985; Silverman, 1983). Pahnke decided to measure the mystical experience in reference to eight distinct experiential categories. The categories include 1) sense of unity, 2) transcendence of time and space, 3) sense of sacredness, 4) sense of objective reality, 5) deeply felt positive mood, 6) ineffability, 7) paradoxicality and 8) transiency. These categories are very similar to those elaborated by such well-respected scholars of mystical experience as William James (1902), Evelyn Underhill (1910), and W.T. Stace (1960) and are accepted as valid even by academic critics of the Good Friday experiment such as R.C. Zaehner (1972). At present, the scientific questionnaire most widely used by researchers to assess mystical experiences is a 32-item questionnaire created by Ralph Hood, also based on categories developed by W.T. Stace (Spilka, Hood & Gorsuch, 1985).

Zaehner’s critique of Pahnke’s questionnaire is that it does not contain a category for experiences which are specifically Christian, such as identification with the death and rebirth of Jesus Christ. From Zaehner’s perspective, this omission made it impossible to determine if the experiences reported by the subjects during the Good Friday experiment were religious, since he thought a religious experience for Christians necessarily involves a theistic encounter with Christ. Zaehner objected to the claim that an experience of a generalized, non-specific, apprehension of a transcendent reality beyond any specific cultural forms and figures could properly be called religious. Anticipating this critique, Pahnke asserted in the thesis that he was not attempting to resolve the question of what can properly be called religious but
was simply investigating mystical experiences, regardless of whether or not they were considered religious. This author will also leave this delicate discussion to others.

The questionnaire used in the Good Friday experiment has been modified and expanded over the years by Pahnke, William Richards, Stanislav Grof, Franco Di Leo, and Richard Yensen for use in subsequent psychedelic research (Richards, 1975, 1978). From the initial creation of the questionnaire by Pahnke in 1962 to Di Leo and Yensen’s computerized version, called the Peak Experience Profile, the basic items relating to the mystical experience have remained essentially unchanged (Di Leo, 1982). While the original follow-up questionnaire was composed of eight different categories, the Peak Experience Profile uses only six. The category of transiency was eliminated since it measures any altered state of consciousness whether mystical or not. The paradoxicality and alleged ineffability categories were combined into the ineffability category. Over the years, new categories measuring transpersonal but not necessarily mystical experiences were added. For example, new questions relate to the reexperiencing of the stages of birth and the perinatal matrixes as defined by Grof (Grof, 1975, 1980) and also to past-life experiences (Ring, 1982, 1984, 1988). A series of questions relating to difficult and painful nadir experiences, in some sense the opposites of peak experiences, has also been added.

In Pahnke’s original questionnaire and in the subsequent revisions, the completeness with which each subject experienced each category is measured through numerical responses to category-specific questions. Pahnke’s subjects rated each question on the post-drug questionnaire from zero to four, with zero indicating that the item was not experienced at all and four indicating that it was experienced as strong or stronger than ever before. The six-month follow-up questionnaire used a zero to five scale, with four indicating that it was experienced as strong as before and five indicating that it was experienced stronger than ever before.

The questions themselves are of two types. The predominant type asks the subject about experiences of a new perspective. For example, some of the questions used to determine the sense of unity ask subjects to rate the degree to which they experienced a pure awareness beyond any empirical content, a fusion of the self into a larger undifferentiated whole, or a freedom from the limitations of the self in connection with a unity or bond with what was felt to be all-encompassing and greater-than-self. These type of questions are sufficiently detailed and specific to be an effective test for the specific category.
The second type of question, used much less frequently, asks about the loss of a normal state. For example, two questions used to determine the presence of a sense of unity simply required subjects to rate the degree to which they lost their sense of self or experienced a loss of their own identity. This type of question is a minor weak point of the questionnaire because it can be rated highly without having anything to do with mystical experiences. For example, one subject reported in the follow-up interview that under the influence of psilocybin he temporarily had difficulty recalling his career choice, home, names of his wife and children, and even his own name. This experience of a powerful loss of the usual sense of self and identity would be highly correlated with mystical experience in the questionnaire but may not actually be related because it can occur for a variety of reasons. Though the questionnaire has relatively few of this type of question, some overestimation of the completeness of the mystical experience could have been introduced into the data as a result.

In addition to asking questions about the experience itself, the follow-up questionnaire also sought to assess the effects of that experience on the attitudes and behaviors of the subjects. For example, the subjects' attitude changes were assessed by asking them to use a 0 to 5 scale to rate whether they had experienced an increase or a decrease in their feelings of happiness, joy, peace, reverence, creativity, vocational commitment, need for service, anxiety, and hatred. Changes in subjects' behavior were assessed by means of questions asking whether or not they experienced changes in their relationships with others, in time spent in quiet meditation or devotional life, or whether they thought their behavior had changed in positive or negative ways.

Pahnke's questionnaire gathered information only from the self-reports of the subjects, resulting in a general sense of the subjects' own assessment of the direction of the effects of their Good Friday experience. The data do not yield specific information about the internal psychodynamic mechanisms at work within each subject, nor do they include the views of significant others regarding the effects of the experiment on the subjects.

In contemporary psychotherapy research, more sophisticated methods than Pahnke's are used to assess personality change (Beutler & Crago, 1983). Reports from significant others such as family members and close friends of the subject are almost always used to add an important "objective" element in assessing personality change. Data from the follow-up questionnaires, administered by Pahnke at six-months and by the author after twenty-four to twenty-seven years, should be considered valuable as far as they go, but this is not very far. Since no detailed
personality tests were given prior to the experiment, results of such tests at the time of the long-term follow-up would have been of little value and were not conducted. The long-term follow-up interviews, because of their open-ended format and extensive questioning, yielded more detailed information than the questionnaire about the content of the experiences and the persisting effects.

FINDINGS OF THE ORIGINAL STUDY AND LONG-TERM FOLLOW-UP

Pahnke arbitrarily determined that for a mystical experience to be considered complete for the purposes of the experiment, out of the maximum total possible score, "the total score and the score in each separate category must be at least 60 to 70 percent" (Pahnke, 1967, p. 66). According to this cut-off point, "Four of the ten psilocybin subjects reached the 60 to 70 percent level of completeness, whereas none of the controls did" (Pahnke, 1967, p. 64). Looked at by subjects and categories, Pahnke reported that "eight out of ten of the experimental subjects experienced at least seven out of the nine categories. None of the control group, when each individual was compared to his matched partner, had a score which was higher" (Pahnke, 1966, p. 647). In every general category and in every specific question, the average score of the experimental subjects exceeded that of the control subjects. The differences between the groups in the scores on the questionnaires were significant at p<.05 level for all categories.

When asked at a conference if any of the controls had a mystical experience, Pahnke replied,

To take an individual case, there was one control subject who scored fairly high on sacredness and sense of peace and that he himself, in his written account, said "It was a very meaningful experience, but in the past I've certainly had one that was much more so" (Pahnke, 1966, p. 648).

Pahnke's six-month follow-up data and the author's long-term follow-up questionnaire data, both of which used the same instrument, are displayed in Table 1. The six-month scores are listed first and the long-term follow-up scores follow in parentheses. For each category, the percentages in the chart represent the total scores of the subjects divided by the highest possible scores that could have been reported. The numbers measure the completeness with which each category was experienced.

Comparisons can reliably be made between the control group's six-month and long-term scores because nine out of the original ten control group subjects participated in the long-term follow-up
and the variance in scores between control subjects was small. The absence of completed long-term questionnaires from three of the ten original subjects from the psilocybin group makes comparing their six-month and long-term scores more difficult. The long-term follow-up interviews produced specific information suggesting that one of the three missing psilocybin subjects had scores significantly lower than average. No information was generated suggesting that the other two missing subjects had scores significantly different than average. The average scores for the long-term follow-up may thus overstate somewhat the scores from the entire psilocybin group.

The average scores for the eight categories of the mystical experience and the scores for persisting positive and negative changes in attitude and behavior have changed remarkably little for either the controls or the experimentals despite the passage of between twenty-four and twenty-seven years between the two tests. The questionnaire seems to be reliable and indicates that time has not substantially altered the opinions of the subjects about their experiences. In the long-term follow-up even more than in the six-month follow-up, the experimental group has higher scores than the control group in every category. For the long-term follow-up, these differences are significant at p<.05 in every category.

### TABLE 1

**“GOOD FRIDAY EXPERIMENT” EXPERIMENTAL AND CONTROL GROUPS AT SIX-MONTH AND LONG-TERM FOLLOW-UP, SHOWN AS PERCENTAGES OF MAXIMUM POSSIBLE SCORES**

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>EXPERIMENTALS</th>
<th>CONTROLS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Six-Month</td>
<td>Long-Term</td>
</tr>
<tr>
<td>1. Unity A. Internal</td>
<td>60</td>
<td>(77)</td>
</tr>
<tr>
<td>B. External</td>
<td>39</td>
<td>(51)</td>
</tr>
<tr>
<td>2. Transcendence of Time and Space</td>
<td>78</td>
<td>(73)</td>
</tr>
<tr>
<td>3. Deeply Felt Positive Mood</td>
<td>54</td>
<td>(56)</td>
</tr>
<tr>
<td>4. Sacredness</td>
<td>58</td>
<td>(68)</td>
</tr>
<tr>
<td>5. Objectivity and Reality</td>
<td>71</td>
<td>(82)</td>
</tr>
<tr>
<td>6. Paradoxicality</td>
<td>34</td>
<td>(48)</td>
</tr>
<tr>
<td>7. Alleged Ineffability</td>
<td>77</td>
<td>(71)</td>
</tr>
<tr>
<td>8. Transiency</td>
<td>76</td>
<td>(75)</td>
</tr>
<tr>
<td>Average for the Categories</td>
<td>60.8</td>
<td>(66.8)</td>
</tr>
<tr>
<td>9. Persisting Positive Changes in Attitude and Behavior</td>
<td>48</td>
<td>(50)</td>
</tr>
<tr>
<td>10. Persisting Negative Changes in Attitude and Behavior</td>
<td>6</td>
<td>(6)</td>
</tr>
</tbody>
</table>

At Six-Month Follow-up, Exper. N=10, Control = 10
Long-Term Follow-Up (In Parenthesis) Exper. N=7, Control N=9
p<.05 for all category comparisons at both six-months and long-term

*Pahnke's "Good Friday Experiment"*
For the experimental group, the average score for the mystical categories at the six-month follow-up was 60.8 percent. They scored 66.8 percent at the long-term follow-up. In the six-month follow-up, the experimental group scored above 34 percent in all categories while in the long-term follow-up they scored above 48 percent in all categories. The experimental group scored the highest in those categories that typify a different state of consciousness such as transcendence of time and space, alleged ineffability and transiency.

For the control group, the average score for the eight categories of mystical experience at the six-month follow-up was 11.8 percent. They scored 12.2 percent at the long-term follow-up. The highest score of the control group at either time was 29 percent, in the sacredness category. The control group scored the highest in the categories of experience that religious services are most likely to induce, namely sense of sacredness, deeply felt positive mood and sense of objectivity and reality.

For the psilocybin group, the long-term follow-up yielded moderately increased scores in the categories of internal and external unity, sacredness, objectivity and reality, and paradoxicality, while all other categories remained virtually the same as the six-month data. Several decades seem to have strengthened the experimental groups' characterization of their original Good Friday experience as having had genuinely mystical elements. For the controls, the only score that changed substantially was that of alleged ineffability, which decreased.

A relatively high degree of persisting positive changes were reported by the experimental group while virtually no persisting positive changes were reported by the control group. In the open-ended portion of the long-term follow-up questionnaire, experimental subjects wrote that the experience helped them to resolve career decisions, recognize the arbitrariness of ego boundaries, increase their depth of faith, increase their appreciation of eternal life, deepen their sense of the meaning of Christ, and heighten their sense of joy and beauty. No positive persisting changes were reported by the control group in the open-ended section of the follow-up questionnaire.

There was a very low incidence of persisting negative changes in attitudes or behavior in either group at either the six-month follow-up or the long-term follow-up. However, the one psilocybin subject reported to have had the most difficult time during the experiment was the one who declined this author's request to be interviewed in person or fill out a questionnaire, placing in question the generalizability of this finding for the long-term.
Both the six-month and long-term follow-up questionnaire results support Pahnke's hypothesis that psilocybin, when taken in a religious setting by people who are religiously inclined, can facilitate experiences of varying degrees of depth that either are identical with, or indistinguishable from, those reported in the cross-cultural mystical literature. In addition, both the six-month and the long-term follow-up questionnaire results support Pahnke's hypothesis that the subjects who received psilocybin, more so than the controls, experienced substantial positive persisting effects in attitude and behavior.

**THE LONG-TERM FOLLOW-UP INTERVIEWS: GENERAL OVERVIEW**

This long-term follow-up was conducted roughly a quarter century after the subjects participated in the original experiment. All subjects contacted live in the United States, with five out of the eight psilocybin subjects and five out of the ten placebo subjects currently working as ministers. Other professions represented are stockbroker, lawyer, community developer, social worker, administrative-assistant and educator. Except for one of the psilocybin subjects, all are currently married. All are working and self-supporting. All but two welcomed the opportunity to discuss their participation in the Good Friday experiment.

Each of the psilocybin subjects had vivid memories of portions of their Good Friday experience. For most this was their life's only psychedelic experience, in part because there have been no legal opportunities for such experiences for the last twenty-five years in the United States (or in any of the roughly 90 countries who are party to the international drug control treaties coordinated by the United Nation's World Health Organization). The experimental subjects unanimously described their Good Friday psilocybin experience as having had elements of a genuinely mystical nature and characterized it as one of the highpoints of their spiritual life. Some subjects reported that the content of their experience was specifically involved with the life of Christ and related directly to the Christian message while others had experiences of a more universal, non-specific nature. Most of the control subjects could barely remember even a few details of the service.

Most of the psilocybin subjects had subsequent experiences of a mystical nature with which they were able to compare and to contrast to their psilocybin experience. These subsequent experiences occurred either in dreams, in prayer life, in nature or with other psychedelics and seemed to the psilocybin subjects to be of the same essential nature as their Good Friday experience. Significant differences between their non-drug and drug mystical
experiences were noted, with the drug experiences reportedly both more intense and composed of a wider emotional range than the non-drug experiences. The non-drug experiences were composed primarily of peaceful, beautiful moments experienced with ease while the drug experiences tended to include moments of great fear, agony and self-doubt.

The discussion of Subject T.B. about the relationship between his psilocybin and his other mystical experiences illustrates how the subjects saw the validity of their psilocybin experiences.

I can think of no experiences [like the Good Friday experience] quite of that magnitude. That was the last of the great four in my life. The dream state . . . I had no control over when it was coming. It was when I [was about nine and] had scarlet fever and rheumatic fever, apparently at either similar or at the same times. And they thought that I was going to die. And I saw a light coming out of the sky, this is in the dream, and it came toward me and it was like the figure of Christ and I said, "No, let me live and I'll serve you." And I'm alive and I've served. The prayer state when I was in seventh grade was very similar in the way it happened to me. I intentionally went for an experience with God. In seventh grade. And I also went for an experience with God at the Good Friday experience. And those were similar. The West Point experience was different. In that yes, it was prayers, it was on my knees, it was there, but the face of Christ was . . . it happened more to me than me participating in it. It was more like a saving experience kind of thing. So I've had that and can talk about "a salvation experience," a born again experience, it was that kind of dedication.

Each of the psilocybin subjects felt that the experience had significantly affected his life in a positive way and expressed appreciation for having participated in the experiment. Most of the effects discussed in the long-term follow-up interviews centered around enhanced appreciation of life and of nature, deepened sense of joy, deepened commitment to the Christian ministry or to whatever other vocations the subjects chose, enhanced appreciation of unusual experiences and emotions, increased tolerance of other religious systems, deepened equanimity in the face of difficult life crises, and greater solidarity and identification with foreign peoples, minorities, women and nature. Subject K.B.'s description of the long-term effects is representative. He remarks:

It left me with a completely unquestioned certainty that there is an environment bigger than the one I'm conscious of. I have my own interpretation of what that is, but it went from a theoretical proposition to an experiential one. In one sense it didn't change anything, I didn't discover something I hadn't dreamed of, but what I had thought on the basis of reading and teaching was there. I knew it. Somehow it was much more real to me. . . . I expect things from
meditation and prayer and so forth that I might have been a bit more skeptical about before... I have gotten help with problems, and at times I think direction and guidance in problem solving. Somehow my life has been different knowing that there is something out there. ... What I saw wasn't anything entirely surprising and yet there was a powerful impact from having seen it.

In addition to self-reports, several subjects who had stayed in contact with each other over the years spoke about the effects they noticed in each other. In the instances where such information was obtained, the observations of fellow subjects were similar to the self-reports and confirmed claims of beneficial effects.

Several of the psilocybin subjects discussed their deepened involvement in the politics of the day as one result of their Good Friday experience. Feelings of unity led many of the subjects to identify with and feel compassion for minorities, women and the environment. The feelings of timelessness and eternity reduced their fear of death and empowered the subjects to take more risks in their lives and to participate more fully in political struggles.

Subject T.B. discussed how his perception of death during the Good Friday experience affected his work in the political field. He remarked:

When you get a clear vision of what [death] is and have sort of been there, and have left the self, left the body, you know, self leaving the body, or soul leaving the body, or whatever you want to call it, you would also know that marching in the Civil Rights Movement or against the Vietnam War in Washington [is less fearful]. ... In a sense [it takes away the fear of dying] ... because you've already been there. You know what it's about. When people approaching death have an out-of-body experience ... [you] say, "I know what you're talking about. I've been there. Been there and come back. And it's not terrifying, it doesn't hurt."...

Subject S.J. found that his Good Friday experience of unity supported his efforts in the political field.

I got very involved with civil rights after that [his psychedelic experience] and spent some time in the South. I remember this unity business, I thought there was some link there. ... There could have been. People certainly don't write about it. They write about it the opposite way, that drugs are an escape from social obligations. That is the popular view. . . .

Only one of the control subjects felt that his experience of the Good Friday service resulted in beneficial personal growth. That particular control subject thought he was probably the one in the original experiment reported to have had a partial mystical experience. Ironically, he felt that the most important benefit he
received from the service was the decision to try psychedelics at the earliest opportunity. The Good Friday service had that same effect on one other placebo subject, who also had a subsequent psychedelic experience.

The actual experiences of the original psilocybin subjects are best communicated by quoting from the transcripts of the long-term follow-up interviews. Reverend S.J. had an experience almost uniformly positive. He describes his experience as follows:

"Something extraordinary had taken place which had never taken place before. All of a sudden I felt sort of drawn out into infinity, and all of a sudden I had lost touch with my mind. I felt that I was caught up in the vastness of Creation ... huge, as the mystics say. ... I did experience that kind of classic kind of blending. ... Sometimes you would look up and see the light on the altar and it would just be a blinding sort of light and radiation. ... The main thing about it was a sense of timelessness."

The meditation was going on all during this time, and he [Rev. Howard Thurman] would say things about Jesus and you would have this overwhelming feeling of Jesus. ... It was like you totally penetrated what was being said and it penetrated you. ... Death looked different. It became in focus. ... I got the impression, the sensation ... that what people are essentially in their essence that somehow they would continue to live. They may die in one sense, the physical sense, but their being in heaven would survive. ...

"We took such an infinitesimal amount of psilocybin, and yet it connected me to infinity."

Subject L.J. confronted the issue of personal mortality, which he described as follows:

"I was on the floor underneath the chapel pew and he [a group leader] was looking after me and sort of aware of, you know, "L.J. is down there, is everything all right?" I was hearing my uncle who had died [several months before], the one who was a minister, saying, "I want you to die, I want you to die, I want you to die." I could hear his voice saying. The more that I let go and sort of died, the more I felt this eternal life, saying to myself under my breath perhaps, "it has always been this way, it has always been this way. ... O, isn't it wonderful, there's nothing to fear, this is what it means to die, or to taste of eternal life. ..." And the more I died the more I appropriated this sense of eternal life. ... While the service went on I was caught up in this experience of eternal life and appreciating what the peyote Indians or the sacred mushroom Indians experienced with their imbibing of the drug. Just in that one session I think I gained experience I didn't have before and probably could never have gotten from a hundred hours of reading or a thousand hours of reading."
I would have to say as far as I'm concerned it was a positive, mystical experience . . . confirmed by experiences both before and after.

Reverend L.R. had one of the most difficult experiences of all the psilocybin subjects. He described the early portion of his experience as follows:

Shortly after receiving the capsule, all of a sudden I just wanted to laugh. I began to go into a very strong paranoid experience. And I found it to be scary. The chapel was dark and I hated it in there, just absolutely hated it in there. And I got up and left. I walked down the corridor and there was a guard, a person stationed at the door so individuals wouldn't go out, and he says, “Don't go outside,” and I said, “Oh no, I won't. I'll just look outdoors.” And I went to the door and out I went. They sent [a group leader] out after me. We [L.R. and the group leader] went back into the building and again, I hated to be in that building and being confined because there were bars on the window and I felt literally like I was in prison. One of the things that was probably happening to me was a reluctance to just flow. I tried to resist that and as soon as resistance sets in there's likely to be conflict and there's likely, I think, for there to be anxiety.

In addition to his emotional struggles, Reverend L.R. discusses the mystical aspect of his experience as follows:

The inner awareness and feelings I had during the drug experience were the dropping away of the external world and those relationships and then the sudden sense of singleness, oneness. And the rest of normal waking consciousness is really . . . illusion. It's not real and somehow that inner core experience of oneness is more real and more authentic than normal consciousness . . . . I was also experiencing some of those same kind of states that produced anxiety, and I wanted to try to get at the bottom of it.

I personally feel that the experience itself was, and I know his [Pahnke's] research came to the conclusion, that the effect of the chemicals like that is very similar, parallel to, perhaps the same as a classical mystical experience . . . .

Reverend Y.M. describes his experience, which also had some difficult moments, as follows:

I closed my eyes and the visuals were back, the color patterns were back, and it was as if I was in an ocean of bands, streams of color, streaming past me. The colors were brilliant and I could swim down any one of those colors. Then that swirl dissolved itself into a radial pattern, a center margin radial pattern with the colors going out from the center. I was at the center and I could swim out any one of those colors and it would be a whole different life's experience. I could swim out any one of them that I wanted. I mean I could swim
metaphorically. There wasn’t the sense that I could actually paddle. I could choose any one I wanted, but I had to choose one.

I couldn’t decide which one to go out, and eventually it connects to the decision I was in the midst of making about career choices . . . when I couldn’t decide, I died. Very existential . . . for a brief moment there, I was physically dying. My insides were literally being scooped out, and it was very painful . . . I said to myself . . . that nobody should have to go through this . . . it was excruciating to die like that. Very painful. And I died . . .

After the psilocybin experience, I never consciously made the choice as to what I was going to do career-wise, but the choice was made. It was made while I was on the psilocybin. But it never had to be consciously, intentionally, “Ah, let’s see, what I am going to do is . . .” It was made, and I was confident of it, it was going to be. And I did it afterwards . . .

Reverend K.B. describes his mystical experience in the following manner:

I feel almost whatever I say about it . . . is a little bit artificial in terms of describing. What it is is something deeper and probably also more obvious and I think I endeavor to put it into some kind of category which may obscure the point in some way. I remember feeling at the time that I was very unusually incapable of describing it. Words are a familiar environment for me and I usually can think of them, but I didn’t find any for this. And I haven’t yet.

I closed my eyes, either thinking of meditating or maybe I was drowsy or something. I closed my eyes and it seemed to be darker than usual. And then there was a sudden bolt of light which I think was entirely internal and a feeling almost like a shock or something and that was only for an instant. It wasn’t violent but it was a definite tingling like taking hold of a wire or something.

I closed my eyes and . . . thought that this would be a fine time for [meditating on the Passion]. . . . So I did think about the procession to the cross. And with my eyes closed I had an unusually vivid scene of the procession going by. A scene quite apart from any imagining or anything on my part. A self-actualizing thing—kind of like watching a movie or something, it was apart from me but very vivid.

I had a definite sense of being an infant or being born, or something like that. I had a sense of death, too, but I think actually the sense of death came after the sense of birth . . . I had my hands on my legs and there wasn’t any flesh, there were bare bones, resting on my bones. That part wasn’t frightening, I was just kind of amazed . . . I think I must have gone along through the life of Christ identifying in a very total sort of way—reliving the life in some way until finally dying and going into the tomb.
I really am glad I took it. And glad that I was a subject. I don't think it would be a particularly memorable experience if I just had listened to the service. I've heard some good services and I imagine this was as moving as most. But I think it would be in that category instead of a once-in-a-lifetime sort of thing.

I've remained convinced that my ability to perceive things was artificially changed, but the perceptions I had were real as anything else.

Subject T.B. was very comfortable with the effects of the psilocybin, perhaps because he had had mystical experiences prior to the experiment. He describes his experience in the following way:

I was kneeling there praying and beginning to feel like I was experiencing the kind of prayer life that I experienced back when I was in the seventh grade, eleven or twelve years old. It was the kind of experiences that you knew that something great was happening. I started to go to the root of all being. And discovered that . . . you never quite get there. That was my discovery during that time . . . it's a philosophy and a theology that I hold yet today. You can approach the fullness of all being in either prayer, or in the psilocybin experience. You can reach out, but you can't dive down . . . and hit that root.

The discovery within that experience is that you could approach God by two different ways. You either get to the root, the ground of all being, or the fullness of all being. And in getting to the root, you'll strive, you'll come closer and closer, but it's always half, and you'll think another half step, another half step, and you'll never quite get there. The fullness, to approach the fullness of God is the only way to approach God.

Subject H.R. tells of his largely positive experience in the following way:

It was a feeling of being . . . lifted out of your present state. I just stopped worrying about time and all that kind of stuff . . . there was one universal man, personhood, whatever you want to call it . . . a lot of connectedness with everybody and every thing. I don't think Christ or other religious images that I can remember came into it. That's the only reason I didn't think it was religious. I don't remember any religious images . . .

I was convinced after the experiment that I had had quite an experience but that it was really into my psychological depths, and it was not a religious experience. . . . It was really the sense that I was discovering the depths of my own self. It did not have a sacredness kind of element to it . . . I didn't think I had experienced a God that was particularly outside of me. What I experienced was a God that was inside of me. And I think that . . . made me say, I don't think this

Pahnke's "Good Friday Experiment"
is religious, I think this is psychological. But that was because of the way I was defining being... the way I thought God was being defined by other people at that point.

After the Good Friday experiment, two out of the ten placebo subjects experienced psychedelics. Placebo subject P.J. describes his first psychedelic experience, which took place in a chapel with psilocybin subject L.R. as his guide, as follows:

I laid on the front pew and watched myself—it seemed like eternity—pour through my navel and totally become nothing. And I felt that this would never stop. It seemed like an eternity of being in heaven and everything. One of the most beautiful experiences in my entire life.

It sure kicks the hell out of one being rigid with what could go on and what kind of experiences you could have. To take one of these drugs says a lot more can happen than what's been happening in your total experience. And I think that's good, and that's why I would want my kids to take it.

Placebo subject L.G. received psilocybin in a hospital as a part of a subsequent experiment conducted by Pahnke (1966) in a fruitless search for a placebo substance which would permit a successful double-blind experiment. L.G. describes his experience as follows:

It was rather removed from the religious context. Certainly the environment we were in had no particular religious symbols. I recall they really stressed [the need to] be absolutely open and just relax and flow with the experience whatever comes. So, there was no context really to suggest a particular experience like there might have been with the Good Friday experiment. We didn't talk about mysticism, as I recall, or religious symbols...

At one point I kind of felt like, "Well, maybe this is what it is like to be crazy." I never really panicked but I was acutely aware of anxiety. ... As time evolved I just had this incredible sense of joy and humor, too. I was laughing, real ecstasy. ... The thing that struck me was how anybody could worry or not trust, that just struck me as an absurdity. It was very exciting.

There was an energy, it was almost a sexual thing, an intensity and a joy. The visual things that I experienced and the music, I think were aligned with the sense of unity, everything was unified. We were all part of the same thing. You didn't sense a difference between the music or the physical objects...

I think that you can certainly have a religious experience without the religious symbols. Certainly the religious symbols can lead you to a mystical experience. Unfortunately, they can also be divisive. The
sectarianism can flow from the different symbols and justify the differences rather than the commonality. I think the mystic experience as I understand it comes down more on the commons.

Contrasting with the desire of two of the control subjects to have their own psychedelic experience, several of the remaining control subjects decided during the course of the experiment that they had no desire to try psychedelics. The behavior of some of their fellow subjects who received psilocybin had frightened them. Placebo subject B.A. remarks

I tend to look back on it as an historical curiosity, with intellectual interest to me, but you know, frankly not much else at this point. . . . The only change that I can think of that it brought about in my life was a conviction that I never wanted to go on a drug trip of any type ever. And I never have, except for booze. The sights I saw [during the experiment] were very disturbing to me, and I didn't see myself wanting to be in that kind of position. It appeared to be hopelessly out of control and life threatening in several instances.

The remaining control subjects viewed psilocybin with some equanimity but were not motivated enough to seek out their own experience. If the circumstances were right and the substances were legal, several indicated that they might be willing to participate in another experiment.

A Significant Omission

Out of the seven psilocybin subjects formally interviewed, only two had had Good Friday experiences that they reported to be completely positive without significant psychic struggles. The others all felt moments in which they feared they were either going crazy, dying, or were too weak for the ordeal they were experiencing. These struggles were resolved during the course of the Good Friday service and according to the subjects contributed to their learning and growth.

It appears that these difficult moments were significantly under-emphasized in Pahnke's thesis and in the subsequent reporting on the experiment. Psilocybin subject H.R. states,

The other thing I found unique that wasn't talked at all about in what I read, at least in the thesis, was that it was all on the positive up side. I don't know whether other people have said this but I had a down side. . . . It was a roller coaster. . . . I mean I had a very strong positive sense of the whole. . . . one with humanity kind of positive glowing, unity kind of feeling and then I went down to the bottom where I was really just . . . guilt . . . that's all I can say. It was a very, very profound sense of guilt.

*Pahnke's "Good Friday Experiment"* 21
Pahnke does mention that two of the subjects who received the psilocybin "had a little difficulty in readjusting to the 'ordinary world' and needed special reassurance by their group leaders until the drug effects subsided" (Pahnke, 1963, p. 219). Almost certainly, one of those subjects was L.R., who found the chapel to be like a prison and went outside for much of the service. The other subject is, almost certainly, the one who refused to participate in the follow-up study.

In one technical section of the thesis, and in none of his subsequent papers, Pahnke mentions that one of those two subjects later referred to his experience as "a psychotic episode" (Pahnke, 1963, p. 232). In another part of the thesis, Pahnke mentions that injectable thorazine was on hand for emergencies. What he does not report anywhere is that one subject was actually given a shot of thorazine as a tranquilizer during the course of the experiment. Several of the subjects and group leaders remembered this incident and reported in the long-term follow-up interviews that it involved the one psilocybin subject who refused to be interviewed by the author. Needless to say, this occurrence should surely have been mentioned in Pahnke’s thesis and, by those few who knew that such an event had actually transpired, in any subsequent reporting on the experiment.

Pahnke probably did not report his use of the tranquilizer because he was fearful of adding to the ammunition of the opponents of the research. Fears that negative aspects of the experiment would be taken out of context and exaggerated may have been justified. In an example of just such a critique, Zaehner asserts in his book, *Zen, Drugs and Mysticism*, that Pahnke, in an article Pahnke published several years after the Good Friday experiment, repudiated the results of his own study (Zaehner, 1972, p. 105). In that article, Pahnke does indeed say that mystical experiences were absent (Pahnke, 1967, p. 71). Pahnke was, however, referring to the control subjects. This misreading of Pahnke by Zaehner is an indication of how, even in an educated scholar, bias can overwhelm facts. This observation, of course, is also true of Pahnke. His silence about his administration of a tranquilizer may perhaps have been good politics; certainly it was bad science.

Although an interview with the subject who was tranquilized would be necessary to understand the subtleties of his experience and its consequences, several long-term follow-up interviews generated second-hand information which may be summarized as follows: This subject was reported to be deeply moved by a sermon delivered by the very dynamic preacher who emphasized that it was the obligation of all Christians to tell people that there was a man on the cross. This subject was reported to have gone outside of the chapel possibly intending to follow the exhortation.
A struggle ensued when the group leaders, worried for his safety, tried to bring him back inside. After a time during which he seemed fearful and was not settling down, Pahnke tranquilized him with a shot of thorazine. He was then brought back into the chapel and remained calm for the duration of the experiment. He participated in all further aspects of the experiment and in the six-month follow-up reported that he considered his fear-experience "slightly harmful" because "in a mob panic-situation I feel I would be less likely to maintain a calm objective position than I might have formerly" (Pahnke, 1963, p. 232).

Subsequent to the Good Friday experiment, the use of tranquilizers in controlled psychedelic psychotherapy research was largely abandoned in favor of simply providing a supportive environment and letting the drug run its course (Richard Yensen, personal communication, 1991).

**DISCUSSION**

The original Good Friday experiment is one of the preeminent psychedelic experiments in the scientific literature. Despite the methodological shortcomings of the unavoidable failure of the double-blind and the use of several imprecise questions in the questionnaire used to quantify mystical experiences, the experiment's fascinating and provocative conclusions strongly support the hypothesis that psychedelic drugs can help facilitate mystical experiences when used by religiously inclined people in a religious setting. The original experiment also supports the hypothesis that those psilocybin subjects who experienced a full or a partial mystical experience would, after six months, report a substantial amount of positive, and virtually no negative, persisting changes in attitude and behavior.

This long-term follow-up, conducted twenty-four to twenty-seven years after the original experiment, provides further support to the findings of the original experiment. All psilocybin subjects participating in the long-term follow-up, but none of the controls, still considered their original experience to have had genuinely mystical elements and to have made a uniquely valuable contribution to their spiritual lives. The positive changes described by the psilocybin subjects at six months, which in some cases involved basic vocational and value choices and spiritual understandings, had persisted over time and in some cases had deepened. The overwhelmingly positive nature of the reports of the psilocybin subjects are even more remarkable because this long-term follow-up took place during a period of time in the United States when drug abuse was becoming the public's number one social concern, with all the attendant social pressure to...
deny the value of drug-induced experiences. The long-term follow-up interviews cast considerable doubt on the assertion that mystical experiences catalyzed by drugs are in any way inferior to non-drug mystical experiences in both their immediate content and long-term positive effects, a critique of the Good Friday experiment advanced primarily by Zaehner (Bakalar, 1985).

Unexpectedly, the long-term follow-up also uncovered data that should have been reported in the original thesis. Pahnke failed to report the administration of the tranquilizer thorazine to one of the subjects who received psilocybin. There is no justification for this omission no matter how unfairly the critics of this research may have used the information and no matter how minimal were the negative persisting effects reported by the subject. In addition, Pahnke underemphasized the difficult psychological struggles experienced by most of the psilocybin subjects. These very serious omissions point to an important incompleteness in Pahnke's interpretation of the effects of psilocybin.

Some of the backlash that swept the psychedelics out of the research labs and out of the hands of physicians and therapists can be traced in part to the thousands of cases of people who took psychedelics in non-research settings, were unprepared for the frightening aspects of their psychedelic experiences and ended up in hospital emergency rooms. These unfortunate instances of panic reaction have many causes, yet some of them stem from the way in which the cautionary elements of the Good Friday experiment were inadequately discussed in Pahnke's thesis, in subsequent scholarly reports and in the popular media. For example, Time magazine reported on the experiment in glowing, exaggerated terms stating, "All students who had taken the drug [psilocybin] experienced a mystical consciousness that resembled those described by saints and ascetics" (9/23, 1966, p. 62).

The widespread use of psychedelics, both in medical and non-medical settings, which began in the 1960s and is still currently taking place, apparently largely underground. Such use was partially founded upon an optimism regarding the inherent safety of the psychedelic experience which did not fully acknowledge the complexity and profundity of the psychological issues associated with psychedelic experiences. With some proponents of psychedelics exaggerating the benefits and minimizing the risks, a backlash against these substances was predictable. With the intriguing connection reported by several psilocybin subjects between mystical experiences and political action, the backlash in retrospect may have been inevitable (Baumeister & Placidi, 1985).

Despite the difficult moments several of the psilocybin subjects passed through, the subjects who participated in the long-term
follow-up reported a substantial amount of persisting positive effects and no significant long-term negative effects. Even the subject who was tranquilized in the original experiment reported only "slightly harmful" negative persisting effects at the six-month follow-up. Second-hand information gathered during the course of the long-term follow-up suggests that his experience caused no persisting dysfunction and may even have had some beneficial as well as detrimental effects.

The lack of long-term negative effects or dysfunction is not surprising. Strassman’s literature review of all controlled scientific experiments using psychedelics in human volunteers found that panic reactions and adverse reactions were extremely rare. He concluded that the potential risks of future research were outweighed by the potential benefits (Strassman, 1984).

This long-term follow-up study, even in light of the new data about the difficulties of the psychedelic experiences of many of the subjects, adds further support to the conclusion that additional studies are justified. Future experiments should be approached cautiously and carefully, with a multidisciplinary team of scientists involved in planning and implementation. Such a team should include psychiatrists, psychologists, religious professionals from a variety of traditions, as well as drug abuse prevention, education and treatment officials. Questions as fundamental as those raised by the Good Friday experiment deserve to be addressed by the scientific community, and pose special challenges to the regulatory agencies. Renewed research can be expected to require patience, courage and wisdom from all concerned.

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Requests for reprints to: Rick Doblin, 1265 Westmoor Road, Winnetka, IL 60093
Entheogens and Mystical Experience: New Research and Perennial Questions
Ron Cole-Turner <> Pittsburgh Theological Seminary
Please do not circulate without permission (coleturn@pts.edu)

In the 1960s, several drugs known most commonly as psychedelics\(^1\) were widely used in scientific and religious research in Europe and North America. These drugs include mescaline, LSD, and psilocybin. They are also known as hallucinogens and sometimes as "entheogens" because of their capacity to alter consciousness in ways that many describe with religious or mystical overtones. By today's standards, the 1960s research was insufficiently rigorous to produce clear results, but at the time researchers generally believed these drugs had potential therapeutic uses and that they also altered consciousness in significant ways. That fact led to widespread "recreational" use, which became so politicized that the drugs were banned, making them almost inaccessible for scientific research but still widely available for other purposes.

Despite this restrictive legal environment, research has been restarted in recent decades, especially in just the past decade. Not only is today's research more rigorous in design; it also takes advantage of advances in neuroscience and brain imaging technology. Old epistemological and metaphysical questions—and of course religious and theological challenges—are back once again, if anything with greater urgency than before. How does neuroscientific research and the generation of data relate to theories about brain function and consciousness? Is "mystical experience" definable and measurable? Can "genuine" mystical experience be induced or "occasioned" by psychedelics, or are such drug-related states merely similar but not identical to the real thing? How does "mystical experience" of any sort relate to transcendent reality?

Here I want only to summarize recent biomedical and neuroscientific research in order to make the case that such basic and contentious questions are back before us, and then to offer a few theological hints about how some religious scholars might respond.

**Entheogens and Mystical Experience**

Much of today's research using entheogens is focused on their potential benefit in psychotherapy. New evidence suggests that psilocybin and MDMA (commonly known as "ecstasy") can help relieve PTSD, excessive anxiety over terminal illness, or substance addictions including nicotine addiction. Our focus here, however, is on two other dimensions of this research. At Johns Hopkins Medical Center, researchers are exploring the relationship between psilocybin and mystical experience. At Imperial College London, a team of neuroscientists studies the effects of psilocybin on the human brain.

Beginning in 2006, publications from the John Hopkins team has shown that a 20-30mg oral dose of psilocybin, administered to volunteers in a carefully controlled and supportive

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\(^1\) The etymology of "psychedelic" suggests that the drugs have the power to manifest the mind to itself. Whether or not they have this power, the word itself carries so many political and social connotations that it is practically useless. Huston Smith comments: "We need a word that designates virtually nonaddictive mind-altering substances that are approached seriously and reverently." Smith xvi-xvii. He notes that the word "entheogens" is the best, but its etymology "suggests 'God-containing,' whereas 'God-enabling' would be more accurate." Smith links this to the question of cause-vs-occasioning.
environment, reliably “occasions” a profoundly significant mystical experience.2 A key question facing researchers is how to define and measure “mystical experience.” Their primary philosophical source is W. T. Stace, Mysticism and Philosophy.3 The Hopkins group uses several personality and two mysticism measurement scales. They identify these as the “Mysticism Scale” and the “Mystical Experience Questionnaire” or MEQ.4 The Mysticism Scale was first developed by Hood (1975) while the MEQ goes back to the work of Walter Pahnke (1963) and the famous “Good Friday Experiment” at Marsh Chapel, Boston University. Compared to the Mysticism Scale, the MEQ is more suited to assessing a single event of mystical experience and therefore more applicable to this research.5 As we will see, however, this is not to suggest that the Hopkins team is uninterested in contextual or long-term effects on volunteers.

Also notable is the fact that the work of Stace underlies both scales.6 The MEQ, created by Pahnke and modified by William Richards,

> “assesses seven domains of mystical experiences: internal unity (pure awareness; a merging with ultimate reality); external unity (unity of all things; all things are alive; all is one); transcendence of time and space; ineffability and paradoxicity (claim of difficulty in describing the experience in words); sense of sacredness (awe); noetic quality (claim of intuitive knowledge of ultimate reality); and deeply-felt positive mood

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2 The caution about causal language dates back at least fifty years. “Aldous Huxley told me never to say that chemicals cause visionary experiences; say that they occasion them.” Smith (((xv))) xvii; italics in original.

3 One reason for Stace’s influence on this research may rest simply in the fact that his book—important by any standard—was new and especially influential during the earlier era of psychedelic research. A more important reason is that Stace does not distinguish between drug and nondrug-related mystical experiences.

4 In one paper (Maclean et al. 20nn), the Hopkins team describes the connection between Stace and the structure of questions used in their questionnaires. “The nine characteristics Stace (1960) identified were (1) internal unity (i.e. undifferentiated awareness, unitary consciousness); (2) external unity (i.e. a sense of unity with the surrounding environment); (3) nontemporal and nonspatial quality (i.e. feelings of infinite time and limitless space, transcending usual time and space boundaries); (4) inner subjectivity (i.e. a sense of life or living presence in all things); (5) objectivity and reality (i.e. noetic quality, a sense that the experience was a source of objective truth); (6) sacredness (i.e. worthy of reverence, divine or holy); (7) deeply felt peace and joy; (8) paradoxicity (i.e. needing to use illogical or contradictory statements to describe the experience); and (9) ineffability (i.e. difficulty of communicating or describing the experience to others).”

5 The Mysticism Scale originated with Hood 1975 and is especially designed for “mystical experiences that individuals have had across their lifetime.” (Maclean 3). TWO, the Mystical Experience Questionnaire or MEQ. Developed by Pahnke 1963, 1969. designed for “evaluation of single mystical experiences occasioned by hallucinogens” (Maclean 3). Compared to the Mysticism Scale, “the MEQ may have broader relevance as a tool in the empirical study of mysticism, particularly for characterizing single, hallucinogen-occasioned mystical experiences” (Maclean et al., 4).

6 “The MEQ is based on Stace’s conceptual framework (1960) and covers the major dimensions of classic mystical experience: unity (internal and external), transcendence of time and space, noetic quality, sacredness, positive mood, and ineffability/paradoxicity. The MEQ has historically been administered in the context of distracter items that assess other phenomenological content including visual imagery, emotion, memories, fantasies and thoughts (e.g., Pahnke 1963; Richards 1975). In its most recent iteration, the MEQ was administered along with 57 distracter items in a 100-item instrument called the States of Consciousness Questionnaire (SOCQ) (Griffiths et al. 2006; Griffiths et al. 2008; Griffiths et al. 2011). Relevant to the present study, although the wording and number of distracter items have changed over the years, the mystical items have remained largely consistent since the inception of the MEQ (see Pahnke 1969).” Maclean 3-4.
joy, peace, love). Ratings were made on a 6-point scale relative to the participant’s overall life experience (Griffiths et al. 2008).

The MEQ scale merges internal and external unity into one domain, reducing the total number of domains from seven to six. The scoring data from both scales “...were expressed as a proportion of the maximum possible score. A mean total score was calculated as the mean of the following six domains: unity (either internal or external, whichever was greater), transcendence of time and space; ineffability, sense of sacredness, noetic quality, and positive mood (Griffiths et al., 2008). Then the researchers are faced with the challenge of converting a set of numbers back into a general claim about mystical experience. They write that the “criteria for designating a volunteer as having had a ‘complete’ mystical experience were that scores on each of the six domains were ≥0.6” (Griffiths et al. 2008).

By this method, the researchers reached the conclusion that 22 of the 36 volunteers had a “complete” mystical experience, with two-thirds of them rating it as one of the top five most meaningful personal experiences and over 70% rating it among the top five spiritual experiences. Fourteen months after the original experiment, the volunteers were resurveyed. Analysis of the results led the researchers to claim that the psilocybin session had lasting effects. “The magnitude of these effects was undiminished from similar ratings completed 2 months after the psilocybin session...” (Griffiths et al., 2008 p. 9).

7 On the distinctive way in which introspective and extroverted mystical experience is combined in the MEQ, the Hopkins team comments: “However, the combination of internal unity, external unity, noetic quality, and sacredness on a single factor is novel. It is possible that this factor structure is unique to the particular characteristics of the MEQ, to the specific participant sample (individuals who have had a hallucinogen-occasioned mystical experience), and/or to the analysis of single (not lifetime) mystical experiences. Although we cannot draw a strong conclusion based on the present data, these possible interpretations can be explored in future research. Nonetheless, below we consider whether the MEQ factor structure is consistent with other factor analyses of lifetime mystical experience using the Mysticism Scale.” (Maclean 11)

8 Important to note: Factor 1, which includes unity, combines “internal and external unity” (Maclean 11). The Mysticism Scale, by contrast, includes a “distinction between introvertive and extrovertive mysticism” (Maclean 11). Justified this way: “Importantly, although Stace distinguished between internal and external unity, he also emphasized that an individual could experience both types of unity, and ‘Mystics in general do not distinguish between the introvertive One and the extrovertive One ... it is an essential and explicit part of the message of many mystics that the external and internal unity are identical’ (Stace 1960:67, 73, 132-133)” (Maclean 11-12)

8 The 2006 experiment was double-blind, with each volunteer receiving both psilocybin and the placebo (methylphenidate) on different dates. Using their definition of a “complete” mystical experience, the Griffiths team reported these results: “Based on a priori criteria, 22 of the total group of 36 volunteers had a “complete” mystical experience after psilocybin (ten, nine, and three participants in the first, second, and third session, respectively) while only 4 of 36 did so after methylphenidate (two participants each in the first and second sessions)....It is remarkable that 67% of the volunteers rated the experience with psilocybin to be either the single most meaningful experience of his or her life or among the top five most meaningful experiences of his or her life....Thirty-three percent of the volunteers rated the psilocybin experience as being the single most spiritually significant experience of his or her life, with an additional 38% rating it to be among the top five most spiritually significant experiences. In written comments about their answers, the volunteers often described aspects of the experience related to a sense of unity without content (pure consciousness) and/or unity of all things” (Griffiths 2006 276-277).

9 “The most striking finding from this 14-month follow-up evaluation of the effects of psilocybin and methylphenidate administered to hallucinogen-naive volunteers is that a large proportion of volunteers rate their “psilocybin experience” as among the most personally meaningful and spiritually significant of their lives. Fifty-eight percent and 67% of volunteers, respectively, rated the experience as being among the five most personally meaningful experiences of their lives, and the five most spiritually significant experiences of their lives; 11% and
One particularly interesting finding is that the psilocybin sessions seem to have led to a change in personality, particularly in the personality trait of “Openness.” Such traits are generally quite stable in individuals over a lifetime, but the Hopkins team found more than a lifetime’s worth of change in Openness resulting from a single psilocybin session. They report that increases in Openness “were larger in magnitude than changes in personality typically observed in healthy adults over decades of life experience.”\(^\text{10}\) Furthermore, the study notes that “Openness includes a relatively broad range of intercorrelated traits covering aesthetic appreciation and sensitivity, fantasy and imagination, awareness of feelings of self and others, and intellectual engagement....[It] is strongly associated with creativity.”\(^\text{11}\)

This is particularly intriguing when we consider the statistical correlation between changes in Openness and having had a “complete mystical experience.” Quoting the study: “Importantly, participants who had a complete mystical experience during their high-dose session, but not others, showed enduring increases in Openness, suggesting that other mystical experiences could occasion similar change.”\(^\text{12}\) In other words, it is not that psilocybin changes the personality or increases Openness. What is found, instead, is that psilocybin occasions mystical experience which correlates with Openness. It is as if the experience changes the person. If so, then we might find at least a partial response to the challenge Huston Smith posed years ago: “Drugs appear able to induce religious experiences; it is less evident that they can produce religious lives.”\(^\text{13}\)

The original 2006 report concludes with two claims:

“In conclusion, the present study showed that, when administered to volunteers under supportive conditions, psilocybin occasioned experiences similar to spontaneously occurring mystical experiences and which were evaluated by volunteers as having substantial and sustained personal meaning and spiritual significance. The ability to prospectively occasion mystical experiences should permit rigorous scientific investigations about their causes and consequences, providing insights into underlying pharmacological and brain mechanisms, nonmedical use and abuse of psilocybin and similar compounds, as well as the short-term and persisting effects of such experiences.”

(Griffiths 2006 282)

Both claims are important. The first is that psilocybin reliably occasioned such profoundly meaningful spiritual experience when compared, say, to religious observances or disciplines.

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17%, respectively, indicated that it was the single most meaningful experience, and the single most spiritually significant experience. Furthermore, 64% of the volunteers also indicated that the psilocybin experience increased their sense of well-being or life satisfaction moderately or very much, and no volunteer rated the experience as having decreased well-being or life satisfaction (Griffiths et al. 2008 p. 9).


The second is its ability “to prospectively occasion” such experiences, which means they can be studied more rigorously than ever before.

**Entheogens and the Brain**

That is exactly what the London-based team is doing. The focus of their work is not entheogens or mysticism but how the brain relates to consciousness. Because psilocybin profoundly affects consciousness in safe, controllable, and reliable ways, it is a useful experimental tool that allows researchers to study consciousness by manipulating it in the laboratory, especially by focusing on larger patterns or networks of brain activity.

For some time it has been known that classic hallucinogens such as LSD or psilocybin affect brain cells in a very specific way. Once in the brain, psilocybin binds to a specific type of serotonin receptor site, the 2A receptor, as if the drug is mimicking the action of serotonin in the brain. At the level of these specific neurons, the effect of psilocybin is to “increase the excitability of the hosting neuron” (Carhart-Harris 2014c 662). This finding seems to support the widely held belief that hallucinogens act by stimulating the brain, turning on something on that produces or generates visionary and mystical experience.

This is where the London work is most surprising. Psilocybin excites the activity of specific cells, but because of the location and function of these cells, the net effect is to decrease rather than increase overall brain activity. To try to understand this, this team of researchers is focusing especially on the role of brain networks. Networks are “efficient representations of complex systems” (Petri et al., 2014), not structures that actually exist in nature but useful and reliable ways of understanding key functions within highly complex systems (Baronchelli et al., 2013). Particularly with neuroimaging, “network theory is an elegant framework to approach these questions [of organization and integration], thanks to its simplicity and versatility” (Petri 2014).

One network of particular interest is often called the “default mode network” or DMN. “The decreases [associated with psilocybin] were localized to high-level association cortices, including key regions of the DMN” (Carhart-Harris et al. 2014, 5). This network involves coordinated activity in several key regions, such as the posterior cingulate cortex (PCC). In its ordinary or “default mode,” this network consumes an inordinate amount of energy. What makes psilocybin especially useful is the way it decreases the activity of the DMN, offering a

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14 Carhart-Harris and Nutt in 2012: “It has been commonly assumed that psychedelics work by increasing neural activity; however, our results put this into question” (Carhart-Harris 2012, 2141). Neurons with serotonin 2A receptors are located especially in what researchers term “Layer 5 pyramidal neurons,” located deep in the brain. When these Layer 5 neurons are stimulated, “the net effect of their excitation seems to be inhibitory” (662). If so, this suggests why the widely held view is wrong. Intuitively it would seem that if hallucinogens excite neurons, they increase overall brain activity. With new imaging technology, it is now possible to see that the opposite is true, for in fact, “...the interconnected nature of cortical circuits means that local excitation can translate into net inhibition...” (663).

15 The DMN is described “as the highest level of functional hierarchy...[and] as a central orchestrator or conductor of global brain activity” (Carhart-Harris 2014, 6). It has less to do with sensory processing and more to do with “higher-level, metacognitive operations such as self-reflection” (Carhart-Harris 2014, 6). The researchers suggest that the DMN consumes so much of the brain’s energy because it is “the physical counterpart of the narrative-self or ego” (Carhart-Harris 2014, 6). It is “the seat of the ego” (Carhart-Harris 2014, 12). To make such a claim requires more than just brain imaging. Also required is some basic level of correlation between neurological activity and subjective experience.
window onto the neurological impact of the decrease while also offering the possibility of coordinating this impact with phenomenological reports from research volunteers.

Such a correlation was indeed found by the London researchers. Decreases in DMN activity were found to relate directly to the subjective experience as reported by the volunteer subjects. In the 2012 report, researchers state that “Psilocybin significantly decreased brain blood flow and venous oxygenation in a manner that correlated with its subjective effects” (Carhart-Harris 2012, 2141). In their 2014 paper, the research team highlights this correlation even further, saying that “...it was remarkable that we recently found a highly significant positive correlation between the magnitude of alpha power decreases in the PCC [a region of the DMN] after psilocybin and ratings of the item ‘I experienced a disintegration of my “self” or “ego”’...It is a central hypothesis of this paper that psychedelics induce a primitive state of consciousness...by relinquishing the ego’s usual hold on reality...” (Carhart-Harris 2014, 8).16

If that is the valid neuroscientific interpretation of these findings, how might this work be interpreted philosophically or in terms of theory of the conscious self? In their paper written for a broader scientific audience, the London researchers include a section entitled “Finding the self by losing the self.”17 And even in the reserved language of a neuroscience publication, the 2014 report of the London research tries to make sense of these findings by quoting Stace’s Mysticism and Philosophy: “If we consider contemporary accounts of the mystical consciousness, we can see that the individuality, the ‘I,’ disappears and is in a sense ‘annihilated’” (Stace quoted in Carhart-Harris 2014, 14). Then the biomedical researchers make this claim: “Stace’s work is particularly useful because his ideas resonate with the findings of recent neuroimaging studies relevant to the neurobiology of spiritual experience” (Carhart-Harris 2014, 15).18

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16 Researchers explain this by suggesting that psilocybin excites serotonin 2A sites, which then disrupt normal or default brain rhythms that are essential for ordinary consciousness. Once in the brain, psilocybin “causes important neurons to fire out of phase with the rhythmic oscillations of large populations of neurons in the cortex” (Carhart-Harris 2014c, 664). Ordinarily, the coherence of brain network activity is maintained by rhythmic patterns of synchronized oscillations. What the London team found is that psilocybin led to a “profound desynchronising influence on cortical activity” (663). Evidence suggests that the cause of desynchronization is excitation in Layer 5 pyramidal neurons. In general these neurons seem to play a key role in synchronization, and psilocybin seems to disrupt this rhythm of normal brain synchronization.

17 In less poetic terms, they describe what they mean this way: “To scrutinise this phenomenon further, we looked at correlations between decreases in oscillatory activity in a certain frequency band (t.e. ‘alpha’), in a certain part of the default mode network (the posterior cingulate cortex, PCC – the major cortical hub) and ratings of ‘ego-disintegration’ post-psilocybin. In what is perhaps our most intriguing and potentially important finding on the neurobiology of the hallucinogenic drug state to date, we found a highly significant correlation between the magnitude of decreases in oscillatory activity in the PCC and reports of ego-disintegration (Carhart-Harris et al., 2014; Muthukumarnswamy et al., 2013). Thus, those participants that showed the most dramatic collapses in rhythmic activity in their PCCs reported the most extreme ego-disintegration. Adding to the intrigue, alpha oscillations develop to a maximal level in mature adult humans and have been hypothesised to be a marker or ‘signature’ of high-level human consciousness (Basar & Güntekin, 2009). Could PCC alpha rhythms be critical for the development and maintenance of one’s sense of self, and if ‘yes’, what specific functions do they subserve? These are important questions for future research.” (Carhart-Harris et al 2014c, 665).

18 At the same time, the London reports hint at a cautious and critical attitude toward the mystical or spiritual, in part by associating it with what they see as “magical thinking.” The more psilocybin diminishes DMN activity and connectivity, the more research volunteers tend to agree with statements like “the experience had a supernatural quality” (Carhart-Harris 2014, 9). They see the potential therapeutic benefits of psilocybin and the sense of unity that it engenders. But they seem to be concerned that wishful, fanciful, reality-rejecting ways of thinking. They describe this as “a style of cognition in which supernatural interpretation of phenomena are made” (Carhart-Harris 2014, 7). On the one hand, psilocybin may induce a happy mood with increased creativity characterized by greater
Parsing Mystical Experiences

For more than fifty years, researchers in various fields have debated several key issues concerning the relationship between psychedelics and mystical experiences. Aldous Huxley, Walter Pahnke, W. T. Stace, and Huston Smith argue for the value of drugs and the strong similarity if not identity between drug-related and classic mystical experiences, insisting that psychedelic mystical experience is "genuine" mystical experience. A now-classic statement of opposition is offered by R. C. Zahnier in Mysticism, Sacred and Profane (1961), the title itself pointing to the sharp distinction he drew between nature mysticism (uniting with nature) and monistic mysticism (uniting with an impersonal Absolute), on the one hand, and theistic mysticism (uniting with God). Moderate voices such as Robert Masters and Jean Houston sought to dampen enthusiasm and to insist that these substances were not toys but powerful tools for research, psychotherapy, and spiritual discovery.

In Christian Mysticism: The Future of a Tradition, Harvey D. Egan, S.J., devotes considerable attention to the significance of psychedelic drugs for mystical experience (pp. 338-347). Egan suggests that "[t]he key question is whether psychedelic drugs can induce genuine, Christian

flexibility. If psilocybin leads to "a happy brain, then it would follow that psychedelics could be used to enhance well-being and divergent thinking, even in already healthy individuals. One negative consequence of this however could be the neglect of accurate reality-testing" (Carhart-Harris 2014, 12). It may be true that "some people report being so profoundly affected by such experiences (and often seemingly for the better). But it is also true, they believe, that "some people celebrate and romanticize the psychedelic experience and even consider it 'sacred'" (Carhart-Harris 2014, 12-13).

19 Stace objects to those who think that "a mescaline (sic) experience cannot possibly be a genuine mystical experience, however indistinguishable therefrom it may be in its phenomenology" (Stace 1960, 70). A few years later, Huston Smith wrote this: "When the current philosophical authority on mysticism, W. T. Stace, was asked whether the drug experience is similar to the mystical experience, he answered, 'It's not a matter of its being similar to mystical experience; it is mystical experience'" (Smith 1964, 523-524).

20 At most, Zahnier argues, psychedelics can "occasion" the nature and monistic mysticism but never theistic mysticism, which for Zahnier is the highest and truest form. If anything Zahnier's cause was helped by the extravagant claims and evangelistic tactics employed by some advocates of psychedelics in the early 1960s, combined of course with widespread recreational use within the broader context of social unrest, all of which led to the current laws essentially banning these substances.

21 Working with LSD in a clinical setting, Masters and Houston claim that in a small but significant number of cases, LSD occasioned a true or genuine mystical experience. They argue for this by first defining religious experience and then distinguishing it from mystical experience. "Religious experience can be defined, than, as that experience which occurs when the 'depths of one's being' are touched or confronted by the 'Depth of Being.' Mystical experience differs from this in degree, not in kind. This latter occurs when one's personal depths dissolve into the 'transpersonal' depths—when one is unified at one's deepest level with the source of reality." (M&H 258). At the phenomenological level, they are point to a difference between the experience of being touched and being dissolved. In many cases, psychedelics can occasion "being touched." In a few cases, they argue, it leads to "being dissolved."

22 Egan draws sympathetically on Masters and Houston, not fully agreeing with them but finding their work to be a helpful corrective to Zahnier. Egan dismisses the "extravagant claims" (338) made by some advocates of psychedelics. But he also rejects the dismissive attitude taken by others such as Zahnier while speaking of "the nuanced study by Masters and Houston [which] does present some evidence that psychedelic drugs may cause genuine religious experiences..." (Egan 343). He also likes the way Masters and Houston speak of the wide variety of experiences and their varying quality. (339).
mystical experiences.” (Egan 342).23 Painstaking experimental and phenomenological research might answer more clearly the question of the “analogues” or “parallels” between psychedelic and classic mystical experience. No amount of research, however, is likely to settle the central question: Are the experiences identical not just phenomenologically but also philosophically and theologically? W.T. Stace and Houston Smith believe the answer is yes. Egan holds back, insisting that “resemblances are not identities” (Egan 344).24

If by “genuine” mystical experiences we mean philosophically and/or theologically genuine, then the question must be pursued on philosophical or theological grounds. Unwarranted moves from empirical data to theological conclusions must be avoided. Furthermore, if a philosophical or theological distinction is to be drawn between psychedelic and “genuine” mystical experience, we should try to clarify as far as possible—on philosophical and/or theological grounds—the exact nature of the relationship between what distinguished. That is to say, if for theological reasons we say that psychedelic mystical experience is not theologically-authentic mystical experience, then what is it? Egan offers one suggestion when he writes this: “Some psychedelic experiences undoubtedly have religious implications...and might be the catalyst for authentic religious conversion” (Egan 346).

**Psychedelics and the Theology and Mystical Experience**

A valuable source of insight into the theology of mystical experience is found in the writings of Karl Rahner, S.J., who was intimately familiar with the primary sources and the continental secondary literature on Christian mysticism.25 Dogmatic theology of mystical experience, Rahner

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23 Egan fully accepts that psychedelic experience can be “analogous” (whatever exactly that means in this context) and that there are parallels in some aspects. Egan quotes Stace (Egan, 342; Stace 29-30) as making the claim that in terms of phenomenological descriptions, the reports some psychedelic mystical experience seems indistinguishable from more classic reports. Stace’s claim is that what is indistinguishable phenomenological is indistinguishable philosophically, leading to the conclusion that psychedelic experience can be “genuine mystical experience.”

24 Egan compares the saints and mystics with psychedelic experimenters, insisting that “the profundity and the radicalness of Christian integrity and transformation” far exceeds “paltry psychedelic transformation” (Egan 344-345). For the most part, he adds, the claims for psychedelic mystical experience turn out to be “bogus,” while the experiences themselves “are nothing more than low-grade, destructive alterations of consciousness that diminish consciousness, integrity, and personality. They should be called what they are: regressive, and often pernicious, pseudo-mystical experience” (Egan 345). He concludes by insisting that “the qualitative difference between the two is as great as that between God-induced phenomena and demonic or self-induced phenomena” (Egan 345). With this, Egan seems to exceed even Zachern in his rejection of psychedelic mystical experience. More significant is that he seems to be moving from empirical to theological questions too quickly. For example, he is not clearly about either the empirical or the theological basis for the distinction between “God-induced phenomena” and “demonic or self-induced phenomena”? By what method are they distinguishable? Egan also claims that drugs “lack God’s dark, silent, loving influx at the core of the person’s being.” (345). Then he adds that “Whereas infused contemplation works from the spirit outward, psychedelic drugs work from the senses inward.” None of these statements seem to be empirical claims. They might of course be argued on philosophical or theological grounds, but we should be clear about the grounds and implications of such arguments.

insists, is premised upon the universality of grace. Whatever else mystical experience (by any means) might be, it is not a departure or an alternative to this general offer of saving and transforming grace. According to Rahner, “mystical experience must not be interpreted as something which fundamentally transcends and supersedes the supernatural experience of the Spirit in faith” (“Mystical Experience, 96).26

When it comes to the psychological particularities of such experiences, however, Rahner insists that the theologian as theologian lacks special competence to assess their validity or authenticity.27 For Rahner, “the Christian theologian does not know and cannot judge whether there may not be experiences possibly outside everyday psychological experiences which on the one hand we can or must qualify as in some sense ‘mystical’ and which on the other hand cannot be regarded as experiences of supernatural, grace-inspired mysticism as understood in the third thesis” (“Experience of Transcendence,” p. 184.) Such psychological or phenomenological particularities of religious or mystical experiences are therefore a matter of theological indifference. While there is no basis for saying that Rahner would extend this notion of indifference to psychedelic experience, there seems to be no reason for not saying that the role of drugs, too, is theologicaally a matter of indifference.28

The key theological point for Rahner is that any paranormal or preternatural or mystical act or experience is a natural event. Theologically at least, such experiences differ from each other only in degree and not in kind. There is therefore no basis in nature, accessible to science or psychology, on which to claim that one type of experience is theologically genuine while another is not. Nor is there any basis for theological rejection of such experience because it comes from outside Christianity.29 Psychological or phenomenological differences are important, but only in

26 More fully stated, “The deification of man and the possession of uncreated grace, which Christianity grants to all the justified, cannot in a real sense be surpassed by anything which is not glory and the direct contemplation of God. But these are reserved for man’s final consummation. Mystical experience cannot [94] leave behind it the sphere of ‘faith’ and the experience of God’s spirit which faith confers, by means of a new experience which would no longer be faith at all. On the contrary, mysticism can be conceived of only within the normal framework of grace and faith” (“Mystical Experience pp. 93-94).  

27 Rahner rejects the idea that “the dogmatic theologian as such can and must say something about mystical experiences to the extent in which these differ psychologically from the everyday experiences of Christian grace. If this were to be the case, even down to ‘essential’ differences of a psychological kind, then either the mystic himself or the empirical psychologist would be the competent authority; it would certainly not be the dogmatic theologian. The dogmatic theologian can only determine that on earth there cannot be any higher experience in the theological sense than the experience of faith in the spirit of God” (“Mystical Experience, p. 94).  

28 In terms of Rahner’s position, it might hinge on the interpretation of this sentence: “But this means that every genuine mystical experience (as distinct from natural phenomena of interior absorption or suspension of the faculties etc.) can also be understood as merely one mode of the experience of grace in faith (“Mystical Experience, p. 94).  

29 “If we presuppose this thesis of the universal reality of the offer of grace always and everywhere and primarily to the transcendentality of man as such and if we consider the fact that this grace is present as accepted and justifying if and when this transcendentality of man is accepted and sustained by man’s freedom, if moreover we start out from the assumption that such an unconditional acceptance by man’s freedom of his own transcendentality can exist also, if not solely, particularly and with a special intensity in mystical experiences of transcendence, then it follows that the mysticism rightly interpreted by Christian theology as a real experience of grace can and must be found even outside institutional Christianity. Nor can this thesis be opposed by the dilemma that mystical experience of transcendence must either be interpreted in an explicitly Christian sense or can at best be only some kind of natural mysticism... But if we... firmly maintain the universality of the factuality of grace from the outset as an existential of man’s transcendentality as such, then the possibility of a supernatural, [183] grace-inspired anonymously Christian mysticism outside verbalized and institutionalized Christianity cannot be denied.” (“Experience of Transcendence from the Standpoint of Catholic Dogmatics” (II v18, pp 182-183).
terms of felt intensity, not in terms of theological validity. Their theological significance as mystic acts or experiences does not depend on their having the right psychological features or in their belonging to a select sub-set among other natural experiences. All such experiences are natural, but as "really natural spiritual processes [they] can also be "elevated" through God's self-communication, habitually or at any given moment. That is to say, they can acquire radical form, in the direction of the immediacy of the self-communicating God" ("Mystical Experience, p. 96).  

By whatever means and in whatever setting they may happen, all such religious and mystical experiences are both equally natural and equally open being a means of authentic divine encounter. "For mystical theology it is essential to make clear at this point that mystic experiences sustained by the Spirit, which make God’s spirit accessible, do not differ from normal Christian existence because they are of a higher nature simply by virtue of being mystical experiences of the Spirit" ("Mystical Experience, p. 97). The role of psychology (and we might add neuroscientific investigation) is to disclose more fully the human dimension of this encounter. Through mystical experience some may encounter grace in a way that is psychologically exceptionally and "to an existentially intensive degree" ("Mystical Experience" p. 98). But the grace experienced intensely is the same grace that is open to experience by all.

Questions and Observations

Recent advances in biomedical and neuroscientific research are changing the way in which many are viewing psychedelic drugs. Appreciation for their potential value in psychotherapy has prompted new calls for reform of drug laws. Their association with mystical experience, especially in an age that values spirituality but not experience and which embraces technology to solve nearly every human problem, raises new challenges especially for those who most value classic approaches.

Interpretation of the meaning of these findings by experts in various disciplines is critically important. If psilocybin reliably "occasions" mystical experiences, what are scholars and practitioners of religion to make of these experiences? How do they compare to religious and mystical experiences that come by other means? Does psilocybin provide a tool for the study of

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30 The particular psychological, and really natural, character of such experiences can help to make them take deeper root existentially in the person’s inmost being, so that as supernaturally exalted acts they can in a higher degree give their stamp to the whole subject, forming him through and through. This greater personal profundity of the mystical act also brings with it a greater reflectiveness in the experience of transcendence, which is really natural, though exalted by grace. A theology of mysticism by itself cannot decide whether this experience is achieved in some miraculous way (preternaturally), or whether it can also be attained by natural means, through practice, on the basis of certain pre-conditions; or whether both may be possible, according to the level at which the phenomenon occurs. Open though the question therefore is, the possibility of purely natural phenomena of interior absorption would of course also be conceivable — phenomena, that is to say, in which the mediation of the experience through categories was wholly or partly lacking. If we then want to talk about 'natural mysticism', no fundamental objection can be raised..." ("Mystical Experience," p. 96).

31 "Always presupposing that psychology is capable of saying something about man as the singular and plural subject of an ultimate history of freedom before God (a history directed towards finality), it ought to try to make us understand how such radical self-discovery of the subject is possible in the unconditional surrender to the mystery which we call God — a surrender which comprehends the whole of existence—without these natural phenomena of suspension of the faculties ("Mystical Experience" p. 98)."
mystical experience in general? Does any of this research contribute to the study of mysticism, including specifically the question of the theology of mysticism?

Sixty years ago Aldous Huxley proposed that drugs like mescaline “occasion” mystical experience because they reduce the normal filters that block out our awareness of the spiritual presence around us. He even suggested that mescaline works this way because it interferes with the flow of glucose to brain cells. But if that is the neurological pathway to mystical experience, then “any substantial reduction in brain sugar level will lead to mystical and paranormal experiences. Hyperglycaemics everywhere should be falling into clairvoyant and mystical states.” (Marshall 2006, 239). The question for today is whether Huxley’s brain-as-reducing-valve epistemology was any better than his neuroscience. His claim here is profound and shocking to modern sensibilities. It asserts that the brain does not generate but instead receives its awareness of spiritual reality, whether through religious, spiritual, or mystical experiences. As out of step as it is with our times, it is a claim that is now actively advocated by a number of scholars, especially in philosophy (for example, G. William Barnard, 2012).

Are we human beings blinding spiritually by our highly evolved brains? Are our brains adept at grasping everyday realities but largely blind to the spiritual or transcendent dimension? The London research suggests that something like this may at least be compatible with recent neuroscientific understandings of consciousness. Ordinarily, our “default” mode is to be conscious of ourself as an individual, aware of our thoughts and desires and experiences, cognizant that we are spatially and temporally located, next to but always separate from other persons and other beings. Psilocybin—and perhaps any mystical experience—offer a short respite from everyday realities. They seem almost literally to melt away, yielding to an awareness of something more deep and more real, perhaps also more terrifying, but ultimately to something or someone that is pure love. That, at least, is what research volunteers report. And the stunning finding is that images of their brains do not support the simplistic notion that psilocybin in just making the brain make these things up.

Christian theology accepts as true the belief that we are indeed always surrounded by spiritual reality, but that we are almost always blind and unaware because we are anxious or self-absorbed. Where a philosopher might turn to idealism or to panpsychism for support for an analogous view, a Christian theologian looks no further than a doctrine of the Holy Spirit. Christianity adds that we seem incapable on our own of awakening to what is so plainly around us and even inside us. And so of necessity theology adds to both neuroscience and to philosophy at this point with its insistence that the Spirit who is experienced whenever the blinders are off is the Spirit who removes the blinders. Furthermore, consistent with the claims of research volunteers and traditional mystics, Christian theology accepts the reality and the veracity of the claim that the knowing subject is somehow even if only for a moment made one with the surrounding greater reality, and that this is an anticipation of what will be true in the end.

What we are learning from biomedical and neuroscientific research involving entheogens is neither threatening nor theological problematic so much as it is potentially enriching, offering a new source for insight and experience. Whether it will be interpreted as such by scholars and theologians remains to be seen. Whether it will be embraced critically, carefully, but also constructively by the institutions of religion and woven into the fabric of the spiritual practices of the future is an even bigger question.
References


The Rig Veda

An Anthology

One hundred and eight hymns, selected, translated and annotated by
WENDY DONIGER

PENGUIN BOOKS
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6 The poets fashioned seven boundaries; he who was trapped went to only one of them. The pillar of life's vigour, he stands in the nest of the Highest, among the supports at the end of the paths.

7 Non-existence and existence are in the highest heaven, in the lap of Aditi and the birth of Dakṣa. Agni is for us the first-born of Truth in the ancient vigour of life: the bull — and also the cow.

NOTES

1. A double meaning: Agni himself is born many times, and he is responsible for many births.

2. Heaven and earth are the parents of Agni, but so are the two fire-sticks.

3. The flames of Agni are often feminine, but they are also called male buffaloes, bulls, or stallions full of seed; their 'stable' (literally, their nest, as in v. 6) is the wood in which they rest together with the females of the breed, also the flames. Or the male and female animals may be the male and female sticks.

4. R̄su, often translated as 'Order' (cf. 1.164.11, 1.164.37, 1.164.47), in this late hymn, seems better translated as 'truth'.

5. The magic nourishment is part of the realm of Order or truth, embodied in Agni; these powers nurse him for pay, for the reward of maintaining their own prosperity and that of the world.

6. The seven sisters are the mares who are Agni's flames, here said to break out of the sweet butter poured on the fire. They come forth both to see and to be seen, a double meaning often attributed to the sun.

7. Symbolism relating to the birth of the sun, as well as to the concealment of Agni.

8. Literally, suffering from the feeling of being unable to move freely, a word often translated as 'in anguish' but here perhaps more literally hemmed in.

9. For existence and non-existence, cf. 10.129.1; for Dakṣa and Aditi, cf. 10.72.4.

10. The androgyny of Agni, already present in a veiled form in verse 2, here becomes explicit. For Parjanya as the bull and cow, see 5.83 and 7.101.

SOMA

The Soma plant is visualized in the Rig Veda as a god and as a liquid, pressed by stones in wooden bowls and filtered through a woollen sieve. These processes are described in some detail (9.74, 10.94) and are the inspiration for a rich cloth of imagery woven by the Vedic poet, an imagery also applied to the flowering of the sacrificial butter (4.38): women uniting with lovers, wild animals attacking, rivers flowing to the sea. Soma can be dangerous (8.79.7–8; 8.48.10) but the effects of drinking Soma are usually admired, or at least sought after: a sense of immense personal power (10.119, particularly valuable in the god Indra), intimations of immortality (9.113), the assurance of immortality (8.48), and the hallucinations of trance (10.136). Soma's form and activities are referred to in several other hymns in this collection: 8.91, 9.112, 10.83, 10.94, 10.109; the story of his descent from heaven (4.26–7) is the only episode in his mythology narrated in any detail.
8-79  This Restless Soma

1 This restless Soma — you try to grab him but he breaks away and overpowers everything. He is a sage and a seer inspired by poetry.
2 He covers the naked and heals all who are sick. The blind man sees; the lame man steps forth.
3 Soma, you are a broad defence against those who hate us, both enemies we have made ourselves and those made by others.
4 Through your knowledge and skills, rushing forward you drive out of the sky and the earth the evil deed of the enemy.
5 Let those who seek find what they seek: let them receive the treasure given by the generous and stop the greedy from getting what they want.
6 Let himⁱ find what was lost before; let him push forward the man of truth. Let him stretch out the lifespan that has not yet crossed its span.
7 Be kind and merciful to us, Soma; be good to our heart, without confusing our powers in your whirlwind.
8 King Soma, do not enrage us; do not terrify us; do not wound our heart with dazzling light.
9 Give help, when you see the evil plans of the gods in your own house.⁴ Generous king, keep away hatreds, keep away failures.

NOTES

1. Soma or the man inspired by Soma.
2. Soma is asked to intercede for the worshipper among the other gods, as Agni often does.

9-74  Soma Pressed in the Bowls

This hymn describes in metaphors the pressing of Soma in the Soma-bowls and the pouring of the juices through a
filter made of wool. The processes are likened to the milking of rain out of the clouds and the downpouring of the torrents upon the earth; to the pouring of seed into a womb to produce children; and to the winning of a race. In addition to their function as metaphors, these images serve also to express the goals of life that the poet hopes will be achieved by the Soma sacrifice: rain, fertility, and wealth. Cows appear in all of these metaphors: as symbols of the milk or water with which the Soma is mixed; as clouds from which rain is milked; as women who bear children; and as the prize to be won by the racehorse. Soma appears sometimes as a male animal (calf, horse, bull), sometimes as a female (identified with the cows), like Parjanya and Agni in other hymns; he is further identified with more abstract and general forms such as the navel of Order, the pillar of the sky (here identified with the stalk of the Soma plant), and the pasture or lap of Aditi – the highest heaven (here identified with the Soma bowl). The metaphors intertwine in many ways, as when rain is called the seed of the sky or the water in the bowl is called a wave of the cosmic ocean.

Like a new-born child he bellows in the wood, the tawny racehorse straining to win the sun. He unites with the sky’s seed that grows great with milk. With kind thoughts we pray to him for far-reaching shelter.

He who is the pillar of the sky, the well-adorned support, the full stalk that encircles all around, he is the one who by tradition sacrifices to these two great world-halves. The poet holds together the conjoined pair, and the refreshing foods.

The honey of Soma is a great feast; the wide pasture of Aditi is for the man who follows the right way. Child of dawn, the bull who rules over the rain here, leader of the waters, worthy of hymns, he is the one who brings help here.

Butter and milk are milked from the living cloud; the navel of Order, the ambrosia is born. Together those who

\[1\]

bring fine gifts satisfy him; the swollen men piss down the fluid set in motion.

The stalk roared as it united with the wave; for man he swells the skin that attracts the gods. He places in the lap of Aditi the seed by which we win sons and grandsons.

Relentlessly they flow down into the filter of a thousand streams; let them have offspring in the third realm of the world. Four hidden springs pouring forth butter carry down from the sky the ambrosia that is the oblation.

He takes on a white colour when he strains to win; Soma, the generous Asura, knows the whole world. He clings to inspired thought and ritual action as he goes forth; let him hurl down from the sky the cask full of water.

Now he has gone to the white pot coated by cows; the racehorse has reached the winning line and has won a hundred cows for Kakṣit, the man of a hundred winters. Longing for the gods in their heart, they hasten forth.

Clarifying Soma, when you are satiated with waters your juice runs through the sieve made of wool. Polished by the poets, Soma who brings supreme ecstasy, be sweet for Indra to drink.

NOTES

1. Soma as a new-born calf or horse wanders in the ‘forest’ of the wooden pressing-bowls.
2. The seed of heaven is the rain that mixes with the milk of the clouds, as Soma mixes with the milk in the bowls.
3. Soma is identified with the sun, who is called a poet, propping apart and holding together the pair of sky and earth, his parents.
4. The Maruts are the swollen men (clouds) who urinate the Soma (a male image) after it has been milked from the clouds (a female image). Soma is the living, androgynous cloud from which milk and rain are pressed.
5. Soma is the stalk; the wave is the water that mixes with it. The skin of the plant swells like the leather water-skin likened to the
THE RIG VEDA

rain-clouds (cf. 1.85.5, 5.83.7) or the overturned cask (v. 7), both attributes of Parjanya.

6. The streams of Soma likened to rains are to have their ‘offspring’ in the third realm, for the floods of rain renew themselves in heaven. Cf. 1.164.
7. Kakśvat, said to have been saved by the Āśvins (1.116.7), may have regained his youth, as did many others helped by the Āśvins.
8. The Soma juices, or the priests.

10.94

The Pressing-Stones

A hymn to the stones that press the Soma juice. The noise that they make while grinding the stalks of the plant, and their action in devouring (i.e. destroying) the fibres while releasing the juices, suggest the actions of animals (cows, bulls, horses) that growl or bellow and swallow the liquid.

1 Let them raise their voices, and let us raise our voices. Speak your speech to the stones that speak, when you stones, you mountains full of Soma, rush to bring the rhythmic sound to Indra.
2 They speak in a hundred ways, a thousand ways, how with their green jaws.¹ Working busily and the good work, the stones have the oblation even before the
3 They speak: they have for and gnaw on the cooked meal of the red tree, the bulls who bellow.
4 They speak loudly, excited b. They shout to Indra: they Artfully they danced with the sin making the earth echo with their
5 The eagles have sent their cry up to dark hinds danced in the meadow to the rendezvous with the lower with floods of the seed of the sun-br.
6 Like brawny draught animals yoke

SOMA

bulls bear the shaft and pull as a team. When they bellow, panting and chewing the cud, they sound like race-horses whinnying.
7 Sing to them that have ten girths, ten yoke-straps, ten harnesses, ten reins that never wear out, to them that are yoked ten times to bear ten shafts.
8 The stones are swift horses; their bridle with ten thongs fits them comfortably. They have tasted the filtered juice of the first pressing of the Soma juice milked from the stalk.
9 These Soma-eaters kiss Indra’s pair of bays. As they milk the stalk they sit upon the ox. When Indra has drunk the honey they have milked he grows great and acts like a bull.
10 Your stalk is a bull; surely you will not be harmed. You are always overflowing with nourishment, sated with food. You are lovely in your splendour like the daughter of a rich man at whose sacrifice you stones rejoice.
11 Porous or not porous, the stones never tire, never rest, never die; they are never sick or old or shaken by passion; nicely fat, they are free from thirst and desire. Your fathers are entirely firm in age after age; peace-loving, they do not budge from their spot. Untouched by age, the companions of the tawny one are like the asphodel tree; they have made the sky and the earth stein to their uproar.

The stones speak the same when they are unyoked and en they are on their journey, with their stampings the noises of men who drink deeply. Like those who seed and grow grain, they gobble up the Soma with diminishing it as they lap it up. have raised their voices for the sacrificial juice, youthful children jostling a mother. Set free the in-1 of the one who presses Soma, and let the stones hold in awe return to being stones.
NOTES

1. The stones are first referred to, and then are addressed after the priests, at the end of the verse.
2. Here the poet addresses the priests, whose chants of invocation to Indra are equated with the noise of the stones that Indra hears.
3. Their jaws are green with the juice of the Soma plant, also called yellow, red (as in v. 3), or tawny.
4. Soma is here imagined as a sacrificial animal eaten by the stones.
5. Soma.
6. The ten fingers that hold the stones.
7. Soma.
8. The ten fingers again, here imagined as draught animals as in the previous verse.
9. The Soma stalks are placed upon an oxhide.
10. The mountains, as in verse 1, are the fathers of the stones.
11. Soma is the tawny one; as he grows in the mountains, they are his companions.
12. The stones (or the mountains) become yellow through contact with Soma.
13. That is, lose those awesome qualities that they took on during the ritual and return to being mere stones. The ritual objects must be desanctified after the ritual.

SOMA

1. Hands has he. Bound threefold, the bull bellows. The great god has entered mortals.
2. In the cow the gods found the butter that had been divided into three parts and hidden by the Panis. Indra brought forth one form, Sūrya one, and from the very substance of Vena they fashioned one.
3. These streams of butter flow from the ocean of the heart, enclosed by a hundred fences so that the enemy cannot see them. I gaze upon them; the golden reed is in their midst.
4. Our words flow together like rivers, made clear by understanding deep within the heart. These waves of butter flow like gazelles fleeing before a hunter.
5. Like whirlpools in the current of a river, the young streams of butter surge forth and swell with the waves, overtaking the wind like a chestnut racehorse that breaks through the sides of the track.
6. Smiling, the streams of butter rush to Agni like beautiful women to a festival. They touch the fuel-sticks, and Agni joyously woos them.
7. I gaze upon them. They are like girls anointing themselves with perfumed oil to go to a wedding. Where Soma is pressed, where there is a sacrifice, there the streams of butter are made clear.
8. Let a fine song of praise flow forth, and a race that wins cows. Bring us auspicious riches. Lead this sacrifice of ours to the gods. The honeyed streams of butter become clear.
9. The whole universe is set in your essence within the ocean, within the heart, in the life-span. Let us win your honeyed wave that is brought to the face of the waters as they flow together.

NOTES

1. The Soma stalk mixes with the water to make the juice of immortality.
2. Soma is imagined as a buffalo and, in the next verse, as a bull.
3. He emits the secret, the Soma, and his seed, all as butter.
4. Indra released the cows that had been penned up by the Panis (human and demonic enemies of the invading Indo-Aryans), finding the butter (Soma as milk) within them. Cf. 3.31 and 10.168.
5. The seer identified with the sun-bird. Cf. 10.123.
6. The Soma juices, once imbibed, are said to be in the heart, as is the poet’s inspiration.
7. The Soma plant full of butter and seed.
8. Soma is clarified in the filter, butter is clarified by boiling, and thought is clarified in the heart.
9. The track is simultaneously the fence around the race-track, the banks of the river, and the normal channels of thought.
10. The life-span belongs both to butter (that gives immortality, as Soma) and to the poet (whose inspiration, in the ocean that is his heart, gives him immortality).

4.26-7 Soma and Indra and the Eagle

These two closely related hymns centre upon the myth of the theft of the elixir of immortality. This Indo-European theme appears in Russia as the fire-bird and in Greece as the myth of Prometheus – for Soma is the ‘fiery juice’, simultaneously fire and water (Agni-Śomā), that gives immortality. Soma is born in heaven (or in the mountains) and closely guarded by demonic powers; an eagle carries Indra to heaven to bring the Soma to men and gods (or an eagle brings the Soma to Indra – cf. 4.13.13), escaping with merely the loss of a single feather from the one shot loosed by the guardian archer.

The first hymn begins with a song of drunken self-praise by Indra (vv. 1-4; cf. 10.119) and then tells the story of the eagle (vv. 5-7). The second hymn begins with the self-praise of the eagle (v. 1), then a verse spoken by Soma, and a return to the narration of the myth.

4.26 [Indra:] 'I was Manu and I was the Sun; I am Kakṣīvat, the wise sage. I surpassed Kutsa the son of Arjuna; I am the inspired Uṣṇas – look at me!

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2 'I gave the earth to the Āryan; I gave rain to the mortal who made an offering. I led forth the roaring water; the gods followed after my wish.
3 'Ecstatic with Soma I shattered the nine and ninety fortresses of Śambārī all at once, finishing off the inhabitant as the hundredth, as I gave aid to Divodāsa Atithīga.

4 'O Maruts, the bird shall be supreme above all birds, the swift-flying eagle above all eagles, since by his own driving power that needs no chariot wheels, with his powerful wings he brought to man the oblation loved by the gods.

5 Fluttering, as he brought it down, the bird swift as thought shot forth on the wide path; swiftly the eagle came with the honey of Soma and won fame for that.
6 Stretching out in flight, holding the stem, the eagle brought the exhilarating and intoxicating drink from the distance. Accompanied by the gods, the bird clutched the Soma tightly after he took it from that highest heaven.
7 When the eagle had taken the Soma, he brought it for a thousand and ten thousand pressings at once. The bringer of abundance left his enemies behind there; ecstatic with Soma, the wise one left the fools.

4.27

1 [The eagle:] 'While still in the womb, I knew all the generations of these gods. A hundred iron fortresses guarded me, but I, the eagle, swiftly flew away.'
2 [Soma:] 'He did not drag me out against my will, for I surpassed him in energy and manly strength. In a flash, the bringer of abundance left his enemies behind as he outran the winds, swelling with power.'
3 As the eagle came shrieking down from heaven, and as they led the bringer of abundance down from there like the wind, as the archer Kṛṣānu, reacting quickly, aimed down at him and let loose his bowstring.
sentiments of awe and reverence, gentleness and love, to the highest pitch of which mankind is capable, all those sentiments and virtues that man has ever since regarded as the highest attribute of his kind. It made him see what this perishing mortal eye cannot see. How right were the Greeks to hedge about this Mystery, this imbibing of the potion, with secrecy and surveillance! What today is resolved into a mere drug, a tryptamine or lysergic-acid derivative, was for them a prodigious miracle, inspiring in them poetry and philosophy and religion. Perhaps, with all our modern knowledge, we do not need the divine mushrooms any more. Or do we need them more than ever? Some are shocked that the key even to religion might be reduced to a mere drug.* On the other hand, the drug is as mysterious as it ever was: "like the wind it cometh we know not whence, nor why." Out of a mere drug comes the ineffable, comes ecstasy. This is not the only instance in the history of humankind where the lowly has given birth to the divine. Altering a sacred text, we would say that this paradox is a hard saying, yet one worthy of all men to be believed.

What would our classical scholars not give for an opportunity to attend the rite at Eleusis, to talk with the priestess? They would approach the precincts, enter the hallowed chamber, with a reverence born of the texts venerated by scholars for millennia. How propitious would be their frame of mind if they were invited to partake of the potion! Well, those rites take place now, accessible but unbeknown to classical scholars, ignored by them, in scattered dwellings, humble, thatched, without windows, far from the beaten track, high in the mountains of Mexico, in the stillness of the night, broken only by the distant barking of a dog, perhaps the braying of an ass. Or, since we are in the rainy season, the Mystery may be accompanied by torrential rains and punctuated by terrifying thunderbolts. Then, indeed, as you lie there bemushroomed, seeing the music and listening to the visions, you know a soul-shattering experience, recalling as you do the beliefs of some primitive peoples that mushrooms, the sacred mushrooms, are divinely engendered by Jupiter Fulminator, the God of the Lightning Bolt, in the Soft Mother Earth.

* The case made for the origins of Christianity in a mushroom cult in John Allegro's recent book, *The Sacred Mushroom and the Cross* (1970) has not met with acceptance among scholars, including some who are generally persuaded by Wasson's arguments regarding the identification of Soma with the fly agaric and the role of hallucinogens generally in the religious experience.—Ed.
When I first approached the Rig-Veda in 1962 I was mystified not so much by the elusive Soma as by the inability of the learned fraternity to identify it. Given the free-wheeling nature of poets everywhere, always, who can suppose that scores of poets, for generations, probably centuries, composing their poems in different cultural centers, could devote themselves to extolling a plant and never use the descriptive terms that would make it identifiable for us? But let me remind you that we must read these hymns as poetry. Perhaps I was blessed by being unencumbered with problems of syntax, with ramifying questions of Indo-European philology, with the sweep of mythological concepts emanating from prehistoric times. However, I did possess some knowledge of the known plant hallucinogens of the world.

I will not narrate over the many suggestions that Soma was an alcoholic beverage, since they all do multiple violence to the text of the Rig-Veda as they merely reflect the obsession of the West with alcohol as the elixir of this world. But I will point out that in the Rig-Veda there is mention of the roots, the leaves, the blossoms, the seed, or the fruit of Soma. In fact, the Rig-Veda says expressively that Soma was born thout seed: the gods laid the Somic germ. The only plants that fill these requirements are mushrooms. The habitat of Soma is on the mountain heights. This means that the divine fungus grew in the malaclays or the Hindu Kush and both, and not in the dry plains of the Indus valleys.

The fly agaric first appears as a fluffy ball the size of an egg wrapped in an envelope of white wool. As it grows and swells it bursts its woolly velope, showing its dazzling red skin beneath. Fragments of the envelope remain on the cap, studding it with small white patches. In my, perhaps most, languages the “cap” of a mushroom is called the “head,” and it is so called in Vedic, mūrdhān or ‘śīrās. The poets, with poetic license, also liken it to an “udder,” udhan, which is “milked” of holy ambrosia, called pāvanā. The full-grown fly agaric stands as a column, and the poets hyperbolically refer to it repeatedly as the “mainstay of the sky,” the “pillar of the world.” The stem, or stipe, is called the amūsā. In one place the poet actually says that Soma sloughs off its envelope, a figure of speech that a mycologist today might use in conversation. Its resplendent apparel is known as nirndd, the “vestiture-of-grand-occasion.” Vedic scholars, not aware that Soma was the stunning fly agaric, have always assumed that the nirndd was the milk with which the pāvanā was mingled after being pressed out of the “udder,” and they were certainly right, but this does not prevent the nirndd from being also the dress of the mushroom. The two figures of speech support and strengthen each other, permitting the poets to revel in word-play. It is a question which meaning was the original one. The poet speaks of the dazzling red skin of the fly agaric as the hide of a bull, the red beast that the Vedic priests exalted above all others in nature, and he describes Soma’s “dress” as of sheep—the woolly fragments that remain when the envelope bursts. Could more suitable metaphors be found? (The reader must bear in mind that the ball of the mushroom is fiery red speckled with white.)

Scholars have been puzzled by the five verses in which Soma is called the “single eye,” ekam ākṣi. This metaphor now becomes clear: in its natural habitat the adored plant at one stage in its life cycle looks like a single eye, contemplating the world, taking it all in. The juice of Soma is pounded out, filtered through a woolen cloth, and then mixed with water, milk, honey, or barley water. But this filter, pautra, is only one of three filters in the Rig-Veda. There is another transcendental filter of which the poets speak incessantly, the filter that permits the poet to say, “King, having the filter for chariot, and again, “With his 1000 knobs he conquers mighty renown.” For the poet the divine juice comes down from heaven on the rays of the sun. Soma enters the plant while the rays remain caught on the skin. What a delicious figure of speech! What plant other than the fly agaric fits these poetic figures? Have not the Vedic poets exalted their adored Soma in terms that are unmistakable? The god is suitably enshrined in a plant radiantely beautiful, ḫaḷī, resplendent. The steeds of the Sun-God are ḫaḷī and so is Soma! By a miracle of nature the hallucinogen is clothed in vesture suitable to its high station.

Let me point out that these correspondences, shown strikingly in color photographs, recur without ceasing in the hymns; the poets play with them, ring all possible changes on them. I have yet to find a single verse in the Rig-Veda that is incompatible with my identification, and there are many verses whose figures of speech are in happy concordance with our regal plant. The poets repeatedly apply to Soma the word “navel,” nābhī, and here we have analogies to this day in the fungal
vocabularys of the vernaculars spoken from France and Russia through Turkey to Cambodia and Korea. The poet speaks of Soma as “dazzling by day, by night silvery white.” Surely he is referring to the brilliant spectacle that the fly agaric presents in sunlight, and then to its aspect as the color fades out by night and only fragments of the silvery-white envelope remain visible in the light of the moon.

I now present converging evidence of startling character in support of my contention. I wish to emphasize that this evidence is not essential to my case, but, unless it is impugned, it alone is sufficient to prove that Soma was the fly agaric of Eurasian folklore and to suggest that the fly agaric may be the key to the religion prevailing throughout Eurasia in prehistoric times.

The fly agaric possesses a peculiar property, unique so far as we know in the whole plant world: it is an inebriant whose inebriating property passes quickly through to the urine. The tribesmen of the Chukotka and Kamchatka, in the far northeast of Siberia, used to drink the urine of those who had ingested the fly agaric, apparently by reference. I think because certain impurities are strained out as it goes through the human organism, the third of the Rig-Veda’s three liters. Georg Steller* tells us that the urine so used transmits its potency to the urine of the second drinker, and to the third and fourth and even to “generation” of drinkers, when finally its virtue petered out.† Not I tribes have recourse to this practice: we have no evidence that the tribes who use the fly agaric in the valleys of the Ob and Yenisei do. The sources are silent on this. The question may be asked how these tribesmen first discovered the potency residing in the urine of the fly agaric consumer. The answer may lie in the reindeer. The tribesmen in intimacy with their great herds of reindeer, and these are addicted both to the fly agaric and to drinking urine, especially human. Fly-agaric inebriation is common among the animals, as every drover-handler knows.

When I read the Rig-Veda in translation I was naturally alert for dences of urine drinking, and I think I have found them. The Rig-lia is a collection of hymns written by poet-priests for priests to sing the liturgy, and the priests were all, naturally, privy to the practices their religion and to the singular attributes of Soma. We must expect to see my Soma: Divine Mushroom of Immortality, Exhibit 5, pp. 229-40.

Wasson’s recent book Soma: Divine Mushroom of Immortality (1968) includes a genealogy of the travelers, anthropologists, and linguists who have left indelible marks of the Siberian practice, some of whom describe in some detail the practice in饮-drinking in mushroom rituals. See especially the accounts of Georg Heinrich Langendorf (pp. 246-51), J. Enderli (pp. 261-64), and Waldemar Jochelson (pp.

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the allusions to be casual, incidental, not at all spelled out for us and the other excluded profane to grasp. They are in fact revealed in mythological contexts. In RV VIII 4.10 the poet addresses the god Indra:

Like a stag, come here to drink!
Drink Soma, as much as you like.
Pissing it out day by day, O generous one,
you have assumed your most mighty force.

[Daniel H. H. Ingalls’s rendering.]

When we drink tea or coffee or milk or beer, no one says that we later urinate tea or coffee or milk or beer. But Indra pisses Soma, just as the fly-agaric consumer in the Chukotka does. Whether the figure of a drinking stag in the verse we have quoted alludes to the confirmed addiction of deer to the fly agaric I hesitate to say. There is yet another verse (RV II 34.18) where deities in the shape of horses, known as the Rudras, seem to have pissed Soma. The tenor of these verses is clear: only with Soma is there Soma-urine. How did the priests learn this other than by drinking the Soma-impregnated beverage? In the Rig-Veda we find a number of allusions to the passing of Soma through the belly, the entrails, of Indra, some of these allusions expressing considerable anxiety. I say that these become meaningful if we understand that Soma is being passed through what the poets call the Third Filter, the human organism, into the urine, and that this act is attended by genuine dangers of misadventure. There is a verse, IX 74.4d, where the priests “with full bladders piss Soma quick with movement.” Now this is a translation of Renou and also in essence of Geldner, both of them Vedics scholars of the highest eminence. They agree on the peculiar meaning of this verse. I believe other scholars dispute such a reading, but if Geldner and Renou are right, this verse alone is sufficient to clinch my case.

Although there are only two or three direct references to Soma-urine in the Rig-Veda, we find supporting evidence elsewhere, and this evidence comes just where we should find it in the circumstances, given the general acceptance in the priestly caste of all Soma’s attributes and the sacred nature of the Mystery. Let me emphasize again that we must expect the references to occur casually, incidentally, like the accidental disclosure in a conversation of a secret known to all. According to a well-known Brāhmaṇa story,* Indra drinks so much Soma that the sources say Indra exudes it from his ears as well as pissing it. In the

* Taītirîya Samhitâ 2.3.25-6; Sataâpatha Brâhmana 5.5.4.8-9 and in most detail 12.7.1.1-9.
Avesta, Yasna 48.10, Zarathustra angrily exorciates those who use urine in the sacrifice: "When wilt thou do away with the urine of drunkenness with which the priests evilly delude the people?" The Parsis, descendants of the Zoroastrians, to this day consume urine in their religious devotions, although only in symbolic amounts and only bull's urine. The Manichaeans, whose religion was an outgrowth of Zoroastrianism, exercised considerable influence in China for some centuries; from a late date in Fukien Province, two reports survive by a high civil servant to his superiors criticizing the religious activities of these Manichaean sectarians. In their devotions, they said, they consume too many red mushrooms and, moreover, were making use of urine, apparently human urine. (Probably this civil servant had not himself attended the Manichaean rites and was reporting hearsay.) As a final citation, in the Mahabharata we find a quaint apologue, interpolated late into the text, telling how a maṭaṅga (the lowest of the low) invited the holy man Uttanka to drink his urine to quench his (Uttanka's) thirst and how Uttanka refused indignantly, only to learn later that the maṭaṅga was Krishna in disguise, and that he had been offered—and had refused—Soma-urine! Uttanka thus lost forever the chance to join the immortals.

If my interpretation of the Rig-Veda in this crucial respect meets with resistance in the West, it has proved acceptable, even illuminating, in India in some quarters. An English woman writes me that she was in a circle of Indian ladies and one of them, a ranee, was dwelling on the infatuation of her husband, the rajah, for a certain sadhu, or holy man. Why, he even wished to drink the sadhu's urine, she said. The Indian ladies accepted this calmly, as though not surprised, and my correspondent therefore remained silent. Again, an Indian intellectual says that the present-day sadhu conveys his spiritual powers to his disciples in any one of four ways: (1) by a "laying on" of hands, precisely as in our church; (2) by having his disciples repeat incessantly for long periods a certain prayer or mantra; (3) by having him fix his gaze unwaveringly on the sadhu's countenance for long periods; and, finally, (4) by giving his favored disciples the privilege of drinking his urine. No not these instances of contemporary urine-drinking come down from time when urine was still impregnated with the essence of Soma?

Some skeptics are doubtless asking how it comes about that the identity of Soma is being discovered only now, and by an outsider, one who knows no Vedic.

The Indo-Iranians coming down from the North exalted a plant in terms breath-taking for us. But for three millennia Soma, the exalted plant, has been absent. The Hindus strangely disclosed no curiosity about it; as for the West, our speculations in recent times have been only blind guesses, convincing no one, often not even those who propounded them. Of late I find more and more scholars receptive to the possibility that the Soma of the poets was for them little more than a mythological concept—that is to say, a non-plant. Nature abhors a vacuum, and in the absence of the genuine plant, our scholars, devising a myth to fill the vacuum in their own knowledge, seem ready to weave for the poets a myth that the poets never knew.

The trouble, I think, is clear and simple. The Vedists have allowed themselves to be miscast. When you seek the identity of a plant you go to a botanist, not to a Vedist. But then, why have the botanists not discovered it? A little reflection will give the answer.

Cultivated circles in the West were first alerted to the existence of the Rig-Veda in the second half of the last century. The Rig-Veda could be read only by the Vedists, a generation of scholars of the highest eminence tilling a field remote from the main thoroughfares of Western studies. The botanists had no access to the hymns, but, what was far worse, they thought they had. A number of translations tumbled from the presses, and botanists working in the Indian field read them. But the translations of the period—by Wilson and Cowell, Griffith, Langlois—were not intended for scholars or scientists. They were an effort to convey to cultivated circles the treasure house of early religious poetry that had just been uncovered in India, composed in a language related to our Western languages. The translators were not in the forefront of Vedists. Their translations sound like what refined ladies enjoyed reading in the Victorian age. They were "poetical" in the vein of the Idylls of the King but without Tennyson's powers of versification. They were flowery, round, some might say flatulent, giving a pseudo-sense to all passages that puzzled Vedists and that the translators had to guess at, and, moreover, bowdlerizing the text to caress the prudish Victorian ear. Small wonder that George Watt, the foremost botanist of the British raj, who knew Sanskrit, much less Vedic, is quoted as saying, "the vague and poetical descriptions given of the Soma make any scientific identification impossible."*

And so the Vedists were left with the Soma problem. Unhappily they did not demur: they accepted the role of botanists, for which their

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qualifications were not readily apparent. The world has ever since
looked to them for an identification that they could not supply, could
not be expected to supply. Speaking for the Vedists, Professor F. B. J.
Kuiper of Leiden is a thousand times right in saying that "the com-
plexities of the problem should not . . . be underestimated." He adds
that the identification of Soma must take the seeker far beyond the con-
fining of Indo-Iranian studies proper. This is where I have gone.

There was a further difficulty. British botanists in India performed
a Herculean task in mapping the vegetation of that vast land in a long
series of specialized monographs culminating in an admirable encyclo-
pedic work, Dictionary of the Economic Plants of India, edited and
partly written by George Watt. But they confined themselves to the
phanerogams—the seed-bearing plants—and they neglected the fungal
flora. No one suggested a mushroom for the role of Soma. This may
seem strange, but the English people, mycophobes to the core, chose to
ignore the fungal flora, the "toadstools," of India.

One more consideration: from a botanist’s point of view the distinc-
tive feature of Soma is that it belongs to the world that Louis Lewin,
the pharmacologist, first called Phantastica more than forty years ago,
that today is usually named the "plant hallucinogens," that the chemist
and pharmacologist designate as the psychotropic or psychotomimetic
plants. This restricts the area of inquiry. Specialized study of the natural
hallucinogens is only a few decades old: before then there were only
the old travel books and the field notes of anthropologists, difficult to
come by and to collate.

Many have observed that discoveries in the realms of geographical or
intellectual exploration arrive in a measured sequence, when the days
are fulfilled that they should be made, and that only in recent years
have we been able to approach the Soma problem with a hope of
finding the answer. The fortunate person who makes the discovery is an
accident of history, arriving as he does at precisely the right moment
and happily possessed of the needed information derived from diverse
disciplines hitherto not associated together. I am certainly one of the
first persons with any botanical background to study the recent scholarly
translation of the Rig-Veda concentrating on the Soma question. My
late wife and I had been concerned with ethnemycological problems for
decades. On the strength of the folklore of Europe and the etymologies
of the fungal words in the languages of Europe, in the 1940’s we had
advanced to each other the daring idea that a mushroom had once
figured in the religious life of our own remote ancestors. When we
learned of the role played by the fly agaric in the shamanic rites of
Siberian tribesmen, down to recent times, we were overjoyed, thinking
that the Siberian usage in part vindicated our hunch. Little did we
imagine that we were on the road to a discovery of much larger scope.

In 1952 we were diverted to Mexico, where we later revealed to the
world the part played by hallucinogenic mushrooms in the religious life
of the Indians of southern Mexico. Thanks to the indispensable aid of
Professor Roger Heim, then Director of the Muséum National d’Histoire
Naturelle, upwards of a dozen hallucinogenic species received scientific
identification for the first time. We took advantage of our Mexican
explorations to extend our acquaintance to the phanerogamic hal-
locinogens.

Certain English scholars have lately dwelt with dramatic effect on
the divorce that has taken place in our generation between the scientific
and humane aspects of our culture. But for ethnobotanists (including
ethernemycologists) these two aspects are still joined. As scientists, they
know plants; as students of human cultures, they study the role plants
play in man’s daily life and in his spiritual perceptions. When I read
the Rig-Veda as poetry, it was evident that the poets were deifying, in
lyrical language of breath-taking poignancy, the hallucinogenic fly agaric of the Siberian taiga, *Amanita muscaria*, in prehistory the divine inebriant of all Eurasia.

What is this discovery that I think I have made? Have I done more than identify some plant or other that happened to be named in an ancient hymn? When the Vedic poet sang that most famous of all the verses of the Rig-Veda,

We have drunk the Soma, we are become Immortals,
We are arrived at the Light, we have found the Gods.
What now can hostility do to us, what the malice of mortal,
O Immortal Soma!

he was giving utterance to the epitome of the whole collection. What are we to make of it?

The poet throughout the ages has pursued a serious calling intimately associated with prophecy. In this verse we feel the potent afflatus of Soma, the ecstasy inspired by the divine hallucinogen. The poet is certainly not performing an arid exercise in versification and music about a plant that he has never seen. Nor are we discussing merely an “invigorating” inebriant comparable to alcohol. We are dealing with the “enthusiasm” of the poet, in the original and now obsolete sense of that word, divine possession, poetic frenzy, supernatural inspiration. The engine behind the myth and ritual of the Rig-Veda is this “enthusiasm.” If I am right, here is where we are arrived, this is the secret of our discovery. We have identified a plant understandably considered as miraculous by the people of long ago, and in so doing we have swung open the portals to ecstasy.

Daniel H. H. Ingalls, Wales Professor of Sanskrit at Harvard, has recently endorsed my identification of Soma. and he added:

The greatness of a discovery is in the further discoveries that it may render possible. To my mind the identification of the Soma with a hallucinogenic mushroom is more than the solution of an ancient puzzle. I can imagine numerous roads of inquiry on which, with this new knowledge in hand, one may set out.

I will venture now on one such “road of inquiry.”

The fly-agaric complex of Siberia is of absorbing interest from many points of view. That the use of Soma, the inebriating mushroom, has survived there until recently, even if in a degenerate state and restricted to two shrinking areas, is a remarkable fact. In our own time the use of the fly agaric has been described in the Chukotka and also, far to the west, in the valleys of the Ob and the Yenisei. The words used for the fly agaric in the various tribes, the associated meanings of those words and their etymologies, the part played by reindeer in the urine-drinking of the natives, the personification of the fly agaric as little men, the petroglyphs dating from long ago—all these aspects of the fly agaric cult deserve attention. But I will pass over them to come to the point of my story.

Many students of the customs and folklore of the forest belt of Siberia have remarked on the reverence shown everywhere for the Siberian birch, a tree that is much taller and straighter than our birches. The birch is pre-eminently the tree of the shaman. He builds his tent around the bole of a birch, and in trance he climbs up the trunk to go on his travels to the land of departed spirits. The folklore of Siberia is saturated with the birch, even where the cult of the fly agaric has been given up. Why the birch? Every student of the Siberian forest peoples has asked this question, but no one seems to have found an answer.

For me the answer is clear. The birch is revered wherever it grows in Siberia because it is the preferred host to the fly agaric. This mushroom grows in mycorrhizal relationship with certain trees, and the tree that it prefers is the birch. It also grows at the foot of conifers, and I hold it to be no accident that the pine tree occupies a place second only to the birch as a cult focus for the forest tribesmen of Siberia. The relationship between birch and fly agaric has been known to mycologists only since 1885, but the natives of the Siberian forests have sensed it from time immemorial. If investigators have not discovered why the birch is a cult object, I think this is because they have not asked the right questions. The natives of the Chukotka and of the valleys of the Ob and Yenisei have not volunteered information that they regard as self-evident; in their world, any cretin would know why the birch is venerated. As for the mycologists, who certainly now know the birch-fly agaric relationship, they talk only to one another and never to anthropologists.

Uno Holmberg, in the *Mythology of all Races*, has summarized for us the folk beliefs that surround the birch. The spirit of the birch is a middle-aged woman who sometimes appears from the roots or trunk of the tree in response to the prayer of her devotee. She emerges to the waist, eyes grave, locks flowing, bosom bare, breasts swelling. She offers milk to the supplicant. He drinks, and his strength forthwith grows a hundredfold. The tale, repeated in myriad variations, clearly refers to the fly agaric, but none of Holmberg’s sources has called this to his attention. What is the breast but the udder, *ādhan*, of the Rig-Veda,
the swelling cap or *pileus* of the full-blown fly agaric? In another version the tree yields "heavenly yellow liquor." What is this but the "tawny yellow *pāvamāna*" of the Rig-Veda? Repeatedly we hear of the Food of Life, the Water of Life, the Lake of Milk that lies hidden, ready to be tapped, near the roots of the Tree of Life. There where the Tree grows is the Navel of the Earth, the Axis Mundi, the Cosmic Tree, the Pillar of the World. What is this but the Mainstay-of-the-Sky that we find in the Rig-Veda? The imagery is rich in synonyms and doublets. The Pool of "heavenly yellow liquor" is often guarded by the chthonic spirit, a Serpent, and surmounting the tree we hear of a spectacular bird, capable of soaring to the heights, where the gods meet in conclave.

In brief, I submit that the legends of the Tree of Life and of the Marvelous Herb had their genesis in the Forest Belt of Eurasia, the tree being the towering Siberian birch, and the herb being the fly agaric, Soma, the *pongo* of the Ugrian tribesmen. True, we are familiar with this legend from the cuneiform inscriptions of Sumeria and the countries lying to the west thereof. There the birch had become only a memory, and it is an unanswerable question how much even their most learned priests knew of the marvelous herb. But the legends were powerful, speaking for the power of the original Soma, and they survive in paintings, sculpture, and writings on clay. We must not forget that the Sumerians, the shadowy Subarians, the Hittites, the Mitannians, and yet others, known to and unknown, had all hailed from the north, and in their original homelands they or their neighbors knew the marvelous herb by personal experience. They brought down with them in their baggage all the tales about the herb and proceeded to write them out in clay as soon as they had devised and mastered the art of writing. It is a mistake to attribute the genesis of these ancient tales to Mesopotamia and the Near East merely because these lands furnished the clay on which they were first inscribed. Gilgamesh, our earliest epic hero, dates from a recension written in the third millennium in Sumeria, but he was already a legendary hero by that time. He went out to seek the marvelous herb and found it in a watery place, only to have it filched from him, as he slept, by the Serpent, its chthonic guardian, more subtle than any beast of the field. The Semites at Mari and elsewhere lived in intimacy with the Sumerians and borrowed their stories, as is well known, sometimes giving the stories a new twist. In *Genesis*, is not the Serpent the self-same chthonic spirit that we know from Siberia? The Tree of Life, is it not the legendary Birch Tree, and the Forbidden Fruit of the Tree of Life, what else is it but the Soma, the fly agaric, the *pongo* of the Ugrian tribesmen? The Indo-Iranians were late-comers on the stage of history, but they brought down with them the miraculous herb itself, and they bequeathed to us the strange, the breath-taking poems known as the Rig-Veda.

Hitherto the Soma-Haoma of the Indo-Iranians has been regarded as without parents or siblings. If my reconstruction of the legends holds good, the Soma of the Rig-Veda becomes incorporated into the religious history and prehistory of Eurasia, its parentage well established, its siblings numerous. Its role in human culture may go back far, to the time when our ancestors first lived with the birch and fly agaric, back perhaps through the Mesolithic and into the Paleolithic. We have here a web of interrelated beliefs that give to us a united field in a major area of primitive Eurasian religion.*

*And perhaps Amerindian religion as well. Much the same association of world (or shamanic) tree as symbolic *axis mundi*, with the pool of the water of life at its base, is found in the Americas, as is the chthonic guardian, the chimereal serpent. The prehistoric shaman's ascent of the sacred tree (and its functional counterpart in the prehistoric shaman's ascent of the sacred tree and its functional counterpart in the great prehispanic religions, the ascent of the priest up the steep pyramidal stairway to the house of the god at the summit) still survives in some indigenous cultures to the north and of the New World. When applied to aboriginal beliefs and rituals in North and South America, Wasson's exploration into the origins and symbolic meanings of the religions of the tree of life support La Barre's recognition of powerful vestiges of the religions of tree of life support La Barre's recognition of powerful vestiges of the religions of the American Indian. (See La Barre, below.)—Ed.