

Implications of LSD and Experimental Mysticism

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Mirrored in the sensationalistic array of recent magazine and newspaper articles focusing upon the past, present, and future uses of drugs like LSD is a blurred spectrum of attitudes ranging from an indignant desire to destroy a terrifying plague of drug-induced psychoses to a naive belief that the keys to Utopia have finally been placed into the hands of man. In the light of this complex controversy, the need soberly to consider the potential dangers and values inherent in this field of research from theological, psychiatric, and societal perspectives has become crucial. The special class of drugs in question, including lysergic acid diethylamide (LSD), psilocybin, and mescaline, to name the major examples, has been given many names, from psychotomimetic to mysticomimetic, but the two terms that are gaining acceptance are *psycholytic* (mind-releasing) in Europe and *psychedelic* (mind-opening) in the United States. These drugs are not narcotics, sedatives, or energizers, but have the unique effect on the human psyche of bringing into awareness forms of consciousness that are usually hidden or unconscious.

At the outset it must be stated that since the statistics of the first major attempts at controlled experimentation in this field are still being compiled, none of the proposed uses of these drugs can at present be supported by conclusive empirical data. The high hopes that constructive uses of these drugs may be validated empirically, however, are reflected in the formation of the International Association for Psychodelytic Therapy; in international conferences on the use of LSD in psychotherapy, held in New York City in 1959 (Abramson, 1960), in London in 1961 (Crockett, Sandison, & Walk, 1963), and on Long Island in 1965 (Abramson, 1967); and in the two days devoted to the psychedelics in March, 1966, by the *Collegium Internationale Neuropsychopharmacologicum* in Washington. In the midst of this experimental ferment, however, we are confronted by the very real possibility that the known and unknown uses of these drugs that could prove to be legitimate and beneficial for individual persons and society may be suppressed until some future century when investigation will be permitted to proceed unhampered by popular hysteria and overrestrictive legislation. In the United States, interested and capable scientists are hesitating to investigate this field because of the abundance of unfavorable publicity and the threat of condemnation by identification with irresponsible researchers. Even among those who are willing to risk their reputations, some are finding it difficult to obtain the governmental approval now prerequisite for the legal acquisition of these drugs for research purposes. Paradoxically, a significant danger confronting our society may lie in losing out on the values that the responsible use of these drugs may offer. Hypnosis, for example, is

only beginning to recover from the sensationalistic publicity and irrational reactions that surrounded Mesmer and subsequently suppressed its legitimate use for almost a century.

The first section of this article attempts to define and illustrate a specific form of psychedelic experience that is frequently reported when relatively high dosage is administered to normal subjects or selected mental patients in supportive settings. For want of a better term, we have called this form of experience *mystical consciousness*. A second section then briefly surveys other forms of altered consciousness associated with the ingestion of these drugs, illustrating how they differ from mystical consciousness. A third section presents and discusses the research findings that have suggested the similarity, if not the identity, between the psychedelic experience of mystical consciousness and spontaneously occurring experiences recorded in the literature of mysticism. A final section considers some of the theological, psychiatric, and societal implications arising out of such research, stressing promise for the future as well as the very definite hazards of irresponsible experimentation.

THE PSYCHEDELIC EXPERIENCE OF MYSTICAL CONSCIOUSNESS

The form of psychedelic experience here called *mystical consciousness* can best be described as a dimension of experience that, when expressed on paper by an experimental subject and subsequently content-analyzed, corresponds to nine interrelated categories, each of which is described below. These categories were derived by Pahnke (1963) from a historical survey of the literature of spontaneous mysticism, including the commentaries of scholars such as William James (1929) and W. T. Stace (1960). As Stace has emphasized, such categories attempt to describe the core of a universal psychological experience, free from culturally determined philosophical or theological interpretations. Some of the categories described below are illustrated by excerpts from phenomenological descriptions of psychedelic experiences. The ontological status of such descriptions may, of course, be debated. Our concern here is simply to present examples of the psychological phenomena being reported.

1. UNITY

Experience of an undifferentiated unity, we suggest, is the hallmark of mystical consciousness. Such unity may be either *internal* or *external*, depending upon whether the subject-object dichotomy transcended is between the usual self and an inner world "within" the experiencer, or whether it is between the usual self and the external world of sense impressions *outside* the experiencer. Both forms of unity are known to occur within the same person, even in the same psychedelic session. Although each form of unity occurs in a different manner, the states of consciousness ultimately experienced may be identical.

Internal unity reportedly occurs in the following manner: Awareness of all normal sense impressions (visual, auditory, cutaneous, olfactory, gustatory,

and kinesthetic) cases, and the empirical ego (i.e., the usual sense of individuality) seems to die or face away while pure consciousness of what is being experienced paradoxically remains and seems to expand as a vast inner world is encountered. A sense of movement is experienced within this inner world through numerous so-called "dimensions of being" towards a goal that is felt to have the status of ultimate reality. Internal unity occurs when consciousness merges with this "ground of being," beyond all empirical distinctions. Although awareness of one's empirical ego has ceased, one does not become unconscious.

I found myself grunting in agreement or mumbling, "Of course it has always been this way" over and over again as the panorama of my life seemed to be swept up by this unifying and eternal principle... I seemed to relinquish my life in "layers:" the more I let go, the greater sense of oneness I received. As I approached what I firmly believed to be the point of death, I experienced an ever greater sense of an eternal dimension to life.

In contrast, external unity generally seems to occur as follows: Awareness of one or more particular sense impressions grows in intensity until suddenly the object of perception and the empirical ego simultaneously seem to cease to exist as separate entities, while consciousness seems to transcend subject and object and become impregnated by a profound sense of unity, accompanied by the insight that ultimately "all is One." The subject-object dichotomy transcended may be between the empirical ego and (1) an animate visual object such as another person or a rose, (2) an inanimate visual object such as the leg of a table (Huxley, 1963) or even a grain of sand; or (3) an auditory object such as the music of a symphony. Theoretically, objects of other sensory modalities could stand in polar relation to the empirical ego and be incorporated into experiences of external unity as well.

When looking at the rose as an object, it seemed to "come alive" before my eyes. Its petals seemed to "breathe" as, slowly and gracefully, then unfolded, seeming to express the ultimate in beauty. Fascinated, I watched these movements of "cosmic gentleness" until, suddenly, I *knew* the rose; that is to say, transcending the dichotomy of subject and object, I somehow became One with the rose, no longer existing as an ego passively viewing an object in its environment. Although in the objectivity of my critical mind, I knew there were no physical changes in the flower, subjectively I seemed to see it in a totally new perspective, a perspective which elicited tears and deep feelings of reverence.... Supporting the ancient monistic school of thought, I expressed the philosophical insight that, "We are all the same thing."... Another time I commented that, "There is more to beauty than we know."

2. OBJECTIVITY AND REALITY

Intrinsic to this second category are two interrelated elements: (1) insightful knowledge or illumination about being or existence in general that is felt at an intuitive, nonrational level and gained by direct experience, and

(a) the authoritativeness or the certainty for the experiences that such knowledge is truly or ultimately real, in contrast to the feeling that the experience is a subjective delusion. These two elements are connected because the knowledge through participation in ultimate reality (in the sense of being able to *know* and *see* what is *real*), carries its own sense of certainty. It is to this facet of mystical consciousness that William James assigned the term "noetic quality," writing: "Although so similar to states of feeling, mystical states seem to those who experience them to be also states of knowledge. They are states of insight into depths of truth unplumbed by the discursive intellect" (James, 1929). Such insight is intuitively felt to be of a more fundamental form of reality than either the phenomena of everyday consciousness or the most vivid of dreams or hallucinations.

I was experiencing directly the metaphysical theory known as emanationism in which, beginning with the clear, unbroken and infinite light of God, the light then breaks into forms and lessens in intensity as it passes through descending degrees of reality... Bergson's concept of the brain as a reducing valve I now saw to be precisely true.... The emanation theory, and especially the elaborately worked out layers of Hindu and Buddhist cosmology and psychology had heretofore been concepts and inferences. Now they were objects of the most direct and immediate perception. I could we exactly how these theories would have come into being if their progenitors had had this experience. But beyond accounting for their origin, my experience testified to their absolute truth.

Experience of the contents of this category may be expressed in many ways, among which are assertions of having known the origin and goal of history, of having found the answer to the ancient query, "What am I?", of having intuited the harmonious structure of the universe, of having experienced the primacy of love and the brotherhood of man, or of having realized the reality of life that transcends temporal death.

3. TRANSCENDENCE OF SPACE AND TIME

This category refers on one hand to the loss of a person's usual orientation as to where he is during the experience in terms of the usual three-dimensional perception of his environment, and on the other hand, to a radical change in perspective in which he suddenly feels as though he is outside of time, in eternity or infinity, beyond both past and future. In this state of consciousness, space and time are generally meaningless concepts, although one may feel that one can look back upon the totality of history from this transcendent perspective.

From the perspective of the Timeless, I could see my life in retrospect and prospect. It was as if it had all been lived through before, as if we had all been here before, and would be here again. There was a strong preordained feeling about this. I began to see a bit into the future. I understood that I should go back and try to work through some unresolved problems in my relationships with others, and that there would be considerable suffering

ahead. My own death was also dimly sensed and strangely accepted. I saw the unbroken *continuity* of my past with my future, which was not contradicted by the feeling that this present experience would remain with me and bring about deep changes. The fact that all was preordained did not contradict living in freedom, fighting for truth and against evil...

4. SENSE OF SACREDNESS

Sacredness is here defined as a nonrational, intuitive, hushed, palpitant response in the presence of inspiring realities. It is that which a person feels to be of special value and capable of being profaned. Inherent in the nondifferentiated unity of mystical consciousness is a profound sense of holiness and sacredness that is felt to be at a more basic level than any religious or philosophical concepts held by the experiencer. Furthermore, an acute awareness of infinitude is reported, as though one had stood before the Infinite in profound humility, overwhelmed by feelings of awe and reverence. This aspect of mystical consciousness is well reflected in Rudolf Otto's term, the *mysterium tremendum* (Otto, 1958, pp. 12-40).

The most impressive and intense part of this experience was the *white light* of absolute purity and cleanness. It was like a glowing and sparkling flame of incandescent whiteness and beauty, but not really a flame—more like a gleaming white-hot ingot, yet much bigger and vaster than a mere ingot. The associated feelings were those of *absolute awe*, *reverence*, and *sacredness*. Just before this experience I had the feeling of going deep within myself to the self stripped bare of all pretense and falseness. It was the point where a man could stand firm with absolute integrity—something more important than mere physical life. The white light experience was of *supreme importance*—absolutely self-validating and something worth staking your life on and putting your trust in. The white light itself was so penetrating and intense that it was not possible to look directly at it. It was not in the room with me, but we were both somewhere else—and my body was left far behind.

5. DEEPLY-FELT POSITIVE MOOD

This category focuses upon the feelings of joy, love, blessedness, and peace inherent in mystical consciousness. Joy may be exuberant or quiet. Love may vary in intensity from feelings of tenderness, through deeply felt nonsensual feelings of ultimate concern for other persons, to a state resembling prolonged intense sexual orgasm. The latter degree of intensity is generally dissociated from any stimulation or excitation of the sexual organs, being "spiritual" rather than "erotic" in nature. Peace is "the peace which passes understanding" and entails not only deep relaxation, but a conviction that ultimately there is no ground for anxiety.

The feelings I experienced could best be described as cosmic tenderness, infinite love, penetrating peace, eternal blessing and unconditional acceptance on one hand, and on the other, as unspeakable awe, overflowing joy, primeval humility, inexpressible gratitude and boundless devotion. Yet

all of these words are hopelessly inadequate and can do little more than meekly point towards the genuine inexpressible feelings actually experienced.

6. PARADOXICALITY

This category reflects the manner in which significant aspects of mystical consciousness are felt by the experiencer to be true in spite of the fact that they violate the laws of Aristotelian logic. For example, the subject claims to have died or ceased to exist, yet obviously continues to exist and even writes about his experiences. He may claim to have experienced an empty unity that at the same time contains all reality. He may write about non-being that is more than being. He may claim to have felt "out of the body" while he was still "in the body." He may envision a universal self that is both unqualified and qualified, both impersonal and personal, and both inactive and active.

There was awareness of undifferentiated unity, embracing the perfect identity of subject and object, of singleness and plurality, of the One and the Many. Thus I found myself (if indeed the words "I" and "myself" have any meaning in such a context) at once the audience, the actors and the play! Logically the One can give birth to the Many and the Many can merge into the One or be fundamentally but not identical with it; they cannot be *in all respects* one and many simultaneously. But now logic was transcended... I doubt if this statement can possibly be made to seem meaningful at the ordinary level of consciousness. No wonder the mystics of all faiths teach that understanding comes only when logic and intellect are transcended! ... Logic also boggles at trying to explain how I could at once *perceive* and yet *be* those colours and those forms, how the *seer*, the *seeing* and the *seen*, the *feeler*, the *feeling* and the *felt* could all be one; but, to me, all this was so clearly self-evident as to suggest the words "childishly simple" (Blofeld, 1966, p. 29).

7. ALLEGED INEFFABILITY

When a subject attempts to communicate mystical consciousness verbally to another person, he usually claims that the available linguistic symbols—if not the structure of language itself—are inadequate to contain or even accurately reflect such experience. Perhaps the reason such experience is felt to be beyond words is to be found in a frustration with language, which, in turn, arises out of the paradoxical nature of the essential phenomena and the incomparable uniqueness of the experience itself. One subject likened himself to a cave-man who was momentarily transported into the bustling center of Manhattan and then returned to his cave, suggesting that, when subsequently interrogated by his wife, such a cave-man could not claim that his experience was ineffable in spite of the fact that it seemed intrinsically logical at the time, as though it could be discussed with words by some future generation.

To seek to condense any of my experiences into words is to distort them rendering them finite and impure... What is a "transcendent dimension of being?" Such words on paper are little more than metaphysical poetry. Somehow I feel I could better communicate my experience by composing a symphony or by molding a twisted piece of contemporary sculpture, had I the talents required for either form of artistic expression. In no sense have I an urge to formulate philosophical or theological dogmas about my experience. Only my silence can retain its purity and genuineness.

8. TRANSIENCY

This category refers to the temporary duration of mystical consciousness in contrast to the relative permanence of the level of usual experience. The special and unusual forms of consciousness discussed above appear, remain for anywhere from a matter of seconds to a few hours and then disappear, returning the experiencer to his usual state of everyday consciousness. The characteristic of transiency indicates that the mystical state of consciousness is not sustained indefinitely and marks one of the important differences between it and psychosis.

9. POSITIVE CHANGES IN ATTITUDE AND/OR BEHAVIOR

Persons who have experienced the contents of the eight categories discussed above are also known to report concomitant changes in attitudes (1) toward themselves, (2) toward others, (3) toward life, and (4) toward mystical consciousness itself. Increased personality integration is reported, including a renewed sense of personal worth coupled with a relaxation of habitual mechanisms of ego defense. It is as though Paul Tillich's assertion that "It is the power of being-itself that accepts and gives the courage to be" (Tillich, 1952, p. 185) has been immediately experienced as true, and one thus is able to "accept oneself as accepted in spite of being unacceptable" (Tillich, 1952, p. 164). One feels as though personal problems can now be so confronted that they may finally be reduced or eliminated. One's faith in one's own potential for creative achievement tends to be increased, at least at the subjective level. In one's relationships with other persons, greater sensitivity, increased tolerance, and more real compassion are reported. Theologically trained persons frequently feel that they have acquired new and profound insights into the meaning Martin Buber sought to convey in his term "the I-Thou relationship," finally knowing the meaning of genuinely meeting another person without the subtle masks that separate man from man. Changed or enlarged attitudes towards life are reported in the areas of deeper sensitivity to values that are felt to be eternal, increased sensitivity to an inner imperative that seeks expression through other-centered behavior, increased vocational commitment, loss of a fear of death coupled with an expanded awareness of the significance of historical existence, and an enriched appreciation for the whole of creation. As an expression of these attitudes, more time may be spent in meditation. The memory of mystical consciousness itself is regarded as deeply meaningful and similar experiences may be sought as a source of growth and strength.

Although attitudinal and behavioral changes such as these are subjectively reported by psychedelic subjects who have experienced the contents of the preceding eight categories, the duration and permanence of such changes and the extent to which they are manifested in everyday existence are topics in need of extensive research. Only after such research is completed can the degree of correspondence between the positive changes claimed by psychedelic subjects and the effects of spontaneous life-enhancing mystical experiences be determined.

NONMYSTICAL FORMS OF ALTERED CONSCIOUSNESS

We now turn our attention to other forms of drug-facilitated altered consciousness that cannot be classified as *mystical* as this term has been defined above. According to the standards here suggested, many experimental subjects who have only seen visionary imagery and felt powerful emotions may be understood to have had nonmystical experiences of an aesthetic, psychodynamic, psychotic or cognitive nature. In advancing his hypothesis that mystical consciousness is ultimately one and the same, irrespective of the culture, era, or childhood traumas associated with any given mystic, W. T. Stace (1960, pp. 50-51) emphasizes that, "On the essential point of distinguishing between visions and mystical experiences the Christian mystics and the Hindu mystics are in complete accord." In non-mystical forms of consciousness, the empirical ego generally exists as the subject viewing objects of a visionary nature, or pondering objects of a cognitive nature; only in mystical consciousness and some psychotic reactions is the subject-object dichotomy transcended and the empirical ego extinguished.

AESTHETIC PHENOMENA

One of the first effects noted by many persons after ingesting a psychedelic drug is a change in spatial perception. Distances suddenly seem to be different. A person sitting across the room may suddenly seem to be sitting only a few feet away. The ceiling may seem to bulge at the corners of the room and the walls may undulate as though they were breathing. It may actually seem possible to step inside a picture of a woodland scene on the wall and walk among the trees. Such distortions of perception are often quite amusing and may be temporary. To the person of artistic temperament, they may be especially intriguing. Although such phenomena are usually seen as delightful illusions, occasionally reality-testing is impaired in a delusory manner.

As other changes in the nervous system occur, a person is likely to become increasingly sensitive to color and to form. Colors often grow richer and deeper, while the contours of objects in the room may stand out in sharp relief. The whole environment may seem to come into sharper focus, as though the person had just discarded a dirty, incorrectly ground pair of glasses for a clean, perfectly ground pair.

Also, near the beginning of an experience, one frequently sees geometric patterns of multi-colored abstract lines that are visionary in nature. Although such patterns are often more clearly visible when one's eyes are closed, they may be seen superimposed upon objects in the external world when one's eyes are open. These abstract patterns are generally three-dimensional and constantly change in a steady, rhythmic flow, resembling the view through a kaleidoscope.

Objects in the room or parts of such objects may be symmetrically incorporated into this visionary pattern. Thus, instead of being composed merely of abstract lines, it may contain any number of objects such as candles, flowers, human eyes, reels from a tape-recorder, etc. At this point an experience may be seen to have overtones of psychodynamic significance, although such overtones usually are not consciously recognized by the experiencer, unless he is trained in psychoanalysis. A symmetrical pattern of candles and rosebuds, for example, may be seen to have definite psychoanalytic significance. Even if those objects are present in the room, one may ask why those particular objects and not others were incorporated into the pattern. If faces of people not present in the room or foreign objects become involved, the experience may definitely be seen to be moving in a psychodynamic direction.

If music is being played, synesthesia often develops. The pattern thus seems to flow with the music, even changing color at appropriate places. If the music is slow and minor, the lines may move slowly and be darkly colored; if the music is fast and major, the lines may swoop almost violently and be brightly colored. When a new theme is introduced, a new pattern may emerge in the midst of the old pattern.

This level of experience is, of course, very shallow. If the experience progresses beyond this level, one may seem to *go through* the pattern towards mystical consciousness, experience more definite psychoanalytic imagery and feelings, or enter states of more profound aesthetic imagery.

In the latter case, common objects in the room may suddenly become transformed into works of considerable beauty and artistic value. Similarly, visions of objects not present may suddenly appear. At times, in a dreamlike state, one may enter one's visions and seem to be walking through gardens, art museums, medieval castles, futuristic cities, etc. Archetypal imagery may appear, and one thus finds oneself encountering mythological characters such as angels, demons, dragons, and Grecian gods. On the boundary of mystical consciousness, it is not uncommon for Christians to encounter an image intuitively identified as the Christ.

Again, such imagery may have significance for psychotherapy, but is not necessarily recognized as such. A beautiful golden column in the majestic corridor of a visionary castle, covered with mosaics of intricate design, may well be considered a glorified phallic symbol. Needless to say, such connotations do not distort the beauty of the imagery; rather the imagery may be understood to elevate the polarity of the masculine and the

feminine into its rightful place in the nature of reality. The following quotation is illustrative of this general level of experience:

I lay on my stomach and closed my eyes and brilliantly colored geometrical patterns of fantastic beauty collided, exploded, raced by. Other things too teeth and pearls and precious stones and lips and eyes. Outside of the window the branches of the tree were gigantic arms with transparent muscles, now threatening, now embracing. Glasses started rolling on the table, the bookcase was full of swimming books, the door bulged like a balloon, the carpet in the other room was full of thousands of little green snakes. The dial on the telephone was a huge pearl-studded wheel. The shapes and colors of objects got more and more intense, the outlines etched with luminous clarity and depth. Anything with a polished metal surface turned into gleaming gold or silver. .. The faces of other people became clear and beautiful and open. At one point all faces were colored green.

Associated with such imagery, the experiencer may live through the whole spectrum of human feelings. He may experience a variety of intriguing somatic sensations, feeling as though his body is melting, falling apart, or exploding into minute fragments. On occasion sexual pleasure may be experienced; it is not uncommon for persons to giggle or laugh uproariously.

Although some aspects of aesthetic experience may be very beautiful and inspiring, they are hardly to be considered mystical. It is easy to understand why persons who frequently experience aesthetic phenomena may take psychedelic drugs for "kicks." The artist may enter this world in search of new inspiration and improved perception. As mystical consciousness is seldom entered without serious preparation and a quiet, reverent atmosphere, we may suggest that the experiences of most people at "LSD parties" are of an aesthetic nature. It may be of significance that many, if not most, of the persons who experience mystical consciousness show little interest in taking a psychedelic drug again for a period of at least several months, claiming that they have many profound experiences to ponder and assimilate.

PSYCHODYNAMIC PHENOMENA

Although many of the aesthetic phenomena discussed above may have definite psychodynamic significance, the significance is purely symbolic and must be interpreted for the experiencer, unless he happens to be alert to various forms of archetypal imagery and their meaning during the drug session. There are other forms of altered consciousness, however, in which the psychodynamic nature of the phenomena is obvious to the experiencer at the precise time that the experience occurs.

One of the clearest forms of such psychodynamic experience is actual regression to infancy or early childhood. Writing of his work, employing psychedelic drugs in psychotherapy, Spencer (1963, p. 37) states: "Not only did LSD enable unconscious memories to be recovered easily, but their being

relived was extremely realistic to the patient, as they were frequently accompanied by changes in the body image, so that the patient felt he was of the physical size and age he had been when the traumatic experience occurred." This form of experience has been especially common in clinics where reasonably small doses of the drugs have been employed in the treatment of neurotic patients. The following two descriptions are typical of such experience:

I then fell much deeper into the experience and lay in a bassinet as a baby about a quarter-year old. I felt very comfortable. Then suddenly coldness broke out within me and all around me. (Fernandez-Cerdeno, 1964, p. 18)

I had a memory of tremendous sexual excitement. I felt that I was about six and that somebody had been "playing" with me sexually... I could remember being held down and the uncontrolled lustful look on my uncle's face absolutely vividly. It was as though it had happened yesterday. (Ling & Buckman, 1964)

Another type of experience that may be strongly therapeutic involves the unexpected confrontation of guilt. The following illustration is taken from the report of a person who had been seriously neglecting his wife and children:

I opened my eyes and there was a picture over the mantle... There seemed to be in front of this picture many veils hanging and I pushed each veil aside one by one, knowing that as I got the last veil aside I would finally see God... Finally the last veil was to be removed. I knew it was the last veil and tried to prepare myself for the great experience of seeing God. I raised my hand over my head and then leaned backwards to make myself more receptive in order to feel the full force of God. And finally the last veil was pulled aside and there were my three children crying for their father... Before me was going all the selfish feelings—all the selfish attitudes that I had had throughout my entire married life.

In contrast to aesthetic experiences, even those consisting of visions that obviously portray psychoanalytic themes, these experiences generally involve abreaction, being marked by intense struggle and suffering. Feelings such as guilt, grief, or hostility may be experienced in great intensity. Such experiences may be useful in facilitating psychotherapy if a competent therapist is available both at the time these experiences occur and in the following weeks to help the patient integrate feelings and insights. Without competent psychiatric supervision, such experiences may, at best, remain frightening memories and, at worst, cause a person to decompensate under the stress.

PSYCHOTIC PHENOMENA

Although some researchers would hold that all phenomena occurring in altered states of consciousness should be labeled "psychotic," here we reserve the term for experiences of paranoia, of panic, or of extreme disorientation and confusion. Paranoia, usually manifested in systematized

delusions of reference, generally occurs when one attempts to control the experience instead of passively yielding to whatever develops. Similarly, panic seems to be associated with an attempt to escape from emerging experiences instead of accepting and confronting them. Because the crucial importance of this sense of unconditional trust was not realized until recently, much of the early work with psychedelic drugs was called "psychomimetic" (psychosis-mimicking). When subjects were given a psychedelic drug without knowing what to expect or how to respond, often being left alone in a dark room or threatened by unfamiliar researchers demanding cooperation in psychological testing, it is easy to understand why many experiences quickly became psychotic. If nonpsychotic experiences are desired, subjects must be prepared, must feel secure in a friendly environment, and above all must be willing and able to trust in a reality greater than themselves.

Besides paranoia and panic, the experience of feeling as though one is separated from the world by a thick, glass wall, being trapped in a silent, unreal room where no activity whatsoever is occurring has been reported. This form of experience may be associated with the presence of penicillamine in the body (Hoffer, 1965), and may result when one has recently taken penicillin. Further, one may become thoroughly disorientated and confused—symptoms that may well be labeled psychotic. Generally, one can vacillate almost at will from experiential depths to the clarity of usual, rational consciousness; that is to say, one can "go in" and have an experience and then "come out" and discuss the experience with other people or speak about it into the microphone of a tape-recorder—after which, of course, one can "go in" again. When aesthetic, psychodynamic, or mystical phenomena occur, consciousness is usually clearer than normal, a sharp contrast to any sense of confusion.

COGNITIVE PHENOMENA

There is a form of psychedelic experience that occasionally occurs when small dosage is administered or just before returning to usual consciousness when one feels capable of thinking unusually sharply, quickly, and clearly. Such experience is *cognitive* as opposed to *intuitive*; that is, it is the process we usually call *thinking*. Visionary imagery is seldom seen during this time and few changes in feeling-tone are manifested. One often feels acutely sensitive to the meaning of words and to very fine differentiations between similar words. Further, one seems to be conscious of the presuppositions underlying one's thoughts and of the interrelations between different ideas. Chain reactions of associations and inferences may occur, and one may feel as though one is able to think on several different levels of discourse all at once. Since paranoid thinking can follow a similar pattern, the validity of this feeling of cognitive excellence is subject to serious questioning. As yet no experiment has been designed to test it.

MISCELLANEOUS PHENOMENA

Some phenomena do not seem to fit into any of the preceding categories and thus are briefly mentioned here for the sake of comprehensiveness. *Photic phenomena* are often, but not always, reported by persons who experience mystical consciousness, usually in the sense of seeing a brilliant white light, perhaps similar to the light experienced by Saint Paul at the time of his conversion. *Electrical phenomena* occur fairly frequently as subjects seem to become aware of the flow of electrical energy in their bodies. At times electrical energy may seem to flow in a pattern corresponding to the peripheral nervous system; at times it may seem to ascend the spinal column from its base, bursting into the brain—an experience also described by adepts of Yoga as the kundalini force. *Psychosomatic phenomena* such as nausea, rapid heartbeat, clammy coldness, or contractions of the stomach occasionally occur, usually being associated with an attempt of the experiencer to resist and control the experience. *Evolutionary phenomena* occasionally occur, in which the subject feels as though he is reliving part of the evolutionary process or, more probably, reliving part of his own foetal development. Some *parapsychological phenomena* of a telepathic, clairvoyant or precognitive nature have been reported, but none have been conclusively validated at this stage of research. *Phenomena of somatic change* occur as people experience changes in kinesthetic and cutaneous reception. Claims of merging with floorboards or feeling unity with the walls of a room that have been misinterpreted as mystical belong in this category. Such experiences entail intriguing changes in perception, but do not necessarily involve the extinguishing of the empirical ego. Similarly, there are experiences of *altered perception of time* that do not entail the mystical transcendence of time. Experiences may occur with such rapidity that a minute may seem like several hours to a subject. On the other hand, a subject may feel that only an hour has passed when he has been in the psychedelic state for several hours. Such slowing down or speeding up of time experience may precede or follow entry into mystical consciousness, but in themselves should not be considered mystical in nature. As mentioned above, the mystical transcendence of time and space involves an experience described as eternity or infinity. Finally, mention of *consciousness of bodily processes* may be made, including those experiences in which one becomes acutely aware of various aspects of the body's physiological mechanism as it functions.

In summary, we see that no person is ever justified in speaking of the psychedelic experience, as there is great variation among individual experiences. In any single psychedelic session, of course, any number of the forms of consciousness discussed above may be experienced. The person who enters mystical consciousness, for example, will almost undoubtedly also experience some aesthetic phenomena between the time the mystic intensity wanes and the moment of his return to usual consciousness. Furthermore, psychological problems may have to be encountered before a "breakthrough" into mystical consciousness is possible. It thus becomes obvious that studies of behavioral and attitudinal changes in persons who

have ingested these drugs must be correlated with the types of phenomena experienced before any significant conclusions can be drawn. The findings of Blum and his coworkers (1964) in their study of persons who have ingested psychedelic drugs would have been much more relevant and meaningful had such a correlation been made.

A STUDY IN EXPERIMENTAL MYSTICISM

Of all the varieties of psychedelic experiences, the type that has elicited the most enthusiastic interest as well as the most indignant rebuttal from both psychiatric and theological spokesmen is the mystical experience. The claim that spontaneous mystical experiences are similar to, if not identical with, psychedelic experiences of drug-facilitated mystical consciousness has caused considerable apprehension and dismay among some religious professionals, and the possible therapeutic potential of experiences of mystical consciousness has been somewhat embarrassing to those therapists who pride themselves on their scientific objectivity and lack of religious involvement. Whether or not the mystical experience is "religious" is naturally dependent upon one's definition of "religion," and to raise this point only confuses the issue, although such experiences may well have religious implications. In order to provide some evidence in a systematic and scientific manner, Pahnke (1963) in 1962 designed and executed a controlled, double-blind experiment to investigate the relationship between the experiences recorded in the literature of spontaneous mysticism and those reportedly associated with the ingestion of psychedelic drugs. Prior to the experiment, from a study of the writings of the mystics and commentaries upon them, a phenomenological typology of the mystical state of consciousness was formulated, with which experimental descriptions subsequently could be compared. The categories of this typology were the same as those presented above in the definition of mystical consciousness.

Twenty subjects were chosen for the experiment, all graduate-student volunteers with middle-class Protestant backgrounds from one denominational seminary, none of whom had ever taken any of the psychedelic drugs prior to the experiment. Screening procedures had included psychological tests, a physical examination, a psychiatric interview and questionnaires inquiring medical history and previous religious experiences. These subjects were divided into five groups of four students on the basis of compatibility and friendship. Ten leaders who knew the positive and negative possibilities of psychedelic experience then assisted in preparations for the experiment two leaders meeting with each group of four subjects to encourage trust, dissipate fears, and establish group rapport. Subjects were encouraged to relax and cooperate with the drug effects, but no mention was made of the characteristics of the typology of mystical consciousness.

On the day of the experiment, Good Friday, 1962, the subjects and leaders met in a lounge beside a private chapel into which the service in the main sanctuary would subsequently be transmitted over loudspeakers.

There, ninety minutes before the service began, capsules identical in appearance were administered, some contained thirty milligrams of psilocybin and some containing two hundred milligrams of nicotinic acid, a vitamin that causes feelings of warmth and tingling of the skin, but has no effect upon the mind. Half of the subjects and one of the leaders in group received psilocybin. Because double-blind technique was employed, neither the experimenter nor any of the participants (leaders or subjects) knew the contents of any given capsule. Further, as the use of an inactive placebo had been anticipated by the subjects as a control substance, suggestion was maximized for the control group when the nicotinic acid began to act.

Inside the private chapel, the subjects and leaders listened to a two-and-one-half-hour religious service consisting of organ music, four solos, readings, prayers, and personal meditation. The experimental design presupposed that in order for experiences most likely to be mystical, the atmosphere should be broadly comparable to that achieved by tribes who use natural psychedelic substances in their religious ceremonies, and that the particular content and procedure of the ceremony had to be applicable (e.g., familiar and meaningful) to the participants.

Immediately following the service, tape-recordings were made both of individual reactions and of the group discussions that followed. As soon after the experiment as was convenient, each subject wrote a detailed phenomenological account of his experience. Within a week all subjects had completed a 147-item questionnaire designed to measure phenomena of the typology of mystical consciousness on a qualitative, numerical scale. The results of this questionnaire were used as the basis for a ninety-minute tape-recorded interview that followed immediately. Six months later each subject was interviewed again after completion of a follow-up questionnaire in three parts with a similar scale. The first part was open-ended; the participant was asked to list any changes that he felt were a result of his Good Friday experience and to rate the degree of benefit or harm of each change. The second part (52 items) was a condensed and somewhat more explicit repetition of items from the post-drug questionnaire. The third part (93 items) was designed to measure both positive and negative attitudinal and behavioral changes that had lasted for six months and were felt to be due to the experience. The individual, descriptive accounts and the first part of the follow-up questionnaire were then content-analyzed with a qualitative, numerical scale by judges who were independent from the experiment.

When the data from (a) the post-drug questionnaire, (b) the follow-up questionnaire, and (c) the content-analysis of the written accounts were analyzed, the conclusion was drawn that, under the conditions of this experiment, those subjects who received psilocybin experienced phenomena that were apparently indistinguishable from, if not identical with, certain categories defined by the typology of mystical consciousness. Statistically, the scores of the experimental subjects from all three methods of measurement were significantly higher than those of the control subjects in all categories except "sense of sacredness." In all the other eight categories

there were less than two chances in one hundred that the difference was due only to chance rather than to psilocybin, and in more than half of the categories, less than two chances in one thousand. Even sacredness showed a statistically significant difference in score (chance expectation of no more than five chances in one hundred) from both questionnaires, but not from the content-analysis. The degree of completeness or intensity of the various categories was presented and discussed by comparing the consistency of score levels on individual items and groups of items among the three methods of measurement. Not all categories were experienced in the most complete way possible, although there was evidence that each category had been experienced to some degree. A more detailed description of this experiment, including statistical analysis of the data, has been published elsewhere (Pahnke, 1966, 1967).

INTERDISCIPLINARY IMPLICATIONS

IMPLICATIONS FOR THEOLOGY

On the basis of the research findings discussed above, it now appears possible to select almost any normal, healthy person and, combining a sufficient dose of a psychedelic substance with a supportive set and setting, enable that person to experience various altered forms of consciousness. The mystical experience seems the most difficult to facilitate, perhaps because of the as yet undetermined roles of personality variables; but nonetheless, these phenomena are now sufficiently reproducible to allow mysticism to be studied scientifically under laboratory conditions. Thus at long last, research into mysticism need no longer be limited to the scholarly scrutiny of various devotional or metaphysical documents left behind by such historic personages as Shankara, Plotinus, Meister Eckhart, William Blake, and Teresa of Avila. Persons can be studied extensively both before and after the experience of mystical consciousness in controlled settings. As noted above, experimental subjects who have experienced this form of consciousness have made powerful claims of increased personality-integration, of greater sensitivity to the authentic problems of other persons, of a responsible independence of social pressures, of both sensing deeper purposes in life and losing anxieties about death, guilt, and meaninglessness, and so forth. If research continues, there is no reason why such claims cannot be studied empirically and then either accepted as valid or dismissed as instances of emotional exaggeration and wishful thinking.

To some theologians, the awareness that it appears possible to experience mystical consciousness (*samadhi* in advaitan Hinduism, *satori* in Zen Buddhism, the *beatific vision* in Christianity) with the help of a drug on a free Saturday afternoon at first appears ironic and even profane. Such experience is the goal of life for most followers of the Hindu, Buddhist, and Taoist religions. In Christianity, Judaism, and Islam, it has generally been viewed as a gift bestowed by God upon certain saints and prophets who have lived lives of exceptional stature. It is understandable that throughout Christian history, certain leaders have responded defensively whenever such biochemical aids to mystical consciousness have been encountered. Padre

Nicolas de Leon, a Spanish missionary in Mexico who found that the Aztecs were using peyote (the natural source of mescaline), for example, included the following questions in the confessional that priests were instructed to employ in their examinations of penitent Indians:

Art thou a sooth-sayer? Dost thou foretell events by reading omens, interpreting dreams, or by tracing circles and figures on water? ... Dost thou suck the blood of others? Dost thou wander about at night calling upon demons to help thee? Hast thou drunk peyote or given it to others to drink...? (LaBarre, 1964)

More recently, a very able professor of comparative religions at Oxford, R. G. Zaehner, has responded to the psychedelic drugs in a similarly irrational and defensive manner. Zaehner even submitted himself to "artificial interference with consciousness" at one time for the purpose of proving that "this state. .. has nothing at all to do with what Christians... mean by the Beatific Vision" (Zaehner, 1954). As might be expected, Zaehner did not experience mystical consciousness in this session, but had a rather shallow aesthetic experience, typical of subjects with considerable anxiety and resistance. Unfortunately the publication of his experience did not prove the existence of the Thomistic gulf between the natural and the supernatural as he had hoped, but rather reflected the mental set of a dedicated Roman Catholic convert (Zaehner, 1961, pp. 212-226).

Perhaps one of the reasons mysticism has come to be considered other-worldly in the sense of being an escape from social responsibilities lies not in the nature of mystical consciousness itself, but rather in the poor methods that have been used by men to gain such experience. The medieval monk in his darkened cell and the hermit in the deep recesses of his cave, for example, used not psychedelic substances, but the tools of sensory deprivation, sleep deprivation, meditative disciplines, and fasting to elicit biochemical changes and unlock the door to unconscious levels of mind. The Hindu yogin uses similar methods in addition to autohypnosis and breath control, the latter increasing the amount of carbon dioxide in the blood and triggering unconscious levels of mind (see Meduna, 1950). Altered forms of consciousness often occur unexpectedly and spontaneously when one is undergoing great mental stress and is exhausted physically. It would appear logical to suggest that whenever altered forms of consciousness occur, whether they are anticipated or come as a complete surprise, underlying biochemical activity may be involved. Thus the Hindu yogin practicing breath control or the Christian monk spending long hours in solitary prayer may be seen to be influencing body chemistry in the same direction as the modern man who ingests a psychedelic drug. In all seriousness, one may ask if the yogin or monk has much time for social action when perhaps a major portion of his life is spent in withdrawal from the world. Furthermore, such ascetic practices are poor means of unlocking the unconscious and may be similar to the ingestion of extremely small doses of the psychedelics. One thus enters aesthetic realms of experience more often than mystical consciousness itself. It is granted that other nonmystical forms of experience that may be considered "religious" are also known to occur, with

and without the assistance of drugs. There is reason to think that other-worldliness may be a result, not of going too deep into the unconscious mind, but rather of not going deep enough. It seems significant that persons who have experienced mystical consciousness generally feel thrown back into the very heart of life in this world and feel also that they have been given the inner strength to cope with suffering and struggle in society. It would seem better for a person to have a drug-facilitated experience of mystical consciousness, enjoy the enriched life that may follow, and serve other persons during the greater part of his life than to live a life that may be inauthentic and withdrawn until old age, when such an experience may occur by means of ascetic practices.

Some persons concerned with religion are disturbed by drug-facilitated mystical experiences because of the apparent ease of production, implying that they are "unearned" and therefore "undeserved." Perhaps the Puritanical and Calvinistic element of our Western culture, especially in the United States where most of the controversy about psychedelic drugs has centered, may be a factor in this uneasiness. Although a drug-facilitated experience might seem unearned when compared with the rigorous discipline that many mystics describe as necessary, the available evidence suggests that careful preparation and expectation play an important part, not only in determining the type of experience attained, but in determining the extent of later fruits for life. By no means is positive mystical experience with the psychedelic drugs automatic. It would seem that this specific "drug effect" is a delicate combination of psychological set and setting in which drug itself is only the trigger or facilitating agent. Rather than a psychedelic experience being an easy way to achieve growth, many subjects report that the subjective sense of work done during the drug session entails as much suffering and exhaustion as would be encountered in several years of living. But perhaps the hardest work comes after the experience when insights must be integrated. Unless such an experience is integrated into the on-going life of a person, only a memory remains rather than the growth of an unfolding process of renewal that may be awakened by the mystical experience. If the person has a religious framework and discipline within which to work, the integrative process is encouraged and stimulated. In this respect, Huston Smith's (1964, p. 165) distinction between "religious experiences" and "religious lives" is especially noteworthy. Many persons may not need the drug-facilitated mystical experience, but there are others who would never become aware of the undeveloped potentials within themselves or become inspired to work in this direction without such experience. "Gratuitous grace" is an appropriate theological term in this connection, for the psychedelic mystical experience can lead to a profound sense of inspiration, reverential awe and humility, perhaps correlated with the feeling that the experience is essentially a gift from a transcendent source, a gift that can never be earned or deserved by any man.

In a paper of this scope, it is impossible to deal adequately with any of the theological questions raised by this field of research. Suffice it to say that there is an increasing need for contemporary theologians to include mystical consciousness in their rational reflections. Among experimental

subjects who have known this dimension of experience, some have reported an enrichment of their understanding of Christianity, claiming that dead dogmas have suddenly come alive; others with less theological sophistication have despaired at the seeming indifference of dogma-centered churches to mystical experience and have turned towards the religions of the East. Tillich has perceptively noted that "The alliance of psychoanalysis and Zen Buddhism in some members of the upper classes of Western society (those within the Protestant tradition) is a symptom of dissatisfaction with a Protestantism in which the mystical element is lost" (Tillich, 1963, p. 243). Perhaps basically, theologians need to acknowledge the reality of other worlds, other dimensions of Being, to which man has access through the mystery of mind, but which no man would claim as his own personal property any more than the tourist who once visited Paris would claim that Paris was part of himself. Besides the works of Tillich, the recent impassioned attempt of Karl Jaspers (1962, 1963) to relate his *Existenzphilosophie* to Christian theology could prove valuable to theologians concerned with this creative area of thought.

In general, mysticism and *inner* experience have been stressed much more by Eastern than by Western religions. Perhaps Western culture is as far off balance in the opposite direction with its manipulation of the *external* world as exemplified by the emphasis on material wealth, control of nature, and admiration of science. As mentioned above, mysticism has been accused of fostering escapism from the problems of society, indifference to social conditions, and disinterest in social change. While the possibility of such excesses must be considered, the beneficial potential of mystical experience in stimulating the ability to feel and experience deeply and genuinely with the full harmony of both emotion and intellect has been indicated in the course of psychedelic research.

Further, the experience of mystical consciousness may enable Western scholars better to understand the so-called elusive "Eastern mind." In the approaching era of unprecedented cultural interaction, this possibility could be of profound significance. Not only the religious systems of Hinduism, Buddhism, and Taoism, but also Eastern political traditions and even Eastern forms of architecture may be seen to have largely originated in various forms of altered consciousness. After such experience, contemplation may take on new meaning for the Western man who finds little time to ponder the meaning of his own existence and the philosophical presuppositions upon which his religious, political, scientific, and ethical convictions rest.

It is also possible that psychedelic drug experiences carefully employed in a religious setting (as in the experiment described above) could illumine our understanding of the dynamics and significance of worship. Increased understanding of the psychological mechanisms involved might lead to more meaningful worship experiences for those who have had neither spontaneous nor drug-facilitated experiences. Light might be shed upon doctrines of the Holy Spirit and the efficacy of sacraments, for example, thus enriching worship through psychological understanding. Such considerations raise the question of the place of emotion as opposed to

cognition in religious worship. An even more basic question inquires into the validity of mystical consciousness in terms of religious truth. Reactions to such questions and possibilities will vary with theological positions and presuppositions, but the field under discussion invites thoughtful examination by those persons concerned with the lack of meaning reported by many contemporary church members in conjunction with religious worship.

The ethical implications relevant to this field of inquiry also merit careful examination. Any research that uses human volunteers must examine its motives and methods to make certain that human beings are not being manipulated like objects for purposes that they neither understand nor share. But in research with powerful mental chemicals that may influence the most cherished human functions and values, the ethical problem is even more acute. Historically, mystical experience has filled man with wondrous awe and has been able to change his style of life and values; but it must not be assumed that increased control of such powerful phenomena will automatically result in wise and constructive uses. Potential abuses are equally possible. The degree to which brainwashing techniques could be enhanced by the psychedelics is at present unknown. As persons in the deeper states of altered consciousness are so hypersensitive to the fine nuances of interpersonal communication, especially in terms of love and honesty, deception and manipulation may be minimized. In this sense, the drugs may be seen to have a "built-in control." Yet there are many varieties of psychedelic experience that do not entail such Buberian communication and may certainly be prone to suggestive influences, either for good or evil.

IMPLICATIONS FOR PSYCHIATRY

Turning from the religious implications of these drugs to their possible applications in psychiatry, we find that in the more than twenty years during which LSD has been investigated under medically controlled conditions, two major methods of therapeutic application have evolved. The first, called psycholytic therapy and predominant in Europe, involves a small-dose technique (e.g., 25 to 100 mcg. of LSD) in weekly or bi-weekly sessions in order to facilitate the release of unconscious material and aid psychotherapy or group therapy. Sandison and Spencer (Sandison, Spencer, & Whitlaw, 1954) in England and Leuner (1962) in Germany have pioneered in this method. Leuner in particular uses a psychoanalytic approach in working through the material during the drug sessions themselves as well as during the time between subsequent sessions. Mascher (1967) recently reviewed the research presented in forty-two scientific papers that describe the method and results of psycholytic therapy in sixteen hundred patients during the past fifteen years. LSD sessions are considered superior to Amytal interviews, for example, insofar as the patient remains alertly conscious during the experience and has much less amnesia afterwards.

The second method, called psychedelic therapy and used mainly in the United States and Canada, involves a much smaller number of sessions, or even a single session, but at a higher dosage in order to produce an

experience with such an overwhelming impact that the patient's view of the world and himself may be radically changed in a healthful and therapeutic manner. The primary aim is to achieve a breakthrough to a "psychedelic peak" that has the characteristics described above in the definition of mystical consciousness. Relatively high dosage is a necessary, but not a sufficient, condition for eliciting a psychedelic peak. Through careful preparation, a trustful bond of rapport with the therapist must be established as in any effective therapy. Special skill on the part of an experienced psychedelic therapist must be used for guiding the patient during the actual drug session. Careful planning of both the emotional atmosphere and the physical environment is important. Stimuli such as classical music (symphonic and choral) with long, flowing phrases, beautiful flowers, and reproductions of great works of art have proved helpful. After the drug session, the therapist must accept the crucial task of helping the patient integrate what he has learned during this intense, existential experience. Frequently this entails the direct confrontation of problematic situations in the patient's everyday world. Descriptions of this method have been written by Chwelos and co-workers (Chwelos, Blewett, Smith, & Hoffer, 1959), MacLean and co-workers (MacLean, MacDonald, Byrne, & Hubbard, 1961), and Sherwood and co-workers (Sherwood, Stolaroff, & Harman, 1962). Also instructive is Unger's excellent review article (1963) and his description of the English language literature (1964b).

If the claims of therapeutic help from such experiences are substantiated in the controlled, clinical trials now being conducted, the need for, and relevance of, interdisciplinary discussion in this area between psychiatry and religion is accentuated. At the Spring Grove State Hospital in Baltimore, two projects that have been supported by the National Institute of Mental Health are in progress. There the effects of psychedelic therapy are being investigated on two groups of hospitalized patients: chronic alcoholics and severe psychoneurotics. Although the final results must be judged by the statistical evaluation of long-term follow-up studies in comparison with control groups, the early reports are encouraging (Kurland, Unger, & Shaffer, 1967; Savage, 1966). Mystical consciousness is being experienced by these patients, many of whom were not previously interested in either religion or mysticism.

A project in Massachusetts began to investigate the possible effectiveness of psychedelic therapy in the rehabilitation of prisoners, but unfortunately was interrupted and remains incomplete and inconclusive (Leary, Metzner, Presnell, Weil, Schwitzgebel, & Kinne, 1965; Leary & Clark, 1963). It is probable that such a procedure would have the highest chance of success if it were co-ordinated with a treatment program that included job placement.

At the Federal Narcotics Hospital in Lexington, Kentucky, drug addicts have been treated with a combination of LSD and hypnosis-so-called hypnodelic therapy. This technique is now also being applied to chronic alcoholics in a study at the Mendota State Hospital in Madison, Wisconsin (Levine & Ludwig, 1967; Ludwig, 1966).

When LSD was compared with narcotics as a pain-relieving agent for terminal cancer patients at the Cook County Hospital in Chicago (Kast, 1964), a marked analgesic effect was noted; but of greater significance, it appears possible that psychedelic therapy can provide an opportunity for the dying patient to view his life and death in a new perspective (Cohen, 1965). Useful possibilities of working with such experiences by those who care for and minister to the dying open up an area for investigation that has all too often been a depressing embarrassment to physicians in spite of the triumphs of modern medicine and surgery. Because of the unique effects of mystical consciousness upon attitudes and interpersonal relationships, not only the patient, but also his family may be able to approach and view death in a new way. Old barriers and defenses can crumble within the patient, making possible meaningful dialogue with family members and friends concerning issues and feelings of mutual importance. This as yet relatively unexplored area of psychedelic research needs much more attention and careful study. Again the obvious religious implications highlight the intersection of psychiatry and religion.

Even if the therapeutic effectiveness of psychedelic therapy is eventually demonstrated empirically in carefully controlled clinical research, a further problem still remains. As yet there is no adequate theory to explain why the experience of mystical consciousness should facilitate therapy. Some of the researchers have claimed that "the root of the therapeutic effectiveness of the LSD experience is its potential for producing self-acceptance" (Chwelos et al., 1959, p. 589). This view has definite parallels with aspects of Paul Tillich's thought. The renewed sense of self-esteem noted in some patients after such experience may be due to a realignment of ego defenses and boundaries. Alcoholics who have experienced psychedelic mystical consciousness are surprised to discover that they have some internal, intrinsic worth as members of the human race and seem to gain a new self-concept involving goodness and love.

In trying to account for the phenomena associated with mystical consciousness, the concept of regression has been proposed (Prince & Savage, 1965). Such aspects of mystical consciousness as "unity" and "deeply felt positive mood" are certainly suggestive of the prenatal life of a foetus. Theories that dismiss mystical consciousness as "mere regression" or "an oceanic feeling of primary process," however, fail to wrestle with the noetic aspects of "objectivity and reality" and "transcendence of space and time." The mind appears to gain the ability of operating on many levels at once, while grasping interrelations of psychic functioning. The concept of time does not merely lose meaning, but, more impressively, is seen in a new perspective. Subjects assert that they felt "outside of" time, beyond both past and future, as though they were viewing the totality of history from a transcendent vantage point. The feeling of profundity and truth that insights acquire under the influence of psychedelic drugs may be a delusion: but this quality seems to provide the motivation for the patient to affect behavior change, especially if the insight gained holds true for the particular person when examined and tested later when the rational mind is

again in full command. Because the life experience and learning acquired over the years are retained while in this altered state of consciousness, perhaps the term "regression in the service of the ego" is more appropriate.

IMPLICATIONS FOR SOCIETY

As is unfortunately true with many potentially beneficial but powerful discoveries, such as fire or atomic energy, misuse and abuse are possible if the discoveries are improperly handled. The psychedelic drugs are no exception, as the growing black market ominously testifies. There are an increasing number of people who are obtaining these drugs illegally and ingesting them without psychiatric screening, preparation, supervision, or follow-up therapy.

Such practices will inevitably lead to psychiatric casualties as have already been reported in the medical literature (Frosch, Robbins, Stern, 1965). When certain borderline or pre-psychotic persons take psychedelic drugs without capable psychiatric supervision, there is a risk of prolonged psychosis, irresponsible behavior, or suicide. Even persons who are in good physical and mental health can become quite emotionally shaken when they discover that their usual sense of control is suspended. Fighting to overcome the drug effect can lead to intense fear and a psychotic reaction.

Most of the cases coming to psychiatric attention are acute panic reactions that are usually reversible with proper drug treatment and temporary hospitalization. There are also some persons who seem to experience a spontaneous recurrence of the LSD effect months after having last taken the drug. Usually these persons are under stress when the symptoms recur. Although much more rare, the cases of prolonged psychosis following LSD and lasting more than a week are more alarming. A direct, causal relation to LSD cannot always be determined, however, because an examination of the case histories usually reveals severely disturbed persons who probably were in severe psychological trouble prior to taking the drug. Not all persons who seek psychiatric help after LSD, however, are in acute distress or in need of hospitalization. There are also a growing number of persons who mistakenly thought they were in good mental health, but discovered during their drug experience that many repressed problems came to the surface. This realization may encourage such persons to work out their problems, whereas previously they may have denied their reality or sought some form of escape. Paradoxically enough these are people who probably should have been in psychiatric treatment before, but only now are motivated to do so. In the long run, with proper help, many of them may be guided towards better mental adjustment, but at best this is a risk-filled method of self-diagnosis.

In any discussion of the dangers of psychedelic drugs, it is essential to consider the incidence rates of harmful effects. Cohen has collected the only statistics of this nature published to date and found that, in a survey of 5,000 persons who had taken psychedelic drugs a total of 25,000 times, there was a suicide rate of one per 2500 persons among psychiatric patients

undergoing treatment, and no attempted or completed suicides among experimental subjects. Psychotic reactions lasting longer than forty-eight hours had an incidence of one per 555 among patients and one per 1200 among experimental subjects (Cohen, 1960). In commenting on Cohen's statistics, Levine and Ludwig (1964) have emphasized the relative safety of LSD when compared with other methods of psychiatric treatment. Since Cohen's survey was published in 1960, much more has been learned about treatment procedures with LSD-type drugs and the art of avoiding psychotic reactions. With this increased knowledge, coupled with improved therapist training, the use of LSD should become even safer. It must be emphasized, however, that Cohen gathered his data from a survey of doctors engaged in clinical research with these drugs. These statistics and comments, therefore, refer only to the properly controlled, medical use of LSD.

The current increase in dangerous after-effects is almost entirely caused by the indiscriminate use of LSD among untrained persons. Such use takes place outside legitimate research auspices without medical supervision. These very real dangers must not be allowed to obscure the potentials of a powerful therapeutic tool. To offer an analogy, little benefit would be expected to come from an x-ray machine if an untrained person were allowed to shoot x-rays in all directions indiscriminately. In fact, unless the intensity and frequency of the x-rays were carefully controlled, much harm could result in the form of radiation sickness and permanent damage.

Although neither physiological addiction nor tissue damage has been reported in the case of LSD, psychological dependence might be expected if the experience were continually repeated. The intense subjective pleasure and enjoyment, at least of aesthetic forms of experience, could lead to escapism and withdrawal from the world. An experience capable of changing motivation and values might cut the nerve of achievement. Widespread apathy toward productive work and accomplishment could cripple a society. It is unfortunate that, at present, public opinion concerning these drugs is being molded primarily on the basis of the response of the beatnik dimension of society, a dimension that contains many persons already in poor states of mental health. Such persons are accused of numerous forms of irresponsible behavior, and also the sin of quietism—of claiming inspiration, but producing few concrete works of social, literary, or artistic promise.

There are relatively few experimental studies that provide information concerning the possible continuing benefits of psychedelic drug experiences in normal, mentally healthy persons who have already established a responsible and creative position in society. In fact, these people cannot legally take the drugs unless they happen to live near one of the few qualified research projects. Increased legitimate opportunities for both average and gifted people to take these drugs under adequate supervision will be needed before the possible beneficial effects for individual persons and society can be assessed.

Practically speaking, the reality of the black market must be confronted.

LSD can take the form of a clear, odorless, tasteless liquid. It can be quite easily and inexpensively manufactured in a home laboratory by any good organic chemist. Two hundred millionths of a gram constitutes a powerful dose that is no larger than a drop of water. At present there is a 1000% to 3000% mark-up from manufacturer to consumer. So it is that attempts to control the black market by police force face serious obstacles and almost certainly will prove futile. There is, in fact, a growing demand for these drugs, not only among the rebellious element of society, but also among our future leaders who are now attending universities. Many of the sensationalistic articles in the popular press that have presented somewhat slanted accounts of the bizarre and lurid effects of these drugs rather than their potential usefulness have only attracted more interest and curiosity from the very people who should not take the drugs, and have tended to decrease support for responsible investigation.

If the recent estimate is correct that one million doses of LSD will be consumed in the United States in 1966 (Rosenfeld & Farrell, 1966), the usage will probably grow at an even faster rate because each person who has a positive experience will introduce at least one or two of his friends to the drug. Positive experiences are much more common than negative ones, and it is a human fallacy to believe that a bad reaction "won't happen to me." How then can we deal constructively with the problems posed by the black market?

It would seem that not suppression, but informed education and an expanded program of research with an interdisciplinary approach is urgently needed. Education needs a basis of empirically derived facts on which to draw. To gather such facts, concerning both dangers and possible benefits, increased, responsible research in all realms of application is needed before research is stopped because of the growing public hysteria in the face of the black market. We propose carefully controlled studies in which drug dosage, setting, personality variables, experimenter expectation, experimental procedure, and follow-up can be regulated. Only then can answers be found to questions concerning the personality characteristics or disturbances that contraindicate the use of the drugs, the optimal treatment procedures to insure the most beneficial effect, and the best screening procedures to identify persons most likely to be harmed or those who should be singled out for special handling. Patients with various symptoms and relatively normal subjects both need to be intensely studied in such experiments.

Because persons who take the drugs on their own are most interested in aesthetic and mystical experiences, research needs to be focused on the possible benefit or harm resulting from such experiences. Another variable needing elucidation is the effect of frequency of ingestion. It is conceivable that benefit might result from an experience once or twice a year, whereas weekly exposures might cause chronic deleterious changes in personality.

Because these drugs are without a doubt the most powerful psychoactive agents known to man, their use needs to be supervised by persons who have received specialized training. In view of the wide range of potential applications, an interdisciplinary approach to their use is essential. A

training and research center for psychedelic therapists will probably need to be established. The staff of such a center should include psychiatrists, clinical psychologists, and professional religious personnel.

The results of increased knowledge from such research on the drugs may provide an answer to the problem of the black market. If legitimate medical uses and methods are confirmed and the dangers and benefits are determined accurately, socially sanctioned centers for persons desiring this form of human experience can be established. Most persons would then probably prefer the safety of medical supervision to the risk of black-market usage. Admittedly, this kind of solution may lie a long way in the future and will depend upon the results of careful yet imaginative and daring research. But this may be the only way to deal effectively with this problem.

What would be the effect of relatively broad use of the psychedelics in some future decade? Would people become more creative than ever before? If the garbage collector experienced mystical consciousness, would he collect garbage more passionately than ever before, or would he escape to the forest or the university? Could these drugs enrich society or do they threaten to destroy it? If the latter should prove to be the case, are there ways in which this threat can be lessened? These are questions whose crucial answers are at present unknown. Not only are they unknown, but research aimed at finding answers to them is severely limited in the United States.

Religion has long been accused by sociologists of being a prime illustration of the phenomenon of the "cultural lag." Bruno was burned at the stake for his adherence to the Copernican view of the universe. For the same heretical belief, Galileo was condemned and forced to recant, even though the truth of the panoramas he had seen through his telescope were indelibly fixed upon his mind. Similarly, Darwin was condemned for his heretical theory of evolution. Yet, in retrospect, Christian theology, including biblical interpretation, has been greatly enriched by the convictions of these men. New glimpses into the nature of reality always seem first to evoke defensive reactions of fear and, only later, reactions of wonder and praise.

With these drugs, science stands on an awesome threshold. Some religious leaders would undoubtedly consider it improper for man to tread upon the holy ground of the unconscious, protesting against the exploration of "inner space" as they have campaigned against the exploration of outer space. But man's apparent destiny to seek an ever greater comprehension of the nature of reality cannot be thwarted or suppressed. The importance of research proceeding in harmony with the highest known ethical principles, however, is clear. Those who undertake such research carry a heavy responsibility.