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History, Culture and Subjective Experience: An Exploration of the Social Bases of Drug-Induced Experiences

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So-called "drug psychoses" can be interpreted as the anxiety reaction of a naive user occasioned by his fear that the temporary symptoms of drug use represent a permanent derangement of his mind. Participation in a drug-using subculture tends to minimize such occurrences, because other users present the person with alternative explanations of his experience that minimize its lasting effects. A comparison of LSD and marijuana use suggests that the number of drug-induced psychoses varies historically, being a function of the historical development of a subculture.

IN 1938, Albert Hoffman discovered the peculiar effects of lysergic acid diethylamide (LSD-25) on the mind. He synthesized the drug in 1943 and, following the end of World War II, it came into use in psychiatry, both as a method of simulating psychosis for clinical study and as a means of therapy.¹ In the early 1960's, Timothy Leary, Richard Alpert and others began using it with normal subjects as a means of "consciousness expansion." Their work received a great deal of publicity, particularly after a dispute with Harvard authorities over its potential danger. Simultaneously, LSD-25 became available on the underground market and, although no one has accurate figures, the number of people who have used or continue to use it is clearly very large.

The publicity continues and a great controversy now surrounds LSD use. At one extreme, Leary considers its use so beneficial that he has founded a new religion in which it is the major sacrament. At the other extreme, psychiatrists, police and journalists allege that LSD is extremely dangerous, that it produces psychosis, and that persons under its influence are likely to commit actions dangerous to themselves

and others that they would not otherwise have committed. Opponents of the drug have persuaded the Congress and some state legislatures to classify it as a narcotic or dangerous drug and to attach penal sanctions to its sale, possession, or use.

In spite of the great interest in the drug, I think it is fair to say that the evidence of its danger is by no means decisive.² If the drug does prove to be the cause of a

² On this point, to which I return later, the major references are: Sydney Cohen, "Lysergic Acid Diethylamide: Side Effects and Complications," *Journal of Nervous and Mental Diseases*, 130 (January, 1960), pp. 30-40; Sydney Cohen and Keith S. Ditman, "Prolonged Adverse Reactions to Lysergic Acid Diethylamide," *Archives of General Psychiatry*, 8 (1963), pp. 475-480; Sydney Cohen and Keith S. Ditman, "Complications Associated with Lysergic Acid Diethylamide (LSD-25)," *Journal of the American Medical Association*, 181 (July 14, 1962), pp. 161-162; William A. Frosch, Edwin S. Robbins and Marvin Stern, "Untoward Reactions to Lysergic Acid Diethylamide (LSD) Resulting in Hospitalization," *New England Journal of Medicine*, 273 (December 2, 1965), pp. 1235-1239; A. Hoffer, "D-Lysergic Acid Diethylamide (LSD): A Review of its Present Status," *Clinical Pharmacology and Therapeutics*, 6 (March, 1965), pp. 183-255; S. H. Rosenthal, "Persistent Hallucinoses Following Repeated Administration of Hallucinogenic Drugs," *American Journal of Psychiatry*, 121 (1964), pp. 238-244; and J. Thomas Ungerleider, Duke D. Fisher and Marielle Fuller, "The Dangers of LSD: Analysis of Seven Months' Experience in a University Hospital's Psychiatric Service," *Journal of the American Medical Association*, 197 (August 8, 1966), pp. 389-392.

¹ See "D-lysergic Acid Diethylamide—LSD," *Sandoz Excerpta*, 1 (1955), pp. 1-2, quoted in Sanford M. Unger, "Mescaline, LSD, Psilocybin and Personality Change," in David Solomon, editor, *LSD: The Consciousness-Expanding Drug*, New York: Berkley Publishing Corp., 1966, p. 206.

bona fide psychosis, it will be the only case in which anyone can state with authority that they have found *the* unique cause of any such phenomenon; a similar statement applies to causes of crime and suicide. Whatever the ultimate findings of pharmacologists and others now studying the drug, sociologists are unlikely to accept such an asocial and unicausal explanation of any form of complex social behavior. But if we refuse to accept the explanations of others we are obligated to provide one of our own. In what follows, I consider the reports of LSD-induced psychoses and try to relate them to what is known of the social psychology and sociology of drug use. By this means I hope to add both to our understanding of the current controversy over LSD and to our general knowledge of the social character of drug use.

In particular, I will make use of a comparison between LSD use and marihuana use, suggested by the early history of marihuana in this country. That history contains the same reports of "psychotic episodes" now current with respect to LSD. But reports of such episodes disappeared at the same time as the number of marihuana users increased greatly. This suggests the utility of considering the historical dimension of drug use.

I must add a cautionary disclaimer. I have not examined thoroughly the literature on LSD, which increases at an alarming rate.³ What I have to say about it is necessarily speculative with respect to its effects; what I have to say about the conditions under which it is used is also speculative, but is based in part on interviews with a few users. I present no documented conclusions, but do hope that the perspective outlined may help orient research toward generalizations that will fit into the corpus of sociological and social psychological theory on related matters.

THE SUBJECTIVE EFFECTS OF DRUGS

The physiological effects of drugs can be ascertained by standard techniques of

³ Hoffer's recent review of this literature, for which he disclaims completeness, cites 411 references (Hoffer, *op. cit.*).

physiological and pharmacological research. Scientists measure and have explanations for the actions of many drugs on such observable indices as the heart and respiratory rates, the level of various chemicals in the blood, and the secretion of enzymes and hormones. In contrast, the subjective changes produced by a drug can be ascertained only by asking the subject, in one way or another, how he feels. (To be sure, one can measure the drug's effect on certain measures of psychological functioning—the ability to perform some standardized task, such as placing pegs in a board or remembering nonsense syllables—but this does not tell us what the drug experience is like.)⁴

We take medically prescribed drugs because we believe they will cure or control a disease from which we are suffering; the subjective effects they produce are either ignored or defined as noxious side effects. But some people take some drugs precisely because they want to experience these subjective effects; they take them, to put it colloquially, because they want to get "high." These recreationally used drugs have become the focus of sociological research because the goal of an artificially induced change in consciousness seems to many immoral, and those who so believe have been able to transform their belief into law. Drug users thus come to sociological attention as lawbreakers, and the problems typically investigated have to do with explaining their lawbreaking.

Nevertheless, some sociologists, anthropologists and social psychologists have investigated the problem of drug-induced subjective experience in its own right. Taking their findings together, the following conclusions seem justified.⁵ First, many

⁴ See, for instance: New York City Mayor's Committee on Marihuana, *The Marihuana Problem in the City of New York*, Lancaster: Jacques Cattell Press, 1944, pp. 69-77; and C. Knight Aldrich, "The Effect of a Synthetic Marihuana-Like Compound on Musical Talent as Measured by the Seashore Test," *Public Health Reports*, 59 (1944), pp. 431-433.

⁵ I rely largely on the following reports: Howard S. Becker, *Outsiders*, New York: The Free Press, 1963, pp. 41-58 (marihuana); Alfred R. Lindesmith, *Opiate Addiction*, Bloomington: Principia Press, 1947 (opiates); Richard Blum

drugs, including those used to produce changes in subjective experience, have a great variety of effects and the user may single out many of them, one of them, or none of them as definite experiences he is undergoing. He may be totally unaware of some of the drug's effects, even when they are physiologically gross, although in general the grosser the effects the harder they are to ignore. When he does perceive the effects, he may not attribute them to drug use but dismiss them as due to some other cause, such as fatigue or a cold. Marijuana users, for example, may not even be aware of the drug's effects when they first use it, even though it is obvious to others that they are experiencing them.⁶

Second, and in consequence, the effects of the same drug may be experienced quite differently by different people or by the same people at different times. Even if physiologically observable effects are substantially the same in all members of the species, individuals can vary widely in those to which they choose to pay attention. Thus, Aberle remarks on the quite different experiences Indians and experimental subjects have with peyote⁷ and

and associates, *Utopiates*, New York: Atherton Press, 1964 (LSD); Ralph Metzner, George Litwin and Gunther M. Weil, "The Relation of Expectation and Mood to Psilocybin Reactions: A Questionnaire Study," *Psychodelic Review*, No. 5, 1965, pp. 3-39 (psilocybin); David F. Aberle, *The Peyote Religion Among the Navaho*, Chicago: Aldine Publishing Co., 1966, pp. 5-11 (peyote); Stanley Schacter and Jerome E. Singer, "Cognitive, Social and Physiological Determinants of Emotional State," *Psychological Review*, 69 (September, 1962), pp. 379-399 (adrenalin); and Vincent Newlis and Helen H. Newlis, "The Description and Analysis of Mood," *Annals of the New York Academy of Science*, 65 (1956), pp. 345-355 (benzedrine, seconal and dramamine).

Schacter and Singer propose a similar approach to mine to the study of drug experiences, stressing the importance of the label the person attaches to the experience he is having.

⁶ Becker, *op. cit.*

⁷ Aberle, *op. cit.*, and Anthony F. C. Wallace, "Cultural Determinants of Response to Hallucinatory Experience," *Archives of General Psychiatry*, 1 (July, 1959), pp. 58-69 (especially Table 2 on p. 62). Wallace argues that ". . . both the subjective feeling tone and the specific content of the hallucination are heavily influenced by . . . the cultural milieu in which the hallucina-

tion, and particularly the voluntary hallucination, takes place." (P. 62.)

Blum reports a wide variety of experiences with LSD, depending on the circumstances under which it was taken.⁸

Third, since recreational users take drugs in order to achieve some subjective state not ordinarily available to them, it follows that they will expect and be most likely to experience those effects which produce a deviation from conventional perceptions and interpretations of internal and external experience. Thus, distortions in perception of time and space and shifts in judgments of the importance and meaning of ordinary events constitute the most common reported effects.

Fourth, any of a great variety of effects may be singled out by the user as desirable or pleasurable, as the effects for which he has taken the drug. Even effects which seem to the uninitiated to be uncomfortable, unpleasant or frightening—perceptual distortions or visual and auditory hallucinations—can be defined by users as a goal to be sought.⁹

Fifth, how a person experiences the effects of a drug depends greatly on the way others define those effects for him.¹⁰ The total effect of a drug is likely to be a melange of differing physical and psychological sensations. If others whom the user believes to be knowledgeable single out certain effects as characteristic and dismiss others, he is likely to notice those they single out as characteristic of his own experience. If they define certain effects as transitory, he is likely to believe that those effects will go away. All this supposes, of course, that the definition offered the user can be validated in his own experience, that something contained in the drug-induced melange of sensations corresponds to it.

Such a conception of the character of the drug experience has its roots, obviously, in Mead's theory of the self and the relation of objects to the self.¹¹ In that theory,

nation, and particularly the voluntary hallucination, takes place." (P. 62.)

⁸ Blum, *et al.*, *op. cit.*, p. 42.

⁹ See the case cited in Becker, *op. cit.*, pp. 55-56.

¹⁰ The studies cited in footnote 5, *supra*, generally make this point.

¹¹ See George Herbert Mead, *Mind, Self and Society*, Chicago: University of Chicago Press,

objects (including the self) have meaning for the person only as he imputes that meaning to them in the course of his interaction with them. The meaning is not given in the object, but is lodged there as the person acquires a conception of the kind of action that can be taken with, toward, by and for it. Meanings arise in the course of social interaction, deriving their character from the consensus participants develop about the object in question. The findings of research on the character of drug-induced experience are therefore predictable from Mead's theory.

DRUG PSYCHOSES

The scientific literature and, even more, the popular press frequently state that recreational drug use produces a psychosis. The nature of "psychosis" is seldom defined, as though it were intuitively clear. Writers usually seem to mean a mental disturbance of some unspecified kind, involving auditory and visual hallucinations, an inability to control one's stream of thought, and a tendency to engage in socially inappropriate behavior, either because one has lost the sense that it is inappropriate or because one cannot stop oneself. In addition, and perhaps most important, psychosis is thought to be a state that will last long beyond the specific event that provoked it. However it occurred, it is thought to mark a more-or-less permanent change in the psyche and this, after all, is why we usually think of it as such a bad thing. Overindulgence in alcohol produces many of the symptoms cited but this frightens no one because we understand that they will soon go away.

Verified reports of drug-induced psychoses are scarcer than one might think.¹²

1934, and Herbert Blumer, "Sociological Implications of the Thought of George Herbert Mead," *American Journal of Sociology*, 71 (March, 1966), pp. 535-544.

¹² See the studies cited in footnote 2, *supra*, and the following reports of marihuana psychoses: Walter Bromberg, "Marihuana: A Psychiatric Study," *Journal of the American Medical Association*, 113 (July 1, 1939), pp. 4-12; Howard C. Curtis, "Psychosis Following the Use of Marihuana with Report of Cases," *Journal of the Kansas Medical Society*, 40 (1939), pp. 515-517; and Marjorie Nesbitt, "Psychosis Due

Nevertheless, let us assume that these reports have not been fabricated, but represent an interpretation by the reporter of something that really happened. In the light of the findings just cited, what kind of event can we imagine to have occurred that might have been interpreted as a "psychotic episode"? (I use the word "imagine" advisedly, for the available case reports usually do not furnish sufficient material to allow us to do more than imagine what might have happened.)

The most likely sequence of events is this. The inexperienced user has certain unusual subjective experiences, which he may or may not attribute to having taken the drug. He may find his perception of space distorted, so that he has difficulty climbing a flight of stairs. He may find his train of thought so confused that he is unable to carry on a normal conversation and hears himself making totally inappropriate remarks. He may see or hear things in a way that he suspects is quite different from the way others see and hear them.

Whether or not he attributes what is happening to the drug, the experiences are likely to be upsetting. One of the ways we know that we are normal human beings is that our perceptual world, on the evidence available to us, seems to be pretty much the same as other people's. We see and hear the same things, make the same kind of sense out of them and, where perceptions differ, can explain the difference by a difference in situation or perspective.¹³ We may take for granted that the inexperienced drug user, though he wanted to get "high," did not expect an experience so radical as to call into question that common sense set of assumptions.

In any society whose culture contains notions of sanity and insanity, the person who finds his subjective state altered in the way described may think he has become insane. We learn at a young age that

to Exogenous Poisons," *Illinois Medical Journal*, 77 (1940), 278-281.

¹³ See Alfred Schutz, *Collected Papers*, vols. I and II, The Hague: Martinus Nijhoff, 1962 and 1964, and Harold Garfinkel, "A Conception of and Experiments with 'Trust' as a Condition of Stable Concerted Actions," in O. J. Harvey, editor, *Motivation and Social Interaction*, New York: Ronald Press Co., 1963, pp. 187-238.

a person who "acts funny," "sees things," "hears things," or has other bizarre and unusual experiences may have become "crazy," "nuts," "loony" or a host of other synonyms.¹⁴ When a drug user identifies some of these untoward events occurring in his own experience, he may decide that he merits one of those titles—that he has lost his grip on reality, his control of himself, and has in fact "gone crazy." The interpretation implies the corollary that the change is irreversible or, at least, that things are not going to be changed back very easily. The drug experience, perhaps originally intended as a momentary entertainment, now looms as a momentous event which will disrupt one's life, possibly permanently. Faced with this conclusion, the person develops a full-blown anxiety attack, but it is an anxiety caused by his reaction to the drug experience rather than a direct consequence of drug use itself. (In this connection, it is interesting that, in the published reports of LSD psychoses, acute anxiety attacks appear as the largest category of untoward reactions.)¹⁵

It is perhaps easier to grasp what this must feel like if we imagine that, having taken several social drinks at a party, we were suddenly to see varicolored snakes peering out at us from behind the furniture. We would instantly recognize this as a sign of delirium tremens, and would no doubt become severely anxious at the prospect of having developed such a serious mental illness. Some such panic is likely to grip the recreational user of drugs

who interprets his experience as a sign of insanity.

Though I have put the argument with respect to the inexperienced user, long-time users of recreational drugs sometimes have similar experiences. They may experiment with a higher dosage than they are used to and experience effects unlike anything they have known before. This can easily occur when using drugs purchased in the illicit market, where quality may vary greatly, so that the user inadvertently gets more than he can handle.

The scientific literature does not report any verified cases of people acting on their distorted perceptions so as to harm themselves and others, but such cases have been reported in the press. Press reports of drug-related events are very unreliable, but it may be that users have, for instance, stepped out of a second story window, deluded by the drug into thinking it only a few feet to the ground.¹⁶ If such cases have occurred, they too may be interpreted as examples of psychosis, but a different mechanism than the one just discussed would be involved. The person, presumably, would have failed to make the necessary correction for the drug-induced distortion, a correction, however, that experienced users assert can be made. Thus, a novice marijuana user will find it difficult to drive while "high," but experienced users have no difficulty. Similarly, novices find it difficult to manage their relations with people who are not also under the influence of drugs, but experienced users can control their thinking and actions so as to behave appropriately.¹⁷ Although it is commonly assumed that a person under the influence of LSD must avoid ordinary social situations for 12 or more hours, I

¹⁴ See Thomas J. Scheff, *Being Mentally Ill: A Sociological Theory*, Chicago: Aldine Publishing Co., 1966.

¹⁵ See Frosch, *et al.*, *op. cit.*, Cohen and Ditman, "Prolonged Adverse Reactions . . ." *op. cit.*, and Ungerleider, *et al.*, *op. cit.* It is not always easy to make a judgment, due to the scanty presentation of the material, and some of the reactions I count as anxiety are placed in these sources under different headings. Bromberg, *op. cit.*, makes a good case that practically all adverse reactions to marijuana can be traced to this kind of anxiety, and I think it likely that the same reasoning could be applied to the LSD reports, so that such reactions as "hallucination," "depression" and "confused" (to use Ungerleider's categories) are probably reactions to anxiety.

¹⁶ Although LSD is often said to provoke suicide, there is very little evidence of this. Cohen, *op. cit.*, after surveying 44 investigators who had used LSD with over 5,000 patients, says that the few cases reported all occurred among extremely disturbed patients who might have done it anyway; Hoffer, *op. cit.*, remarks that the number is so low that it might be argued that LSD actually lowers the rate among mental patients. Ungerleider reports that 10 of 70 cases were suicidal or suicide attempts, but gives no further data.

¹⁷ See Becker, *op. cit.*, pp. 66-72.

have been told¹⁸ of at least one user who takes the drug and then goes to work; she explained that once you learn "how to handle it" (i.e., make the necessary corrections for distortions caused by the drug) there is no problem.

In short, the most likely interpretation we can make of the drug-induced psychoses reported is that they are either severe anxiety reactions to an event interpreted and experienced as insanity, or failures by the user to correct, in carrying out some ordinary action, for the perceptual distortions caused by the drug. If the interpretation is correct, then untoward mental effects produced by drugs depend in some part on its physiological action, but to a much larger degree find their origin in the definitions and conceptions the user applies to that action. These can vary with the individual's personal makeup, a possibility psychiatrists are most alive to, or with the groups he participates in, the trail I shall pursue here.

THE INFLUENCE OF DRUG-USING CULTURES

While there are no reliable figures, it is obvious that a very large number of people use recreational drugs, primarily marihuana and LSD. From the previous analysis one might suppose that, therefore, a great many people would have disquieting symptoms and, given the ubiquity in our society of the concept of insanity, that many would decide they had gone crazy and thus have a drug-induced anxiety attack. But very few such reactions occur. Although there must be more than are reported in the professional literature, it is unlikely that drugs have this effect in any large number of cases. If they did there would necessarily be many more verified accounts than are presently available. Since the psychotic reaction stems from a definition of the drug-induced experience, the explanation of this paradox must lie in the availability of competing definitions of the subjective states produced by drugs.

Competing definitions come to the user from other users who, to his knowledge,

have had sufficient experience with the drug to speak with authority. He knows that the drug does not produce permanent disabling damage in all cases, for he can see that these other users do not suffer from it. The question, of course, remains whether it may not produce damage in some cases and whether his is one of them, no matter how rare.

When someone experiences disturbing effects, other users typically assure him that the change in his subjective experience is neither rare nor dangerous. They have seen similar reactions before, and may even have experienced them themselves with no lasting harm. In any event, they have some folk knowledge about how to handle the problem.

They may, for instance, know of an antidote for the frightening effects; thus, marihuana users, confronted with someone who has gotten "too high," encourage him to eat, an apparently effective countermeasure.¹⁹ They talk reassuringly about their own experiences, "normalizing" the frightening symptom by treating it, matter-of-factly, as temporary. They maintain surveillance over the affected person, preventing any physically or socially dangerous activity. They may, for instance, keep him from driving or from making a public display that will bring him to the attention of the police or others who would disapprove of his drug use. They show him how to allow for the perceptual distortion the drug causes and teach him how to manage interaction with nonusers.

They redefine the experience he is having as desirable rather than frightening, as the end for which the drug is taken.²⁰ What they tell him carries conviction, be-

¹⁹ Cf. the New York City Mayor's Committee on Marihuana, *op. cit.*, p. 13: "The smoker determines for himself the point of being 'high,' and is over-conscious of preventing himself from becoming 'too high.' This fear of being 'too high' must be associated with some form of anxiety which causes the smoker, should he accidentally reach that point, immediately to institute measures so that he can 'come down.' It has been found that the use of beverages such as beer, or a sweet soda pop, is an effective measure. A cold shower will also have the effect of bringing the person 'down.'"

²⁰ *Ibid.*, and Becker, *op. cit.*

¹⁸ By David Oppenheim.

cause he can see that it is not some idiosyncratic belief but is instead culturally shared. It is what "everyone" who uses the drug knows. In all these ways, experienced users prevent the episode from having lasting effects and reassure the novice that whatever he feels will come to a timely and harmless end.

The anxious novice thus has an alternative to defining his experience as "going crazy." He may redefine the event immediately or, having been watched over by others throughout the anxiety attack, decide that it was not so bad after all and not fear its reoccurrence. He "learns" that his original definition was "incorrect" and that the alternative offered by other users more nearly describes what he has experienced.

Available knowledge does not tell us how often this mechanism comes into play or how effective it is in preventing untoward psychological reactions; no research has been addressed to this point. In the case of marijuana, at least, the paucity of reported cases of permanent damage coupled with the undoubted increase in use suggests that it may be an effective mechanism.

For such a mechanism to operate, a number of conditions must be met. First, the drug must not produce, quite apart from the user's interpretations, permanent damage to the mind. No amount of social redefinition can undo the damage done by toxic alcohols, or the effects of a lethal dose of an opiate or barbiturate. This analysis, therefore, does not apply to drugs known to have such effects.

Second, users of the drug must share a set of understandings—a culture—which includes, in addition to material on how to obtain and ingest the drug, definitions of the typical effects, the typical course of the experience, the permanence of the effects, and a description of methods for dealing with someone who suffers an anxiety attack because of drug use or attempts to act on the basis of distorted perceptions. Users should have available to them, largely through face-to-face participation with other users but possibly in such other ways as reading as well, the definitions contained in that culture, which they can apply in place of the common-

sense definitions available to the inexperienced man in the street.

Third, the drug should ordinarily be used in group settings, where other users can present the definitions of the drug-using culture to the person whose inner experience is so unusual as to provoke use of the common-sense category of insanity. Drugs for which technology and custom promote group use should produce a lower incidence of "psychotic episodes."

The last two conditions suggest, as is the case, that marijuana, surrounded by an elaborate culture and ordinarily used in group settings, should produce few "psychotic" episodes.²¹ At the same time, they suggest the prediction that drugs which have not spawned a culture and are ordinarily used in private, such as barbiturates, will produce more such episodes. I suggest possible research along these lines below.

NON-USER INTERPRETATIONS

A user suffering from drug-induced anxiety may also come into contact with non-users who will offer him definitions, depending on their own perspectives and experiences, that may validate the diagnosis of "going crazy" and thus prolong the episode, possibly producing relatively permanent disability. These non-users include family members and police, but most important among them are psychiatrists and psychiatrically oriented physicians. (Remember that when we speak of reported cases of psychosis, the report is ordinarily made by a physician, though police may also use the term in reporting a case to the press.)

Medical knowledge about the recreational use of drugs is spotty. Little research has been done, and its results are not at the fingertips of physicians who do not specialize in the area. (In the case of LSD, of course, there has been a good deal of research, but its conclusions are not clear and, in any case, have not yet been spread throughout the profession.) Psychiatrists are not anxious to treat drug users, so few of them have accumulated any clinical experience with the phenomenon. Never-

²¹ I discuss the evidence on this point below.

theless, a user who develops severe and uncontrollable anxiety will probably be brought, if he is brought anywhere, to a physician for treatment. Most probably, he will be brought to a psychiatric hospital, if one is available; if not, to a hospital emergency room, where a psychiatric resident will be called once the connection with drugs is established, or to a private psychiatrist.²²

Physicians, confronted with a case of drug-induced anxiety and lacking specific knowledge of its character or proper treatment, rely on a kind of generalized diagnosis. They reason that people probably do not use drugs unless they are suffering from a severe underlying personality disturbance; that use of the drug may allow repressed conflicts to come into the open where they will prove unmanageable; that the drug in this way provokes a true psychosis; and, therefore, that the patient confronting them is psychotic. Furthermore, even though the effects of the drug wear off, the psychosis may not, for the repressed psychological problems it has brought to the surface may not recede as it is metabolized and excreted from the body.

Given such a diagnosis, the physician knows what to do. He hospitalizes the patient for observation and prepares, where possible, for long-term therapy designed to repair the damage done to the psychic defenses or to deal with the conflict unmasked by the drug. Both hospitalization and therapy are likely to reinforce the definition of the drug experience as insanity, for in both the patient will be required to "understand" that he is mentally ill as a precondition for return to the world.²³

The physician then, does *not* treat the anxiety attack as a localized phenomenon, to be treated in a symptomatic way, but as an outbreak of a serious disease heretofore hidden. He may thus prolong the

²² It may be that a disproportionate number of cases will be brought to certain facilities. Ungerleider, *et al.*, *op. cit.*, say (p. 392): "A larger number of admissions, both relative and real, than in other facilities in the Los Angeles area suggests the prevalence of a rumor that 'UCLA takes care of acid heads,' as several of our patients have told us."

²³ See Thomas Szasz, *The Myth of Mental Illness*, New York: Paul B. Hoeber, Inc., 1961.

serious effects beyond the time they might have lasted had the user instead come into contact with other users. This analysis, of course, is frankly speculative; what is required is study of the way physicians treat cases of the kind described and, especially, comparative study of the effects of treatment of drug-induced anxiety attacks by physicians and by drug users.

Another category of non-users deserves mention. Literary men and journalists publicize definitions of drug experiences, either of their own invention or those borrowed from users, psychiatrists or police. (Some members of this category use drugs themselves, so it may be a little confusing to classify them as non-users; in any case, the definitions are provided outside the ordinary channels of communication in the drug-using world.) The definitions of literary men—novelists, essayists and poets—grow out of a long professional tradition, beginning with De Quincey's *Confessions*, and are likely to be colored by that tradition. Literary descriptions dwell on the fantasy component of the experience, on its cosmic and ineffable character, and on the threat of madness.²⁴ Such widely available definitions furnish some of the substance out of which a user may develop his own definition, in the absence of definitions from the drug-using culture.

Journalists use any of a number of approaches conventional in their craft; what they write is greatly influenced by their own professional needs. They must write about "news," about events which have occurred recently and require reporting and interpretation. Furthermore, they need "sources," persons to whom authoritative statements can be attributed. Both needs dispose them to reproduce the line taken by law enforcement officials and physicians, for news is often made by the passage of a law or by a public statement in the wake of an alarming event, such as a bizarre murder or suicide. So journalistic reports frequently dwell on the theme of madness or suicide, a tendency intensified by the

²⁴ For a classic in the genre, see Fitzhugh Ludlow, *The Hasheesh Eater*, New York: Harper and Brothers, 1857. A more modern example is Alan Harrington, "A Visit to Inner Space," in Solomon, *op. cit.*, pp. 72-102.

newspaper's desire to tell a dramatic story.²⁵ Some journalists, of course, will take the other side in the argument, but even then, because they argue against the theme of madness, the emphasis on that theme is maintained. Public discussion of drug use thus tends to strengthen those stereotypes that would lead users who suffer disturbing effects to interpret their experience as "going crazy."

AN HISTORICAL DIMENSION

A number of variables, then, affect the character of drug-induced experiences. It remains to show that the experiences themselves are likely to vary according to when they occur in the history of use of a given drug in a society. In particular, it seems likely that the experience of acute anxiety caused by drug use will so vary.

Consider the following sequence of possible events, which may be regarded as a natural history of the assimilation of an intoxicating drug by a society. Someone in the society discovers, rediscovers or invents a drug which has the properties described earlier. The ability of the drug to alter subjective experience in desirable ways becomes known to increasing numbers of people, and the drug itself simultaneously becomes available, along with the information needed to make its use effective. Use increases, but users do not have a sufficient amount of experience with the drug to form a stable conception of it as an object. They do not know what it can do to the mind, have no firm idea of the variety of effects it can produce, and are not sure how permanent or dangerous the effects are. They do not know if the effects can be controlled or how. No drug-using culture exists, and there is thus no authoritative alternative with which to counter the possible definition, when and if it comes to mind, of the drug experience as madness. "Psychotic episodes" occur frequently.

But individuals accumulate experience

with the drug and communicate their experiences to one another. Consensus develops about the drug's subjective effects, their duration, proper dosages, predictable dangers and how they may be avoided; all these points become matters of common knowledge, validated by their acceptance in a world of users. A culture exists. When a user experiences bewildering or frightening effects, he has available to him an authoritative alternative to the lay notion that he has gone mad. Every time he uses cultural conceptions to interpret drug experiences and control his response to them, he strengthens his belief that the culture is indeed a reliable source of knowledge. "Psychotic episodes" occur less frequently in proportion to the growth of the culture to cover the range of possible effects and its spread to a greater proportion of users. Novice users, to whom the effects are most unfamiliar and who therefore might be expected to suffer most from drug-induced anxiety, learn the culture from older users in casual conversation and in more serious teaching sessions and are thus protected from the dangers of "panicking" or "flipping out."

The incidence of "psychoses," then, is a function of the stage of development of a drug-using culture. Individual experience varies with historical stages and the kinds of cultural and social organization associated with them.

Is this model a useful guide to reality? The only drug for which there is sufficient evidence to attempt an evaluation is marijuana; even there the evidence is equivocal, but it is consistent with the model. On this interpretation, the early history of marijuana use in the United States should be marked by reports of marijuana-induced psychoses. In the absence of a fully formed drug-using culture, some users would experience disquieting symptoms and have no alternative to the idea that they were losing their minds. They would turn up at psychiatric facilities in acute states of anxiety and doctors, eliciting a history of marijuana use, would interpret the episode as a psychotic breakdown. When, however, the culture reached full flower and spread throughout the user population, the number of psychoses should have

²⁵ Examples are J. Kobler, "Don't Fool Around with LSD," *Saturday Evening Post*, 236 (November 2, 1963), pp. 30-32, and Noah Gordon, "The Hallucinogenic Drug Cult," *The Reporter*, 29 (August 15, 1963), pp. 35-43.

dropped even though (as a variety of evidence suggests) the number of users increased greatly. Using the definitions made available by the culture, users who had unexpectedly severe symptoms could interpret them in such a way as to reduce or control anxiety and would thus no longer come to the attention of those likely to report them as cases of psychosis.

Marihuana first came into use in the United States in the 1920's and early '30's, and all reports of psychosis associated with its use date from approximately that period.²⁶ A search of both *Psychological Abstracts* and the *Cumulative Index Medicus* (and its predecessors, the *Current List of Medical Literature* and the *Quarterly Index Medicus*) revealed no cases after 1940. The disappearance of reports of psychosis thus fits the model. It is, of course, a shaky index, for it depends as much on the reporting habits of physicians as on the true incidence of cases, but it is the only thing available.

The psychoses described also fit the model, insofar as there is any clear indication of a drug-induced effect. (The murder, suicide and death in an automobile accident reported by Curtis, for instance, are equivocal in this respect; in no case is any connection with marihuana use demonstrated other than that the people involved used it.)²⁷ The best evidence comes from the 31 cases reported by Bromberg. Where the detail given allows judgment, it appears that all but one stemmed from the person's inability to deal with either the perceptual distortion caused by the drug or with the panic at the thought of losing one's mind it created.²⁸ Bromberg's own interpretation supports this:

In occasional instances, and these are the cases which are apt to come to medical attention, the anxiety with regard to death, insanity, bodily deformity and bodily dissolution is startling. The patient is tense, nervous, frightened; a state of panic may develop. Often suicide or assaultive acts are the result [of the panic]. The anxiety state

is so common . . . that it can be considered a part of the intoxication syndrome.²⁹

The inner relationship between cannabis [marihuana] and the onset of a functional psychotic state is not always clear. The inner reaction to somatic sensation seems vital. Such reactions consisted of panic states which disappeared as soon as the stimulus (effects of the drug) faded.³⁰

Even though Bromberg distinguishes between pure panic reactions and those in which some underlying mental disturbance was present (the "functional psychotic state" he refers to), he finds, as our model leads us to expect, that the episode is provoked by the user's interpretation of the drug effects in terms other than those contained in the drug-using culture.

The evidence cited is extremely scanty. We do not know the role of elements of the drug-using culture in any of these cases or whether the decrease in incidence is a true one. But we are not likely to do any better and, in the absence of conflicting evidence, it seems justified to take the model as an accurate representation of the history of marihuana use in the United States.

The final question, then, is whether the model can be used to interpret current reports of LSD-induced psychosis. Are these episodes the consequence of an early stage in the development of an LSD-using culture? Will the number of episodes decrease while the number of users rises, as the model leads us to predict?

LSD

We cannot predict the history of LSD by direct analogy to the history of marihuana, for a number of important conditions may vary. We must first ask whether the drug has, apart from the definitions users impose on their experience, any demonstrated causal relation to psychosis. There is a great deal of controversy on this point, and any reading of the evidence must be tentative. My own opinion is that LSD has essentially the same characteristics as those described in the first part of

²⁶ Bromberg, *op. cit.*, Curtis, *op. cit.*, and Nesbitt, *op. cit.*

²⁷ Curtis, *op. cit.*

²⁸ See Table 1 in Bromberg, *op. cit.*, pp. 6-7.

²⁹ *Ibid.*, p. 5.

³⁰ *Ibid.*, pp. 7-8.

this paper; its effects may be more powerful than those of other drugs that have been studied, but they too are subject to differing interpretations by users,³¹ so that the mechanisms I have described can come into play.

The cases reported in the literature are, like those reported for marihuana, mostly panic reactions to the drug experience, occasioned by the user's interpretation that he has lost his mind, or further disturbance among people already quite disturbed.³² There are no cases of permanent derangement directly traceable to the drug, with one puzzling exception (puzzling to those who report it as well as to me). In a few cases the visual and auditory distortions produced by the drug reoccur weeks or months after it was last ingested; this sometimes produces severe upset among those who experience it. Observers are at a loss to explain the phenomenon, except for Rosenthal, who proposes that the drug may have a specific effect on the nerve pathways involved in vision; but this theory, should it prove correct, is a long way from dealing with questions of possible psychosis.³³

The whole question is confused by the extraordinary assertions about the effects of LSD made by both proponents and opponents of its use. Both sides agree that it has a very strong effect on the mind, disagreeing only as to whether this powerful effect is benign or malignant. Leary, for example, argues that we must "go out of our minds in order to use our heads,"³⁴ and that this can be accomplished by using LSD. Opponents³⁵ agree that it can drive you out of your mind, but do not share Leary's view that this is a desirable goal. In any case, we need not accept the premise simply because both parties to the controversy do.

Let us assume then, in the absence of more definitive evidence, that the drug does not in itself produce lasting derangement,

that such psychotic episodes as are now reported are largely a result of panic at the possible meaning of the experience, that users who "freak out" do so because they fear they have permanently damaged their minds. Is there an LSD-using culture? In what stage of development is it? Are the reported episodes of psychosis congruent with what our model would predict, given that stage of development?

Here again my discussion must be speculative, for no serious study of this culture is yet available.³⁶ It appears likely, however, that such a culture is in an early stage of development. Several conceptions of the drug and its possible effects exist, but no stable consensus has arisen. Radio, television and the popular press present a variety of interpretations, many of them contradictory. There is widespread disagreement, even among users, about possible dangers. Some certainly believe that use (or injudicious use) can lead to severe mental difficulty.

At the same time, my preliminary inquiries and observations hinted at the development (or at least the beginnings) of a culture similar to that surrounding marihuana use. Users with some experience discuss their symptoms and translate from one idiosyncratic description into another, developing a common conception of effects as they talk. The notion that a "bad trip" can be brought to a speedy conclusion by taking thorazine by mouth (or, when immediate action is required, intravenously) has spread. Users are also beginning to develop a set of safeguards against committing irrational acts while under the drug's influence. Many feel, for instance, that one should take one's "trip" in the company of experienced users who are not under the drug's influence at the time; they will be able to see you through bad times and restrain you when necessary. A conception of the appropriate dose is rapidly becoming common knowledge. Users understand that they may have to "sit up with" people who have panicked as a

³¹ Blum, *et al.*, *op. cit.*, p. 42.

³² See footnote 2, *supra*.

³³ Rosenthal, *op. cit.*

³⁴ Timothy Leary, "Introduction" to Solomon, *op. cit.*, p. 13.

³⁵ Frosch, *et al.*, *op. cit.* and Ungerleider, *et al.*, *op. cit.*

³⁶ The book by Blum, *et al.*, *op. cit.*, attempts this, but leaves many important questions untouched.

result of the drug's effects, and they talk of techniques that have proved useful in this enterprise.³⁷ All this suggests that a common conception of the drug is developing which will eventually see it defined as pleasurable and desirable, with possible untoward effects that can however be controlled.

Insofar as this emergent culture spreads so that most or all users share the belief that LSD does not cause insanity, and the other understandings just listed, the incidence of "psychoses" should drop markedly or disappear. Just as with marihuana, the interpretation of the experience as one likely to produce madness will disappear and, having other definitions available to use in coping with the experience, users will treat the experience as self-limiting and not as a cause for panic.

The technology of LSD use, however, has features which will work in the opposite direction. In the first place, it is very easily taken; one need learn no special technique (as one must with marihuana) to produce the characteristic effects, for a sugar cube can be swallowed without instruction. This means that anyone who gets hold of the drug can take it in a setting where there are no experienced users around to redefine frightening effects and "normalize" them. He may also have acquired the drug without acquiring any of the presently developing cultural understandings so that, when frightening effects occur, he is left with nothing but current lay conceptions as plausible definitions. In this connection, it is important that a large amount of the published material by journalists and literary men places heavy emphasis on the dangers of psychosis.³⁸ It is

also important that various medical facilities have become alerted to the possibility of patients (particularly college students and teenagers) coming in with LSD-induced psychoses. All these factors will tend to increase the incidence of "psychotic episodes," perhaps sufficiently to offset the dampening effect of the developing culture.

A second feature of LSD which works in the opposite direction is that it can be administered to someone without his knowledge, since it is colorless, tasteless and odorless. (This possibility is recognized in recent state legislation which specifies *knowing* use as a crime; no such distinction has been found necessary in laws about marihuana, heroin, peyote or similar drugs.) It is reported, for instance, that LSD has been put in a party punchbowl, so that large numbers of people have suffered substantial changes in their subjective experience without even knowing they had been given a drug that might account for the change. Under such circumstances, the tendency to interpret the experience as a sudden attack of insanity might be very strong.³⁹ If LSD continues to be available on the underground market without much difficulty, such events are likely to continue to occur. (A few apocalyptic types speak of introducing LSD into a city water supply—not at all impossible, since a small amount will affect enormous quantities of water—and thus "turning a whole city on." This might provoke a vast number of "psychoses," should it ever happen.)

In addition to these technological features, many of the new users of LSD, unlike the users of most illicit recreational drugs, will be people who, in addition to never having used any drug to alter their

³⁷ Ungerleider, *et al.*, deny the efficacy of these techniques (pp. 391-392): "How do we know that persons taking LSD in a relaxed friendly environment with an experienced guide or 'sitter' will have serious side effects? We have no statistical data to answer this, but our impression (from our weekly group sessions) is that bad experiences were common with or without sitters and with or without 'the right environment.' This does not minimize the importance of suggestion in the LSD experience."

³⁸ For journalistic accounts, see Kobler, *op. cit.*; Gordon, *op. cit.*; R. Coughlan, "Chemical Mind-Changers," *Life*, 54 (March 15, 1963);

and H. Asher, "They Split My Personality," *Saturday Review*, 46 (June 1, 1963), pp. 39-43. See also two recent novels in which LSD plays a major role: B. H. Friedman, *Yarborough*, New York: Knopf, 1964; and Alan Harrington, *The Secret Swinger*, New York: World Publishing Co., 1966.

³⁹ Cf. Cohen and Ditman, "Complications. . .," *op. cit.*, p. 161: "Accidental ingestion of the drug by individuals who are unaware of its nature has already occurred. This represents a maximally stressful event because the perceptual and ideational distortions then occur without the saving knowledge that they were drug induced and temporary."

subjective experience before, will have had little or nothing to do with others who have used drugs in that way. LSD, after all, was introduced into the United States under very reputable auspices and has had testimonials from many reputable and conventional persons. In addition, there has been a great deal of favorable publicity to accompany the less favorable—the possibility that the drug can do good as well as harm has been spread in a fashion that never occurred with marihuana. Finally, LSD has appeared at a time when the mores governing illicit drug use among young people seem to be changing radically, so that youth no longer reject drugs out of hand. Those who try LSD may thus not even have had the preliminary instruction in being “high” that most novice marihuana users have before first using it. They will, consequently, be even less prepared for the experience they have. (This suggests the prediction that marihuana users who experiment with LSD will show fewer untoward reactions than those who have had no such experience.)⁴⁰

These features of the drug make it difficult to predict the number of mental upsets likely to be “caused” by LSD. If use grows, the number of people exposed to the possibility will grow. As an LSD-using culture develops, the proportion of those exposed who interpret their experience as one of insanity will decrease. But people may use the drug without being indoctrinated with the new cultural definitions, either because of the ease with which the drug can be taken or because it has been given to them without their knowledge, in which case the number of episodes will rise. The actual figure will be a vector made up of these several components.

A NOTE ON THE OPIATES

The opiate drugs present an interesting paradox. In the drugs we have been considering, the development of a drug-using culture causes a decrease in rates of morbidity associated with drug use, for greater knowledge of the true character of the

drug's effects lessens the likelihood that users will respond to those effects with uncontrolled anxiety. In the case of opiates, however, the greater one's knowledge of the drug's effects, the more likely it is that one will suffer its worst effect, addiction. As Lindesmith has shown,⁴¹ one can only be addicted when he experiences physiological withdrawal symptoms, recognizes them as due to a need for drugs, and relieves them by taking another dose. The crucial step of recognition is most likely to occur when the user participates in a culture in which the signs of withdrawal are interpreted for what they are. When a person is ignorant of the nature of withdrawal sickness, and has some other cause to which he can attribute his discomfort (such as a medical problem), he may misinterpret the symptoms and thus escape addiction, as some of Lindesmith's cases demonstrate.⁴²

This example makes clear how important the actual physiology of the drug response is in the model I have developed. The culture contains interpretations of the drug experience, but these must be congruent with the drug's actual effects. Where the effects are varied and ambiguous, as with marihuana and LSD, a great variety of interpretations is possible. Where the effects are clear and unmistakable, as with opiates, the culture is limited in the possible interpretations it can provide. Where the cultural interpretation is so constrained, and the effect to be interpreted leads, in its most likely interpretation, to morbidity, the spread of a drug-using culture will increase morbidity rates.

CONCLUSION

The preceding analysis, to repeat, is supported at only a few points by available research; most of what has been said is speculative. The theory, however, gains credibility in several ways. Many of its features follow directly from a Meadian social psychology and the general plausibility of that scheme lends it weight. Furthermore, it is consistent with much of what social scientists have discovered about the

⁴⁰ Negative evidence is found in Ungerleider, *et al.*, *op. cit.* Twenty-five of their 70 cases had previously used marihuana.

⁴¹ Lindesmith, *op. cit.*

⁴² *Ibid.*, cases 3, 5 & 6 (pp. 68–69, 71, 72).

nature of drug-induced experiences. In addition, the theory makes sense of some commonly reported and otherwise inexplicable phenomena, such as variations in the number of "psychotic" episodes attributable to recreational drug use. Finally, and much the least important, it is in accord with my haphazard and informal observations of LSD use.

The theory also has the virtue of suggesting a number of specific lines of research. With respect to the emerging "social problem" of LSD use, it marks out the following areas for investigation: the relation between social settings of use, the definitions of the drug's effects available to the user, and the subjective experiences produced by the drug; the mechanisms by which an LSD-using culture arises and spreads; the difference in experiences of participants and non-participants in that culture; the influence of each of the several factors described on the number of harmful effects attributable to the drug; and the typical response of physicians to LSD-induced anxiety states and the effect of that response as compared to the response made by experienced drug culture participants.

The theory indicates useful lines of research with respect to other common drugs as well. Large numbers of people take tranquilizers, barbiturates and amphetamines. Some frankly take them for "kicks" and are participants in drug-using cultures built around those drugs, while others are respectable middleclass citizens who probably do not participate in any "hip" user culture. Do these "square" users have some shared cultural understandings of their own with respect to use of these drugs? What are the differential effects of the drugs—both on subjective experience and on rates of morbidity associated with drug use—among the two classes of users? How do physicians handle the pathological effects of these drugs, with

which they are relatively familiar, as compared to their handling of drugs which are only available illicitly?

The theory may have implications for the study of drugs not ordinarily used recreationally as well. Some drugs used in ordinary medical practice (such as the adrenocortical steroids) are said to carry a risk of provoking psychosis. It may be that this danger arises when the drug produces changes in subjective experience which the user does not anticipate, does not connect with the drug, and thus interprets as signs of insanity. Should the physician confirm this by diagnosing a "drug psychosis," a vicious circle of increasing validation of the diagnosis may ensue. The theory suggests that the physician using such drugs might do well to inquire carefully into the feelings that produce such anxiety reactions, interpret them to the patient as common, transient and essentially harmless side effects, and see whether such action would not control the phenomenon. Drugs that have been incriminated in this fashion would make good subjects for research designed to explore some of the premises of the argument made here.

The sociologist may find most interesting the postulated connection between historical stages in the development of a culture and the nature of individual subjective experience. Similar linkages might be discovered in the study of political and religious movements. For example, at what stages in the development of such movements are individuals likely to experience euphoric and ecstatic feelings? How are these related to shifts in the culture and organization of social relations within the movement? The three-way link between history, culture and social organization, and the person's subjective state may point the way to a better understanding than we now have of the social bases of individual experience.