It must be explicitly stated that some individuals should never take drugs of this category, and that one's friends are not suitable judges of suitable candidates. Furthermore, a secure environment is essential for the protection of the subject who takes LSD, since he is vulnerable, hypersuggestible, and emotionally labile. In the hands of experts these agents are relatively safe, but they are potent mind-shakers which should not be lightly or frivolously consumed. —Sidney Cohen, 1966

A voyage like this one might be expected to produce some casualties. The controversy about how many and what kinds, how serious they are, how they are caused, and how they can be prevented has been one of the noisiest of all those surrounding psychedelic drugs. Leary professed to believe that only one in ten thousand trips does any harm, and then mainly because of fears created by establishment propaganda. But the American Psychiatric Association declared in 1966 that "the indiscriminate consumption of this hazardous drug can and not infrequently does lead to destructive physiological and personality changes" (Schwarz 1968, p. 181), and even stronger language came from politicians and the popular press. It is hard to say whether the eulogies of their proponents or the denunciations of their opponents were more effective in getting psychedelic drugs outlawed. Advocates committed to psychedelic messianism would not admit any dangers at all, and offended orthodoxy tended to overreact to the provocation. There was defensive denial and projection on both sides. Drug users would not confess that they had any problems, because doubts and regrets were supposed to be a sign of rigidity or repression or some other inadmissible personal problem. Antidrug crusaders would not admit that there was such a thing as a good trip or an insight to be derived from psychedelic drugs. Both the seductive publicity and the angry overreaction are now in the past, and we are in a better position than ever to evaluate the real dangers; the street experience of the sixties is available as evidence, and yet it is far enough away so that neither the spectacular eccentricities of the drug culture nor the irrationality of some reactions to it can overwhelm judgment.

Acute Adverse Reactions

In the last chapter we quoted some striking examples of the most common unpleasant effect of psychedelic drugs, the bad trip. It has been divided into four categories: sensory and social, somatic, psychological, and metaphysical (McCabe 1977). In the last two, reality-testing may be impaired to the point where it makes sense to speak of psychosis. The worst kind of
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Written by Lester Grinspoon

Psychological reaction is a fixed intense emotion or distorted thought that can seem like an eternity of hell; for example, remorse, suspicion, delusions of persecution or of being irreversibly insane. The metaphysical bad trip is a devastating extension of this in which everything is implicated in the drug taker's misery, his wretched feelings are seen as revelations of the ultimate nature of the universe, and he experiences some version of what mystics have called the dark night of the soul.

Although no clinical term is quite appropriate, the closest one would actually be "acute anxiety reaction" or "acute paranoid reaction"; the acute panic reaction to marihuana is a mild form of bad trip without true psychotic symptoms. Bad trips do not outlast the immediate effect of the drug: in the case of LSD, they last at most twenty-four hours. It is important to keep in mind that they are not adverse drug reactions in the narrow sense of something completely unintended and unexpected. Even the best of trips may include moments of considerable anxiety or depression, and every psychedelic drug user knows that eventually he may have a trip dominated by painful or frightening feelings: they are hardly more avoidable than fear when climbing a mountain or pain when running a marathon. It is surprising how quick the recovery can be from even the most harrowing psychedelic experience, and how few the residual effects usually are. In fact, bad trips are often regarded as more valuable than good ones, on the ground that they teach the drug taker more about himself; the suffering has the great virtue of not seeming meaningless. In one study of LSD users, 24 percent of the subjects had what they considered bad trips, and 50 percent considered the bad trips beneficial (McGlothlin and Arnold 1971, p. 47). The psychedelic therapeutic tradition, from primitive shamans to modern psychiatrists, has always used suffering as a means of learning and self-transformation. Coping with a bad trip often gives the drug taker a sense of accomplishment and insight into the sources of his fears and failings. In other words, a bad trip is not necessarily considered even a bad thing, much less an adverse drug reaction in the clinical sense.

The variety of bad trips is almost as great as the variety of human suffering. Prolonged adverse reactions to psychedelic drugs are just as protean and defy diagnostic classification just as much. In fact, one way of looking at them is on a continuum: prolonged, more or less attenuated, or more or less intermittent bad trips. As the defenses of the ego are altered, repressed feelings and memories rise into consciousness, and they may create enough anxiety to disrupt the organization of the mind. Almost always, the defenses are reconstituted when the drug's influence wears off; but if the drug user's personality is unstable or the situation unsuitable—if the set and setting are wrong—the disorganization may persist or return under stress, as a kind of continuation of the unfinished psychedelic experience. The result is a great variety of altered mental states, from a mild recurrence of some drug-induced perceptual change to depersonalization or outright psychosis. These reactions are usually limited in duration, and they usually end at most a few months after psychedelic drug use stops.
By far the most common of these altered states is the spontaneous recurrence or flashback. Studies of flashbacks are hard to evaluate because the term has been used so loosely and variably. On the broadest definition, it means the transitory recurrence of emotions and perceptions originally experienced while under the influence of a psychedelic drug. It can last seconds or hours; it can mimic any of the myriad aspects of a trip; and it can be blissful, interesting, annoying, or frightening. Most flashbacks are episodes of visual distortion, time distortion, physical symptoms, loss of ego boundaries, or relived intense emotion lasting a few seconds to a few minutes. Ordinarily they are only slightly disturbing, especially since the drug user usually recognizes them for what they are; they may even be regarded lightheartedly as "free trips." Occasionally they last longer, and in a small minority of cases they turn into repeated frightening images or thoughts. They usually decrease quickly in number and intensity with time, and rarely occur more than a few months after the original trip.

A typical minor and pleasant flashback is the following:

... Frequently afterward there is a momentary opening- (-flash- would be too spastic a word) when for maybe a couple of seconds an area one is looking at casually, and indeed unthinkingly, suddenly takes on the intense vividness, composition, and significance of things seen while in the psychedelic condition. This -scene- is nearly always a small field of vision—sometimes a patch of grass, a spray of twigs, even a piece of newspaper in the street or the remains of a meal on a plate. (Cohen 1970 [1965], pp. 114-115)

Here are two more troublesome examples:

For about a week I couldn't walk through the lobby of A-entry at the dorm without getting really scared, because of the goblin I saw there when I was tripping. (Pope 1971, p. 93)

A man in his late twenties came to the admitting office in a state of panic. Although he had not taken any drug in approximately 2 months he was beginning to re-experience some of the illusory phenomena, perceptual distortions, and the feeling of union with the things around him that had previously occurred only under the influence of LSD. In addition, his wife had told him that he was beginning to "talk crazy," and he had become frightened. . . . He was concerned lest LSD have some permanent effect on him. He wished reassurance so that he could take it again. His symptoms have subsided but tend to reappear in anxiety-provoking situations. (Frosch et al. 1965, p. 1237)
Flashbacks are most likely to occur under emotional stress or at a time of altered ego functioning; they are often induced by conditions like fatigue, drunkenness, marihuana intoxication, and even meditative states. Falling asleep is one of those times of consciousness change and diminished ego control; an increase in the hypnagogic imagery common at the edge of sleep often follows psychedelic drug use and can be regarded as a kind of flashback. Dreams too may take on the vividness, intensity, and perceptual peculiarities of drug trips; this spontaneous recurrence of psychedelic experience in sleep (often very pleasant) has been called the high dream (Tart 1972). Marihuana smoking is probably the most common single source of flashbacks. Many people become more sensitive to the psychedelic qualities of marihuana after using more powerful drugs, and some have flashbacks only when smoking marihuana (Weil 1970). In one study frequency of marihuana use was found to be the only factor related to drugs that was correlated with number of psychedelic flashbacks (Stanton et al. 1976).

How common flashbacks are said to be depends on how they are defined. By the broad definition we have been using, they occur very often; probably a quarter or more of all psychedelic drug users have experienced them. A questionnaire survey of 2,256 soldiers (Stanton and Bardoni 1972), leaving the definition to the respondents, revealed that 23 percent of the men who used LSD had flashbacks. In a 1972 survey of 235 LSD users, Murray P. Naditch and Sheridan Fenwick found that 28 percent had flashbacks. Eleven percent of this group (seven men in all) called them very frightening, 32 percent called them somewhat frightening, 36 percent called them pleasant, and 21 percent called them very pleasant. Sixty-four percent said that their flashbacks did not disrupt their lives in any way; 16 percent (4 percent of the whole LSD-using group) had sought psychiatric help for them (Naditch and Fenwick 1977). In a study of 247 subjects who had taken LSD in psychotherapy, William H. McGlothlin and David O. Arnold found 36 cases of flashbacks, only one of which was seriously disturbing (McGlothlin and Arnold 1971). McGlothlin, defining flashbacks narrowly for clinical purposes as "repeated intrusions of frightening images in spite of volitional efforts to avoid them" (McGlothlin 1974b, p. 291), estimates that 5 percent of habitual psychedelic drug users have experienced them.

There are few studies on the question of who is most susceptible. In 1974, R. E. Matef and R. Kra11 compared psychedelic drug users who had flashbacks with those who did not, and found no significant differences in their biographies or on personality tests. The main causes of flashbacks were stress and anxiety. About 35 percent found them more or less pleasant, and the same proportion thought they could control them. Most accepted them as an inevitable part of their lives as members of the psychedelic fraternity and did not want help from psychiatry (Matef y and Krall 1974). Naditch and Fenwick found that the number of flashbacks, both pleasant and unpleasant, was highly correlated with the number and intensity of bad trips and the use of psychedelic drugs as self-prescribed psychotherapy. Those who enjoyed flashbacks
and those who were frightened by them did not differ significantly on tests of ego functioning.

A case seen in an outpatient setting in the late sixties illustrates the kind of set and setting that may create flashback problems. PQ was a thirty-six-year-old single man who entered therapy because of depression and anxiety. He was a heavy drinker who was passive, slovenly, and spent most of his time in bed. Just before taking to alcohol and his bed he had failed in an attempt to parlay a gift from his wealthy father into a fortune on the stock market. Despite a remarkable incapacity for insight, during a year in psychotherapy he managed to give up alcohol and start a promising business. But his anxiety continued, and in order to allay it he had to keep himself very busy wheeling and dealing. Imitating his father, a successful self-made man who had married a woman twenty years younger than himself, PQ dated only women under the age of nineteen. Being attractive to young women was so important to him that much of his time was spent in the company of teenagers. During business hours he would wear a conservative three-piece suit and drive a new sedan, but when he was with his young friends he would wear a leather jacket and drive a motorcycle. Anxiety and fears of inadequacy dominated both of these lives. Several months after therapy began, during a weekend in a small resort town, his young friends decided to take LSD, and he felt obliged to dissemble his fears and join them; it was his first and only trip. He felt a panic he had never known before; he thought that he was losing his mind and going out of control. His friends were so concerned that they took him to a small hospital, where he was given chlorpromazine and after six hours released in their care. The next day he had a flashback that lasted one or two hours and was almost as frightening as the original experience. Flashbacks continued for six months, their frequency, duration, and severity eventually diminishing to the point where it was difficult for him to determine whether they were related to the LSD trip or merely an intensification of his usual anxiety. In fact, the patient described the flashbacks as being like very much enhanced anxiety episodes. Even several years after this experience, when he became very anxious, he was reminded of the trip and these flashbacks. He denied that these experiences had any perceptual or cognitive aspect; both during the LSD trip and later, the only symptom was panic. There is no question that the nature of his trip was influenced by the unfortunate set and setting. It is a matter of speculation what part his underlying chronic anxiety played in the development and form of the flashback phenomena.

Several explanations for flashbacks have been proposed. One is that the drug has lowered the threshold for imagery and fantasy and made them less subject to voluntary control; in another version of this explanation, flashbacks are caused by a heightened attention to certain aspects of immediate sensory experience suggested by drug trips and reinforced by the community of drug users. Something more seems to be needed to account for repeated fearful re-livings of sequences from past drug trips, and these have been explained as similar to traumatic neuroses precipitated by fright: disturbing unconscious material has risen to consciousness during the drug trip and can be neither accepted nor repressed. For example, D. R. Saidel and R. Babineau (1976) have reported a case of recurrent flashbacks—three years of blurring images and auditory distortions, with some anxiety and confusion—which they regard as a
neurosis founded on the patient's problems with his career and his relationship to his mother. (See also Horowitz 1969; Shick and Smith 1970; Heaton 1975.) Another explanation treats the flashback as an example of recall associated with a particular level of arousal (Fischer 1971). In this conception the memory of an experience is best retrieved when the rate of mental data-processing is the same as it was during the original experience—in other words, when the state of consciousness is similar. Therefore psychedelic experiences are likely to be recalled and relived when the ego's sorting and control of sensory information is disturbed by drugs, stress, or the state of half-sleep.1

Prolonged adverse reactions to psychedelic drugs present the same variety of symptoms as bad trips and flashbacks. They have been classified as chronic anxiety reactions, depressive reactions, and psychoses. The psychiatric reports are almost all from the late 1960s and early 1970s, and there are considerable problems of diagnosis and etiology. For example, many of the reported reactions seem to have been simply bad trips that drove to mental hospitals people who had not learned how to handle them. In 1967 R. G. Smart and K. Bateman summarized all the clinical case reports of adverse reactions that had appeared in the psychiatric literature up to that time. In twenty-one papers, 225 adverse reactions were reported, including 142 prolonged psychoses with hallucinations and paranoid delusions, 39 acute panic reactions, and 17 depressions. Most were short-lived, ending in forty-eight hours or less; this raises the suspicion that some of them are best described as bad trips (Smart and Bateman 1967). There is other evidence that the most common reason for admission to hospital emergency rooms after LSD use is disruptive or bizarre behavior while under the influence of the drug. In 1973 John A. H. Forrest and Richard A. Tarala reported sixty admissions to the Edinburgh Regional Poisoning Treatment Center in Scotland over the period from January 1971 to July 1973 in which LSD was a possible factor. Most of the patients had low incomes and little education; 40 percent were unemployed and 39 percent had police records. Fifty-six of the sixty were discharged within twenty-four hours, and only 16 percent were thought to need psychiatric treatment; twenty of them had been using alcohol as well (Forrest and Tarala 1973).

William A. Frosch and his colleagues studied twelve of the twenty-seven patients admitted with LSD reactions to Bellevue Hospital Psychiatric Division in New York from March to June 1965. There were seven panic reactions, three flashbacks, and three psychoses. At least five of these patients were judged to have been psychotic before they took LSD, and the three who needed prolonged hospitalization had all clearly been chronic schizophrenics before taking the drug (Frosch et al. 1965). The same researchers later examined a new sample of twenty-seven patients admitted in 1966, and found eleven panic reactions, eight flashbacks, and eight psychoses. Of these eight, five had been psychotic before; three had been seriously disturbed but probably not psychotic (Robbins, Frosch, et al. 1967; see also Robbins, Robbins et al. 1967).

Walter Tietz examined forty-nine lower-class patients admitted to a Los Angeles hospital from April to June 1966 for complications following the use of LSD. Most were described as acute panic reactions (fifteen) or an extended psychosis (twenty-eight) that was almost indistinguishable from acute schizophrenia. The symptoms sometimes first appeared as late as three months after the last dose of LSD. None of the patients had been admitted to a hospital for a mental disorder before (Tietz 1967).
A study published in 1972 by K. Dewhurst and J. A. Hatrick throws a different light on prolonged adverse psychedelic reactions. Their sixteen hospitalized patients suffered from "philosophical delusions," intense visual hallucinations, and what the authors call a striking variety of affective and neurotic symptoms; often they had at least partial insight into the nature of their problems. Many of them received electroconvulsive therapy, and the average hospital stay was five and one-half weeks (Dewhurst and Hatrick 1972). The symptoms described by Hatrick and Dewhurst resemble a classical psychosis less than a prolonged and intensified bad trip or flashback; the presence of insight (ability to test reality) and the predominance of visual hallucinations are not characteristic of psychosis. Others too have noted that the prolonged LSD reaction, psychotic or not, often is clinically similar, to the immediate effect of the drug itself. Peter Hays and J. R. Tilley compared 114 chronic schizophrenics with 15 patients who developed a psychosis at some time in the year following an LSD trip. In the second group they found more visual and fewer auditory hallucinations, less flat affect (dulled emotional expression), and fewer sensations of being controlled by an external force'. The most common symptoms were difficulty in concentration, visual illusions or pseudohallucinations, anxiety, depression, and delusions. The authors say nothing about how long these psychotic reactions lasted (Hays and Tilley 1973).

The literature on prolonged LSD reactions is curiously short of interesting case histories, possibly because it is so hard to define any specific symptoms typically produced by LSD. An example of a short-lived panic reaction:

A 21-year-old woman was admitted to the hospital along with her lover. He had had a number of LSD experiences and had convinced her to take it to make her less constrained sexually. About half an hour after ingestion of approximately 200 microgm., she noticed that the bricks in the wall began to go in and out and that the light affected her strangely. She became frightened when she realized that she was unable to distinguish her body from the chair she was sitting on or from her lover's body. Her fear became more marked after she thought that she would not get back into herself. At the time of admission she was hyperactive and laughing inappropriately. Stream of talk was illogical and affect labile. Two days later, this reaction had ceased. However, she was still afraid of the drug and convinced that she would not take it again because of her frightening experience. (Frosch et al. 1965, p. 1236)

A longer-lasting depressive reaction:

The subject was a psychoanalyst who took 100 mcg in order to experience the LSD state.
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For the next eight months, he presented a picture of a hypochondriacal agitated depression. He complained of weakness, back pain, and leg cramps. For a long time he was convinced that a coronary occlusion had occurred. This was never confirmed by laboratory tests. He was restless, anxious, and unhappy. He ruminated about the possibility that he had revealed damaging unconscious material during the LSD period. He made a slow but complete recovery. (Cohen and Ditman 1963, p. 74)

A chronic anxiety state, without true psychotic symptoms like delusions:

After much persuasion by his friends a twenty-year-old university student took 150 micrograms of LSD. It was an interesting but disturbing time." Thereafter it became very difficult for him to study or concentrate, and he decided to drop out of school. He was able to continue his part-time job as a stock clerk. There were strong feelings of the meaninglessness of life and he said that he was -philosophically confused." Some days he felt normal again for a few hours, but then the strange, moving, compressing walls and time standing still made him fear he was going crazy. He had occasional thoughts of self-destruction. He would become upset and panicky, break out into a sweat and sometimes freeze in terror. With considerable support, strong reassurance and tranquilizer therapy, the condition subsided six months after the LSD session, (Cohen 1970 [1965], p. 192)

A manic-depressive psychosis that may have been in part precipitated by LSD:

An attractive, 18-year-old single female who, six months prior to her hospitalization, was a gregarious, popular, active and high achieving high school senior. At that time she began to experiment with drugs—LSD, amphetamines, and marihuana—and within months her behavior changed as she became noticeably more active, restless, and talkative. . . . Following the ingestion of LSD at a graduation party, her behavior became markedly different. She was sleepless, constantly active, talkative and frequently unintelligible. Her parents sought psychiatric help and within three days of return home she was hospitalized. Evaluation on admission revealed the patient to be disoriented to time and place, agitated, impulsive and hyperactive, with idiosyncratic and sexually suggestive gesturing and posturing. She was sexually preoccupied, making several attempts to disrobe and make sexual advances toward male staff. Her mood and affect were labile and inappropriate, swinging abruptly between tearful depression and laughing euphoria. Cognition was grossly disturbed, the stream of ideas being irrational and incoherent, the content being delusional. The content of the delusions was predominantly depressive, centering on the patient's belief that she was pregnant, in conflict with the devil, and was going to die of cancer. Auditory and visual hallucinations were present. (Horowitz 1975, p. 162)
She was successfully treated with lithium after phenothiazines proved ineffective.

Another apparent LSD-induced psychosis:

A twenty-year-old unmarried male had graduated from junior college and was working steadily in a supermarket. He had had some brief psychiatric assistance for excessive shyness when he was nine years old. New experiences frightened him, but routine tasks were well performed. LSD had been taken four times, on the last occasion three weeks previously in a dose of 450 micrograms. Since that time he had been incoherent and agitated, behaving bizarrely and obviously hallucinating. He refused food because he was convinced that he was the New Messiah and therefore did not require sustenance. Later a trial of chlorpromazine at a county hospital was ineffective, and he was committed to a state hospital. Often he was seen curled up in a fetal position. After a long course of a phenothiazine combined with group psychotherapy he improved and was awaiting discharge at the time of the last contact. (Cohen 1970 [1965], pp. 193-194)

This man is presented as having "no previous adjustment or personality difficulties," but the reference to excessive shyness and a fear of new experiences raises some doubt. In another publication he is described as an "adjusted schizophrenic" (Alpert et al. 1966, p. 25).

A case we saw at the Massachusetts Mental Health Center in Boston in 1977 illustrates some aspects of the prolonged LSD reaction. A twenty-two-year-old clerk was brought to the hospital by her boy friend. After an argument with him, she had taken LSD at a friend's house and had a bad trip. Since then her thought and speech had been odd and her manner childish; four nights later her behavior became bizarre and panicky while she was smoking marihuana, and they decided to come to the hospital. On arrival she was frightened and clinging, talked of being pregnant and of having killed her parents, asked everyone to hold hands, and wanted to lie down on the floor. After a sleepless night at home she was admitted the next morning to the hospital. She alternated between periods of relative lucidity in which she reported that her thoughts were racing and she acknowledged fear, and a psychotic state with symptoms like severely agitated behavior, loose associations, ideas of reference, bizarre hand motions, spinning movements, mutism, and delusions about the date and her age ("I was born in 1971 and I am five years old"). The lucid intervals differentiated this episode from most acute schizophrenia; it was never decided whether the proper diagnosis was acute psychosis or prolonged LSD reaction. Treated with chlorpromazine, she recovered gradually and was discharged a month after admission; two weeks later, after some hesitation, she decided to quit
her job, live with her parents in another city, and return to school.

It was clear from her history that she had taken LSD at a moment of crisis.

Her family had refused to give her money for college while she was living with a man and had urged her to marry him or leave. She said that she had had three abortions in the past year and expressed guilt about them during her psychosis. She had been quarreling with her lover, both of them had been unfaithful, and she feared that he and his family would abandon her. Apparently the LSD magnified her anxiety and guilt to the point of psychosis; she recognized the seriousness of the situation and the need to make changes in her life.

Frequency and Causes of Acute Adverse Reactions

Because of inadequate reporting and problems in interpreting symptoms and causes, it is hard to tell how common adverse reactions are. The few available surveys must be interpreted cautiously. One comes from the UCLA Neuropsychiatrie Institute in Los Angeles, which attracted an unusually large number of psychedelic drug users in the late 1960s because it was considered a good source of advice and help. From September 1965 to March 1966, seventy patients came to the emergency room for whom LSD was mentioned in the diagnosis or implicated as related; only sixteen of them had taken LSD in the week before they appeared at the hospital, although many blamed it for their symptoms—mostly anxiety, depression, hallucinations, and confusion. Twenty-five of the seventy had to be hospitalized, and twelve remained in the hospital more than a month; 36 percent were diagnosed as psychotic, 21 percent as neurotic, and 18 percent as character disorders (Ungerleider et al. 1968). From April 1966 to September 1967 another 115 patients with psychedelic drug reactions (apparently defined in the same way) were seen in the emergency room (Ungerleider 1969). At Bellevue Hospital in New York from early 1965 to early 1967, 200 patients appeared with complaints related to LSD—mostly panic reactions and flashbacks (Frosch 1969). By 1969 Bellevue was seeing only one LSD reaction every two weeks, and most of these were thought to be borderline schizophrenics in whom the drug had precipitated a psychosis (Stern and Robbins 1969). A 1971 Canadian government survey of the hospital records of 22,885 psychiatric patients found sixty-seven cases (0.3 percent) where LSD was mentioned as a factor in the primary diagnosis; most of these patients had used many drugs, and the precise influence of LSD was often unclear (Final Report 1973, p. 378).

A questionnaire survey by J. Thomas Ungerleider and his colleagues suggests a much larger
number of adverse reactions. The period covered was July 1, 1966, to January 1, 1968, and the questionnaire was sent to 2,700 physicians, psychiatrists, psychologists, and other health professionals in Los Angeles County. Of the 1,584 who replied, 27 percent (including 47 percent of the psychiatrists) had seen adverse reactions to LSD; the total number of adverse reactions was 8,958 (Ungerleider et al. 1968). Unfortunately, the definition of adverse reaction was left to the respondents, and the effect, the authors suggest, was probably to define anything that made a drug user seek professional help as an adverse reaction. The prevailing social attitudes have to be taken into account; for example, it is suspicious that in the same survey 1,887 adverse reactions to marihuana were reported. Many of the "adverse reactions" must have been nothing more than difficult moments during drug trips that were mentioned in psychiatric interviews because they seemed relevant to the problem under discussion; some may have been simply drug-induced insights that made people believe they needed help.

The number of serious adverse reactions to LSD has apparently decreased at a faster rate than the use of the drug. In a random sample of 2,500 men in their twenties surveyed from October 1974 to May 1975, 1.3 percent of those who had used psychedelic drugs (seven men in the entire sample) had had psychiatric treatment for problems arising from that use; and in this survey no distinction was made between LSD and PCP (O'Donnell et al. 1976). LSD seems to be a very minor drug abuse problem today.

As the experiments of Barr and Langs relating LSD effects to personality type suggest, the most likely candidates for adverse reactions are schizoid and prepsychotic personalities with a barely stable ego balance and a great deal of anxiety, who cannot cope with the perceptual changes, body-image distortions, and symbolic unconscious material produced by the drug. In a comparison between twenty-one LSD psychoses and twenty-one acute schizophrenic episodes, the two groups of patients were found to be indistinguishable in personality, previous history, and outcome (Lavender 1974). Murray P. Naditch has found through questionnaires that adverse reactions to LSD and marihuana (defined essentially as bad trips—strong unpleasant feelings, panic, fear of insanity or death, thoughts of suicide) are associated with high scores on psychological test scales representing schizophrenic tendencies, social maladjustment, and regression (Naditch 1975). Naditch and his colleagues also found that most elements of setting usually considered important in determining adverse reactions had no significant effect. Absence of close friends, the need to conceal having taken the drug because one was in a public place, and the presence of other people having bad trips did not make adverse reactions more likely (Naditch et al. 1975). The only significant setting variable was taking the drug reluctantly on the insistence of friends while in an emotionally troubled state (as in the case of PQ discussed earlier).

The high rate of mental instability in patients hospitalized for LSD reactions confirms the impression created by these studies. L. J. Hekimian and Samuel Gershon examined forty-seven
patients admitted to Bellevue Hospital between January and July 1967 after using a psychedelic drug in the preceding forty-eight hours. In thirty-one cases psychotic conditions already present were intensified. Ultimately thirty-two were diagnosed as schizophrenic, four as schizoid, six as sociopaths, and five as depressive or neurotic. The authors were struck by the frequency of preexisting schizophrenia (Hekimian and Gershon 1968). In another study Michael Blumenfeld and Lewis Glickman examined all of the twenty-five confessed LSD users (out of 20,000 patients) who came to the emergency room of a Brooklyn hospital from August 1965 to June 1966. In nine cases there was no immediate past LSD use. Eighteen had had previous psychiatric treatment, ten had been in mental hospitals before, and ten had a criminal record; fifteen were diagnosed as schizophrenic, five as borderline schizophrenic, and two as sociopaths. The authors conclude that in these cases the effects of LSD were less important than long-standing psychological problems (Blumenfeld and Glickman 1967).

In a further study of fifteen of these patients, Glickman and Blumenfeld conclude that they had taken LSD in the hope of getting through a crisis in their lives by introjecting its fancied potency as a consciousness-expander or mind vitamin. When the last-chance magical cure failed, they became psychotic. The authors suggest that the fantasy of cure through LSD might even have temporarily prevented a breakdown (Glickman and Blumenfeld 1967). The importance of such situations in precipitating adverse psychedelic drug reactions has not been adequately recognized; the case that we saw in 1977 (p. 166) seems to belong in this category. One reason for the present rarity of hospitalizations for psychedelic drug reactions is that self-prescribed LSD is not being promoted as a solution for emotional crises in the lives of seriously disturbed people.

Sometimes the disturbances already present—psychotic or otherwise—are so severe that the significance of LSD itself is hard to determine. For example, Sidney Cohen and Keith S. Ditman cite the case of a forty-one-year-old woman who had been seriously confused, agitated, and depressed since receiving LSD from a psychiatrist two years before. The case history shows that her alcoholic father had played with her sexually and when she was seventeen had killed her mother and himself; she had also spent some time as a prostitute. Eventually she attempted suicide with sleeping pills and received electroconvulsive therapy for depression; two months after that she had eight sessions of LSD therapy, and after the last treatment her fear and agitation became severe (Cohen and Ditman 1963, p. 477). Cohen and Ditman say that her defenses had disintegrated because of the unconscious material that emerged under the influence of LSD, but those defenses were also inadequate to prevent depression and attempted suicide even before she took LSD.

Some of the cases reported as prolonged LSD psychosis are hard to distinguish from endogenous (natural) schizophrenia in which the symptoms take on some coloration from drug experiences. For example, Frosch and his colleagues at Bellevue saw a twenty-five-year-old
man who was brought in by his friends because he was withdrawn, uncommunicative, wandering mentally, and unable to concentrate on his work. In the past he had lived in a commune and taken LSD often, but at the time of hospitalization he had not used psychedelic drugs for a year. He was fond of "highly involuted, inappropriate abstractions," some of them connected with drug experiences, and he had flashbacks in the form of visual hallucinations and trance episodes. After a month in the hospital he had not improved and was diagnosed as a chronic schizophrenic (Frosch et al. 1965).

Nevertheless, some studies suggest that psychedelic drugs occasionally produce a psychosis in a person with little previous mental disturbance. In 1972 Malcolm B. Bowers studied twelve patients who had acute psychotic reactions to LSD (6), "mescaline" (4), and amphetamine (2). He compared this group with twenty-six patients who had acute psychotic reactions unrelated to drugs, and found more thought disorganization, less motor retardation, less blunted affect, and more energy in the drug group. The drug users had been in much better condition psychologically than the controls before the psychosis, their average hospital stay was shorter by a month, and their clinical prognosis was much better. Bowers concluded that drugs like LSD can cause prolonged psychotic reactions even in people not otherwise especially vulnerable to psychosis (Bowers 1972). He states that the alleged mescaline was probably LSD, but in fact it may also have been PCP; this creates the difficulty that as many as half of the psychoses may not have been caused by an LSD-like drug.

It is irresponsible to assume that anyone who suffers from psychosis, depression, or chronic anxiety after using a psychedelic drug would always have had the same problems in any case, but wrong to suppose that madness is likely to descend suddenly at any moment on a reasonably stable person who takes a psychedelic drug in a reasonably protected setting. The best analogy for adverse psychedelic drug reactions is psychosis precipitated by cannabis. The egos of a few people are so fragile that they can be precipitated into a psychosis by any severe stress or alteration in consciousness, including surgery, an automobile accident, or alcohol intoxication; it is they who will suffer the rare psychotic reactions to cannabis. LSD and drugs like it are much more powerful mind-modifiers, and more people are vulnerable to their disruptive effects, including a few with no strong previous signs of emotional disturbance. Psychedelic drugs are capable of magnifying and bringing into consciousness almost any internal conflict, so there is no typical prolonged adverse reaction to LSD in the sense in which there is, say, a typical amphetamine psychosis (always paranoid). Instead, as many different affective, neurotic, and psychotic symptoms may appear as there are individual forms of vulnerability. This makes it hard to distinguish between LSD reactions and unrelated pathological processes, especially when some time passes between the drug trip and the onset of the disturbance.
Suicide, Accidents, and Murder

In discussing this topic nothing is more necessary or more difficult than to avoid sensationalism. Many people retain a vague impression from the newspaper publicity of the late 1960s that at that time someone was dying every day during an LSD trip. Considering how eager the press was for this kind of material, its harvest was meager. If deaths caused by alcohol intoxication had been given attention proportional to that devoted to deaths allegedly caused by LSD, there would have been room for no other news. The fact is that psychedelic drug users tend to become physically passive and introspective; often they have to exercise some will to move at all, and they are unlikely to do anything that requires vigorous and aggressive action. Nevertheless, when LSD was being used with great abandon, accidents and crimes sometimes occurred.

In the rare cases of suicide during a psychedelic drug trip, the cause is usually not despair but fantasies of omnipotence or merging with the nonhuman universe. The following story about a nineteen-year-old boy appeared in a Berkeley underground newspaper in the 1960s:

He has his first LSD trip in company... Vernon free and exulted beyond belief suddenly realized that the trip to Europe he desired, but was afraid of, is a must. Packed his things to start then and there. His companions argued with, restrained him, and for a while he was quiet. Then knowing that for him nothing is impossible, that physical laws don't bind him, not bothering to use the door he walked through the windowpane. No one there was quick enough to block his way. He fell three stories. ... It wasn't suicide; he only started for Europe and didn't make it. (Wolfe 1968, p. 150)

Other suicidally reckless behavior has been reported: walking in front of a car in the belief that it can be stopped by an act of will, or swimming far into the ocean to merge with the source of life. Reasonable precautions about setting are needed to prevent this kind of accident.

Depression, delusions, or fear of insanity in the aftermath of a trip can also provoke suicide. Here it is difficult to determine cause and effect, and therefore reliable documented instances are hard to find. In an atmosphere of public hostility a drug may be blamed for deaths it has nothing to do with. There are a few reports of suicide during LSD therapy (Savage 1959; Chandler and Hartman 1960), but among such severely disturbed people many suicides would be expected in any case, and the suicide rate in these patients is apparently not unusually high. The frequency of suicide after illicit LSD use is of course unknown; despite several widely
publicized cases, it has never been considered likely enough to provide a deterrent. The best documented LSD suicide is Frank Olson, a biological warfare expert who was given LSD in a cocktail without his knowledge by the head of MKULTRA, the CIA's mind-control project. Olson suffered a psychotic reaction and killed himself two weeks later by jumping out of a tenth-story window. The incident occurred in 1953, but it was covered up and did not come to light until twenty years later (see Marks 1979, pp. 73-86). There is no evidence on whether the suicide rate among LSD users is higher or lower than in the rest of the population, although, as we will see, LSD in psychiatric use is much more often said to have prevented suicide than to have caused it.

The danger of accidents is obvious. Taking psychedelic drugs when one is alone is risky physically as well as emotionally, and it would be unwise to try to drive a car, cross a busy street, or go for a swim at the height of a trip. But both the general wariness about taking psychedelic drugs and the tendency to sit still and do nothing after taking them provide a certain amount of protection that is not available in the case of a drug like alcohol. An unusual kind of physical harm associated with LSD in rare cases is damage to the retina of the eye from staring worshipfully at the sun. The issue became part of the propaganda war surrounding psychedelic drugs in the 1960s when a state official in Pennsylvania put out the story that several young men had gone blind in this way, but later admitted that it was a hoax designed to convince the public of the dangers of LSD. In fact there are a few apparently authentic medical reports of impaired vision from this cause; usually recovery is complete after a few months, and there are no cases of actual blindness (Fuller 1976).

Rare but very serious incidents associated with psychoses following psychedelic drug use are self-blinding and plucking out an eyeball. These incidents have occurred not under the immediate influence of the drug but during psychotic episodes dominated by sexual guilt and ruminations on the Biblical injunction, -If thy right eye offend thee, pluck it out.- There are three reported cases, In one of them, the victim took LSD for four consecutive days and then engaged in homosexual acts with another man. Found in the street by police naked and holding his eye in his hand, he said that the devil had possessed him and caused him to commit homosexual acts while his mind was weakened by LSD; the self -multilation occurred after the drug trip was over (Rosen and Hoffman 1972). In another case a psychotic woman who had used psychedelic drugs in the past plucked out her eye after a month in a state mental hospital. She too had a painful sexual history; at one time she had been made pregnant by a rapist. She remorsefully declared that she had misinterpreted the Biblical sentence by taking it literally (Thomas and Fuller 1972). In a third case a man had been using LSD periodically for three years as he became progressively more psychotic; he blinded himself while ruminating on the same passage from Matthew (Thomas and Fuller 1972). It might be said that the connection with LSD here is tenuous, especially in the last two cases, and that these reports come from a period in which efforts were being made to find things to blame on LSD. Nevertheless, the drug is under some suspicion, because this kind of self-mutilation is rare even in psychotics. It is possible that even if LSD did not cause the psychoses, drug experiences influenced the form of the delusions
and therefore the nature of the climactic act.

There are very few documented cases of murder either under the influence of a psychedelic drug or as the result of a prolonged reaction. In one of the few articles on this subject, the authors say that reports of homicide are "surprisingly rare" (Barter and Reite 1969). But given the attitude of passivity and receptiveness usually induced by psychedelic drugs, there is nothing surprising about it; they tend to diminish the sense of disunity that is a condition for aggressiveness. We have found five cases of murder in the literature. Probably the best known is that of Stephen Kessler, a thirty-year-old former medical student who killed his mother-in-law in New York City in April 1966. When arrested he said that he had been taking LSD, and the growing opposition to psychedelic drugs seized on the case to make its point politically: a law making possession of LSD a crime was quickly pushed through the state legislature. At the trial he testified that he had used LSD only five times in small amounts, the last time being a month before the murder. He admitted taking barbiturates and drinking a large quantity of laboratory alcohol in the days before the murder. Whatever the truth about his drug use, he was judged to be a chronic paranoid schizophrenic and acquitted by reason of insanity (Barter and Reite 1969; Stafford 1971, pp. 158-160).

In another case, a woman described as psychopathic and alcoholic murdered her lover three days after the fifth of a series of therapeutic LSD sessions (Knudsen 1964). In a third incident a man who was a habitual LSD user threatened a woman friend with a knife and was taken to a hospital, where he blamed the assault on LSD. The next day he smoked a large amount of marihuana and took LSD again; the day after that, not under the immediate influence of any drug, he shot and killed another woman friend. At the trial it became clear that he abused many drugs and had been suffering from paranoid delusions for six months. The fourth case involved a man who shot and killed a stranger at a party. He had been drinking for several hours before he took LSD and went on drinking afterward for six hours more until the murder, which he said he was unable to remember. He had been arrested several times before for disturbing the peace and aggravated assault while drunk. Since voluntary alcohol intoxication is not a defense against a homicide charge, he must have hoped for a verdict of acquittal by reason of insanity induced by LSD; in the end a jury judged him legally sane. As this case suggests, legal pleas are an unreliable source of evidence on drug effects. (For these three cases, see Klepfisz and Racy 1973.)

The most convincing example of murder during a prolonged reaction to LSD was reported in the Journal of the American Medical Association in 1972. A twenty-two-year-old man killed a stranger in Israel after fleeing there from California in response to delusions of persecution apparently brought on by LSD. In twenty previous LSD trips there had been one in which he threatened a woman and was taken to a mental hospital for a few days. He was judged to have a paranoid character structure, but there were no signs of psychotic tendencies either before
the murder or afterward during a four-month stay at a mental hospital and four years of follow-up treatment (Reich and Hepps 1972).

Although some allowances must be made for underreporting, that is less true of LSD at the height of its notoriety than it is in the case of more familiar and less controversial substances. More easily available and commonly used drugs like alcohol, amphetamines, barbiturates, and phencyclidine create more danger of murder, suicide, and accidents than LSD, because they are taken much more casually and because they are more likely to provoke physical activity while impairing judgment and coordination. There are people for whom no powerful psychoactive drug is safe, and the dangers in using psychedelic drugs indiscriminately are far from negligible. But the significance of occasional incidents should not be overestimated.

Treatment of Adverse Reactions

The best treatment for a bad trip is reassurance; that is the way thousands of them have been handled with or without intervention by psychiatrists. But reassurance can be a delicate matter. If the sense of self and ordinary mental processes are only slightly disturbed, it is possible to talk the drug taker down by distraction and appeals to reason. For example, his attention can be diverted by identifying the source of a frightening hallucination or suggesting some physical activity like breathing deeply, dancing, or beating time to music. If the changes in perception and thought are more profound, it is often better to urge him to go with it, give up resistance and allow loss of control, dissolution of the ego, and a cathartic resolution. The presence of others who are calm, rational, sympathetic, and preferably friends of the drug taker is important. To leave someone in this situation alone, even for a moment, is a mistake, because that moment can seem like an eternity of abandonment. The ability to touch another person physically may provide an essential lifeline to reality. Usually silence is advisable, but sometimes verbal reassurances—It is only a drug," -You will come back," -You are not going crazy"—may have to be repeated over and over. Interpreting, judging, discussing, and being -objective" are disastrous; asking questions almost always exacerbates the situation by making impossible demands on the drug taker. Anything that might cause suspicion and paranoia, like superfluous movements or conversations, should be avoided. A quiet, dark room is best (a hospital emergency room is one of the worst possible places for managing a bad trip).

If all else fails, it may be necessary to administer a tranquilizer or sedative. The authorities with most experience in this field recommend against chlorpromazine and other antipsychotic drugs on the grounds that their action is too abrupt and intense and may worsen the tension and anxiety of a bad trip even as they reduce the perceptual distortions (McCabe 1977). Diazepam (Valium), about 10 mg orally, or chloral hydrate, about 1000-1500 mg orally, is preferable;
occasionally intravenous injection of a short-acting barbiturate like sodium pentathol is recommended. Illicit LSD users often drink alcohol either to cut short a bad trip or to ease the process of coming down.

A serious drawback of all these drugs is that they suppress superficial symptoms but prevent working through to a cathartic resolution. In general the use of drugs is a last resort, justifiable mainly to save time or prevent immediate physical harm. The essential requirement is to create an atmosphere of trust and confidence in which the contents of the unconscious are no longer an overwhelming flood that threatens to destroy the ego but a peaceful ocean in which it swims or dissolves. It is not necessary to prevent all suffering here any more than in psychotherapy; in fact, most of the principles that apply to the management of bad trips also apply to the conduct of psychedelic drug therapy sessions. It is usually best not to try to suppress what comes into consciousness. The expression -going with the flow,- like many other metaphors drawn from drug experience (in this case, from Taoist philosophy as well) and applied by hippies too freely to ordinary life, is accurate and helpful when limited to the situation in which it arises.  

The appropriate treatment for prolonged reactions to psychedelic drugs is the same as the treatment for similar symptoms not produced by drugs: an appropriate form of psychotherapy and if necessary tranquilizers, antipsychotics, or antidepressants. Anyone suffering from unpleasant flashbacks should avoid smoking marihuana. One special point should be mentioned. Lithium and electroconvulsive therapy are sometimes reported to be unusually effective in psychotic LSD reactions (Metzner 1969; Hatrix and Dewhurst 1970; Muller 1971; Horowitz 1975); phenothiazines occasionally seem to make them paradoxically worse (Abramson et al. 1960; Malitz et al. 1962, pp. 58-59; Schwarz 1967). Although this evidence is slight, it suggests that prolonged reactions to psychedelic drugs may resemble manic-depressive psychoses more often than they resemble schizophrenia.

**Chronic Effects**

The most important fact about chronic or long-term psychedelic drug use is that there is very little of it. In the first place, tolerance develops so fast that it is impossible to derive much effect from LSD, mescaline, or psilocybin used more than twice a week without continually increasing the dose. Nor is there any physical addiction or withdrawal syndrome to provide a compelling reason to keep on using these drugs. Whether they can be said to create psychological dependence is hard to decide, because psychological dependence is one of those things that everyone thinks he can recognize and no one knows how to define. Almost any habit that satisfies a need or desire, whether related to drugs or not, can be described as a psychological
dependence. Some forms of dependence are trivial, some benign. One common sign of an undesirable psychological dependence (not, of course, the only one) is that the person who has the habit wishes he could give it up but feels unable to do so; psychedelic drug users almost never feel that way. Some people are especially susceptible to dependence on drugs because of anxiety, depression, feelings of inadequacy, or certain character disorders, but today they are unlikely to choose psychedelic drugs, which do not provide reliable relief.

At the height of the hippie era a number of people used LSD once or twice a week for years; they could be said to be dependent on it in a sense, and certainly some of them were seriously disturbed. But the dependence was cultural rather than chemical: to take LSD constantly was to make a statement of loyalties and to establish a social role. Now that the supporting community and world view no longer exist, there is rarely anything that can be called dependence on psychedelic drugs, and the reason is simple: a drug that takes people into a different stretch of unfamiliar mental territory for eight hours every time they use it is not for every day or even every weekend. Drug users soon come to understand that psychedelic trips are not to be embarked on lightly, and they tend to stop using LSD or cut down their consumption greatly after a few years. The kind of steady, reliable euphoria that produces a drug habit is impossible to achieve with psychedelic drugs; to speak of a craving for them would be absurd. So chronic or long-term use does not have the same meaning for LSD that it has for drugs of habit: taking LSD as little as twenty times over a period of several years is enough to qualify as a chronic user for, the purposes of most published studies.

Nevertheless, for a few people in the late sixties and early seventies, LSD use became what H. S. Becker has called a "master trait." This kind of chronic user was known as an acidhead or acid freak, and a not very flattering composite portrait can be drawn from journalism, psychiatric papers, and other sources. He speaks softly and his manner is meek; he is passive and unwilling to take initiative. He talks a great deal about love but fears genuine intimacy and often feels emotionally lifeless. He is easily shattered by aggression or argument, finds the "hassles- of daily life an ordeal, and prefers to live in a world of drug-induced fantasy. He finds it difficult to follow an argument or concentrate on a thought; he is given to superstitious beliefs and magical practices. He does not work regularly or go to school; he rejects the accepted social forms and proselytizes for LSD as a means of liberation from the standard "ego games" that constitute most people's lives; he blames society for his troubles and tends to see himself as a martyr. On the other hand, he is often at least superficially open, friendly, warm, relaxed, and uncompetitive; he is childlike as well as childish, and people often like him and feel protective toward him. But he may express aggression indirectly through his unconventional dress and manner, by absentminded inconsiderateness, or by resentment of challenges to his unjustified conviction of superior awareness and moral insight (Blacker et al. 1968; Welpton 1968; Fisher 1968; Smart and Jones 1970; Pope 1971, pp. 96-101; McGlothlin 1974b). Nicholas von Hoffman describes two acidheads he met in San Francisco in the late 1960s:
In some ways Augie . . . conforms to the not entirely inaccurate public picture of a modern psychedelic dope fiend: the formless disorganization, the filth, the incoherent metaphysical lunges into God knows where, the focus on affective experiences; but in other ways he doesn't fit the pattern so well. When he cares to he's able to stick to a chain of rational thought, to understand reality as straights define it . . . .

In contrast, Raena, who says she's dropped acid two hundred times to Augie's four hundred, shows all these symptoms, as well as an unnerving tendency to trip out into a bland, good-natured vegetal state, the telltale homogenized acid personality. (von Hoffman 1968, p. 233)

Even if no one fits this stereotype perfectly and most psychedelic drug users do not fit it at all, it does seem to have some basis in reality. K. H. Blacker and his colleagues, using a control group for comparison, studied twenty-one volunteer subjects who had used LSD 15 to 300 times (average 65 times), and found some of the features of the stereotypical acidhead: openness and relaxation, likeableness, passivity and introversion, occult and magical beliefs, hippie dress and hair styles. Four said they had memory blanks and sometimes found it difficult to organize thoughts and form sentences. On the electroencephalogram (EEG), which records brain waves, they did not have an unusually high rate of abnormalities; but they did show significantly more energy in all frequency bands than normal control subjects and psychiatric patients, and this suggested lower than usual levels of anxiety. On tests of intellectual capacity and auditory evoked response (both usually sensitive to the disorganization produced by schizophrenia) the LSD users were normal. But they were extraordinarily sensitive to visual stimuli of low intensity, which confirmed their opinion that they could observe gestures, postures, and shades of color better than most people. They also seemed to modulate and organize sensory stimuli in an unusual way, since there was no relationship between their evoked visual responses and their subjective tactile ones. The authors describe these subjects as eccentric or childlike but not schizophrenic or otherwise pathologically impaired. They emphasize that it was hard to separate the effects of the drug from those of personality and social climate; but they suggest that LSD use produced the visual sensitivity, the magical beliefs, and the avoidance of hate and anger (these emotions can become unbearable on psychedelic drug trips).

Stanley P. Barron and his colleagues (Barron et al. 1970) tested and interviewed twenty psychedelic drug users; they had taken LSD an average (mean) of thirty-eight times, but this figure is somewhat misleading, since twelve of them had taken it one to twenty times and five had taken it twenty-one to forty times. Although no consistent symptoms of psychosis or neurosis were found, seventeen of the twenty functioned poorly or in a marginal way in work and sexual relationships; they were said to exhibit character disorders, and most were described as passive-aggressive. Gary J. Tucker and his colleagues compared the Rorschach test responses of psychedelic drug users with those of normal controls and schizophrenic subjects. The drug users produced considerable primitive drive content, like schizophrenics, but also a large number of responses, unlike schizophrenics; in general they were little different
from normal subjects. Disrupted thinking, boundary confusion, and idiosyncratic responses were correlated with length of time using psychedelic drugs but not with amount of drug use. The authors tentatively conclude that prolonged use of psychedelic drugs can heighten pathological thought disturbances, some aspects of which are related to those found in schizophrenia, but they admit that in a retrospective study it is hard to distinguish predisposing characteristics from drug effects (Tucker et al. 1972). It is significant that Rorschach test peculiarities were associated not with amount of drug use, which would suggest a chemical effect, but with persistence in returning to the drugs over a long period of time, which for some users might mean intermittent attempts to deal with the problems implied by the abnormal Rorschach responses. We saw that this could account for many acute adverse reactions; it might also account for a misleading appearance of chronic drug effects.

Psychedelic drug users have also been tested for organic brain damage. William McGlothlin and his colleagues (McGlothlin et al. 1969) compared sixteen subjects who had taken LSD twenty times or more (the range was 20 to 1,100, the median 75 times) with sixteen controls; they examined the subjects clinically and also administered the Halstead-Reitan test battery. There were no clinical organic symptoms, and no scores on the neuropsychological tests that suggested brain damage; but on a test measuring capacity for nonverbal abstraction the LSD users scored lower. As in the case of Tucker's Rorschach results, the amount of LSD use was not related to the score. Nevertheless, the authors conclude that continual heavy use may cause minor organic brain pathology: six of the LSD subjects, including the three heaviest users, were regarded as "moderately suspicious" in this respect. In another study, Morgan Wright and Terrence P. Hogan (1972) found no difference between subjects who had used LSD an average of twenty-nine times and controls (matched for age, sex, education, and IQ) on a variety of neuropsychological tests including those used by McGlothlin.

At most these studies confirm the existence of an eccentric acidhead personality; they do not imply mental illness or brain damage. But more unequivocally pathological effects have been claimed in some clinical work. In a 1970 paper, George S. Glass and Malcolm B. Bowers, Jr., examined four cases of what they believe was a long-term psychosis precipitated by prolonged LSD use. It is described as a gradual shift toward projection, denial, and delusions in a person who repeatedly takes the drug at crises in his life. Hospitalization, psychotherapy, drugs and electroconvulsive therapy are ineffective, because the psychosis—a form of chronic undifferentiated schizophrenia, in their opinion—is adaptive. As an example, they cite the case of a twenty-year-old man living with his parents, who had him hospitalized when they became alarmed at his unusual speech and behavior. After a normal childhood and adolescence he had taken LSD fifty times in eighteen months, and later lived in a hippie commune for six months. He was underweight, passive, and withdrawn, dressed eccentrically, and looked older than his age. His affect was shallow and his associations vague; he interpreted proverbs idiosyncratically, and his thoughts centered on a desire for mystical love and fusion with others. He escaped from the hospital after two weeks. Two of the other three cases discussed are amazingly similar to this one in their history and symptoms (Glass and Bowers 1970).
As the authors imply in their conclusion, these patients were rather unusual. They lacked many common features of schizophrenia; for example, they interpreted proverbs idiosyncratically but not in the concrete schizophrenic manner, and they were able to carry on coherent if not very articulate conversations with friends who had shared their drug experiences. The similarity in their past history, manner, and behavior suggests a common inner world rather than the separated individual fantasy worlds of true schizophrenics. They were hospitalized only on the insistence of their parents, and they did not respond to any of the standard treatments. In effect, they look like men who have carried to an extreme the dress, attitudes, mannerisms, religious beliefs, and passive approach to life characteristic of hippie culture. This might be undesirable, and even a little crazy in the loose colloquial sense in which any extremes of behavior may be called crazy—for example, the opposite condition of a constant need for spectacular displays of masculine bravado. But it does not necessarily imply chronic psychosis any more than the way of life of an anchorite or begging monk, also men who incorporate the implications of certain unusual religious and cultural attitudes into their everyday behavior so profoundly that they are not functioning members of society in the ordinary sense.

In response to a letter written in 1977, Dr. Bowers admitted that the social movements of the late 1960s produced novel behavior that psychiatrists were tempted to label as sick, and implied that he might have been subject to that temptation. He also pointed out that the drug culture could serve as a refuge for people unable to survive in conventional society. But he still believed that psychedelic drugs had produced in some of these patients a profound and lasting personality change that could fulfill the current diagnostic criteria for schizophrenia. In a letter on the same subject, Dr. Glass wrote that since the original study he had seen many chronic psychedelic drug users who showed no such symptoms; he suspected that the patients described might have been developing schizophrenia independent of drug use. The ambiguity of these cases and the authors’ present uncertainty about them illustrate the problems of what amounts to cross-cultural psychiatric diagnosis in a period of social change.

There is one other study asserting that prolonged psychedelic drug use causes chronic psychosis. William R. Breakey and his colleagues compared fourteen schizophrenics who had not used drugs before the onset of their illness with twenty-six who had; the drugs were marihuana, LSD, -mescaline,- and amphetamines. They found that the drug users had healthier personalities before their illness but began to show signs of mental disturbance at a much earlier age: the first symptoms (seen in retrospect) appeared in the drug users at an average age of nineteen and in the others at an average age of twenty-three; the average age of first admission to a mental hospital was twenty-one for the drug users and twenty-five for the controls. Among the drug users, those who had taken three or more drugs became schizophrenic and were first admitted to hospitals at an earlier age than those who had taken only two or fewer drugs. When six patients who had been heavy amphetamine abusers were removed from the tabulations, all these differences remained. The authors conclude cautiously
that psychedelic drug use may have helped to precipitate schizophrenia earlier in life and in persons who would otherwise not have been so vulnerable to it. They refute the objection that drug users are simply younger in general by showing that in a control group of normal subjects matched with the forty schizophrenics for age and sex, the drug users were no younger than the rest (Breakey et al. 1974).

But increased drug use at an early age might be a symptom rather than a cause of early onset of schizophrenia. The authors themselves point out that the schizophrenics had used larger amounts and more kinds of drugs than the normal control subjects. Furthermore, because drug-taking histories were unreliable, they had to count number of drugs used rather than amount of drug use in making their tabulations. Someone who is sensing the earliest affective and cognitive changes that presage a schizophrenic break might try various drugs casually to help himself without ever using a significant amount of any drug; from Breakey's tables it is not even possible to tell whether any of the schizophrenics in the study were chronic psychedelic drug users.

These studies suggest some problems that should be examined more closely. In considering long-term psychedelic drug use, even more than in assessing acute reactions, it is hard to extricate the pharmacological contribution from the complex web of associations tying it to personality and social setting. The limitations of retrospective studies in determining cause and effect are notorious, and retrospective studies are all we have. How many long-term psychedelic drug users ever were really acidheads, and how permanent is the condition? How often is psychopathology associated with psychedelic drug use, and when it is, is the drug cause, symptom, or attempted cure? In this case there is also a potential for cultural bias that creates further complications. When are eccentric beliefs and behavior pathological, and when are they simply a hippie way of life?

These issues have already become familiar from the case of marihuana. It used to be said that smoking marihuana caused a vaguely defined form of mental, moral, and emotional impairment, sometimes called the amotivational syndrome. The idea was apparently derived from a rather imprecise impression of the lives of cannabis-using peasants in tropical countries and hippies in the United States. Investigations have now made it clear that the amotivational syndrome as an effect of cannabis is imaginary (see Rubin and Comitas 1975; Grinspoon 1977). In some cases heavy cannabis use or dependence is a symptom of personal problems or a form of social rebellion; in other cases it is simply part of a common cultural pattern and there is nothing unusual about the people who practice it. Which it will be depends partly on the attitude of society. For example, studies of heavy marihuana users in the United States in the 1960s showed them to be more alienated, less well-adjusted socially and academically, more impulsive and rebellious, more cynical, moody, and bored than other college students. We can see now that this was largely because of the marginal social status of cannabis. As long as
use, of a drug is illegal and heavily stigmatized, those who turn to it are likely to be different from more conventional people—either more moody, restless, angry, and dissatisfied with their lives or simply more adventurous, self-critical, and open to new experience. And once drug use has begun, the reaction of others further shapes users' attitudes. Thus some marihuana smokers learned from irrational condemnation and persecution to mistrust all the laws and conventions of our society. Defined as outlaws, they accepted that as part of their identity; marked as psychologically aberrant or as rebels, heroes, or prophets, they would be appropriately angry or messianic. Now that some of the social views and personal styles of the drug culture of the 1960s have become more popular, we know that they never implied a drug-induced personality change. Marihuana use has become common among people who lead otherwise conventional lives.

The composite portrait of the acidhead resembles the familiar picture of the pothead or heavy marihuana smoker—understandably, since they were often the same people. It was not some ingredient in marihuana smoke that caused these ways of thinking and behaving; but can we be sure that the same is true of LSD, a more profound and potentially shattering force? To distinguish LSD use as cause and as effect, we must first consider who chooses to take psychedelic drugs and why. This question can be misleading if it implies psychopathology, or even some uniformity of motive. The overwhelming majority of LSD users, like the overwhelming majority of all drug users, are not sick or mentally disturbed. And Aldous Huxley's or Albert Hofmann's reasons for taking psychedelic drugs are not a Hell's Angel's or a Yanomaral Indian's. Kenneth Keniston once classified drug users, with an implicit emphasis on marihuana and LSD, into three groups: -tasters- who experiment briefly out of curiosity, "seekers- who use the drugs from time to time to intensify experience or gain insight, and "heads- who are committed to drugs as a way of life (Keniston 1968-1969). All but a few of the people who have taken LSD belong to the first two groups. Typical reasons given for using it are curiosity, boredom, persuasion by friends, desire to prove oneself, intellectual and emotional adventure, sensory pleasure, enhanced awareness, self-exploration, religious and mystical insight, spiritual development. There is no reason to assume that these justifications usually disguise profound emotional disturbances. For almost all tasters and seekers, and most heads, experimenting with psychedelic drugs to cleanse the doors of perception and feeling is no more pathological than (to name two activities that are analogous in different ways) flying a small plane or joining a church.

Many, heavy drug users, however, are seriously disturbed people. Drug use is usually not the cause of their problems but a symptom, and their intention is not self-destructive but restorative. This is especially true of psychedelic drug users. Psychiatrists who see them usually conclude that even when they have the kinds of psychological problems associated with excessive drug use, LSD is not the problem but an ineffectual attempt at a solution (see Welpton 1968; Flynn 1973). One symptom often reported is an emotional numbness that the drug temporarily dissolves (Hendin 1973; Hendin 1974; von Hoffman 1968, p. 73). Among drug users at college Keniston found similar problems in a less serious form: they thought too much of their activity
was inauthentic, mere role-playing, and used psychedelic drugs to substitute feeling for intellect.

If emotional problems were always a cause and not an effect of chronic psychedelic drug use, the status of acidhead would be nothing but a refuge or role-disguise for certain schizoid or inadequate personalities. But sometimes drug abuse itself, whatever the original reasons for it, becomes the central problem, notoriously so when the drug is addictive, like alcohol or heroin. The same thing may happen with LSD, but that has been rare since the 1960s and was not common even then.

The acidhead can hardly exist without something like a community of believers for emotional and intellectual support. The same questions of cause and effect that arise at an individual level are important at the social or cultural level too, and here the case for an independent drug influence is stronger. Individual personality as a system of emotional capacities and adaptive psychological patterns is highly resistant to change; even a profound experience like psychoanalysis, or a series of psychedelic drug trips, ordinarily affects it only subtly. The hippie syndrome usually manifested not a deep personality change but a more or less purposeful transformation in habits and beliefs. Like a girl entering a convent, the hippie changed his dress and demeanor, personal habits, and expressed values; and like her he remained the same person underneath.

World views, political beliefs, personal habits, and stated goals, then, are much more mutable than personality; and in fact psychedelic drugs have a long history of giving rise to cults and belief-systems. One anthropologist studying an Amazon Indian tribe has remarked that until he drank ayahuasca he greatly underestimated its influence on the tribe's cultural symbolism and attitudes toward life (Harner 1968, p. 30). Nevertheless, despite claims often made in the 1960s, this does not mean that there is any such thing as a psychedelic way of life: a metaphysics, ethics, and social philosophy that emerge irresistibly from the drug experience. Psychedelic drug users can be Lellicose like the Yanomamôs or peaceable like the Mazatecs; pagans like the Huichols, Christian like the peyote eaters, or vaguely Buddhist like the Beat Generation; primitive hunters and warriors like the Jivaros or, like North American Indians, users of psychedelic plants trying to reconcile themselves to the loss of the hunter's and warrior's life. When middle-aged, middle-class people took LSD in the 1950s and early 1960s under experimental or therapeutic auspices, it did not turn them into hippies; often it even reinforced previous religious and moral convictions or revived their pleasure in the life they were already living.

So the drug culture made LSD what it was (socially), and at the same time LSD made the drug culture what it was. Like all transcendental revelations, the psychedelic message can be
translated into discursive thought and social action in many different ways, and the hippies took their cues from the mood of their time and place. But LSD helped to create the conditions for hippie culture by loosening associations, breaking conceptual limits, and putting accepted habits in question (see McGlothlin and Arnold 1971). On a trip the stability of perceptions is disturbed, the normally unconscious backdrop of experience emerges into the foreground, and the sense of what is real becomes uncertain. In this flux a restless person already dissatisfied with himself and the old cultural forms may seize on a set of religious beliefs or the guidance of a leader for reassurance. How deep such a conversion goes, how long it sticks, what residues it leaves in the drug taker’s life, and whether the consequences are good or bad depend on personalities and circumstances. Usually, what happened was that the convert flirted for a while with the attitudes and folkways of hippie culture and emerged, sometimes sadder but wiser and sometimes happier as well as wiser. Huxley once said that the man who has been through the Door in the Wall will never again be quite the same; but he will not be utterly transformed, either. The proper model for understanding this is not a drug-induced modification of the brain but the changes in one’s view of self and world after a voyage to a strange country.

The danger is that, as Leary once admitted, the -cortex washed clean of rituals and clichés- may be subject to -psychedelic brainwashing- (Leary 1968a, p. 170). Possibly it was in order to avoid this that he adopted the Hindu idea of human life and the cosmos itself as endlessly changing games. (Viewing the accumulated wisdom of reason and experience as -rituals and clichés- may also have helped to create the problem.) In any case, the potential for brainwashing is greatest when the space opened by drugs is filled by membership in a cult in which the acolytes find a new sense of worth by giving up their individuality to a cause and a leader. In psychoanalytic terms, this is transference, placing the leader in a parental role. Transference, of course, hardly requires drugs; it is essential in psychoanalysis and a major feature of some religious conversions. But psychedelic drugs can intensify and speed it up greatly; that is one of the sources of the therapeutic power claimed for them, but also a danger for both the object of transference and his patient or disciple.

Psychoanalysis aims at the resolution of transference: detachment of the patient's affection or anger from its object, the psychoanalyst. In charismatic cults the transference is often established more securely. Usually no great harm is done, and the cult merely serves as a refuge, usually temporary, for troubled people. But there are exceptions, and in the case of LSD the most notorious is the Charles Manson family. Manson was probably a borderline psychotic and had spent most of his life in prisons and reformatories before he gathered the followers who committed the famous crimes culminating in the Tate and La Bianca murders in the summer of 1969. Employing a remarkable intuitive understanding of the needs of his women disciples and the powers of LSD, Manson manipulated them to produce a strange communal delusional system. Through many hours of listening to the Beatles' -Helter Skelter- and -Revolution 9- under the influence of LSD, he convinced himself and his family that the songs contained a special message requiring him to fulfill his destiny as the reincarnation of Jesus Christ by starting a race war that would eventually make him ruler of the world; the murders were part of
that project. It would be misleading to say that LSD caused the murders, since none of the Manson family had taken the drug for months before the crimes; and in any case the drug could never have done its work without Manson's extraordinary diabolical charisma, the fluid, chaotic West Coast hippie society that permitted him to exercise it, and the drifting young girls desperately searching for a home and family who became his sexual partners and disciples. These peculiar circumstances were the product of a moment in culture that is unlikely to be repeated.

In a 1977 prison interview with one of the authors (L. G.), Leslie van Hou-ten, a participant in the Tate and La Bianca murders, told how LSD had influenced her life. She began to use it with her first boy friend, and it was partly because of its power to convince her that her previous life had been inauthentic that she left school and abandoned her divorced father, with whom she had been living. When she became attached to Manson as a father-substitute, he taught her to "get rid of Leslie": abandon the self that cut her off from the world, and allow it to die so that she could give herself up completely to him. She had to purge from her mind everything that her parents had taught her—what Manson called "reflections." The family took LSD together once a week, and in these group sessions Manson would spread his arms in imitation of the Crucifixion and insist on the punning connection between "Manson" and "the Son of Man." LSD produced a sense of timelessness or the irrelevance of time, an acute awareness of symbolic dimensions in every object of perception, and a heightened significance in word-play that made Manson's claim to be Christ more plausible; the girls' need for a father and lover supported the claim further and allowed the effects to be carried over beyond the drug trip. The girls were taught to regard the murders as a mission and a sacrifice; the death of the body had no importance, since it was only an extension of ego death. No drugs were being used at the time of the murders, but the girls took LSD together in prison during the trial several times on Manson's orders. The delusional system was so powerful that Leslie's mind did not become completely free of it until she had been in prison several years; some of the women are not free of it yet.

About LSD itself, Leslie was uncertain what to say. She thought that it tended to cut hippies off from external ties, so that they ended up, in her evocative phrase, "huddling together." She would never take LSD again, because it was "such a heavy, intense thing," and she would not be able to bear her memories under its influence. It was "hard for me to say what I gained from it" in the end, and "I'm not saying it's good," yet "I can't really down acid," because "a lot of the things you perceive on it are really true." In spite of the lengthy and disastrous detour that LSD apparently created in her life, there was no evidence that it had changed her personality or damaged her mind. She had taken LSD many times but bore no resemblance to the stereotyped figure of the acid freak. According to her own and others' accounts, she was the same person in 1977 that she had been before she met Manson, although much sadder as well as wiser.
Given appropriate social conditions, the cult-creating power of psychedelic drugs is obvious. That is why scholars have begun to ask how much of the religion and philosophy of the past were influenced by drug experiences. But the immediate dangers involved are probably slight. The Manson case was one of a kind even in the late 1960s, when psychedelic ideology was most widespread. Today the changes in cultural and metaphysical identity that occur after taking LSD are subtler, and its power to produce social change is more limited. There is no counterculture with pretensions to being an alternative society, and in this country only the Indian devotees of the peyote religion still use psychedelic drugs to create a community.

Finally, we should add a warning on cultural bias, an issue we have already brought up in connection with the cases discussed by Glass and Bowers and also in connection with the so-called amotivational syndrome. When there is a change in beliefs or personality, we have to ask from whose point of view and by what implicit standards it is pathological or even a deterioration. Mere rejection of social conformity is not a character disorder, and hippie beliefs by themselves are no more an affliction than other minority religions. What looks like slovenliness, indolence, passivity, and mystical superstition can also be seen as disregard of meaningless conventions, a feeling for the uses of leisure, relaxed acceptance of life, and a sense of oneness with all that exists. A change in habits or way of life is not a drug complication. Some might regard Leary's career in the 1960s as an adverse reaction to psychedelic drugs, but that is obviously not a medical or psychiatric judgment. Unfortunately, the line between disapproval and diagnosis is not always so easy to draw. For example, when someone takes LSD and declares that he is God, it is usually clear whether this is paranoid delusion or pantheistic revelation, but sometimes the issue is doubtful. Even if we use William James' formula of judging the revelation by its fruits, the question of who judges the fruits, and how, remains. There is inevitably a conventional element in determining what is an adverse reaction, and that element was strong at the height of the drug culture in the late 1960s. Extreme commitment to any uncommon way of life may have apparently pathological features, but modesty about the powers of medicine and psychiatry should prevent us from making too easy a transition from distaste to moral condemnation and then psychiatric diagnosis.

Genetic Damage and Birth Defects

Psychedelic drugs are rarely dangerous physically, although some of them (especially mescaline and MDA) have a higher ratio of effective to toxic dose than others. In rare cases grand mal epileptic seizures have been reported, and there is some chance that psychedelic drugs will activate latent epileptic symptoms (Fisher and Ungerleider 1967). Some of the psychologically mediated physical symptoms of an intense psychedelic drug trip, especially the birth experience, could be dangerous to a person with heart or circulatory problems. We found one case of what may have been an actual toxic overdose of LSD; it was mistaken for cocaine and taken through the nose, probably in a quantity of at least 20 milligrams, causing
hypertension, internal bleeding, and coma (Klock et al. 1974). But the only physical problem that has aroused serious concern is birth defects. Chromosome damage from LSD was first reported by Maimon Cohen and his colleagues in Science in 1967 (Cohen and Marmillo 1967). They found a higher than normal proportion of chromosome breaks in a paranoid schizophrenic patient who had been treated with LSD fifteen times, as well as with chlorpromazine and other drugs; they also found that LSD caused chromosome breaks in leukocytes (white blood cells) artificially cultured in the laboratory. In the rather overheated atmosphere of 1967, this paper gained an immediate celebrity not justified by its scientific content, and became the basis for a sensationalistic propaganda campaign featuring pictures of deformed children. Some LSD users switched to what they thought was mescaline or psilocybin and in fact was almost always mislabeled LSD or PCP.

Many other studies of this subject have appeared and continue to appear; it would be impossible and pointless to review them all. The literature review published in Science by Norman I. Dishotsky and his colleagues in 1971 established the reassuring conclusions that are now generally accepted. Examining nearly a hundred papers, they found that LSD was a weak mutagen, effective only at very high doses. It was not a carcinogen and did not cause chromosome damage in human beings at normal doses. One study showed that it caused no more chromosome breaks in laboratory-cultured cells than aspirin. Illicit drug users often had more damaged chromosomes than control subjects; this was attributable not to LSD but to malnutrition, infectious disease, and general ill health, as well as possible impurities in street drugs. The few available prospective studies, mostly of psychiatric patients before and after LSD use, showed no chromosome damage. There was no evidence of a high rate of birth defects in children of LSD users (Dishotsky et al. 1971).

This paper is well known and adequately covers the research up to 1971; later studies have allayed persisting doubts. Sally Y. Long, in an elaborate review in Teratology, came to the same conclusions as Dishotsky (Long 1972). J. T. Robinson and his colleagues compared fifty patients treated with LSD, some weekly for three or four years, with fifty controls; they found no increase in chromosome breaks (Robinson et al. 1974). A similar controlled study by J. Fernandez and his associates resulted in the same conclusion (Fernandez et al. 1973), and so did a study comparing fifty Huichol Indians who used peyote with fifty who did not (Dorrance et al. 1975). In a controlled study comparing the pregnancies of ninety-nine users of various illicit drugs including LSD with those of eighty-nine control subjects, B. J. Poland and her associates found no increase in birth defects, although the drug users' babies were smaller on the average because of poor nutrition (Poland et al. 1972). William H. McGlothlin and his colleagues examined 148 pregnancies in which the woman and her husband had taken LSD before conception. Using a control group for comparison, they found average rates of premature birth and birth defects; the rate of spontaneous abortion was slightly higher in women who had used LSD, but there were so many other variables that this effect could not be clearly attributed to the drug (McGlothlin et al. 1970). Experiments on rats and other animals also continue to confirm the conclusions of the Dishotsky paper (Amarose et al. 1973; Goetz et al. 1973).
To connect chromosome damage in artificially cultured white blood cells with birth defects requires a long and fragile chain of reasoning. In the first place, living organisms often neutralize substances that damage isolated tissue. More important, many substances and conditions, including mineral deficiencies, body temperature changes, cold viruses, penicillin, and alcohol, can produce chromosome abnormalities in nonreproductive cells; they are common and usually harmless, since the damaged cell simply falls apart and is replaced by a healthy one. Chromosome abnormalities are dangerous only in reproductive cells (the sperm and the ovum) and then only in the unlikely event that a damaged cell remains viable long enough to produce defective offspring. All of this makes it unwise to assume a danger of genetic damage without any evidence of actual birth defects.

A drug taken during pregnancy can be teratogenic even if it is not mutagenic; that is, it can cause birth defects by affecting the unborn child directly, even though genetic mechanisms are not altered. Thalidomide does this, and so does alcohol in large quantities. The evidence on LSD is equivocal. In one test 500 micrograms per kilogram of LSD (the equivalent of 28 mg in a 120-pound woman) injected into the peritoneum (the lining of the abdominal cavity) of rats daily from the seventh to the thirteenth day of pregnancy produced no embryonic malformations (Emerit et al. 1972). Most other studies show similar negative results (Beall 1973; Bargman and Gardner 1974); but a few suggest that very high doses (far higher than any dose taken by human beings) administered repeatedly may produce an increase in malformations (see Alexander et al. 1970). In general, pregnant women should not use LSD or other psychedelic drugs; but for that matter they should avoid all drugs if possible, especially in the early months, when the embryo is most vulnerable.

Although the controversy about the dangers of psychedelic drugs continues, the practical problem has been largely resolved by passing time and the diffusion of wisdom about when the drugs should be used and who should use them. Those who don't have the head for LSD (as Jamaicans say of cannabis) have learned to avoid it, and people understand better how to handle panic reactions. The process of domestication has been relatively easy because psychedelic drugs produce no addiction and little dependence. Unfortunately, there are no recent studies of long-term LSD users to compare with those of the hippie era, but obviously there has been a change. An acidhead might have taken LSD once or twice a week and allowed his whole life to revolve around his trips. Today the long-term user is likely to be a "seeker" who takes it at most several times a year for self-exploration, without any thought of total personality change or cultural revolution.

To sum up, then, bad trips and mild flashbacks are common and even expected, but usually considered a nuisance—and occasionally even an opportunity—rather than a danger. More
serious but relatively rare problems are recurrent frightening flashbacks, prolonged reactions (usually a few days but sometimes weeks or longer), suicides, and accidents. Thought and perception changes occur in some chronic users, but it is hard to say when these are immediate drug effects and when they are the result of reflection on the experience; in any case, they are rarely pathological and almost never irreversible. There is no good evidence of organic brain damage or genetic alterations. The dangers are greatest for unstable personalities and in unsupervised settings. Taken by a stable, mature person in a protected environment, psychedelic drugs usually alter mental processes profoundly for a short time without causing serious residual problems. Although a few people have unquestionably been damaged, the great majority of users, even repeated users, suffer no serious ill effects. The power of these drugs to change beliefs and transform ways of life for good and ill has declined greatly in the last ten years. The most important limitation on their abuse is the absence of a reliable euphoria, which means that people rarely go on using them, as they often go on using stimulants and sedatives, in spite of repeated disasters. Bad trips usually become deterrents before they become dangerous.

But why should anyone risk bad trips, flashbacks, and even the remote possibility of a psychosis at all? Part of the answer is clear from the quotations in the last chapter. The danger is not great enough to make everyone decline the opportunity for such an awe-inspiring adventure of the mind. But the experience is not valued just for its own sake. Users sometimes say of psychedelic drugs that a single dose has made them wiser and happier, given them profound new insights, increased their creative capacity or relieved some persistent neurotic or psychosomatic symptom. For that they are prepared to take some risk and undergo some suffering, and the dangers must be weighed against these claims as well.

1 For a critique of flashback studies, see Stanton et al. 1976.

2 The best single reference on handling adverse reactions is McCabe 1977; see also Smith and Gay 1973; Maclean 1973; Lampe 1973.