THEORETICAL ASPECTS OF L.S.D. THERAPY*

JOHN BUCKMAN,
M.R.C.S., L.R.C.P., D.P.M.
University of Virginia Hospital, Department of Psychiatry, Charlottesville, Virginia

INTRODUCTION

IT is the purpose of this paper to consider the use of LSD 25 as an adjunct to analytic form of psychotherapy. What is the curative process in psychotherapy could probably form the basis of another conference. Even the concept of psychotherapy itself proposes different images in peoples' minds according to their background, education, and particular persuasion. Different dictionaries are also not very helpful, giving such definitions of psychotherapy as "treatment of mental disease", "treatment of the mind", "treatment by suggestion", "treatment by physician practising psychological medicine". It may be true to say that all life and all encounter with other human beings is psychotherapy; the relevant question, however, being, what is good and what is bad psychotherapy?

Psychotherapy with or without drugs has been practised as long as man's recorded history. Much of it was aimed at achieving visionary states or the removal of symptoms by suggestions. Katz[9] describes how two thousand years ago the Aryans in Central Asia used to eat a weed which brought on a visionary state of mind. After they conquered India and had left behind the source of the weed, they devised a form of psychological and physical exercise (Yoga) which produced psychic experiences, not unlike those produced by the injection of herbs, cacti, mushroom, coca, opium, hashish and, more recently, LSD 25, psilocybin and mescaline.

The discovery in 1943 by Hoffman of LSD 25 began a new and exciting era in psychotherapy. Hoffman experienced hallucinations and other perceptual changes following accidental injection of LSD 25. Since then over 2,000 publications have appeared in the scientific press connected in one way or another with LSD 25. Bradley and Elkes,[4] Purpura,[14] Marrazzi,[12] Smythies,[18] Cerletti,[5] Axelrod,[2] Cohen,[6] have contributed towards the understanding of the neuropharmacological and psychopharmacological action of the drug. Sandison,[15] Cohen and Eisner,[7] Martin,[13] Bierer and Buckman,[3] Savage,[16] Ling and Buckman,[11] Abramson,[1] have written about the therapeutic use of the drug, and Schmiege[17] has summarised the broad groups of these methods. Hoffer and Osmond,[8] have added greatly to our knowledge of the nature and specific application of LSD 25. Leuner[10] has written a comprehensive survey of the experimental psychosis, and Ungar[19] has written about personality changes.

The use of hallucinogen drugs has come under much criticism following an initial enthusiasm. The criticisms have been, firstly, on the grounds that there was insufficient data about the safety of the drugs and insufficient follow-up of cases. Secondly; there were criticisms that the drug was available too freely to untrained people, and in that way a potential danger existed of precipitating a profound and lasting mental illness and suicide. Other criticisms were levelled on religious grounds, especially against people who saw the use of LSD 25 as "instant mysticism", "instant grace", "instant salvation", "chemical religion".

* From the book *The Use of LSD in Psychotherapy and Alcoholism* (ed. H. A. Abramson, M.D.). New York: Bobbs-Merrill, 1967, and printed by courtesy of the author and publishers.

Some psychiatrists criticise hallucinogens on the grounds that there is too much danger of self-deception, indoctrination and counter-transference. They say that material produced by the patient is never spontaneous, that integration is impossible, and the degree of regression and delayed disintegration prolongs the period of psychotherapy rather than shortens it.

In Great Britain and on the continent of Europe, the majority of people who were using LSD 25 eight years ago are still using it, but perhaps with modified expectations. At present the body of informed psychiatric opinion has probably settled down to a middle of the road attitude, allowing for the fact that there are undoubtedly some workers with LSD 25 who will be particularly successful with some diagnostic categories, while others remain completely pessimistic. There exist, broadly speaking, three approaches to the use of LSD 25. First, there is the use of the drug on occasions only, as an adjunct to analysis. The drug is given only after a considerable period of psychotherapy and not before the patient has got beyond the stage of insisting on a magical and quick cure, and not until he has begun to be able to tolerate a considerable degree of frustration or anxiety. The analyst is present during a large part of the session, using a short period of it for direct interpretation. The time of the next session is judged individually, so that the next dose of LSD is administered when the preceding material had been worked through and integrated. Secondly; some psychiatrists use the material obtained under LSD 25 as the only relevant material to work through in psychotherapy, ignoring the analysis of the transference. Thirdly; the drug experience itself is treated as of primary therapeutic importance, the intoxication period itself being the curative point in time, be it through transcendental experience, religious ecstasy or interpersonal acting out.

The rationale of LSD 25 therapy

We are faced with certain inescapable facts once we state that we are practising an insight-giving form of psychotherapy.

(1) We recognize the existence of an unconscious mind, which is composed of inherited, archaic symbols, as well as repressed material acquired in the patient's own life-span.

(2) We believe that we can gain access to the unconscious by means of free association, hypnosis, or drug-induced states.

(3) We believe that neurotic illness is largely the result of unresolved conflicts, superimposed on certain genetic factors or predispositions.

(4) We believe that as man is the product of some 500 million years of evolution, so his neurotic manifestations have a basis in the mal-adjustment to his external and internal environment. Thus we can see the relationship between the severity of the symptoms, and the importance of biological drives which are being frustrated in the process of civilization.

(5) We believe that man, by virtue of being human, is aware of his own existence, and thus afraid of his own non-existence, and that this basic existential anxiety should never be underestimated in determining psychopathology, and thus in the plan of treatment.

(6) We believe that although transference is taken for granted in any psychotherapeutic relationship, many of us are not sufficiently aware of counter-transference. Thus it is essential for the psychotherapist to undergo personal analysis, or

he will become an unwilling but quite important partner of the patient's self-destructive wishes, and thus unconsciously conspire with the patient to perpetuate the patient's illness.

(7) We believe that the LSD experience is unique enough to make it necessary for the therapist to take the drug himself, so that he may be, if only in a small measure, able to understand what the patient is talking about.

The above points may sound too much like a declaration of human rights, but it is important for all psychotherapists to realise the limitations of any form of treatment. It is important to examine and to re-examine one's own motives and one's own reaction to any encounter, because every patient provides for us a new and unique human situation. At the beginning of treatment we would do well to ask ourselves the question: "What is the nature of the contract?" "What is this particular patient asking, and how do I see my own function?" We always have to consider the means by which the patient has come to us for treatment. Has he come as the result of more external pressure? To what extent are his demands realistic, and to what extent is he searching for a magic wand? What has he been told or read about LSD, as being that particular magic wand? To what extent are we using LSD as a method of self-deception, that we can in fact work miracles? To what extent are we using LSD to placete our own conscience, and to perpetuate our belief that without the drug we are really impotent as therapists.

As the LSD 25, by producing cerebral disfunction, forces the patient to experience a feeling of disintegration, it enables him to experience the primary and the basic existential anxiety about not being, about nothingness, and about the inability to tolerate this. This feeling of disintegration is even more basic to the psychopathology of the patient, because it reproduces not only a specific anxiety or depression associated with a threat, but convinces him that the only logical action is suicide, as life never had or will have any meaning. To re-live such a feeling in an atmosphere of support and understanding, may have lasting benefit for the patient. He may be able for the first time to be convinced of some inner strength, some willingness and capacity to live on, to face and to resolve lesser conflicts without escaping into symptom formation.

Action of LSD 25

The drug is related to serotonim adrenaline and noradrenaline, and thus it produces specific alterations in conduction across the synapses in the central nervous system. The nature of the disturbance depends on the type of the synapse. Axosomatic synapses involved in specific and primitive pathways, such as visual and auditory are facilitated. Axodendritic synapses involved with body image, maintenance of ego-identity and the defensive mechanism, against anxiety are inhibited. According to Cohen[6] LSD 25 by inhibiting the inhibitor system acts as a primitivizing agent. The loss of ego-boundaries and the breakdown of ego defences give rise to depersonalisation, derealization, oceanic feelings with transcendental or mystical experiences. There may be a return to an earlier developmental ego-less relationship with environment and a return to prelogical state similar to the Freudian primary process. The disruption of the normal coding system interferes with conditioned and learned behaviour, and assists the emergence of primitive thinking and apparent re-living of an instant in time, not unlike the experiences produced by electrical stimulation of parts of the temporal lobes.

The fascinating thing about the human brain is not what it perceives but what it is able to exclude, to code, corolate, and store, so that the individual is able to respond to stimuli later, and is able to postpone gratification and act consistently with previous experience. The primitive organism as well as the newly born infant, or the savage, responds almost automatically and reflexly to stimuli. Thus the primitive parts of the brain which were concerned with receiving sensations from the outer world, and with automatic response are first to appear. The overgrowth of the cerebral hemispheres with the association areas, and inhibitory areas, serve to produce a more mature organism which is still able to perceive a great amount of incoming data, but which for more realistic adaptation is able to store the information and act accordingly, either immediately or after an interval. It is this balance between the input and output that is disturbed by hallucinogens, by fever, by degeneration, and injury to the brain. With suitable doses of LSD the person can retain sufficient insight into the experience and thus be able to observe his inner instinctive responses, and his acquired and more socially accepted responses. Thus, he may see the basis for some of his conflicts.

Selection of Patients

The following were considered favourable criteria:

(1) Good unconscious motivation.
(2) Adequate ego-integration, boundaries and defences.
(3) Adequate perception of reality.
(4) Good intelligence.
(5) Capacity to tolerate anxiety, frustration and depression.
(6) Reasonable emotional control.
(7) An age range of about 15 to 50.

The following were considered unfavourable indications:

(1) Poor unconscious motivation.
(2) Past or present psychosis.
(3) Gross hysteria, especially conversion hysteria.
(4) Poor level of intelligence.
(5) Consistent failure to make any reasonable adjustment.
(6) A very deprived infancy.
(7) Severe physical disease.

Other factors to be considered, were:

(1) The capacity of the therapist to withstand and interpret the strong transference situation.
(2) Whether the patient has a reasonably mature spouse.
(3) Whether the patient lives a long distance from the hospital or clinic, which might prevent adequate supervision and psychotherapy between sessions.
(4) Whether the patient lives alone or with a family.
(5) What measures of improvement would be hoped for.

The above points were drawn up as a guide some eight years ago, when planning to treat patients with LSD on an out-patient basis. Different therapists

saw the drug as fulfilling different functions. Some wanted to use it in order to replace analysis. Others wanted to use it to speed up analysis. Both would see it as a method of treating fairly well integrated neurotics by a shortened method of psychotherapy which would still leave the patient able to continue normally in his employment. Other therapists saw the drug as the last resort to be used on patients who were inaccessible to ordinary methods of psychotherapy. In view of the effects of LSD on normal volunteers, many reservations were necessary when planning out-patient treatment, one had to exclude from this form of treatment patients who showed signs of undue disorganization. We excluded severely disturbed, potentially suicidal patients, and those who were unable to gain insight, or were unlikely to improve. As the number of reported treated cases was still small, and the atmosphere not altogether friendly towards LSD, one was perhaps unduly cautious about not producing unfavourable publicity. Schizophrenics were excluded on the assumption that they were not susceptible to psychotherapy. Gross hysterics were excluded for fear of precipitating psychosis and suicidal attempts. Severely disturbed psychopaths were excluded for their inability to tolerate any deep emotion, and for their tendency to act out. In the majority of cases a battery of projective tests were used.

Routine of treatment

It was thought advisable to have the patient in psychotherapy for some time before commencing LSD, so that both he and the therapist may have some idea of the emotional problems involved. An attempt was made to help the patient to gain some realistic idea about the expectations of results of treatment.

All patients were treated in bed in single rooms. The rooms were quiet and darkened, but not blacked out, and a bell was installed beside each bed for the patient to summon the therapist or nurse. Three or four patients were treated at the same time with one therapist and two nurses being available. Those who were working were treated at night, with a session beginning about 6 p.m., with an intra-muscular injection of LSD. The starting dose was usually between 50 and 100 gamma., although in some cases we started as low as 20, or as high as 200. It was found that hysterics reacted to a minute dose, while obsessional personalities needed much more, and schizophrenics often even greater doses, to produce any reaction at all. The session last four to five hours, the maximum psychological experience being during the third hour. It was terminated by 50 mgm. of chlorpromazine, by mouth, and those patients spending the night in the hospital were also given three to six grains sodium amytal to help them sleep. They left the next morning in time for work. Patients treated in daytime would begin at 9 a.m., finish their session about 2 p.m. and leave the Clinic accompanied about 6 p.m. Often it was found helpful to give Ritalin (Methylphenidate) intramuscularly or intravenously once or twice during the session in doses from 5 to 40 mgm. This often reduced the anxiety, increased the fantasy content of the experience, but often tended to produce some degree of addiction, depression following euphoria, and paranoid reactions.

The set and the setting. The preparation of the patient for the treatment was of utmost importance. Many people arrive for LSD treatment, having read a lot of nonsense about it. Many of them have had unsuccessful attempts at other forms of treatment, and see the LSD experience as a last chance. How one handles the first interview may be of crucial importance in forming a realistic contact between the patient and the psychotherapist. Our practice is to tell the patient that we

view LSD only as an aid to a form of treatment, the purpose of which is the greater understanding and freeing of the personality of the patient. We see it as a journey to be undertaken together by the patient and the therapist. The patient is told that he will have many varied and wonderful experiences, some pleasant, some unpleasant. He is told that because he will have the therapist's support and understanding he will be able to tolerate all these, and emerge from them a richer person more able to deal with real frustrations of everyday life. The patient is told that the LSD experience in itself is not necessarily the curative process, and that much of the working through and integration has to be done in everyday living, and decision making.

Everything that the patient produces during the LSD intoxication itself, as well as his reaction to the treatment situation, can be used for basis of interpretation of the patient's transference, his expectations, and his dependency needs. All treatment produces regression in the patient. Obviously methods which necessitates the patient to lay down further increases the patient's regression. This is enormously increased by a drug like LSD which acts by disorganizing the patient's perception. The ritual of the treatment itself, the room, the bed, the people in attendance, become of great significance to the patient. With the mounting of anxiety inseparable insistence about familiar techniques being used each time. At the same time the patient is very susceptible to the mood and tone of voice of the therapist and nurse, as well as to the presence of other people in the treatment unit.

Physical aids to treatment. A number of things have been found helpful in stimulating fantasy formation. These may include recordings of music, of voices, photographs, pictures, and other visual aids. At other times one may use ear plugs and face masks to exclude much of the external sensory stimulation. Babies' passifiers, bottles, dolls, articles of clothing and mirrors have often been found helpful to reproduce or enhance a memory or phantasy from childhood. Some patients like to be able to write, dictate, or draw, in order to make their experience more tangible. At other times they may be encouraged to do nothing but just to experience the feeling itself, and try to put into words or pictures later. Group therapy in conjunction with LSD 25, has not been altogether very rewarding. In some cases it promoted spontaneous expression of feeling, but most people would express the wish to retire to a room by themselves in order to "be alone with the experience".

The role of the therapist and nurse. Some patients were found to profit most from LSD if they were left alone during the session, and worked through the material at a psychotherapy session subsequently. With some the therapist would spend a part of the session in direct interpretation of verbalized experience as soon as the transference was sufficiently evident and the patient ready to accept the interpretation. The routine set at the first treatment was found to be very important and significant to the patient. If a patient was supported during the initial induction period, when the anxiety about what was to happen, was likely to be considerable, he might gain sufficient confidence to face further sessions without having to defend himself against overwhelmingly anxiety by hypochondriacal symptoms.

The use of drugs like LSD 25 throws a greater burden onto the skill and resources of the therapist. He has to be able not only to interpret unconscious

material, but also to give sustained support to a very regressed and demanding patient. The regression produced is often prolonged and the patient becomes much more difficult at home. The therapist must resist a temptation to make the patient too dependent on him. He must encourage the patient to see him routinely for psychotherapy between drug sessions. During the drug-induced session the therapist must always be aware of any intended or unintended physical contact with the patient, as the patient's imagination and unconscious needs are grossly exaggerated during treatment and may lead to misinterpretations of frank delusions and hallucinations. All stimuli become more meaningful and the meaning is distorted by unconscious wishes and anxieties. The therapist must always try to understand his own motivation in his behaviour towards the patient as the use of hallucinogens is very seductive of a counter-transference and the therapist can only too easily be drawn into acting out with a patient and actually prevent the patient from gaining insight. A number of therapists have described the use of physical contact apparently relevant to the patient's experience, and have claimed considerable success by helping the patient to re-live in an atmosphere of respect and trust early traumatic and frustrating experiences usually with a strong sexual conotation. At first sight one is tempted to condemn such a method, but perhaps we have not heard enough about their actual practice, results and follow up.

During the LSD session itself extra demand is going to be thrown upon the therapist's capabilities and resources. Sometimes the patient will be particularly insistent on having his questions answered and at other times he may lie silently and obviously in another world. In analysis patients will often produce the sort of material they believe is expected from them. With the aid of LSD this tendency is increased. It may often be very difficult for the therapist to resist a temptation to interpret prematurely and obviously to be fascinated by the ready response of the patient. At other times the inexperienced therapist may be overcome by a feeling of guilt and helplessness as he sits there unable to understand anything that the patient is communicating to him. At such times the therapist might try to lessen his own feelings by projecting them onto the patient. The therapist's own analysis and experience can eventually lessen the frustration produced by the feeling of not knowing and not understanding.

The problem of interpretation is made more difficult by the use of LSD because one has a patient functioning so to speak on several levels at the same time. The presenting material may often seem a plausible reproduction of the patient's own past experiences or fantasies. At other times the patient may be preoccupied with purely physical sensations which he will insist on having translated in terms of his own physical evolution. Sometimes a session may be taken up by complaints levelled directly against the therapist, and an expression of hopelessness of the whole situation. Ofter the therapist may have grave doubts about the value of any direct interpretation made during the period of intoxication, for it is difficult to visualize how insight can be gained without the possibility of reality testing.

The choice of a suitable nurse to supervise LSD treatment is extremely important as she is bound to project unconsciously onto the patient her own problems. Ideally she should be a mature person who is either a mother, or at least emotionally suitable to be a mother. She will soon realise that many patients under the influence of LSD, and indeed without it, are emotionally children, and they may behave as spoilt, hurt or naughty children. She must not be easily

shocked or provoked, to argue or interpret, but she must also not be too permissive or seductive. She must have enough understanding of unconscious processes to realize that the patient may project onto her his or her emotional turmoil, and she must resist the temptation to be an active partner in the patient's fantasies. Her function will be to provide all the normal nursing attention for a somewhat disturbed patient in bed, but for much of the time just to be available and, if necessary, to sit near the bed and give support that can only be given by human contact.

NATURE OF THE RESPONSE

Physical signs and symptoms of LSD action can be found profusely in all parts of the body. There are both sympathetic and para-sympathetic effects produced at different times. The pupils may be diluted, there may be giddiness, headache, weakness, fatigue and tremor. The blood pressure and heart rate may be variably affected. Respiration may be deeper and slower, there may be nausea and vomitting. Heat regulating centre may be disturbed.

The psychological effects may begin a few minutes after intra-muscular injection, and these seem to be maximal between the second and fourth hour, interestingly enough after most of the LSD has disappeared from the brain. During the state of reverie the patient's consciousness remains clear with occasional episodes of confusion. Judgment and memory are largely retained while orientation in space and time are somewhat disturbed. Ideation may be accelerated or retarded, while attention and concentration are reduced. Affect and associated behaviour may vary from euphoria to depression, often with appropriate motor-manifestations.

(1) *Perceptual changes, and emotional response*

Visual phenomena are most striking and occur in the greater majority of cases, the response being largely determined by the type of personality. The experience may be completely unstructured and non-specific, such as colour, movement, and change in dimension, or it may be more organised in from geometrical figures, faces, landscapes, and mosaics. There may be an identification with the experience. The hallucinated experience may have a great significance to the patient and may produce valuable material for the patient to associate to. Auditory changes vary from simple hyperacurity to actual hallucinations. Combined with visual phenomena, these may be instrumental in producing misinterpretations, illusions, and delusions, often of a paranoid nature. There may be depersonalisation and derealisation. There is a distortion of body image and position, an impression of looking at oneself from outside or of being cut off from the rest of the world. The emotional response and periodic withdrawal give a picture varying from schizophrenia to manic-depressive psychosis.

(2) *Recovery of repressed events or fantasies*

(*a*) *Direct experience.* At times the patient seems to re-live physical and emotional events from the past. These may involve one or more sensation. A patient may describe seeing or hearing something happening, or he may describe a personal experience where he re-lived in detail all its components, such as pain, pleasure, smell, taste, and other sensations. Many of sexual and aggressive connotations. Often it is impossible to separate fact from fantasy. Usually it is unimportant to decide which it is, but rather to help the patient to understand that much of what he experiences is an expression of his own infantile wishes and

frustrations. The sexual and sado-masochistic fantasies occur with such frequency that it is easy to understand how the myth of the universal infantile seduction arose. Many patients will require a considerable amount of psychotherapy to realize that their conflicts are due to the incompatibility of their inner drives and their conscience. The vividness of the experience may thus quite often prevent the patient from gaining insight, rather than help him to do so. Thus a patient may be unable to see certain impulses as eminating from himself, but only as something that was done to him by persons in his early environment. Many people will become so preoccupied with this unconscious method of gratification that they will spend years under treatment producing lists of sexual assaults amounting to some hundreds. It would be difficult to accept these as biographical facts, even in the most accident-prone.

Some patients will produce physical stigmata following an experience, thus one of Dr. Ling's patients, after experiencing what she thought was being tied by her wrists, produced weals at the side of the bandage and some days later even a ganglion appeared in the same place. Another patient produced weals on her buttocks after an experience of being beaten. These apparently remained for a number of hours. In the present state of our knowledge it is difficult to account for this phenomena. A patient was even known to produce bruises apparently due to a beating on several occasions during treatment, and subsequently even on an occasion when the treatment was cancelled at the last minute.

(*b*) *Symbolization.* A repressed event or a phantasy may manifest itself in a symbolic form. The symbols that a patient uses are partly provided by the collective unconscious, the rest are highly personal. One has to know the patient very well over a long period of time, to attempt the interpretation of these symbols, but they can be used by the patient for self-interpretation and free association.

(*c*) *Stage representation.* Often a patient finds it easier and less frightening to produce an experience if he imagines it acted out on a stage rather than happening to himself. On occasions he may take part in the experiences, especially if it is of an ego enhancing nature. He may enact a play to fulfil some of his needs and aspirations, and to placate his conscience which accuses him of being a failure. He may conjure up a wish fulfilment dream in which he visualises himself as a great national figure, or otherwise successful, to compensate for the drabness and poverty of his real existence. At times a patient may be guided and encouraged to wander about his home as he remembers it from his childhood, and to recreate early and meaningful situations. He may be helped to gain insight into some of the family tensions, as well as his own frustrations and unreasonable expectations.

(*d*) *Identification with whole or part of the experience.* The patient may feel that he is his mother or his father, or some other important person in his early environment. He may feel that he is part of the other person, both physical and emotional, and there is a free communication of emotional experience between them. This is partly a wish fulfilment, and partly loss of ego-boundaries experience with the aid of the drug, where the patient regresses to a time in his life where he was unable to see himself and his mother as separate beings. One patient described an experience during breast feeding when he gradually ate his way into his mother's breast, and disappeared. Another patient experienced confusion at not knowing whether he was himself or whether he was his father, or just his father's penis.

(*e*) *Primal experiences.* These are experiences of being born or of actual giving birth, and are common to both men and women. In some cases one is tempted to regard them as actual memories. This may be true for women who have had children. In hulliparous women or men it is difficult to explain these experiences except on the lines of wish fulfilment or rebirth. Many of these phenomena may be accounted for by the following:

Firstly, there is a universal wish to be reborn, to start again, to re-enact the separation in the belief that the pain would be lessened and also to return to the place where one was more secure. Secondly; perceptual disturbances, resulting in the feeling of being very small are easily transmitted into a conviction about being an infant. Thirdly; the fantasy element of the experience is illustrated by the fact that some women who have never had children have an experience not only of child-birth but also of an abortion. Some patients have felt as if they were watching their own birth from outside their own body.

(*f*) *Transcendental experiences.* These include a number of not easily explainable experiences, such as floating in space, being in the presence of God, being at peace with everybody, being spiritually re-born. Many therapists believe that a transcendental experience, a feeling that it is a good world, and that one is a part of it, is a curative experience in itself. They also believe that such an experience early on in treatment is a good prognostic sign. Others see it as just a sign of disappearance of ego-boundaries and an escape experience, especially in the dependent individual.

The reasons for using LSD

Many apparently genuine people have suggested, and even produced statistics, to prove that no one method of treating mental illness is better than any other. They have further suggested that no method gets better results than spontaneous recovery. At present the use of hallucingens in the treatment of mental illness is being criticized, if not directly advised against, by the majority of psychiatric text books, and the teaching in medical schools. Reports of treatments are criticized on the grounds that no sufficient basic research has been done, that the number of cases are too few, and the follow-ups are too short. There are also criticism of the vagueness of diagnostic labels. Some of these can be answered, others cannot. Psychiatry so far is not an exact science, although it largely depends on some some exact sciences for its foundation. It will always, however, insist on the validity of some subjective experience. Workers in this field, however, could add to the validity of this form of treatment if they attempt to define more clearly their expectations and their methods of assessing results.

It is important when considering the usefulness of any form of treatment to ask the following questions:

What does this method offer that other methods do not?

What is the nature of the transaction between the therapist and the patient?

What expectations are entertained by the therapist and patient?

How does the method of treatment fit in with our concept of the causation, the purpose, and the nature of the illness that is being treated?

Having regard to the physical and psychological effects of LSD 25 and bearing in mind our duty not to make our patients worse unnecessarily, what are the particular actions of LSD that might prove useful in psychotherapy?

Counsciousness is maintained. A patient undergoing treatment with suitable doses of LSD remains conscious all the time and able to record his experience either during the session or after, to be used in psychotherapy. In this way the patient need not use it as a method of indoctrination, and he need not give himself up to an omnipotent therapist. He can see that he retains to some extent the control of himself and of his experience, and discusses the meaning of it.

Resistance is overcome. We must never lose sight of the fact that LSD is a very powerful tool in overcoming the patient's resistance. The resistance and the patient's defences serve a definite purpose in preserving the integrity of the personality such as it is. Thus the therapeutic setting, the relationship between therapist and the patient, and the competence of the therapist to recognise and deal with the patient's reactions, are of the utmost importance. In psychotherapy without the aid of drugs, the patient, to a large extent, dictates the pace. With the administration of a drug like LSD there is a danger of flooding of the ego without unacceptable unconscious material, which may be disastrous.

Regression is speeded up. All treatment is associated with regression. Methods of psychotherapy which require the patient to lie down are more regressive than those in which he can sit up. Methods which necessitate treatment in bed are even more regressive. Through its pharmacological action LSD produces regression which is to some extent maintained in the period between treatments, and which is actually fortified by the patient's physical experience of being an infant. Regression is one of the most powerful and most helpful tools we have in psychotherapy, but at the same time it has to be recognised and coped with competently lest it should become irreversible. This can be avoided by judicious dosage, spacing of treatments, support and interpretations.

Transference is intensified. This applies to both positive and negative transference, and because of its intensity one has to be able to recognise the existence of counter-transference. A method of treatment which allows the patient to become an infant, to abreact in the presence or by permission of the therapist, increases the transference and also vastly speeds up its formation, so that it may be recognised in its full strength at first session.

Recall is facilitated. Patients undergoing LSD treatment recall experiences which are obviously formed in their childhood. Some of them may be actual happenings, some may be symbolic, and some fantasies. The exact neuropharmacological methods by which this is done is not fully understood. The experiences vary from patient to patient, and also in the same patient on different occasions. Some need no interpretation. Some need to be repeated on numerous occasions to be fully understood, and subsequently worked through in psychotherapy and integrated. All of them can be used to increase the patient's self-awareness.

Abreaction is promoted. In most cases more abreaction is of no lasting therapeutic value. But abreactions do occur as a part of LSD experience and are often valuable in releasing pent-up emotions. One has to be cautious because abreactions under LSD, especially if used with stimulants, may be severe, in patients whose capacity for self-control is already not very strong. The converse danger also exists. That is, that the passive-aggressive frightened individual may be overwhelmed by the unconscious need to "explode" and his inability to show his feelings. There may be a danger of accumulated "over-stimulation without release".

Gain of insight may be assisted. Insight gain is not insight retained. We see, therefore, the necessity for repeating the same experience on numerous occasions, before it becomes meaningful and integrated. Many experiences are a defence and have to be interpreted. The patient may be assisted to see his illness and his symptoms as part of himself. He can be helped to understand why he has found it necessary to respond to his inner and outer environment in a certain way, and why he has insisted on carrying his childish reactions into adult life. Neurosis has very aptly been called "out of date behaviour". In the process of treatment the patient must be disabused of his belief that his symptoms are meaningless and useless, and must be shown how in fact he refuses to give up his disability.

Capacity for introspection is increased. Like all the previous actions of LSD this can be used by the patient for positive or negative ends. The patient undergoing LSD treatment will necessarily tend to be more preoccupied with himself and indeed the capacity to do so is necessary in treatment, but he must be encouraged to lead, as far as possible, a normal and full life, to allow for reality testing.

Panacea or self-deception. Over 20 years have elapsed since the discovery of LSD 25. Over 2,000 publications have appeared in the scientific press, concerning the treatment of some 30 to 40 thousand patients. Some of the early reports were so unreservedly enthusiastic and so wild in their claims of success, that they succeeded in antagonising much of the informed psychiatric opinion. Many therapists were outraged because of the threat to their own omnipotence. Many were justifiably concerned about the irresponsible use of a powerful drug on unsuspecting patients or volunteers. As a reaction to the early reports that here, at last, was the answer to the problem of mental illness, there began to appear publications stressing mostly the dangers of suicide and psychosis, and accusing those who were using LSD of charlatanry and self-deception.

The following are observations and impressions based on the treatment with LSD of some 350 out-patients over the past seven years. Some have had only one dose of the drug in the course of treatment, others have had up to 120. When setting up original criteria for acceptance, only about eight to ten per cent of the average psychiatric out-patients were considered suitable for this form of treatment. Abandoning original limitations all diagnostic categories were given the drug, sometimes as the last resort. It became more and more obvious that the important factors were the sustained therapeutic relationship between patient and therapist, and integration of the material produced, and watchfulness for warning signs which every patient produces at the threat of the emergence of overwhelming anxiety. A number of schizophrenics were given LSD both in individual and group setting. Initial results were encouraging inasmuch as there was increased socialization but subsequently there was a return to the isolated way of life. Some schizoid personalities profited from a single dose of LSD, which apparently gave them sufficient material for constructive psychotherapy. The gross hysterics who were probably borderline psychotics have confirmed the early assumption that they would be unsuitable for this form of treatment. They tended to form transference which neither they nor the therapist could utilize, and subsequently they would resort to paranoid reactions and impulsive behaviour. The aggressive psychopath proved unsuitable for out-patients administration of LSD although some workers have been successful if LSD was used sparingly, as a part of prolonged and sustained analytical relationship. The inadequate psychopath formed a very dependent and demanding transference, and was unable to tolerate any degree

of stress, anxiety or depression. He tended to fall back on very primitive defences and some resorted to drug or alcohol addiction. Many of the obsessionals who were unable to profit from ordinary psychotherapy benefited in a minor way from LSD. One or two treatments, at a period when they seemed to block in analysis, were found helpful, while repeated doses of LSD without gain of insight tended to increase the obsessive rituals or provoke escape into hypochondriasis.

Cohen's review of the dangers and complications have confirmed the writer's impressions. Many wild claims of instant cure have not been substantiated, but neither have the many expected lasting psychotic episodes or suicides occurred. Dianostic categories are seen now as less important than the unconscious motivation, the capacity to gain insight and the ability to tolerate stress and depression. The ability to work through a depressive phase was constantly an encouraging feature. Many patients took a long time until they were able to realize that much of the LSD experience was a projection. Patients whose tolerance of anxiety increased were able to work beyond the paranoid position. The verbalization of the experience was of great importance. Without words the patient had not really committed himself and had not begun to separate reality from fantasy. Without interpretation it is difficult to undermine the fantasy and to help the patient to take a more realistic view of the world and of himself. Some writers have claimed successful results through achieving of transcendental experiences. It remains to be seen whether improvement can be maintained without a change in personality and whether a change in personality can come about without insight.

REFERENCES

1. Abramson, H. A.: *The Use of LSD in Psychotherapy.* Transactions of a Conference on LSD-25. April 22nd, 23rd and 24th, 1959, Princeton, New Jersey. Josia Macy, Jr. Foundation, New York.
2. Axelrod, *et al.*: *Ann. N.Y. Acad. Sci.* 1957, 66, 435.
3. Bierer, J. and Buckman, J.: "Marlborough night hospital". *Nursing Times.* London, May 12th, 1961.
4. Bradley, P. B. and Elkes, J.: *Brain.* London, 1957, 77, p. 80.
5. Cerletti: *Pharmaceutical Journal.* London, Jan. 1963, p. 25.
6. Cohen, S.: *Proceedings of the First International Congress of Neuropharmacology.* Rome, Sept. 1958, p. 79.
7. Cohen and Eisner: *Journal of Nervous and Mental Diseases.* 1958, 127, 6.
8. Hoffer, A. and Osmond, H.: *The Chemical basis of Clinical Psychiatry.* Springfield, Ill.: C. G. Thomas, 1960.
9. Katz, S.: Canada: Macleans, July, 1964.
10. Leuner, S.: *Die Experimentale Psychose.* Berlin: Springer-Verlag, 1963.
11. Ling, T. M. and Buckman, J.: *Lysergic Acid (LSD 25) and Ritalin in the Treatment of Neurosis.* Sidcup, England: Lombarde Press, 1963.
12. Marazzi, A.: *Ann. N.Y. Acad. Sci.*, 1957, 56, 496.
13. Martin, J.: *Int. Jnl. Soc. Psychiat.*, 1957, 3, 3.
14. Purpura, P. D.: *Arch. Neurol. and Psychiat.* Chicago, 1956, 75, p. 132.
15. Sandison, R. A., Spencer, A. W., and Whitelaw, J. D. A.: "The therapeutic value of Lysergic Acid Diethylamide", *Jnl. of Men. Sci.*, 1954, 100, p. 49.
16. Savage, C.: *The use of LSD in Psychotherapy.* Transaction of Conference, April 22, 1959. Princeton, N.J. Josca Macy, Jr. Foundation, New York.
17. Schmiegs, G. C.: *Amer. Psych. Assen. Proc.* May, 1962.
18. Smythies, J. R.: "Biochemistry of schizophrenia". *Postgrad. Med. Jnl.* January, 1963. 39, 447, 26.
19. Unger, S. M.: "Mescaline, L.S.D., Psilocybin and Personality change". *Psychiatry Journal for the Study of Interpersonal Processes.* 1963, 26, 111.