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Group and Individual Psychotherapy under LSD

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The therapeutic value of psychotomimetics has been studied all over the world. The views vary. The enthusiasts attribute to these drugs the faculty of provoking by themselves a persistent change of personality. On the other hand, there also are skeptics who, while not questioning any therapeutic effects of psychotomimetics, do not attach to them a more superior value than to benzedrine or to narcoanalysis (HOCH, CATELL, etc.). According to ABRAMSON, the advantages are seen, in particular, in the following facts: the drug is pharmacologically safe even in large doses, the run of psychic alteration may be blocked at any time by means of other drugs. The patient's consciousness not being disrupted, the way is open for a better cooperation with the therapist. The patient is more aware of psychodynamic connections of his symptoms with his etiopathogenetic negative experiences.

There are many theories attempting to explain the psychotherapeutic operation of LSD. In many cases they are, however, influenced by the convictions of their authors. One must have in mind in this connection that the reactions produced by LSD are results of the interaction of the drug, of the personality and of the motivations of both the intoxicated person and the observer and also of conditions prevailing during the specific test sessions. The psychotherapeutic run of LSD sessions substantially differs from the run of sessions held for scientific descriptive or for artistic purposes.

ROUBÍČEK summarizes the therapeutic mechanisms of LSD as follows: «...the effects are explained by diminution of certain restraints, by novelty and unexpectedness of experiences, by release of tension, revival of new material and acquisition of changed attitudes, by increased attention to the environment and, indisputably, by frequent euphorization...».

ABRAMSON states that the stress situation caused by LSD disrupts the usual patterns of adaptive behavior and leads to other regressive pathological patterns of behavior. The phantasy increases with the limited emergence of autistic ideation, there exists a facilitative interpretation of symbolic processes, a dysfunction of affect control, mounting anxiety, awareness of and good memory for an experimental frame of reference, depressive processes exceeding the euphoric component, alternation periods of disturbance in perception, rare hallucinatory phenomena with some awareness of reality, paranoid structuring of both people and circumstances, psychosexual stimulation and, rarely, improvement in specific test situations.

The fear of loss of reality induces the intoxicated person to increase his efforts to maintain consciousness and volitional control of self and to intensify interpersonal bonds with the observer who, in many cases, is left as the only point of support in the lost reality. In this connection it is worth mentioning that mushrooms containing similar drugs (psilocibine etc.)were used many hundred years ago by American Indian tribes for religious rites and were mostly administered in group sessions; within the circle of his fellow-believers the intoxicated person felt himself to be safe from loss of himself and from loss of contact with his social environment (SANDISON).

The release and revival of recollections are very strong even if the latter are forgotten or very old, such as recollections of experiences made at the age of two or three years.

The enoptic phenomena in LSD seem to have two components, viz. a generally toxic one which is common to almost all intoxicated persons (e.g. visions of mosaics, ornaments etc.) and a specific content with characteristics for each individual as such particularities result from his previous experiences. There is an increased exteriorization and symbolization of conflict experiences into hallucinations and visions which are apprehended by the intoxicated person as seen on a screen situated in front of him.

The therapeutic relationship between the patient and his doctor is very strongly intensified, in particular, in the sense of dependence. A powerful ambivalent to negative emotional charge accompanying such a relationship is simultaneously discharged in the presence of manifest somatic and vegetative components. The conflict experiences are reflected in the somatic area, probably by means of conversion. The analysis of the patient's reaction patterns towards his doctor as well as the analysis of what is projected upon the therapist are facilitated. All that enables the psychiatrist to create and modify in a better way the model conflict situations and to direct this relationship towards one of the fundamental psychotherapeutic requirements, i.e. towards the patient's re-exposition to the original traumatic experien-

ces in more favorable conditions. When such re-exposition is repeated the unlearning and deconditioning processes are going on. The toxic derealization and depersonalization probably enable the patient to bear more easily the psychodynamic connections explored than in a state of full consciousness. In this chemically produced state "free of conflict" the patient may see and accept himself such as he is; he leaves his current and learned social roles and becomes more accessible to a change in his system of values. This is contributed to by the unexpected and extraordinary nature of his feelings.

In WEST's opinion a state similar to sensoric deprivation is provoked by LSD. In such a dream-like state the conscience, freed from the need to react to environmental stimuli, is rather automatically refilled with material which has been hitherto deposited in the memory cortex and is now being released therefrom.

These views seem to be in harmony with the old classical theory of PIERRE JANET on the existence of automatically running mental processes which have the faculty to mutually associate and create independent syntheses not controlled by conscience. The predominance of such automatisms has been placed by JANET in analogy with hypnoid states. He referred to the existence of separated conscience or to the "abaissement du niveau mental" (lowering of the mental level).

Other authors, e.g. SANDISON, assume that the perception disturbance arises rather in the central part of the analyzers in the brain. The usual code of information coming from the exteroceptors and interoceptors is disorganized. The critical comparing with and generalization of acquired information to those which are deposited in the memory and to individual experiences are disrupted and the usual cognitive functions stagnate. All that may induce the patient to make an important corrective experience and to mobilize the reintegrative forces in his personality.

Making allowance for the biochemical conception and for the SELYE's general adaptive syndrome, DITMAN, WHITTLESEY AND HAYMAN admit that LSD can provoke a marked biochemical alteration which may lead certain predisposed patients to making a resynthesis and reformulation of their life systems in spite of the fact that the mechanism is not clear.

The two preceding statements seem to be in harmony with the results of experiments made on animals, e.g. with the observations made by IVANOVA, LARICHEVA AND MILDSTEIN on dogs which were intoxicated with an LSD dose of 0.1 mg./1 kg. of weight. This dose does not visually alter the clinical state of the animal, but provokes a marked disorganization of conditioned reflex activities, and a disorientation and disintegration of the higher nervous activities. The dog which had been thus intoxicated ran about through the maze for 55–80 seconds while the normal time was 5–7 seconds. The conditioned reflexes on luminous stimuli became extinct most easily. The unconditioned defensive reflexes continued to be preserved. The reaction to the electric current reinforcing the luminous but not the acoustic signals became extinct sometimes. The conditioned acoustic reflexes also became extinct, but in most cases they revived quickly. The differentiation of acoustic signals showed the slightest sensibility to LSD. A higher activity of the ceruloplasmin in the serum has been found simultaneously with the aforesaid changes.

Also the effects of euphorization have to be taken into account. A pleasant experience by itself may retune the phantasy to new, more optimistic perspectives, and thus the emotionality of both the disturbed and normal individuals might be influenced (DITMAN AND OTHERS).

Last but not least, attention should also be paid to the direct chemical effects of LSD upon certain regions of the central nervous system, to its powerful interference with the vegetative life of the individual, to the chemically caused change of mood, etc. The antidepressive effects of LSD alone do not, however, seem to be very convincing (e.g., ROUBÍČEK).

Let us quote a few revealing statements made on LSD effects by some of our patients who were successfully treated with LSD:

1. "The drug has taken away the accumulation of my acquired views and of my evaluation of the facts I went through in my life and has left in my memory just an experience thereof, while a new way has been opened for my valuation of such facts." 2. "It is a great feeling of release when one suddenly becomes oneself without one's outer shell and has a better faculty to understand oneself, to understand the other people and to be understood by one's fellows." 3. "The drug is able to disrupt one's usual currents of thoughts, to throw oneself off one's social rails so that one more readily accepts the comments about oneself made by other people." 4. "The normal and usual logical thinking is awfully dull, and it usually throws one into the neurosis." 5. "I am now able to face anybody quite frankly, free from any tension from authority, while previously I felt awfully handicapped and felt a tremendous fear when having to do with authority." 6. "It was my greatest emotional experience. I now am better aware of how my nature has been formed in my childhood and what I have to do in future in order to avoid such conflicts which have provoked my neurotic troubles."

So much briefly on LSD *individual* psychotherapy. Less attention has been paid to LSD *group* psychotherapy. Let us quote in this connection e.g. ABRAMSON's stablemate conception in groups of schizophrenics and LENNARD's suggestion of a new branch of sociopharmacology. The group psychotherapy in LSD is also dealt with by SANDISON, LING, CUTNER, LEUNER, SLATER, BIERER, TENENBAUM AND OTHERS. They value it in a different way, some of them positively while the others do not recommend the use of LSD in the group psychotherapy.

Consequently, it has been the purpose of the present study to attempt to verify the therapeutic effects of LSD in conjunction with the psychotherapy of neurotics treated at the Rehabilitation Center for Neurotics in Lobeč near Prague (hereinafter RCN) and partly in conjunction with the individual psychotherapy of neurotics treated at the Outpatients' Department of the University Psychiatric Clinic in Prague (hereinafter ODUP). In addition to the therapeutic effects an

attempt was made to describe the difference in the run of intoxication and in its influence during an individual interview on the one hand, and during a group session on the other hand. To shorten the initial phase the drug was administered subcutaneously in doses of 100 gamma in cases of individual interviews and in doses of 50 gamma in cases of group sessions.

The patients for individual LSD interviews were selected partly at RCN and partly at ODUP from neurotics who were under the rather systematical care of one of us. From the RCN patients were selected those who, while having certain symptomatic improvements, showed just a minimal therapeutic awareness, insight and changes in their behavior. For individual psychotherapy seven patients at RCN and four at ODUP were selected.

The patients for the group LSD session at RCN were chosen haphazardly. The entity of RCN patients was divided at random into two groups of fifteen persons each. By lot it was decided what group would act as the test group and which one as the control group. After exclusion of contraindications the test group was reduced to twelve patients. Seven of them were selected at random for intoxication while the remaining five patients were left for administration of the placebo, i.e. of the physiological solution. Neither the leader of the group nor the observers were informed in advance of what had been administered to individual patients. Within the same group session the behavior and the reactions of the group of LSD ex-patients were simultaneously observed. By the latter expression is meant the patients to whom LSD had been administered individually at RCN prior to our group experimental session. Eight observers were sitting outside the circle of patients, and the proceedings of the session were recorded on a magnetophone tape recorder and thereafter rewritten verbatim as much as possible.

The aforesaid LSD group session was compared to a control group session made without the administration of LSD. This control session was held the same day immediately prior to the LSD group session. The patients of the control group were not informed that LSD would be given to them after this first interview.

A further comparison was made in the rank of individual LSD psychotherapy. The results of the individual outpatients' LSD psychotherapy at ODUP were compared to the results obtained with the patients treated by LSD interviews made under the conditions of the therapeutic community at RCN.

The observers followed the behavior of patients, their verbal participation according to GIBB and the interaction social analysis according to BALES. After the meeting they filled in a questionnaire dealing with various therapeutic points about the group session held.

The patients themselves filled in the following questionnaires: 1. Questionnaire on Neurotic Symptoms "N 5" designed by KNOBLOCH AND HAUSNER at our Policlinic, 2. Questionnaire on Lack of Satisfaction in Life designed by KNOBLOCH, 3. Manifest Anxiety Scale (MAS) according to TAYLOR, 4. a special Questionnaire about the Run of the Group Session and 5. a simple sociometric Test of Sympathy and Antipathy, designed by one of us. In addition, after the individual interview or after the group session the patients filled in the so-called LSD SORT LIST according to DITMAN AND WHITTLESAY which deals with seventeen various qualities of experiences made and feelings felt during LSD intoxication. The valuation of results was made by unparametric serial test according to WILLCOXON and by test chi.[2] The following symbols were used in the tables:
RCN – Rehabilitation Center for the Neurotic at Lobeč
ODUP – Outpatients Department of the University Psychiatric Clinic in Prague
Significances: • > 95%, • • > 99%

Results

At the beginning of our experiment the therapeutic community was dominated by a group of hysteric assertive women who did most of the talking within the group. They opposed the leadership, and while submerging into intellectual subjects of discussion, they hampered their own therapy. Finally, they got into a mutual conflict among themselves striving for the leading role within the RCN community. Male patients behaved passively and submissively and hardly spoke a word. Just the LSD intoxication enabled some of the inhibited previously silent patients to match the dominant talkative women in the verbal production. The formal side of these facts is shown in the Table I.

Table I. Amount of Patients' Verbal Participation During the LSD Group Session and the Normal (Control) Group Session

Patients:	Verbal participation:
Group LSD patients at RCN	Significantly greater
Control patients without LSD and Placebo	Significantly greater
LSD Ex-patients	Unsignificantly lower
Placebo patients	No significant change
Therapists	Unsignificantly greater

In respect to the qualitative changes during the group intoxication we may confirm the findings made by SLATER etc. ABRAMSON AND LENNARD to the effect that individual LSD experiences are rather depressive, anxious to paranoid while the group experiences incline to be euphoric or schizo-affective. Also our LSD group session showed a marked decrease of negative interpersonal relations; of course, the acting out and aggression came to light, however, without having caused a loss of the patient's social control within the group. No particular efforts were needed by the therapist to set in motion the activities of the group. The patients felt themselves to be free from shyness and inhibitions, and even many unintoxicated patients talked more about delicate matters. Within a short space of time the traits of character of the intoxicated patients appeared in a more natural, more liberal, more adequate way and with a deeper and broader intensity. On the other hand, the whole group of intoxicated patients suffered from a great loss of concentration, and the extroversion of the intoxicated or placebo patients was quickly succeeded by states of autistic introspection.

Table II above gives a few valuation data of the LSD group session as they were obtained from the patients, observers and the therapist as compared to the group session held the same day under normal conditions.

Table II. Valuation of LSD Group Session

	Therapist	Control group	LSD patients	Placebo patients	LSD out-patients
Satisfaction feelings	better	o	o	worse	o
Insight achieved	not assessed	worse	better •	o	o
Understanding of others achieved	better	o	o	o	o
Own attitudes towards others valued as	more friendly •	o	o	less friendly	o
Behavior of others towards self valued as	more friendly •	o	o	o	o
Therapeutic progress achieved	greater •	greater •	greater •	o	greater

The eight observers, not knowing which patients were given LSD during the group session and which were given the placebo, made seven mistakes in their assessments, taking the LSD patient for the placebo patient and vice versa. The leader of the group—one of us—made two observers' estimates, viz. the first one after 30 minutes and the second one after 60 minutes. Most mistakes were shown in his first estimate, and to a great extent they were rectified in his second estimate. This is explained by the fact that the leader knew the LSD effects from his own experience made on a previous occasion for scientific purposes. In his first estimate his valuations were consequently made according to the subjectively told vegetative and neurasthenic symptoms he personally went through in his own LSD experience. Some of the placebo patients reacted in their outward behavior more strongly to the placebo than the intoxicated patients to LSD. A more correct valuation was possible when the patients commenced to communicate their visions and to behave more abnormally. All other observers were confined to just one valuation made on the basis of behavioral deviations only; this is why they show a lower number of mistakes.

As far as the patients are concerned, the largest number of mistakes concentrated upon the female patient V. J. She was administered 50 gamma LSD. Under the influence of her social motivations she was almost fully able not to loose control of her behavior during the whole group session. Paradoxically, it was just this patient who made the most of this session for herself and who acquired the deepest insight into the causes of her neurosis. On the other hand, another female patient, who had been given the placebo showed such serious behavioral deviations that she was taken for a LSD patient by most

Table III. Changes of Neurotic Syndromes in LSD Intoxication

Syndromes / Patients	Neurasthenic	Vegetative	Depression	Anxiety	Toxic	Total amount of changes
Individual LSD patients at RCN	↑	• ↑	• • ↑	↑	• ↑	• • ↑
Group LSD patients at RCN	↑	• ↑	↓	o	• ↑	↑
Individual LSD patients at ODUP	↓	↑	↓	↓	↑	o
LSD ex-patients	o	o	↓	↑	o	o
Placebo patients	↓	↓	↑	↑	↑	↑
Control patients without LSD and placebo	↓	o	↓	↑	↑	o

Syndromes: ↑ increased; ↓ decreased; o no changes

observers. At the beginning, she was very anxious and said that the injection had provoked a great tension in her; later on, however, she had lost her control and behaved like a drunk—apparently under the influence of the suggestive euphoria of the intoxicated patients. From the therapeutic point of view, a minimal progress only was achieved by this patient.

The changes in neurotic syndromes during the LSD intoxication are shown in the Tables III and IV. Table III was obtained by comparison of the total average intensity scores in the questionnaire "N 5" registered during both the LSD and control sessions. The total intensity score shows only the extent of difficulties and their increase or decrease. A more detailed picture of changes within the syndromes than the one given in Table III can be obtained from the analysis of shifts shown in Table IV. These shifts of symptoms within the individual syndromological categories represent the level of stability of the syndrome.

The above two tables can be commented on as follows:

The LSD intoxicated groups show an increasing influx in the vegetative, neurasthenic and toxic-psychotic symptoms, apparently under the toxic influence of LSD.

The individual LSD group at RCN shows a significant growth of depression and an insignificant increase of anxiety. In our opinion, these signs seem to be the usual feelings which accompany deep traumatic experiences relived under the operation of LSD.

The group of patients intoxicated during the group session shows an insignificant fall of depression and no change in anxiety. This might be attributed to the funny and euphoric run of the session.

Table IV. Fluctuation (Shifts) in Neurotic Syndromes During the LSD Intoxication

Syndromes Patients	Neurasthenic	Vegetative	Depression	Anxiety	Toxic
Individual LSD patients at RCN	• ↑	• ↑	• • ↑	↑	↑
Group LSD patients at RCN	• ↑	• ↑	• • ↑	↑	• ↑
Individual LSD patients at ODUP	• • ↑	• ↑	• • ↑	• ↑	• ↑
LSD ex-patients	o	↓	↓	o	o
Placebo patients	o	↑	↑	o	o

Fluctuation in symptoms: ↑ greater; ↓ lower; o no changes

Within the group of patients treated at ODUP the depression and anxiety show an insignificant decrease—maybe because of the LSD euphoria.

The placebo and control groups during the group session show an insignificant decrease in depression (probably due to group euphoria). The group of placebo patients shows an insignificant increase in anxiety, probably from expectation of fearful intoxication experiences which, however, do not arrive. These patients know the effects of LSD in higher doses from their talks with the LSD ex-patients.

Attention should be paid to the increase of intoxication feelings in all groups of patients except the placebo group. In the intoxicated group this is due to the effects of LSD, while in the control group it seems to be ascribable to the feeling of unreality experienced by the non-intoxicated patients who observe the abnormal unreal behavior of the intoxicated persons. They talked of the feelings of a sober man among drunk people.

The group of LSD ex-patients who observed the group intoxication shows an insignificant decrease in both the neurasthenic and vegetative symptoms (there was no toxic influence of LSD), and an increase in the depression, anxiety and derealization. Apparently, the patients compared their own experiences made in individual interviews to the behavior of other patients. Under the influence of an auto- and hetero-suggestion, they succumbed as far as to a little relapse of their own LSD experience. They valued the group LSD session adversely and considered the individual cure to be much more powerful in effect.

It may be seen from the Table IV that the LSD intoxication makes unstable the relatively constant neurotic syndromes and that it leads to a fluctuation of symptoms. The unintoxicated patients show just an insignificant fluctuation, if any.

Several groups of persons may be assorted from this point of view: for some patients the development of the symptoms has been practically concluded and the patient reacted by an improvement or by no improvement, while for other patients the development of symptoms has not come to an end, the symptoms are inconstant and may mutually switch over from one symptom into another. Thus, there were cases of old high scores which showed no change having, however, simultaneously recorded a wide fluctuation. It seems that our study confirms the well known fact that the neurotic symptoms usually are not constant and may undergo various quantitative and qualitative changes either spontaneously or in the course of psychotherapy in dependence upon the extent to which various etiopathogenetic connections come to the patient's awareness. In all groups, there is a positive correlation between the shifts shown by the patients

during the LSD group session and the amount of individual communications made by them. The greater the verbal participation of the patients, the higher the number of shifts is in the symptoms according to the questionnaire "N 5".

In our opinion, the LSD intoxication enables us to observe various mental symptoms immediately "in statu nascendi" and thus brings, to some extent, light into the connections existing between the psychodynamics and the physiodynamics of mental disturbances.

The percentual decrease of the symptoms after LSD psychotherapy, calculated from the mean intensity score obtained in the questionnaire "N 5", is shown in the Table V. The average intensity score recorded before the therapy amounted to about 40–46 and was taken as a 100% basis.

During the first two weeks of stay in the therapeutic community at RCN the neurotic symptoms significantly decreased, viz. to about 50 % of initial intensity. This is a current sign of improvement usually achieved by group psychotherapy at RCN.

In the course of LSD sessions the score of symptoms underwent just a little change with the exception of LSD individual sessions made at RCN. This latter group of patients showed a high increase of symptoms during the LSD interviews. This result was apparently due to the high doses of LSD (100 gamma). In addition, as aforesaid, the depression and anxiety increased in proportion to the amount to which the conflict etiopathogenetic material charged with strong emotions was brought into the patient's awareness. In the final valuation this group recorded the best therapeutic results manifested by decreasing intensity of symptoms. This achievement seems to be explained by three mutually potentializing factors: 1. The patient was given much more individual care (an interview lasting six hours) and

Table V. Percentual Decrease of Score of Symptoms after LSD Psychotherapy (According to Questionnaire "N 5")

Patients:	Decrease to × % of pretreatment intensity:
Individual LSD patients at RCN	27
Group LSD patients at RCN	74
Individual LSD patients at ODUP	44.5
Placebo patients	53
Control patients without LSD and placebo	43
Another group of 44 patients at RCN in 1960	52

he appreciated this fact. 2. The patient's condition having been prepared by LSD, a more intensive and much better use of time was secured, it seems, than in case of a psychotherapeutic interview made under normal conditions without LSD and also lasting six hours. The LSD intoxication enabled the patient to discuss and to experience the hitherto unknown conflict connections from a different point of view and with a powerful emotional charge and to create a strong therapeutic relationship. 3. During the immediately subsequent weeks the patient continued to stay in the therapeutic community at RCN and thus was given a possibility of verifying his newly acquired insight and to train his changed interpersonal attitudes.

A less favorable symptomatic improvement in the intensity score according to the questionnaire "N 5" was recorded also by the group of the ODUP patients who had had individual interviews in LSD. Most of them saw in the LSD interview an interesting experience, and with a great autistic introversion they enjoyed their colored visions together with toxic euphoria, or they showed such a great acting out that it was impossible to achieve any noticeable progress in insight. This seems to be explained by a lacking of the favorable factor of a stay in the therapeutic community at RCN.

The lowest improvement was shown by the group of patients intoxicated during the group LSD session. Here again, the explanation is to be looked for, in our opinion, in several factors: First, there was half a dose of LSD. Also a certain feeling of discrimination could not be excluded, felt in view of the fact that the other patients were given much more individual care in connection with LSD.

Although even in this group a great amount of conflict material came to light, the intoxicated patients were rather well able to maintain their self-control during the group session, mostly under the influence of not fully suppressed social inhibitions. While experiencing a wonderful "rapprochement" with other people present at the session, they still continued to be rather introverted within the group, submerged in their own experiences, absentminded and thus less exposed to the influence of the whole group. During the following night most of these intoxicated patients talked among themselves in their sleeping rooms in the absence of the corrective influence of a doctor or rehabilitation worker. Nearly all the intoxicated members of the group were suggestively contaminated. One of the patients summarised it as follows: "In these high spirits the main problems were put aside." The mobilization of integrative homeostatic forces in the patients' mind was of a small extent only during the group intoxication, and analyzing and explorative factors were predominant. Another female patient said about this: "I was able to clarify many questions, but I was feeling sold out and unable to

put myself together." This is why we are rather skeptical towards the reliability of statements about therapeutic results obtained by authors who leave their patients in LSD alone or at most under the care of a nurse not particularly trained in this field.

The placebo and control groups did not differ in their final improvements from the other control therapeutic community at RCN with no LSD session held. Our fear that taking some selected patients at RCN into an increased individual care might adversely influence the other patients because of their feelings of discrimination for not being also given such a care, has not been confirmed.

Table VI hereunder illustrates the average Life Satisfaction Values obtained from our patients and estimated according to a scale of six grades during the various phases of the cure. Six grades of the scale are as follows: 1. Very satisfied, 2. Satisfaction distinctly predominant, 3. Rather satisfied, than dissatisfied, 4. Rather dissatisfied than satisfied, 5. Dissatisfaction distinctly predominant, 6. Very dissatisfied.

In individual LSD interviews at RCN the patients experienced their intoxication as a condition of extreme dissatisfaction, grief and despair. There is, however, a certain correlation between the final decrease of symptoms on the one hand and the increase of dissatisfaction during the LSD session on the other hand. It is seen from this how difficult it is for the patient when he is re-exposed to the traumatic experiences under LSD to fight his way to a new insight, reintegration and improvement. The group of individual LSD interviews at ODUP showed more favorable data of satisfaction under the influence of toxic euphoria. Also patients intoxicated during the group session at RCN recorded a better mark of satisfaction, but they redeemed this momentary satisfaction by the lowest satisfaction at the end of the treatment and by the lowest improvement manifested by a decrease of symptoms.

Table VI. Average "Life Satisfaction" during LSD Psychotherapy

Patients:	Before therapy	During LSD session	After therapy
Individual LSD patients at RCN	5.0	5.4	3.4
Group LSD patients at RCN	5.0	2.1	4.0
Individual LSD patients at ODUP	5.0	2.5	3.2
Placebo patients	4.4	3.8	4.2
Control patients without LSD and placebo	4.4	3.9	5.0

Table VII gives the final results of treatment in percentages calculated from the total number of patients in each group. The last line of the table gives for comparison the results achieved in 1960 for all patients treated at RCN. The left sub-column labeled "P" gives the patients' own estimate of the results while the right sub-column labeled "T" shows the patients' progress as estimated by the therapists on the basis of clinical facts.

The achieved ratio of 71% of much improved patients in the group of individual LSD treatment at RCN is in agreement with the results obtained by other authors. This group shows a striking harmony of the data of the "much improved" class according to the patients' own estimate and according to the valuation based on clinical facts. A difference having a statistical significance ($p > 95\%$) is shown between the group of individually intoxicated patients at RCN and the results of treatment obtained at RCN in 1960. It is interesting that a higher ratio of "much improved" patients within the group psychotherapy is shown by the placebo group as compared to the group LSD patients at RCN. Both groups have, however, just a small number of cases, and consequently the difference has no statistical significance. Also the results achieved in other groups of patients have no statistical significance either when compared mu-

Table VII. Final Results of LSD Psychotherapy

Patients:	Number of patients	Much improved %		Improved %		No change %		Worse %	
		P	T	P	T	P	T	P	T
Individual LSD patients at RCN	7	71.4	71.4	28.6	14.3	0	14.3	0	0
Group LSD patients at RCN	7	25.0	0	62.5	37.5	12.5	62.5	0	0
Individual LSD patients at ODUP	4	0	0	75.0	75.0	25.0	25.0	0	0
Placebo patients	5	40.0	20.0	40.0	60.0	20.0	20.0	0	0
Control patients without LSD and placebo	16	31.8	6.3	68.7	62.5	0	31.2	0	0
Patients at RCN in 1960	212	21.0	–	65.0	–	12	–	2	–

tually among themselves or when compared to the results shown by patients treated at RCN in 1960. According to a preliminary follow-up study after one year, the favorable results in the LSD individual treatment have proved to be permanent in most cases.

Discussion

The application of a hallucinogene in psychotherapy should never be made by mere improvisation but should always be a measure planned in advance and requiring a much more detailed preparation than any other method. The therapist who proceeds with the session must be quite clear about his relations to the patient and about the application of this method. It is suitable when the psychotherapist himself has previously undergone an experimental intoxication in psychotherapeutic conditions. A negative attitude of medical environment and of medical staff may sometimes be met, such an attitude being due not only to theoretical objections but also to the proper projective mechanisms of those doctors who themselves underwent an experimental intoxication but with negative experiences which were not properly interpreted. For instance, at a medical consultation discussing a case of a heavy obsessional psychopath a possible application of LSD was opposed by a doctor who argued that the drug might provoke an enormous anxiety and a new phobia of never getting out of the psychotic state caused by LSD. Under the impression of such a statement made by a person whose intoxication casually had an anxious and paranoid course, the medical body deliberately made a much more drastical decision i.e. a stereotactic cingulectomia.

In analogy with foreign authors, the following syndromes were selected for intoxication: anxiety neuroses, phobias, slighter obsessions, characteropathias, sexual psychopathia, in particular, homosexuality, various psychosomatic problems such as migraines, dyspareunia, ejaculatio praecox and some kinds of hysteria. The questions of the patient's motivations and attitudes towards the suggested intoxication had also to be included as one of the factors. We strived to keep away from overcoming or eluding the patient's reluctance towards psychotherapy by chemical means; we rather asked ourselves what errors had been made that the patients' resistance could not be mastered by normal psychotherapeutic means.

With COHEN we believe that the possible hazards in connection with applying a hallucinogene might be rather explained by the psychodynamic consequences of the drug than by its pharmacological influence as such. In practice, we excluded hepatitis, kidney diseases, and hypertension. As well were excluded psychotics and heavy schizoid prepsychotic personalities in view of the menace of their heavy acting out reaching as far as a psychosis. In addition, we excluded also persons with obvious paranoid mechanisms and patients with heavy deprivations in their childhood where the insight into such a state possibly could appear intolerable for them, and also monosymptomatic hysterias and low intellects. The drug was administered neither against the will of the patient nor in the case of a negative attitude of the patients' relatives towards such a cure.

The presence of a doctor or of a trained rehabilitation worker is absolutely necessary during the whole course of the intoxication. We absolutely disapprove the "factory-like" therapy with hallucinogenes where the patient during the intoxication is left alone with a magnetophone tape recorder or at most with an untrained staff not able to master any possible stormy course of the intoxication. A reference has already been made to the mutual unlikeness of the sessions held for scientific or artistic or psychotherapeutic purposes. We do not recommend any leaving of the patient by or any alteration of the observer during the intoxication. In the presence of a disinterested observer the intoxicated patient may be subject to a much heavier anxiety, depression and paranoid reactions than in the presence of the therapist striving to give empathic support to the intoxicated person who endeavors to retain his contact with reality. The opposers to the application of LSD in psychotherapy usually ignore these differences when speaking of adverse effects of the use of LSD or of possible dangerous complications. The milieu in which the intoxication is made should be quiet and already known to the patient. The interpretations may be made already in the course of the session or on the subsequent day with the aid of a tape recorder and of written recollections.

With regard to VAN RHIJN's division, the whole course of the individual session of the experimental intoxication was divided into three stages: the preparatory stage reserved for a study of indications and contraindications, to the motivations of the patient and of the experimentator, to the suitability of the kind of drug to be used and of the dose to be administered, etc. The second stage of the intoxi-

cation included a phase of latency, a general pharmacological phase, a phase of specific personality reactions, a phase of feed-back from the environment at the summit of the experiment and a phase of return to the normal state. The third post-intoxication stage has a particular importance in view of possible complications or of an adverse influence to which experiences made during the session might be exposed. This stage may be of different duration. In addition to exhaustion, sleep disturbances, colored dreams, richer new activities, depersonalization, exceptionally a relapse of the whole state with visions may appear. An omission to inform the patient in advance of such possible developments might lead as far as to a panic reaction by the patient. From 25,000 sessions referred to by COHEN just a few prolonged intoxications were observed resembling a psychotic attack; in most cases they, however, petered out spontaneously. Three described suicides committed during this phase cannot be causally attributed to the experiences made in LSD. Notwithstanding, a few of our patients spontaneously said in their notes that it would have been quite easy for them to jump out of the window or to kill themselves in another way. Any possible relapses of the state of intoxication offer, in addition, a rich material for interpretation. Thus, during the relapse which arrived at night with the state of heavy anxiety one of the female patients at RCN consulted her doctor and as late as during this interview it was possible to make an effective summary interpretation of the whole states both previous and present. In our experiment a prolonged intoxication was observed in just one case, viz. in a painter who received a dose of 100 gamma; an artistic interest was followed here by both the intoxicated person and the observer, and the psychodynamic connections of experiences made was not paid attention to.

We are, in principle, against the application of the drug by the patient himself or at home under control of the patient's relatives. For the sake of safety our outpatients are hospitalized for one night and one day at the psychiatric department in spite of the fact that this is no practical solution from the psychotherapeutic point of view. The persons passing over from the state of intoxication into the normal state may thus feel upset by the world of psychotics at the closed department of the hospital. A daily or night sanatorium or an application of the drug directly within the therapeutic community at RCN appear to be much more convenient.

We believe that the prolonged intoxications and relapses may be prevented in most cases when the patients in the transition period into

their normal state are duly resocialized within a group of their intimates. Unless it be imperative, we would rather do without a pharmacological interruption of the intoxication. When the intoxication was made within the therapeutic community at RCN every intoxicated patient was given a "sponsor", i.e. another patient already acquainted with LSD from his own experience. In addition, all intoxicated persons were placed under the medical care of a special medical night service team consisting of a doctor, a psychologist, a nurse or another rehabilitation worker. The emergency method consists in instructing a relative who takes over the patient at the policlinic to look after him possibly with the aid of telephoneadvice given by the therapist.

In concluding this article we would like to point out some seamy sides of LSD application in psychotherapy. Sensational recoveries have been described also as a result of a hypnotic or narco-analytic abreaction and catharsis. Usually an abreaction does not, however, suffice to ensure any lasting effect as conflict experiences failed to be worked through into a new insight and, in addition, a re-evaluation and also a training of newly acquired attitudes were missing. A psychotherapeutic process can hardly be substituted or shortened by a mere chemical therapy. By working on a psychotomimetic drug the therapeutic relationship may sometimes impair instead of improve. Under the influence of suggestion and expectation the doctor who leads the LSD session usually is promoted by the patient to an allmighty man. This may be adversely reflected in the patient's passivity and in his confidence that only the doctor is responsible for the disappearance of his troubles. The loneliness, anxiety and depression experienced by the patient may result in a further increase of the distance between himself and the observer, as stated by DAY. No therapeutic contact may be achieved by too high a dose of the drug.

An individual LSD interview in conjunction with a simultaneous stay within the therapeutic community at RCN appeared to be most convenient of the various modes of psychotherapy with the aid of LSD which were applied in our experiment. The attitudes and experiences newly acquired under LSD could thus be immediately verified and further deepened by the patient in his common life with other neurotic patients. This important factor is lacking in the case of a systematic individual therapy made in ambulatory conditions.

A group intoxication appears to be useful when made within a group of 6–8 persons. A direct group intoxication of a large number of patients such as that at the RCN (30 people) appeared to be in-

convenient, such a large session being beyond control of the therapist. A common session of a smaller group of intoxicated patients together with a larger group of unintoxicated persons could be mastered by the therapist, but there arose some very complicated interactions. A comparatively favorable result was obtained by intoxication of a single patient who read and discussed his personal history in the therapeutic community at a meeting with other unintoxicated patients. The LSD intoxication enabled this patient to get rid of his inhibitions and to be more willing to accept the criticisms made by other patients. This method needs, however, to be checked with a larger number of patients.

Summary

In 39 neurotic cases a comparison was made of various methods of individual and group psychotherapy with aid of a single application of LSD and placebo. The best therapeutic results of statistical significance were obtained from the combination of the individual LSD interview with a stay at the Rehabilitation Center for Neurotics in Lobeč near Prague. The social life with other neurotics staying at this therapeutic community offers the patient an immediate practical possibility to verify, intensify, and correct his new insight acquired from the LSD experience. It seems, according our study, that a single or repeated LSD administration might be able to accelerate and facilitate the psychotherapeutic process and to clarify the connections between the physiodynamics and psychodynamics of mental disturbances. In spite of the contrary views of some enthusiasts, intoxication with a psychotomimetic can, however, never become a systematic psychotherapy.

Zusammenfassung

Verschiedene Methoden der Individual- und Gruppen-Psychotherapie unter einmaliger Applikation der LSD und Placebo wurden an 39 neurotischen Patienten gegenseitig verglichen. Die besten therapeutischen, statistisch signifikanten Resultate wurden bei einer Kombination der individuellen LSD-Behandlung mit dem Aufenthalt im Rehabilitationszentrum für Neurotiker in Lobeč bei Prag erhalten. Das gesellschaftliche Zusammenleben mit anderen in dieser therapeutischen Gemeinschaft behandelten Neurotikern bietet dem Pa-

tienten eine praktische Möglichkeit, seine neue in LSD-Erlebnissen erworbene Insicht zu überprüfen, zu stärken und zu korrigieren. Unsere Arbeit scheint zu zeigen, dass mit einer einmaligen oder wiederholten Applikation von LSD der psychotherapeutische Verlauf beschleunigt oder erleichtert und die zwischen der Physiodynamik und der Psychodynamik der geistigen Störungen bestehenden Beziehungen geklärt werden können. Trotz Ansichten einiger begeisterten Autoren kann jedoch die Intoxikation mit einem Psychotomimetikum nie als Surrogat einer systematischen Psychotherapie dienen.

Résumé

Une comparaison a été faite, chez 39 maladies névrotiques, à propos des différentes méthodes de psychothérapie individuelle et de groupe, à l'aide d'une unique application de LSD et d'un placebo. Les meilleurs résultats, statistiquement significatifs, ont été obtenus en combinant le traitement à LSD avec un séjour au Centre de Réhabilitation pour Névrotiques à Lobeč, près de Prague. La vie sociale ensemble avec les autres névrotiques dans cette communauté thérapeutique offre au malade une possibilité pratique immédiate pour vérifier, intensifier et corriger sa propre introspection, acquise grâce à l'expérience tirée de la LSD. Il apparaît, à partir de cette étude, que l'administration unique ou répétée de LSD peut accélerer et faciliter le processus psychothérapique en éclairant les connexions entre la physio- et psychodynamique des perturbations mentales. En dépit des opinions contraires de quelques auteurs enthousiastes, l'intoxication avec un psychotomimétique ne peut, toutefois, jamais remplacer une psychothérapie routinière.

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