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## The Occurrence of Depersonalization Phenomena under LSD

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### *Introduction*

It has been shown that in depressive states (*Sedman and Reed* [1963]) and in schizophrenia (*Sedman and Kenna* [1963]) there is an association between depersonalization, depression of mood and pre-morbid insecure personality. In this paper we are considering the occurrence of depersonalization in a group of patients with insecure personalities who had been given lysergic acid diethylamide (L.S.D.).

### *Depersonalization During Lysergic Acid Intoxication*

That depersonalization may occur in toxic states due to drugs is well known; the whole problem having been studied using Mescaline by *Guttman and Maclay* [1935] in their classical paper, and reviewed by *Haug* [1936]. *Mayer-Gross* [1935] suggested that the experimental use of mescaline opened up prospects for further sensory research into depersonalization.

That ego changes, including depersonalization phenomena, occur under the influence of lysergic acid has been reported by many workers, thus *Anderson and Rawnsley* [1954] found that 6 of their 23 subjects (19 patients, 4 normals) reported depersonalization phenomena, sometimes as a transient experience but in 1 subject it persisted throughout the intoxication. They commented that 7 of their subjects (2 normals, 5 patients) experienced a peculiar feeling of ego-dissolution, similar to that reported by *Savage* [1952] as "a desperate holding on" by individuals who found the distortion of reality too threatening. Similarly *Becker* [1949] spoke of the loss of the boundary between the ego and the non-ego. *Sandison et al.* [1954] considered that some degree of depersonalization probably occurred during every lysergic acid intoxication, usually being temporary but occasionally

severe and quite alarming. They thought it corresponded to the depersonalization syndrome described by *Shorvon* [1946]. *Abramson et al.* [1955] found that a "dream-like feeling" was amongst the most common symptoms of lysergic acid intoxication. *Roubiřek* and *Srnc* [1955] reported the occurrence of depersonalization in 12 normal individuals following the administration of the drug. *Savage* [1955] in his series—of 32 patients, 6 normals—mentioned that severe ego disturbances occurred frequently. He believed that there was first a raising and then a lowering of ego feeling, followed by withdrawal of ego feeling from the ego boundaries with the estrangement and depersonalization as a result of these changes. He suggested that lysergic acid alters perception and that perception determines the ego boundaries. *Giberti* and *Gregoretti* [1956] also described depersonalization phenomena in a group of 35 neurotic patients (obsessional and hysterical) treated with lysergic acid. *Bercel et al.* [1956] reported that 6 of their 25 normal subjects experienced depersonalization, feelings of estrangement and of impending dissolution after the administration of lysergic acid. Two subjects experienced a feeling of exhilaration and lightness, as if floating. *Solms* [1956] also noted "dream-like changes" under the influence of the drug. *Von Mering* [1957] using a wider definition than in the present study reported depersonalization as occurring in all his cases receiving LSD. *Roubiřek* [1958] in a later study found however only occasional depersonalization among his 115 subjects (normal and psychotic) under lysergic acid. *Balestrieri* [1961] in his "auto" experiments with the drug commented on the presence of "autopsychic depersonalization". *Wolbach et al.* [1962] comparing the effects of a placebo, lysergic acid and mescaline when given to 10 male subjects (all former narcotic addicts) found that a placebo was unable to induce depersonalization whilst both lysergic acid and mescaline did so in about a third of the subjects.

#### *Personality and L.S.D. Response*

Few attempts have been made to relate responses under lysergic acid to personality structure. *Kornetsky* and *Humphries* [1957] using the Minnesota Multiphasic Personality Inventory reported that subjects with high scores on the (D) "Depression" and (Pt) "Psychasthenia" scales showed the maximum subjective changes after the administration of several drugs including lysergic acid. *Kuramochi* [1961] in his series of 30 volunteers who were studied under LSD

found that depersonalization tended to occur in those of cycloid temperament. *Malamud* and *Lindemann* [1934] nearly twenty years ago had noted that different individuals, even with the same mental condition, may react differently to a number of drugs (sodium amytal, cocaine, hashish and mescaline). Recently the whole problem of drugs and personality has been reviewed, e.g. *Eysenck* and *Trouton* [1960], *Lindemann* and *v. Felsing* [1961].

#### *Mood Changes During Lysergic Acid Intoxication*

*Beringer* [1927] considered that euphoria was very characteristic of mescaline intoxication, though he also noted that anxiety and depression of mood may also occur. Similar mood changes were also found by *Guttman* and *Maclay* [1935], who also commented on the frequently found lability of mood induced by mescaline.

Mood changes also have been reported following the administration of lysergic acid. Thus *Anderson* and *Rawnsley* [1954] made special note of the lability, the mood often varying from extreme elation to profound depression within minutes. Anxiety and euphoria were in this series of both normals and patients more commonly induced than depression. The mood changes were in fact similar to those reported by *Stoll* [1947], *Hoch et al.* [1952], *Förster* and *Goldner* [1951], *DeShon et al.* [1952], *Liddell* and *Weil-Malherbe* [1953] and *Savage* [1952]. *Sloane* and *Doust* [1954] considered that the mood changes seemed to be dependent upon the affective state of the subject, prior to the administration of lysergic acid. Equanimity and cheerfulness tended towards euphoria, whereas anxiety and depression were usually heightened. *Gastaut et al.* [1953] commented on the tendency towards euphoria and the marked lability of mood. *Haase* [1957] in his complete review of the subject matter, reiterated the findings of earlier workers.

#### *Procedure*

In all 25 patients (13 males, 12 females) were studied, 23 had been admitted as in-patients or day-patients to the University Department of Psychiatry under the care of Prof. *E.W. Anderson*, and 2 patients had been in-patients in Cheadle Royal Hospital under the care of Dr. *W. Wadsworth*. All patients had personalities which were predominantly insecure. The criteria used in assessing personality and depersonalization were as defined in the work referred to above.

Thus under the term "Insecure Personality" following *Schneider* [1958, 1959] we included both anankastic and sensitive personalities. The "Anankastic" or "obsessional" personalities exhibiting such traits as excessive orderliness, excessively high standards and meticulousness, feelings of inner shortcomings etc.; the sensitives being characterised by conscious retention of affect-laden complexes together with much intra-psychic activity and small capacity for discharge. Both these two personalities having in common a deeply rooted inner insecurity and a lack of any robust self-confidence. Under the term "depersonalization" we included only those benign ego disorders in which there was a feeling of unreality in the self or in the environment. The mean age of the group was 31.5 years (men), 33.3 years (women), the age range being 21-50 years. The diagnostic groups were as follows: Schizophrenia 4, Schizo-affective disorder 1, Doubtful Schizophrenia 6, Depressive Psychosis 5, Neurotic Depression 2, Insecure Personality disorder 7. Prior to the administration of LSD, the dominant moods of the patients were as follows: Depression 16, Depression and lability of mood 1, Depression and flatness of mood 2, Flatness of mood 2, normal mood 4.

There were 5 patients who were depersonalized prior to receiving LSD and as in our earlier studies, they were scattered throughout the diagnostic groups and all were depressed; which tends to support the linking of depression, depersonalization and insecure personality. The presence or absence of depersonalization was also examined in relation to a number of other factors, such as age, sex, ego changes, perceptual experiences, thought disorder, paranoid-sensitive ideas, body image disturbances, sleep disturbances, religious experiences, type of onset of the illness and EEG findings. None of these factors were found to be significantly associated with depersonalization prior to administration of LSD.

### Results

LSD was given to all patients at least once. For present purposes we report only on the data in respect of the initial administration of LSD, the dosage given ranged between 40  $\mu$ g and 200  $\mu$ g.

#### (a) *Mood changes elicited during LSD intoxication*

In general there were three main types of mood change: (i) There was a change from depression to euphoria or elation, this being the most common response. (ii) There was an altered level of anxiety,

this usually being increased, though 2 patients reported a lessening of anxiety. (iii) There was a lability of mood, which was very marked in a few patients.

*(b) Depersonalization during LSD intoxication*

During LSD intoxication, 15 of the 25 patients became depersonalized, and this was associated with a LSD-intoxication mood of depression ( $\chi^2 = 4.25$   $p < 0.05$ ) but not associated with a LSD-intoxication mood of anxiety, euphoria or a lability of mood. Neither was the presence or absence of depersonalization associated with age, sex, ego changes, perceptual experiences, thought disorder, paranoid-sensitive ideas, body image disturbances, sleep disturbances, or religious experiences.

*Discussion*

Reference to earlier work has made it apparent that LSD is capable of inducing transient experiences which are phenomenologically indistinguishable from what is clinically termed "depersonalization". What however is not clear, is whether this is a universal property of the drug or whether other factors such as personality play a considerable part too. There is of course ample evidence to support the view that personality has a considerable part to play in drug responses, and in our view LSD is no exception to this. We have shown in our earlier studies (q.v.) that in depressive states and in schizophrenia that there is a statistically significant relationship between the psychiatrists' rating of pre-morbid insecure personality, depressed mood and the presence of depersonalization. Since LSD has also a remarkable effect on the affective state of the subject, its use affords a suitable method of testing the relationship between mood and depersonalization; the personality factor having been kept constant. It was found that there was a significant association between the mood of the subject and the presence of depersonalization in insecure personalities. These results are based on data obtained from the initial administration of the drug to patients, in most cases at a low dosage. It seems that insecure subjects are very prone to develop depersonalization, if they are depressed and in this instance in a toxic state. Further studies are indicated to determine whether other personalities are more resistant to LSD intoxication. In many ways LSD experiences resemble sensory deprivation experiences and

in this respect it has been shown that introverted subjects are more likely to experience depersonalization than extraverted subjects under sensory deprivation conditions, *Reed and Sedman* [in press].

The depersonalization experiences occurring during LSD intoxication were in all our subjects transient and lasted only during the intoxication, and in all cases the patients reverted to the pre-LSD state.

Although a high proportion of the patients exhibited other ego changes, body image disturbances, or time disorder, we found no association between their occurrence and depersonalization. This is surprising in view of the fact that such experiences often accompany depersonalization in other clinical states and indeed are considered by many to be an integral part of the depersonalization syndrome, *Mayer-Gross* [1935], *Ackner* [1954]. Our results tend to suggest that other mechanisms may be participating in the genesis of ego changes, body image disturbances and time disorder; for if they were really an integral part of depersonalization, there should be a significant correlation between them. *Haug* [1936] considered that in all cases of depersonalization there was a clouding of consciousness, though this could be minimal and not detectable by the crude clinical tests we have at our disposal. Few would now deny that LSD does produce an alteration in the level of consciousness and it could be argued that this is the primary factor in producing depersonalization. In our cases however we were unable to demonstrate any relationship between the degree of torpor induced by LSD and depersonalization. Thus it occurred just as frequently in patients who were clinically alert as those who were quite torporose. This seems to negate the hypothesis that minimal changes in consciousness rather than gross clouding are more inductive in producing depersonalization.

Depersonalization has been considered by *Savage* [1955] to be primarily a perceptual disturbance, but we were not able to show any association between the occurrence of perceptual disturbances either singly or combined and depersonalization. Indeed from our experimental results all we can postulate is that there is an association between depressed mood and depersonalization without assuming that this relationship is in any way causal. It seems to us more likely that LSD induced depersonalization is a central rather than a peripheral phenomenon, and that constitutional or personality factors are essential in the first instance for its origin. However this must remain highly speculative at the moment.

### *Summary*

The occurrence of depersonalization and mood changes during LSD intoxication are briefly reviewed. Personality factors are considered. A series of 25 patients all with insecure personalities, but diagnostically heterogeneous were investigated in respect of their responses to LSD, with particular reference to the occurrence of depersonalization and mood changes. It was found that there was a significant relationship between the occurrence of depersonalization and depression of mood in these subjects. The findings are discussed briefly in relation to the views of previous workers on depersonalization.

### *Résumé*

Les phénomènes de dépersonnalisation et de changement d'humeur par suite de l'intoxication au LSD sont brièvement exposés. Les facteurs de personnalité sont pris en considération. Un groupe de 25 patients présentant tous une personnalité instable, mais d'étiologie diverse, ont été examinés au point de vue de leurs réactions au LSD, particulièrement au sujet de l'apparition du phénomène de dépersonnalisation et de dépression de l'humeur. Les résultats sont brièvement analysés dans leur relation avec les théories d'auteurs ayant traité le sujet de la dépersonnalisation.

### *Zusammenfassung*

Das Auftreten von Depersonalisation und affektiver Veränderung bei LSD-Vergiftung wird kurz dargestellt. Persönlichkeitsfaktoren werden dabei in Erwägung gezogen. Eine Reihe von 25 Patienten, alle unsichere Persönlichkeiten mit verschiedenen Diagnosen, wurden in bezug auf ihr Verhalten gegenüber LSD im Hinblick auf das Vorkommen der eingangs erwähnten Veränderungen untersucht. Es fand sich eine signifikante Beziehung zwischen Depersonalisation und Gemütsdepression bei diesen Persönlichkeiten. Das Ergebnis wird kurz diskutiert im Hinblick auf andere Arbeiten über Depersonalisation.

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