

# DEPERSONALIZATION TREATED BY CANNABIS INDICA AND PSYCHOTHERAPY

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THE first description of the syndrome of depersonalization is to be found in the German literature towards the end of the 19th century. Krishaber (1892) described a psychiatric illness characterized by visceral symptoms and feelings of unreality to which he gave the name cerebro-cardiac neurosis ; Dugas (1899) gave these feelings of unreality the name of depersonalization symptoms. The syndrome was recognized clinically with increasing frequency from then on, but gained definition for the first time when Mayer-Gross (1935) gave his classical descriptive account of the syndrome and distinguished it from feelings of unreality and loss of personal identity occurring as a symptom in other forms of mental illness. Psycho-analytic interpretations of the condition were given by Oberdorf (1934 and 1939) and by Feigenbaum (1937). They tended to regard it as an unconscious defence mechanism, related in some respects to schizophrenia, and representing an attempt to maintain an intact personality structure by withdrawal from external stress in the face of threatening disintegration. Other views were given by Tayleur Stockings (1947), Shorven (1949), who discussed a series of 66 cases, and Bockner (1949). The syndrome is characterized by the comparatively sudden onset of changes in space and time perception (Lewis, 1931 ; Schilder, 1939), loss of depth of personal feeling, sensations as though " something has snapped in the head," and, most characteristic of all, loss of conviction of one's own identity, and of that sense of identification with, and control over, one's own body, which is taken for granted and scarcely realized as a subjective experience in the normal person. At the same time there may be feelings of unreality, in which the outside world looks as though it were flat and far away, or as though it were unreal and contrived like a stage setting. Space has no depth and the environment seems curiously meaningless. It is as though appearances were illusions, and there is nothing real behind them.

Typically, symptoms follow prolonged physical or emotional stress, but may come on after cessation of the stress at a point when the patient would normally expect relief and well being. One patient after struggling to pay off a mortgage while contending with reactive depression and considerable difficulties both at work and in the home, which had caused him desperate and incessant worry for many months, suddenly received a legacy which completely restored his financial position. He could hardly believe

it at first, but later in the same day, while waiting for a bus, began to think about his new found freedom and the long months of stress which had preceded it, when he suddenly felt as though something had snapped in his mind, and he was no longer real any more. Similar cases have been reported after prolonged battle stress in wartime and in the course of mental illnesses which themselves produce protracted suffering and emotional tension.

The condition is reversible, and cases may recover completely and spontaneously ; on the other hand, a kind of hapless stability may occur in which the patient is compelled to live with his disability for months or years. Depersonalization may also present as a symptom in other forms of mental illness, such as schizophrenia, involuntional agitated depressions, and more rarely in the course of prolonged neurotic reactions such as anxiety states, obsessive compulsive reactions or hysterical illnesses. It may also be seen in connection with structural lesions of the brain following trauma or infection (Brock and Wiesel, 1942), or prolonged anoxia, as for example from carbon monoxide poisoning (Reidl, 1942). It is allied to the syndromes of parietal and temporal lobe dysfunction which may occur in connection with neoplasm (Bender and Kanzer, 1940 ; Brain, 1941 ; Nielson, 1938 ; and Scholder, 1934), and has also been reported as a transient phenomenon in encephalitis lethargica, epilepsy, hypoglycaemia, and intoxication with alcohol and mescaline (Guttman, 1936 ; Heuyer and Dublineau, 1932 ; Mayer-Gross and Steiner, 1921 ; and Mayer-Gross, 1951).

The following case illustrates what appears to have been a pure depersonalization syndrome occurring following the stress of a protracted labour in an emotionally immature but otherwise healthy young woman, who made a complete recovery in response to a method of treatment which may itself throw fresh light on the aetiology and psychopathology of the condition.

#### CASE REPORT

Mrs. E. H., aged 28, was admitted to the York Clinic in May, 1953, with the following history. The patient, who had a happy childhood, and came from a family without history of mental illness of any kind, worked successfully as a secretary until her marriage at the age of 23. The marriage was extremely happy and in October, 1952, the patient had a 7 lb. 9 oz. baby boy after a planned uneventful pregnancy. The first stage of labour lasted 24 hours and the second 2 hours until terminated by forceps delivery under general anaesthetic. During labour the patient remembered feeling increasingly anxious and frightened, and could recall that by the time the second stage had been reached she had begun to feel she could not bear the procedure very much longer, and that she would die. When the anaesthetic was begun she accepted it with resignation but did not expect to survive. Her

symptoms began immediately after she recovered consciousness, in good physical condition and with a healthy and vigorous infant.

She said: "I felt cut off from everything. Nothing seemed real. I had no sense of time." She complained particularly of an inability to feel interest or affection for the baby although she wanted to love him, and a similar sense of unreality and detachment in her relationship with all other members of her family, including her husband. Looking at the baby she said: "I feel I don't know him. I haven't any mother love for him." She was not as depressed as the situation might have been expected to make her. She returned home with the baby but found herself unable to undertake normal responsibility for running her home, and persistently bewildered and troubled by her sense of personal emptiness, amounting almost to non-existence, and the apparent unreality of everything surrounding her. Her mother moved into the home to help her, and while the patient vaguely deplored this, she seemed to regard it as inevitable. Before the illness her sexual relationship with her husband had been in every way ideal, to quote both her own and her husband's recollection; since the birth of the baby, although she had continued to have sexual relations with her husband, she found these as meaningless and unreal for her as everything else. At the time of her admission she had been ill in this way for seven months without sign of improvement, and had already been for a part of this time an in-patient in a first class mental hospital in the London area, whence she had discharged herself after failing to gain relief from what amounted to routine care and rest under supervision, largely on an expectant basis.

On examination in the Clinic on May 4th, 1953, the patient was attractive, well groomed, and intelligent, responded quickly and accurately to questioning, had a good memory and gave no evidence of delusions or hallucinations or thought disorder of any kind. It was impossible to describe her mental state as depressed, and in fact the clinical picture was strikingly clear cut, being restricted to severe symptoms of depersonalization, derealization, and profound disturbance of time perception. Following the taking of a complete history a number of interviews were held with the patient to define exactly those areas of her life in which her emotional blunting and depersonalization seemed most acute. These proved to be principally her feelings for her baby, her capacity to deal with her housework, and her feelings about her husband since the birth of the child.

There could be no doubt about the timing of the depersonalization. It followed immediately upon the extreme exhaustion and physical ordeal of the protracted labour and delivery. Treatment was therefore directed to the study of her feelings immediately preceding and immediately following this stage in her life. A number of interviews under methedrine injected intravenously followed by intravenous pentothal were given. The effect of the methedrine was to make her temporarily more alert but not to make her feel very much more real; during the recovery stage from pentothal she twice felt her old self again but only for a time. Psychological investigations did not support the view that there was intense personal conflict underlying this syndrome; there were, however, indications of a somewhat childish and immature attitude to adult responsibilities. This is the kind of picture sometimes seen in patients who develop puerperal depression.

Following the trials with methedrine and pentothal, a single E.C.T.

was administered under pentothal and curare ; immediate study of the patient following its administration did not reveal a hint of improvement. In view of the possibility that treatment of this kind can intensify depersonalization, particularly where the depressive element is not marked, we were reluctant to pursue this treatment further. So far the most marked improvement had been seen in the euphoric stage of recovery from pentothal, after previous stimulation with methedrine ; the patient felt that this had brought her closer to contact with reality than anything else. " It was as though time and the world had been on the point of becoming real. . . . "

We were at this time interested in the relationship between disturbances of contact with reality and time perception, and certain hallucinogenic drugs such as mescaline and cannabis indica. The disturbance of appreciation of time suffered by this patient since her labour, together with the indication of improvement gained by temporary euphoria, led one of us (E.J.R.) to suggest the empirical use of cannabis indica in an attempt to enable the patient to regain permanent contact and recovery from the depersonalization.

She was given a test dose of gr. 4 of the freshly prepared tincture in alcohol at 3 p.m., and this was followed by a light meal of carbohydrate at 4 o'clock. The patient at first experienced the reactions usually ascribed to cannabis indica, namely a succession of transient but gradually increasing periods of euphoria with slowing of time sense, accompanied by sweating and palpitations. As the intoxication proceeded she became aware of increasing feelings of anxiety and apprehension which reached a climax at about 6 p.m., when she began quite suddenly to re-enact her labour. At this point she became emotionally excited and claimed that she was going to have the baby, without apparent realization that this was a re-enactment of the past. She complained of no pain during this labour, but in every other way behaved as though it were taking place. It lasted some three hours, during which time she was attended by the usual nurses on the ward and the House Physician, all of whom she identified as her original attendants in the maternity ward.

The experience culminated in the delivery of the baby, after which she identified the Resident Medical Officer as her husband and claimed happily and triumphantly that she had managed to have the baby at last. She said : " I'm all right now . . . " She then fell asleep.

The following morning when she awoke she had complete insight for the whole process, and had regained normal contact to a remarkable extent. She said she felt almost completely well but could recognize that she was still not exactly as she had been before the illness began. After two or three days' observation and interviews the treatment was repeated ; however, on this occasion she did not repeat the previous re-enactment of the experience of giving birth to the child, but remained cheerful and dreamy for several hours after treatment. Following it she claimed to feel completely well. She was given an extensive trial week-end at home, after which she reported that she had felt her old self again, able to take a full interest in the house and baby and was as far as she could judge wholly recovered. She was discharged for careful follow-up, and when last interviewed over a year later, has remained completely well and without any recurrence of symptoms, anxiety or depersonalization of any kind.

## DISCUSSION

This account of total remission of an established depersonalization syndrome following the administration of cannabis indica raises a number of interesting possibilities as to the mechanism of cure in this case and the underlying basis of the disorder. The treatment of depersonalization has been varied and empirical since the condition was first described ; it has included the administration of E.C.T., metrazol, continuous narcosis, benzedrine in large doses, and, when regarded as occurring in the course of schizophrenia, has been treated with insulin coma and even in some resistant cases, with prefrontal leucotomy (Schilder, 1939; Shorven, 1947). Shorven in his series mentions these treatments, and reports four cases of dramatic recovery after ether abreaction. Mescaline was mentioned by Mayer-Gross (1935) as producing symptoms comparable to those of depersonalization and this substance has been used by Kraepelin (1911) in an attempt to induce euphoria in depressed patients. Guttman and Maclay (1936) treated a series of 11 patients with depersonalization by giving them small doses of mescaline, but this seemed to make the majority worse. Three, however, in whom disorder of time perception had been a marked symptom, were reported as improved.

Mescaline, like cannabis indica, is a hallucinogenic drug and probably produces its effects by combined action upon enzyme activity in the cerebral cortex and in the autonomic nervous system. It has recently received considerable experimental attention in the studies made by Osmond and Smythies (1952) upon the biochemistry of schizophrenia. They drew attention to the similarity in chemical structure of mescaline and adrenalin, and suggested that the symptoms of schizophrenia might be due to the formation in the body under conditions of stress (and hence of excessive adrenalin production) of an abnormal breakdown product of adrenalin which they called M. substance, presuming it to be allied to mescaline in structure and clinical effects. They have since shown (1954) that adrenochrome, an oxidation product of adrenalin which they believe may occur in some conditions in the body, does in fact produce psychotic symptoms very similar to those of schizophrenia when injected experimentally in human volunteers. They have suggested that adrenochrome and allied hallucinogens, under which term they include mescaline, lysergic acid, diethyl amide isolated from ergot, ibogaine, an alkaloid derived from the African bean, harmine, and cannabis indica, all act by virtue of a common indole grouping in their structure.

The position of cannabis indica is particularly interesting. Also known as hashish, it is an alkaloid extracted from hemp, and

may be swallowed, or smoked as marihuana. Its active principle is unknown, but the cannabinol fractions, at one time thought to contain the active principle, bear no structural relation to the hallucinogens and cause no distortion of space or time perception. The hallucinogenic effect appears in fact to be specific to the amorphous fraction of hashish and is potentiated by glucose. It may be related to the possession of an indole ring as suggested by Osmond and Smythies (Adams, 1942 ; Loewe, 1944 ; Macdonald, 1941 ; Osmond and Smythies, 1954 ; Pond, 1948 ; Russell *et al.*, 1941 ; Todd, 1940 and 1954).

One of the steps in the normal breakdown of adrenalin in the body includes its deamination to oxidizable aldehydes by amine oxidase, and one of the properties which all the hallucinogens have in common is their capacity to inhibit the action of amine oxidase. It is thus possible that their clinical effects are produced by the liberation of an adrenochrome-like substance, the hypothetical M. substance of Osmond and Smythies, occurring as an abnormal breakdown product of adrenalin when the normal breakdown is interfered with by the failure of deamination consequent upon inhibition of amine oxidase activity. It might thus be postulated that each hallucinogen leads to a different degree of failure of amine oxidase activity, with the liberation of a different fraction of M. substance, producing a slightly different but characteristic clinical picture. Characteristic effects of cannabis indica include euphoria with disturbances of time and space perception, sometimes accompanied by erotic visual imagery, and usually followed by profound relaxation and sleep. A striking feature may be the vivid recall or re-experience of events and feelings long since past and formerly forgotten. This drug thus seemed particularly suited to our requirements in the treatment of this case of depersonalization, and proved in fact empirically to be highly successful.

A tentative explanation of the mechanism of this result is that the depersonalization syndrome had occurred as a biochemical phenomenon initiated by an adrenochrome-like substance, produced by abnormal breakdown of adrenalin during a period of intensive emotional and physical stress. This led to a profound disturbance of the patient's capacity to perceive and apprehend reality, which persisted on a psychogenic basis long after the stress had ceased. The action of cannabis indica may well have been to reproduce a temporary condition of mental and emotional dissociation, once again on a biochemical basis, but this time without the physical and emotional stress, and without the excessive production of adrenalin which characterized the conditions obtaining at the onset of depersonalization. With the reproduction of this condition in the absence of stress on the second

occasion, and under circumstances in which psychological support could be given, it was possible for the patient to work through the emotional crisis successfully, and on recovery from the effects of cannabis indica, to integrate the experience with reality and thereby regain normal contact.

This of course bears some resemblance to the mechanism implied by ether abreactions as described by Shorven (1947); but it has the advantage over those methods of treatment that improvement was gained without re-introduction of external stress, and without the physical disturbance and fear which are often inseparable from partial ether intoxication in itself.

## SUMMARY

The syndrome of depersonalization is discussed, with reference to a particular case treated in the York clinic with cannabis indica. The implications of this method of treatment and its result, with regard to the aetiology, psychodynamics, and possible biochemistry of the condition are considered.

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