NARCO-ANALYSIS.*

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NARCO-ANALYSIS is an eclectic technique based on the observation (6) that a combination of narcosis with psycho-therapy is quicker and sometimes more effective than the formal methods of analytical psychology. The earlier attempts of this kind were limited to the non-analytical methods of overt suggestion augmented by drugs.

Starkey (10) found " light ether hypnosis " of value in producing relaxation and increased suggestibility. Newman (9), using intravenous alcohol, found that psychoneurotics became more accessible to psycho-therapy, but that schizophrenics retired further from reality. Somewhat similar results have been obtained with chloroform, bromides and morphia. Baernstein's (1) experiments with scopolamine showed that this drug increased the suggestibility of already susceptible persons, but had no effect on those who were resistant in the normal state. The *Schlafmittel-hypnose* (5) of Hoff and Kauders, using paraldehyde and medinal, shows no material therapeutic advance.

The results of these methods are so variable and uncertain that they are unsuitable for general application, and it appears that precision in narco-psychotherapy can be obtained only by using a drug with a selective action on the brain-stem. Furthermore, this drug must be non-toxic, of certain effect, and productive of a fair degree of narcosis without causing serious clouding of consciousness. Such a drug is, as yet, unknown, but the newer " short-acting " barbiturates approach the ideal most closely. Foremost among them are nembutal, evipan and pentothal. Nembutal has had the most extensive trial, and is the drug generally used in narco-analysis. Hauptmann (4) has shown that evipan is an equally certain and precise aid to hypnosis. It appears probable, however, from recent investigations in this Hospital with pentothal (7) that this newest barbiturate may be the most valuable of all.

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Rationale.

Narcosis is produced very slowly by the gradual administration of a suitable drug. During the stage of light narcosis a true hypnotic state is induced, and the patient is made amenable to psychological analysis and synthesis. In addition, deep narcosis is induced on account of its particular value in allaying psycho-motor unrest. The appropriate modifications for out-patient practice are to inject only the minimal dose of pentothal and to omit the stage of deep narcosis.

General Management.

Treatment is preceded by routine investigations of the history, mental state and physical condition. The patient is prepared as for a general anæsthetic and is put to bed in a side-room. During narcosis he should be under the continuous observation and care of a competent nurse. It is important during the treatment to have absolute rest and quietness. Diet is restricted to fluids.

Stages of Narco-analysis.

(1) *Induction of light narcosis.*—Nembutal is dissolved in distilled water in 2½% solution and injected intravenously at the rate of not more than 1 c.c. a minute. When a state of light narcosis is produced the injection is stopped. At this stage the patient should be drowsy, but not struggling against an overwhelming desire to sleep. He should be in a state of passive receptivity, able to understand what is said to him and to talk clearly in reply. Such a stage in the resistive subject can only be attained by a comparatively large dose of the drug, and it may be very transient. In a co-operative subject an experienced operator can produce a state of optimum suggestibility with a very small dose and prolong that state so long as he wishes.

(2) *Induction of hypnosis.*—While the drug is being injected the physician must arrest the attention of his patient and establish hypnotic *rapport* with him. Hauptmann claims that this can be done with evipan in every case. In some cases surrender is implicit and gradual; in others there is a dramatic change from a state of psychic isolation to one of intimate dependence; the body relaxes; shyness and inhibition melt away and the patient will volunteer the information that he "feels confidential"; the mute melancholic talks freely; the maniac becomes coherent. All cases hypnotized are easily and completely suggestible, and their docility can be demonstrated by the usual tests. In contra-distinction to the drowsy forgetfulness of simple narcosis there is the major hypnotic phenomenon of hypermnesia.

(3) *Analysis.*—Analysis is employed in the manner defined by Hart (3)

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as " any method whereby the nature and relationship of the causes responsible for the patient's condition are determined and the condition removed by re-arrangement and re-adjustment of these causes ". It is usual to begin with free association which, during narco-analysis, is very productive of hypermnesia. This hypermnesia or facility of recall may be one of two types. In one group there is an obvious inhibition or block, with resulting amnesia for a section of the patient's life. With the removal of this inhibition there is a sudden and vivid restoration of the forgotten memory. The other group consists of those cases in which the faded memories of remote events, notably those of childhood, are recalled under hypnosis. It has been suggested that hypnosis lowers the threshold of recall and so overcomes the normal process of forgetting. There is, however, much clinical evidence indicating that all hypermnesia is due to the removal of inhibitions. It is found during narco-analysis that the recall of apparently trivial details reveals a quantity of relevant and significant information. It is due to the removal in this way of minor inhibitions that the method owes its speed and precision. The conflict, latent or repressed, comes quickly to the surface ; the story of mental suffering is made plain ; the content of abnormal ideation is amplified and orientated. In an hour the physician obtains a quantity of information relevant to the patient's mental state which he could not have obtained in a month by ordinary methods.

(4) *Synthesis.*—This is the essence of the treatment, and must be conducted with great care and forethought. The synthesis or re-integration of a dissociated personality does not necessarily involve a deep analysis. The essential requirements are a clear determination of the salient factors responsible for the patient's condition, and the subsequent making of new associations to restore a normal attitude to reality. In simple cases a complete synthesis may be effected at a single sitting. In more resistant cases the patient's failure of adaptation is artificially intensified, and this must be corrected by abreaction and vigorous post-hypnotic suggestions of emotional and intellectual reintegration.

(5) *Deep narcosis.*—Hypnosis is merged into deep narcosis by a further injection of the solution at the same rate until the onset of unconsciousness. The dose required again shows individual variation. There is seldom any difficulty in determining the exact point at which the injection should cease—the most important index being the respiratory rhythm. The average duration of the first sleep is 12½ hours. Towards the end of this time the patient wakes, asks for food, and at once falls asleep again on being fed. When a long period of absolute rest seems desirable the second sleep is prolonged by rectal suppositories of nembutal, gr. vi.

(6) *Repetition of treatment.*—The same technique can be repeated the next day, or on several successive days, or at longer intervals. One injection in an accessible subject is usually sufficient to allow hypnosis by ordinary procedure.

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When, as is usual in the type of case admitted to a mental hospital, successive treatments are necessary, four phenomena will be noted: (1) Hypnosis can be induced by diminishing doses, (2) the hypnotic state can be prolonged, (3) the value of suggestion is intensified, and (4) the duration of sleep can be maintained with diminishing doses.

(7) *Re-education.*—It must be stressed that the post-hypnotic state is often, if not usually, a period of psychic tension when doubt or hesitancy on the part of physician or nurse may unbalance the mental poise. Hypnotic suggestions must be carefully reinforced in the waking patient by explanation, persuasion and re-education. If hypnotic memories are to be recalled, then the emotional reactions of recall must be anticipated and adjusted. It may be emphasized that during narco-analysis transference phenomena are common and often acute. The transference, though inessential, is nevertheless helpful in every stage, and tends to facilitate the restoration of environmental contact.

Case Notes.

Case A: Married man, æt. 38.—This typical war neurosis is included simply to demonstrate the close correspondence between the state of hypnosis and that produced during narco-analysis. There is little doubt that in this case the same result would have been achieved by the ordinary method of hypnotic analysis.

He was described as a case of "shell-shock". For fifteen years he had been incapacitated by recurrent convulsive attacks, followed by fugues, during which he displayed ungovernable fury directed against imaginary foes. These attacks always ended in sleep, with subsequent amnesia for the event.

On examination he presented a retrograde amnesia for the whole period of active service in France. Under nembutal hypnosis he recalled a vivid picture of his war-time experiences up to the time of a bayonet attack. He described his terror, which was displaced by loss of consciousness. He was told that once more he would become convulsed and that on waking his memory would be restored and he would be cured. After sleeping for three hours he became convulsed, and re-enacted his fugue for the last time. He was oblivious to those around him; shouting incoherently, he seized a phantom rifle and fought for his life against invisible foes. Narcosis was repeated and he slept all night. On waking he was able to recall, for the first time, the whole terrible experience. Persuasion was then effective in promoting a good recovery.

Case B: Single woman, æt. 22.—The history states that she was jilted, following which she became depressed, solitary and completely unresponsive. Six weeks later she attempted suicide by gas-poisoning and was certified.

On admission, her mental state was one of profound depression. She would not reply to questions or attend to her personal needs, and all she would say was that she was too wicked to live and nobody could help her. At the end of a month there was no improvement, and she was therapeutically inaccessible, except to narco-analysis.

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First séance.—This was induced by the usual slow injection of a rather large dose, 9½ c.c. of nembutal solution. Hypnosis was induced by command. She immediately became able and willing to discuss rationally the events which precipitated her psychosis. It is noteworthy that this cognitive recall was unaccompanied by emotion. The *séance* was closed with the post-hypnotic suggestion that she would sleep until roused for further treatment.

Second séance.—This followed an interval of fifteen hours, during which she appeared to be in a deep sleep. On being told to open her eyes, she responded at once by recounting the following expressive dream: " I was so happy with a lovely dream—a race against time—I saw a girl who was ready to go—she was so happy, and I was the one to take her ". The patient exclaimed at once on the prophetic significance of this dream, saying, " I expect really it was me—I feel it means I shall soon get well ".

Third séance.—This *séance* included a long persuasive talk, suggesting that she should make the necessary emotional and social re-adaptations. It was closed with the post-hypnotic suggestion that she would continue the prophetic dream.

Fourth séance.—Displaying apprehension and fear, she described the following dream: " It was horrible—there was a witch—she wanted me to hang—I wanted to be out in the world—she said I couldn't go—she kept taking people with her so that they should hang—I went in the end ".

Fifth séance.—This morning she complained of severe pains in her back, and said it hurt so much that she could not move. Hypnosis was induced for the first time without nembutal. The pain disappeared, and she recalled her terror associated with the previous day's dream. Free association was again attempted. It was somewhat indefinite, but appeared to relieve her emotional tension, and post-hypnotic suggestion was then given that on waking she would feel physically fit and free from pain. This suggestion was effective.

At this stage the patient had improved to the extent of being accessible and, in fact, co-operative. There was still, however, marked dissociation with feelings of strangeness and of unreality. The complete synthesis was effected in the following *séances*.

Sixth séance.—Deep hypnosis was induced by suggestion. She displayed the passionate emotion appropriate to the lover episode, whereupon the *séance* was closed with reassurance and the suggestion of quiet sleep.

Seventh séance.—Light hypnosis was induced by simple suggestion. Analysis showed that transference occupied the place of the lover situation. She was then told to recall the first *séance* and to repeat her words. She did this without emotion, whereupon her attention was directed to the peculiarity of full cognition without emotion. The repression of this emotion was discussed, and followed by a long persuasive attempt to re-integrate her personality. The attempt was successful, and resulted in a satisfactory convalescence and good recovery.

Case C: Married woman, æt. 41.

Certification followed attempted suicide by gas-poisoning. On admisson she was in a state of acute agitation resulting from vivid auditory hallucinations and delusions of disgusting and incurable bodily disease. She screamed abuse and implored to be allowed to end her life, which had become empty and intolerable. She was exhausted and unable to sleep.

Nembutal hypnosis was begun on the third day. During treatment she became quiet, communicative, and revealed factors of ætiological importance. Narcosis was continued intermittently for a week, during which she was in a prolonged twilight state. On wakening her attitude was friendly and her conversation rational. The resulting co-operation was of value in effecting a rapid and uneventful recovery.

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Dreams.

This account of narco-analysis would be incomplete without some reference to the difficult and controversial problem of dream interpretation. It is not intended to discuss the theories of dream analysis, but rather to point out that during narco-analysis dreams occur with such frequency and with such vividness as to demand serious consideration. In this respect the twilight state of narco-analysis is essentially different from that of simple nembutal narcosis (8), in which "the sleep is a deep dreamless one". The dreams of narco-analysis often recur with such persistence as to replace the neurosis. The patient then presents these dreams as his most prominent symptom. Such dreams are unquestionably expressions of unconscious psychic activity, and their interpretation should reveal the cause of the neurosis.

This is illustrated in the following example:

Case D: Married woman, æt. 25.

This patient complained of numerous symptoms of gradual onset and progressive severity. The trouble began with shyness, blushing, palpitation and weakness in her legs. This was followed by insomnia, paroxysmal headaches, and recurrent attacks of lower abdominal pains unrelated to food. She gave a long but uneventful history, stating that her married life was happy and normal.

Physical examination failed to reveal any evidence of organic disease. Pentothal hypnosis produced the following series of symbolic dreams:

(1) "I am out shopping with friends in pelting rain—all five have umbrellas up—cats."

(2) "I am going to the butcher's for a piece of meat—no ordinary piece—but one which is tall, red, and eight inches high—they try every piece of meat in the shop, but it is not right—now they go to the back and bring me a pig—disgusting."

(3) The next day she said she had had terrible dreams all night of being chased by men with whips, daggers and sticks.

(4) "Guests arrived unexpectedly, so I went to the corner shop for some food—all they had were three bananas—two joined together by the skin and no use to me."

(5) "I am going down lots of stairs and along dark passages to a storeroom—I find a blanket and go up flights and flights of stairs—two men are at the top—the tall one says, 'Look what she's got'."

A discussion of the phallic significance of these dreams revealed sex inhibitions which were resolved by a superficial analysis of the persuasive type. This case illustrates the use of a method which can be applied in an out-patient clinic where prolonged analysis is impracticable.

Conclusion.

The following tentative conclusions are based on the experimental investigation and treatment of some 200 very varied cases. In view of recent criticisms of certain methods of narcosis (2), it is satisfactory to note that in the whole series toxic phenomena were uncommon, transient and, except in

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two cases, quite trivial. The exceptions were a chronic asthmatic and another very debilitated patient, both of whom, during light narcosis, developed glottic spasms, which, however, ended spontaneously without further ill-effect.

The technique is now employed in the routine investigation of every suitable case admitted to the Dorset Mental Hospital. It is used also in selected cases of psycho-neuroses at the hospital's out-patient clinics. The therapeutic results are very encouraging. A tabulation of results into cured, relieved and not improved would probably be inaccurate, and it would be misleading as to the value of a method which is really of as great use in the diagnosis and treatment of an incurable paranoid as in the dramatic resolution of a simple neurosis.

Hypnosis and narcosis have been used independently, and to some extent in association in the treatment of mental disorder, but the technique described appears to constitute a real advance in therapy. On the one hand it is no longer necessary to dismiss hypnosis as a procedure impracticable to 60% of patients and 99% of doctors, and the field of psycho-therapy is thereby considerably widened. On the other hand, it is no longer necessary to exhibit enormous toxic doses of sedative drugs to induce a reasonable degree of sleep. And, finally, narco-analysis offers a practical substitute for the economically unavailable, if desirable, method of psycho-analysis.

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