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## **The Journal of Abnormal Psychology, Vol. 4**

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# The Journal of Abnormal Psychology

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VOLUME IV

1909-1910

RICHARD G. BADGER

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# THE JOURNAL OF ABNORMAL PSYCHOLOGY

APRIL — MAY — 1909

## THE MECHANISM OF AMNESIA

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IN my previous work on amnesia \* it was shown that experiences could be stored up in states of alcoholic intoxication or delirium, and that the memories of these experiences could be restored or synthesized through special psychological devices. These experiences, therefore, must have been dissociated, namely, stored up but incapable of conscious reproduction, although they could be reproduced or synthesized through special technical methods. The mechanism of these toxic amnesias, therefore, was the same as that of other types of amnesia, where the dissociated experiences were completely synthesized through certain devices. I refer to the work of such observers as Janet,† Sidis,‡ Prince,§ and to some further personal observations on the Lowell case of amnesia.\*\* In these cases, not only could the conserved but dissociated experiences be reproduced through various devices (hypnosis, crystalgazing, hypnoidization, and experimental distraction), but

\*Isador H. Coriat: The Experimental Synthesis of the Dissociated Memories in Alcoholic Amnesia, JOURNAL ABNORMAL PSYCHOLOGY, Vol. I, No. 3, August 1, 1906.

†Pierre Janet: Nevroses et Idées Fixes, Vol. I.

‡Boris Sidis: Multiple Personality.

§Morton Prince: The Dissociation of a Personality. The Unconscious, JOURNAL ABNORMAL PSYCHOLOGY, Vol. III, Nos. 4, 5 and 6, 1908.

\*\*Isador H. Coriat: The Lowell Case of Amnesia, JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. II, No. 3, 1907.



fragments of these experiences also appeared in dreams or in states of normal spontaneous abstraction. Since the publication of my first papers, other amnesic cases have come under personal observation. The results were the same, thus showing that an identical mechanism underlies many types of amnesia, whether of hysterical, toxic, traumatic, or epileptic origin, or whether the experiences lost were mere episodes or comprised wide complexes. In this paper we will report our further studies along these lines and also give an outline of the underlying mechanism of the amnesias. As the field of inquiry presupposes a comprehension of some of the essential biological features of normal memory, the latter will be first briefly discussed.

Hering was one of the first to comprehend clearly certain biological aspects of memory. He says:\* "After the extinction of conscious sensation some material vestiges still remain in our nervous system implying a change of its molecular and atomic structure, by which the nervous substance is enabled to reproduce such physical processes as are connected with the corresponding psychological processes of sensations and perception." Ribot† also interpreted memory as a biological fact depending on particular modifications of the nervous system, such as conservation of certain conditions, their reproduction and their localization in the past. He admits, however, that these three elements are of unequal value, that only the first two constitute the act of memory, and that the third element (localization in the past) is unnecessary. He says, "Suppress the first two and memory is annihilated; suppress the third, and memory ceases to exist in the objective, but not in the subjective sense. This third element, which is purely psychological, would appear, then, to be superadded to the others; they are stable; it is unstable; it appears and disappears; it represents the extent of consciousness in the act of memory and nothing more."

In harmony with this statement of Ribot, we shall also see that this third element in the act of memory, namely

\*Ewald Hering: *Über das Gedächtniss als allgemeine Function der organisierten Materie*, 1870.

†Th. Ribot: *Diseases of the Memory*.

the localization of the experiences in the past, is an unnecessary factor for normal memory, as phenomena of memory can be easily explained on the basis of storing up of impressions and their later reproduction. All characteristics retained by the nervous system, from previous reactions, stimuli, or experiences, are in reality memory. Memory depends upon the fact that the performance of a reaction or the reception of a stimulus on any experience, leaves its traces on the nervous system and so modifies it that these stimuli, reactions, or experiences can be later reproduced, usually in the same order in which they had been received and stored up. Of the ultimate nature of this trace or residuum we know practically nothing. As a working hypothesis we will make the mere tentative suggestion that perhaps these residuals may be found in the colloids of the nervous system, which are such unstable substances that they can alter their physico-chemical state and excitability very easily under the influences of certain stimulations. Recent experiments along these lines by Loeb, Höber, Sherrington, Bethe, Maxwell, and Verworn incline towards this hypothesis, and a hunt in this direction may in the future be fruitful of some results.

Memory is a psychological "after effect," the reproduction of something that had been previously stored up and had left its traces in the nervous system. After-images from the retina offer the simplest physiological parallel to the phenomena of conservation. Visual impressions from the retina last longer than the time duration of the stimulus which reproduced these sensations, and it is well known that morphologically the retina possesses many characteristics of brain tissue. Here we have a simple example of conservation, and if not reproduction at least the persistence of an experience without the element of localization.

The reproduction of stimuli, experiences, or reactions in the same order in which they were received (association), also finds its physiological parallel in the phenomena of chain or sequence reflexes (Loeb\* and Sherrington†).

\*Jaques Loeb: *Comparative Physiology of the Brain*.

†C. S. Sherrington: *The Integrative Action of the Nervous System*.

According to the latter, the crawling of an earthworm, in which the threshold of each succeeding reflex is lowered by the excitation just preceding its own is a segmental or chain reflex of this kind. Association or associative memory may be interpreted as a *psychical* chain reflex, for as soon as one group of memory images becomes started, either spontaneously or experimentally, it stimulates the next succeeding group so that each image is reproduced in the order of time in which it occurred. This was particularly well marked in the synthetic mechanism of several of our cases, in which the reproduced memories appeared in groups in their correct chronological sequence.

Now all amnesias conform to the two essential elements of memory. We have, therefore, the amnesias of conservation and the amnesias of reproduction. If the conservation of experiences is at fault, it is then impossible to have memory of any kind, because nothing is stored up. Impressions then are forgotten as fast as they are experienced, making what is termed a continuous amnesia. This continuous amnesia is a very prominent symptom of certain organic brain diseases, such as senile dementia and the alcoholic mental disturbance known as Korsakow's disease. Continuous amnesia may only be an apparent one, however, due to a continuous distraction or dissociation. In these cases the residuals do persist in the nervous system and may be reproduced through special devices, or they may appear in dreams, as in Janet's case of Mme. D.

If there is no impairment of conservation, but reproduction is at fault, we then have amnesias of varying clinical types. While the individual may not have the power of voluntary reproduction, still by special technical methods we may be able to reproduce the conserved experiences, which are beyond volitional control. When an experience is stored up, but is incapable of voluntary reproduction or synthesis, we speak of it as dissociated. Sometimes these dissociated experiences, without the aid of any special devices, will spontaneously flash into consciousness, without localization in time and without the recognition of these memories as such. This was seen in the case of Susan N. (The Lowell Case of Amnesia), and also in the case of Miss

Beauchamp. In both of these cases scrappy and fragmentary automatisms would suddenly appear in consciousness, an evidence that localization in the past is unnecessary for memory.

Memory, then, is dependent on conservation and reproduction, without any particular localization in time. In cases where the experiences are supposed to be lost, they can be reproduced by special methods; if these methods fail, it is no proof that the experiences are completely wiped out, for the failure may be due to the inefficiency of the method used, and other devices may be able to bring about a synthesis. It is not always easy, therefore, to determine whether the amnesia is due to a failure of conservation or to a failure of reproduction, because the experience may be recovered by one device where another had failed.

Amnesic states may be only of a few minutes' duration, or may comprise days, weeks, or years. In one case, for example, in a patient who was thrown out of a carriage, the memory was obliterated, not only for the accident, but for several minutes previous to the accident. In another case that of an epileptic girl, a series of convulsions was followed by an amnesia extending back for five years previous to the epileptic attack (retrograde amnesia). Finally, in the Lowell case of amnesia, the entire previous life was apparently lost, although here special devices proved that only reproduction was at fault and not conservation.

Experiences that are dissociated are seldom spontaneously restored. In one of our cases, a four days' amnesia persisted for two years, and only by the employment of a special device was it possible to reproduce the dissociated experiences. All the following cases came under personal observation and illustrate the principles already stated. To avoid repetition, therefore, they will be reported with a minimum of comment. The cases can be divided into three groups.

I. Amnesic states, in which the dissociation was of such a nature that an experimental synthesis of the lost experiences was possible. These comprise short hysterical, epileptic, and alcoholic amnesias, protracted fugues and the amnesia following cerebral embolism.



II. Retrograde amnesia following trauma in which the whole or a portion of the experience spontaneously reappeared.

III. Amnesic states in which the experiences were so completely destroyed or dissociated, that neither spontaneous restoration occurred nor experimental synthesis was possible through the methods used. In this group may be placed protracted epileptic amnesias and the retrograde amnesias of cerebral concussion not comprised in group II.

### GROUP I

#### *Case I.—Epilepsy with Dazed States and Amnesic Periods. Synthesis of the Dissociated Experiences.*

In this and the following cases only the essential details relative to the amnesia will be given. M. T., age nineteen, for a year had suffered from vertiginous attacks and dazed states. Sometimes he would become confused at his work; on several occasions he had wandering episodes, for which he would be subsequently amnesic, the amnesic periods comprising from four to ten hours on the various occasions. The patient had also noticed that for a day or two subsequent to the wandering impulses with its amnesia, the attacks of vertigo would be unusually severe. On several occasions he had been found by the police in strange places, such as in the woods or in deserted cellars. The patient could never recall how he arrived at these places, the lost memory reaching back several hours to a period when he was at work or talking to a companion. The last disappearance was on Monday morning, September 6, 1906. He remembered nothing from this time until Friday evening, September 7, 1906, when he found himself lying on a large box of the cellar of his home. His clothes were not soiled or torn, but he felt very hungry. The next day the patient consulted me. The results of the examination will not be given, excepting so far as it relates to the amnesia, the experimental synthesis of which was successfully accomplished. In experimental distraction nothing was obtained in the first three trials. On the fourth trial, however, the

following memory appeared. "I remember taking a train and meeting a boy and taking a H. Ave. car — no — it was a W. Street car. I went out to M. and walked a long way down a street. It was a big street with a park in the middle. I sat down on the grass, I don't know how long. Then I started to go home."

*Fifth Trial.*—"This was in the afternoon. I don't remember how I reached home, but I got in the cellar through a side window and I lay down on a box and went to sleep. My oldest brother woke me up."

No further details could be elicited, but the revived memories remained stable. To the patient, however, these revived memories were dreamlike, "not as if they happened to me."

#### *Case 2.—Hysteria with Headaches of a Migrainous Type, followed by Amnesia. Synthesis of the Dissociated Experiences.*

G. K., eighteen years of age, for two years had suffered from frequent attacks of severe right-sided headaches, sudden in their onset, and after the headache had persisted for about ten minutes it would be followed by a blind excitement, screaming and extreme destructiveness, and an amnesic period lasting from one to several hours. On one occasion she had attempted suicide by drinking carbolic acid. There were no special dreams. Once she had an attack while attending a wedding, and on several occasions left the house and found herself several hours later wandering in a park, with absolutely no recollection of the intervening time. By psycho-analysis it was found that the attack could be traced to an episode which happened two years previously. Into this episode we cannot enter here, except to say that the attack at a wedding had a close relationship to the original emotional shock. Physically, many of the stigmata of hysteria were present (hemi-anæsthesia, limitation of the field of vision, disappearance of the sensory disturbances in hypnosis, and their return in the waking state, etc.) In the last attack the patient was very violent to her father and mother, attempted suicide by carbolic acid,

broke dishes, etc. This episode lasted about one and one half hours and she was totally amnesic for all the acts committed during this period. The experimental synthesis of the entire period was successful, although the experiences were revived in a rather fragmentary manner. This fragmentary return of the experiences is well indicated in the isolated syntheses.

*First Experiment.*—"All that came to my mind, is—that I'd like to go away." (The patient frequently repeated this latter phrase in the attack.)

*Second Experiment.*—"Two weeks ago I had a dream, in which I thought that I would like to kill my father and mother." (In her last attack she actually did refuse to allow her father and mother to enter the room and spoke of killing them.)

*Third Experiment.*—"I remember I had a big bottle of carbolic acid and drank some and a smooth-faced doctor came in and gave me something to drink and put hot water to my feet" (correct).

*Fourth Experiment.*—"I know how I broke the plate now. The plate was standing on the stove and I broke it with my left hand" (correct).

*Case 3.—Chronic Alcoholism with an Amnesic Period and Experimental Synthesis of the Dissociated Experiences.*

E. T., age fifty-three, had been a chronic alcoholic for years. A year previous to coming under observation the patient had an abortive attack of delirium tremens. Physically he was in a fair condition. Under treatment he did not use liquor for a number of weeks; then on Jan. 21, 1908, he became slightly intoxicated, and finally disappeared from home on Wednesday, Jan. 22, 1908. He remembered leaving his home on that day about 1 P. M. intending to lunch in a nearby restaurant. He cannot recall what he had for lunch, in fact the memory does not extend beyond 1.15 P. M. of that day. His next recollection was waking up at 4 A. M. the next morning (Thursday, Jan. 23) and finding himself in the cell of a police station. Here we have a well-defined amnesic period of about fifteen hours'

duration and of alcoholic origin. During this period he lost his glasses, watch, pocket-book, and knife. By no amount of conscious effort could he recall the events of this fifteen hours' experience except a hazy recollection of lying in the street and being approached by a police officer who stated that the patient was intoxicated and that he must be taken to the police station. A week after the above events, as the amnesia remained stable, an attempt was made to synthesize the lost experiences by means of experimental distraction. The experiments were perfectly successful. The experiences were restored in a decidedly fragmentary manner, yet became gradually fused in their chronological order.

The experiments follow:

*First Trial.*—"I thought of another place. I think it is called the F. (a hotel). I don't know if I went there."

*Second Trial.*—"This F. business sticks in my mind. I think I must have gone in there. I think I took a drink."

*Third Trial.*—"I was thinking of riding with my sister in a carriage. This was early that Wednesday evening. We were going to the — and instead of going there, I said I wanted to go back on — Avenue to find my watch. I came back to the house myself, and it was there that my sister phoned for a carriage. I then went to a place across the street. I was with my sister in a carriage, and I went in and asked them if I left my watch there. I asked an old man who was in charge behind the cigar counter. I don't remember coming out, but I do remember that the old man said I had better go home."

*Fourth Trial.*—"After I had lunch I went over to the house with my sister and she wanted me to go with her that evening, but I insisted on going back to that place."

*Fifth Trial.*—"After I got home in the carriage I went out again and I may have gone back to — Avenue. Soon after that I was picked up by the policeman. I don't remember going to the station house. I don't know how I reached there. An officer was in the office and he asked me my name and I gave it. He asked me where I lived and I told him in B. He wanted to know where I stopped here, and I gave him my address correctly. Then they took me down some stairs and I went into a cell and fell asleep."



*Case 4.—Protracted Amnesic State (Fugue) with Experimental Synthesis of the Dissociated Experiences.*

This case was referred to me by Dr. Morton Prince, whom I wish to thank for the privilege of reporting it and also for the use of some valuable notes.

Up to the time of his amnesic fugue, the patient was always a healthy man and of strictly temperate habits. During the first week of March, 1907, he had a mild attack of influenza. On March, 1907, he returned home at 2 A. M. as he was at that time engaged in night work. Between half past two and ten that morning he took half a dozen small (5 grain) phenacetin powders which had been prescribed by his physician. He remained in bed all day; he did not remember getting up or dressing. He had a faint recollection, however, that about 10 A. M. he was told by his mother that she was going out for a while and that if he felt hungry he would find some breakfast on the back of the kitchen stove. The patient remembered nothing else until he found himself in a hospital in New York three days later, and although he was well known in his own neighborhood, no one saw him leave his house on the particular morning he disappeared. When he came to himself in the hospital, he did not know where he was, but he later learned that he was in St. Vincent's Hospital. He did not know whether he came to himself suddenly, or out of a normal sleep, but in the course of an hour or two he realized his condition. He left Boston on Thursday, March 7, 1907, was admitted to the hospital on Sunday, March 10, 1907. Thus there was an absolute amnesic period of three days. According to the hospital report he seemed nervous and depressed on admission, gave his name as E. M. (incorrect), his age as twenty-four (the patient's real age was thirty-three), and his occupation as salesman (incorrect). The address, too, was incorrectly given. He was afterwards told that he gave the name of E. M. on entering the hospital and thinks later that he gave his real name. The patient had never walked in his sleep and never suffered from epilepsy or migranous attacks. I first saw the patient three weeks after his return home. During this time not even the

slightest detail of the amnesic period had spontaneously returned. The patient would frequently lie awake at night in an attempt to recall these lost experiences, but without success; neither had there been any dreams relating to these experiences.

Thus we see that we are dealing with a protracted fugue, in which many complicated acts were performed, the whole period being dissociated from consciousness, thus producing a complete amnesia. If the experiences for the three days were not lost, but merely dissociated, and in this case completely so, it ought to be possible by proper technical methods to synthesize these experiences and thus restore the lost memories.

The first attempt at synthesis (three minutes' distraction) produced no effect. Second trial (five minutes). "My mind only dwelt on what came before me at my house. I saw the affair of my missing in the paper I bought on the boat. It seems to me that I have a slight realization of being in a train. Beyond that I don't know. It was at some time or place. But I always had the realization of being on a train."

*Third Trial.*—(Five minutes to start at the train incident and by association to get at other details.) "I seemed more impressed than ever that I was on a train."

*Fourth Trial.*—(Five minutes to start from the train episode by association.) "It seems as though I could realize the conductor or brakeman with the lantern on his arm going around for tickets, and then it is as though there was a depot and a crowd. It seemed to me as if I walked and kept on walking, not knowing where."

*Fifth Trial.*—(Five minutes to continue from the depot episode.) "I got mixed up with a cabman, he was quite a short cabman compared with me. I walked a long distance before I got a cab. Then I seem to be riding with the cabman and we went over a bridge, an extra high bridge, more so than the bridges around here. I can't seem to remember getting rid of that cabman. It seems as though I was walking when it was coming on dark. I fully realized it was getting dark. I remember going to some place and eating. I think I ate steak and I think there were hot

biscuits there and I had a glass of milk. I remember giving the waitress — a big woman — giving her a bill, and I remember buying a cigar there directly after I paid the bill. It seems as though I went out on the street and bought a newspaper — I don't know the name of it, and I put it in my pocket. I can recollect being in a theater — there were different varieties, and I can recall one or two acts. I recall two fellows coming out in German dialect and the second one was a fellow and a girl in a trapeze act. I can remember looking at the paper while I was in the theater. I can't recall what I read, but there was something startling in it about a train wreck. I remember coming out of the theater with the crowd and I went into a barber shop with a tobacco store connected and bought some more cigars and made inquiries about a room. I didn't receive any definite reply from them. It seems as though they told me to go farther down, quite a distance, and one of the fellows came to the door and pointed in the direction. I can remember a woman leading me to a room. I could hardly understand her talk; she was an oldish woman. I remember going into another lunch room after I left the cigar store. A crowd in an automobile came into the restaurant directly after me. It was in that restaurant that I was told where I could get a room. They all had a foreign accent as though they were Germans. The man in the restaurant pointed out the hotel to me. It was at the corner of the street. It was a kind of boarding house. I remember the old woman showing me the bathroom and asking me several questions — if I wished to be called at any certain time, etc. She explained to me the rules of the house and showed me how to turn on the electric light in the hallway. I have just a faint recollection of retiring, but I remember raising the window before I lay down to sleep. I tossed in bed nearly all night, and did not fall asleep until daybreak. I can recall the sweeping in the next room and the woman must have heard me, because she came to the door and asked if I were up and how I felt. It struck me that she must have noticed that I did not look well. I dressed myself, but felt weak and sick. I then called her and she came into the room. I asked if I appeared sick, and she replied "yes," and then I

asked for nourishment, something to eat. She said that as soon as she was through with her work she would bring me something. She advised me to return to bed and she would attend to my wants. I can remember her coming in with some broth in a bowl, and she also brought some eggs in a glass. I can remember drinking a cup of tea. I remember then, although I felt weak, that I thought the fresh air would do me more good and I dressed. I changed my mind and undressed again, and finally again I made up my mind I'd go out. I remember going out — I remember making a study of the place. I don't remember the number, but I know it was at the corner of two streets. I made a note of the name of the street on a small card, but I can't recall it now. There was a big tailoring establishment on the corner, and the house had a sort of a brown-stone front. You had to go up a dozen or more steps to the door. I can recollect walking a long distance and was so tired that I felt inclined to eat. I remember going into a restaurant, but when I sat down I took only a light stew. I believe it was one of the courses that was being served, but I felt kind of sick and didn't eat any more. When I left the restaurant I felt tired, so I boarded a car and rode quite a long distance. I remember getting out and going into a barber shop. I can't seem to recall much after I left the barber shop, excepting it was dark."

*Sixth Trial.*—(Five minutes. To begin with the barber-shop incident.) "I can recall getting into a car that night after I left the barber shop and getting off at a theater. I got into line with a number of people and waited a long while. I can recollect buying two tickets for a fellow that was ahead of me, as he didn't think they'd sell him all the tickets he wished. He said he had friends and later he and his friends sat aside of me. I went into the theater and I can recall some acts. There was a fight with cowboys and Indians on an extra large stage and later a scene in which persons would dive into the water and disappear. I can recall a girl getting into a boat that already had several men in it, and the boat sank out of sight under the water. I went out before the show was over and asked an officer in the balcony of the theater the best way to get to the address I



had on the card. He told me to go to the corner and I'd find an officer there. I didn't find the officer, and so I walked quite a distance until finally I did meet one and he directed me down some streets. He told me I could get a car which would bring me in that direction, but that I would have to transfer. I can remember the conductor stopping the car and giving me a check. I only waited a minute when the car came along and it brought me to the door of the house. I started to go in, but changed my mind and went into a restaurant. I remember having an oyster stew and they gave me some large crackers, such as I had never seen before. From there I went back to my room and opened the window. It was raining hard. There was some talk in the room next to me, it sounded like the voices of two or three men. I remember undressing and lying down, but I did not sleep. I would get up and take a paper and read and return to bed again. In that way I passed the night. In the morning I can remember the woman rapping at the door and giving me a towel. She asked me how I felt and I told her that I didn't feel well. She said there was a doctor a short distance down the street and that she would either send for him or I could go there myself. I didn't go to the doctor, but it seems to me as though she mentioned a hospital and I left the house with one of the boarders. I think he went to the hospital with me, although they say there that I entered alone. This was about midday. I felt weaker and weaker, started to ask some questions, but they advised me to keep quiet and not to worry. They placed me to bed in a room and darkened the room. I think I saw the doctor and he examined me. I slept well that night and the following morning the sister came in and asked me how I felt. The sister then said that I needed rest for a few days or a week, and again advised me to keep quiet and not to worry. She brought breakfast to me, but every opportunity I had I would ask some questions. I remained in that room until I came to my senses. Sleep brought me to my senses and it struck me that I was in a strange place. Then my first object was to return home."

*Seventh Trial.*—(Asked me to try and remember how he left the house.) "I have a slight recollection of buying

a small ticket and wondering at the size of the ticket on account of the long trip. I remember putting the ticket in my hat and the conductor came around a few times and took the ticket and punched it. I cannot recall getting out of bed."

Although a number of attempts were made, it was impossible to restore the memory of leaving the house. The physical examination was negative, there was no limitation of the visual field and no disturbances of sensation. Attempts to obtain the patient's personal conception of himself during this amnesic fugue and also the reason for giving an incorrect name on entering the hospital were unsuccessful. Some portions of the revived memories were dreamlike, others appeared like natural recollections.

*Case 5.—Cerebral Embolism followed by an Aphasic Symptom Complex and Retrograde Amnesia with Experimental Synthesis of the Dissociated Experiences.*

(Service of Dr. Bullard.)

This case presented a very interesting symptomatology, the patient suffering from a well-defined amnesic state and also an aphasic symptom complex, all of which followed a cerebral embolic process. While a complete study was made of the aphasia, yet the report of the case will be limited to the rather extensive amnesia and its experimental synthesis.

A. E., age sixty-two, first came to the neurological clinic of the Boston City Hospital on April 18, 1906.

On the afternoon of Tuesday, July 10, 1906, he had a convulsive attack lasting one half hour. For a short time following the convulsion he was a little stupid, but after this he became perfectly clear. He became aphasic, however, and there was also a retrograde amnesia extending from Tuesday, July 10, 1906, to Saturday, July 7, 1906, and an anterograde amnesia between Tuesday, July 10, 1906, and Thursday, July 12, 1906. In all, the amnesic period comprised five days. The physical examination showed considerable arteriosclerosis. Astereognosis, asymbolia, and apraxia were absent. An analysis of the aphasic condition

showed paraphasia, amnesic aphasia, paraphasia and paralexia, and a complete absence of any word deafness.

As the amnesic period remained permanent, it was decided to attempt a synthesis of the dissociated states. This was partially successful. As all the patient's utterances were aphasic, they have been translated into normal speech for the sake of clearness.

*First Trial* (Three minutes).—"Martin, the boss, came along and saw me. That was on Saturday. Then I left him and came home and gave my sister some money. On Sunday I went out some place—I don't know where—Yes, it was a drug store kept by a friend of mine. I talked to this friend for a time and then left his store and joined some friends; also had a half pint of whiskey. About ten o'clock I went home and later we had dinner. I had roast beef, potatoes, and cabbage. I don't think I had any dessert. I looked at two or three newspapers and tried to read them, but I finally became tired and lay down and went to sleep for a while. I slept until supper time. For supper we had tea and jelly cake. After supper I sat in the parlor and at nine o'clock I went to bed. Monday morning I got up and started to go to work. I don't know what I did the rest of that day. On Tuesday I had the fit."

*Second Trial*.—"I remained in a saloon Monday night until ten o'clock. I did not drink very much. I must have come home and laid on the bed, because my sister found me there."

The patient's nephew verified all of the above statements.

(To be continued.)

## THE RÔLE OF SENSATIONS AND FEELINGS UNDER ETHER

BY CHARLES HUGHES JOHNSTON

*University of Michigan*

IN a popular magazine a few years ago, in an article entitled "Sensations under Anesthetics," the statement was made that descriptions of sensations experienced during the administration of anesthetics are not so common. One rather unsystematic and unsatisfactory attempt to collect such experiences was reported by this author. The results were, that usually the mind is a blank and that there is no experience that can be recalled. Occasionally under ether or chloroform there is recorded an experience "as being that of a disembodied spirit," with "sensations that are always recalled as having been 'tremendous.'" They, however, "could in none of these cases be clearly described." Nitrous-oxide gas seems to have produced a more favorable condition for vivid experiences, even when the subject answered the usual tests for complete anesthesia. The introspection from one subject I shall quote, as it will be significant in connection with the cases of my own to be reported below. In the case under nitrous-oxide gas treatment yellow-red light of particular brilliancy was experienced, accompanied by a "terrible panting or throbbing metallic sound." The interval of these beats, later connected with the narrator's own breathing, rapidly diminished for awhile and returned with slowly increasing and regular intervals, until normal consciousness was again reinstated. In this whole interval the subject never "lost consciousness of the ego." The experience, narrated two hours afterwards, was "tremendous," "a sensation of fighting desperately for life," a feeling that it "would be impossible to bear any more, the brain seeming to be frozen or paralyzed into a kind of metallic lump." Though consciousness was vivid continuously, and anguish great, pain was absent throughout.

It seems quite probable that accurate accounts of such



intense and vivid mental states would contribute data of importance to psychological science, and incidentally to physiology. Mental action certainly is profoundly altered. The advanced stages of the incomplete anesthesia, of "going under," and of "coming out," from total unconsciousness, disclose in all likelihood critically important and beautifully unique, isolated mental phenomena. The obstacles which confront the collector of such important data are obvious, and probably explain why such material is still a desideratum. Reliable subjects from whose introspection such material must be gathered will probably seldom be inclined to give out such material. Rarely too will they be able to make intelligible just what they did experience. Most often the experiences will, when memory retains them at all, be simply those mysterious "tremendous" experiences. Clearly also a trustworthy account of such introspection must be given while the experience remains vivid, and should be corroborated, as well as it can be, by objective facts, of bodily reactions, both skeletal and organic, recorded in the interval of partial and total anesthesia by a competent observer. I have been fortunate enough to secure records of two cases which, one of them particularly, from the point of view of the psychologist, approach pretty nearly the conditions above set forth. The records of other exceptional cases which I have collected do not so satisfactorily conform to such conditions.

These two cases are the more significant, perhaps, as they represent experiences from persons of similar temperament, training, habits, and heredity. The ether subjects reported upon are brothers, one twenty years of age, a college student, the other twenty-nine. The first operation, upon the younger, happened in a North Carolina hospital in January, 1908, the second in a New Hampshire hospital in May, 1907.

CASE I. Operation, wiring collar bone which had been twice broken in football games. Subject's report dictated.

"Just as I felt myself losing clear consciousness of my surroundings, hearing a doctor ask if I were asleep, I, losing control of myself, answered, 'No, not by the hell of a sight.' I began then mischievously to squeeze the hand of a nurse.

Soon afterwards I felt a sinking feeling, muttering slowly to myself, 'I f-e-e-l- l-i-k-e- I a-m f-l-y-i-n-g-f-l-y-i-n-g-e-r, f-l-y-i-n-g-e-r, g-o-i-n-g-e-r, g-o-i-n-g-e-r, g-o-i-n-g-e-r, g-o-ne-er, d-e-a-der, d-e-a-der, d-e-a-d-.' The subject remembers this, and the conviction that he was dead. Subject remembers also, after control had gone, having cursed the doctor, who he thought continued giving him ether from wrong motives. He was unable to control or to discountenance his own suspicions.

On beginning to recover, subject was restless. One of the nurses, who was sitting on his feet to hold him down, was kicked violently to the floor. He rambled about football tactics rather incoherently, apparently attempting to illustrate his remarks. On the first brief periodic return of consciousness, subject realized that he was in a plaster cast jacket, instead of bandages, as he had expected. His *suspicions and accusations against the doctor were intensified at this stage*. Now, however, he was sufficiently able to overcome his prejudices to add, "The doctor is a gentleman and a scholar." Recognizing by name one of his professors at this time, for whom he had deferential respect, he almost automatically blurted out, "Doc, Old Boy, you're a gentleman and a scholar." He somewhat reluctantly agreed that the nurse too was a "gentleman and a scholar." Being told, on his asking his own status, that he was not, he angrily demanded an apology. *This state of feeling remained*. Another nurse, entering, he with offended dignity demanded an introduction. Emotional reactions then set in. Changing his tone he began to recite poetry. On being urged to keep quiet, he, unable to control himself, defiantly yelled at the top of his voice anything he could think of. He then began to talk of desiring to curse, but feeling as if he should soon control himself. An old negro sermon memorized six years before offered outlet for the pressing articulatory impulse. He continued this recital rapidly for over five minutes, before he again could inhibit the talking impulse. Subject now became conscious of sensation of "utter physical exhaustion," and feeling for first time mentally normal, his muscles relaxed, he gained control of himself, and was able to lie silent and quiet.

CASE II. This operation was conducted May 5, 1907. It was an unusual case of epigastric hernia. The subject was a man twenty-nine years of age, in good health otherwise, and engaged by profession in teaching. He had had several years' experience in psychological laboratories, both as experimenter and observer. His academic duties continued up to the day before the operation. The night before he slept profoundly in the hospital. His pulse was normal, as indeed it was and continued to be three days after the operation. There was no plan to take any record of mental symptoms before the operation. There was neither fear nor nervousness in the experience of the patient at any time before losing consciousness.

The person, whom I shall call the experimenter in this investigation, did not witness the operation, but observed the patient continuously from the time he was removed from the operating table till his mental condition was entirely normal. Consequently what occurred physically before this is corroborated partially by what could be obtained by the attending physicians and nurses. The patient began to take ether at 9.20 o'clock in the morning.

*I. External record before complete anesthesia.*

Patient walked jauntily through hospital to the waiting room, there stripped, talked pleasantly with surgeons, and joked with attendants. 9.15 o'clock, subject crawled upon the table with a laugh at himself, helped the men wrap him up, and directed that the table be moved and kept out of the sunlight. Vaseline was applied to his face, and he began purposely to inhale deep draughts of ether. Subject was quiet for a few minutes. He then became restless and talkative, and began to remonstrate with the physician who was giving the ether. He resented the nurses placing his legs in proper position, and repeatedly and perversely recrossed them. Again a few minutes of quiet ensued. Voluble discussions followed, talk being rapid, but quite coherent and clearly enunciated. His talk changed from general ordinary discussion to a more abandoned, uninhibited expression of "what seemed to be his own personal

thoughts (not what one hears in colloquies in general, even between friends)." He asked about the physiological effects of ether, branched off into a kind of eulogy on ether, and then shifted to a lecture tone on the psychological interest in such experiences. There then followed incoherent rapid parts of sentences. When apparently the subject was completely anesthetized, and the operation was begun, ether again had to be administered, although an unusual amount had already been given. The struggles of subject to rise from table were very vigorous, and several persons had difficulty in holding him.

*II. Subject's account dictated at 1 o'clock to experimenter.*

*A. What occurred before the stage of total unconsciousness.*

"Soon after the operation I felt a smothering sensation, which, however, did not last long. I remember distinctly the movements of the nurses and physicians after, judging from their conversation, they thought me 'gone.' Vivid isolated pictures of the preparation activities are in my mind, even the impersonal tone of those present regarding my condition. My remonstrance with the attendants was caused by my wishing them not to 'rush the thing' in giving the ether during the last stages of going under, and to be careful, which they were not, I thought, to keep ether out of my eyes. I felt myself gradually losing self-control, was aware of the growing tendency to follow every mental suggestion, and I eventually lost all inhibitory power. I tried hard to sleep, to obey instructions, not to think, not to talk, not to lose what I conceived to be my character, my ideal of action. Words would come, and they gradually flowed forth without any even felt power on my part to stop them. I remember distinctly the line of association in general that controlled itself — ether, physiological effects, psychological activities involved, philosophical significance, etc., etc. I remember seeing Dr. — with something in his hands, and the nurses saying they would hold me. (The motor memory images in my left leg recalled this last item, and seemed connected with it.) The thing that I seemed so much set against was



not the unpleasant feeling of suffocation which did not last, but the anguishing unwillingness to lose consciousness and control of associations, to give up, as it seemed to me then, even obedience to the instinct for individuality. My body I had forgotten about entirely, and I never thought of nor anticipated the physical pain. I had some pity for the person who gave the ether, felt that he misunderstood my remonstrances, and that he could not at all appreciate the poignancy of the mental suffering through which I was passing. I had also frequent spasms, almost, to control the growing tendencies to shriek, scream, yell, break everything to pieces, and to end it all. I instinctively, however, recoiled mentally from ending or wishing to end life in nothingness, and thought I really controlled all these tendencies. (The physical struggles above recorded are not, in the subject's mind, connected with these experiences.) The last remembered localization of anything physically was in the head, as if my brain were becoming gradually deadened. This was connected with the anguish of my inability to do anything, the agony of letting things go without any control. When this stage was passed, I no longer experienced a physical existence, poignantly thought I was living only intellectually, emotionally, and helplessly, disembodied and expressionless. The situation was extreme mentally. Anguish, incompleteness, helplessness, lack of initiative, hopeless eternal dissatisfaction was dominant. All thoughts were thus colored, and no other attitude seemed to be even an alternative. Various opposite ways of solving intellectual and life problems came and went. Eternal conflict of ideas seemed my everlasting destiny. The last remembered mental extremity was when the whole issue, as it then presented itself to me, between Absolutism and what I understood to be Pragmatism, was uppermost. No ability to restate the issue, no hope even for a solution, was vouchsafed. I felt on the edge of highest tension, as one would who should try to reach with his voice, or hear with his ear, tone too highly pitched. The last thing was *hopeless anguish and extreme dissatisfaction* at having clear partial thoughts with no constructive ability."

*B. What occurred as normal consciousness was being reinstated.*

"I could at first think nothing coherently. There were no images. A familiar anguish, a puzzled, vague consciousness seemed to come and go. The most constant thing was the *feeling of dissatisfaction*, not so acute as when going under. This seemed the only clue to my bearings at all. I could not find my body, felt no tendencies to act, and had nothing clear enough to localize. I had no sense of time nor connections. After vague discomfort and wonderment, the next partially clear experience was of my position (lying on something). I began to feel contact on my back. (I have been told that my eyes were open all the time.) Occasionally next I seemed to hear voices, but they had no particular direction nor meaning. I then saw a face, but could not understand what it meant. All these sensations came and vanished quickly, leaving me finally puzzled for some time. I became gradually aware of a desire to do something, to act, but could seemingly get no clue as to what to do. I had no limbs under control, did not even think of them. I remember that I tried to listen long enough to understand something and to look long enough to see something clearly. This was a great effort. About this time the mental anguish seemed to diminish rapidly. Faces stayed longer and voices seemed to mean something, and though I could still not imagine where I was, this query came to me. I got control of my arms and swung them, striking the bed, and (I am told) the nurses also. Then I saw and recalled, though at first I could not associate, the face of the nurse. Then my consciousness seemed to come almost at once. I looked around, wanted to get up, saw the temperature charts on the cot, tried to reach them, and could not refrain for a long time from trying to get up and do things, anything so as to be active. My senses seemed to be almost natural or normal. I remembered that I was to have an operation, and recognized the room in which I had slept the night before. I began to wonder if I had actually been operated upon. At first I could recall none of the above experiences, and it took some effort to collect the above events in order of time. I argued to myself that it must have occurred, reasoned that

I should have a bandage on, and felt for it to verify my supposition. *The prolonged mental suffering, for awhile now disconnected with images of all kinds, was my chief reliance in the growing belief that it was over.* Repeated assertions of the nurses to my inquiries helped assure me, as did the presence of the bandage. Sensations of physical pain, the last thing to come, completed the assurance. I experienced then the feeling of actuality, or normality — of an every-day experience."

III. *External record of experimenter from observations after complete anesthesia.*

"Subject began 'coming out' about 10.30. His first words were, 'I'd rather die and go to hell — hell — Do you know what hell is — a word of four letters, h-e-l-l-.' From the first, though, he didn't know me, and though his eyes showed no recognition, he treated me in a different manner from the nurses. He would direct cursing at me, strike at me, apologize to me for cursing, not for awhile completing his pronunciation of the words, 'Da —, excuse me, da —, excuse me, ladies present, damn, damn, damn, I will say it anyhow.' A playful streak came. He would pull the metal frame holding the temperature chart on the cot over his head and let it strike the iron bed, apparently delighting in mere noise. When the nurse removed this, he found the one on the other side, which, on being removed, he, with the same mischievous grin, began to beat on iron bed with his knuckles. About 10.45 he began begging for 'pencil, pencil, pencil,' and making movements of writing. When the nurse said that she did not know where a pencil was to be found, he said, 'Coat — coat' hurriedly, and pointed to the wardrobe where the evening before his clothes had been hung. He was constantly mumbling about the operation and the fact that he felt no pain though he could feel the bandage.

"11.15. It's not the suffering\* I mind, but the inability to understand why I should suffer. I've been reasoning it

\*Subject thinks he must have meant the mental dissatisfaction spoken of above.

all out. I haven't been unconscious except when they were operating. I remember when I was fighting about the ether. I felt sorry for the people. I fought so I almost broke the table, but I am willing to pay for it. I haven't had the kind of sense to realize that I have had an operation. I feel the bandages, though. I feel a great emptiness and dullness, as if something was gone."

"11.30. Now and often afterwards he became very jovial, greeting the physician, who dropped in often, with a vigorous handshake, and a 'Hello — by gosh — gee — damn.' When he would hear the nurses pass outside the door he would say, 'Who's that — invite her in,' repeating it often peremptorily.

"11.35. Talked constantly, and expressed the wish often to stop talking but said he was unable to. Complained constantly of his eyes, into which he said the doctor had poured ether. He was extremely courteous, even humble to the nurses, but dictatorial and cross to the experimenter, often asking who it was, as if he couldn't quite recall. He was constantly talking of ether, and the 'giving of himself up.' 'I don't like it — it's like giving yourself up, trusting to some one like God, or like what some people think God is. I don't know what God is. It takes a long time to come out of ether. I don't like to say things I'm not responsible for.'

"11.40. A spell of cursing. Being told by nurse that he hadn't talked any, he replied, 'Well, I've thought a damn lot.'

"11.50. He questioned about inquiries of friends, and became solicitous about experimenter, etc. Began to say, 'Yes ma'am, no ma'am'\* to everybody. Thanks all for kindness, etc.

"12. Began to show nervousness and signs of physical suffering.

"12.30. 'When I wince that way it's because of the pain, and I want to move, but realize that it's best not to. I vaguely realized this when I was coming out, though I couldn't help struggling and talking.'

\*Subject says he had formerly used such expressions always to ladies in his childhood, never then the simple Yes and No answers. Neither of the subjects is accustomed to this open and lavish use of profanity.



"1 o'clock. About normal, and suffering very much, though still eager to talk of his experiences. Experimenter had to leave the room here, as it seemed to excite the patient too much, his mind being too active to allow the opiates to induce sleep.

"Patient did not sleep for about forty hours."

I shall limit the discussion to those psychological queries only which bear upon the topic in hand. Individuality, the self-element, as a personal possession in one's conscious life, seems to be the product of the organization of sense data produced by the ordinary uninterrupted flow of sensations. It results from the functioning apparently of afferent nerve currents connected with the normal organic and customary muscular situations.\* Individuality is felt "to be going" when inhibition ceases. There is an absence of judgment,—no identifying of concepts with a feeling of finality in our attitude. Our ordinary reasoning process, our constructive mental activity, our power to inhibit leading off associations, is lacking. This process of mental death is marked by what is uniformly described as spiritual anguish or rapture free from physical or bodily pain or pleasure. The pathological (?) symptom, the so-called sense of the abnormal, becomes more clearly marked as the peripheral organs cease to function.

Again, however necessary the concept of the subconscious may be for certain psychological purposes, here, at any rate, there is striking evidence that the submerged (affective) factors of mental life, inarticulate rather than unconscious elements, display no separate system of organized responses, but merely belong to those discarded or repressed tendencies whose fetters for the time are removed. By this open avenue the mystic approaches his "tremendous" reality. The "tremendous" revelatory nature of experiences under anesthetics has, after all, a natural psychological explanation. Perhaps psychologists have tended too much to discountenance the significance of this type of experience.

\*E. Boutroux, "The Psychology of Mysticism," *International Journal of Ethics*, Vol. XVIII, p. 182 ff., is in essential agreement with this view; in opposition to the one generally accepted, that individuality is psychologically a product of feeling.

To Royce both metaphysically and psychologically they are delusions. "The wild, fleeting, and scarcely utterable delusions of an ether intoxication are as massive as is the stormy emotional outburst of the intoxicated condition, and they vanish with recovery." (*Outlines of Psychology*, p. 358.) Are they delusions? Do they 'vanish with recovery'? Or do they become less and less vivid because they have never become articulate? James tells us that the real charm of drunkenness lies in its power of deepening the sense of truth and reality. Gas and ether merely take us to the unutterable extreme. For James and for Blood (the latter could certainly judge empirically) the sense of profound meaning persists. They speak of a "genuine metaphysical revelation"; a revelation of "depths beyond depths of truth," the awakening of depths of other consciousnesses outside of the "rational consciousness," or our daily phenomenal existence. With this "long dateless ecstasy of vision" J. A. Symonds contrasts the prosaic world, and deprecates the necessary disillusionment of common life. It is to be remarked that Blood ("The Anesthetic Revelation") calls these experiences "non-emotional revelations." His expressions, however, such as "the feeling of the inevitable," "the realization of the primordial," "the sureness that one is reaching the bottom truth of existence," show, as does his whole treatise, whose subtitle is "The Gist of Philosophy," that his concern is primarily, not psychological, but metaphysical, a search for a type-experience. His "non-emotional" then means merely a *not valueless* experience for epistemology. The momentary realness, however, in comparison with a similar realness for any ordinary experience, is the important thing for psychology. One subject has said that we can't remember things thought (experienced) at such times, because we could not think (experience?) them continuously and retain sanity. They are so much more *intensively real* than the ordinary thoughts or superficial experiences, of the so-called "actual world"! They mark, fortunately for us, the excess of what we can really experience over what we can demonstrate or make articulate. Perhaps DeQuincey's real task has been somewhat underestimated here. Instead of having increased his vocabulary at the expense of veracity, he may really have

suggested a definite task which some day or other psychologists will have to undertake. If, as I here mean to suggest, feeling in experience functions far more extensively and directly than we are ordinarily aware, an adequate feeling nomenclature is a first essential.\* A whole realm of ordinary experience, revealed more clearly in the abnormal cases discussed, cannot be shelved by the term "mysticism,"† nor can empirical considerations, pertinent to the phenomena cited, be satisfactorily explained on any theory of feeling yet formulated.

The case seems to be psychologically somewhat as follows: The intense mentality of partial anesthesia may be the active work of feelings, undisturbed by sensory factors. The reality sense may be due to the functioning of feeling. As peripheral activity abates, massiveness of import, sense of the tremendous, vividness of meaning, increases. By this killing off of peripheral functions, central functioning, before it too is affected, is revealed as pre-eminently an *affective process*. Feeling may be of central origin. It may of course be of merely more deeply placed peripheral organs. (Cf. Titchener, "The Psychology of Feeling and Attention.") The evidence is not yet conclusive. Feeling in its essential nature may be even without the pleasant-unpleasant attribute, or at least may be better characterized in relation to activity-passivity dimensions. The primal restlessness-quietness possibilities of adjustment (restlessness in the two cases cited above) seem to characterize the feeling.

Again, just as feeling seems to intensify, and really to condition, the most vivid attention describable, so in the case of associations, the controlling factor seems to be the fortuitous feeling with which the train of ideas happens to begin. DeQuincey cites the unspeakable felt associations that give meaning to all his early experiences, emphasizing the important role of concepts with a *feeling flavor*. Prince

\*I am attempting merely to make explicit what seems to me implicit in James's psychology of feeling in the "Varieties of Religious Experience." The implication here is opposed to that in Royce's evaluation of mysticism in his "World and the Individual," as I understand the position of the latter.

†Jowett, in speaking of the so-called mystic element in Plato, adds: "By mysticism we mean, not the extravagance of an erring fancy, but the concentration of vision in feeling."

("The Dissociation of a Personality") notes that the general emotional background sustains its identity with the shifting of the subject's intellectual personalities. These reports above tend to substantiate this observation that feelings are most stable directive forces. In Case I the same anger and suspicious attitude first showed themselves when consciousness was being reinstated. In Case II anguishing perplexity was the last thing remembered and the first thing recalled, "on going under" and "on coming out" from total anesthesia. The emotion had to vent itself, the object was immaterial. Ribot, in his *Essai sur les passions*, and also in his *Essai sur l'imagination créatrice*, has emphasized this fundamental role of feeling in our types of association. In the cases above, isolated as the subjects were from any conventional restraint, we see to what a degree the feeling life may control the associations, color all conclusions, decide entirely the mental attitude, and, as well, serve as a pretty reliable index of the subject's general temperament.

The data in hand is insufficient to enable one to conclude without provision anything definitely concerning the fundamental psychological problem as to what is the most serviceable conception of the relationship of sensation and feeling, or affection. The special sense organs become inactive long before general consciousness is lost. Vision and audition cease before touch and sense of position. A feeling (anguish or anger, etc.) is the most persistent mental state. In the process of gradual recovery of normal consciousness feeling is first reinstated. Purely intellectual activity, without images, is next in order. Vague tactual sensations, pressure, and sense of position, return before sight and hearing.\* All of these, together with partial restoration of inhibitory power, are not sufficient to enable one, however, to feel normal, to be an inhibiting individual, or to grasp one's characteristic relation to his environment. Physical pain seems to be here one of the necessary mental conditions for this self realization. Due chiefly to this

\*The order reported refers to cases under consideration. E. J. Jones, *Psych. Bull.*, Vol. V, No. 4, p. 98, reports, in the order of disappearance, hearing, touch, kinesthetic sense, vision, imagery, memory, reason; the felt meaning of God, heaven, home, childhood, etc., last disappearing.



intense mental activity, sleep is with great difficulty induced.

Finally there seems to be some evidence, from this "feeling one's self as a disembodied spirit," from this conviction that all sensation is for the time localized in the head, and from the absolute loss of all inhibitory power, and of the experience of pain, that there may be such a physiological situation in which some so-called higher centers work independently, paralleled by vivid, if not constructive, imageless, intellectual activities. In short, this field would seem to be a fruitful one for further and more comprehensive psychological as well as strictly neurological investigations. Such possible results might nicely supplement other at present more systematically directed methods into these as yet unexplained phenomena.

Legitimately, it seems, we may be inclined to justify the position of those psychologists, at present in the minority, who claim that there is no inseparable connection of sensation with feeling-tone. Feeling has a vividness (and a function, possibly) of its own, when sensation, as psychology analyzes and conceives it, ceases to exist. The numerous ingenious attempts to localize feelings, for example in the thalamus, corpus striatum, or in hypothetical peripheral end organs, may be futile. Feeling does not seem to be an *acquisitive* mental function, but to be of a nature supplementary to this sensory characteristic, and this unique experiential aspect of mentality has certainly not received adequate treatment at the hands of physiological psychologists. Due largely to this, their most fundamental role in all life has been obscured. Sensory life, even what is eulogized as most purely "intellectual" life, is pale, capable of being easily reflected in language. Feeling life, more real and vital, of the essence of reality, has not been thus reflected,—not, at least, in psychological terminology. It creates language itself. Transparency in an already articulate language suffices for existing science, but only in literature and in the fine arts, and there, not for scientific purposes, do we find genuine attempts at a description of feeling. Perhaps it is for this reason that recently a psychologist (Judd) really proposes to leave the treatment of feelings to the artists and to the creators of literature. Whether the burden can

be shifted or not, psychology can do little permanent constructive work here without data representing results of prolonged practise in systematic introspection.

Ribot is right in saying that emotional geniuses are far rarer than intellectual ones. This type of genius too is near allied to madness. The distorted emotions above recorded, developed, and revealed without relation to environmental facts, with no peripheral anchorage, as it were, emphasize how critical is the situation of one thus possessed. This is but an exaggeration of what occurs in ordinary life. In education generally, of the school and of the world, feelings are too often thus divorced and ostracized. Hence the need of a serviceable method for studying the feelings, workable categories in this field of mental phenomena, and, pedagogically, an adequate scheme for safely developing or educating them.

The pathology of affective mentality has as yet received slight notice from experts, compared with the more thorough investigations into the abnormal intellectual aspects of consciousness. Psycho-pathological diagnosis, and possibly psychotherapy, will not show marked effectual advance until these vital derangements receive more systematic scientific attention. School children, as well as inmates of asylums, certainly sufficiently exhibit symptoms of such disorders, perhaps in time remediable, when the proper means of treatment can be suggested.

Ribot indeed further thinks that by such study we may also expect to derive fruitful suggestions as to how to restate the problem of the inheritance of mental traits. The most stable factor in individual experience, feeling, or passion, would likely be the most persistent characteristic. In any case the possibility of discovering, in a reproducible type of experience, naked feeling at work, as it were, arouses queries about problems of great psychological import.

# THE IMPORTANCE FOR RESEARCH AND TREATMENT OF DISTINGUISHING CLINICAL TYPES AMONG THE PSYCHO-NEUROSES

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ALTHOUGH every one must agree with Clifford Albutt\* in not conceiving of a disease as an entity, but as the disorder of an individual's functions, yet no one disputes the similarity of reaction of each individual attacked by a pathogenetic cause of the same kind.

It is the effort of clinical medicine by means of symptoms and physical signs to divide from one another the reactions of each noxa, this classification necessarily preceding that of the bacteriologist or chemist.

In the admittedly difficult and still uncertain study of the psycho-neuroses, it is therefore astonishing to find clinicians of the experiences of Dubois,† of Berne, and the neurological erudition of Déjérine,‡ at the Salpêtrière, refusing to make any attempt at the separation of clinical types in the vast *olla podrida* of neuroticism; especially as in the allied study of psychiatry, no one nowadays nosologically speaks of the insane, or confounds a precocious dement with a general paralytic, a manic-depressive state with a catatonic, or an acute toxi-infectious delusional insanity with the chronic delusions of paranoia, and so on. In this science one has gone even further, and Lewis Bruce§ has even claimed the possibility already of differentiating the clinical types by chemical and cytological study.

In this clinical agnosticism it should be known that Déjérine and Dubois are alone, and are vehemently opposed by other serious neurologists, all of whom realize the definite and easily ascertained distinctions between at least two types — hysterical and psychasthenic, and this

\*System of Medicine, Vol. I, 1896, London.

†Les Psycho-Névroses et leur Traitement Morale, Paris, 1904.

‡Camus et Pagniez: Isolement et Psychothérapie, Paris, 1904.

§Studies in Clinical Psychiatry, Edin. and London, 1906.

without taking into consideration at all true neurasthenia, which conforms much more nearly to a definite, acquired dysabolism necessarily affecting the nerve centers than to the tendencies to psychical vagaries which are constitutionally inherent in both the hysteric and psychasthenic, and which require for their management special psychotherapeutic intervention differing materially the one from the other.

To distinguish the disorders, it does not need more than an elementary psycho-analysis, which will make it clear that the patient can be classified in accordance with the following principles:

The type of mind which in extreme cases becomes hysterical is the one which is apt to mistake the false for the true, to go into the dreamlike state without being aware of it: it is a failure to grow out of that which is normal in the young child: the hysteric is typically credulous: he believes quickly that which is dictated by his feelings and desires, which become to him real as soon as wished: therefore he quickly acts in conformity even with a whim or absurdity.

The psychasthenic, on the other hand, has difficulty in persuading himself that what he knows to be true is verily a reality. While the hysteric needs re-education in the criteria of stable judgment, indeed to be taught scepticism, what the psychasthenic requires to cultivate is the feeling for practical certainty, for Kant's empirical reason, and a modicum of satisfaction with what has necessarily a certain imperfection, viz. himself and the world around him. An appreciation of this was clearly manifested by so humble an individual as the negro janitor who consoled himself for the annoyances derived from the tenants by the saying, "There ain't no perfects." It was put only a little differently in an address by Sir James Barr,\* in which he said, "We are all misfits, great or small."

We as physicians are not likely to forget that the feeling of inadequacy from which the psychasthenic suffers may be much mitigated by a careful regulation of the hygiene, and by the avoidance of the physical causes of depressed tone; and it is here particularly that the assumption

\*Sir James Barr: Treatment of Arterio-sclerosis, Brit. Med. Jr. 1906.



of healing functions by such lay men as ecclesiastics is particularly subject to grievous failure, not to speak of the psychological shortcomings necessarily inherent in approaching this science with the connotations derived from metaphysics and theology. No one requires the insight derived from the fundamentals of medical training and of wide experience of neurological diagnosis to so great an extent as he who attempts psychotherapy, as Déjérine\* has insisted. For instance, hysterical crises, susceptible though they are to psychotherapy, often arise from poor oxidation due to bad air, constrained attitudes, or slovenly breathing habits, even in cases where the direct exciting cause is a moral one. Re-education in moral control is accordingly much hampered by failure to remedy the above physiological defect, the friction from which may be so great as to render control impossible, as may be illustrated by the example of the difficulty and slowness as well as the errors inherent in the doing of a task while intoxicated by alcohol, narcotics, tire, or infection. The whole course of the treatment may be invalidated by the suggestive influence derived from the discouragement of one failure due to the non-detection of a physical dyscrasia whose removal would have ensured the re-establishment of the impaired psyche.

But these physical factors altogether apart, it would seem to follow of necessity that distinctions so fundamental as those just outlined between hysteria and psychasthenia should require different treatment. It is well known that many psychotherapists in treating hysteria employ hypnosis at one period or another. Now, Janet† has shown that the psychasthenic is entirely insusceptible to being hypnotized, the aptitude for which constitutes one of the real stigmata of the hysterical person. All the symptoms presented by the latter may, however, be comprised in Babinski's‡ formula,§ "Producible by suggestion, removable by persuasion or suggestion." While the psychasthenic

\*Camus et Pagniez, loc. cit.

†Les Obsessions et la Psychasthénie, Paris, 1903.

‡Ma Conception de l'Hystérie, Conférence devant l'Internat. Paris, 1906.

§Williams: Considerations as to the Nature of Hysteria, International Clinics, Autumn, 1908.

realizes his own defects too well to have to be persuaded of their fatuousness, the hysteric is suggested to no matter what absurdity, without the least realization that his thought or conduct are not entirely appropriate. He lacks judgment; the psychasthenic lacks will.

Thus the nature of the psychotherapy needed by one differs indeed very markedly from that required for the relief of the other. So far, then, from the conditions being one, they, on the contrary, afford another potent illustration of the old adage, *Naturam morborum curationes ostendunt*.\*

\*For the criteria of neurasthenia see Williams' "Dif. Diag. of Neurasthenia from other affections often mistaken for it." *Arch. of Diagnosis*, New York, Jan., 1909.

## THE UNCONSCIOUS\*

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(Concluded)

### CHAPTER VI

*Evidence from Dormant Complexes Originating in States  
other than the Personal Consciousness*

THUS far we have only considered the evidence furnished by dormant complexes which originally formed part of the conscious experiences of the waking personal self. We now have to consider the evidence from dormant complexes which never formed a part of the experiences of the personal self, inasmuch as they originated in dissociated states such as hypnosis, alternating personalities, dreams, trance, and other hysterical conditions, etc. The origin and even existence of such complexes is necessarily unknown to the personal self. Here it is evident a most important class of phenomena offer themselves as particularly suitable for the study of the influences of dormant complexes on the personal consciousness. In the psychological results of suggestions given in *hypnosis*, known as post-hypnotic phenomena, we have perfect examples not only of the experimental formation of dormant complexes, but of the influence of these complexes on the personal consciousness and can study the mechanism of this influence. This mechanism has not received the attention which its importance deserves, nor does any serious attempt seem to have been made to correlate these phenomena of hypnotism with those of the other dissociated states just mentioned and those of the normal consciousness.

In this phenomenon, too, we can study the psychological principle of psycho-therapeutics, for every therapeutic suggestion given in hypnosis becomes if successful plainly

\* Continued from page 426.

a post-hypnotic phenomenon, just as much as any of the classical hypnotic phenomena of this kind, such as the performance of mathematical calculations, or any other act suggested in hypnosis. To be more specific, I suggest, for example, to Mrs. R. in hypnosis that she shall put on her hat during dinner, and to the surprise of her family she carries out the suggestion without knowing herself why or even that she does it. I suggest to Mrs. B. that she shall go to bed at ten o'clock, and she promptly, when the clock strikes, arises from a game of cards and goes to bed, to the consternation of her fellow-players and guests. These somewhat dramatic performances differ in no way in principle from the effect of a therapeutic suggestion which I give to one or the other; just as I suggest to B. C. A. in hypnosis a complex of ideas of health and a feeling of strength, well-being, and joyousness; and that after waking this complex shall invade the personal consciousness in place of the previous distressing ideas of illness with accompanying fatigue and depression. The eventuation of the suggestion is a post-hypnotic phenomenon which plainly has resulted, directly or indirectly, from a complex that became dormant after waking. The classical experimental post-hypnotic phenomena, therefore, acquire great practical importance, for in them we have an opportunity to study the principles and mechanism of psycho-therapeutics as well as that of the influence of the unconscious in daily life.

Again, like hypnotic complexes, in alternating personalities we see the dormant complexes formed by the personal experiences of one personality affecting in a curious way the life of the other who is in entire ignorance of those experiences. The same is true of dormant complexes, which are not remembered on waking, of trance, psycholeptic, and other states which in this way may give rise to abnormal phenomena. All such phenomena, whether normal or abnormal, being similar in kind we should expect to correlate with one another as manifestations of the same psychological principle and determine the mechanism underlying each.

That hypnotic complexes after they become dormant affect in some way the personal self is a fact of common observation which may be demonstrated as often as one



wishes. The problem which remains is, How? What is the mechanism by which the alteration in the psycho-physiological self is brought about? Do these complexes continue to function while remaining dormant and unconscious? Or do they only supply the dormant material out of which the personal self assimilates certain ideas which arise in consciousness by the mechanism of association or suggestion? Or do they provide only emotions which invade the personal self and modify the composition of its ideas? Or do they function as co-conscious ideas? Or is it by a combination of all these mechanisms?

I have already described (Chapter II)\* the principle of formation of complexes in hypnosis and need not further go into it. I would simply recall to mind in this place the fact that the whole stream of hypnotic life may be conserved to the same extent and in the same way as waking life. A great part of this hypnotic life becomes dormant as physiological complexes after waking, but may be recovered again as conscious memories in a succeeding state of hypnosis; or it may, by suggestion, be brought into the full light of consciousness and synthesized with the personal self which then becomes aware of it. The conditions are identical with those of alternating personalities; indeed, a hypnotic state is an alternating state. But special complexes may be artificially formed by suggestion. The effectiveness of this influence in synthesizing ideas is well established, as well as the fact that such syntheses are most easily and strongly formed in a state of distraction or dissociation, which an alternating state is. When we introduce into the suggested synthesis an emotional tone, the resulting complex becomes more insistent and its activity more intense, just as is the case with complexes of waking life. Clinical experience shows that such an emotional complex is more capable of modifying, whatever the mechanism may be, the personal consciousness.

Now, taking the facts of experimental investigation as data, what is the mechanism by which dormant hypnotic complexes affect the personal consciousness and, in fact, the whole personality? 1. One way is through the formation

\*THE JOURNAL OF ABNORMAL PSYCHOLOGY, Oct.-Nov., 1908.

of co-conscious ideas. It has been experimentally shown that, following suggestions in hypnosis, large numbers of co-conscious ideas may develop, and that these ideas may function and carry on quite complicated intellectual processes, such as mathematical calculations and feats of memory and of imagination. Under certain conditions they may in diverse ways enter into, take part in and modify the stream of the personal conscious life, just as they do when they have an origin other than that of suggestion in hypnosis. In pathological conditions like hysteria, psycholeptic attacks, etc., co-conscious ideas may become insistent and, by their functioning, produce all sorts of mental and physical disturbances such as hallucinations, abulia, automatisms, crises, spasms, contractures, etc. Janet has given us a very complete study of these phenomena. These can be very largely imitated by suggestion in hypnosis.

I have elsewhere recited observations showing the formation, after waking from hypnosis, of co-conscious visual images which modified the personal consciousness and induced actions which had been suggested (post-hypnotic phenomena).

This aspect of the problem need not detain us here, as it will be considered in another work. The only point that I would make is that the stream of these co-conscious ideas may be constantly reinforced by new supplies which bubble up, so to speak, from the large spring of organized dormant complexes. If, by psycho-analysis we bring to light all these ideas, we find that they often present a shifting panorama of images the details of which may be traced to the previously suggested dormant complex out of which they emerge by the law of association. The latter furnishes the material for these elements and thus indirectly influences the personal self. The evidence seems to show that in these conditions it is only after becoming co-conscious that the physiologically organized elements function.

The awakening of co-conscious states, however, is a phenomenon of dissociation and probably only to be observed in special cases which present favorable conditions.

2. A second method by which a dormant hypnotic complex may influence the personal consciousness is through

the persistence of the emotions created in hypnosis. As a matter of almost universal experience it is found that the emotional tone belonging to the ideas suggested in hypnosis persists after waking. This fact scarcely needs illustration. If the ideas and feelings of wellbeing, of joy and energy, are made part of the hypnotic complex, these exalting feelings still continue after waking, though the ideas which gave rise to them remain dormant, and the subject is unaware of their origin. Similarly with depressing feelings, the same persistence of the emotional tone of course occurs. When the ideas are not suggested, but arise from the inner consciousness of the hypnotic personality, when, for example, the subject in hypnosis rehearses his woes and sufferings or gives expression to depressing thoughts and is allowed to awake without such ideas being replaced by others, it will be found that he will continue in a depressed condition. For this reason when hypnosis is used for therapeutic purposes it is important to take care, before a subject is allowed to wake, that depressing ideas are removed and those with a healthy, invigorating emotional tone implanted.

The following extract from a letter illustrates the persistence, after waking, of the emotional tone belonging to a complex suggested in hypnosis. The suggestion was that the patient should pursue a course which appealed to her tastes and awakened aspirations for the future. In hypnosis she became highly enthusiastic over the plan.

"I went to you to-day wretchedly ill, had been suffering from headache and nausea all day, and I have come home absolutely free from both and feel as if I had the elixir of life poured into my veins. I am *young* and *strong* and *happy*; and I have the most curious feeling of expectation — it seems as if something pleasant were going to happen to me. Of course it isn't but I will enjoy the feeling while it lasts."

The power of emotion in invigorating or depressing all the vital processes, according to its character, is well known. Joyful emotion tends to produce integration and stability; anxious emotion, disintegration and instability. Besides these general effects, exaltation brings with it or arouses secondary ideas of well-being, of satisfaction and capacity

which tend to adapt a person to his environment, while the contrary is the effect of depression. This latter tends rather to the creation or perpetuation of obsessions, doubts, and scruples.

The persistence of the emotional tone after the rest of the complex has become dormant is not peculiar to post-hypnotic phenomena, but is observed in every-day life. We have an exalting experience, engage in a spirited game of tennis, watch an exciting football match, or take part in an exhilarating dance. For the remainder of the day or the next day we still experience all the stimulating emotion even though in the cares of our vocation the memories of the previous experiences have remained dormant, not having once been called to mind. The only difference between such experiences of every-day life and those of hypnosis is that in one case we can, if we will, recall the origin of the feeling and in the other we cannot. In both we do not.

In alternating personalities the same phenomena may be often observed. In Miss Beauchamp it often happened that the feelings belonging to the emotional tone of B I persisted after the change to B IV (and vice versa), though there was amnesia for all that had gone before. In other words, though the memories of each were dissociated from the other the emotions were largely common to both.\* It was in consequence of this phenomenon that B IV wrote: "B I's constant grieving wears on my nerves. It is harder to endure than one would believe possible. I would rather give and take with Sally — a thousand times rather."

Dormant *dream* complexes may give rise to similar phenomena. In a minor way every one, probably, has experienced the persistence of the emotional effects of a dream after waking and after the memory of the dream has vanished. More commonly, of course, the dream is remembered, but in the cases of people who do not remember their dreams the phenomenon is precise. B. C. A., for example, does not as a rule remember her dreams, but nevertheless frequently awakes in a state of anxiety or exaltation which has considerable persistency. In hypnosis the dream which gives rise to the emotional state is recovered.

\*The Dissociation of a Personality, pp. 297-298 and 324-325.



I have recorded frequent instances of this. The depression following a nightmare and certain physical after-effects have been observed in this subject to last several days. The subject awakes from sleep with a severe headache, nausea, fatigue, and depression sufficient to confine her to bed. In hypnosis I have frequently traced this syndrome to a distressing but forgotten dream which often repeats itself. At a given moment in this dream, when she is overwhelmed with anguish, the headache suddenly develops, according to the testimony of the hypnotic memory. That the whole syndrome is purely functional is shown by the fact that it is quickly removed by a simple suggestion. A persistent fatigue syndrome, coming in the midst of health, has also been traced to dreams and instantaneously removed.

Aside from theory we know almost nothing of the psycho-physiological mechanism of emotion. Whatever it may be, it would seem as if it must have one of its own, independent of that of specific ideas.

3. Probably the chief mechanism by which dormant complexes formed in hypnosis take part in and modify the personality is as follows: Suggestion in hypnosis gives rise to "fixed ideas." These after waking persist as organized unconscious complexes. Then, as a result of stimulation by associated ideas from the environment — acting as *points de repère* — these complexes become conscious again and interwoven with or substituted for the ideas which happen to be in the personal consciousness at any given moment. Suggestion is a complicated mechanism and it is unlikely that we as yet know all its details. But that this is substantially the mechanism, in many cases at least, can be shown experimentally. The principle of *point de repère* has been well demonstrated by Janet and others. Suggestion forms the complexes, and associated stimuli bring them into consciousness.

We must never lose sight of the fact that brain complexes, however formed, whether in states for which we have amnesia or not, are a part of our personality, and therefore that of two ideas associated, for example, in hypnosis, one is always liable to be awakened into consciousness when the other is consciously present. If a ship and a storm have

been associated in hypnosis and this link has become dormant as a physiological complex, whenever either of these ideas comes into the mind the other is liable to arise because of the physiological (unconscious) association. Whether it will do so or not depends upon various circumstances. The fact that we have amnesia for the experience in which the association was formed does not break up the physiological association, which remains ready to function under favorable conditions.

The number of elements of the complex which may be brought into consciousness in this way varies depending, as in ordinary memory, in part upon the strength of organization of the complex, in part upon the emotional tone pertaining to it, and in part upon conditions which we do not understand. We can best appreciate the principle of this mechanism if we set before ourselves the facts of post-hypnotic phenomena, as obtained through experiment. As these phenomena have been frequently described in published accounts of experiments, it is not necessary for me to go into them in detail, but I would refer the reader to the original reports and works on hypnotism.\*

The phenomena in question are those which are observed when it is suggested in hypnosis that a person, after waking, will have such and such thoughts and feelings, or will perform such and such actions. In a favorable subject the suggested ideas come into the mind or he carries out the suggested action. Let us consider first suggested actions as being more exaggerated types of this reaction, and take the experiment I have described in another work. I suggest that, after the subject wakes, on a given signal — the entrance of Dr. W. — she is to go to the bookcase, take a book and place it on the table by the side of the telephone instrument. She is then to take a cigarette from the box and put it in her mouth. The second suggestion she refused to carry out though I insisted. The subject was then waked and, as usual had no memory of the suggestion.

\*One of the best discussions of post-hypnotic phenomena is to be found in the late Edmund Gurney's article, *Peculiarities of Certain Hypnotic States*, published as far back as 1887. *Proceedings of the Society for Psychical Research*, Vol. IV, p. 268.

The first action was perfectly performed as directed; the second in part only; the subject went to the table where the cigarettes are usually kept and not finding them there looked about, found a box on the writing table, picked it up, laughed, and then, after some hesitation, offered one to me and then one to Dr. W. The partial failure of the second unsuccessful suggestion is illustrative of an important psychological principle, to be presently stated. It was in conflict with a stronger complex.

Now, if such subjects are closely observed and tested during the action and examined afterward, it will be found that the mental condition during the act varies in different individuals, as was pointed out by that very careful and accurate observer, Edmund Gurney: (a) With some subjects the ordained action is consciously performed in a semi-hypnotic condition (into which the subject falls at the given signal) and is afterwards forgotten; (b) with others it is consciously performed in a semi-hypnotic relative and afterwards remembered. I say semi-hypnotic relative to the original hypnotic state in which the suggestion was given. There has been considerable discussion as to the exact nature of this post-hypnotic state. Gurney called it a *trance-waking state*, preferring this term to *veille somnambulique* of Beaunis and regarded it as having important characteristics which distinguish it from hypnosis with which it was identified by Professor Delboeuf. These distinctions are clinical rather than psychological. The essential fact is that the subject is not in a normal condition, but is in a dissociated state which varies in degree all the way from a condition which is very difficult to distinguish from the normal state, to a condition of quasi somnambulism which approximates the original hypnotic condition. Ordinarily the subject, whether the performed action is remembered or not, retains his natural relation to other people and to the external world. That the state, however, may be artificial even when the action is performed with every appearance of naturalness and normality, was demonstrated by Gurney through some ingeniously devised experiments. He found that in this state his subjects were in a condition of abnormal suggestibility and could recall memories belonging to

hypnotic states other than that in which the suggestion was given, etc. Thus the post-hypnotic actions in the illustration above given were apparently performed naturally and in a perfectly normal condition, but they were completely forgotten after completion. This amnesia is not in itself evidence of abnormality, but that they were performed in a somewhat dissociated state was shown by the large number of co-conscious images which were later shown to have been present in her mind. Probably if tests of suggestibility, etc., were made during the performance the condition of dissociation would have become manifest.

In this class of cases during the act there is a retraction of the field of consciousness which in extreme cases may be reduced almost to a single complex, namely that which was suggested in hypnosis. This complex is awakened approximately as a whole and proceeds to elaborate and carry out the ideas composing it. The stimulation which awakens this complex and produces the retraction is the *signal* proposed — a *point de repère* — which, in idea, had been associated with the complex in hypnosis. In less extreme cases the essential ideas only of the suggested complex arise in the mind intermingled with the normal perceptions of the individual's relations to the environment. The subject then carries out these ideas in a rational manner. The suggested ideas act as sort of impulses, owing to the condition of dissociation present. When, however, too great a conflict arises with what appears to the subject to be rational, right, and proper, under the circumstances, the suggested action generally will not be carried out, as was the case in the cigarette experiment above cited.

Still more instructive are two other classes of cases in one of which (c) the ordained action is consciously performed in a normal state and remembered and in the other class (d) the state is normal but the action is forgotten. Amnesia for a state is not evidence of its abnormality, as is shown by our forgetfulness of absent-minded acts and of uninteresting and customary actions (like dressing, especially when the mind is diverted).

In these cases there does not seem to be any reason to believe that the state in which the action is performed is



other than normal. "The 'subject's' account of it afterwards, if remembered, is as of something which it just occurred to him that he would like to do, and which he did because he chose. While he does it, he is in his usual relation to the external world, and can converse naturally and rationally; and both the performance itself and the surrounding circumstances are completely remembered afterwards. He is so much himself that, if the act is an odd one, he is conscious of its oddity, and will make excuses or apologies for it. Thus, one of my recent 'subjects,' who was told that at a certain time after waking he was to poke the fire — which would, of course, be an odd thing for him to do unasked in my room — when the time arrived, turned to me and asked politely if I should object to his poking the fire. Another 'subject' was told during his trance that, when I rose from my seat for the fourth time, he was to blow out a particular candle close to which my wife was sitting at work. He was woke, and conversed with me in a perfectly natural manner. I rose from my seat at intervals, took a few paces through the room or stood at the fire for a few seconds, and sat down again. On the fourth occurrence of this, the lad got up, saying, 'There is too much light here'; but instead of at once fulfilling the order, he had sufficient forethought and courtesy to take another candle from another table, and to place it where the one that he was to blow out stood; after which he blew out the right one. Questioned some minutes afterwards, he perfectly remembered what he had done. Similarly, Miss S., a 'subject' of Mr. Myers, who had been told that she was to pluck off a large withered leaf from a plant in the drawing-room, on waking, went up to the plant, handled it, and asked her hostess's permission to pluck off the leaf, as she thought it would be an improvement. She had no sense at all of anything exceptional in her impulse." \*

There is no retraction of the field of consciousness, the suggested complex as a whole does not arise in the mind, but certain ideas of this complex are awakened by the signal previously associated with them. Certain ideas from the dormant complex interject themselves among other ideas

\*Gurney, loc. cit., p. 270.

of the moment and the individual carries certain of them out, not as an automaton, but as any one would carry out any impulsive idea that came into his head; to look out of the window, for example, without any definite purpose. The physiological complex as a whole could not be awakened without either producing a retraction of the conscious field (a partial restoration of the hypnotic state) or bringing back the memory of the whole hypnotic experience, which indeed sometimes happens.

That the state of the subject in the last two classes of cases is normal is in entire harmony with what is observed when post-hypnotic phenomena are produced for therapeutic purposes. Indeed, in every day life, ideas of a certain intensity that are not counteracted by other conflicting ideas, such as those of social propriety, tend to complete themselves. Watch a billiard player who just misses a shot and observe the almost irresistible impulse of his mind to carry out the intention through involuntary movements. He makes as if he could not help pushing his ball again in the desired direction as it approaches the object ball, though such an action is against the rules.

For the performance of a post-hypnotic act, whether or not an individual shall go into an artificial condition (dissociation) depends largely upon the psychological complex of the act, the number of psycho-motor functions involved, the incongruity of the act with the environment and the degree of change required in the mental synthesis. When it involves the function of psychological and, we may say, cerebral complexes which are markedly different from those in activity at the moment, it becomes almost a necessity that there shall be a dissociation of the unity of the personal consciousness and the formation of a new synthesis which becomes that which was suggested. *This new synthesis is the artificial condition (abstraction, semi-hypnosis, hypnosis, etc.).*

When the suggested effect does not include a voluntary act, but is limited to ideas, the mechanism is less complicated and makes less demands on the unity of the personal consciousness. A disruption of the normal psycho-physiological mechanism is less likely to be produced and there

is less likelihood of an abnormal, that is, dissociated, state developing at the time of the completion of the suggestion. Suggested acts offer material for the study of the mechanism of volition, but to consider this phase of the problem here would carry us too far afield. In the production of post-hypnotic ideas as well as actions, the *specific suggestion* that the subject will have intended ideas, feelings, etc., is an important factor in bringing the dormant complex into consciousness. The exact part played by this element in the suggestion is not completely clear, but association plays an important and powerful role. The specific suggestion that there shall be after memory is not essential; but it is more effective, particularly in determining what particular elements of dormant complex shall arise in consciousness. Without this specific suggestion any element may arise, but of course it is not possible to predict which elements, any more than we can predict what elements in our conscious experiences shall arise at any given moment in association with a given idea, say an automobile or the name "Mary."

To go back; in the personal experiments above given and those cited from other sources, besides the ordained post-hypnotic *actions* there arose in the minds of the subjects corresponding ideas, and the experiments might have been limited to these. All such ideas of course primarily belonged to an association which was formed in hypnosis. After waking, the association as a whole became of course dormant as a physiological complex. Later, when a specific idea, the signal, was presented to consciousness, it dragged out of the physiological complex certain of its associations. A pure experiment of this kind is easy to make. For instance, take B. C. A.

I suggested to this subject in the hypnotic state "c" that, after waking, she should have the following thoughts about a sewer which was in process of construction in the new Parkway embankment along the Charles River. (The work was being done directly in the rear of my house and could be seen from the windows of the room in which we were sitting.) She should think that it was a mistake to build this sewer; that through certain overflows it would carry sewage into the river and, owing to the dam, make a

cesspool of it; that it would cost a great deal of money which would be wasted. These ideas were elaborated at some length. Care was taken not to suggest *the time* or occasion when these ideas would come into her mind — that is, no signal was suggested — nor that she should speak them. The suggestion was limited to the invasion of the ideas, without motor reaction. Shortly after waking, while I was searching for some manuscript about which we had been conversing, she looked out of the window and spontaneously spoke in substance as follows:

"They are building a great dam out there. It is going to be a horrid-looking thing. I haven't the slightest idea what it is for. Is it a sewer or something like that? It must cost a lot of money to build. They must have more money than they know what to do with. It will make it perfectly horrid out there. Couldn't they carry it somewhere else? Emptying into the river will make a cesspool of it. Why in the river? Do you like it, Dr. Prince?"

Q. "What thoughts came into your mind about that sewer? How did you happen to think about it? Trace the train of your thoughts."

A. "I just thought it wouldn't be very nice to have a sewer there. It makes a horrid place of it out there. And it must cost a lot of money — they must have more money than they know what to do with. I don't know why I thought of it. I can't trace the train of thought. It came into my mind, that is all. I heard the dredger and looked out to see what they were doing. I don't think I knew it was a sewer or anything about it. Possibly I may have read about it."

When questioned as to her previous knowledge of the matter, she replied:

"No, I don't know anything about it. I don't know that it is a waste of money. The more I think about it the more curious it seems to me that I thought about it at all, etc."

The subject did not know how she came to speak about the matter; the ideas came into her head and she gave expression to them, that was all.

There was later no amnesia for the episode, as might



be expected, as under the conditions of the experiment there was no need of any disruption of the personal entity or disarrangement of her mental processes with the environment. Hence her state during the post hypnotic phenomenon was normal. In this example the suggested ideas referred to the objective environment and the sound of the dredger and view from the window, etc., acted as *points de repère*. It is evident that, in principle, the phenomenon was in every way the same as when ideas of self, such as would be useful in the modification of health (psycho-therapy), are suggested.

The suggested phenomena in such an experiment are simple in character, but they may be quite complicated, though remaining the same in principle. On examination we find, however complicated, that the suggested ideas and emotions weave themselves into the thoughts of the conscious individual and modify them; or the emotions, alone, may intrude themselves and determine the mood and the whole psychic content. I suggest to B. C. A., in hypnosis (as c), ideas of wellbeing, of recovery from her infirmity; I picture a future roseate with hope, stimulate her ambitions with suggestions of duties to be performed, deeds to be accomplished. With all this there goes an emotional tone of exaltation which takes the place of the depression and of the sense of failure previously present. This emotional tone gives increased energy to her organization, revitalizing, as it were, her psycho-physiological processes. The whole I weave artfully and designedly into a complex. Whatever neurotic symptoms were previously present, I do not allow to enter this complex. Indeed, the complex is such that they are incompatible with it. The headache, nausea, and other bodily discomforts, pure functional disturbances in this instance, are dissociated and cease to torment. After "waking," there is complete amnesia for the complex. Yet it is still organized, for it can be recovered again in hypnosis. It is simply dormant. But the emotional tone still persists after waking and invades the personal synthesis which takes on a correspondingly ecstatic tone. The aspect of her environment, her conception of her relation to the world and her past, present, and future mental life have become colored, so to speak, by the new feeling, as if under a new light.

But more than this, psychologically speaking new syntheses are formed with new tones. (See Chap. II.) If we probe deep enough we find that many ideas of the dormant complex have, through association with the environment (*point des repère*), become interwoven with those of the previous personal consciousness and given all a new meaning. A moment ago she was an invalid, incapacitated, exiled from her social and family life, etc. What was there to look forward to? Now: What of that? She is infinitely better; what a tremendous gain; at such a rate of progress in a short time a new life will be open to her, etc.,—a radically new point of view. Now, too, she feels buoyant with health and energy, ready to start afresh on her crusade for health and life. Her neurotic symptoms have vanished. Such is the change that she gratefully speaks of it as the work of a wizard. But the mechanism of the transformation is simple enough. The exaltation, artificially suggested in hypnosis, persists, altering the trend of her ideas and giving new energy. The perceptions of her environment, cognition of herself, etc., have entered into new syntheses which the introduction of new ideas, new points of view have developed; thus the content of her ideas has taken a definite precise shape. Whence came these new ideas? They seem to her to have come miraculously, for she has forgotten the hypnotic complex. But forgetting an experience is not equivalent to its not having happened or to that experience not having been a part of our own psychic life. The hypnotic consciousness remains a part of one's self (as a psychological complex), however absolutely we have lost awareness of it. Its experiences become fixed though dormant, just as do the experiences of our personal conscious life. Although dormant, they may play exactly the same part as do the experiences of our personal conscious life after becoming dormant, viz., furnish the material for ideas. The mechanism is the same.

The following letter from this patient, received by chance after these paragraphs were written, well expresses the psychological conditions following hypnotic suggestion.

"Something has happened to me — I have a new point of view. I don't know what has changed me so all at once,

but it is as if scales had fallen from my eyes; I see things differently. That affair at L — was nothing to be ashamed of, Dr. Prince. I showed none of the common-sense which I really possess; I regret it bitterly; but I was not myself and even as 'B' I did nothing to be ashamed of — quite the contrary, indeed. And, as an experience, it has done me good in spite of all the mental suffering I have undergone. I understand human nature far better than before, and through that knowledge I know that my mind and character have deepened and broadened. This dissociation of personality would no doubt have occurred from some other cause, in fact I suppose it had occurred before I met the person whom you call 'stick-in-the-mud,' but, anyway, for some reason — I don't know why but perhaps you do — I have regained my own self-respect and find to my amazement that I need never have lost it. You know what I was a year ago — you know what I am now; not much to be proud of, perhaps, but I am the work of your hands and a great improvement on poor old 'A.' I owe you what is worth far more than life itself (who said, 'As if to breathe were life?') namely, the *desire* to live. You have given me life and you have given me something to fill it with. . . . I feel more like myself than for a long time. I am 'my own man again' so to say, and if you keep me and help me a little longer I shall be well."

If, after creating by suggestion a hypnotic complex, we examine the content of the new personal synthesis after waking, we find that it is largely made up of the ideas which we artificially introduced in hypnosis as links in the chain of a complex which, as a whole, after waking, has become dormant. A large number of the elements of this complex have been dragged by association into the personal synthesis. The complex, as a whole, i.e., the hypnotic experience, is forgotten, but whenever an element in it comes into the personal consciousness through the experiences of every-day life, it drags out of the complex its newly and artificially acquired associated ideas and emotional tone. The idea of illness has acquired that of being better, of rapid progress, of early recovery; the idea of a wasted past has become associated with that of a fruitful future; that of failure with

what shall be accomplished; that of inertia with ambition, etc. The previously existing functional symptoms of headache and nausea have dropped out, being incompatible with the new synthesis.

All this is in every way identical with what is observed in every-day life.

When our ideas depend for their form upon associations derived from past experiences, for the most part long forgotten, the associations persist though their origin is buried in amnesia. On the other hand, in this experimental shaping of the mental synthesis we are able owing to the conditions of the experiment, to recognize the origin of the association. First artificially created in hypnosis, as links in the chain of a complex, they appear in somewhat detached form in the personal synthesis, after the complex has become dormant and forgotten; but their history is recovered again in succeeding hypnotic states, wherein the memory of the whole complex is preserved.

Finally in trance states, alternating personalities and allied conditions we find the same mechanisms by which the dormant complexes originating in these states influence the personal consciousness — sometimes through the development of co-conscious ideas, sometimes through the persisting emotional tone, sometimes through the awakening of the complexes by *points de repère*. Germaïne examples of the influence of trance complexes in shaping the content of the personal consciousness I have given elsewhere in two observations of the episode of sudden conversion occurring in Miss Beauchamp and B. C. A. \* Likewise in Fanny S., the false fixed idea which produces psycholeptic attacks arises from a complex originally formed in an hysterical trance state for which she has complete amnesia. Any associating stimulus will awaken the fixed idea and the attacks.

In alternating personalities the complexes of one personality may intrude themselves upon those of another in one or other of these same ways. The way in which B IV, in the case of Miss Beauchamp, was affected emotionally by

\*THE JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. I, No. 1, 1906. The Dissociation of a Personality, Second Edition, Appendix R.



experiences in the life of B I, of which the former had no knowledge, has been related.\* An emotion, apparently paradoxical, would be aroused in B IV in connection with a strange person or place or in consequence of a reference by some one to an unknown event. B IV, without apparent reason, would feel an intense emotion in connection with something or other which she did not remember to have ever heard or seen before. A face, a name, a particular locality where she happened to find herself, would arouse a strong emotional effect without her knowing the reason. The memories of the experiences to which these emotions belonged were a part of B I's life and could easily be recalled by her when the personalities alternated and B I came into existence. When B IV came again, the memories, of course, would be forgotten and become dormant, but the emotions, having become linked to the visual, auditory, and other images of a given person or place or whatever it might be, would be liable to be aroused in her by association, in spite of the amnesia, whenever the given person or place, as it might be, came into her daily life.

Likewise, aside from emotions, faces and places would appear as familiar and the names of apparent strangers would come into the mind of one personality without any awareness of their origin. These were a sort of "memory flashes" which were perfectly spontaneous, uninfluenced by any volitional effort of her own. They were the emerging into her mind of isolated memory images, such as a name, a face, or a place, which seemed to come from out of nowhere, without any connection with anything else. These did not bring with them any extended associations and were unimportant so far as affording definite aid in adapting herself to her environment went. Finding herself speaking with an apparent stranger, for instance, the correct name of this person would flash into her mind, or the face of an apparent stranger in a street car would suddenly become familiar, but there was nothing more extensive than this. Of this character was the recollection (?) and mention of my name on the evening of her first appearance, June 7. As she afterwards explained, the name came into her mind, but it might

\*The Dissociation of a Personality, pp. 262, 324 and 497.

just as well have been Smith, Brown, or Robinson, for all that it conveyed to her."\*

It was to these paradoxical memories and emotions that B IV referred when she wrote: "And this is very curious to me, for you can see how contradictory it is. Naturally one would expect that one's words and deeds would be simply the expression of one's thought and feeling, and that if one were conscious of thinking and feeling, one *must* understand one's own speech and action. Yet I have not, except very rarely. I am constantly referring to incidents which I do not remember; that is, which I am not conscious of remembering, and writing to people whom I do not know, often in a most familiar and intimate strain.

"Perhaps my choice of the word 'thought' in trying to explain this is not a good one. In fact I know it isn't, but I do not know what word to use. In one sense I do think, but not very clearly or coherently. It is perhaps as if my earlier (H<sub>2</sub>), intermediate (S), and later experiences (O<sub>4</sub>), instead of uniting to form one (H<sub>2</sub> S O<sub>4</sub>), were still"—(dissociated, etc. The letter was interrupted and unfinished.)

That the memories, though dormant, remained physiologically organized, was shown by the fact that when the alternation of personalities took place, the memories were regained, and also by the fact that, through a special device—namely artificial abstraction—they could be regained by B IV. The device consisted in putting "herself into a condition of mental abstraction, appearing partly oblivious of her surroundings, like a person in deep concentration of thought. She looks straight before her, fixedly, in the distance. She *sees* me (in a particular instance) dressed as I was then, *hears* my voice and is able to reproduce the whole scene more accurately than she could possibly do by simple memory. *While abstracted, she fails to hear when spoken to.*"†

Finally it may be pointed out that the paradoxical emotions and scrappy memories above described are instances of the principle above stated that a dormant complex may become split and certain elements in it become

\*The Dissociation of a Personality, p. 253; see also p. 261 and Appendix D.

†The Dissociation of a Personality, pp. 253-261.

attached to a single idea which originally formed part of the complex, the rest of the complex remaining dormant. The emotion was awakened simply by some perception.

In thus assimilating post-hypnotic phenomena with those of the dormant consciousness in every-day life and in various pathological conditions, we are plainly trenching on the field of psycho-therapeutics. For an understanding of the mechanism of this process the study of the co-consciousness and of the dormant consciousness, such as I have here outlined, is a necessary introduction.

## ABSTRACTS

THE EDUCATIONAL TREATMENT OF MENTAL RETARDATION IN CHILDREN. A CONCRETE EXAMPLE OF THE VALUE OF INDIVIDUAL TEACHING. By Elmer E. Jones, Ph.D. *The Psychological Clinic*, Vol. II, No. 7.

GYMNASTICS AS A FACTOR IN THE TREATMENT OF MENTAL RETARDATION. By E. Blanche Sterling, M.D. *Ibid.*

IN the educational world a great deal is heard to-day about the necessity of individual teaching. Very little definite information is at hand, however, to show the greater value of individual teaching over class instruction. The article by Dr. Elmer E. Jones, Professor of Education at the Indiana University, published in the current number of *The Psychological Clinic* is therefore timely.

Professor Jones picked out a first-grade class and studied their progress in learning words during a period of sixteen weeks. During this time the average child in the class learned one hundred and fifty words and over. Each week that the test was applied by Professor Jones, a few more words had been added to the child's vocabulary. But there was one boy in the class who at no time during the sixteen weeks had learned more than twelve words, and on the last day of the test, at the end of the sixteenth week, he knew only two words of the total number that had been taught the class. The boy was then given individual teaching. At the end of the second week the test showed that he knew eighteen words, and every week he added a few words to his vocabulary, until at the end of fourteen weeks of individual teaching he knew one hundred and thirty words, doing just about as well as an average child under class instruction. Professor Jones's results are a strong argument in favor of the establishment of special classes for children who are supposed to be mentally defective, as this boy was supposed to be, but are merely unable to progress because the methods of the class room do not reach them individually.

In the same number of *The Psychological Clinic*, Dr. E. Blanche Sterling, of Baltimore, shows the value of gymnastic work in the treatment of mental retardation. It is a well-understood fact that all backward children need motor training, but Dr. Sterling makes clear that there is a great deal of intellectual development which results from the proper kind of motor training.

LIGHTNER WITMER.



ON THE CAUSAL RELATIONSHIP OF SEXUALITY TO ANXIETY AND IMPULSIVE STATES. (Über die ursächlichen Beziehungen der Sexualität zu Angst und Zwangszuständen.) By Wilhelm Strohmayer. *Journ. f. Psychol. u. Neur. Dez.* 1908. Bd. xii, s. 69.

IN this extensive essay Strohmayer considers at length the etiological aspects of Freud's *Angst neurosis*. We seem constrained to import this term in the present relation, for no English word expresses the exact proportions of dread, terror, expectation, anguish, panic, anxiety, and fear that go to make up the entity described as *Angst*. Both the typical malady, and also the rudimentary developments and equivalents (palpitations, feelings of suffocation, trembling, outbursts of sweating, diarrhoea, vertigo, etc.) are discussed. Thirteen years ago Freud called attention to the great importance played in the causation of this malady by affections of the sex instinct, and formulated the phrase: *Angst* is sex desire deviated from its natural application. This deviation may, of course, be due either to direct repression, or to the suppression of perverse components of the instinct. Strohmayer adheres to this view, as well apparently to Freud's views of the development after polymorphous psychosexual perversity of normal children, and discusses them with great sagacity. He describes at some length twenty-seven cases bearing out these views, as he holds that only experience and time will demonstrate their correctness. He seems to employ Freud's psychoanalytic methods in his study of the cases to only a superficial extent. The article deserves careful reading in the original.

ERNEST JONES.

SUR UN MODE DE COMBINAISON DE LA PSYCHASTHÉNIE ET DU DELIRE (LA PSYCHASTHÉNIE DÉLIRANTE). By F. L. Arnaud. *Journal de Psychologie normale et pathologique, Mai-Juin*, 1908.

THE associations of delirium with psychasthenia are divided into three principal forms. In the first group the delirium appears quite suddenly, repressing and masking the state of obsession to such an extent that it cannot be recognized, and after remaining for a variable period fades away and the former mental state reappears. In the second group the two series of symptoms coexist in a more or less close and logical relationship forming a complex clinical picture. The delirium which is of the persecuting and melancholic type more often prevails, its development is progressive, it becomes systematized and gradually fixed, ending in definite

chronicity. Psychologically this form is characterized by the fact that the delirium is always composed of distinct elements from the state of obsession and of extrinsic elements in a measure foreign to the obsession. The third category, which is especially discussed in this article, is composed of cases which totally lack the extrinsic element or it is reduced to some accessory ideas, the delirium has all its roots in the state of obsession, or better, it is constituted by the obsession, which expression has been carried to an enormous degree of exaggeration. The delirious ideas retain all the characteristics of the psychasthenia. This form is especially met with in those obsessed by religious or moral scruples, as well as by ideas of crime.

Of the three cases given it will be worth our while to quote the first. It is the case of a man of twenty-two who was admitted to the asylum for having refused nourishment for a long time, so that he became extremely emaciated, and for having attempted suicide. Since his sixteenth year he suffered from sexual obsessions. He felt himself drawn to do "filthy things" with women, even with his own sister, and to commit bestiality. He was forever doubtful about things, entertaining numerous phobias, which absurdity he realized, but of which he was unable to rid himself. His movements were jerked and broken. He had to begin a number of times before he was able to execute the simplest action. Whether sitting or standing he always assumed the strangest and most strained attitude. At about the age of eighteen his ideas became decidedly delirious. He declared that each instant he did some of his "filthy things," he defiled women and dogs, and did "filthy things" with men. His sperma was projected through his trousers, and he frequently saw sperma spots which he spread on certain persons. He also accused himself of many evil deeds, such as derailing cars and trains by hurling stones with his feet while walking near the tracks. He considered himself incurable. "It is no disease, but a poisoning which came I don't know whence. . . . All the things happening to me come from some supernatural power. I am under the influence of the devil or of a magician." He also entertained many ideas of persecution, he was drugged, hair and powders were put in his food and drink so as to excite him to do "dirty things." As a result, he for some time subsisted entirely on oranges. He was watched and spied, and often when questioned he would say, "You know it better than I, they know all my thoughts." It was also stated that he had auditory hallucinations. Besides that he was subject to sudden periodic

suspension of consciousness — mental eclipse. This came on when patient felt himself urged to commit one of the "filthy things." "It is something which pulls me by the head, by the forehead, I move regularly like a small railroad which is pushed, sometimes I continue and suddenly I lose my head, I do not know where I am nor whether I exist."

This case is purposely described in toto so as to afford the reader a full view of the picture of the psychosis. It seems strange that the author should never have considered dementia praecox. Indeed all the special manifestations in these cases which stress is laid upon and which are claimed for psychasthénie délirante can be readily seen in dementia praecox, where we also find "abuse of logic, lack of adaptation to reality, insufficiency, splitting of personality," etc. Added to that the above cited case contains everything else common to any decent dementia praecox. It is quite true that by aggravation a psychasthenia may sometimes merge into a real psychosis, but when this occurs it must be considered as a different entity and classified according to the phases it presents. When the author calls this psychasthénie délirante he simply embellishes with a new name a well-recognized psychosis. To be sure the psychasthenia, particularly as understood by the French school, is by no means a *fait accompli*, especially when examined in the light of the more recent investigations.

A. A. BRILL.

A CASE OF DESERTION FROM THE COLORS DURING AN HYSTERIC TWILIGHT STATE. (Ein Fall von Fahnenflucht im hysterischen Dämmerzustande.) *Gerlach. Allg. Zeitschr. f. Psychiatr.* Bd. LXV. Hl. 4. s. 640.

THE old belief that "fugues" were epileptic manifestations is rapidly passing away, and Heilbronner's conclusion reached five years ago that the majority of them are of an hysteric nature is to-day more than substantiated, it is shown to be an understatement.

In this article Gerlach relates the case of a marine, aged twenty-three, who, in February, 1907, had been sentenced to nearly eight months' imprisonment for desertion, and in October, 1907, to a week's arrest for being absent without leave. On October 28, 1907, he was again missed. On November 7 the consul in London telegraphed that the deserter had given himself up there. The patient remembered nothing of his desertion, and came to himself first when

at sea on an English freight boat. He was sent to an institution. It then transpired that he had had a number of similar attacks even so far back as childhood. On examination was found: Increased knee jerks, slight tremor of the hands, tenderness of the left iliac joint, hyperæsthesia and hyperalgesia of the left half of the body, especially on the face and over the right clavicle. He had severe headache and globus. He was simple-minded and very ignorant. On January 20 he had an hysteric attack followed by total lack of reaction to external stimulation. After this he showed Gauser's symptom exquisitely, and the sensory loss on the left side was now absolute.

A long discussion of the case is given, containing nothing of psychological interest.

ERNEST JONES.

THE FANTASTIC FORM OF DEGENERATIVE INSANITY. (Über die phantastische Form des degenerativen Irreseins; Pseudologia phantastica.) By Bernhard Risch. *Allg. Zeitschr. f. Psychiatr.* Bd. LXV. Ht. 4. S. 576.

THIS paper, sixty-four pages strong, is of considerable value, especially from a psychiatric and forensic point of view. The author seeks to separate out from the various types of pathological lying a special group characterized by the following features: 'An irresistible impulse to invent stories stands in the forefront of their mental make-up; this impulse originates in the desire to play the part of various romantic heroes and idealistic figures conjured up by their imagination with the aid of novel-reading. The creative power is of a low order, and is of an intensely egocentric kind. The desires extend their influence on to daily conduct, so that the patient acts the part in question, and thoroughly believes the story he is telling. The tale told is replete with verisimilitude and inherent probability and is related with such an air of conviction as fatally to deceive any one not actually acquainted with the facts. Further symptoms are: a diminution of attention, which leads to rapid contradiction of the details of the original story every time that this is repeated. This peculiar falsification of memory concerns also painful experiences, such as legal offences. A certain weakness of judgment is present, which is not easy to detect, as it shows itself only an exaggerated heaping-up of adventures when the patient's fancy, as it were, runs away with him, and in a remarkable indifference to the listener's



criticisms. When confronted with the proof of his lying he argues, avoids the central point, and becomes incredibly stupid and hard to "pin down."

The symptoms are developed on a background of word anomalies, unsteadiness, mental excitability, that the author groups together under the expression "degeneration." The condition, however, differs from other degenerative psychoses in the prognosis being far worse. In the majority of instances the patients come into conflict with the law for various minor offences, particularly theft.

Six cases are excellently described and discussed. The differential diagnosis is also fully considered. From the lying of the normal and depraved the condition in question is distinguished by the apparently purposeless and impulsive tendency to lie, by the patient's inability to distinguish between truth and falsehood, or to recognize when he is straining the credulity of his listener, and by the presence of other psychopathic traits. From dementia paranoides the distinction is more difficult, and the lying is commonly mistaken for the delusions of this affection. It differs, however, in being more congruous and consistent, less fanciful, absurd, and self-contradictory than delusional; the adventurous tales are also characteristic. Most important is the fact that sooner or later they are corrected, whereas the delusions of dementia praecox resist correction absolutely. The distinctions from hysteria, manic-depressive insanity, and imbecility are obvious.

ERNEST JONES.

## REVIEWS

THE SEMI-INSANE AND THE SEMI-RESPONSIBLE (DEMIFOUS ET DEMI-RESPONSABLES). By Joseph Grasset, Professor of Clinical Medicine, at the University of Montpellier. Translated by Smith Ely Jelliffe, M.D., Ph.D., Clinical Professor of Mental Diseases, Fordham University, N. Y. New York and London, Funk & Wagnalls Company, 1907, pp. xxxv, 415.

THIS book has not only received considerable attention from scientific journals but, if one may judge from the number of reviews and abstracts appearing in lay periodicals, has aroused interest outside of the medical profession. Any book which serves to educate the public concerning the relationship between crime and mental disorder should be welcome at the present time, and all efforts to bring about a better understanding between jurists and psychiatrists are praiseworthy. The greatest obstacle in the way of closer co-operation between law and psychiatry is the arbitrary legal division of all people into two distinct classes — the sane and the insane — and what medico-legal expert is there who has not been exasperated almost beyond endurance by the magistrates who insist that the expert witness ought to be able to state, and must state, whether the accused is sane or insane. As the author aptly shows, a theoretical distinction so sharp, if true to the facts, would be of the greatest convenience, and "most magistrates adopt it, or rather would like to impose it upon physicians. Yes or no? Is the accused sane or is he insane? Is he or is he not responsible for the crime or the misdemeanor which he has committed? Shall we condemn him or shall we commit him? This is the dilemma in which justice would like to trap the expert, who has the appearance of trying to evade responsibility, if he will not answer categorically and emphatically yes or no."

Thus the very title of the book is attractive and fills an important function if it does no more than call attention to the fact that human character and personality cannot be estimated in one dimension alone, but must be studied as to height, depth, width, hardness, softness, richness, resistance, and stability. It would be well if the book were to be placed upon the bench and before the eyes of every judge, where its title page might be a constant reminder of the unfairness of demanding impossible responses from medical witnesses.

But however pleasing the title, the psychiatrist, eagerly exploring the book for a vindication of the views which he has so long held in the face of many difficulties, will be unable to refrain from some

disappointment that Grasset has not taken better advantage of the opportunity afforded by his happy choice of subject. That there are semi-insane and semi-responsible persons all thoughtful men would perforce agree were they but cognizant of the data relevant to the argument, but the unbeliever would find little in Grasset's book to render him uncomfortable in adherence to his false convictions. The book states a demonstrable proposition which it fails to demonstrate. The logic of the book is puerile and the thought difficult to follow because of its circumstantiality. A frank exposition of available clinical material illustrative of the class under discussion would have sufficed for the convincing of the most obstinately adverse-minded person. But Grasset, in place of demonstrating the existence of the semi-insane, dissipates his talents in the endeavor to differentiate sharply the three classes, the sane, the semi-insane, and the insane, one from the other, thus convicting himself of the very arbitrariness of which he complains in the law and its magistrates. In place of two classes he gives us three, leaving us even worse off than before, for now we must make three artificial and impossible divisions instead of one. Grasset exhibits in his study of the psychic world the same old tendencies which led the ancients to regard the earth as flat and permitted the concept of jumping-off places: because his mind's eye cannot contemplate more than a given area in a given time, he has been led into the error of assuming the existence of lines of circumscription corresponding with the limits of his mental horizon.

The language of the book is too figurative to satisfy the scientist and too technical to meet the needs of the layman. He devotes a chapter to the refutation of what he calls the "one block" and the "two block" theories, and employs as "a figure or mode of explanation" a diagrammatic representation of mental activity in the shape of a polygon composed of superior and inferior psychic centers with their association tracts. Had not the translator in his preface recognized the need of "first aid" to the reader and thus been impelled to furnish an explanatory key to Grasset's linguistic code, even those well versed in psychiatric lore must have failed to recognize in Grasset's *polygon* the much-used and much-abused aphasia scheme of Wernicke and have been compelled to abandon in despair any hope of attaining the author's viewpoint. But the reviewer can find nothing in the otherwise helpful preface of the translator to clarify his understanding of such paragraphs as the following:

"In other words the actual idea of psychical centers forces us to admit two classes of patients, the mental and the psychic. The mentally afflicted have lost their reason, freewill, and conscience, and their superior intellectuality; they are insane. The psychically afflicted have not lost all that goes to make up reason and superior thought, but they are nevertheless disturbed in their psychism, which is not normal; they are semi-insane."

If there be anything in such paragraphs,—and the type is characteristic of the book—to convince the laity and the law that psychiatry has at last advanced to the point where its opinion is worthy to be sought and respected, it is lost upon the reviewer.

For a popular book there is too much of pornographic detail to afford healthful reading; for psychiatrists there is an insufficient amount of accurate clinical description.

The first personal pronoun appears so frequently as to be unpleasantly obtrusive, and the author sacrifices too much space to "the disagreement between my contradictors and myself."

The psychology of the book is weak and unworthy of a subject so weighty and of a psychiatrist so well known. Many examples of this defect could be quoted did space permit. A single example will serve to illustrate: "*Evidently he was not insane in the complete sense of the word . . . ; but he had acted without knowledge, memory, or responsibility.*" If such action does not denote insanity "in the complete sense of the word" the reviewer confesses to absolute incapability of judging the merit of this book and acknowledges incompetency in stating an opinion as to the mental state of a given subject.

This is not the place to enter into an argument for or against so-called simplified spelling, but it may be said that the typographical form of many words lends a decidedly foreign accent to the book and the reviewer at least was somewhat "oppressed" by the peculiar and unfamiliar form of words such as "possest" and "discust."

Butler Hospital

WM. McDONALD, JR.

A THEORY OF MIND. By John Lewis March, A.M., Ph.D.  
New York, Charles Scribner's Sons, 1908. pp. vii, 453.

SETTING out with the perhaps too capacious statement that "the study of mind thus stands at the present time without an accepted theory," Professor March, of Union College, certainly supplies the



deficiency in this volume of four hundred and sixty pages. At least he has seized at some (undue?) length upon several of the most salient aspects of the spirit of these our times psychological and has applied them, more or less knit together, to many mental problems, social as well as personal.

One of these concepts is a thorough-going and consistent *monism*, and another is the modern rendition of the now outworn Herbartian associationism, offering as the necessary and convenient idea of *fusion*. In order that fusion may occur there must be something to fuse and nothing is better suited to the purpose, indeed, than these monistic "atoms" of the author's, conscious as well as energetic. These are the familiar and ancient atoms of the great Democritus of Abdera and of the more recent Leibniz, not to mention the prophetic "mind-stuff" doctrines of Spencer, Clifford, and Prince, now pre-eminent.

It is rather easy in reading this book for the first time to miss the forest of wisdom and good sense because of the multitude of the terminologic trees. The terms are not new words, but they are given special and rather new meanings and so are somewhat artificial, while they are made worse yet, particularly the adjectives, by beginning them with capital letters,—the trees, so to say, not only amaze you sometimes, but now and then they seem to jump at you. But when one has withdrawn sufficiently to be safe from such unphilosophic disturbances, the theory stands forth in a way worthy of notice, especially if one can think of it as something new and perhaps the stepping-stone to a footing at once more substantial and more definite.

To the underlying notions of monism and of fusion mentioned above another should forthwith be added, for the author expressly says in the introduction, "We take our departure from the proposition that both the thoughts and the actions of a man are determined by his *character*,"—the sum, namely, of "the likes, dislikes, desires, inclinations, interests, etc., of the man." This psychologic sort of pragmatism is another phase of the spirit of the times that Mr. March has interwoven into his fabric of hypothesis, perhaps unwittingly, and strengthened it thereby. Character, then, surely determines a man's *impulses*—the fourth and last idea based in this theory that we need to mention.

Combining now these four concepts we may see the thesis of this doctrine to be that mind is inherently an elaborate system of

psycho-physical impulses of atomic origin fused according to the character of the individual brute or man. Mental processes and bodily process are interchangeable terms in this volume, since both are aspects of one thing in the Hæckelian (not Hegelian!) sense.

Many of the minor concrete statements made seem based on too little evidence, while in other cases (e.g., in the elaborate usage of the instincts), the systematic elaboration is excessive. The style of the book is often almost epigrammatic and much wisdom of a varied character is scattered through its pages. In general this "theory" is a useful compilation into a more or less coherent system of several rather timely and important ideas. Its utility or great practical importance for mental science it is hard to appreciate, but it is of not a little theoretic interest.

GEORGE V. N. DEARBORN.

Tufts Medical School.

WHY WORRY? By George Lincoln Walton, M.D., Consulting Neurologist to the Massachusetts General Hospital. Philadelphia and London. J. B. Lippincott Co., 1908, pp. 269.

THIS small volume teaches psychotherapy of a practical and helpful kind with which to meet the needless anxieties and the obsessions of every-day life as well as the more pronounced conditions of psychasthenia and other borderland mental states.

Only once in the text is direct reference made to psychotherapeutics as such and, so far from exalting the subconsciousness to a place of commanding importance in the curative process as is nowadays customary in this connection, the author makes no allusion to it whatever. His method of approaching the question is certainly in refreshing contrast to most of the recent popular deliverances on the subject but is likely to be looked at askance by advocates of the Emmanuel movement and the New Thought, who regard utilization of "the subconscious" as indispensable to the proper understanding and treatment of functional nervous disease.

No doubt the encouragement and spiritual counsel of the clergyman in some degree and to a far greater extent the improvement and regulation of the patient's surroundings by the social worker and others are useful factors in promoting the recovery of certain of the nervously afflicted but in these pages the patient is taught at first hand by the physician the lesson (which is in

danger of being overlooked, of how best to help himself by making proper use of his own powers and resources: reason, self-control, etc., as well as the various outside means in the way of new interests, diversions, and work which the author specifically prescribes. He describes and analyzes as only an experienced neurologist or psychiatrist can, the numerous conditions and occasions of morbid doubt, fear, and other obsessions from the mild to the overwhelming and meets them with practical expedients. His reassuring facts and arguments, apt and amusing illustrations and sensible advice given in a homely and entertaining style, seem certain to strongly impress the general reader for whom the book is intended.

One feels in reading it that it is the physician advising his patient who speaks to us, and his admirable and timely lesson is not without value also to the general practitioner, who until recently has considered such details to be either entirely unnecessary or out of his province. He could not do better than to take this unpretentious volume for his guide.

HENRY R. STEDMAN.

#### BOOKS RECEIVED

*The Psychological Phenomena of Christianity*, by GEORGE BARTON CUTTEN, Ph.D. (Yale). Author of "The Psychology of Alcoholism." New York. Charles Scribner's Sons. 1908. \$2.50 net. pp. xviii, 497.

*The Religious Attitude and Life in Islam*. Being the Haskell Lectures on Comparative Religion Delivered before the University of Chicago in 1906. By DUNCAN BLACK McDONALD, M.A., B.D., Chicago. The University of Chicago Press, 1909. pp. xvii, 317.

*Practical Dietetics with Reference to Diet in Disease*, by ALIDA FRANCES PATTEE. Fifth Edition. A. F. Pattee, Publisher, Mount Vernon, N. Y., 52 West 39th St., New York. pp. xvi, 311.



# THE JOURNAL OF ABNORMAL PSYCHOLOGY

JUNE — JULY, 1909

## SYMPOSIUM ON PSYCHOTHERAPY

*(Read before the American Therapeutic Society at the  
Annual Meeting in New Haven, May 6, 1909)*

- I. **The Psychological Principles and Field of Psychotherapy**  
MORTON PRINCE, M.D.
- II. **The Therapeutic Value of Hypnotic Suggestion**  
FREDERIC HENRY GERRISH, M.D., LL.D.
- III. **Simple Explanation and Re-education as a Therapeutic Method**  
E. W. TAYLOR, M.D.
- IV. **The Treatment of Fatigue States**  
G. A. WATERMAN, M.D.
- V. **Psycho-Analysis in Psychotherapy**  
ERNEST JONES, M.D., M.R.C.P. (Lond.)
- VI. **The Psychotherapeutic Value of the Hypnoidal State**  
BORIS SIDIS, M.A., Ph.D., M.D.
- VII. **Obsessions and Associated Conditions in So-called Psychasthenia**  
JOHN E. DONLEY, M.D.
- VIII. **Psychoprophylaxis in Childhood**  
TOM A. WILLIAMS, M.B., C.M. (Edin.)
- IX. **The Relation of Character Formation to Psychotherapy\***  
JAMES J. PUTNAM, M.D.

\*Reserved for publication.

## INTRODUCTION

BY THE PRESIDENT

[*Prefatory Note:* The origin and purpose of this symposium is fully explained in the Introduction by Dr. Frederic Henry Gerrish, President of the American Therapeutic Society. These explanatory remarks originally prefaced his address on "The Therapeutic Value of Hypnotic Suggestion." They serve so aptly as an introduction that, with permission, they have been transposed to this place.

THE EDITOR.]

IN the endeavor to learn what subjects most interested the members of our society, and what, therefore, it would be best to place upon the program of this meeting, I wrote to almost all of them last winter, asking each to suggest topics for the three symposia, which it seemed desirable to arrange. To this appeal there were many responses, which indicated a wide range of interests and a gratifying alertness to descry new remedial measures. Several of my correspondents proposed psychotherapy; and this suggestion coincided perfectly with the purpose which I had already formed to have, if possible, a discussion on this subject, which has not previously been presented at our meetings, and is of such importance that every medical practitioner, whatever his favorite line of work, should be well grounded in its principles and familiar with its methods. Its presentation is generally a grotesque mixture of fact and fancy, of truth and error, the good and bad so speciously blended as to make the product at once alluring and dangerous to untrained minds. Indeed, most physicians and some neurologists have little appreciation of this branch of the healing art, and treat it cavalierly, if they deign to give it any consideration. The time seemed opportune for a careful, serious, scientific study of the subject by this society, the only national organization in America devoted exclusively to therapeutics. Furthermore, it was plain to me that this association, whose single purpose is so conspicuously declared by its name, was under a peculiar obligation to the profession in the premises, and ought, as far as possible, to correct the misapprehensions which prevail concerning psychotherapy, and accord the sanction of its interest and influence to this valuable form of treatment. By great good fortune the aid

of eight physicians was enlisted in this cause, all of whom are learned in modern psychology, expert in neurology, skilful in psychotherapy, and enthusiastic in expounding their favorite doctrines. They constitute a galaxy, which cannot be duplicated on this continent. Their symposium, which will occupy the entire afternoon to-morrow, will be most illuminating and well worthy of your earnest and studious attention.

Before it was known that a satisfactory symposium on psychotherapy could be arranged, I had determined to consider one phase of it in the address, which custom requires your president to make, and this for several reasons: it is as far as possible from the hackneyed; it ought to interest and be understood by every medical practitioner; it is the least comprehended of the psychotherapeutic methods; that to which the most strenuous and even savage opposition is habitually made, and that, therefore, which needs the most explanation and defense; it is almost uniformly treated unjustly because ignorantly; and finally, it has been the subject of so much study and observation on my own part that on no other topic of general medical importance did I feel as well qualified to speak to you with an approximation to authority. Many years ago, when I had a considerable general practice, I used this psychic agency very extensively for a long time; and while the concentration of my energies on another branch has necessitated the abandonment of this and some other lines of therapeutic activity, my interest in this subject is still strong, and my desire to have it understood and employed by the profession is undiminished. Therefore, I ask your attention for a little time this morning to the therapeutic value of hypnotic suggestion.



## THE PSYCHOLOGICAL PRINCIPLES AND FIELD OF PSYCHOTHERAPY

BY MORTON PRINCE, M.D.

*Professor of Diseases of the Nervous System,  
Tufts College Medical School*

SO much that is pseudo-scientific or mere platitude, so many misstatements have been set forth in the lay and medical press both by those who are the advocates of psychotherapy and by those who are its critics; so many erroneous ideas abound regarding both the nature of the disturbances of the mind and body which we seek to allay and the modes by which we endeavor to do it, that it is not to be wondered at that the facts of observation have been mistrusted and the methods of therapeutics have met with cynical criticism.

If we are to judge the soundness of the theory on which this mode of treatment is based, the field of its usefulness, its limitations, and the methods of its application, it is absolutely necessary that we should begin any discussion of psychotherapy, in a symposium of this kind, with an understanding of its underlying principles. There are certain facts of observation with which we may begin.

1. It will be agreed that common experience has shown that certain unhealthy habitual states of mind are apt to be accompanied by various derangements of the functions of the body. By "unhealthy" I would designate those which tend to misadapt a person to his environment, and among these habits or states of mind I would classify depressive or disruptive emotions and feelings; apprehensions, and fear of disease or of the consequences of business or social acts; fixed beliefs in fictitious disease; illogical doubts, scruples, and anxieties; habits of thought such as constant introspection, self-consciousness, the concentration of the attention on the physiological functions of the body, the expectation of ill consequences following any course of conduct, and so on. I need not go into details, for that such conditions of mind are accompanied by derangements of the bodily functions is a fact of common knowledge which

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is confirmed by the experience of laymen as well as physicians and psychologists. Furthermore, in certain persons the modes of mental activity I have described if frequently repeated tend to become habits or habitual reactions to the environment that are not easily discarded. Often the mental states when persistent and intense become disabilities in themselves, constituting veritable psychoses, such as the anxiety psychosis, phobias of various kinds, morbid shyness and self-consciousness, association psychoses, etc. It is not to be affirmed that these unhealthy mental states of mind, even when they become habitual psychoses, are accompanied in every individual by disturbance of bodily functions, but the tendency is such in persons of a certain temperament and so-called nervous organization.

2. It is also a fact of observation which is too well admitted to be mistrusted that, when healthy mental states are substituted for unhealthy ones of the character I have described, the functional derangements of the body tend to disappear.

The two classes of facts just enumerated become comprehensible when we remember that physiological and clinical observations have shown that temporary or passing mental states when accompanied by strong feeling tones often alter in a marked degree the various visceral functions. To mention but a few of these effects: The increase of the heart's action; the increase of the blood pressure; the variations of the vasomotor system; the increased muscular energy and feeling of wellbeing; the pouring out of the appetite juice and saliva (Pawlow), etc., through the influence of ideas associated with sthenic pleasurable emotions — all these have been attested by the observations of the physiologist and of the clinician. Per contra, the suppression of salivary and gastric secretions; the inhibition of peristalsis and segmentation; the contraction and dilatation of the blood vessels; the increased functions of the sweat glands; the alteration in the rhythm and rapidity of the respiration and heart's action; the inhibition of many functions (gastro-intestinal); the decrease of muscular energy; the awakening of the sense and symptoms of fatigue; these and many such phenomena have been shown by carefully recorded tests to

accompany the temporary excitation of ideas that are associated with depressing and painful emotions. That the persistence of such mental states should be accompanied by persistent disturbance of function is not to be wondered at.

3. A third class of facts must, I think, also be accepted as **proven**; namely, that emotional shocks are apt in certain persons to leave persisting after-effects manifested by disturbances of function of the nervous system. We need not inquire at this moment into the exact nature of these disturbances or give them a name. It is generally agreed that they are of the character which is called functional and owe their evolution to the principles which I will presently describe. In their most obtrusive form they are observed as the traumatic neuroses (psychoses).

4. A fourth class of facts is of importance for psychotherapeutics, viz.: In all persons to a certain extent and in some persons to a large extent suggested ideas tend to work themselves out to fulfilment. In certain diseased states (hysteria) and in certain artificial states (hypnosis) this tendency reaches a maximum and, consequently, by suggestion, intentionally given to persons in such conditions, disturbances of function can be produced artificially and removed again. Likewise ideas originating in the mind of the person himself may induce the same phenomena (auto-suggestion). Thus on the physiological side functional paralysis, contractures, anesthetics, spasms, etc.; and on the mental side amnesias, hallucinations, sleep, trains of ideas and feeling, etc., can be artificially produced and afterwards modified and removed. In this statement I am not including the basic condition, whatever it may be, that gives rise to the increased suggestibility, but to the phenomena resulting from suggestion. How far that condition comes within the influence of suggestion is another question to which I will later return. The phenomena of suggestion have been determined by experiment over and over again, while the history of medicine testifies to the occurrence of such phenomena under accidental conditions. Indeed a distinguished neurologist (Babinski) has recently advanced the thesis, though as I believe erroneously, that all hysteria is nothing but a group of suggested symptoms.

We cannot be too cautious in generalizing from limited

facts of this kind which are observed under special conditions, but the basic principle is of great importance and one that obviously can be made use of in psychotherapeutics. To what extent it can be used is another question that can only be determined by experience.

After this general statement of certain fundamental facts of observation I would call attention to certain principles, if not laws, which observation has shown govern the functioning of the nervous system.

#### I. COMPLEX FORMATION

It is a law that associated ideas, feelings, emotions, sensations, movements, visceral functions of whatever kind, tend, after constant repetition or when accompanied by strong emotion and feeling tones, and under other conditions, to become linked together into a system or group in such fashion that the stimulation of one element in the group stimulates the activity of the rest of the group. Such a group is conveniently called a *complex*, and as such I shall hereafter refer to it. This tendency to linking of functions obtains whether the mental and physiological processes when linked form a complex which subserves the wellbeing of the organism and adapts the individual to his environment, or whether they form one which does not subserve the wellbeing of the individual, but misadapts him to his environment. In the former case the complex is called normal, in the latter abnormal. This is only another aspect of the well-accepted principle that pathological processes are normal processes functioning under altered conditions. Both are the expression of one and the same mechanism.

The linking of function may be almost entirely of ideas, as is expressed by the well-known psychological law of "association of ideas." Its pathological manifestations we see in so-called fixed ideas or obsessions. We see it also exemplified within normal limits in so-called moods, when certain large systems of ideas accompanied by strong emotion tones occupy the mental field to the exclusion of other systems which find it difficult to take possession of the field of consciousness. When such moods are developed and intensified to an extreme degree we have veritable pathological



alterations of personality and even, it may be, multiple personality. But in moods besides association we meet with another principle in an exaggerated form, namely, *dissociation*. Of this I will presently speak.

The linking again may be of physiological processes as exemplified by synergies of muscular movements. This is seen in the linked combination of muscles used in writing, piano playing, skilled use of tools, and implements of games (golf, tennis, etc.). Even the simpler movements of a finger, hand, or arm require the coaptative synergies of several muscles. These synergetic movements are admittedly the result of education through repetition, although undoubtedly the compound cerebro-spinal reflexes so beautifully studied and brought to light by Sherrington are made use of.

The possibility of organizing physiological processes into memories by artificial means and linking them to psychological processes is shown very neatly by the extremely important experiments of Pawlow and his co-workers on the reflex stimulation of saliva in dogs. The facts which I wish here to recite are thus described by Pawlow:

"In the course of our experiments it appeared that all the phenomena of adaptation which we saw in the salivary glands under *physiological* conditions, such, for instance, as the introduction of the stimulating substances into the buccal cavity, reappeared in exactly the same manner under the influence of psychological conditions — that is to say, when we merely drew the animal's attention to the substances in question. Thus, when we pretended to throw pebbles into the dog's mouth, or to cast in sand, or to pour in something disagreeable, or, finally, when we offered it this or that kind of food, a secretion either immediately appeared or it did not appear, in accordance with the properties of the substance which we had previously seen to regulate the quantity and nature of the juice when *physiologically* excited to flow. If we pretended to throw in sand, a watery saliva escaped from the mucous glands; if food, a slimy saliva, and if the food were dry — for example, dry bread — a large quantity of saliva flowed out, even when it excited no special interest on the part of the dog. When, on the other hand, a moist food was presented — for example, flesh, — much less saliva appeared than in the previous case, however eagerly the dog may have desired the food. This latter effect is particularly obvious in the case of the parotid gland."<sup>\*</sup>

More than this the psychical excitation may be part of a wider complex; everything that is in any way psychologically asso-

<sup>\*</sup>The work of the Digestive Glands (English Translation), p. 152.

ciated with an object which physiologically excites the saliva reflex may also produce it, — the plate which customarily contains the food, the furniture upon which it stands, the person who brings it, even the sound of the voice and sound of the steps of this person.\*

"Any ocular stimulus, any desired sound, any odor that might be selected, and the stimulation of any part of the skin, either by mechanical means or by the application of heat or cold, have in our hands never failed to stimulate the salivary glands, although they were all of them at one time supposed to be inefficient for such a purpose. This was accomplished by applying these stimuli simultaneously with the action of the salivary glands, this action having been evolved by the giving of certain kinds of food or by forcing certain substances into the dog's mouth."<sup>†</sup>

It is obvious that reflex excitation thus having been accomplished by the education of the nerve centers to a previously indifferent stimulus the reproduction of the process through this stimulus is in principle an act of physiological memory. [Prince: The Unconscious, JOURNAL OF ABNORMAL PSYCHOLOGY, Oct.—Nov., 1908.]

In man as an example may be cited the vesical reflex which may similarly, as is well known, be educated to react to the sound of running water.

These pathbreaking demonstrations of Pawlow furnish the key to the mechanism of many neuroses and psychoses, for indeed the educated reactions of the gastric and salivary glands to ordinarily indifferent stimuli from the environment and to psychical states are in reality nothing but an artificially created psycho-neurosis — a perversion of the normal reactions. Such artificial syndromes render comprehensible the mechanism of such neuroses as the well-known neurotic type of hay fever which belongs to the association neuroses.<sup>‡</sup>

In this type the whole physiological group of functions composing the neurosis — lachrymation, congestion of the

\*J. P. Pawlow: Psychische Erregung der Speicheldrüsen, *Ergebnisse der Physiologie*, 1904, I Abteil, p. 182.

<sup>†</sup>Huxley Lecture, *Br. Med. Jour.*, Oct. 6, 1906.

<sup>‡</sup>Morton Prince: Association Neuroses, *Journal of Nervous and Mental Disease*, May, 1891.

Morton Prince: Hay Fever, Due to Nervous Influences, Occurring in Five Members of the same Family, *Annals of Gynecology and Pediatrics*, 1895.

John E. Donley: Three Cases of Association Neuroses, *Boston Medical and Surgical Journal*, November 3, 1904; Study of Association Neuroses, JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. II, p. 45.

mucous membranes and erectile tissues, secretions, cough, dyspnoea, etc.,—are linked into an automatically working mechanism by repetition and excited by a stimulus from the environment, e.g., the sight of a rose (which may be artificial) dust, sunlight, etc. Psychical expectation (auto-suggestion) of course prepares and keeps alive the association. This neurosis, composed mostly of physical symptoms, strikingly illustrates the principle of an educated functional disease and typifies many forms of neuroses.

In other psycho-neuroses the syndrome may be made up partly of psychical elements and partly of physical processes. This is seen in psychasthenia, where, for instance, fears, anxieties, scruples, confusion of thought, etc., are associated with all sorts of disturbances of the body,—dizziness, palpitation, tremor, perspiration—the whole constituting a phobia or anxiety neurosis.

Now without pursuing these illustrations further, the point I would like to emphasize is that the whole process by which these functional syndromes are created is educational. The education may be unintentional, i.e., accidental, as in the hay fever neurosis and those resulting from continued auto-suggestion; or it may be intentional, as in Pawlov's experiments on the digestive functions.

In these facts which I have only incompletely collated we have the manifestations of a broad general principle governing nervous processes in normal and abnormal life. It is the principle of pedagogy. Unless nervous processes could be artificially linked into coaptative synergetic systems adapted to a purpose, education in any field would be impossible. Intellectual acquisitions, from the repetition of the alphabet to a complete knowledge of a language or a science, and physiological acquisitions, from the use of a tool to the mastery of the piano or the vocal apparatus, not only would be unknown but would be unthinkable. The education of the mind and body depends upon the artificial synthesizing of functions into a complex adapted to an end or useful purpose. By the same principle functions may be synthesized by education into a complex which does not serve a useful purpose but rather is harmful to the individual. When this is the case we call it abnormal or a psycho-neurosis.

From this point of view how inadequate is the allegation which we often see stated that there is no such thing as a functional disease. What can be the conception of function which must be held by those who maintain such a theory is something that passes comprehension. A functional disease is a perversion of the normal processes brought about by some acute, intense experience or by repetition of an experience, i.e., by education. Theoretically it would follow that what can be done by education can be undone by the same method, and in practice we find this to be true. We shall presently see that there are often types of functional disease, but each is based on a perversion of the normal mechanism.

## 2. CONSERVATION

Another principle or tendency of the functioning of the nervous system has been firmly established by repeated experimentation and observation. Its importance for psychotherapy can hardly be exaggerated. It is this: All our experiences—anything that we have thought, seen, heard, or felt—tend to be *conserved* in such a way that they can be reproduced in a form approaching that of the original experience. Upon this memory depends. It is evident that we never could remember anything, that all experiences would be lost to consciousness, unless somehow and somewhere they were preserved, unless there was some physical arrangement for preserving them. In what *form* mental and other experiences are conserved we do not know, we can only theorize; but we must infer that some kind of residue or impression, chemical or physical, is left in the neurones in consequence of which they have a disposition to reproduce, when again stimulated, the original experience, whether an idea or physiological reaction. Hence these residues are called unconscious "residua" or "dispositions." They have a hypothetical existence like the atoms and molecules of physics, but upon them the theory of memory is based. They may be likened to the impressions left in the wax cylinder or the magnetization of the wire of the phonograph by the spoken word. A complex of such residua is an "*unconscious complex*."



But besides mental experiences all observation and experimentation show that pure physiological reactions associated with a given mental experience are conserved as a part of that association. The ideas, for example, belonging to a fright complex which originally were accompanied by palpitation of the heart, tremor, perspiration, muscular weakness, etc., when reproduced in memory are again accompanied by all these physiological reactions. So in Pawlow's dogs the repeated experiences of a sensation of touch, accompanied with the physiological reactions of saliva, became a complex which was conserved and reproduced on subsequent occasions. The nervous system faithfully conserves and reproduces its experiences. Conservation is fundamental for education; for upon it the law of linking of complexes depends. It is obvious, for instance, that the education of coaptative synergies of muscular movements for purposeful acts would be impossible unless by the act of experience something capable of reproduction were impressed upon the neurones. Now the more often an experience is repeated and the stronger its emotional tone, the more likely it is to be conserved. Thus we repeat a verse or a rule of grammar until we know it by heart; or we repeat a movement until it becomes automatic.

But without repetition the elements of an experience may become linked and conserved. We undergo an emotional experience accompanied by various bodily reactions, as in a railroad accident, or we experience an abhorrent idea, or one of apprehension, or repulsive desire — in each case the nervous organism remembers the experience and upon proper stimulus can reproduce it. The emotional tone seems to intensify the impression on the brain organization.

Further, on the principle just described of the linking together of experiences into complexes, or associated groups of ideas, feelings, and physiological reactions, it is evident that large *unconscious* complexes, representing experiences, may be conserved and afterward reproduced as a whole by stimulation of the neuron residua. Observation shows that this is exactly what happens; and when these complexes are of an unhealthy kind we call them obsessions, phobias, etc., which in reality are nothing but experiences faithfully con-

served as residua and reproduced from time to time. They may also be called association psychoses or neuroses on the basis of their mechanism.

Now another fact which has been proved by experimentation and observation: A complex, i.e., the unconscious residua of a complex, may be almost photographically conserved notwithstanding that we may not be able to voluntarily reproduce it, i.e., recall the original experience. It may be preserved in the unconscious neurons and be made to reproduce itself by some special device. E.g., a childhood experience may be entirely forgotten, yet that it may be still preserved is shown by the fact that it can be recalled in even all its minute details in hypnosis, dreams, etc. When recalled in dreams it often takes on a distorted form and, freed from a true appreciation of its meaning, it awakens the liveliest and often terrifying emotions. This latter is a matter of considerable significance, for the same principle plays a part in hysterical crises.

Another fact of observation needs to be grasped in all its significance, for it underlies one practical method of psychotherapy. The failure to appreciate this has led to misunderstandings of the principle of hypnotic suggestion and indirectly to a denial that such suggestions are of therapeutic value, while at the same time it is admitted that waking suggestion is efficacious. The fact is this: It makes no difference in what state a complex is formed, whether in every day life, in sleep, trance, dissociated personality, sub-conscious states or *hypnosis*, they are or may be equally firmly organized and conserved, and they are conserved whether we can voluntarily recall the experiences or not. Whether they are to become organized depends upon the mode and conditions under which the impression is made upon the mind or nervous system, but once organized they are conserved and become a part of our personality. We cannot get rid of them unless they are effaced by the corroding action of time or disease. We are accustomed to think of experiences belonging to such states as not belonging to ourselves. This is a mistake. All experiences, however, and wherever formed, if conserved, are a part of ourselves and belong to the storehouse of our knowledge, though

we may or may not afterwards draw upon that storehouse in practical life. We know that dreams which are not even remembered may be not only conserved but may influence the personality during quite long periods of time for good or for ill. I have now a case under observation where an idea complex occurring in a dream persisted after waking as an obsession, and has continued as such to the present time, a period of twelve years.

If a complex then of ideas, which make up points of view, attitudes of mind, beliefs, hopes, and aspirations, is once firmly formed and organized in hypnosis, it remains as a part of our personality.

Further, experimentation and clinical observation have conclusively proven that a complex of ideas formed in hypnosis, whether remembered when the personality is awake or not, *can* affect, modify, or determine the ideas, beliefs, feelings, emotions, etc., of the individual. The elements of the hypnotic complex enter the stream of thought of everyday life and modify it. Whether it will do so or not depends on various conditions. *How* it does so is another question which we cannot enter into here. *That* it may do so is a fact which can be proven as often as we wish to try the experiment. If this is so when there is complete amnesia after waking from hypnosis it can be understood how much more easily it may be the case when, as happens in nine tenths of such procedures, hypnosis is little more than a state of relaxation and abstraction and is not followed by amnesia, but, on the contrary, the whole hypnotic experience, all the ideas of the complex which were therein formed are remembered by the subject. When it is remembered that in hypnosis there is increased suggestibility, and that there may be induced a dissociation of all ideas which clash with and antagonize the suggested ideas, thereby allowing a new synthesis to be formed, we can see what a powerful influence can be exercised on the personality by this procedure.

### 3. DISSOCIATION

The next principle to which I would call your attention is one to which I have already referred above, namely *dissociation*. It is a general principle governing the normal

psycho-nervous mechanism and therefore in a highly marked form only is pathological. A characteristic type is functional amnesia by which an epoch or a long period of time is blotted out of the memory. You will recall cases where following an emotional trauma the preceding hours or days or months are forgotten. The experiences of this time cannot be recalled as memories; but they are still preserved as brain residua, for they can be reproduced by artificial means through hypnosis and other methods. The amnesia for the hypnotic state and dreams after waking is also due to the same principle, as is also that following numerous other states which I cannot spare the time to mention here. What has happened in such conditions is a dissociation between the systems of brain residua which correspond to the psychological experiences. There is an inability to synthesize these systems into one personality and hence the amnesia.

Amnesia, of course, as a technical term, includes only ideas, but dissociated systems or complexes may include motor and sensory functions, and these we meet with as paralyzes and anesthetics as observed in hysteria. That such dissociations are purely functional is shown by the fact that they can be produced by suggestion and removed (synthesis) by suggestion. When, as sometimes happens, a single symptom like paralysis and anesthesia cannot be removed by suggestion, if the whole dissociated system to which this symptom belongs is synthesized by suggestion the symptom, paralysis or anesthesia, disappears. Here again we have a fact important for psychotherapeutics,—the fact that we can produce dissociation and synthesis by suggestion,—for if, as experimental investigation has shown, the basis of certain psycho-pathological conditions like hysteria is dissociation, we have a means at our command which may be used for the resynthesizing of the personality, i.e., the restoration of the normal individual. It is important not to lose sight of the fact that dissociation is a function of the normal mechanism of the mind and nervous system, and is made use of in normal life for the adaptation of the individual to the constant and ceaseless changes of the environment. It is the enormous exaggeration and perversion of this dissociating mechanism that constitutes abnormality.



A suggested idea simply stimulates and makes use of the normal mechanism, otherwise it can have no effect.

Among the normal phenomena of dissociation are to be reckoned temporary and some permanent forms of forgetfulness, the limitation of the field of consciousness in absent-mindedness, moods, anger, and other strong emotional states and sleep. Amongst the artificial and pathological conditions characterizing largely or chiefly the dissociations are hypnotic and hypnoidal states; suggested and hysterical amnesia, paralyses, contractures, anaesthesia, etc.; somnambulism, trance, psycholeptic attacks, etc.

Emotion, again, is a powerful factor in producing dissociation as well as the linking and conservation of complexes.

In the so-called neurasthenic state and hysteria dissociation plays a very important part. Every case of hysteria and many of neurasthenia are, as I see the matter, cases of dissociated personality,\* but it would carry us too far from our main subject to discuss this aspect of the matter at this time.

*Subconscious Ideas.* There are certain important phenomena of dissociation and conservation that ought not to be omitted, considering the important part which they sometimes play, and the large amount of attention which they have received.

When the conserved residua of an unconscious complex are stimulated, this complex becomes a conscious memory of which we are aware, but sometimes something else happens—it becomes a conscious memory of which we are not aware. Ideas are awakened, but we are not aware of them. These are what are called subconscious, or better, co-conscious ideas, which means ideas dissociated from, split off from the main consciousness. This is an interpretation of certain phenomena belonging to abnormal psychology which would carry us too far afield to consider here; but the evidence is so strong that it is impossible to resist the conclusion. Now when this is the case such ideas often resemble dreams—fixed dreams. The ideas, like dreams freed from the control

\*Morton Prince: *Hysteria from the Point of View of Dissociated Personality*, JOURNAL OF ABNORMAL PSYCHOLOGY, October, 1906.

of the personal consciousness which has no appreciation of their existence or meaning, take on a distorted form, and when accompanied by emotions acquire all the characteristics of nightmares—subconscious nightmares they may be called. That they should produce psychological and mental disturbances is not to be wondered at. This is what is sometimes found in hysteria when they produce the so-called hysterical crises. To get rid of such subconscious nightmares must plainly be an object for psychotherapy. A simple type of the dissociated co-conscious idea is found in hysterical anaesthesia. Here there is no absolute anaesthesia. The lost tactile sensations are only split off from the personal consciousness and, although the patient is unaware of them, they are preserved as co-conscious perceptions or tactual ideas. To resynthesize these perceptions with the personal consciousness is to make the patient aware of them and remove the anaesthesia.

I pass over as a controversial matter the mechanism by which co-conscious ideas are dissociated from the main content of the personal consciousness, i.e., by which the person becomes no longer aware of them. Differing views are maintained. By some it is held that in disease, as in hysteria, the splitting of the mind is due to fatigue and emotional trauma; by others that it is due to the direct volitional repression, or the pushing out of consciousness of ideas which are unacceptable to the individual. But whichever mechanism is the correct one, whether dissociation is brought about by voluntarily repressing painful or unacceptable ideas or whether by an over-intense stimulus from an emotional trauma to which the individual is not adapted, or by fatigue, in any case the pathological dissociation is but an exaggeration or perversion of a normal dissociating mechanism. That it still remains functional is shown by the fact that a functional stimulus (suggestion) is capable of producing it and removing it. We have here a type of functional disease which is somewhat different in form from that which results from the educational process, although this may come later into play in evolving subsidiary symptoms. I hardly need point out that the secondary effects of dissociation—hysterical stigmata, etc.—are but the products

of the normal functioning of the mutilated and dissociated fragments of the personality.

#### 4. AUTOMATISMS

In the mechanism of normal psychic life, automatism plays a much larger part than is generally realized. This principle tends to the economy of effort. We see it in habit actions and absent-minded acts when our attention is directed to some other train of thought than that engaged in the actions. Even language symbols tend to become associated into set phrases and formulas, which tend to become automatic and labor-saving devices for the expression of thought. In expletives and explosive phrases which almost unconsciously give vent to our feelings we easily recognize these language automatisms. Less conspicuous as automatisms is the activity of complexes of ideas, however formed, which function more or less automatically as a group and determine the direction of our thought and its content. The association experiments have done much to bring to light this automatic activity of complexes, and we are under deep obligations to Freud, Bleuler, and Jung for having directed our attention to this principle and emphasized these particular facts. In pathological fixed ideas which rush into consciousness unbidden and undesired we can clearly see this automatic activity. So in establishing fixed habits of thought, in forming deeply rooted ideas and points of view, beliefs, etc., we form complexes which are capable of more or less autonomous action.

When psychological and physiological processes become dissociated, and thereby freed from the inhibitory control of the personal consciousness, automatism is observed in its most highly developed form. The split off groups of psychological or physiological elements acquire what may be called a hyper-excitability and are capable of extremely independent functioning. The manifestations may be in the form of subconscious ideas, hallucinations (sensory automatisms), tics, spasms, convulsions, contractures (motor automatisms), etc. Primarily such pathological phenomena depend upon

dissociation of the nervous organism and the stimulus by some excitation from within or without of the nervous mechanism involved. With reassociation and cessation of stimulus the automatisms logically cease. The aim of psychotherapy, therefore, must plainly be to reassociate the split up personality, and to form such healthy complexes of ideas as will not stimulate the undesired complexes, but by their automatic activity will contribute to the well-being of the individual and adapt him to his environment.

#### 5. EMOTIONAL ENERGY.

It is a fact of observation that intense sthenic emotions and feelings are accompanied by an increase of the vital functions while, per contra, certain depressive emotions and feelings are accompanied by a decrease of the vital functions. Further, it is generally recognized by psychologists that most, if not all, ideas have a feeling tone attached to them. Consequently if certain complexes of ideas which have intense sthenic feeling tones are brought into the personal consciousness there is awakened a state of energy, a feeling of well-being and capacity, and an invigoration of the whole organism. If, on the other hand, complexes of ideas which have depressive or distressing feeling tones are brought into the personal consciousness, the contrary effect is produced. Stating the same fact in another way, exalting emotions have an intense synthesizing effect while depressing emotions have a disintegrating effect. This last we see exemplified in emotional trauma (traumatic neuroses) where sometimes a complete dissociation or splitting of the personality occurs being manifested by altered personality, anesthesia, paralysis, etc. Every one who has studied the hypnotic states must have observed these phenomena experimentally produced. With the inrushing of depressive memories or ideas whether originating autochthonously in the associations of the mind of the patient, or accidentally or intentionally suggested by the experimenter, there is suddenly developed a condition of fatigue, ill-being, and disintegration, followed after waking by a return or accentuation of all the neurasthenic



symptoms. If on the other hand exalting ideas and memories are introduced and brought into the limelight of attention there is almost a magical reversal of the process. The patient feels strong and energetic, the neurasthenic symptoms disappear, and he exhibits a capacity for sustained effort. He becomes revitalized so to speak. This, I believe, is the secret of those changes of character and physical capacity which William James has so brilliantly illuminated in his essay on the "Energies of Men." Complexes of ideas accompanied by strong feeling tones which have long lain fallow are brought out of their dormant abode and made to become a part of the working force of the mental factory.

In this principle, then, we see a mechanism which tends to the development of the neuroses and psychoses on the one hand, and to states of invigorating health on the other, according as whether disintegrating or synthesizing emotions and feelings are brought into the conscious field of the individual. In the hypnoidal state of Sidis and in hypnosis it is particularly easy to bring out of the dormant consciousness into this active central field memories and ideas which have been pushed aside or upon which the individual has lost his grip by reason of their having become dissociated by fatigue, friction with the environment, or by other disintegrating factors. It is thus easy to modify the personality at will by measures which make use of this principle. The transformation effected by the development of energy in this way is often most striking and is often commented upon by the patient. On the other hand, I have observed that when for any reason depressive memories and such idea-complexes enter and remain in the mind of the hypnotized subject, no matter what suggestions are given, the patient on waking becomes or remains correspondingly depressed and neurasthenic.

I have thus far briefly formulated the main psychological principles upon which psychotherapy rests. The point I wish to bring out into strong relief is that these principles or tendencies govern the normal functioning of the psychonervous system, and that it is the perversion of these tendencies which constitute functional disease; that is to say

reactions which misadapt the individual to his environment and which result from normal functioning under conditions to which the individual is not adapted. Functional disease is therefore a process of perverted functioning. Conversely psychotherapy makes use of these same principles or tendencies to re-adapt the individual to his environment, to re-educate him to healthy reactions.

Psychotherapy simply makes use of the normal mechanism of the mind and body, of the physiological machinery to bring about a restitution of the disordered functions and restore the individual to health. Thus suggestion can only act by stimulating the physiological mechanism, it can only make use of machinery already provided; it cannot create anything anew, do anything that is not in accord with the laws of the nervous system. As a method psychotherapy is comparable in every way to what is now known as physiological therapeutics which has taken such an important place in modern treatment in internal medicine.

I fear my exposition has been too brief to enable these principles to be clearly grasped by those who have not systematically studied and observed the phenomena of abnormal psychology. The field of investigation is a wide one, and to thoroughly comprehend the meaning of the facts that are to be observed one must make himself familiar with them at first hand as one would expect to do in bacteriology if he would understand the principles of infectious disease and immunity.

The psychological principles I have attempted to elucidate may be summed up as: First, Association; second, Dissociation; third, Complex Formation, Conservation, and Reproduction; fourth, Automatism; fifth, Emotional Energy.

Each of these principles is made use of by psychotherapy in greater or less degree according to the conditions presented. If we are dealing with a simple psycho-neurosis of the neurasthenic type where the disturbance can be traced to the first class of facts I have mentioned,—i.e., to unhealthy ideas, self-examination, worry, erroneous beliefs in, and apprehension of disease with the depressive emotional tones that go with such states, to habits of introspection and concentration of the mind on the functions of the body, etc.,—

the main principle to be made use of is the organization and substitution of healthy complexes in place of the unhealthy ones. This is not a simple procedure, but an art. It often requires all the skill which can be acquired from a knowledge of human nature, of life, the data of abnormal psychology, and, above all, from a recognition of the principles above formulated. The point of view, the attitude of mind, the beliefs, the habits of thought, must be modified by the introduction of new points of view, of data previously unknown to the patient and drawn from the wider experience of the physician; by instruction in the meaning of symptoms and in their organization and causes; by the suggestion of expectations that justly may be fulfilled; of ambitions that ought rightfully to be entertained; of duties to be assumed but too long neglected; of confidence and hope; and, above all, by the suggestion of the emotion and joy that go with success and a roseate vista of a new life. There is no fact of life that does not have more than one aspect, no conduct that does not have more than one interpretation, no judgment that does not have an alternative, no conduct that does not have more than one relation. Thus the old systems of ideas carrying with them apprehensions, anxieties, and depressive emotions are modified by being interwoven with new ones, and new systems of ideas or complexes are artfully created and substituted for the old. These systems should be such as will stimulate healthy reactions of the body in place of the unhealthy perverted reactions.

Finally the whole complex, by repetition, emphasis, and the stimulus of emotion, is firmly linked and organized until it becomes conserved as unconscious brain residua and a part of the individual's personality. If thus conserved it will be reproduced whenever stimulated. To be effective ideas must be fixed, conserved, else they become the sport of every passing thought and feeling. But for this they must be accepted and to be accepted they must be the truth, as they should be on ethical and rationalistic grounds. Every person can bear the truth but it should be the whole truth and not half the truth or only one aspect of the truth or the truth that allows erroneous interpretations. All this therapeutic procedure of course means the education, or perhaps

better, the re-education of the patient. It is the same process that in Pawlow's dogs led to the secretion of gastric juice and saliva by educated reactions to the environment, and in hay fever neurotics to the creation of the coryza complex as a perverted reaction to mental and physical stimuli. Only the therapeutic process is the association through education of healthy ideas and stimuli that adapt the individual to his environment.

#### THE RELATIVE ADVANTAGES OF EDUCATION IN HYPNOSIS AND IN THE WAKING STATE

This is a much discussed question. One meets often with assertions rather than arguments which are made with a warmth and acrimony of feeling that betokens prejudice rather than a masterly knowledge of the subject. From the point of view of formation of complexes it must be evident, if the psychological principles which I have set forth are well grounded, that it matters little in what state these therapeutic systems of ideas are formed, whether in hypnosis or in the waking state. When once formed they become a part of our personality and take part in swelling, modifying, and directing the stream of mental life. This can readily be apprehended when it is remembered that in ninety per cent of cases so-called hypnosis is little more, as I have already said, than a condition of abstraction with relaxation in which suggestibility is heightened. On returning to the full waking state there is complete memory of the whole hypnotic episode, so that the suggested ideas are accurately remembered. As a matter of fact hypnosis is only necessary in a small minority of cases. In obstinate cases hypnosis has the advantage that, suggestibility being increased and antagonistic ideas being dissociated or inhibited, the new ideas are more readily accepted and the complexes more easily and firmly organized. Then after waking the patient who remembers the suggested complexes finds that his whole state of mind is modified.

But even when amnesia follows after waking the result is the same. Then\* on examination we find, however

\*Cf. *The Unconscious*, JOURNAL OF ABNORMAL PSYCHOLOGY, April—May, 1909.



complicated, that the suggested ideas and emotions weave themselves into the thoughts of the conscious individual and modify them; or the emotions, alone, may intrude themselves and determine the mood and the whole psychic content. To take an actual case, I suggest to B. C. A., in hypnosis, ideas of wellbeing, of recovery from her infirmity; I picture a future roseate with hope, stimulate her ambitions with suggestions of duties to be performed, deeds to be accomplished. With all this there goes an emotional tone of exaltation which takes the place of the depression and of the sense of failure previously present. This emotional tone gives increased energy to her organization, revitalizing, as it were, her psycho-physiological processes. The whole I weave artfully and designedly into a complex. Whatever neurotic symptoms were previously present, I do not allow to enter this complex. Indeed, the complex is such that they are incompatible with it. The headache, nausea, and other bodily discomforts, pure functional disturbances in this instance, are dissociated and cease to torment. After "waking," there is complete amnesia for the complex. Yet it is still organized, for it can be recovered again in hypnosis. It is simply dormant. But the emotional tone still persists after waking and invades the personal synthesis which takes on a correspondingly ecstatic tone. The aspect of her environment, her conception of her relation to the world, and her past, present, and future mental life have become colored, so to speak, by the new feeling, as if under a new light. But more than this, new syntheses have been formed with new tones. If we probe deep enough we find that many ideas of the dormant complex have, through association with the environment (*point de repère*), become interwoven with those of the previous personal consciousness and given all a new meaning. A moment ago [her view was that] she was an invalid, incapacitated, exiled from her social and family life, etc. What was there to look forward to? Now: What of that? She is infinitely better; what a tremendous gain; at such a rate of progress in a short time a new life will be open to her, etc.,—a radically new point of view. Now, too, she feels buoyant with health and energy, ready to start afresh on her crusade for health and life. Her neurotic symptoms

have vanished. Such is the change that she gratefully speaks of it as the work of a wizard. But the mechanism of the transformation is simple enough. The exaltation, artificially suggested in hypnosis, persists, altering the trend of her ideas and giving new energy. The perceptions of her environment, cognition of herself, etc., have entered into new syntheses which the introduction of new ideas, new points of view have developed; thus the content of her ideas has taken a definite precise shape. Whence came these new ideas? They seem to her to have come miraculously, for she has forgotten the hypnotic complex. But forgetting an experience is not equivalent to its not having happened or to that experience not having been a part of our own psychic life. The hypnotic consciousness remains a part of one's self (as a psychological complex), however absolutely we have lost awareness of it. Its experiences become fixed though dormant, just as we do the experiences of our personal conscious life. . . . The mechanism is the same.

The following letter from this patient, received by chance after these paragraphs were written, well expresses the psychological conditions following hypnotic suggestion. "Something has happened to me—I have a new point of view. I don't know what has changed me so all at once, but it is as if scales had fallen from my eyes; I see things differently. That affair at L—was nothing to be ashamed of, Dr. Prince. I showed none of the common sense which I really possess; I regret it bitterly; but I was not myself and even as [it was] I did nothing to be ashamed of—quite the contrary, indeed. . . . Anyway, for some reason—I don't know why, but perhaps you do—I have regained my own self-respect and find to my amazement that I need never have lost it. You know what I was a year ago—you know what I am now; not much to be proud of, perhaps, but I am the work of your hands and a great improvement on [my poor old self]. I owe you what is worth far more than life itself. . . . namely, the *desire* to live. You have given me life and you have given me something to fill it with. . . . I feel more like myself than for a long time. I am 'my own man again' so to say, and if you keep me and help me a little longer I shall be well."

When dissociation exists it becomes self-evident that a restoration of the healthy organization can only be attained by a reassociation of the dissociated functions. It is obvious that subconscious ideas, when disturbing, need either to be so modified that they cease to function, i.e., to be subconscious and dissociated, or to be reintegrated with the personal consciousness, i.e., brought into the full light of conscious knowledge, and thereby realized in all their meaning, rearranged and modified; just as a dream becomes modified and loses its psychological meaning and its physiological effects after waking with a full awareness of its falsity. Disintegrated personality needs to be reassociated into a unified complete personality, with full possession of its faculties and functions, etc. There are many empirical ways of doing this, physical and psychological, but amongst the methods experience has shown that there are several psychological procedures which are rational and prove efficacious when physical and empirical methods fail. So-called psycho-analysis, suggestion in the waking state and abstraction, in so-called hypnoidal states and hypnosis, mental and physical hygiene, all have proved to be efficient in bringing about a reintegration of dissociated functions. But all these methods are only different forms of education.

The principle of dissociation and association is exemplified by the process of hypnotizing and awaking an individual. Hypnosis is dissociation; in awaking a person what we do is to re-synthesize the personality and to restore the normally functioning organism.

Finally I would point out that a prerequisite for such psychotherapeutic measures is a preliminary painstaking and exhaustive analysis of the symptoms, of the genesis of the psychosis, of the logical relation of the symptoms to each other and to mental and external causes, of the pathology of the symptoms and their significance; what are due to auto-suggestion, what to habit or education, what to fatigue, what to true organic disease—in short the complete meaning or philosophy of the disease must be determined. If, as is often the case, incidents in which the psychosis developed or which are the subconscious cause of repeated attacks are forgotten, the memories of these should be revived by one or

the other of various technical methods of psycho-analysis. Only through a knowledge gained in this way in each individual case can a rational psychotherapy be undertaken. After such an analysis it is generally surprising to find that what at first seemed a mere chaos of unrelated symptoms will turn out to be governed by law and order.

#### HYSTERIA

When we come to deal with the more profound psychoneurotic states, those of the severer hysterias, a somewhat different therapeutic procedure is usually required. Here we have to do with dissociations, often of a profound type, with paralysis, anesthesia, alterations of personality and subconscious ideas of which the patient is unaware, or unconscious automatisms freed from the inhibitions of a fully synthesized personality. For psychotherapy reassociation of the dissociated functions is the essential principle, although again the formation of new healthy complexes is necessary to maintain the association. Our ingenuity is often taxed to the utmost in devising methods to reintegrate the psychophysiological personality. Various technical devices can be made use of. I cannot go into this here, as I am only dealing with principles. Suffice it to say that sometimes reintegration can be formed in a special state of hypnosis; sometimes by suggestion in hypnosis or to the waking personality; sometimes by recalling to the full light of the waking consciousness the subconscious ideas or "dreams"; sometimes by recalling them to the full light of the hypnotic consciousness, etc. By doing this the subconscious "dream" or fixed idea—generally a memory of some emotional incident—becomes fully recognized as to its meaning and character, and thereby interwoven with the logical processes of waking thought; in other words, synthesized into a new, healthy complex. We see the same principle when, on waking from a nightmare, not only the dream but the *realization that it was a dream* comes into the full light of consciousness. With this realization the terrors and all the bodily disturbances cease.

I have pointed out that one theory of the mechanism by



which ideas become dissociated is that of voluntary repression; the individual pushes out of his consciousness ideas which are painful and unacceptable. Consequently it is held by those who adopt this theory that those dissociated ideas must be resynthesized with the personality, i.e., brought to the full light of awareness—to effect a complete and permanent cure, and that the *mere act of making the patient aware of them* effects the cure. To accomplish this a special form of psycho-analysis (Freud's) has been devised, not only to discover the dissociated ideas, but to synthesize them.

That this method is often useful and efficacious will be admitted, but its mode of working, as I interpret it, is not that which those who employ it suppose. Like other methods too, it is not always successful nor is it the only effective one.

Thus it is often not difficult by suggestion, with or without hypnosis, along the lines I have described, to effect a cure although the patient never becomes aware of the troubling ideas. More than this, it is worth while insisting that if psycho-analysis merely synthesizes the repressed ideas theoretically it is not the logical method to be employed. The assumed mechanism would require something more. The repressed ideas are pushed into the subconscious because they are in conflict with other wishes and feelings of the individual; the latter rebels against and will not tolerate them. Now if nothing more were done than to bring them back into the consciousness of the individual he still would not tolerate them and would push them out again. Theoretically, therefore, the method would be useless. But in fact the patient does, we will say, tolerate the ideas that before were unbearable; the conflict ceases. Empirically the method works. Why? The reason is simple: the complex of ideas has been changed by the technique of psycho-analysis and by the very act of bringing to the light of consciousness the repressed ideas—an elaborate process. We do more than this: we give the patient an insight into the meaning of his trouble; we let him see new points of view; we introduce new ideas and feelings into his complexes; in short, re-educate him. It is impossible to practice psycho-analysis without doing this; hence, it is nothing more than

a special form of the educational treatment and has the same therapeutic value.

When the hysterical manifestations are due to the functioning of dissociated subconscious ideas it is not always necessary, as some writers insist, to recall those ideas to the personal waking consciousness. It is enough to break up the subconscious complex or to suggest antagonistic ideas, or to resynthesize the ideas, in the manner already described, into a healthy complex which gives a true appreciation of the facts which they represent. This can be done in hypnosis. After waking, though amnesia for the previous subconscious ideas may persist, the symptoms disappear, for those harmful subconscious ideas which caused the trouble have ceased to exist.

Some hysterical attacks are what have been aptly called by Boris Sidis recurrent mental and psychomotor states; that is, dissociations of the personality and the reproduction of systems of ideas which originally were an emotional mental accident that the patient once upon a time experienced. These experiences have been conserved as brain residua and come to life again from time to time as attacks. If a rearrangement of these conserved experiences, by education along the lines already laid down, can be brought about, a disappearance of the attacks may be expected.

Hysterical attacks that are due to auto-suggestion can be removed, as a rule, by simple suggestion. Automatism, like contractures, tics, spasms, convulsions and crises, tend to cease with the restoration of the fully synthesized personality if the dissociating apprehensions and emotions have been removed and healthy complexes have been substituted therefor.

Whatever technical methods are employed, it will be found that they are all based on the psychological principles which have been above discussed.

It is needless to insist that a preliminary psycho-analysis is, as always in psychotherapy, a prerequisite procedure.

#### PSYCHASTHENIA AND OBSESSIONS

In so-called psychasthenia we are dealing with a somewhat different pathological condition from hysteria. Here

we have recurrent mental states in the form of obsessions, represented by doubts, scruples, anxieties, phobias, impulses, etc. The obsessional ideas are preserved as brain residua. When stimulated, instead of becoming subconscious, they enter the consciousness of the principal personality. The obsessional ideas occur in the form of attacks of which psycho-analysis will not only show the origin and meaning but that the attack in each instance is excited by association with some related thought which has flashed into the mind or other stimulus from the environment. Apprehension and expectation, acting as auto-suggestion, play in my experience a predisposing part in the mechanism. The pathology is too complex to go into here, but the same psychological principles underlie the psychotherapy, viz., psycho-analysis and education, the latter having for an end the substitution of healthy complexes for those organized systems of associated ideas which have become conserved as residua in the unconscious and which reproduce themselves as automatisms over and over again.

## THE THERAPEUTIC VALUE OF HYPNOTIC SUGGESTION\*

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It is important that hypnotic suggestion should not be confounded with other psychotherapeutic methods — it is only one of various psychic means by which curative results can be attained; and in my advocacy of it as a valuable remedy there is no intention to disparage or belittle any of the other psychotherapeutic methods, or even to institute a comparison between it and them. We ought to have a scientific acquaintance with all of them, so that we can select whatever method is best adapted to any case in which some psychic remedy is needed. It is pertinent to remark at this point that, as hypnotic suggestion is treated in this essay, it will not be included in the topics of the symposium on psychotherapy.

Although the history of hypnotism is intensely interesting, nothing of it will be given here, as our time is quite sufficiently occupied with more important matters. For the same reason the various theories which have been advanced to account for its phenomena will not be rehearsed. Even that evolved by modern psychology will not be given, as Dr. Prince, who will open the symposium, is to discourse upon the principles involved in the different phases of the broad subject, and may be relied on to do the work in a masterly way. My humbler task will be to set forth the practical usefulness of hypnotism in the daily routine of medical work, and to clear away many misconceptions which have prevented the general employment of this agency.

We are all amenable to suggestion in greater or smaller degree. The training of the infant is almost wholly by suggestion. To a less but yet to a very important extent the same method is operative on the older child — the example of his associates in the family or out of it is more potent in the formation of his character and habits than are all the precepts that are dinned into him. As one's years increase the susceptibility to suggestion gradually diminishes,

\*Presidential Address.



apparently just in proportion to the loss of naturalness and the cultivation of the artificial restraints which convention imposes. Suggestibility is generally commensurate with simplicity of nature. In full maturity we have become so cautious that we involuntarily distrust the suggestions that come to us — an incredulous, perhaps even a cynical, element has crept into our natures, which prompts resistance and demands that reason shall be convinced. And yet some suggestibility remains — the hardest headed of us can be reached by a sufficiently frequent and skilful repetition of a suggestion. This suggestibility is the basis of the benefit that undoubtedly comes to the patient from the cheerfulness of the physician, from his heartening words, from his confident assurance that recovery is ahead, from his strong personality and appearance of wellbeing — for health is, in a measure, catching, as well as disease — from his irradiation of strength, of comfort, and of courage. Now, in the condition which is known as hypnosis, suggestibility is marvelously increased. Suggestions which in the ordinary condition of the personality are unheeded, in the hypnotic state are accepted with avidity. So large is this hospitality that almost any suggestion will be welcomed that is not repugnant to the moral sense of the hypnotized person. This eagerness for suggestion may be taken advantage of in therapeutics. If the patient is the victim of a disease to which the name "functional" is usually applied, and can be hypnotized, he has a good chance of getting relief through the agency of suggestion; if his malady is organic, a cure is not to be expected. (The words "functional" and "organic" are here used in their ordinary sense, as a matter of convenience.) For example, the patient has insomnia, not due to any appreciable structural change. He is hypnotized, and the suggestion is made that he will go to sleep as soon as he goes to bed, and remain in slumber a given number of hours. He is then brought out of the hypnotic state, and experiences no immediate effect of the treatment. Perhaps he is utterly incredulous, and derides the idea that a noticeable impression will follow the process. But, if he is as suggestible as the average, when he goes to bed, he tumbles into sleep, and continues in sleep substantially as predicted; or,

if sleep has been suggested for a particular hour, he goes to sleep when the time comes, unless he makes the most strenuous efforts to keep awake and beat off his drowsiness.

The hypnotic state is induced not because it is in itself curative, but because that condition is peculiarly favorable to the reception and retention of suggestions. It is a question of the relation of soil and seed. In the ordinary waking state the seed of suggestion falls on the stony ground of indifference, which is hostile to its development, or on ground where the rank weeds of conventional usage spring up and choke it; but the hypnotic condition furnishes the richest kind of loam for suggestions, and in it they take root and rapidly grow up and bear fruit abundantly.

Hypnosis should not be regarded as an abnormal, a pathologic condition — it is simply unusual. Individuals differ widely in their capacity for hypnotization, for at one extreme are some who cannot be put into that state, and at the other end of the scale are some who seem to be almost hypnotized all of the time.

#### METHODS OF INDUCING HYPNOSIS

Hypnosis may be induced in various ways. That which will be described has proved serviceable. (It is assumed that the patient consents to be hypnotized, and, more than that, is willing to co-operate with the physician.) First, the process is explained to the patient, who probably has hardly a single correct idea on the subject, and needs to have his misconceptions removed. He is told a number of things, such as follow:

1. That all persons are more or less amenable to suggestion in the ordinary waking condition, as is illustrated in many familiar ways, such as gaping involuntarily, even against one's strenuous attempts to avoid it, on seeing another yawn; beating time unconsciously on hearing the measured throb of martial music; becoming wildly excited for no other reason than that one's companions are panic-stricken; and, contrariwise, having one's fears allayed by the tranquil appearance of his associates in a terrible emergency.

2. That, in some way, the mental mechanism of which

is not thoroughly understood, when a person is hypnotized, he accepts suggestions more readily than when he is in his usual condition; and that hypnosis is induced only for the purpose of taking advantage of this fact, and thus enabling the patient to receive the benefit of suggestions, to which, in his ordinary mental state, he is practically impervious.

3. That no harm to the patient in any direction will result from the hypnotizing, either immediately or at any future time.

4. That the patient is not desired to surrender his will, but, on the contrary, is asked to exercise it in co-operation with the physician.

5. That he is not to expect to lose consciousness, for the lighter degrees of hypnosis are sufficient for the accomplishment of remedial results in all but a minority of cases.

6. That the word "sleep" in this connection is a term of convenience, and means only that early stage of sleep that is consistent with consciousness: a transitional stage which any one who has analyzed his sensations has recognized as a brief period immediately preceding the unconsciousness of slumber, when by an effort he can become wide-awake, or by lying still and guarding his mind against exciting thoughts can insure speedy and perfect sleep.

7. That there will be nothing unpleasant in the process — no shock, no electric-like thrill, no startling sensation; but that, if the attempt is successful, he will experience a feeling as if tension was relaxed, a mental and physical calm, a soothing drowsiness.

8. That he must not be discouraged by complete failure at the first attempt, as it often happens that the excitement, incident to the novelty of the situation, defeats the efforts of both parties; and that, when he perceives, as he will from observing the process pursued, that there is nothing ungente or in any way objectionable about it, there will probably be no difficulty in achieving success.

9. That the suggestions will be made more emphatically than will seem to him necessary; for example, if a night's sleep is desired, it will be suggested that he will get twelve hours, this being on the principle followed by a marksman in putting up his sight for a long shot. If the barrel of

the weapon is directed exactly at the bull's-eye, the force of gravity will draw the projectile downward, and the mark will be hit below the center, if at all. So, too, allowance must be made for the downward deflection of a suggestion in an inveterate or otherwise difficult case. As the sight of the rifle must be raised so that the barrel is aimed above the mark, so the suggestion must be exaggerated, must be aimed high, in order to reach the desired point.

10. That the patient must not contradict or resist, and must not try to open his eyes until permission is given him.

The patient, thus instructed, then lies down on a couch, or seats himself in a lounging chair, in which he has a comfortable rest for his head. He is told to concentrate his attention upon sleep, to try to go to sleep; and, to assist him in this effort by preventing his taking in distracting ideas through his eyes, as they wander around the room and see the pictures, books, and furniture, he is asked to fix his gaze upon some indifferent object, as, for example, the finger of the physician, which is held a foot or so from the face of the patient. He is instructed not to try to keep his eyes open, and not to close them voluntarily, but merely to let the lids go as they will. The physician places his free hand upon the forehead of the patient, and, by a continuous stream of quiet, monotonous talk, encourages the patient in his effort to go to sleep. For example, he says, "Try to sleep, think of nothing but sleep, keep your thoughts fixed upon going to sleep. Your lids are heavy, they are drooping, you are going to sleep. Every moment you are getting more drowsy; you feel the sleep stealing over you. The lids are closing; you are almost asleep. Now the eyes have closed; you have gone to sleep." Meantime a little pressure has been made upon the brows; and, when the lids slip down and cover the eyes, they are gently stroked. The hand is kept upon the forehead, and the physician enforces his assurances by some such words as these: "You are asleep, though you have not lost consciousness. You hear my voice, the sounds in the house, the noises in the street — and yet you are asleep. You feel the sleep all through you — head, trunk, and limbs are all heavy with sleep. Your nerves are all relaxed, there is no tension anywhere, you are



perfectly tranquilized. You will not move a muscle, except to breathe, until I bid you wake."

This process may take a minute, or it may occupy a quarter hour; but when it is completed the patient is ready for the remedial suggestions — the soil is prepared for the seed. Then the physician makes the necessary suggestions, speaking them plainly, putting them strongly, repeating them, emphasizing them in the most positive and insistent way. Generally he cannot tell how much effect has been produced; but something can be judged by the degree of quietude of the patient. If he is perfectly still, the probability is that all is working well; but certain limited movements are not inconsistent with fine success. A constant quivering of the lids is sometimes observed in the profoundest stage of hypnosis; but swallowing commonly indicates that only a slight degree has been reached.

Having finished the remedial suggestions, others are made to the effect that the hypnotic state can be induced more readily at each subsequent session, that the patient can be hypnotized whenever he wishes it, and particularly, that he can never be hypnotized by anybody without giving his entire consent. In this way the patient is locked against the attempts of designing hypnotizers, and may successfully defy any efforts to control him in this manner.

All of the suggestions appropriate to the case having been made, the patient is allowed to remain quiet for a longer or shorter time, according to the seriousness of the condition — a few minutes or more than half an hour; and the effect is deepened by a gentle though emphatic repetition of the suggestions. When the time for rousing the patient comes the physician says, "You may wake now." Sometimes the awakening will be prompt, sometimes slow and reluctant, the latter being more likely when the hypnosis has been profound. If no permission to wake were given, the hypnotic condition would gradually disappear, and the patient would rouse himself as from ordinary sleep.

This method need not be followed in detail; indeed, every hypnotizer develops his individual procedure, and finds his own the best for his purposes. But there are common features in all of them, the essentials — quietude, confidence,

gentleness, discreet sympathy, intelligent appreciation — are practiced in various ways.

After a very few successful sessions it becomes unnecessary for the patient to begin the process with open eyes; he is instructed to close them at the first, and the physician gently strokes the forehead and then the eyelids, speaking words which encourage the patient to sleep, and in a few moments hypnosis is effected. More than this, even, in the case of some peculiarly susceptible persons, the spoken command is sufficient for the induction of the desired condition.

In chronic cases it is generally necessary to have many sessions with the patient, and speedier results are attained, if the intervals are short. This method of treatment is comparable with that by medicines — the doses must be given frequently in order to keep the system impressed, as otherwise the effect of one wears off before another is administered.

Much time, great persistency, vast patience, abundant good nature and tact are needed in the inveterate cases. Perseverance in attempts to hypnotize will sometimes be rewarded with brilliant results, even though many early trials have utterly failed.

Having discussed the nature of hypnotism, and described the methods of its induction, we now come to the consideration of the conditions in which it can be advantageously employed.

#### CONDITIONS IN WHICH HYPNOTIC SUGGESTION IS VALUABLE

We have learned that it is unscientific to separate functional and organic diseases — we believe that there is no perversion of action independent of an alteration in structure. And yet, a practical discrimination may properly be made without offending pathologic proprieties; and I trust that, for convenience, it is permissible for me to employ the terms in their ordinary signification. Assuming, then, your indulgent forbearance, it may be said that, in a general way, hypnotic suggestion finds its field in the domain of functional diseases of the nervous system. It may be used advantageously in relieving some of the sufferings incident to organic diseases; but in these cases it is only palliative and not curative. It is not claimed that all patients afflicted with

such disorders as usually yield to suggestion will be helped by this treatment; but in this respect, as in others, the remedy resembles therapeutic agencies of physical character. It is not reasonable to look for universal success with any agent, or to expect that every patient will respond to any treatment as does the average one. The ailments in which hypnosis is of the most conspicuous value are those characterized by pain, insomnia, abnormal nervous irritability, depression of spirits, phobias, obsessions, neurasthenia, moral obliquity, spasm, nausea, sexual perversions, and drug habits. The cases which will be cited in illustration occurred in my own practice, and are selected almost at random from a vast number. The reports are necessarily limited to the essential features in order to keep this paper within reasonable bounds.

*Pain.* A man of 45 years of age had been operated on twice for trifacial neuralgia. After each operation he had experienced a year of comfort, and then the trouble returned violently. The removal of the ganglion was all that surgery offered at that time, and from this he shrank on account of the danger to life; but he was willing to try hypnotism. When he presented himself in my office, and tried to answer a question, the effort threw the muscles of one side of his face into such a spasm, attended evidently with extreme pain, that he motioned to his wife to speak for him. His diet was restricted to liquids, because chewing meant agony; and he was compelled to almost complete silence, because of the direful penalty of speech. He had a treatment twice daily for ten days. From the first day he was measurably relieved, and he had no pain after the fourth day. His wife went home at the end of a week, as she was no longer needed as nurse and interpreter; and he followed on the tenth day, declaring that there was no need of remaining, as he was perfectly well, and he could return at any time if his trouble came back. His abandonment of treatment was against my judgment and advice, for the case was too chronic and severe to justify the expectation that it could be permanently relieved in so brief a time; but he never returned, or reported in any way. But even supposing that

there was not a cure, the effect of the treatment illustrates the availability of the remedy and its advantages over physical anodynes, which, in producing an equal effect, would almost certainly establish a drug habit.

*Insomnia.* A great affliction, prolonged overwork, and anxiety had so affected a man of 35 years, that his capacity for sleep was seriously reduced. For three months he had slept only two or three hours in the twenty-four, and not only felt ill, but looked haggard and worn. A single hypnotic treatment refreshed him greatly. He was instructed to come daily for a while, as the case was chronic and severe; but a month went by without my seeing him. Then at a chance meeting he was asked to give an account of himself — why he had not come often, as he had promised. He joyously replied, "What's the good of going to a doctor when one is perfectly well? I slept like a log all that night, and I've slept like a log every night since." Many years have passed, and he has had no recurrence of insomnia.

*Nervous Irritability.* A young matron applied for relief of pronounced hyperesthesia. Her sensibilities were constantly on edge. The slightest sound, like that attending the lighting of a gas jet, if it came as a surprise, would set her nerves a quiver for an hour. In railway travel she always felt obliged to take the most remote available seat in the last car of the train in order to be as far away as possible from the noise of the bell and the whistle of the locomotive. Life was a series of alarms and distresses. The first attempt at hypnosis was an utter failure — the patient was wrought up to the highest pitch of excitement, and therefore could not concentrate her attention in the needed direction. She was in despair, feeling certain that her last hope of relief had vanished, and no encouraging assurances had any effect. Two days afterward a second visit was made. The patient was in tears, mourning over the assumed impossibility of being hypnotized. While she was in that state of mind it was plainly useless to attempt hypnosis, so the effort was made to distract her attention from herself. For an hour nothing was said about patient or sickness or anything depressing, and the time was spent in the recital of droll stories and in whatever else might help to divert the self-centered and morbid current of her thought. At what



seemed a favorable moment she was told to close her eyes, and she obeyed instantly. The lids were gently stroked, and hypnotization was accomplished in that moment. Suitable suggestions were made, and the cure promptly began, and was finished in a few weeks. Tranquility succeeded excitement, and life took on a very different aspect.

This case shows that primary failure is no indication of ultimate results. Excitement is inimical to hypnosis, as it is to true sleep; and the patient should not only be willing, but calm enough to be able to concentrate his attention.

*Depression of Spirits.* A man of 30 years, gifted, well educated, and of fine character but moody disposition, had been afflicted for many months with extreme depression, which he was utterly unable to throw off. He was not a good hypnotic subject; but he was practically restored in a fortnight of daily sessions. He became cheerful, regained interest in his work, liked to mingle with his friends, and now, after many years, is in full enjoyment of life.

*Fear of Travel on the Water.* A gentleman whose occupation occasionally required him to make little journeys to the islands in the harbor had constitutionally so great a dread of water-travel that sometimes he would leave the steamboat just as it was about to start, abandoning the projected trip, even though he appreciated the urgency of his business, which always involved the interests of others as well as his own. After a few hypnotic sessions he was able to make excursions on the boats, not only without mental disturbance, but even with some enjoyment.

*Extreme Timidity.* A lady in early middle life gave this account of her case: "Before my marriage I was a teacher, and experienced no trouble in addressing a roomful of people whenever my work required it. But for seventeen years I have never appeared before an audience. To-morrow afternoon I am announced to read a paper before one of the large clubs of women, and I am frightened almost to death at the thought. My paper is a good one, and I am not at all afraid that it will not be satisfactory; but when I try to read it aloud at home and entirely alone, I break down; I cannot help seeing that critical audience, and the thought of it scares me so that I have to stop. Can you not hypnotize my terror

out of me, and put courage in its place?" She was an entire stranger to me, and the prospect for success was not flattering. Besides, my time was so engaged that it was impracticable to make an appointment before the next noon. Then, only two hours before the meeting at which she was to perform, she received the hypnotic suggestion which she desired. The next day she called to report. Her face was radiant, and she gave an enthusiastic account of herself, saying, "I had no fear, no difficulty whatever in reading. A lot of the women were moved to tears, and when I was through my friends thronged around me with their congratulations and praised not only my essay but the way in which I read it. But I told them that all the credit for that should be given to hypnotism." As her name has often appeared in connection with public performances since then, it is fair to suppose that she has had no further difficulty.

This case may strike some as trivial, and so it is as compared with many or most of those with which we have to deal. But it does not seem to me unworthy of the efforts of a physician. The slight ailments need wise treatment, and their correction may prevent serious illness, may even save life. A disturbance such as this woman had may easily enough be the initial step in a series that leads to an asylum; but being corrected, obstacles are removed from the path to happy and successful endeavor.

*Obsession.* A young matron from her earliest recollection had been in constant dread of assassination, but had never mentioned the horror until she revealed it to me. Even then she would not have spoken of it but that she had been relieved of neuralgia by hypnotic suggestion, and hoped that her greater trouble could be dissipated by the same means. She was afraid of the dark, even when she had a companion, and she never allowed herself to be left in the house alone. Half a dozen treatments cured her completely.

*Neurasthenia.* A lady of 43 years for a whole decade had been in a condition of nervous prostration, with marked digestive disturbances. She was under treatment during the whole time, but had received no benefit. She was advised to try the effect of hypnotic suggestion by a physician

who had declared to me with great positiveness that hypnotism was justifiable only in absolutely hopeless cases, in which desperate means could be sanctioned. After a prolonged examination the conclusion was reached that no organ was appreciably diseased. She was given treatment every day for a month, but long before that time had elapsed she was practically well. Her distresses were all banished, her feebleness disappeared, her digestion was restored, and her spirits became buoyant.

*Moral Obliquity.* A lady applied in deep distress of mind concerning her ten-year-old son, a strong, healthy, genial, little fellow, who had no interest in his school duties, habitually played truant, and lied in the most abandoned manner. His nature was very affectionate, and he was very fond of his mother; but she had exhausted her means of influencing him without avail. She consented to have hypnotism tried on him. In three weeks his parents declared that he was a different boy. He attended school regularly, took good rank in his studies, and was proud of it, and his word could be relied upon implicitly.

*Asthma.* An old lady who had suffered from asthma for many years and found no relief beyond slight palliation, sent for me when she was having a severe attack. She had never been hypnotized, and her orthopnea forbade her lying down or even reclining, but she could endure for a little while a slight inclination backward, so that the head rested against a pillow. In this position she was quickly hypnotized, and was wholly relieved in a few minutes.

*Seasickness.* A young lady who had been across the Atlantic several times, and regularly suffered nausea marina, appealed to me for prophylactic treatment. She had deferred the matter until a few days before her voyage, and the attention which it was possible to give her seemed altogether inadequate, but the event was happy. She was not at all disturbed during the journey, and took her meals regularly with enjoyment, all of which was the more remarkable as her room-mate was violently seasick every day of the voyage, and depended upon the ministrations of my patient constantly.

*Sexual Perversion.* Schrenck-Notzing says that the

grossest sexual aberrations, even when they are deeply rooted and have changed the entire personality, are frequently cured by hypnotic suggestion. Krafft-Ebing, in his *Psychopathia Sexualis*, seems to depend entirely upon this remedy in the cases of which he speaks. It has not been my fortune to have as a patient a person afflicted with any of these maladies. But a case was sent me by a friend, a specialist in neurology, who was unable to help the patient, and, although thinking lightly of hypnotism, desired me to try it in this case. The patient was a medical student, a young man of neurasthenic tendency, who was hyperesthetic sexually, and was troubled especially with priapism. He was hypnotized several times with acknowledged benefit, but ceased his visits before being discharged as cured. One day my neurologic colleague called on me and reported that the patient was apprehensive that the treatment had been carried too far; not only was he relieved of his priapism and other evidences of his sexual over-sensitiveness, but he had positive sexual apathy. Without difficulty the normal equilibrium was found and established.

*Drug Addictions.* An apothecary, about 30 years of age, had the alcohol habit. He did not drink intoxicants every day, but once in a few weeks he drank persistently until his stomach revolted, and then he was abstinent until the furore for alcohol seized him again. His necessities prohibited abandonment of his work, and his persistence in it kept him constantly in an atmosphere of temptation. No encouragement to expect a cure under these circumstances was given him, but his urgent pleading induced me to try the effect of hypnotic suggestion. After twenty sessions the treatment was given up on account of my absence from town for nearly two months; and while the signs were hopeful, it was highly improbable that he would not relapse into his wretched slavery. But he did not, and years afterward he remained entirely cured.

#### CORRECTION OF MISCONCEPTIONS CONCERNING HYPNOTISM

There is a multitude of errors concerning hypnotism, which are almost as prevalent among physicians as in the non-medical population, and a number of these will be stated and corrected.



It is commonly supposed that a person must lose consciousness in the process. In most cases the patient retains consciousness perfectly. For the production of some results the deepest stage of the hypnotic condition is requisite; but for the ordinary therapeutic effects it is by no means necessary. Brilliant cures are sometimes achieved with patients who are hardly made drowsy by being hypnotized.

It is a prevalent belief that only the weak-minded, or, at best, the hysteric, are amenable to hypnotic suggestion. Nothing could be farther from the truth. The experienced hypnotizer dislikes to deal with either of these classes of patients; he would rather for every reason have strong men with cultivated minds and disciplined wills. The physician who uses only physical therapeutic means prefers the well-balanced, sensible, intelligent for patients, and so does the one who employs psychic means, and for the same reasons. The hypnotizer asks his patient to exert his will in a specified direction; he wants the intelligent co-operation of the patient, and this requirement is most difficult for the feeble-minded, the untrained, the heedless to meet.

Another mistaken notion is that only a minority of persons can be hypnotized. This is true only if one has in mind the idea that, in order to be hypnotized, one must lose consciousness — which has already been declared to be an error. The great majority of people can be hypnotized to an extent quite sufficient to make them susceptible to remedial suggestions.

A misconception which it is very difficult to displace ascribes to the hypnotizer a peculiar and rare natural endowment. That some men are better hypnotizers than others is unquestionably true, just as some men are more capable than others in any line of activity. He who has a strong and healthy physical organism, a powerful mind, and, perhaps best of all, an engaging presence, has elements that make for success in any affairs where man meets man; and, of course, such a one gets the best results with his medicines, with his surgical operations, with his electrical applications. Why should he not do better than most others in the use of suggestion, hypnotic or non-hypnotic? But while this type is the highest, there are others who, while not quite or nearly as

well endowed, are yet capable of excellent work; and as they will pass muster in the other styles of therapeutics, so, too, they will succeed in hypnosis. Any man who has the attributes which every medical practitioner should possess can practice hypnotism. But he must believe in it, and he must declare his belief by the confidence of his bearing. Self-distrust, timidity, uncertainty in the physician inevitably beget reluctance, fear, and antagonism in the patient, whatever the former undertakes to do, and whatever the method by which he essays to do it.

A common fallacy ascribes whatever result is experienced to a mysterious, subtle emanation from the physician which enters and pervades the system of the patient. This error is partly due to the persistence of a theory which was upset long ago; and partly, doubtless, to the likeness which is popularly thought to obtain between hypnotism and electricity. The real explanation is suggestion, pure and simple.

A frequent objection is that, in the hands of an unscrupulous person, great wrong may be perpetrated by hypnosis, and therefore it should not be used. The same line of argument would lead us to abandon treatment by medicines, because it must be admitted that patients have been killed by drugs administered by physicians, and to give up cutting operations in surgery, because many persons have died on account of these procedures. That there are scoundrels and incompetents in the medical profession, as in all others, is a lamentable fact; but they constitute but a small minority, and the danger of their doing harm, maliciously or innocently, by employing hypnotism is exactly on a plane with the peril which attends their practice in any other line. Every real authority on modern hypnotism says emphatically that a suggestion that offends the moral sense of the person hypnotized is either disregarded, or has the effect of rousing the subject immediately. If it were practicable to incite to criminal acts through the agency of hypnotic suggestion, there would be no lack of examples of this fact; but in many years of observation not an authentic case of the kind has come to my knowledge. The possibilities of such a method in the hands of a skillful romancer are too

obvious to escape the attention of novelists, and we know that thrilling tales of absorbing interest have been pivoted on this supposition; but we never encounter such occurrences in actual life, and we may confidently disabuse our minds of this groundless apprehension.

It is objected that hypnosis, especially if often repeated, weakens the will of the patient and makes him dependent upon the mind of the operator. Such a result is imaginable, but can never occur, if the physician is as careful in using this agency as he always should be when administering drugs or doing surgery. As a matter of fact the will may be strengthened by hypnotic suggestion, and the moral vigor increased in every respect. All of the cases of injury from hypnosis of which I have ever heard have resulted from the reckless employment of it for exhibition purposes, mostly by irresponsible mountebanks. The shows conducted by hypnotizers for the amusement of popular audiences should be sternly repressed. That this treatment has not been their fate is, in my opinion, in considerable degree to be ascribed to the attitude of physicians. Repeatedly I have known doctors to accept and use complimentary tickets to these wretched performances, thus tacitly bestowing their professional sanction on indefensible applications of hypnotism, while at the same time they display a strong disposition to outlaw a fellow practitioner who brings to bear upon his patients the altogether beneficent uses of the same agency. If used discreetly, hypnotism does not induce insanity, does not weaken the mind, does not do harm in any direction.

Hypnotism should be used only by educated physicians, and by them only as a remedy or a means to diagnosis. If it had never been employed outside of its legitimate domain there would be little or nothing of the prejudice against it which is constantly encountered in the community; and the sufferers, for whom it has an easy and effectual relief, would eagerly avail themselves of its help.

To some the practice of hypnotism is objectionable, because there are many charlatans who employ it or advertise to do so. Those who argue thus, to be consistent and logical, should abandon the use of all medicines, all hygienic measures, everything, indeed, by which they try to affect

their patients, for there is nothing that the quacks do not exploit. One can hardly look at a daily paper or a popular magazine without having forced upon his attention some flamboyant announcement of a drug, a method of exercise, a kind of battery, a drink, a food — something presented with an attractive picture and an adroitly worded statement, which, it is promised, will positively put disease to flight, prolong life to the ripest old age, and supplant misery with exuberant happiness. But none of us are so disgusted with these mendacious advertisements that we think it necessary to throw away the pharmacopeia, cease to recommend physical culture, give up electricity, forbid the use of alimentary remedies. We continue to employ whatever means we think will benefit those persons who honor us with their confidence by seeking our advice and skill. Why, then, should we select one particular kind of agent, and avoid it on the ground that it is used by pretenders? The breadth of mind which we like to believe characterizes our profession should enable us to welcome any agency, whatever its origin, however unwisely or dishonestly it is used by others, whatever compromising associations it has previously had, provided only that it will enable us more readily, more agreeably, more perfectly, to diminish suffering, prevent disease, or restore health. Therefore, when one hears hypnotism likened to any of the popular mind-cure movements, which to his trained intellect are manifestly unscientific and illogical, let him ascribe the statement to ignorance, and enter upon the investigation of this form of psychotherapy with confidence that the more he learns about it the greater will be his respect for it.

It has been alleged that a belief in the remedial virtues of hypnotism would do away with the necessity for diagnosis. Nothing could be wider of the mark. The physician who includes this agency in his armamentarium does not change his attitude toward pathology, etiology, or physical diagnosis. He sees, as plainly as one can, that the first thing is to find out what is the matter, to ascertain the character of the malady, and he does not use hypnotic means in treatment unless his investigation persuades him that the trouble is of a kind to which this remedy is scientifically applicable.



One of the commonest criticisms of hypnotism is to the effect that the ailments which it relieves are all imaginary. If a patient is said to have been freed from pain, some astute skeptic asks, "Was the pain real?" To such the answer should be: "When a patient comes to you complaining of pain, do you distrust his word? After he has taken the anodyne which you administer, and declares to you that his pain has disappeared, do you question his veracity? You cannot prove by the evidence of any or all of your senses that either statement was true or false, for his symptom is absolutely subjective. But you do know your patient, and have no reason to doubt his truthfulness in this matter any more than in any other; and so you do not hesitate to give him the remedy that your experience has taught you is suitable to his condition. Now, suppose such a patient is treated with hypnotic suggestion, and the suffering is promptly abolished, is there any sense, reason, or fairness in thinking that his pain was imaginary, and not as real as that which was relieved by your drug?"

It has been charged that hypnotism is not scientific; but it is difficult to perceive upon what ground this opinion is based. Tested by any of the rules which we apply to the remedies which we all employ it is not found wanting; and it is not just to subject it to severer tests than we think sufficient for all the others. If it is objected that we do not know the mental mechanism by which hypnosis is induced, it is fair to remind the critic that he cannot explain the mechanism of memory, a fundamental and comparatively simple intellectual process. If it is alleged that there is a large empirical element in hypnotic treatment, it is proper to ask if, in this respect, it is on a lower plane than our usual method of using drugs.

It has been alleged that the therapeutic effects of hypnotic suggestion are but transient: that, if any benefit results from it, in a short time the patient will relapse into his former condition. Nobody acquainted with the facts could possibly make this criticism. The effects of no remedy, with which a comparison can fairly be made, are more enduring than are those of hypnotic suggestion.

Equally inapplicable is the comment that groups hypnotism with methods of treatment in which prominence is

given to a mystical element, which appeal to the superstitious, which associate theology and therapeutics, which demand faith in a dogma. The psychology on which hypnotic suggestion is based is as far removed from mysticism or religion in any form as is physiology — indeed, it may be said to be physiology applied to mental processes. The hypnotist is not spiritistic in any sense of the word; he asks his patient for no faith, save that which every physician has a right to expect in any person who confides health and life and reputation to his care. In treatment by any method it is universally recognized that confidence in an expected, or even hoped for, result is a helpful factor. No well-informed person that doubts that wonderful cures are sometimes wrought under the ministrations of the most dishonest charlatans, as the result of religious exaltation, in consequence of absorbing belief in absolutely senseless doctrines; and he knows, too, that these beneficent effects are as abundantly manifested among the worshippers of idols and the practisers of obscene and degrading rites as among the people of his own creed. That expectation is desirable in hypnotic treatment, as in any other, must be manifest; but in none is it less essential. Particularly may it be insisted that in hypnotism there is no occult or esoteric element, there is nothing to conceal, there is no desire to take advantage of credulity, or to play upon the confiding nature of the ignorant and superstitious.

That hypnotism is often but little understood by men to whom the profession has a right to look for enlightenment in such matters is frequently demonstrated. Some of the high priests of neurology are the greatest sinners in this direction; but none, probably, have displayed their incompetency and ignorance quite as conspicuously as has Dubois, the author of a book on the psychic treatment of nervous disorders. This has been translated into English and has evidently deeply influenced many physicians and awakened a wholesome interest in a certain form of psychotherapy. His treatment by persuasion has undoubted merit, though little novelty; but it is pitiful that he should assume the attitude which he does toward hypnotism — an attitude which reveals at once ignorance, narrowness, prejudice, and inconsistency. He girds at hypnotism, at every opportunity, he

holds it up to ridicule and contempt; and yet he admits that, on occasion, he uses it, as he certainly should not, if it is the evil thing that he would have us believe. In doing this he unconsciously pays it the highest tribute. Let me quote a passage:

"This is one of those exceptional cases where I would not fear to have recourse to hypnosis, although the attitude of the wonder-worker that one has to take is so repugnant to me that it brings a blush to my cheeks when I decide to use it."

"Wonder-working" to him evidently means rapidity of effect, for in another paragraph he says:

"The practice of hypnosis has accustomed one to immediate success, to theatrical effects."

Are we to refrain from employing any method because its results are prompt? We have been accustomed to consider speed in attaining a desired end a decided merit. The motto on the seal of this society, "*Curare cito, tuto, et juncude*," which we adopt from the ancient Asclepiades, is universally acclaimed as the ideal rule of action; and hypnotism fulfils all of these conditions, for it does cure quickly, safely, and pleasantly. Apply the objection to another class of cases: a patient comes to a physician with a chronic irritative cough. Examination reveals a relaxed uvula dangling onto the tongue and constantly tickling the pharynx. Does anybody advocate the cutting off of the sixteenth of an inch a day for the sake of avoiding the suddenness of cure effected by complete ablation? But the method by which instant and permanent relief is afforded is open to the criticism of being theatrical. Dubois objects to "wonder-working," if the quick cure is brought about by hypnosis, as if one appealed to the thaumaturgy of the ancient magicians; and yet he says:

"The art of the physician lies just in choosing in each case the most rapid and powerful means of improvement."

Can inconsistency go further? If his vaunted method achieves an immediate result, it is praiseworthy; but, if hypnotism does the same thing, it is damnable.

To show how utterly ignorant of the principles of hypnotic treatment this author is, one more sentence may be quoted: "What is more absurd than to fall asleep by

daylight, when one has no need of sleep, by stupidly yielding to the command of the hypnotizer?"

It seems almost incredible that a physician who poses as a neurologist and a psychotherapist, should not know that the purpose of the hypnotizer in inducing the sleep is solely to put the patient into a more suggestible condition. When a man of the eminence of Dubois is capable of so humiliating an exhibition as this, we may look with more charity and patience upon the men who constitute the rank and file of the profession, when they, as a result of dense ignorance, declare hypnotism to be dangerous, foolish, quackish, fraudulent, necromantic, and altogether unjustifiable.

It ought to be unnecessary to say that the employment of any form of psychotherapy is not incompatible with the use of physical agents of any description. In many cases it is important to associate different kinds of therapeutic agents, which are not psychic, as we all know; the case in which a psychic method is desirable makes no exception. Psychotherapy should be regarded as an additional means of promoting the welfare of the patient, whatever other kind of treatment has been instituted.

In this essay I have not attempted an exhaustive treatment of my subject, but I have tried to show as well as possible in the time allowed what hypnotism is, and what can be done with it by any well-educated, competent physician for the benefit of the sick and suffering; and, finally, I have endeavored to make it clear that the objections to its use are not based upon knowledge, but upon ignorance and prejudice. The points touched upon are those about which questions are most frequently asked or adverse criticism made, and the answers and explanations are founded upon a large observation of the practical workings of the method.

I have no expectation of effecting a wholesale conversion of opponents to these views — I know too well the ingrained conservatism of our profession regarding psychic remedies; but I entertain a little hope that what I have said will arouse in some minds an intelligent interest in the subject; and I am confident that no open-minded physician can look into it fairly, as he would into any other therapeutic method, without being persuaded that in hypnotic suggestion are possibilities for good, which our profession should no longer neglect.



## SIMPLE EXPLANATION AND RE-EDUCATION AS A THERAPEUTIC METHOD

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TWO difficulties are evident in the present aim to rationalize psychotherapeutic procedure. One is its supposed simplicity and the other its reputed complexity. A very considerable group of men in the medical profession apparently considers that nothing new has been discovered within the past few years relative to the treatment of disease by mental means. Another group is equally insistent that the whole subject constitutes a special branch of medicine and is quite beyond the practical reach of the general practitioner. Both of these positions are wrong. In the first place, it is apparent that the investigation of recent years has so far rationalized old methods that the physician now has in his hands a perfectly definite means of attack against many abnormal and distressing conditions. However widely psychotherapeutic measures have been practised from the earliest period of medicine, the time has now come when such measures may be used with a degree of scientific accuracy hitherto unattained, a precisely similar situation to that prevailing in all other departments of therapeutics. The means of treatment have always been at hand. The use to which those means are put constitutes advance. On the other hand, it is true that the final solution of the complex problems upon which we have now entered is no doubt far distant, and the pioneer work in this somewhat limitless field must be left to the special student. There is, however, no longer a question that sufficient facts have been established to render certain of these therapeutic measures available for the practitioner. Here again the situation is not different from that of other departments of medicine. The problem of immunity, for example, remains obscure, and in great measure unsolved,

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but the practical applications of this laborious work are already in a measure available.

It should in general be our aim to place this whole much discussed question of psychotherapeutics on precisely the same plane as other therapeutic problems. So far as facts are ascertained and capable of practical application, it is the manifest duty of practitioners to employ such facts for the benefit of their patients. So far as facts are still in doubt it is the natural work of special students of the subject to bring what order is possible out of the existing chaos. Our methods of procedure should be the same, so far as the character of the subject permits, our results should be subjected to the same strict scientific judgment, and our liberality toward this branch of therapeutics should be precisely similar to that toward any other which promises much for the future.

The object of this symposium, so far as I understand it, is for the time being to lay aside theoretical considerations and to bring to the attention of this society such facts and practical considerations as the time at our disposal and our individual experience permit. It is my purpose in what I shall have to say under the somewhat inadequate title selected to draw attention to the simplest and therefore most widely available method of psychotherapeutic procedure and to attempt to show how such a method may be made practically useful by the physician in a degree hitherto not always attained.

In discussing the general psychotherapeutic problem with physicians, the purely practical question of method is almost invariably raised. What the practitioner needs and rightly demands from those who claim any special knowledge of the subject are directions as to treatment of individual patients. The evident difficulty heretofore in treating even the simple neuroses has been the failure on the part of physicians to recognize clearly that such neuroses very frequently have a mental cause in the life of the individual precisely as a murmur over the heart area, for example, has a physical cause in the life of the individual. Our first object as practitioners is the determination so far as lies in our power of the exact cause of the condition we are called upon to treat. In other words, a diagnosis is demanded. This we make

readily enough in the physical sphere or admit our incapacity to do so. In the mental sphere, we too often make no attempt, however apparent the cause might be after adequate investigation. The first point, therefore, I would make is that we must be as conscientious in one field of medicine as in another. We must search the mind of the individual for the source of his discomfort in appropriate cases in exactly the same spirit in which we search his body for the source of other discomforts. This certainly requires no special personal attributes on the part of the physician, and is surely available for practitioners of no special education in this field. The word "explanation" used in the title describes somewhat inadequately the actual procedure, which consists essentially in the following steps:

First. After eliminating or properly estimating physical causes the mental attitude of the patient toward his ailment should be carefully determined; in other words, a diagnosis should be made.

Second. This is best accomplished by allowing him to tell his complete story rather than by a primary process of interrogation on the part of the physician.

Third. Having determined the false point of view almost invariably revealed which has led up to the neurosis the attempt is made to explain why such a series of events as that disclosed would be likely to lead to this result.

Fourth. Having impressed the patient with the correctness of the physician's point of view the process of readjustment begins, or, to use the more popular but possibly too comprehensive term, his re-education.

Fifth. This is accomplished by pointing out in a painstaking way the correct way to mental health through a realization on the part of the patient of his previous misconceptions and through an accompanying effort toward the establishment of more rational mental adjustments.

The method outlined above is the simplest possible psychotherapeutic procedure. As in more complex methods described by other writers in this symposium its essential feature is the analysis of the mental state. Its value lies in its simplicity and in its appeal to the reason through the medium of commonsense. We are justified in calling it a

method because it works in practice, when mere unmethodical encouragement and reassurance fail. That such a method stripped as it is of all appeal to the mysterious or to any form of sensationalism is capable of wide and legitimate application is self-evident. It is also apparent that it must often prove unsuccessful in those cases in which the course of a developed neurosis is so deeply buried in the past life of the individual that it cannot be brought to the surface by this simplest and in one sense most superficial of the analytic methods.

It may with truth be said that no person is wholly free from false conceptions of his own mental and physical condition, and this naturally applies to those who consult physicians in the most varied fields of practice. It is an error to stigmatize such persons forthwith as abnormal or neurotic or neurasthenic or psychasthenic. Many of the common neuroses met with in practice represent nothing more than aberrations of normal nervous systems into temporary useless or detrimental channels. As a matter of fact, a large proportion of so-called nervous invalids are incapacitated through no inherent fault of their nervous systems as such, but rather through the use to which their nervous systems have been put by circumstances or training or false instruction or unwise and superficial medical advice.

Quite apart from any psychophysical speculation as to the relation between the mind and the body which is wholly unessential from a practical standpoint, the clear recognition of the predominant mental origin of the neuroses, whether or not they have accompanying physical manifestations is of the utmost importance and unquestionably constitutes the essential advance of recent years in their intelligent treatment. We have gained much, if, for example, we may authoritatively tell our patients that their apparently disordered nervous symptoms have reacted in a perfectly normal way to the circumstances in which they have been placed, and to the ideas to which they have been exposed, and that their difficulties have been due to the character of these ideas and circumstances rather than to the much feared inherent weakness of the nervous system itself. The function of the physician at once becomes apparent. He



hears the story, he sees wherein the individual has failed, wherein he has dissipated his energies in side issues, or, in popular parlance, wasted his opportunities. Out of this he recognizes that a so-called neurosis has developed which it becomes his task to diagnosticate accurately, to explain in an understandable way the steps by which he has arrived at his diagnosis, and to readjust the patient's mental attitude on the basis of this knowledge.

In order to avoid any possibility of confusion I have used the word "explanation" to describe this rational process. It requires little actual experience to demonstrate that in order to explain these matters effectively to our patients we must follow some definite method. Otherwise, as in other departments of endeavor, we shall simply confuse and not benefit. It is furthermore imperative, with all the present day talk in the popular press as well as in medical literature regarding treatment by mental means, that we adopt a definite, commonsense basis of procedure, free from all subtlety or demand for highly specialized training.

From the foregoing discussion I wish to emphasize the following points: First, the wide prevalence of neuroses based on ignorance rather than inherent or acquired weak nervous organization. Secondly, the vital importance of recognizing the normal character of the nervous systems in which these neuroses have developed. Thirdly, the possibility as a rational means of treatment of explaining to an intelligent patient the mechanism of the development of his symptoms, and finally the probability of a readjustment of his mental state based on this explanation with the disappearance of the neurosis. The analogy of the mental state of the child is useful in this connection. Explanation forms the chief means of increasing a child's mental stability. Fear of the dark, to take a commonplace example, is not met on the part of the wise parent by harsh criticism and summary dismissal of the subject, but rather by explanation suited to the child's comprehension that the dark in reality has no terrors, and by a demonstration of the truth of this fact. Similar fears in adult life are manifestly treated with far less consideration; on the part of the patient there is a tendency toward concealment of special anxieties, on the part of the

physician there is often a wholly unsympathetic attitude in which explanation plays no part. The position of the adult is, however, precisely analogous to that of the child. Neither is the victim of disease or necessarily possesses a damaged nervous system. Both are victims of insufficient knowledge and both demand sympathetic explanation in order that their false points of view may be corrected. Both are real and often extreme sufferers from conditions which are not self-limited, but which tend to progress and become more complex in their organization. Our attitude toward children has on the whole been correct; our error has been the failure to realize that wisdom does not necessarily come with the years.

Examples may make this clearer. A patient consults a physician in a highly disturbed nervous state popularly known as neurasthenic. The analysis of the entire situation reveals the fact that this patient considers that he has lost his memory. He has arrived at this conclusion because he finds that he is no longer able to read attentively and remember what he has read. From this as a starting point he argues, legitimately enough from his knowledge, as follows: I cannot remember what I have read; my memory must therefore be weakened; memory is a fundamental quality of the normal mind; my mind therefore must be failing, and forthwith one of the commonest and most distressing and incapacitating phobias is developed, namely, the imminent fear of insanity. In such a commonplace instance as this it is clear that the patient's mind has worked out a rational conclusion from false premises, the original false premise being that because he could not remember what he read, therefore his mind was failing. It is easy to set such a person right by the simple explanation that his original difficulty arose from lack of concentration, a common human weakness, and that out of such lack of concentration the mental alienation which he feared is extremely unlikely to develop. This rational point of view is on the whole easy to impress, and its result on the developed neurosis with its various accompanying manifestations of sleeplessness, anxiety, incapacity for work, loss of appetite, and all the other phenomena of a disturbed mental state, forthwith becomes

apparent. The essence of the benefit in such a case is to be attributed purely to a reasonable explanation of a series of events which the patient has himself been unable to estimate properly.

A further example illustrative of the point of view I am attempting to impress is the mental condition ordinarily associated with insomnia. There is a deeply rooted feeling in the popular mind that sleep is an absolute essential to continued mental health and conversely that deprivation of sleep is a direct sign of both physical and mental breakdown. Assuming this statement to be correct the ordinary person finds himself in a state of extreme anxiety when for any reason his sleep is interfered with. The result of this anxiety very naturally is such a fixation of the attention upon his physical and mental condition that sleep for this very reason becomes increasingly difficult. Thus, the ordinary vicious circle is formed. I have in mind a patient, a middle-aged man of active business interests, who was so strongly impressed with the idea that without sleep he must necessarily go to pieces, that his life was becoming a burden to himself and to his friends. Reasoning from his premises, he assumed that inasmuch as sleep was essential to continued health and he was certainly not having a normal amount of sleep, he could not continue well. The treatment of this situation stated in barest outline was in the first place to explain that he had a wrong conception of the significance of sleep, that complete physical and mental rest without sleep would suffice to restore him for the work of the succeeding day, and finally that could he compose himself to such complete physical and mental rest, sleep would naturally follow. This, as a matter of fact, is what actually happened. The cause of the sleeplessness in this instance was essentially the mental state induced by the fear that he would not sleep. A more striking instance is that of a man from the Provinces, also of middle age, who for some six years had been unable to sleep and had developed various so-called neurotic symptoms as he supposed in consequence of this sleeplessness. The origin of his difficulty he definitely attributed to a single occasion when he had more or less voluntarily remained awake practically all night in anticipation of a very early morning

journey. From this simple and commonplace event, the habit of sleeplessness apparently was formed, and from that time to this it has been kept alive evidently by the anxiety which has developed in consequence of his conception of the necessity of sleep, precisely similar to the case just cited. Here also it was not difficult after three or four interviews in which explanation alone was used to show the patient wherein his knowledge had been deficient regarding various physiological processes connected with sleep and to make clear to him the pernicious part his faulty mental attitude had played in the development of his neurosis. The patient was easily relieved of his difficulty, at least until he left Boston to return home. I have not heard from him since.

It would be easy to multiply cases of this sort, illustrative of the part which incorrect deductions play in the development of most varied neurotic conditions. The foregoing instances, however, may suffice to illustrate in simplest form the principle underlying this method of psychotherapeutic procedure.

The possibilities and limitations of the method I have attempted to outline may be summarized but not detailed in so brief a communication as this. Its possibilities are that it may be used by any intelligent physician who realizes its importance; the personality of the physician about which we still continue to hear plays a small part in its success. It requires no special training, psychological or otherwise, beyond that which every educated physician might easily acquire. It is not limited to the treatment of so-called "nervous" cases. It should, for example, be applied antecedent to surgical operations, particularly on the pelvic organs of women. It is a commonsense method of approach to many of the minor ills and some of the major disorders to which all persons are exposed. It does not deniand hypnotic procedure, or the use of suggestion as that word is ordinarily employed. Its essential basis is an appeal to reason and herein naturally lies its wide applicability. Its limitations are no less apparent. It will naturally fail in the psychoses, in hysterical states associated with fundamental disorders of personality, and in obsessional conditions of a high degree of fixity, matters to which no doubt others taking part in this discussion will refer.



## THE TREATMENT OF FATIGUE STATES

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**T**AKING the various forms of the psycho-neuroses as a group there is no one symptom so frequently encountered as that of fatigue. Whether it be present early in the course of the disease, and seems to be the soil from which other symptoms develop, or whether it makes a later appearance as if in consequence of the struggle against existing symptoms, it too often presents a barrier to recovery which at times seems unsurmountable. Any effort on the part of the patient to struggle against this symptom so increases the fatigue as to accentuate other symptoms, and cause great discomfort, while on the other hand continued rest is courted in vain. In order to determine how this condition is to be met, let us turn our attention to the elements which go to make up this fatigue.

## I. PHYSIOLOGICAL FATIGUE

That the production of energy of every sort is the result of a katabolic process in the tissue called into activity is a fact too well established to require discussion, but unfortunately fatigue cannot be explained on the simple ground that the consumption of muscular substances alone produces exhaustion.

In addition to the diminished supply of the substances in the muscle necessary for the production of energy which results from muscular activity, we have also to recognize the rôle played by the action of the toxic products of oxidation accumulating in the tissue. The laboratory experiment of stimulating the isolated frog's muscle until it can perform no more work, and then flushing out its blood vessels with normal salt solution to enable it to again respond to stimulation, represents the normal physiological process constantly going on in the human organism during its daily life.

While these two processes — the combustion of substances, and the local action of the products of katabolism — diminish the power of the muscle to carry on its function, the liberation of the poisonous substances into the general circulation gives rise to the general sense of fatigue in the individual. This has been well shown by Mosso, who demonstrated that the introduction of the blood of dogs that had been tetanized a few minutes, into the cerebral circulation of healthy dogs, gave rise to the signs of fatigue (difficulty in breathing, and more rapid beating of the heart), and Mosso believes that these noxious products, acting on the nervous system through the circulation, not only contribute largely to the feeling of fatigue, but also lessen the power of the nerve cells to carry on their function.

Parallel to these manifestations of muscular activity is a group of physiological and histological changes taking place in the central nervous system as a result of cerebral and reflex activity. Hodge demonstrated in 1892 that definite changes are to be found in cerebral and spinal ganglion cells of various animals resulting from normal activities of daily life as well as from excessive stimulation. He found that a comparison of nerve cells of animals killed in the morning with those of similar animals killed at the close of a day of activity, showed a diminution in the size of the nuclei with loss of the open reticulate appearance, and shrinkage in cell protoplasm with vacuolation and lessened staining power.

That this change in structure is associated with liberation of harmful products has been shown by Halliburton in his lecture on "The Chemical Side of Nervous Activity," in which he maintains that under normal physiological conditions the injurious choline products of nerve katabolism can be demonstrated in the body, while in states attended with abnormally rapid nerve degeneration marked changes may be produced.

## 2. PSYCHOLOGICAL FATIGUE

Aside from these physiological processes which contribute to make up what may be called physiological fatigue, there is a varying psychological factor which is present in all

of us, tending to accentuate or diminish the degree to which it shall be recognized and admitted, whether consciously or not. The power of music to quicken the lagging steps of tired soldiers; the influence of the emotions in redoubling one's strength; the driving force of exhortation or promised reward, are well-known examples of the way in which the feelings of fatigue may be dispelled. Is it that the marching soldier is actually rendered less tired by the music, or that the threat or promise of reward makes any change in the physical condition of the individual? Such an assumption would be obviously absurd. This sudden change in the feeling described involves what might be termed the psychological element in the symptom of fatigue. In the minds of all of us a feeling of fatigue indicates a call for rest on the part of nature. When one begins to feel tired his mind becomes impressed with the fact, and the continued consciousness that this state exists serves to intensify the sensation to a greater or less degree, depending on the suggestibility of the individual. A veritable *fatigue hyperesthesia* develops. In some this psychological element may play by far the greatest part in the production of the symptom, so that the slightest muscular activity produces a feeling of exhaustion lasting for days, while in others, determination of purpose or interest in work may engender a disregard or an anesthesia for the symptom and thus enables them to do tremendous amounts of work with little discomfort. It is to this latter class that James refers in his "Energies of Men" in which he describes the process as a breaking through the zone of fatigue, or getting one's second wind. That the adoption of this habit has its merits to a certain extent in the former class is undoubted, but I am convinced that it is a dangerous recommendation for the latter class, which is naturally the one to carry it out most zealously.

### 3. PSYCHOPATHOLOGICAL FATIGUE

It is an interesting problem for solution as to what takes place in those cases of pronounced fatigue in neurotic individuals, who at times are so quickly relieved of the symptom by a suggestion, as well as in those who are suddenly overwhelmed

by a sense of exhaustion as a result of a nervous shock or a fright. Surely such sudden and decided changes cannot permit an explanation on the grounds of any of the physiological causative factors of fatigue. Is it not that a synthesis takes place in the former, and a dissociation in the latter, much as other manifestations of these processes may occur under similar conditions? The verification of this hypothesis might be found in the appearance and disappearance of fatigue encountered in the alternations of personalities described by Prince, Janet, and others.

That fatigue states, whether physiological, psychological, or psychopathological, may form a fertile soil for the development of psycho-neurotic symptoms is too often demonstrated to us to admit of question. In the routine of daily life, if one is assiduously devoting his energies to accomplishing certain ends, the rested individual who starts the day presents a very different mental attitude to his surroundings, to the one who returns home at night weary from his labors. The one starts out fresh and vigorous and filled with the joy of living, the other too often returns with slower step and perhaps with tired or aching head, irritable to those about, and critical of things he overlooked so easily in the morning. It requires, however, but the reconstructive power of sufficient nourishment and a good night's rest for the pendulum to swing back and establish the diurnal state of freshness. Fortunate is he who can carry on his life from day to day unruffled by the stress of extra burdens or the worry of added cares. In those who voluntarily undertake excessive amounts of work, or who are the unfortunate victims of the "slings and arrows of outrageous fortune," the periods of recuperation may not prove sufficient to maintain the state of equilibrium, and a more or less prolonged state of fatigue may result with its various concomitant symptoms.

Continued fatigue with insufficient periods of rest may develop in strong, healthy individuals various forms of physical and mental symptoms similar to those seen in well-defined neuroses and psychoses. Attention has been called to this by Tissé and Feré, and it was well illustrated in the condition developed in the bicycle riders of the six-day race in Madison Square Gardens a few years ago. Various sorts



of delusions and hallucinations were manifested by these men towards the close of the race — the idea that spectators were doing things to prevent their winning led to their repeatedly turning to escape imaginary obstacles, etc.

The ill effects of over fatigue from excessive muscular exercise are usually quickly recovered from, but the conditions resulting from prolonged mental strain and worry are more liable to persist from the very nature of their cause, in being more continuous and unremitting. The story is a common one. One's duties necessitating mental application have been requiring too many hours; they are not dropped in the evening; sleep is more difficult, and the diminished hours of recuperation lessen the power of application; recognition of this fact brings worry to the attack to precipitate the uncomfortable feelings of fatigue. Aside from lassitude and loss of power to concentrate, the most frequent symptom experienced in this state is a sense of discomfort in the head varying in character and location. This engenders the idea that something must be wrong within, and too frequently suggests that insanity is imminent, and gives rise to overwhelming fear and constant introspection, with all its harmful influences.

Distinct from the fatigue states of such etiology which may exist as a simple condition of weariness and diminished power of application, or may present the complication of morbid ideas developing from it, is the state of so-called "nervous exhaustion" found in individuals with a neurotic family history. Patients suffering from this condition have often experienced a series of nervous breakdowns, and never seem able to struggle to the normal level. Such individuals, though they present the same symptoms as the class described have the psychological element of fatigue developed out of all proportion to the physical, and every attempt at a departure from their life of rest and quiet is made under protest, and with the firm conviction that disaster is sure to follow.

That the type of fatigue brought about by prolonged overwork or strain requires rest, relaxation, and change of surroundings, combined with advice best adapted to counteract the morbid mental state which may be present, is apparent. This class comprises the cases which do well by giving

up absolutely the sort of life which has absorbed them, and combining rest with activities of a different nature which will afford sufficient interest to divert the mind and prevent reflection.

The point must be recognized and seized, however, when this regime has played its part, and the time has come for putting the hand to the plough again, for it is all too easy for the memory of a previous breakdown and fear of its recurrence to render one loth to resume his former life again. It is on account of this fear and hesitation that it is advisable to keep in touch with the patient and prevent backsliding until he is well launched in his old life.

The larger class of patients so often descended from neurotic parents and presenting a history of attacks of previous nervous breakdowns, attempting again and again to take up the duties of life, but never seeming able to get sufficient reserve to carry on the struggle for any prolonged period of time, require management of a different sort. Such cases, as has been said, represent the psychological element of fatigue in its fullest development. The conviction that exhaustion will follow any amount of effort, physical or mental, is already a guarantee that it will result. On being told to do certain things a patient recently remarked, "Very well, I'll do it, but I know what will happen, and you must take the consequences." Of course if she had followed orders in such a spirit the result must have been as she determined.

Frequently these patients have indulged in rest for months, or even years, without beneficial results. Physically sound, but unable to assume duties and responsibilities of life, they form a group too often misunderstood, and classed as uninteresting by the physician, yet woefully in need of proper direction.

Various systems for the management of this type of cases have been advanced by different men. The earliest complete method was that recommended by Dr. S. Weir Mitchell, and has since been referred to as the rest cure. In 1875 he published his first paper treating of this subject under the title of "Rest and the Treatment of Nervous Diseases," and a few years later brought forth the first edition

of his monograph "Fat and Blood." As is well known, the essence of his method consists in pursuing his course along certain definite lines, treating all cases alike. Seclusion, rest, massage, electricity, and feeding have been the points on which he has laid particular stress. That he has been eminently successful in carrying out this method can be attested by the large number of patients who have been benefited under his care. That the principles he employs exercise their results according to his theories is, however, a question. It has been pointed out by Prince and others that the point on which he lays special stress, namely the increasing of the body weight and the production of more blood, does not by any means lead to the amelioration of functional nervous symptoms; that although change of surroundings may prove beneficial in many cases complete isolation undoubtedly does harm in certain types, and that the general result produced by the completeness of the regime owes its success rather to the suggestive influence than to any physical change that takes place. This system has been more or less widely adopted with modifications by most of the sanatoria devoted to the treatment of nervous invalids, and the criticisms which may be applied to this method as employed by its originator are even truer here. For, lacking the unusual personality of the father of this regime, and the confidence inspired by his continued successes, the patient is too ready to accept the "rest cure" as such, in every sense of the word, and thus derive from it the feature which should be minimized, while he misses in so doing the factor which should be working against his psychic attitude toward his condition.

This has been so much recognized by many of the sanatoria during recent years that the facilities for exercise and occupation have to a large extent replaced those of rest and seclusion with gratifying results.

A new impetus has been given to the interest in psychotherapeutics by the widespread reading of the methods of Dubois, as set forth in his book, "The Psychic Treatment of Nervous Disorders," published in 1905. This method, which has been termed the system of rational therapeutics, has for its aim the education of the patient oftentimes through

more or less Spartan discipline, and through the presentation of bare facts and truths regardless of the patient's attitude towards his own condition. Whereas the method followed by Mitchell with its modifications as advocated by Déjerine and Barker have been to rest and isolate the patient and gradually win him from his symptoms by education as to their nature, and encouragement, meanwhile treating the various discomforts and increasing the patient's powers for activity. Dubois, on the other hand, begins by explaining to the patient the actual condition of things, and forces his opinion as to the psychic nature of the discomfort, and refuses treatment of this by drugs or chemical means. "Never," said Dubois, in discussing the use of drugs a short time ago, "will I give a sleeping powder to a nervous patient except in cases of actual melancholia." Whether this method can be generally adopted by practitioners is a great question. The remarkable personality of Dubois, and his firm conviction as to the ethical and therapeutic value of his method, render it peculiarly efficient. It is difficult to conceive of a patient not being strongly moved by his remarks, which are presented by him so forcibly, and clinched by his frequent repetition of his favorite phrase, "C'est la vérité."

It is apparent that the mental attitude of patients suffering from this chronic state must be changed. New groups of complexes must be formed. The knowledge that experience has shown that certain sensations have resulted from certain activities must be replaced by a conviction that these efforts may be made without harm.

Whether the result may better be brought about by the establishment of new complexes in the hypnotic state, or by persuasion and conviction established in the waking state, may be a question in some cases. If we are to consider that the unhealthy complexes dominant in these cases, rendering them unable to respond in a normal way to their surroundings, are to be looked upon as a dissociation, much as moods of depression are to be regarded, hypnosis may be offered as a rational method for establishing the normal state. Both Tuckey and Bramwell have reported cases in which the fatigue state has been successfully treated in this way.

Personally I have used the conversation method practiced by Dubois. Needless to say, the physical condition



must be thoroughly investigated and any deficiencies recognized, while it should be assured that the bodily secretions are functioning in a normal manner.

At the start, the attitude of the patient toward his condition must be changed. The discouraged doldrum state must be attacked by a careful and truthful statement of the existing condition, and the possibilities set forth which must be attained, and will result as surely as the physical law of cause and effect is true. He must regard his condition in a new light, and new groups of complexes must be called into play and associated with his individual symptoms as well as with his attitude toward the future.

When physical or mental effort is called into play the fatigue or discomfort resulting should call up the new complexes established, and in order that this may follow, the association of the new complex groups must be more strongly welded to the symptoms than are the old groups of discouragement, indifference, fears, etc. It is here that the mistake is too frequently made of using general unmethodical encouragement, in place of strengthening the association between the desired complexes and the tasks to be performed. This is not to be accomplished in a hasty consultation, but the physician must spend sufficient time to feel himself thoroughly "en rapport" with his patient, so that both have a tacit understanding that they are taking up a task together which is going to be accomplished. Enthusiasm for the undertaking, increasing amounts of activity, and occupation best suited to the individual, form steps by which the patient may mount to his normal plane.

The rational acceptance of the feeling of fatigue must be forced upon him until it becomes for him a natural reflex, and this carries him a long way towards disregarding it, and its final disappearance. Frequently the patient remarks, "Yes, doctor, I have done as you said, but I feel so tired." "That may be true," is the reply, "but you were just as tired last week, and then you were accomplishing nothing. The difference is, that to-day you are so much nearer the goal."

I am not in accord with the belief of Dubois that absolute disregard of all symptoms depending on the psychic state should be enforced upon the patient. Certainly the

road is a much easier one for him to travel if the distressing head feelings are alleviated by a static current, or if a gastric disorder is controlled by some simple remedy. The danger is to be avoided however, of too much treatment of this sort.

The following cases are illustrative of the conditions which may be benefited by these methods.

CASE I. This patient was a student twenty-one years of age. His father and mother were both of neurotic families, and were themselves subject to moods of depression, while his sister was of a high strung and sensitive temperament. The patient had always been strong and rugged physically, and, except for certain disturbing ideas in real life such as come to imaginative children, had never had any nervous disorders. Slow to learn, he had found it difficult to pass the entrance examinations to college, and had some difficulty in keeping up with his class work. This was the more difficult on account of his love of sports. His whole ambition seemed to be to make the Varsity team in football. His continued efforts to do well in his studies, with his constant worry lest he should not be able to do well in his athletics, caused him toward the middle of his first year in college to become more and more fatigued. This sense of weariness once started developed more rapidly, and made it nearly impossible for him to accomplish any work. In fact, so pronounced was the symptom, that repeatedly, on simply crossing the college yard, he returned to his room so exhausted that he felt obliged to lie down and rest.

His inability to keep up with his duties caused him greater and greater worry, and he suffered constantly from his head feeling tired, which rendered it impossible for him to concentrate his mind any length of time. This tired feeling in the head soon gave way to a constant sense of pressure over the forehead and the vertex, which caused him much alarm. Frequently when this was very distressing, he would be seized with the idea that he was going to lose his mind.

A careful examination of the patient showed an almost perfect physical condition. Never have I seen more splendid muscular development. There was no evidence of any disturbance of the organs of the thoracic or the abdominal

cavities. The pupils were normal in size and reacted well. The knee jerks were equal and slight. The contrast between his story of utter physical exhaustion, and the picture he presented of such strength was very striking. Nor was he able to understand why he could not enter into things with his customary vigor. After explaining in detail to him the nature of his condition and the factors which were helping to keep him from recovery, he was made to realize what his possibilities were, and how he must apply himself to gain his ends. The tasks put upon him were made rapidly more and more difficult, so that at the end of six weeks he was doing a normal amount of studying, and was rated as one of the first-class men in putting the shot and throwing the hammer.

His condition continued to improve so that the following fall he played on the 'Varsity football team, and then as well as during the two succeeding years of play was considered a tower of strength.

Except for a temporary difficulty of an entirely different nature this patient has been quite well since his recovery, a period now of several years.

CASE II. The second patient was a strong, well-looking man of twenty-two, who for years had been incapacitated for carrying on the work of daily life on account of his nervous condition.

A few years ago he was working very hard in college, and studying in a law office in addition. This he was able to keep up for a year, although he grew progressively more tired, and found himself more and more limited in his capacity for performing his duties. At the end of this time, one evening when he arrived at his home, as he was going upstairs he was suddenly overpowered with a sensation as if he were let down through a stairway, and were melting away into nothingness, and was conscious of a feeling of overpowering fear. A cold sweat broke out all over him, so that he got hot water bottles and crawled into bed under heavy coverings, still feeling strange. From that night on, the feeling of exhaustion which had been increasing for a number of months became doubly strong, and rendered him unable to carry on his work and studies. In the mean time similar attacks of fear and unreality returned at various intervals, and he was advised to leave his home and to enter a sanatorium.

The following two years were spent in various sanatoria and retreats, the patient meanwhile getting no stronger, but more and more losing confidence in himself. At the time when he made his first visit to me he was unable to go about alone on account of his great sense of fear that something would happen. The outside world seemed strange in a way which he found it difficult to explain. There was no power to concentrate the attention in following a conversation or in attempting to read; to such a degree did this symptom exist that he found it impossible to read a single paragraph in the newspaper understandingly. Attempts to move about simply rendered him more tired, and on the whole he declared himself utterly discouraged in trying to make any progress against his illness.

The treatment of the condition was rendered difficult in the beginning by the inability of the patient to give his attention long enough to grasp a continued line of argument. This was overcome gradually by forcing him to devote all his energies to mastering the content of longer and longer passages of reading at stated intervals, till he found himself able to read or attend lectures without effort. Meanwhile his fears were dispelled by the substitution of new complexes, so that now for a year he has been carrying on more work than is done by the average law student, and performing his duties in an eminently satisfactory manner.

Whereas the first case cited represents the psychical fatigue (hyperaesthesia) as related more to physical effort, the second case is the type in which a physiological fatigue state developed into a psychopathological fatigue and finally into a condition of psychasthenia. Such cases at times have the distressing attacks of unreality and the overpowering fears developed to such a degree that hypnosis is necessary to overcome them. That new complexes may be forced upon them in the waking state when the distressing symptoms are not too deeply grounded is evidenced by the frequency with which this end has been accomplished.



# PSYCHO-ANALYSIS IN PSYCHOTHERAPY

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THE evolution of psychotherapy, like that of all other modes of treatment, is marked by an ever-increasing precision in method and an ever-deepening comprehension of the conditions to which it is applicable. Progress in these two respects must always go hand in hand, for the moment therapeutics becomes divorced from pathology and diagnosis it leaves its scientific basis and stands in danger of approximating to that medical charlatanery which it is the highest interest of our profession to resist. The two studies are peculiarly interwoven in the case of the psycho-analytic form of psychotherapy, for, as I shall presently indicate, treatment is here carried out by simultaneously laying bare and remedying the pathological mechanisms at the basis of the malady. From this point of view we can discern two stages in the development of any new method of treatment, and these I can best illustrate by a reference to more familiar methods, for instance the operations of trephining or of laparotomy. When the possibility of these operations was first realized we saw the first stage in development, in which, namely, they were regarded merely as an adjunct to the therapeutic armamentarium, and were applied in the relief of conditions that were already well known and studied on established pathological lines. The second stage arose when, through the repeated performance of such operations, conditions that could be relieved by them came to be studied anew, fresh aspects of pathology opened up, and questions of precise diagnosis that had previously been academic problems of trivial interest now became urgent matters of life and death. A moment's reflection on the history of appendicitis will remind you of how little we knew of the pathology, the diagnosis, or even the existence of the affection until the surgeon's knife showed that it could

be cured. We might, in fact, paraphrase the motto underlying British Imperialistic policy, to wit, that trade follows the flag, and say that in medicine diagnosis follows treatment.

Now in psychotherapy most of the medical world is at present only entering on the first stage. That the medical world of America will definitely enter on this stage as a prelude to further advancement will, I trust, be one of the results of this afternoon's conference. In this stage we clearly recognize that we have secured a new therapeutic weapon of the utmost value, which we may describe as the capacity to alleviate certain complaints by purely mental measures, in other words as psychotherapy in its broadest sense. Our attitude towards the nature of these complaints, however, remains in this stage substantially the same as it was when they were treated only by physical remedies. Hence we may see the strange picture of a physician removing by verbal suggestion a symptom which he considers is produced by a toxin circulating in the blood. However, a thoughtful person who employs any form of psychotherapy soon realizes that a symptom which can be removed by mental measures is in all probability of a mental nature. It may parenthetically be remarked that he further realizes how the suffering endured by the patient, so far from being unreal, is all the more dreadful and formidable for having a mental and not a physical origin. A non-appreciation of this important fact is still all too common. Only recently an article appeared in one of the leading medical journals in which the writer remarked: "In this manner I hope that we will always be able to trick a malingerer or hysterical subject into betraying the falsity of his claim." This attitude, though rarely in such an outspoken form, is frequently implicit in medical writings, and cannot be too strongly condemned. Apart from yielding an inkling of the mental nature of various disorders, the first stage in the evolution of psychotherapy is characterized by an indeterminate attitude towards the origin and pathogenesis of them. The older conceptions have begun to dissolve, but the knowledge won by the new method of treatment has not yet been formulated. Psychotherapy is in this stage employed in a quite empiric way, and the physician either does not concern himself with the

intrinsic *modus operandi* of his treatment, or else offers explanations of it which are so superficial as to be of little scientific value.

Psycho-analysis represents the second stage in the evolution of psychotherapy. Here a deeper insight is sought into the essential nature and origin of the morbid phenomena with a view to obtaining a fuller understanding of the aims of treatment and so to achieving a greater precision in the application of it. The psycho-analytic method we owe almost completely to the genius of Professor Freud of Vienna, who in the past sixteen years has wrought it into an elaborate science of which I can here give only the most summary outline. The method is based on the knowledge that the symptoms present in the psycho-neuroses owe their origin to a conflict between two groups of ideas or mental processes which cannot be brought into harmony with each other. One complex of mental processes is for some reason or other of such a kind as to be unacceptable to the main body of the personality. The personality fails to assimilate it, will have nothing to do with it, tries to forget it, to submerge it, to repress it. The repressed complex then takes on an automatic existence, and acts as an irritating foreign body in the same way as any physical foreign body that has not been absorbed. From this point of view we may define the pathology of the psycho-neuroses as a *defect in assimilation*.

Let me illustrate my meaning with a concrete instance. A man conceives an attraction toward the wife of a near friend or relative, and in his imagination perhaps plays with the thought of what might happen were the friend to meet with a fatal accident. If he honestly faces his wish and realizes its nature he will instantly see that, though possibly a perfectly natural one, it is of such a kind that for social and ethical reasons it must obviously be suppressed. If he adopts this healthy attitude he will probably think no more about the matter except in the most harmless way. The wish-complex is here assimilated by the main body of the personality. If on the other hand he regards the mere possibility of entertaining such a wish as a sin and a sign of the most desperate iniquity he may refuse to own up to himself that he has ever felt it, even momentarily; whenever the thought

occurs to him he endeavors to put it from him, to get away from it, in other words to *repress* ('*verdrängen*') it. The complex here is not assimilated, it therefore continues to act, and the more the man strives to escape from it, the more hauntingly does it torment him. He has now become the prey to a fixed idea which is out of his control, and which evinces its independence by appearing irregularly whether he wills it or not. In actual practice we never meet with cases so simple as this, but the instance will serve to illustrate the notion I am trying to convey, namely that certain mental processes, particularly strivings, desires, and impulses, if they are not absorbed in the main stream of the personality are apt to manifest an independent activity out of control of the will. This activity is usually of a low order, of an automatic and almost reflex kind, and — if I may be allowed to use the term in a clinical and non-philosophic sense — it is generally an *unconscious* activity, that is to say it operates without the subject's being aware of it.

As I have just said, matters are not so simple in practice, and what actually happens is that the activity of the repressed complex is manifested not directly but indirectly in some distorted form that is often hard to recognize. In the above example, for instance, the subject might have counter-balanced his real attitude towards his friend by developing an exaggerated solicitude for his welfare, and have shown great concern and dread whenever the friend ran the slightest risk of accident or danger. Again, an abnormally strong emotion might be evoked by anything accidentally associated with the persons in question, a condition that Professor Morton Prince described some ten years ago under the name of "association neurosis." This distortion in the manifestation of the activity of the mental complex is often exceedingly involved, and one of the main difficulties in the psycho-analytic method is the unravelling of the confused end-product, which clinically we call a symptom. The psychological mechanisms by means of which the distortion is brought about are very intricate, so that in the time allotted it would be impossible for me to describe them. They have been worked out with great accuracy and detail by Freud and Jung, and an exact study of them is essential to the use of the psycho-analytic method.



Investigation on the lines presently to be indicated discloses the fact that every psycho-neurotic symptom is to be regarded as the symbolic expression of a submerged mental complex of the nature of a wish. The wish itself on account of its unacceptable nature is concealed, and the symptom arises as a compromise between it and the repressing force exerted by the main personality. The stream of feeling that characterizes the wish is dammed up, it can find no direct outlet, and so flows into some abnormal direction. The metaphor of "side-tracking" is, I believe, used in American psychiatric circles to indicate this process. In more technical phraseology we may say that the affect of the original complex is inhibited, and so becomes transposed on to an indifferent mental process. This indifferent mental process has now become invested with the strength of feeling that properly belongs to the original complex, and so may be said to replace the complex. Thus arises what Professor Adolf Meyer calls a substitution neurosis, in which an abnormal outlet has been found for a pent-up affective process. The outlet may be in a purely mental direction, in which case we have such a symptom as a phobia, or towards various bodily processes, a condition that Freud calls conversion-hysteria, in which case we have such symptoms as a tremor or a paralysis. In the symptom the patient obtains a certain unconscious gratification of the repressed wish, and this means of obtaining the gratification, however perverse and abnormal it may be, is still the only means possible to the patient under the circumstances. This fact explains the obstinacy with which such a patient may instinctively cling to his symptoms, and is one of the causes of the resistance that the physician encounters when trying to remove these. I need hardly remind you that this obstinacy is often erroneously interpreted even by physicians as indicating mere wilful perversity, a mistake that does not conduce to success in treatment. Not only does the observer commonly fail to understand the significance of the symptom, but the patient himself has no knowledge of its meaning or origin. In fact, *enabling the patient to discover and appreciate the significance of the mental process that manifests itself as a symptom is the central aim of the psycho-analytic method.*

In carrying out this method several procedures may be adopted according to circumstances. The hypnotic state, for instance, may be utilized in the search for forgotten memories. Only a very few of those acquainted with the psycho-analytic method employ this procedure at all extensively, for it has grave disadvantages which I need not here discuss. Personally I employ it only as a rare exception and for special reasons; under certain circumstances, however, it undoubtedly has a legitimate place. The procedure introduced and developed by Freud is the one most generally used, and gives by far the most satisfactory results. It is one of the ways of obtaining what is known in psychology as "free association," and is carried out by getting the patient to concentrate his mind on a given idea, generally one in relation to a symptom, and asking him to relate in the order of their appearance the various thoughts that come to his mind. It is essential for him to do this quite honestly, and fortunately we have several objective tests of his behavior in this respect. He must suspend his natural tendency to criticize and direct the thoughts flowing in, and must therefore play a purely passive part during this stage. At first he will omit to mention a number of thoughts on the ground that they are apparently irrelevant, unimportant, or nonsensical, and others because they are of a painful or unpleasant nature. After a time, however, the length of which largely depends on his intelligence and sincerity, he acquires the capacity of adopting the non-critical and passive attitude essential to success.

Other means of reaching buried mental complexes may briefly be mentioned. A study of various mannerisms, symptomatic movements and tricks of behavior, and slips of the tongue or pen, often reveals the automatic functioning of some repressed train of thought. The word-reaction association method as developed by Jung is of the highest assistance, particularly in furnishing us with a series of clues to serve as starting points for future analyses. In this method a series of test-words are called out to the patient, who has to respond with the first word or thought thus called to his mind. From a general review of the kind of responses given much can be learned about the mentality of the patient

and the type of psychosis present. Further, by noting certain peculiarities in the individual reactions we may discover certain complexes or trains of thought which possess for the patient a high emotional value, and these can then be followed and studied more fully. The peculiarities I refer to are ten or twelve in number. The chief are: undue delay in the time of reaction, failure to respond at all, response by repetition of the test-word, perseveration affecting the succeeding reactions, anomalous clang associations, assimilation of the test-word in an unusual sense, and erroneous reproduction of the reaction when the memory for it is subsequently tested. Last but not least is the analysis of the patient's dreams by means of the special technique introduced by Freud. The study of dreams is in this connection of supreme importance, for of all the means at our disposal it is the one that best enables us to penetrate into and understand the most hidden parts of the mind. No one can have more than an outsider's notion of the psycho-analytic method who has not thoroughly studied Freud's *Traumdeutung*, for in this work he has laid down the technique of his methods, and discussed the principles on which they are based, with a fulness to be found nowhere else in his writings.

By means of the methods just outlined we are enabled to determine the origin of the symptom by retracing the steps along which its pathogenesis proceeded. It is impossible to deal with the underlying complexes, to discharge their pent-up affect, to render them more assimilable by the patient, unless one succeeds in this task and brings them to the full light of day. The symptoms constitute a veiled language in which hidden thoughts and desires find the only means allowed them of coming to expression. We have to get the patient to translate his symptoms into more direct language, and thus to understand and appreciate the origin of them. In so doing we give the patient a deeper insight into the workings of his mind, so that he is enabled to correct abnormal deviations, to overcome internal inhibitions and impediments, and to acquire a more objective standpoint towards the repressed mental complexes, the automatic functioning of which has produced the morbid manifestations. He is in

this way able to free his personality from the constraining force of these complexes, and, by taking up an independent attitude towards them, to gain a degree of self-control over his aberrant thoughts and wishes that was previously impossible. The method is thus in almost every respect the reverse of treatment by suggestion, although several would-be critics have naïvely exposed their ignorance of the subject in maintaining that the successful results are produced by suggestion. In suggestion treatment the physician adds something to the patient's mind,—confidence, belief, etc.,—and thus makes the patient more dependent on him. The psycho-analytic method does not add; it takes away something, namely inhibition. It enables the patient to disentangle confused mental processes, and, by giving him control over the disharmonies of his mind, leads him to develop a greater measure of self-reliance and independence. The training received by the patient is thus an educative one in the highest sense of the word, for he not only achieves a richer development of will power and self-mastery, but acquires an understanding of his own mind which is of incalculable value for future prophylaxis. He grows both in capacity to know and in ability to do.

The conditions that lend themselves to psycho-analytic treatment comprise practically all forms of psycho-neurosis, the different types of hysteria, the phobias, obsessions, anxiety neuroses, and even certain kinds of sexual perversions. I shall refrain from relating any individual cases, for to do so would be only to weary you with the recital of a list of typical and atypical instances of these various conditions. It is further impossible for me to narrate any single instance of an analysis, for in every case the richness of material is so great that it would take several hours to give even an outline of the main points in the case.

The results obtained by the treatment, though by no means ideal, are yet very gratifying. They surpass those obtained by simpler methods in two chief respects, namely in permanence and in the prophylactic value they have for the future. Although most symptoms can be removed by other methods, such as hypnotism, yet any one who has devoted much time to the study of these cases knows how great



is the tendency to relapse, to recurrence, and to the appearance of fresh groups of symptoms. Mild cases can indeed be not only alleviated but even cured by the simpler psychotherapeutic measures, so that these all have their sphere of usefulness; severe cases, on the other hand, need a more radical treatment, an uprooting of the actual morbid agents. It is easy to understand how this must be so. Hypnotic and other suggestion acts merely by blocking the outward manifestation of the underlying pathogenetic idea. The idea itself persists, because it has not been reached and dealt with, and sooner or later it will again manifest itself either in the same direction or in some fresh one. The analogy of a tubercular, or better still of an actinomycotic abscess occurs to me in this connection. If the suppurating sinus is forcibly plugged then the symptom of discharging pus is removed, but sooner or later the pent-up pus will find a vent in either the same or a fresh direction. Before satisfactory healing can take place the tension must be relieved by instituting free drainage for each pus pocket, and the more thoroughly the focus of the disease is dealt with the better will be the result.

A few words are now necessary on the clinical applicabilities and limitations of the method. It is a method that makes great demands on both physician and patient. Apart from technical knowledge the physician must evidently possess, not only unimpeachable integrity, but also a considerable measure of tact, patience, and sympathetic understanding; without these qualifications he is unlikely to gain the patient's confidence to the requisite degree. The treatment further makes a great call on his time. Freud often finds it necessary to devote to a patient an hour a day for three years, but he acknowledges that the cases sent to him are generally of a very severe nature. In milder cases one can achieve very satisfactory results in a few months, a fact to which I can fully attest from my own experience. The amount of time may appear excessive unless one remembers the hugeness of the task imposed, for in all cases the roots of the trouble go back to early childhood, and important modes of reactions have to be altered which have been fixed and stereotyped for many years. When we consider how much trouble and time frequently has to be

expended in the orthopedic straightening of a deformed limb, we should not grudge the same to the far more intricate task of the orthopsychic training of a deformed mind, especially when this results in converting an intolerable existence into a happy life, and a person paralyzed by doubts, fears, and suffering into an active and useful citizen.

The demands made on the patient are no less great. The results of the treatment will vary with the intelligence, courage, honesty, and perseverance he shows. With stupid and quite uneducated patients relatively little can be done, so that happily we can most help those whose value to the world is greatest. Again, age sets a formidable barrier to our efforts. In old age, when the plasticity of the mind is diminished, far less can be done than at an earlier period, and furthermore the time necessary to trace back the erroneous mental reactions through so many years is naturally longer. Still I have had a few fairly satisfactory results even above the age of fifty.

It will be realized that the method is at present not one generally applicable by the practising physician. Not only is the time necessary for the treatment a great hindrance, but also a laborious special training is necessary before the technique of psycho-analysis can be acquired to an adequate extent. It is generally admitted that this demands three years' incessant practice, a good previous knowledge of neurology being assumed. Here, as elsewhere, therefore, good work exacts arduous labor, and there is no royal road to the art of handling the most intricate and delicate machine we know of, the human mind.

You may now legitimately ask why I have taken up so much of your time in describing a mode of treatment which I acknowledge not many will have the opportunity to learn or to apply. My answer is a twofold one. In the first place I am not one of those who hold that the general physician should be cut off from all advancing knowledge except that which he can immediately apply in his daily work. No physician can apply all methods of diagnosis and treatment, but it is surely well that he should at least be aware of the existence of them. I cannot believe that because a country practitioner is not expected to apply the Wassermann test

in the diagnosis of syphilis, or to perform excision of the Gasserian ganglion for the relief of trigeminal neuralgia, it is therefore better for him not to know about such methods. In the second place I wish to contribute to the general effect that this symposium must have in bringing home to you in some degree the present unsatisfactory state of medical education so far as psychology is concerned, for this is the main cause of the helplessness of the medical profession against the very maladies that are the triumph of the quack, religious or otherwise. The sooner we honestly face the shameful but undeniable fact that unqualified empirics can relieve distressing affections in cases that have defied medical skill, can produce results where we fail, the sooner will this flagrant lack in our system of education be remedied, and the better will it be for the dignity and honour of the medical profession. While the present state of affairs lasts, in which most physicians are given not five minutes' training in psychology in the five years of their student life, and in which there is no teacher of clinical psychology in any university or medical school in the country, our profession must submit to being the prey of the charlatan and the mock of the scoffer.

## THE PSYCHOTHERAPEUTIC VALUE OF THE HYPNOIDAL STATE

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**H**YPNOSIS has long ago been brought before the scientific world as a state in which maladies of a functional or of a psychic origin, such as the various forms of hysterias, obsessions, and phobias, can be alleviated and even permanently cured. Dr. Frederic H. Gerrish, your president, has in his address opened this subject before this society. The works of Braid, Charcot, Liebault, Bernheim, Forel, Vogt, Breuer and Freud, Schrenck-Notzing, Prince, Bechterew, Janet, Babinski, and others, are well known to the student in abnormal psychology. Recently, however, many medical men of reputation, such as Dubois, Freud, Prince, Putnam, Taylor, Waterman, Donley, and many others, could not help being impressed by the practical limitations of the hypnotic state. Many patients refuse to submit to treatment, being afraid of occult influences. Then again a great number of patients are difficult to hypnotize. There is no denying the fact that there exists a strong feeling of distrust among many conservative men who are not acquainted with the amount of scientific work that has been lately done in the domain of abnormal psychology. This strong feeling against the use of the hypnotic state as a therapeutic agent in psychopathic diseases is unfortunately often found among many representative men of the American medical profession.

An American editor of a well-known American medical journal unhesitatingly rejects work on psychopathology and psychotherapy. The editor is apparently under the impression that he is keeping up the high standard of American medical science,—that papers, disquisitions, and discussions on diarrhea, constipation, enemas, eczema, hemorrhoids, and cognate scientific investigations are essentially valuable, dignified, and suitable to the mind and needs of the medical reader. In Germany, France, Italy, Austria,



Russia, work in abnormal psychology has long ago gained recognition as a science of theoretical and practical importance to the physician and even to the lawyer, while in the United States conservatism in regard to abnormal psychology is still paraded as a badge of orthodox medical respectability. The opposition to psychopathology is manifest, when it comes to the use of the hypnotic state.

Since hypnosis meets with so much opposition the question naturally arises,—Is it possible to affect and modify pathological mental states outside hypnosis? The problem is practical and requires a solution. In "The Psychology of Suggestion" I pointed out on the strength of a number of experiments that suggestibility can also be induced in the normal waking state. I have also shown that among the conditions of normal and abnormal suggestibility monotony and limitation of activity play an important rôle. Any arrangement tending to produce monotony and limitation of voluntary activity brings about a state of suggestibility termed by me *subwaking or hypnoidal*, a state in which mental life can be affected with ease. The induction of the state is termed *hypnoidization*.

In the hypnoidal state consciousness becomes somewhat vaguer than in the waking condition; memory is more diffused, so that experiences apparently long forgotten come in bits and scraps to the foreground of consciousness. Emotional excitement subsides, voluntary activity is changed to passivity, and suggestions meet with little resistance. The subwaking state is above all a rest-state, a state of physical and mental relaxation.

\* The favorable therapeutic results obtained by me led to a closer study of what I, some thirteen years ago, regarded as a peculiar mental condition. The subwaking or hypnoidal state is essentially an intermediate state belonging to the borderland of mental life. On the one hand the hypnoidal state closely touches on the waking state, on the other it merges into hypnosis and sleep. A close study of the subwaking state shows that it differs from the hypnotic state proper and that it cannot be identified with light hypnosis. In my years of study of patients and subjects I have observed the presence of the subwaking state before the

development of hypnosis and also before the oncome of sleep. When again sleep and hypnosis pass into waking, the hypnoidal state reappears. The hypnoidal state may therefore be regarded as a transitional, intermediate state.

The subwaking state may be said to partake not only of the nature of waking and sleep, but also to possess some characteristics of hypnosis, namely *suggestibility*. It is clear that from the character of its mixed symptomatology the hypnoidal state is variable and unstable. The subwaking state should, in fact, be regarded as an equivalent of sleep. Like sleep the hypnoidal state has many levels of depth. It differs, however, from sleep by the rapidity of its oscillations from level to level. In the experiments of various investigators sleep is found to be represented by a rapidly rising curve during the first couple of hours, and by a gradually descending curve during the rest of the hours of sleep. No such regularity of curve can be observed in the subwaking state. *The depth of the hypnoidal state changes very rapidly and with it the passive condition and suggestibility of the patient.*

■ Thus far the work was confined to observations and experimentation on human subjects and patients, both from a theoretical and practical therapeutic standpoint. Recently, however, I undertook at the physiological laboratory of Harvard Medical School, and also in my own psychopathological laboratory, a series of experiments on the manifestations of sleep in the ascending scale of animal life,—from the frog and guinea pig, the cat, the dog, to the infant and adult.\* The experiments prove that the hypnoidal state is by no means confined to man, but is also present in the lower stages of animal life. Furthermore, the experiments clearly show that the further down we descend in the scale of animal life, the more prominent, the more essential does the subwaking state become. From the facts one is forced to come to the conclusion that the hypnoidal state is the primitive rest-state out of which sleep has arisen in the later stages of evolution. Sleep and hypnosis have taken their origin in the hypnoidal state; both hypnosis and sleep are highly differentiated states and have become evolved out of the primitive,

\*Sidis: An Experimental Study of Sleep, JOURNAL OF ABNORMAL PSYCHOLOGY, 1908.

undifferentiated, subwaking state, which is the rest-state, still characteristic of the lowly organized forms of animal life. In short, we may say that *the hypnoidal state is the primordial sleep-state*. In man the subwaking state is but in a rudimentary condition,—it has shrunk to an abortive, transitory, momentary stage in the alternation of waking and sleep.

While in the hypnoidal state the patient's consciousness keeps on fluctuating from moment to moment, now falling deeply into a subconscious state in which outlived experiences are easily aroused, and now again rising to the level of waking consciousness. The experiences come often in fragments which gradually coalesce and form a connected series of interrelated systems, apparently long gone and forgotten. The recognition is fresh, vivid, instinct with life, as if the experiences had occurred the day before. The revived experiences are in many cases confirmed by some relative or intimate friend. This characteristic of getting access to subconscious experiences lost to the patient's personal consciousness is what makes the hypnoidal state such a valuable instrument in the tracing of the origin and development of the symptoms of the psychopathic malady. Important, however, as the following-up of the history or of the psychogenesis of the symptoms may be, both to the physician and to the patient, for an intelligent and scientific comprehension of the case, *it does not cure*, as some are apt to claim, *the psychopathic malady*. The value of tracing the growth of the disease to its very germs lies entirely in the insight gained into the nature of the symptom-complex. *The tracing of the psychogenesis has no special therapeutic virtues*, as the Germans claim, but, like all theoretical knowledge, is of the utmost importance for a clear understanding of the causation of the psychopathic state, thus helping materially in the treatment of the case. The information of the psychogenesis given to the patient is valuable only in so far as by a systematic course of direct and indirect suggestion, by mediate associative and immediate associative suggestion, by substitution, disintegration, and synthesis, both in the waking and the hypnoidal states, we help to *transform* the associative course and emotional tone of the patient's

mental life.\* *The treatment is a highly complex process of disintegration and integration of mental systems.*

From a practical standpoint the therapeutic value of the hypnoidal state is by far the most important. Now as we have pointed out, our experiments on sleep have revealed the significant fact that the hypnoidal state is the primordial rest-state,—sleep is but a derivative form of rest. In many forms of diseases, especially nutritional, it is often advisable to revert to a more simple and more primitive form of nutrition. Similarly in psychopathic maladies a reversion to a simple form of rest-state proves to be of material help to the patient. In plunging the patient into the subwaking, hypnoidal state we have him revert to a primitive rest-state with its consequent beneficial results. *The suggestibility of the hypnoidal state, if skilfully handled, increases the therapeutic efficacy of the hypnoidal subwaking state.* Relaxation of nervous strain, rest from worry, abatement of emotional excitement are known to be of great help in the treatment of nervous troubles of the neurasthenic or of the more fashionable psychasthenic. We find something similar in the treatment of psychopathic diseases by means of the agency of the hypnoidal state the therapeutic efficacy of which is all the more heightened by the presence of the trait of suggestibility. *Most important, however, is the access gained through the agency of the hypnoidal state to the stores of potential subconscious reserve-energy, which, by a liberation of energy, bring about a reassociation and synthesis of the dissociated mental systems underlying the symptoms of the disease.* The therapeutic value of the hypnoidal state consists in the liberation of reserve energy requisite for the synthesis of the dissociated systems.

The theory of reserve energy is of the utmost importance to abnormal psychology. The theory was advanced independently by Prof. James† and myself,‡ and seems to me to form the very foundation of psychopathology and psychotherapeutics. It is by no means easy to present adequately the principle of reserve energy in this brief paper. The

\*Sidis: Psychopathological Research; Multiple Personality; Psychology of Suggestion.

†James: The Energies of Men, *Philosophical Review*, 1907.

‡Sidis: Studies in Psychopathology, Ch. xiv, The Principle of Reserve Energy, *B. M. S. J.*, 1907.



principle is based on a broad generalization of facts, psychological, physiological, and biological, namely, that *far less energy is utilized by the individual than there is actually at his disposal*. In fact, but a very small fraction of the total amount of energy possessed by the organism is used in its relation with the ordinary stimuli of its environment. The energy in use may be regarded as the *kinetic or circulating energy*, while the energy stored away is the *potential reserve energy*. There must always be a reserve supply of energy requisite for unusual reactions in emergency cases. Those organisms survive which have the greatest amount of reserve energy, just as those countries are stronger and victorious in the world-market which possess the largest amount of reserve capital to draw upon in critical periods.

As life becomes more complex inhibitions increase,—the thresholds of stimulations of a complex system rise in proportion to its complexity. With the rise of evolution there is a tendency to increase of inhibitions with a consequent lock-up of energy which becomes reserve. Now there are occasions in the life of the individual, under the influence of training and emotional trauma, when the inhibitions become unusually intense and tend to smother the personality which is weakened, impoverished in its reactions, and is unable to respond freely to the stimuli of its environment. The inhibited system becomes inactive and may be regarded as dissociated from the cycle of life. In case of an emotional trauma there is often a breach in continuity of association, the affected system becomes dissociated from the rest of mental life, and is like a splinter in the flesh of the individuality. Its own threshold when tapped may be very low, but is not directly accessible through the mediacy of other systems. On that account its threshold appears unusually or pathologically high. When the inhibitions are very high they must be removed. This removal of inhibitions brings about an access to the accumulated energy of the inhibited system. In case of disjunction or break of continuity we must stimulate the reserve dormant energy of the systems and thus assist the process of repair and bridge the breach of associative continuity. A new fresh active

life opens to the patient. He becomes a different, a "reformed" personality, free and cheerful, with an overflow of energy.

To quote from a former work of mine: \*

"The thresholds of our psychophysiological systems are usually raised, mental activity working in the course of its development and growth of associative processes under ever increasing inhibitions with ever higher thresholds. . . . On account of the high thresholds and inhibitions not the whole amount of the psychophysiological energy possessed by the system is manifested; in fact, but a very small portion is displayed in response to stimuli coming from the habitual environment. What becomes of the rest of the unused energy? *It is stored, reserve energy.*

"Biologically regarded, we can well see the importance of such stored or reserve energy. In the struggle for existence, the organism whose energies are economically used and well guarded against waste will meet with better success in the process of survival of the fittest, or will have better chances in the process of natural selection. The high thresholds and inhibitions will prevent hasty and harmful reactions as well as useless waste of energy, unnecessary fatigue, and states of helpless exhaustion. Moreover, natural selection will favor organisms with greater stores of reserve energy which could be put forth under critical conditions of life. In fact, the higher the organization of the individual, the more varied and complex the external environment, the more valuable and even indispensable will such a store of reserve energy prove to be.

"The course of civilization and education, by continuously raising the thresholds and inhibitions, follows the line of natural selection and keeps on increasing the disposable store of potential, subconscious or reserve energy both in the individual and the race. It is in this formation of an ever-greater and richer store of disposable, but well-guarded, reserve energy, that lies the superiority of the educated over the uneducated and the supremacy of the higher over the lower races.

"Civilization and education are processes of economy of

\*Studies in Psychopathology, B. M. S. J. 1907.

psycho-neural force, savings of mental energy. But what society is doing in a feeble way natural selection has done far more effectively. What education and civilization are doing now on a small scale and for a brief period of time the process of survival of the fittest in the ever-raging struggle for existence has done for ages on a large scale. We should, therefore, expect that the natural reserve energy would far exceed that of the cultivated one.

"In the treatment of the phenomena of psycho-physiological dissociation, in the protean symptoms of nervous and mental exhaustion we should not forget this biological principle of reserve energy and should make attempts to use it. In many cases the inhibitions become too heavy and the thresholds too high. We must loosen the grip of some of the inhibitions and lower the thresholds, thus utilizing a fresh supply of reserve energy."

A similar train of thought was developed by Dr. S. J. Meltzer in his excellent paper on "The Factors of Safety in Animal Structure and Animal Economy."\* By a striking series of instructive facts Dr. Meltzer points out that "All organs of the body are built on the plan of superabundance of structure and energy." I cannot resist the temptation of quoting Dr. Meltzer's conclusions at some length as they so clearly elucidate our principle of reserve energy which is all the more valuable as Dr. Meltzer has formulated it independently on widely different grounds. "Of the supplies of energy to the animal we see that oxygen is luxuriously supplied. The supply of carbohydrates and fats is apparently large enough to keep up a steady luxurious surplus. . . . The liberal ingestion of proteid might be another instance of the principle of abundance ruling the structure and energies of the animal body. There is, however, a theory that in just this single instance the minimum is meant by nature to be also the optimum. But it is a theory for the support of which there is not a single fact. On the contrary, some facts seem to indicate that Nature meant differently. Such facts are, for instance, the abundance of proteolytic enzymes in the digestive canal and the great capacity of the canal for absorption of proteids. Then there is the fact that proteid material

\*Science, 1907.

is stored away for use in emergencies just as carbohydrates and fats are stored away. In starvation nitrogenous products continue to be eliminated in the urine which, according to Folin, are derived from exogenous sources, that is from ingested proteid and not from broken down organ tissues. An interesting example of storing away of proteid for future use is seen in the muscles of the salmon before they leave the sea for the river to spawn. According to Mescher the muscles are then large and their productive organs are small. In the river where the animals have to starve the reproductive organs become large, while the muscles waste away. Here in time of affluence the muscles store up nutritive material for the purpose of maintaining the life of the animal during starvation and of assisting in the function of reproduction. This instance seems to be quite a good illustration of the rôle which the factor of safety plays also in the function of the supply of the body with proteid food. The storing away of proteid like the storing away of glycogen and fat for the use in expected and unexpected exceptional conditions is exactly like the superabundance of tissue in an organ of animal or like an extra beam in the support of a building or a bridge,—a factor of safety.

"It seems to me that the factors of safety have an important place in the process of natural selection. Those species which are provided with an abundance of useful structure and energy and are prepared to meet many emergencies are best fitted to survive in the struggle for existence."

The hypnoidal state is essentially a rest-state characterized by anabolic activity. There is a restitution of spent energy; inhibitions become removed and access is gained to what Dr. Prince so aptly describes as "dormant" systems or complexes. The awakened "dormant" complex systems bring with them a new feeling-tone, a fresh emotional energy resulting in an almost complete transformation of personality.

As an illustration of the transformation effected I take at random the following extracts from some of the letters written to me by patients who have experienced this welling up of reserve energy:

"Indeed were I to fill this entire sheet with expressions of the gratitude which wells up from my inmost heart it would



be only a beginning of what I feel. Surely the darkness of the world has been dispelled since this *new light* has illuminated my soul, and I *feel that this wondrous light will never fail me*. It were vain to attempt to thank you for this wonderful transformation."

Another letter reads: "You will be glad to know that all is well with me. Life is one happy day, I am a marvel to my friends in the way of happiness and cheer. I have to confess that I feel almost wicked to be so happy."

Another letter runs as follows: "Next to the gladness in my own restoration, I am rejoiced at the wonderful transformation that has come to my dear friend T. from your marvelous treatment. She writes me most enthusiastically of her steady and sure progress toward the goal of perfect health, of her strength to take up the home duties which had been so burdensome and which she now finds a delight in the doing of them, and of her husband's and friends' joy in the transformation that has been wrought in her."

Dr. Prince in his "Unconscious"\* gives an extract of a patient's letter which tells of a similar transformation and awakening of dormant reserve energy. "Something has happened to me — I have a new point of view. I don't know what has changed me all at once, it is as if scales had fallen from my eyes; I see things differently — you have given me life and you have given me something to fill it with. I owe you what is worth far more than life itself, namely *the desire to live*."

Those extracts are typical of many others and clearly show the enjoyment of new strength and powers until now unknown to the patient. Fresh levels of reserve energy have been tapped and have become available in an hour of dire need. The patient has light and strength where there were darkness and depression. We are confronted here with the important phenomenon of liberation of dormant reserve energy. The patient feels the flood of fresh energies as a "marvelous transformation," as a "new light," as a "new life," as "something worth far more than life itself."

The hypnoidal state helps us to reach the inaccessible regions of dormant energy, it helps to break down inhibitions,

\*JOURNAL OF ABNORMAL PSYCHOLOGY, 1909.

liberate reserve energies, and repair the breaches of mental activity. The painful systems become dissociated, disintegrated and again transformed, reformed, and reintegrated into new systems full of energy and joy of life.

It is quite probable that Weir Mitchell's rest-cure has derived some therapeutic value from the empirical use of the subwaking hypnoidal rest-state. Similarly it is highly probable that Freud's success in the treatment of psychopathic cases is not so much due to "psycho-analysis," as to the unconscious use of the hypnoidal state. The use of the hypnoidal state or hypnoidization has been recently employed with great success by other investigators, among whom I may mention Dr. John E. Donley, who has made a valuable contribution to the therapeutic aspect of the hypnoidal state.\* I am firmly convinced that the hypnoidal state, if rightly and intelligently utilized, will prove an important factor in the domain of psychopathology and psychotherapeutics.

Now as to the method of hypnoidization. There is nothing rigid about the method,—it admits of many modifications. The principal object consists in bringing about the conditions of monotony and limitation of voluntary movements requisite for normal and abnormal suggestibility. The patient is put in a relaxed, recumbent position; he is asked to put himself into as comfortable a position as possible, close his eyes, and attend to some monotonous stimulus such as the regular beats of a metronome or the buzzing of an inductorium. Gentle massage and a warm bath may be of material help in excitable cases. Exercise, fatigue both physical and mental, predisposition to sleep, and the late hours of night or the small hours of morning, are favorable conditions. When respiration and pulse become reduced, sensory-motor reaction diminished, sensory hypoesthesia becoming occasionally hyperesthesia, with occasional disturbances of pulse and respiration, with sudden apparently unaccountable starts, with tendencies of retention of position of limbs, and now and then with a slight tendency to resist actively any change of posture of limbs or of body without the actual presence of catalepsy, the whole feeling

\*The Clinical Use of Hypnoidization, JOURNAL OF ABNORMAL PSYCHOLOGY, 1908.

tone becoming one of acquiescence and indifference, while memory with amnesic gaps begins to find the lost links and even to become hypermnesic,—when we observe all those symptoms we know we have before us the subconscious hypnoidal state.\* Pneumographic tracings taken at the same time help to detect the state, characteristic by the numerous transient changes and the various oscillations of depth of level which take place in this unstable subwaking state, intermediate as it is between the waking state on the one hand, sleep and hypnosis on the other.

From this general discussion about the nature of the hypnoidal state and the methods of its induction we may now turn to a brief review of some of the cases treated by hypnoidization. The tracing of the growth and development of the various symptoms by means of the memories restored in the hypnoidal state is here omitted, as the object of the present paper is not the study of the causation and origin of the psychopathic systems or "complexes," but rather their reassociation and cure effected by the *reserve energies liberated in the hypnoidal state*. I give cases of partial as well as complete success so as to give the reader a more or less adequate notion of the therapeutic value of the treatment. Cases of partial success are presented first.

I. Miss P. R. Age 23. American. Mother is very nervous. Sister is "high strung." Father is well. When young, patient was regarded as sensitive. Her present trouble began three years ago. She suffers from digestive disturbances, dizziness, circulatory irregularities, numbness in hands and legs, and especially from continuous feeling of fatigue. Her sleep is restless, she dreams a good deal. Attention is good, but her mental state is one of indecision. If left to herself, she would remain in the same place. To make a change in her surroundings is hard and painful to her. The fear of meeting people and specially strangers is quite intense; in fact, it constitutes her central obsession. At the age of eighteen she fell in love with a young man to whom

\* "The subconscious," notwithstanding the ill-based attacks now fashionable among some psychologists, forms the very foundation of psychopathology. The subconscious is as vital and essential in psychopathology as "ether" is in physics. I shall discuss this subject in its proper place.

she became engaged. A year later the engagement was broken off under very distressing circumstances. Since then the present condition has gradually developed. The patient was in a chronic state of mental depression and was not unaware of the real origin of her trouble, but the awareness was vague, often falling below the margin of clear consciousness.

The patient expected to be hypnotized, but she could not go into hypnosis. After a few trials at hypnotization the hypnoidal state was used. At first the hypnoidal state was brief in duration, but with its repetition it became prolonged and deepened with gradually increasing beneficial effects. The patient was but three weeks under my care. She felt greatly improved and returned home before the recovery was made complete.

II. Mr. A. C. Actor. Age 47. American. There are no special diseases in the family except "nervousness." The patient is imaginative and emotional. When about the age of ten his grandfather gave him Faust to read. Since then he has been troubled with the insistent idea of having sold his soul to Satan. In his childhood he was very religious,—prayed much, was afraid of sins, and suffered from nightmares. About fifteen years ago had syphilis, for which he was treated for a period of two years. Up to the age of 32 patient led a gay life. Seven years ago he suddenly felt that "something snapped in his head" and he became greatly frightened. He thought it was paresis or tabes, "as so many actors suffer from those diseases." This fright, however, soon wore off. A month later, after a strenuous and fatiguing series of plays, he suddenly woke up in the middle of the night with the idea of paresis and intense fear. The overconscientiousness and fear of sin characteristic of his childhood and boyhood have now reappeared, and he is obsessed by the fear of sin, deception, blasphemy. He suffers from vague pains all over the body and from digestive disturbances, but he is specially obsessed by the fear of parasyphilitic diseases, tabes and paresis, the symptoms of which are reflected in his attacks.

In the hypnoidal state he became quieted, much of the fear and depression was gone. In addition to other



information obtained, though interesting from a psychopathological standpoint, space does not permit to give here, it was found that the last attack was occasioned by a long visit to a friend of his, also an actor, who suffered from gastric crises of tabes. A series of treatments by hypnoidization improved considerably the patient's condition, and he returned to his occupation, which he could not possibly give up for any length of time.

III. Mr. C. S. Age 39. Russian. Builder. Father died of apoplexy at the age of 72. Mother is 77, but has always been nervous. Brothers and sisters are well. Patient is rather undersized and weighs ninety-seven pounds. He is very emaciated, looks cachectic, suffers from anorexia, nausea, indigestion, and from vague abdominal pains. Detailed inquiry into the patient's sexual life disclosed no abnormality. Anything unpleasant awakens a feeling of nausea. This can be traced to an infectious disease from which the patient suffered some twelve years ago. He was frightened over it and worried about the consequences. Nausea and vomiting were present during the course of the disease and persisted afterwards. The patient is introspective and suggestible in regard to sickness. If any of the family happen to have any trouble, he is sure to fall sick with the same symptoms. Thus about two months ago the patient's mother fell and broke her left arm, he, too, soon began to feel pain in the left arm, for which he had to be treated. Every new moon he experiences intestinal disturbances, because about that time, in his childhood, his mother used to administer to him a purgative.

Put into the hypnoidal state patient felt much relieved. The beneficial results of the treatment became manifested at the end of a few weeks.

IV. Mr. M. G. Irish. Age 38. Married. Occupation, liquor dealer. Father alive and well. Mother died of pneumonia at the age of forty. Brother and sister died of some obscure form of "heart trouble." Physical condition is good. Patient has no appetite, worries, has no confidence in himself. He is extremely methodical, things must be arranged in certain order or he feels uneasy and quite unhappy. Has no headaches, but suffers from

insomnia. Does not drink, but smokes excessively. Sexual life normal. Has been sensitive and nervous from his very childhood. He broods much over his incapacity of spelling. Has been lately working very hard on a new business intrusted to his care. He doubts his business capacities and fears to ruin the business. He became greatly depressed and had to give up his work and go to the country, but with no beneficial results.

The patient was brought to me in a state of deep despondency, close on the brink of suicide. He could not be hypnotized. I put him into a hypnoidal state, kept him in a state of relaxation for fifteen minutes. When he came out of it he felt "a little better, but not much." After two weeks' treatment the patient felt so far improved that I advised him to return to his work, while the treatment was being continued. Gradually his despondency gave way, his worries, fears, and doubts disappeared, and confidence in himself became strengthened. Patient declared he "never felt so well before." The treatment covered a period of three months. It is now more than two years, the patient continues to be in excellent condition.

V. Mrs. J. F. Age 28. American. Married. Family history good. For many years patient has been suffering from severe headaches, backache, general fatigue, and weakness of the eyes which occasionally became intolerably painful. The headaches became sometimes so intense that the patient suffered agonies. The pains extended all over the head and even down the arms and back. There were present sore spots in the back of the head, the pressure on which somewhat relieved the pain. Various pains of a more indefinable character were also complained of in the right ovarian region, pains which increased on exercise. The patient had usually no appetite, nothing tasted well,—there was some unpleasant odor in the food; nutrition was poor. Occasionally she suffered from bulimia alternating with anorexia. The sense organs were hyperesthetic; field of vision was normal. The heart was normal, though occasionally irregularity of heart-beat could be observed, due to the patient's extreme nervousness. A gynecologist diagnosed salpingitis and advised an operation on account

of adhesions formed. The patient, however, refused to be operated on, and the family physician carried out a long course of gynecological treatment. The oculist treated her eyes, and after a long examination and treatment fitted her with glasses; but the eyes were no better and the headaches were as severe as before.

After a fair trial had been given to various treatments I had to resort to hypnoidization. A year's treatment by the hypnoid state made the symptoms disappear. The patient gained in flesh and in strength, and felt, as she put it, "younger than ever."

VI. Miss G. A. Age 55. American. Three brothers died of various forms of cardiac affections. Father died of pneumonia; mother died of fatty degeneration of the heart. One of the sisters suffered from akromegaly and died of heart trouble. There are histories of tuberculosis in the collateral branches of the family. Patient looks poorly nourished, her appetite is completely gone. She suffers from insomnia, headaches, backache, general diffused pains all over the body; complains of lassitude and of lack of interest in what goes on around her. She feels despondent and has crying spells. The depression reaches such an acute stage that the patient is afraid of losing her mind. When a child she suffered from *pavor nocturnus* and when about the age of twelve she took a long fatiguing journey which brought on such a state of exhaustion that on her return she became aphasic and hemiplegic and was confined to bed for six months. The present condition set in a few years ago,—she lost the sense of smell and of taste, while she fell into a state of deep depression. Neurologists regarded her as a case of some obscure "neurosis," obstinate and incurable.

I must confess that when I undertook the case I did not expect any favorable results. It was an old, chronic, insidious case. The age of the patient, the apparent obscurity of the trouble, as well as the family history were by no means encouraging. The patient did not go into a hypnotic state and I had to use the hypnoid state. The first couple of months the treatment dragged along indifferently. All I could then say was that the patient did not get worse under the treatment. The hypnoid state, however, gradually

admitted me into the patient's early history, and I obtained important clues to her symptoms. Here comes in the value of a knowledge of the course and the development of the malady and the consequent help in the therapeutic treatment of the dissociated systems. With a better insight into the abnormal psychology of the case the hypnoid state could be used to better advantage. The patient began to improve rapidly and at the end of the fourth month of treatment by hypnoidization completely recovered. It is now more than four years since the end of the treatment, and I may say that the patient has not had a single relapse,—she continues to stay well; she has become an energetic social worker, greatly valued for her indomitable energy as well as cheerfulness of mind. People who know her say that "wherever she goes she brings sunshine with her." A new life was awakened in her. The subconscious reserve energy which has remained dormant in her for so many years has become unlocked and utilized in her ordinary daily life.

VII. Miss A.W. Age 35. Irish. Housekeeper. Physical condition is good. Occasionally suffers from cephalalgia, but on the whole headaches do not trouble her. She suffers often from auditory hallucinations, thinks she is possessed by demons. From her ninth year she had hallucinations of spirit voices which tell her very unpleasant things. The auditory hallucinations are accompanied by attacks of automatic speech. It seems to the patient as if another being forces her to tell what she thinks. It is on that account that she shuns her friends and acquaintances. Occasionally she has visual hallucinations of angels and saints.

It would take too much space to give an account of this interesting case. We can only refer here to this case in its main outlines. Our object is not the psychopathological, but the psychotherapeutic aspect of the cases.

The patient could not be hypnotized, but she went easily into the hypnoid state. At first the improvement was rather slight. In fact, now and then the hallucinations and the automatic speech became even more frequent and more annoying than before. In a couple of months, however, the outlook began to be brighter, the auditory and visual hallucinations began to give way. The automatic speech



considerably diminished, and after a few months the symptoms completely disappeared.

In the control of alcoholism the treatment by hypnoidization yields extremely satisfactory results. The principle of subconscious reserve energy stands out clear and distinct in such cases. We shall return to this aspect of psychotherapeutics in its proper place, our object here is simply to bring out the therapeutic value of the hypnoid state.

VI. Mr. G. S. American. Single. Age 37. Family history is good,—except that one maternal uncle was a victim of drink habit. A physical examination shows an irregular heart due to nervousness, excessive smoking. Liver is enlarged and cirrhotic. The patient was brought to me just after a debauch, was nervous, shaky, with quite an extensive tremor of the hands. He began to drink when in school as a matter of boon companionship and has since become addicted to drink. He kept at it regularly, at times actually soaking in alcohol. The family induced him to try the treatment of various establishments for the cure of alcoholics, but with no appreciable results. As soon as he left the sanitarium he immediately went off on a debauch. He suffered a few times from severe attacks of delirium tremens. The patient was in such a bad state that he wanted his share of property to devote the remainder of his life to drink.

Under a rigorous treatment by the hypnoid state the patient ceased drinking, lost all craving for liquor. His physical and mental condition grew in strength. After a few months' treatment he was enabled to return to his business. The man has become completely reformed. He is now manifesting an intense activity, great devotion to and steadiness in his work. No one suspected in him such capacities of foresight and energy in business management. New stores of subconscious, dormant reserve energy have welled up from the depths of his being. He has become a different man. His own brothers are surprised at the radical transformation of his character.

VII. Mr. J. L. Irish. Protestant. Age 57. Family history is good, except for the fact that his brother is also addicted to drink and was under my care for a few weeks,

with the result that he left off drink for two years. Patient is a printer by trade and has been drinking for over thirty years. While he is usually kind natured, when under the influence of drink he is violent, abusive, offensive to his wife and children, who are afraid of him. From his sister and wife I have the information that the patient goes off periodically on a long spree and spends all his money, neglecting his wife and children; when he comes home he abuses everybody in the house. "It is not a home, it is a hell," as his sister puts it. In his better moments the patient himself admits he is a brute, that drink has the best of him. He must keep away from drink completely, because the mere taste of it sets him going. An examination reveals the presence of arteriosclerosis.

I attempted to put the patient into the hypnotic state, but I found the hypnoid state would meet with less resistance and suspicion on the side of the patient. Hypnoidization then was the order of the day. The patient began to improve, was less nervous, slept better, and what was more important, stopped drinking, lost all craving for liquor. After three weeks of treatment by means of hypnoidization the patient was discharged. He did not drink for a whole year, but coming in contact with other workmen in the union he was invited to drink, could not refuse, and once more was started on his old career. He came back to me, and this time I treated him daily for a month. Throughout the treatment the hypnoid state was used. The patient has given up his drink habit, has no craving for liquor, works regularly at his job and no longer associates with companions who are given to drink. His sister and wife keep me regularly informed about his condition, and the report for the last two years has been "John is very good, he is a gentleman, treats the children well." He has become a model father and a good husband.

VIII. Mr. C. T. Age 32. American. Father was an inveterate drunkard and was drowned while in a state of intoxication. A maternal as well as a paternal uncle were confirmed drunkards. There was also drunkenness in the collateral branches of the family. The patient learned to drink when very young. His mother, who volunteered the

information, told me that she suspected that her son began to drink wine at the age of seven. Since that time the drink-obsession grew on him and he became a confirmed drunkard at the age of twenty. The patient's physical condition is good. The emotional state is one of passive indifference, the intellectual activities are rather in abeyance, the general disposition is inoffensive and even mild. It seems that the alcohol has soaked out of him all his strength. He has no ambition and is not fit to do anything, as he is constantly under the influence of liquor. His will power is weak, he has no sense of personal responsibility, and nothing of any importance can be intrusted to him. Socially he is ostracized by his relatives, but he seems to mind it little.

Considering the family and personal history of the case I was not enthusiastic over the outcome of the treatment. The family, however, insisted on treatment and the mother was anxious to have me undertake the case as he was her only son. The treatment lasted for about a year and was carried out by means of the hypnoidal state. To my great surprise and contrary to my expectations the patient has given up his drink. He changed so much that even his mother wondered at the transformation. From being apathetic he became ambitious, from being dependent he became self reliant. He manifested a self control which none of his intimate friends ever suspected in him. He became methodical, systematic, conscientious in his work, and displayed an unusual ability in management. From being weak, irregular, and unreliable, his character became energetic, firm, and trustworthy. His abilities were soon noticed, appreciated, and he has since become a manager of a large concern. Nowhere have I observed such limitations, such moral infirmity, such lack of capacity, change so radically to strength of will combined with a sense of personal responsibility and vigor of intellectual activity. Since then I began strongly to doubt the so-called fatal, hereditary dipsomania of psychiatric text-books. I must say that I now completely disbelieve that medico-calvinistic doctrine of "total inability and damnation," in regard to dipsomania. There may be hereditary tendencies to nervous instability, tendencies to excitement with consequent craving for stimuli

inducing exaltation, but certainly there is no hereditary alcoholism. What sort of stimuli a person is sensitive to depends on training and environment. It may be art, science, politics, religion, or drink. There is no more hereditary dipsomania than there is congenital gambling. From a mere anamnesis no snap prognosis should be made without giving the case a good trial and proper treatment; no alcoholic patient should be declared as hopeless.

With the advance of my psychopathological studies and psychotherapeutic work I begin to have more confidence in the principle of dormant reserve energy and have more trust in the *therapeutic value of the hypnoidal state*.



## OBSESSIONS AND ASSOCIATED CONDITIONS IN SO-CALLED PSYCHASTHENIA

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**B**Y the term *obsession* I shall understand any recurring, extra-voluntary idea, feeling, or emotion which presents itself automatically in consciousness, either alone or in combination; and the clinical syndrome characterized essentially by such obsessions and associated states, I shall, following many others, call psychasthenia. As psychotherapists we are interested in obsessions, not only as to their content, that is to say, the particular form and character they assume, but also and equally, if not indeed chiefly, as to their mechanism,—the manner in which they arise, the factors by which they are perpetuated, and the methods whereby they may be either alleviated or cured.

Approaching the subject, then, from this angle, we may set out with the observation that every obsession has its history just as truly as has a painting, a poem, or a symphony. Obsessions are not, therefore, as is so often apparently believed, discontinuous and uncaused mental experiences, arising nowhere and disappearing no whither; they are just as much products as are any other of the contents of consciousness; and only in this are they *sui generis*, that they are products of a very special and peculiar kind, whose genesis it may or may not be within our power to discover. To seek out the psycho-genetic mechanism of obsessions is accordingly the first step toward a rational psychotherapy; for only if, and in so far as, a careful inquiry of this sort has been preliminary to any attempt at therapeutics, can the latter hope to be, in some manner and degree, successful.

The pursuit of this genetic method leads straight into the complexities and difficulties, sometimes, indeed, into the frustrations of normal and abnormal psychology. Yet, however difficult this domain may appear to be, to enter it is an absolute prerequisite to the progressive treatment of psychasthenia.

The most striking attribute of obsessive mental states is their more or less constantly recurring automatism. They do not appear as normal and harmonious elements within the conscious stream; on the contrary they are intruders whose constant entrance and exit disrupt the customary processes of mental life. In the language of abnormal psychology, they are said to arise as mental states or complexes which have been dissociated or split off from the main stream of the self-conscious personality. Whether an obsession appears in consciousness as a complex whose nucleus is an idea, a feeling, or an emotion, it is to be looked upon as having its origin in the same psychological mechanism, namely, dissociation. The psychological details of this dissociation may vary within comparatively wide limits in particular obsessions, but the general underlying principle would appear to be the same in all.

In the evolution of an obsession, dissociation is but one aspect of the process; for association comes to play an equally important rôle in the drama. Given a dissociated mental element, whether idea, feeling, or emotion, this mental element will not for long remain isolated and unattached, but in accordance with the laws of association will connect itself with some other conscious content to form a definite complex, upon the character of which will depend the type of obsession which appears in consciousness; for obsession is just another name for a particular, actively functioning complex.

Now this obsessive complex may be of multifarious composition; it may be composed chiefly of ideational, feeling, or emotional constituents; it may be thick or thin, wide or narrow; it may contain many elements or few; as time goes on it may function in its original integrity or may become split, thus giving rise to curious and perplexing clinical manifestations; finally, the complex may be wholly or only partially conscious or subconscious; or to state it another way, the obsessed individual may be aware of much or of little concerning that which is really operative in the production of his abnormal mental condition.

We said a moment ago that association plays an equally important part with dissociation in the mechanism of obsessions. Obviously it is impossible here even to name

the numberless associations that may occur between the conscious, subconscious, and co-conscious levels of mind, and the various obsessive complexes which may thus arise. One may point out, however, the important fact that these associations may be found to have taken place not only between ideas as such, but also between any and all of the other elements of consciousness, as well as between these latter and purely physiological processes, such as those mediated by the voluntary and involuntary musculature and by glands. Thus it may be seen that the variety of obsessions is coterminous with the possibilities of abnormal association and dissociation; hence also the impossibility of placing a limit to the patterns according to which obsessions may be formed.

When once an obsessive complex has been definitely established, it may be roused to future activity in a variety of ways. What I desire especially to call attention to here is the law of the substitution of stimulus, which may often-times explain the active functioning of an otherwise most puzzling obsession. Suppose the case where a person has had a painful and emotionally upsetting experience with a cat. Out of this experience may arise an obsessive complex, namely, fear of cats. In order to arouse this complex to activity, it is not necessary in the future to experience the actual presence of a cat. All that is required is some stimulus, e.g., the mere word *cat*, that has a symbolic relationship with the original experience. Or take the case of a patient of mine who overheard the doctors at a consultation remark that a certain pathological condition in her breast might be a carcinoma. As a matter of fact it turned out to be nothing of the sort, yet the obsessive fear of carcinoma of the breast remained with her for many months. In order to rouse her obsession it was necessary merely to present to her something having a direct or indirect symbolic relationship with the breast. On one occasion she was calling upon a friend who had recently given birth to a daughter. Out of the clear sky of conversation came something about the nursing of the child, when straightway an attack of obsession occurred which compelled her to terminate the visit. If we bear this fact of substitution of stimulus well in mind we

may perhaps be able to explain an otherwise perplexing assault of obsessions.

Enough has now been said perhaps to give a reasonably clear idea of the psycho-genesis of obsessions,— their origin usually in some previous experience of the individual, which experience is either not remembered at all, or if so, is not recognized as being the point of departure for the obsession; their formation through dissociation of certain mental elements and the subsequent association of these elements with other contents of consciousness to form an obsessive complex; and finally the automatic and recurrent functioning of the complexes thus formed within the field of the conscious personality.

If now we approach the treatment of these psychasthenic obsessions we have at our disposal a variety of methods ranging from simple explanation and persuasion on one side to hypnoidization and hypnosis upon the other. In order to render our discussion of these therapeutic measures as concrete as possible, I shall give a brief report of some cases actually treated, together with an account of what was done in each individual case.

*Case I.* Mrs. M., aged thirty-five, came into the hospital upon the advice of her physician, complaining of a peculiar constantly repeated and involuntary hacking, which sounded as though she were trying to clear her throat. Her movements involved the muscles of the larynx, those of the neck and thorax, together with the diaphragm; in a word they had the characteristics of a respiratory tic. Drugs, local applications to the throat, and electricity had been tried at intervals during more than four years without avail. Asked regarding the origin of her nervous trouble, the patient could give no information except the fact that she could not voluntarily control the hacking. She was then placed in the hypnoidal state as described by Dr. Sidis, when the following history was obtained: Five years ago while employed as an operative in a mill she suffered from a sore throat which lasted for three days, at the end of which time she consulted a physician, who told her that she had tonsilitis and informed her that it would be necessary to *burn* out her tonsils. She was much frightened by this information and for several days thereafter felt



herself quite disturbed. Her tonsillar symptoms soon disappeared and she returned to work. Three weeks later, however, she was attacked for the second time and again consulted another physician who told her that her tonsils were diseased and advised her to have them *cut out*. The fear of cutting added to her previous fear, now revived, of burning her tonsils, threw her into such a nervous state that she was able to think of nothing else. At this time she noticed a disagreeable, stinging, tickling feeling in her throat, which she tried to remove by hacking, but without success. As the tickling remained, her hacking became more and more frequent and at the time she came under observation had taken on the character of a tic; for she said she felt an uncontrollable impulse to hack although she confessed there was little if any abnormal feeling in her throat. Here, then, was an obsessive complex discharging itself through motor pathways as a tic and having its origin in the experiences we have described. At the time of my examination she admitted that the fear of a possible future cutting or burning of her tonsils still possessed her. While in the hypnoidal state she was encouraged and helped to recall the complete experience in as great detail as possible. She was then told with much emphasis that her tonsils were perfectly healthy, that no cutting or burning ever was or ever would be required; that the tickling sensation in her throat arose from the constant fixation of attention upon this part; that she would feel no more desire to hack because her supposed reason for hacking had ceased to exist, and finally, that when she should open her eyes she would feel better than she had in a great many years. Much emphasis was placed upon this feeling of health because it was desired to leave her on the crest of a pleasurable emotion, which of itself has a very great suggestive value. What had been predicted in her regard actually occurred. When she sat up, her tic had disappeared, and she expressed herself as feeling quite grateful and happy. The seance of hypnoidization lasted an hour, and except for two slight recurrences easily removed by waking suggestion, this patient has had no further difficulty.

*Case II.* A young married woman came under observation complaining of a very distressing type of obsession,—

namely, the fear of losing control of her bladder. For nine years, with an interval of some six months, during which she was comparatively free, this imperative fear had dominated her mind, so that her life had been ordered with regard to the demands of her obsession. Not only did she have the mental fear, but also a distressing sensation in the bladder whenever her obsession was active. It is scarcely possible to describe the suffering which she had endured. She could not engage in the social functions which she enjoyed for fear of a humiliating accident. The theater was closed to her; she could not ride for any distance upon cars, nor accept invitations to visit any one save friends in whose houses she felt at ease. In her own home she experienced rather a different feeling,—not the fear of incontinence, which did not often occur, but the depressing idea that her life was to be circumscribed by a malady over which she had no control. On the theory that her trouble was due to cystitis, her bladder had been washed out with various solutions, among them boric acid and nitrate of silver, and she had swallowed a host of drugs like citrate of potassium, buchu, and oil of sandalwood. From a careful consideration of her history it seemed reasonable to suppose her that bladder sensations were secondary to her obsession, rather than that her obsession was consequent upon a real cystitis. An examination of her urine, which contained nothing abnormal, confirmed this view. Upon the principle that every obsession has a history, if only we can discover it, an attempt was made to determine the origin of this one. No special devices were employed other than a precise reconstruction of the clinical history. It then appeared that some nine years ago, a few days after the birth of her first child, she was troubled while in bed with a slight degree of cystitis and as a fact did lose control of her bladder. This made her, as she says, rather ashamed of herself, and struck her as being an unfortunate occurrence. Some few weeks later, while out walking, she suddenly felt a curious burning sensation in her bladder. Immediately she was seized with the fear that there was to be another loss of control; this, however, did not happen. Nevertheless the fear continued, and has persisted to within a very recent period. Here, then, was an obsession of disagreeable type, which had arisen upon the basis of a previous

experience. The memory of an actual loss of bladder control plus a certain sensation referred to the bladder had become associated in a complex which functioned as an obsessive fear of incontinence. While the patient could recall perfectly her experiences as given above, she had no idea that they had anything to do with her present fear until this was pointed out to her, whereupon she acquiesced readily in this explanation. Before her treatment had progressed further than the second consultation, an opportunity presented itself of testing the truth of our hypothesis, namely, that her bladder symptoms were the tail to a mental kite. On this special occasion she was compelled to wait some little time, and when I began to talk to her it was very evident that her obsession was in full swing. An attempt was made then and there to disrupt her obsessive complex by forcibly replacing for the association represented by "bladder loss of control," another association, "bladder full control." This was accomplished by stating and restating very positively and in detail that she could certainly control her bladder, as the event would surely prove. For about twenty minutes her emotional agitation was intense, but finally subsided with the result that although she was anything but calm, her faith in her obsession had been somewhat diminished. By dint of subsequent and repeated persuasion her fear was finally removed, so that ultimately at the end of eight months she entered upon her social pleasures and duties with normal satisfaction. Untiring persuasion in the face of obstacles had succeeded in disrupting an obsessive complex which for nine years had proved rebellious to all other medical treatment.

*Case III.* A man, aged 32, presented a very interesting obsession, which was this: he could not get upon a street car whose number was odd. Cars with even numbers gave him no trouble, but if an odd numbered car came along he was compelled to let it pass no matter what his hurry might be. He could recall nothing which would shed light upon this curious obsession, but when placed in hypnosis he gave the following story: When about eighteen years old he was one day walking upon the street when he witnessed a street car strike and injure a child who unexpectedly ran out from behind a wagon. The sight of this

accident gave him a very marked emotional shock, which upset him for several days thereafter. Standing near the scene of the accident he noticed that the car bore the number 213, and thought to himself, "Well, there is always ill-luck in 13." Ever since the time of this experience he has had his strange aversion to riding upon cars bearing odd numbers, although his waking self could give no account of or even conjecture regarding the derivation of his obsession. During hypnosis it was suggested to him that the child whose accident he witnessed was not really injured and had recovered completely. Furthermore, he was told that odd numbers were quite the same as even numbers; that they would no longer cause him any trouble, and in fact would give him no concern whatever; and finally that like all other normal persons he would pay no attention to the number of the car he desired to ride upon. These hypnotic treatments were continued daily for eight days and resulted in the complete removal of the obsession, which, so far as I know, has not returned.

*Case IV.* A young woman, by occupation a stenographer, complained of an obsession which took the form of a more or less troublesome fear of insanity. She was conscious that her intellectual activity was practically normal, because she was engaged daily in an exacting profession, which she carried out with complete success. This fear, however, of insanity, while not painfully imperative, was nevertheless present on occasion as a disturbing undercurrent in her mind. She did not appreciate the origin of her fear until it was disclosed to her as follows: About two years previously, while sitting in her room one night, she was locked in by another woman in the house who had become unbalanced in mind. Being unable to release herself from her confinement, on account of the door having been locked from the outside, she spent something over an hour in dread of what might happen to her should the woman return and attempt to enter the room. As a matter of fact, nothing of this sort occurred, for she was released from her confinement by another dweller in the same house. Naturally, she was very much upset, and from that time until she came under observation suffered from this disquieting fear of insanity.



It was not difficult to trace the origin of the obsessive complex. Psychologically, it was merely the persistence in her mind of the memory of her former experience, bereft of its characteristics as a memory. There had thus arisen an obsessive complex which functioned automatically and appeared in consciousness as a present fear of mental disease. By means of persuasion and explanation, the whole matter was explained to her, and in the course of about four weeks she found her fear gradually fading until eventually she had substituted a complete understanding of the situation for her obsession, and this brought about its ultimate removal.

In the cases just described, one may observe the successful results that sometimes follow the use of hypnosis, hypnoidization, and persuasion, in the treatment of psychasthenic obsessions. I would not, however, wish to convey the impression that every case which clinically manifests itself by psychasthenic symptoms is treated with equally great success. Some of them are extremely obscure as to their genesis, and equally difficult in the way of successful treatment. In conclusion, I wish to describe such a case, which was characterized by obsessions, feelings of unreality, incompleteness, and strangeness, and to some extent by depersonalization.

*Case V.* Mr. X., by occupation a postman, complained that from the time he was about seventeen years of age he had been afflicted with feelings of incompleteness, by obsessions of fear of insanity, and by the lack of emotional reaction to his environment, whether pleasurable or painful. Throughout his life, as long as he could remember, he had always been reticent, and as a boy found it difficult to associate with his playmates because of shyness. On one occasion, when at school, he attempted to give a recitation, but failed through an acute attack of stage fright. He got along tolerably well until he was seventeen, when he suffered an attack of typhoid fever, at which time the more troublesome symptoms of which he complains began. He says that he seems to lack the ability to feel pleasure or pain in what he does. At the theater, for example, he experiences no emotion, but sits there, as he says, "equally indifferent to whatever may be going on." He sees the play and hears the actors, but cannot get in tune with them. In his daily work of delivering

letters he finds no pleasure, except that it serves him as a means of occupation and a source of livelihood. Constantly throughout the day, more particularly when he is unoccupied, the thought flashes into his mind that he is going to become insane, or that his malady will terminate in complete despair. He used to enjoy the reading of poetry, but complains that now poems are to him merely so many words, and that while he understands what the poet is trying to convey, he derives no answering emotion from his reading. He states his feelings thus: "I seem to myself to be another person. It appears to me that there is a split between my emotional and my intellectual nature. I cannot get in tune with things, and the greatest good fortune or the greatest misfortune in the world would leave me, I believe, equally unaffected."

Throughout several months the attempt has been made by psycho-analysis to uncover some source for the psychasthenic symptoms presented, but without success. His seems to be one of those cases wherein the psychasthenic feelings of incompleteness, insufficiency, and strangeness, together with obsessions, are so interwoven with the texture of the mind as to render their complete removal practically impossible. No matter what he attempts to do, there is a fundamental perversion of feeling and emotion, and so long as this is present, his obsessions of anxiety and despair arise and continue. By persuasion and frequent practice he has been enabled so to switch his obsessions into a corner of his mind as to enable him to pursue his daily work with a certain external and mechanical success. This, however, requires a constant effort on his part, because there is always a tendency for his psychasthenic symptoms to obtrude themselves. Hypnoidization and hypnosis have been of some value in the sense that after a treatment he experiences a certain relief for a time, but this never lasts more than two or three days, at the most. His treatment has extended over the greater part of a year, but it must be said that the psychasthenic substrate of mind continues virtually unchanged.

## PSYCHOPROPHYLAXIS IN CHILDHOOD

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**D**EFINITION. Just as psychotherapy denotes not treatment of the mind, but treatment by psychic means (1), so I shall use the word psychoprophylaxis, not to signify the prevention of psychic disorders, but to mean the preservation of health by psychic means.

The exigencies of time, however, will on this occasion restrict the consideration of the subject to the psychic means to be employed for the restriction of psychic disorders, leaving aside the fascinating psychoprophylactic procedures, which are one of the main elements used by the physician to persuade patients whose symptoms have been long absent, to regulate their life so as, for instance, to prevent failure of cardiac compensation and asystole, or to continue a mercurial course; or, again, in order to cure an incipient tuberculosis, to persuade them to continue to visit him, to avoid foul air, take regular meals, and avoid excesses of work and pleasure. Still more largely is psychoprophylaxis employed by the sanitarian, who persuades first his colleagues, later public opinion, and lastly legislatures and municipalities to adopt the means for the prevention of disease. For instance, the greatest obstacle to the employment of efficient means to combat yellow fever lay in the psychological attitude of the people of the South. Their horror of "yellow jack" was so great that they could not even discuss the subject. It was only when some hope was inspired that the dreaded disease might be prevented that the phobia could be controlled sufficiently to permit of action.

In short, the means of overcoming public and personal apathy and mental inertia are the most difficult problems of preventive medicine. Were this done, the tuberculosis dispensary would really perform the functions it is supposed to perform, and which I am assured it does not do from a lack of this psychic motive power of persuasion. The disgraceful typhoid situation in Pennsylvania will terminate only when

the people's feelings are aroused by conviction to the pitch of real will that the abuse shall cease.

Only those ignorant of psychology, and especially laymen, and more particularly ecclesiastics, who are always dualists, will expect too much from psychoprophylaxis. The physician is not likely to forget the state of physical nerve insufficiency (10), which is at the root of so many psychic perturbations, which are often mere exaggerations of the tendencies of the character, normal and morbid; nor will the physician forget the role of intoxication in inducing mental confusion, melancholy, acute psychasthenic symptoms, twilight states, often miscalled hysterical. The physician will take care that the exhortation, advice, and instruction he brings to bear are not obstructed by the intellectual handicap of exhausted or intoxicated neurones (11), nor by the affective distress caused by insufficient oxidation, intestinal irritation, and so on.

In other words, he will adopt a monistic interpretation of his patient, contrary to the view of Déjérine (12), who has said that to be a good psychotherapist one must not be a determinist. He has not taken into consideration the fact that the therapist himself, in becoming part of the patient's environment, determines a new sequence of ideas. On the contrary, as monists we shall protect our patient from such dualistic vagaries as Christian Science, for with the monistic attitude we are much more apt to constantly relate mind and brain to one another.

But one must be careful to avoid the pitfall into which many psychiatrists at one time fell, but which we now know how to avoid, thanks to the efforts of the French school and of men like Adolph Meyer and Morton Prince in America. I refer to the premature attempt to refer every psychic perturbation to a vice of structure, as, for example, is done by Swift (13) when he relates the difference of mental capacity between the adult and a child of seven to corresponding neural changes. As a matter of fact, such difference is one merely of orderliness of mental reactions, as is shown by the superiority of the child in acquiring unrelated facts, as, for instance, words and the use of language. A man deprived of education would show no greater capacity and have



perhaps less potentiality than a child of seven. Of course, ultimately, any acquired skill must depend upon neuronc dispositions of molecular kind; but we are not even in a position to perceive the nature of these, though that they depend upon the functional capacity of the neurones is evident from the disappearance of skill and other forms of memory during intoxication, as well as after destruction of nerve matter.

Thus, as of all prophylaxis, an essential preliminary is diagnosis, by which only an intelligent prophylaxis can be guided.

The essence of psychoprophylaxis, as of psychotherapy and education, is to associate useful activities with agreeable feeling-tones, and to disassociate from useless or injurious acts the agreeable feeling-tones that may have been acquired. For instance, the kind of social obsession which eventuated in the crusades does not differ psychologically from that which leads to empire building; but the former was a pernicious activity, while the latter may have its uses. A fixed idea may often prove an incentive to useful work in individuals as well as in societies.

Fundamentally none of the processes we employ differs from those used by Pawlow (2) in "conditioning" the reflexes of his experimental dogs, when he caused an expectant wagging of the tail and a flow of saliva and gastric juice upon ringing a bell.

Similarly, when the petted child ceases his crying upon seeing his father, it is because he reflexly has associated a greater discomfort with the persistency of his tears than with their cessation. The affect, fear, aroused by association, banishes that of fretfulness.

Gradually the emotional element of the reflex fades (3), and sight-of-father connotes cessation-of-weeping. This leads to a respect-reflex. On the contrary, the intellectual content of the phenomenon may be submerged below the threshold of consciousness, only the affect persisting; in which case occur painful or pleasurable emotions, the origin of which is not manifest in the subject. Recollect that functional derangement may continue just because it began.

The interest sentiment is an essential of all psychotherapy, as of effective pedagogy; as when a young child

about to cry is quickly diverted to a passing scene or made to perform an act. The doing so quickly substitutes the new interest sentiment for the disagreeable former one, the feelings are changed, and we have performed psychotherapy by distraction and substitution.

This simple principle, then, of finding or creating the interest-affect, associating it with the desired conduct, and training it into habit, as simply illustrated above, may be found at the bottom of even the complicated ratiocinations required in the therapy of the psychasthenic, and is also the outstanding indication in all paranoid psychoses.

On the other hand, in the hysteric, if the *tour de force* cannot be employed or fails, the method of repetition is requisite. Those who do not depend upon reason must grow into feeling by accustomedness, if the first blow fails. Who does not know of communities where a doctor's prestige is measured by the years he has spent there, of the reverence derived from seniority? The mentality which accedes to such a criterion is, of course, irrational, and it is at bottom that of the hysteric. Hence, the clinical procedure of isolation to increase the speed of accustomedness, and of reiteration to force into the unreasoning affectivity a realization of the notions to which the patient is refractory. This is not persuasion: it is the method of pertinacity.

Hypnosis, hypnoidization, etc., are merely means of increasing impressionability to suggestions. In principle there is no difference between these and such means as were empirically used in ancient times through ceremonies, religious observances, ritual, etc., for the same purpose. (Such methods can perform nothing more wonderful than Judge Lindsay's feat of persuading the incorrigible truant boy to himself purchase a ticket and travel many hours to a reform school.

As set forth elsewhere, the distinction between suggestion and persuasion is one of awareness by the percipient (4), the acceptee. Hence, to be unaware of why one accepts an opinion that so and so is the most skillful, and to do so on length of acquaintance is to do so by suggestion; and an idea received by suggestion is a hysterical one, as shown by Babinski in his definition, "A hysterical symptom is one

susceptible of induction by suggestion and of removal by suggestion — persuasion. (5) ”)

In all of these procedures the preliminary sentiment of respect, reverence, awe, is engendered among the people by the devices of expectation, unfamiliarity, and sacredness or mystery. This sentiment in modern democratic days is less the actuating factor than that of the pseudo-intellectual shibboleth, which seems to be a strongly determining factor in the popularity of modern movements of all kinds. The social tropisms of the unthinking may be graded in three categories of decreasing strength, beginning in ritual and passing via shibboleth to snobbery, its modern attenuated form. In all these modes of conveying influence, distraction is obtained by engaging the sight by the rhythm of the ceremony and by engaging the hearing by the rhythm of music, to which are often added the dynamic rhythms of movements directed conformably with the desires of the priest or other operator.

The distraction thereby obtained, almost tantamount in some cases to a dreamy state, favors what we nowadays variously call passivity, psychological automatism, mental dissociation, suggestibility.

In this state, plasticity of the desires is much facilitated, the operations of the will are in abeyance; for the critical judgment of the intelligence is no longer in action. The subject does not attain to the phantasmagoria of the complete dream state; for susceptibility to extraneous stimuli is much stronger than in sleep, or even than in somnambulism. The state resembles that in the day-dream, in which, however, the meditations are less systematically determined.

¶ The moral control, the psychoprophylaxis, secured by these means has in the past been incalculable; but as the sanction of these procedures has been crumbled by the trenchancy of modern analysis, and we now live in a scientific age, it is necessary to employ psychoprophylactic means which accord with the intellectual development of civilized man. Thus the further we depart from the methods of mental distraction, mystical appeal, and pseudo-scientific shibboleths (6), the more soundly and permanently shall we succeed in preventing the vagaries of the neurotic, and the

less shall we be a party to the justification of the occult manner in which many of the public, and even some doctors conceive such psychological interpretations as hypnosis, sub-consciousness, divided personality, subliminal phenomena, mental dissociation, etc. The more we appeal to the method of common sense, plain matter of fact every day conduct (which is obviously the method so clearly explained and outlined by Dr. Taylor) (7), the less chance shall we give for the delusional interpretations of clairvoyants, medium spiritualists, and others whose sentiment of psychic imperfection leads them to seek in the occult the satisfaction they cannot find in current explanations of their mental life.

It is to be hoped that our labors along with other symposia like this may eventuate in a working doctrine held in common by the whole medical profession, which will enable us to forestall and prevent the development of misinformation concerning psychic states which have been responsible for the birth and evolution of such modern movements as Christian Science, Emmanuelism, neo-yogiism, and other harmful misapplications of psychotherapeutics.

A concrete illustration of what psychoprophylaxis can do is afforded by a recent communication of G. Guidi (8), who has shown that fifteen per cent of attacks of migraine are preceded even for days by psychic symptoms either of excitable or depressant type, e.g., the need to move about, to talk, tell funny or obscene stories, to look out for ridiculous situations, to laugh at them, or by a desire to go alone, irritability, sadness, anxiety, even tears. I have myself noticed a feeling of unusual mental clarity, of power, in certain cases. (Every one's disposition is modified (9) by exercise, oxygen, food, etc.; we all have defective times. Want of exercise and elimination leaves toxins which cause restlessness, irritability and prevent quiet intellectual work.) Now if the migrainous attack can be prevented as a result of diagnosing this modified psychic state, it is evident that by prescribing mental and physical, including digestive, rest, we shall have performed psychoprophylaxis.

We must recollect that during the period while the functions of the neurones are perverted by physical maladies, especially the intoxicative ones which we call fevers, bad



habits of action may be initiated and be reinforced through convalescence and become characteristics of the individual. As a matter of fact more careful psychic discipline is needed while neuronic activity is perverted (14) than when it is healthy, and it is the family physician's task to guide the psychic management of his patients as well as the physical.

The principle of mental prepossession and inertia shows the power of an idea, which may originate as the result of slight physical disorder. Binet (15) has illustrated this experimentally by showing how children will go on increasing the length of a line when drawing from memory a series of lines shown them, though only the first few of them were actually increased. Another example (16) is the remarkable experience of the enumerators of the last census in endeavoring to adapt themselves to the supposed difficulties of a new dactylograph. Their work was rendered so disappointing by the "pressing" under difficulties that new clerks had to be employed: these quickly surpassed their more experienced colleagues. To be "on edge" is not the best state for showing high skill: as every golfer knows, it connotes divided attention.

The state of keyed-up prepossessedness is induced by an excessive interference (19) with the activities of the child; when every act has been regulated and controlled, he will constantly be referring for approval instead of confining himself to the task in hand. This principle may be illustrated by the boy who instead of looking at a ball he is expected to catch looks at the thrower for the approval or blame he anticipates. Overconscientiousness is quickly developed by such procedure; but, again, psycho-diagnosis will eliminate the danger, for it would be a mistake, for fear of risking over-conscientiousness, to have upset the entire sense of fitness of a boy of three who came to his father to be thrashed, declaring he had thrown a knife at the cook, an act which had been specifically forbidden.

The source of another danger proceeding from overconscientiousness is that of shame of eating (18), as illustrated by the same boy, when conscious of wrongdoing, repeating "no bananas for boy" (a dish he loves). But it is very easy to prevent a perverted affect in this case, while at the

same time furnishing a consistent and coherent system of conduct and morality.

In this connection one must avoid formation of bad affective habits during the temporary intoxication of poor oxydation due to a full stomach or too heavy a meal. In this state a child while playing hard may be carried away by excitement till he loses his temper and begins to cry, just because "things are too much for him."

Again, constantly interrupting him in a train of thought by regulating his least little impulse promotes suggestibility, and the child becomes accustomed not to act until told. In not availing one's self of a moment of excitement to inculcate a difficult act, one loses a chance of cultivating presence of mind, even during emotional states. This may even be done during pain and tears by making the child do something else during them, thus gaining self-control. In speaking slightly of what one wishes condemned, be sure it is not against human nature. To forbid healthy acts to a boy is detrimental to him, he derives a false notion of morals when he knows that innocent acts are forbidden. So provide ample outlet for spirit of adventure, without which a boy's whole character suffers. It either is exercised illicitly, or is suppressed and forms intellectual dishonesty and emotional incompleteness, so fertile a source of psychasthenia.

But in early childhood, and in some matters even in adolescence, it is best to employ authoritative affirmation rather than suggestion. A child cannot see the reasons for the need for certain prohibitions; and it is a bad principle to be constantly side-stepping issues by the giving of suggestions. Besides, it prevents the child acquiring the power of immediate subordination of his own desire to what after all must be done sometime. For instance, a boy who cannot understand the rationale of bacterial infection is forbidden to take milk unless boiled. The mandate can be enforced by the suggestion that boiled milk is a delicacy, and that he is privileged in being permitted to have it; but this procedure is quite unnecessary when a mere affirmation should suffice, which, moreover, will prevent the danger of his foregoing the privilege, in order to drink raw milk. The advantage of assured obedience to authority is most manifest during such

periods of emotional motor or intellectual hyperexcitability as precede exhaustion. They may be compared to the paralytic secretion of the physiologists. Hence the more simple the brake used the better, for complex means of arrest only increase the cerebral activity.

Another example of a misapplication of suggestion consists of saying to a child, "You are not afraid," when he shows timidity in some unusual situation. The child knows quite well that the mere making of the remark indicates a reason for fear; and the real effect produced is the suggestion of fear, which might have been avoided by assuming a matter of fact manner as soon as indications of hesitancy or timidity were shown by the child, taking care at the same time to replace the unpleasant affective mode by another, through substitution and distraction. Of course, reliance on simple affirmation must be maintained by truthfulness, and later by reasonableness.

The habits of accuracy and orderliness may be inculcated without the danger of their becoming besetments, if it is done, so to speak, spontaneously as a pleasure, and not as a duty Calvinically, that is, if it is made kinetic rather than inhibitive. For example, a boy of two and a half is asked to bring in two balls with which he was playing in the garden, and later to pick out from some others those he brought. This exercise not only cultivates memory and accuracy, but the power of perception of difference as well as the notion of responsibility and the pleasure in having it recognized.

A boy's whole world of fitness is upset when unusual acts are done. A boy of three will allow no one else to touch the letters placed on his father's plate. After playing with his father and wanting "more fun," he would not desist from his demands when told it was too hard for his father, replying "not too hard," but at once did so when told "Father tired." He recognized this from his mother's and his own experience as a valid excuse for stopping.

These habits become morally imperative (19), and are very hard to eradicate in after life, for they do not depend upon clarity of conception, as is well shown by the fact that most of us do not act entirely in accord with our intellectual

convictions, but persist in regulating our conduct by doctrines long outgrown. Hence, the importance of preventing the feeling of dependence by encouraging the child's desire for and pride in performing tasks about the house and garden. If, for instance, a child is encouraged to put on his own clothes under the belief that it is a clever act or to wash itself, these actions will become automatic, and he will not later have to go through the difficult acquisition of the clean hand instinct and that of self-helpfulness (20).

The ineradicability of fear when inculcated in early childhood is clearly illustrated by the Southern lady, who even in advanced age dared not go alone into the dark, although she has long ceased to believe in the stories which first made her afraid to do so. She realized this so forcibly that she would not permit her three daughters to be told any of the alarming stories which most Southern children learn. Her psychoprophylaxis resulted in the girls never having known what it meant to be afraid in the dark. Indeed, it was the habit of their schoolfellows to send them into dark and eerie places to show off their powers. The tenacity of early affects is again illustrated by the immovable depression produced by the playing of gospel hymns on a reed organ in the case of a lady in whose childhood the Calvinical Sunday had almost caused fear. The psychoprophylaxis here is obvious (21). In another case the hearing of a brass band invariably produces weeping and terror. This is due to the fact that such playing occurred during the horrors of the civil war.

In some children (22) care is needed to avoid the "*besoin d'être aimé*," the craving for sympathy. This may be induced by excessive petting and loving while a child is tired or after injury. It is better to send the child to bed when tired and to divert his attention when injured. But denial of sympathy is equally bad, and is the cause of the intense love hunger seen in many young people whose surroundings have suppressed their natural affection.

It must be remembered that the fundament of altruism lies in the affectivity (23), and this must not be suppressed, but must be controlled and used. For instance, during sympathy, interest may be aroused and turned into an un-



related channel, and thus used for moral and intellectual teaching instead of being roughly ignored.

These may appear small matters, but they illustrate important principles, as will appear when they are applied to the matter of lying and the acquisition of the sense of responsibility and right conduct.

The mythomaniac (24) tendency, which is responsible for so many medico-legal difficulties, would be much diminished by a psychoprophylaxis addressed to the aforementioned habit of accuracy; for the conduct indicated is merely a mode of truth in act, which to a child precedes the significance of truth in speech. The latter is discouraged, I believe, by mystery tales, as well as by those of voodoo, though I am aware that much difference of opinion on this point exists among pedagogues. I cannot enlarge upon this theme, except to point out how often mythomaniac manifestations are mis-called hysteria by medical men who have been unduly impressed by the doctrines of Charcot (25); whereas, the difference has been clearly pointed out by Dupré (26) and Babinski (27). The newspapers of the day afford innumerable examples of the dishonest point of view which eventuates in mythomania. It is almost entirely preventable by a proper psychoprophylaxis, if not on the part of the parents, then later and with more difficulty on the part of the schoolmaster.

In this connection, I must express the belief of the need for men in the moral training of boys. The best elements of moral development are inculcated, not in the schoolroom, but at play, in which the masters must participate more or less: and as at present trained, very few women are capable of this. The revolution effected in the habits or character of the English school boy by the methods of Thomas Arnold of Rugby (28) afford a striking illustration of this.

To attempt to manage boys by religious sentimentalism and softness, the woman-and-slave morality of Nietzsche (29) is to encourage hypocrisy in the strong and the exaggeration of weakness in the feeble. Of course sympathy must be used, but it must be a manly one, referring mainly to the forceful activities of the life of a normal boy. In this way a self-reliant character is built up by the encouragement of

constant relation of itself to the welfare of a society in the responsibilities of which each boy has a separate niche to fill.

Than this there is no better prophylactic against despondency, suspiciousness, and other anti-social feelings of paranoid type. By this system of encouraging morality to become constantly kinetic and to be thought of and controlled by its relation to others while self-respect is maintained, the hyper-suggestibility is restricted and hysteria prevented.

Psychasthenic types too are not apt to develop in an environment where solitariness is impossible, and where the stresses are healthy and kinetic, and the emotional and intellectual appeals are of a positive and clear comprehensibility. Hence the rarity of psycho-neuroses in the men who have been trained in the public schools of Great Britain. And their influence has not ceased here; for the habits of conduct illustrated and brought into prominence by Arnold's boys have permeated the whole national life, with the result that De Fleury (30) has been able to comment with admiration upon the freedom of the nation from the psycho-neuroses, the study of which has given such distinction to French neurologists.

Similar methods may be applied with success even to boys perverted by faulty environment; for instance, Tomlins (37) developed a thieving jail boy into a useful citizen by reversing the mawkish treatment he had been receiving in the reformatory, and substituting a peremptory and rough method of making him responsible for certain duties and for other boys, and showing surprise that he did not do better work than he at first showed.

On the other hand, there is the case of a girl in whom intractable fits of temper were cured by one display of kindly sympathy after she had torn up her books in a fit of rage. The prophylaxis in each of these cases meant the saving of a whole life from the misery which would have arisen in a purely psychogenetic way.

The psychological insight which enabled the reflexes to be "conditioned" in these two cases is responsible for these two useful lives.

Many a phobia or angoisse can be prevented by psychic means. Similar in principle are the means to be employed against the self-distrust and diffidence of the psychasthenic form of insufficiency. The natural desire of a child to play with its fellows will soon disappear if he is too slow-witted to comprehend the game or too clumsy to take his due part, or is constantly humiliated by his failure or by the mockery of his fellows. Want of capacity in some study arising from the defect of some motor sensorial or associational process may produce a self-deprecatory or anxious attitude very unfavorable to healthy psychic development and most provocative of the scrupulosity of psychasthenia.

The method of conditioning the reflexes is illustrated most clearly by human beings in cases of sexual perversion where some artificially introduced element becomes the efficacious provoker of future sexual desire, or at least satisfaction. The genesis of the fetich constitutes the conditioning of the sexual reflex in that person.

The whole element of the sexual element in the causation of the psycho-neuroses is too long to discuss here. I must, however, deplore the difficulties thrown in the way of the study of these very important problems of psychophylaxis by the unwillingness of some observers to investigate the sexual life of their patients. To establish a solid psychoprophylactic doctrine we need accurate information, and the scientific search for such information must not allow itself to be hampered by national prudishness. It is this *noli me tangere* perversion of morality which arrogates to itself the exclusive title of morality which is responsible for much of the prurient attitude of the young towards sexual relationship.

What shall we think of a civilization which permitted a highly respected woman physician of twenty years' standing to be placed in jail for having written a book instructing young women upon sexual hygiene? This actually happened less than five years ago in Chicago. Such an attitude fosters ashamedness in the young; and shame of the bodily functions as we know frequently dominates the field of consciousness of a psychasthenic. An adolescent who has been discouraged from discussing or understanding the phenomena

even of his own sexual life and taught to regard them as different in kind from other facts of personal function and hygiene is sadly handicapped in the difficult process of somato-psychic or allo-psychic adjustment in that difficult period of his life.

Similar animadversion may be made against what is now less common — the state of apprehension and terror induced by religious teachings founded upon the doctrine of man's inherent evil nature and damnableness. A research by Coe showed that less than ten years ago a very large percentage of college students had suffered severely from the spiritual agonies of the attempt to reconcile their dawning knowledge of the universe with the inadaptable and injurious doctrines they had been taught in the name of religion and morality.

Now it is very simple to forestall such morbid reaction by directing the activity of such children into channels for which they show aptitude. From the feeling of accomplishment and triumph thus engendered the child will gradually learn to adjust himself to difficulties which mental prepossessions and inertia would have rendered impossible to overcome. A delusion of persecution so often fertile in dangerous reactions has really its source in a mistrust and suspiciousness which might have been prevented or removed by the self-satisfaction coming from the fulfilled desire of productive activity. The delusion is essentially a defense reaction against the feeling of self-distrust. Such feeling is powerfully conduced to by cultivating in children a pride not consonant with their true relation to others; for the social activities of such children will be contaminated by an exaggerated self-respect which will necessarily be constantly wounded, whence an inevitable withdrawal from social activities which do not minister to their pride, and therefore an ever-increasing seclusion which is more and more dominated by suspicious inferences from innocent words and acts of others and brooding thereupon until this ideational-emotional complex dominates and becomes the character of the person and refractory to intervention; but the psychoprophylaxis would have been simple, and is obvious.

The gastric neuroses are a striking example of the non-use of psychoprophylactic power by medical men: for



the great majority of these cases occur as the result of the suggestions of medical men while prescribing for patients suffering from temporary indigestion (33) or by the indirectly gained notions of medical origin with regard to eating and diet. Again, recent work has shown the difference between tic and true chorea, and also that the latter, now clearly shown to be an organic disease (37) may begin by intellectual and emotional perturbations long before the motor areas are affected.

The only practical way of detecting these early conditions is through medical inspection of school children by trained neurologists whose knowledge of physical and mental test signs will anticipate many a breakdown, besides removing from the other children the contagion which habit-spasm and chorei form movements are known to exercise on their plastic minds. As a matter of fact the co-operation which should be sought is much less that of the priest than that of the teacher of the young. We can hope to influence him to a scientific attitude toward the biological phenomena with which he deals; besides which the help in managing difficult and neurotic children which he gains from neurological advice makes him very ready to welcome it, as my experience shows.

And indeed pedagogues themselves have noticed the need of medical psychoprophylaxis. Thus Swift (*loc. cit.*) says, "Half an hour's observation of pupils at their school work will convince one skilled in interpreting nerve signs that nervous disorders have become so common as to menace our national health, and the significance of this for education has been too generally ignored." And again further, "It is unfortunate that instincts are so frequently the child's only defense against pedagogical enlightenment (*sic*) medical supervision cannot fully meet the need unless a nervous affection is detected in its incipiency; so the teacher must be taught about the early signs, so as to call in a physician to prevent aggravation by the continued irritation of test and examination."

As desirable would be the teaching of the mothers to form healthy emotional habits in their children. The happy-go-lucky absolutism which so often asserts itself as capacity

is sadly defective as such a guide for hesitating childhood. The management of the mind and the emotions into a morality constitutes the most difficult study and art. But it can hardly be expected that fortitude can be inculcated by a mother who has not herself shown it sufficiently to even attempt to understand the biological laws upon which depend the reactions of the nervous system which we call conduct, for the ethics taught to most children is a vestige of medievalism conspicuous for its poverty in such criteria of modern civilization as justice, liberty, courtesy, altruistic sympathy. The child's natural good impulses are checked and twisted; when his reasoning from cause to effect is not neglected or obstructed, he is thus confused and finally often discouraged into sadness or indifference, becoming as a man either despondent or happy-go-lucky, with either no morality or one of words only, which has no efficacy in preventing maladjustment.

But a morality which is really active instead of being merely received on faith becomes a part of a boy's character and is carried out in his conduct. It intertwines with his every thought often quite unconsciously. Suggestions contrary to this trend are then automatically repulsed, and we secure reliability of conduct; and socially speaking that power of prediction which gives security in man's relationship with man.

Now this may appear hardly a medical but more a sociological matter; but there is no difference of kind between a perversion of conduct which we call criminal, that is, anti-social, and an aberration proceeding from ideas which we call hysterical. The false belief that one's limbs are incapable of locomotion or the comfortable and cherished feeling that one is an invalid and unable to support one's self are both anti-social attitudes, in whatever good faith they are assumed.

Now their prevention as well as their cure is the prerogative and duty of medical science, which is called upon to distinguish from the aberrations of conduct due to the changes in the secretions, and the nervous system those due to aberrant notions. And, nowadays, as this symposium shows, we have to apply the remedy, not only to the former,

but the latter in supplementing the activities of the pedagogue and priest with the special means the psychiatrist's training permits; that is to say, when a pathological type of reaction has been constituted by the hurtful suggestions of a faulty environment, it is the doctor's province to eradicate the hurtful suggestions and to implant a habit of mind tending for the good of society and refractory to suggestions contrary to that object. For a close analysis shows that the real cause of most so-called "nervous prostration" is failure of adjustment to environment, and is psychogenetic. A rest cure in itself is inefficacious, but gives the doctor the opportunity to re-educate the perverted trends of the patient's disposition. Before reaching the neurologist, a patient has been "suggested" *ad nauseam*: and such empirical therapy has failed, as has the injudicious appeal to his will power already exhausted by the complexities, social and professional, which have contributed to his failure of adjustment.

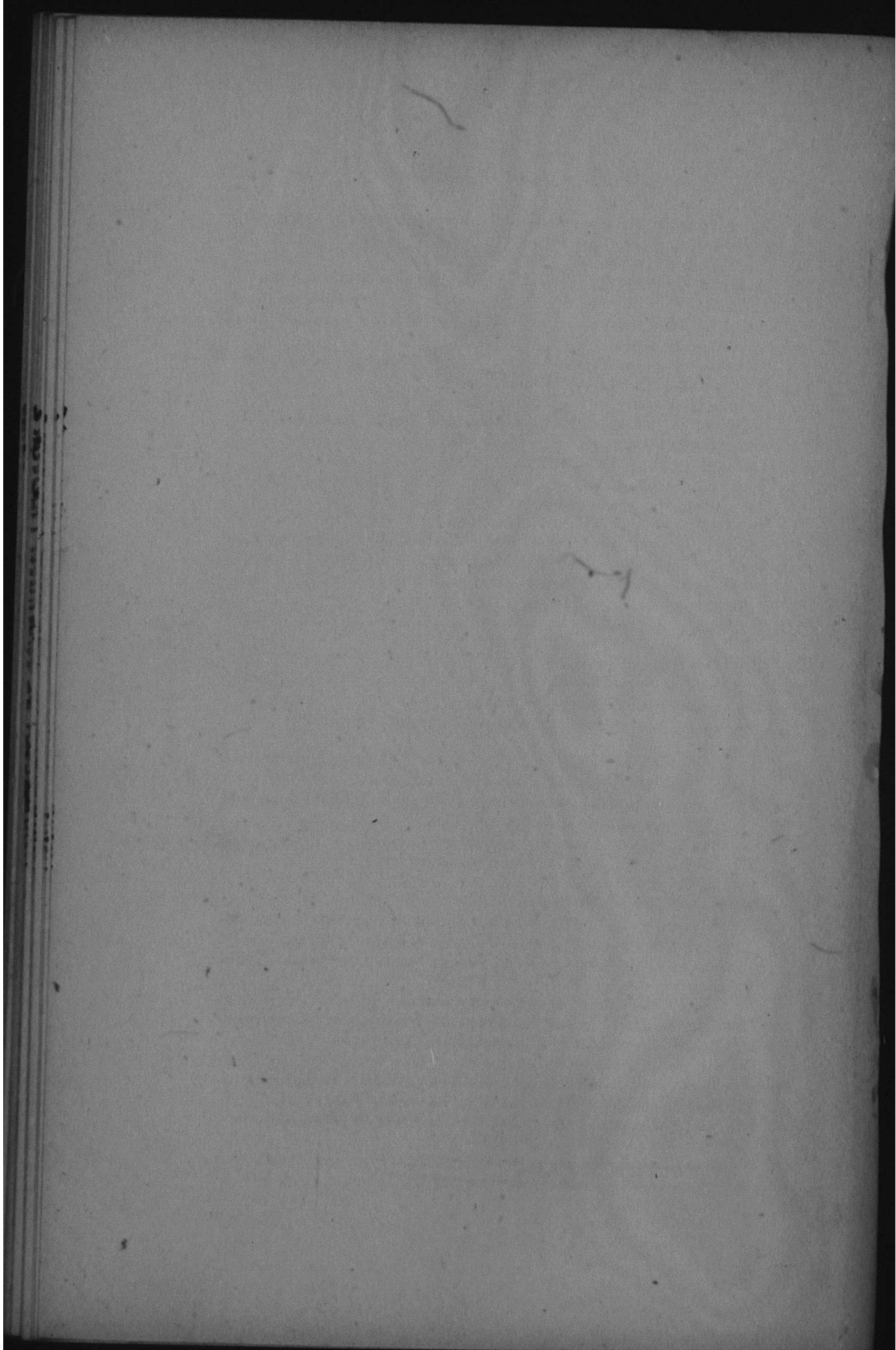
To arrest a morbid train of thought and set a mind at rest is an art requiring knowledge and skill. Its attempt by untrained men has been even more disastrous than the work of the tyro in gynecology; for it is the direct cause of the rise of Christian Science, Emmanuelism, and such cults. Happily, a body of experts in psychopathology is now counteracting their injurious influence: for an affectation of knowledge will not supply the public's demand for real psychic treatment. But we require greater facilities for instructing medical men in the principles of psychopathology and therapeutics; and proper wards and out-patient clinics under competent teachers should be provided, at least in every large city.

## REFERENCES

1. Grasset. *Thérapeutique des Maladies du Systeme Nerveux*. Paris, 1907.
2. The Huxley Lecture, *Brit. Med. Jour.* 1906. Vol.
3. See Morton Prince. *The Unconscious*. *Jour. Abnor. Psy.* 1909, Dec. Friedmann and Gierlich *Studies in Paranoia*. *Trans. Nervous and Mental Series*, N. Y., 1908.
4. Suggestion and Persuasion. *Alienist and Neurologist*, 1909, May.
5. *Rev. Neurologique*. 1907.
6. Camus et Pagniez. *Isolement et Psychotherapie*. Paris, 1904.

7. The Relation of the Med. Prof. to the Psychotherapeutic Movement. *Boston Med. Jour.*, 1908.
8. *Riv. Sper. di Phren. et Psy.*, 1908.
9. Janet, *Les Oscillations du Niveaux Mentale* Congrès de Rome, 1904.
10. Williams, *The Differential Diagnosis between Neurasthenia and Some Affections of the Nervous System*, for which it is often mistaken. *Archives of Diagnosis*, 1909, Jan.
11. Williams. *Hints on Psychotherapy*. *Monthly Cyclopedica*, 1908.
12. *Leçons Cliniques*. 1907. (Unpublished).
13. *Mind in the Making*. New York, 1908.
14. Williams, *Discussion on Responsibility of Hysteria*. *Contes rendues Congrès de Lille*, 1906.
15. *La Suggestibilité*. Paris, 1897.
16. Jastrow. *Fact and Fable in Psychology*. N. Y. and London, 1907.
17. See O'Shea, *The Dynamic Factor in Education*, 1904. N. Y. Archibald, *The Power of Play*. London, 1908.
18. Raymond et Janet, *Les Obsessions et la Psychasthenie*. Paris, 1903.
19. Leuba. *The Nature of the Moral Imperative*, *Amer. Jour. Psy.*, 1897.
20. See Williams, *The Psychological Bases of Inebriety*. *New York Med. Jour.*, 1909, April. Also *Pedag. Seminary*, 1909.
21. See White, *Theory of the Complex*, *Interstate Med. Jour.*, 1908, April Morton Prince, loc. cit. Chap. 11.
22. Raymond et Janet, loc. cit.
23. Spencer, *The Data of Ethics*.
24. Dupré, *La Mythomanie*. Paris, 1906.
25. See such current text books as Saville, Church, and Petersen.
26. Loc. cit.
27. Ma Conception de l'Hysterie. Paris, 1906. *La Démembrement de l'Hysterie*. *Semaine Médicale*. 1909.
- 27a. *The Trend of the Clinician's Concept of Hysteria*. *Boston Med. and Surg. Jour.*, 1909. March 25.
28. See Tom Brown's School days and Numerous Lives.
29. Mancken, *The Philosophy of Neitzche*. New York, 1908.
30. *Le Figaro*. Paris, 1906.
31. Communicated verbally.
32. See Williams. *The Most Frequent Cause of Nervous Indigestion*, *Jour. Abnor. Psy.*, 1909, Feb. Also *Amer. Med. Jour.*, 1909, April. *Old Dom. Jour.*, 1908, Nov. Dégérine *Les Fausse Gastropaths*, *Presse Med.*, 1906.
33. *Le Rôle du Medecin en créant ou en maintenant par ses Suggestions Maladroites les Maladies produites par l'Imagination*. *Congrès des Neurologists à Lille*, 1906. *Trans. Amer. Med.*, 1908, Aug.
34. Steherback, *Arch. de Neur.*, 1709.
35. *The Psychology of the Spiritual Life*, Chicago & New York, 1904.
36. Meige et Feindehl, *Les Tics et leurs Traitements*. Paris, 1901. Williams, *Differential Diagnosis of Tics & Spasms Via Semi-Monthly*, 1908.
37. Payne et Poynton, *The Etiology of Chorea*, *Brit. Med. Jour.*, 1906.
38. Burr, *President's Address*, *Jour. Nerv. et Ment. Disease*, 1908.





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REPORT OF A CASE OF DISSOCIATED PERSON-  
ALITY, CHARACTERIZED BY THE PRESENCE  
OF SOMNAMBULISTIC STATES AND AM-  
BULATORY AUTOMATISM, WHICH  
RECOVERED, FOLLOWING THE  
EMPLOYMENT OF HYPNOTIC  
SUGGESTION\*

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**T**HIS patient, a lawyer, æt. 39, was referred to me by Dr. Kulp, Nov. 13, 1908, with the following history: His father died of tubercular laryngitis. Mother is living and well. Maternal grandfather died of parietic dementia. All relatives on mother's side of the family are said to have been very "nervous." A family history of insanity — other than that already mentioned — epilepsy, migraine, suicide, alcoholism, or consanguinity could not be obtained. In 1896 his brother, at the age of 26, had a sudden right hemiplegia, followed, after several days, by almost complete recovery. The patient's wife, pregnant only twice, gave birth to a son and a daughter. The son, æt. 9, appears to be in good health, while the daughter, æt. 11, is said to be emotional and nervous.

When about four or five years of age Mr. X. is said to have become unconscious two or three times. These attacks, attributed to excitement or anger, were not accompanied

\*Read before the Clinico-Pathologic Society of Philadelphia, March 20, 1909, with presentation of the patient and demonstration of some hypnotic procedures.



by convulsions and were terminated promptly by immersion in a hot bath. Until six years of age he is said to have had some respiratory difficulty called asthma. He had scarlatina, measles, parotitis, and varicella during childhood. Between his twelfth and fourteenth years he had urticaria almost constantly. For three years he was a bicycle enthusiast and rode about four thousand miles a year, until the appearance of asthma, in 1900, prompted him to discontinue cycling.

Asthmatic attacks, occurring almost every morning at about three o'clock, appeared during illness caused by influenza in 1899, and continued in the same manner until 1907. Subsequent to this he had only three or four typical attacks; but was awakened each night by severe coughing that lasted about fifteen minutes. He was ill for eight weeks with typhoid and pneumonia in 1902. Convalescence was uneventful, except for iritis, and recovery was complete.

Prolonged attacks of coughing, terminating with the expectoration of glairy mucus and the immediate onset of a trance-like state that lasted from fifteen minutes to three hours, first appeared in 1905. It was noticed that these seizures, occurring about ten times annually, were always induced by excitement or mental stress. Often he walked around during the somnambulistic stage, guiding himself by tactual perceptions, but he seemed to pay no attention to what happened, save that he occasionally answered questions. Though his eyes usually remained open and fixed he never appeared to see anything. He was often observed passing his fingers over the crystal of his watch; and if the time of one of his engagements was approaching, as determined by him in this manner, he was usually able to bring about reversion to the personality normal to him. At the termination of one of these abnormal states of consciousness he would be bewildered for a short time and was never able to remember what had occurred during their continuance. Dr. Kulp will describe later one of the patient's manifestations of what seemed to be clairvoyance.

In addition to the type of seizure just described a variation developed in 1906. Following an emotional shock, worry, or an excessive amount of the mental application

incidental to the pursuit of his profession, a severe paroxysm of coughing might appear, succeeded by a stuporous condition lasting from one to fifteen minutes. After the cessation of this latter state he became very loquacious, holding telephonic conversations in which he talked of his business affairs. Though he paid no attention to his surroundings he occasionally answered, relevantly or not, questions that were addressed to him. The fact that he is known to have displayed resistance to passive movements, together with other evidences of opposition, would tend to indicate the presence of negativism on these occasions. During one of these states of dissociation he defeated Dr. Kulp at a game of chess in which he followed the plays only by tactual perceptions. In the course of the two years previous to the employment of hypnotic methods of treatment, about twelve attacks of this type occurred, each of which was followed by amnesia localized to the period of dissociation.

Early in the year 1908 Dr. Kulp, in order to treat locally an obstinate inflammation of the nasopharynx, passed into the patient's posterior nares an applicator on which was some cotton saturated with a solution of iodine in glycerine. At once there appeared prolonged and severe coughing which terminated in a somnambulistic condition similar in nature to those already described. The possibility of this sequence being merely coincidental was eliminated by ascertaining that it occurred whenever an applicator was passed into the posterior nares, even though no solutions were employed. After determining this causality the applications were of necessity discontinued.

June 4, 1908, the patient, after having lost much sleep from coughing during the previous night, left home at 9.30 A. M. and arrived at his office in Philadelphia at 10.15 A. M. He was afterwards informed that when he entered his office he acted and talked strangely for a short time prior to going into his private room, where he was found asleep at 2 P. M. Upon being awakened at this time he was in his usual state of consciousness and knew nothing of what had occurred following his departure from home. While out for lunch, and without having had any emotional provocation or precursory attack of coughing of which he was afterwards

consciously aware, the secondary state again developed and continued until his return to the office at about 4 P. M. He was never able to find out the nature of his actions during this second attack of ambulatory automatism.

Alarmed by these happenings he went home and slept until 6 P. M., when he woke up in the secondary state. At his lodge, in the evening, he talked in a sensible manner to the secretary about matters of importance, and then conferred a degree upon some of the members. Later some of his friends noticed something peculiar in his condition and advised him to go home. Thereupon he walked home, and his wife afterwards reported that upon going to bed he had an attack of coughing, followed by one of his somnambulistic states of loquaciousness which lasted for two hours. The next day, being in his usual state, he was unable to remember anything which had happened the previous evening except the little he acquired through isolated memory flashes. According to his statement these were the only well-developed states of dissociation of his personality that ever occurred.

Mr. X. never had any respiratory difficulty when hard at work, but as soon as his attention became relaxed dyspnea affected him. Probably because of the mental relaxation attendant upon his withdrawal from the cares of his profession as well as the contributory influence of expectation after the habit became established, he always suffered severely from dyspnea on Sunday.

The patient is afflicted with a phobia for height; so pronounced is this that he can cross a gang plank only by doing so on all fours. His memory is very good and he is not subject otherwise to obsessions or morbid introspection. The facility with which outbursts of anger can be provoked in him is well known amongst his relatives and friends. His religious inclinations are towards fatalism.

Unusual power of visualization was first noticed when he was fifteen years of age and has continued, in a less conspicuous degree, to the present. When a school boy he was able to recite, after reading his lessons once, by means of reading from visual memory pictures of the pages he had studied. Even at present he is able to visualize a page which he has read but once. The characters and scenes depicted

in a book which he is reading are involuntarily visualized by him; and, when hearing music, there will occur with him appropriate visual memory pictures. Another evidence of this unusually developed power is his ability to play chess while blindfolded, providing his opponent declares his moves as they are made. He has never had any systematic number forms. In spite of the remarkable extent to which visualization has been developed he has never had any visual hallucinations, nor has he noticed either *audition colorée* or auditory hallucinations.

Though he dreams every night, usually of traveling, his dreams do not appear to have had any etiologic influence in the production of his symptoms.

For the relief of various psychasthenic symptoms Mr. X. has been in the habit of consuming two quarts of brandy a week, notwithstanding his alleged distaste for alcohol in any form. For the alleviation of phobic attacks he has been known to consume as much as a pint of brandy in an hour without any intoxication becoming apparent.

His wife stated that attacks of coughing, almost invariably following excitement, occurred four or five times daily; with or without the development of consequent somnambulistic states. She also informed me that from June, 1907, until January, 1908, he was unable to work from three to five days out of each week, because of what seemed to be lesser states of dissociation characterized by excessive irritability, irrationality, periods of amnesia, and stuporous conditions.

A complete physical examination of his nervous system when first seen by me — November 13, 1908 — was entirely negative. Not a single one of the so-called stigmata of hysteria were elicited. Examination of the chest revealed the presence of the typical physical signs that one would expect to find in a case of asthma of nine years' duration.

For the purpose of causing a somnambulistic attack an application was made to his posterior nares. There appeared immediately a violent paroxysm of uninterrupted coughing, similar to that of pertussis, associated with clonic movements, almost epileptic in nature, of the arms. In the efforts of coughing the patient flexed his body extremely and



appeared to contract every voluntary muscle. After coughing about fifty times he became exhausted and the cough ceased. Sitting with his head in his hands, his breathing became deeper, and Cheyne-Stokes' type of respiration appeared, followed, a couple of minutes after the last cough, by the onset of unconsciousness. My attempt at experimentation having as its end the determination of the character of his state, caused, or was coincidental with, the return of consciousness. On account of his great exhaustion it was deemed inadvisable to cause a recurrence of the paroxysm; consequently I was unable to demonstrate experimentally the auto-hypnotic nature of the final stage.

During the same evening he was readily hypnotized, for the first time, in about one minute. After I made the suggestion that he should "awaken," about a half hour later, his first question was: "When are you going to begin?" The artificial hypnotic dissociation was so complete that he was not aware of having been hypnotized; though, by reason of his amnesia for all the suggestions that had been made, it was apparent that the hypnotic state had actually been produced.

While he was in the hypnotic state, during his third visit—November 23, 1908—an effort was made to determine the causes, of which he was consciously unaware, of his various manifestations, with the following result: Being frequently awakened from a sound sleep by the onset of an attack of asthma, he acquired the habit of resorting to the inhalation of fumes from a burning asthma powder, while sitting on the side of the bed with his head in his hands. The fumes irritated his larynx and this, in addition to the usual post-asthmatic tendency to cough, produced a severe paroxysm of coughing. The great exhaustion following the paroxysm, together with the soothing effects of relief from dyspnea and the natural tendency to fall asleep again after having been awakened in the middle of the night, caused him to fall asleep while sitting there with his head in his hands. The repetition of this sequence, almost every night, soon resulted in the formation of a number of powerful associations, and there appeared gradually a tendency to fall asleep during the day, after the use of his asthma powders.

This experience having occurred many times a psychic short cut, like those found so often in the study of the mechanism of hysteric accidents, became established, and the more highly elaborated auto-hypnotic or somnambulistic condition began to appear following a severe cough even without the asthma powder having been used.

The local irritation caused by the application to his posterior nares resembled the irritation due to inhalation of the fumes of his asthma powder; the paroxysm of coughing and its consequences was therefore the result of association of ideas.

When subjected to excessive mental stress, in his professional work, reaction never occurred until the conclusion of the strain. Consequently, after an unusually trying week, nervous discharges began to take place on Sunday. The accidental aggravation of his nervous symptoms on this day soon became so fixed by anticipation and auto-suggestion that attacks of dyspnea and other psychic manifestations became habitual on Sunday.

The exciting cause of the most highly developed of his manifestations of dissociation of personality, that occurring on June 4, 1908, could not be ascertained, other than worry over lodge affairs and the excitement due to anticipation of conferring the degrees that night.

The beneficial results of suggestion during the hypnotic state became apparent immediately following his first treatment. During his second visit he asserted that he had slept deeply three nights out of five without having been awakened by an attack of asthma. In addition to this unusual state of affairs he was able to sleep with one pillow less under his head.

While under hypnosis the second time the suggestion was made, among others, that paroxysms of coughing and somnambulistic attacks would never occur again following applications to his posterior nares. After being aroused from the hypnotic state he was told that an application was to be made. Not being consciously aware of any of the suggestions that had been made, he prepared for the usual consequences. Much to his surprise there occurred nothing but a few coughs.

Since Mr. X. first came under my care—November 13,

1908 — he has been hypnotized only eight times. At present he sleeps well without being awakened by asthmatic attacks, and instead of having paroxysms of coughing when he arises in the morning, only a few coughs occur. In fact he now has no paroxysms whatever, and since his first treatment he has not had a single one of any of his various somnambulistic attacks; applications to the posterior nares can now be made with impunity. His Sundays are entirely free from dyspnea. Many of his friends and associates have noticed the improvement in his temperament, there being a decided clearing up in the matter of irritability and outbursts of anger which were formerly so much in evidence.

Of all the arbitrary divisions of the functional neuroses, or more properly psychoses, under which could this patient be most suitably classified? The more one knows about these clinical syndromes, the more closely related they seem and the less clean cut becomes the dividing line between them.

The disaggregation of this case might be considered by some as psychic epilepsy because of the few attacks of unconsciousness that occurred in early childhood. Other diagnoses that might be considered are: hysteria, neurasthenia, association neurosis, and psychasthenia. Personally I prefer to consider the condition as having been an incipient clinical dissociation of personality occurring in a psychasthenic individual. At the same time I am fully aware that by many all of the functional neuroses are believed to be due to disaggregation of personality. This ingenious theory, which does not explain all the manifestations that occur in the various functional neuroses, is perhaps invalidated also by the probability that the dissociation is only a symptom of these conditions, and not in reality a cause. It is, however, extremely valuable because of the advances in the study of functional nervous diseases which it has inaugurated, and because it serves, until a better one can be originated, as a temporary working hypothesis which is far superior to any that have heretofore been advanced.

Though we may appear to know considerable about the functional neuroses when the question arises of pathology and ultimate causes of these diseases — and the same ap-

plies for that matter to all diseases — we appear to be but groping around in darkness. If it were possible to postulate the unknowable then only might it be justifiable to so designate the pathology and the exact reasons for the mechanism of the functional neuroses.

Report of a few of the experiments performed upon Mr. X.:

Because Mr. X. lived in the suburbs and on account of the consequent lack of opportunity, but few experiments were made.

The fourth time he was hypnotized the following was suggested: "Being thirsty you will ask for a drink, after you wake up, and I will give you some lemonade. Dr. Kulp is reading in the waiting-room, so we are alone."

Upon being restored to what was apparently his usual state of consciousness he exclaimed, "I am awfully dry!" As no attention was paid to this remark he asked, a few minutes later for a glass of water. Having been given a glass of water he drank a little, then smacked his lips, and seeming surprised and pleased, he remarked, "This is fine lemonade!" Following this he very slowly sipped the remainder, his face, the while, expressing great pleasure.

The closest scrutiny failed to detect, either in his actions or conversation, any deviation from his usual state of consciousness. However, he paid no attention to Dr. Kulp, even though Dr. Kulp repeatedly and insistently interrogated him and grasped his arm. After conversing with him for a short time I remarked that Dr. Kulp must have finished what he was reading since he had just come into the office. Mr. X. at once started slightly, and, turning to look at the door, he asked: "Why, when did he come in? I didn't see the door open."

A few minutes later, upon being asked if his thirst persisted, he hesitated, appeared surprised, and said: "I guess I did have something to drink." When asked what had been its nature he seemed more surprised and exclaimed that it was lemonade. He did not appear to know that any experiments had been performed.

Now these experiments, not unusual or original by any means, are mentioned principally because they seemed to



me to be corroborative of the theory — not as generally accepted as it should be — that during the fulfilment of post-hypnotic suggestions that require such deviations from the usual as systematized positive and negative hallucinations, there exists, in reality, incomplete hypnotic dissociation of the personality; no matter how completely the individual otherwise seems to be restored to his usual state of consciousness.

With other patients, upon whom similar experiments have been performed by me, I have frequently noticed that, in spite of my efforts, I could not succeed in producing what would resemble the patient's usual state of consciousness until after fulfilment of the post-hypnotic suggestion; and following this there would be amnesia for the entire period between induction of hypnosis and complete execution of the suggestions.

The amount of deviation from the patient's norm that occurs during the existence of a post-hypnotic suggestion seems to depend entirely upon the subject and upon the nature of the suggestion. Therapeutic post-hypnotic suggestions, for example, do not require a high grade of dissociation, so that the resultant psychic state resembles that due to the presence of such insistent ideas as those which so frequently compel us to whistle or hum a tune, even when apparently contrary to our desire.

Now after the above experiments Mr. X. remembered nothing of what had happened in the apparently usual state of consciousness prior to complete execution of the post-hypnotic suggestions, unless each incident was recalled by suggestion. Another point of interest is the fact that the post-hypnotic negative hallucination concerning Dr. Kulp was systematized by Mr. X. even though the suggestion to which it was due did not refer to his tactile, auditory, and visual senses.

During this same visit and while in the last hypnotic state, following the lead of Bramwell, the following was suggested: "It is now 10.03 P. M. (Nov. 28, 1908). In exactly 870 minutes you will find out what time it is and then write it down for future reference." In order not to give him time to calculate during hypnosis he was immediately "wakened." Upon being questioned he professed absolute ignorance of all that had occurred during hypnosis.

It was afterwards ascertained that at 12.30 A. M. (Nov. 29, 1908) he suddenly became aware of an unaccountable impulse, to which he yielded, to find out the time and write it down. The suggestion should have been carried out at 12.33, but the inaccuracy of my watch, or of his clock, would probably account for this slight discrepancy. Being questioned, he asserted that he had been absolutely ignorant of the cause of his impulsion to note the time. After being hypnotized and questioned, he averred that he was unaware of having made any calculations that would have indicated to him the time of expiration of the 870 minutes, and he could account for the execution of the suggestion only by subconscious perception of the passage of time. However the mechanism, it is interesting to know that any calculations must have been performed subconsciously succeeding the termination of the last hypnotic state that was induced during the previous visit.

On another occasion a similar time suggestion was given to him. This was to have fallen due at 6.38 A. M., after the expiration of 6,234 minutes. He was awakened at 6.40 A. M. and carried out this suggestion, but on the morning following that on which it should have been fulfilled.

The third and last of these time suggestions was to have been acted upon at 4.45 A. M., at the expiration of 6,180 minutes. This one failed completely; probably because he was ill with acute bronchitis at the time designated.

Suggestions having as their end his apparent psychic reversion to former periods of his life were very successful. He acted and conversed in a perfectly natural manner and consistently with the various ages that were suggested to him. According to the necessity imposed upon him by my previous specification of his environment and the individuals with whom he was supposed to be conversing, appropriate multiple negative and positive post-hypnotic hallucinations were developed by him. As an example of his perfection in responding to such suggestions one incident is worthy of notice. While acting consistently in accordance with the suggested reversion of his personality to the time when he was six years old I — as his mother — requested him to write down what he desired for Christmas. He replied that he couldn't write

yet, but that he would print the names of the toys he wished. Upon being given a fountain pen he expressed surprise at being expected to write with a pen as he knew how to write only with a pencil, not having yet learned the use of the pen.

Dr. Kulp, as well as friends of Mr. X., insists that the patient was able to ascertain the time by means of passing his fingers over the crystal of his watch, thereby determining, in apparently some unknown manner, the exact position of each hand. This ability was demonstrated many times, according to Dr. Kulp, when the patient's eyes appeared to be tightly closed. The manner in which the knowledge was obtained is capable of being explained by three hypotheses, namely: he was able to see the watch from beneath his closed lids; the occurrences were purely the consequence of some unusual or supernormal faculty; or, what is most probable, the patient knew about what time it was by means of subconscious registration of the passage of time. The last hypothesis we believe to be the most acceptable explanation of the phenomenon.

While the patient was in the hypnotic state, during the last two visits, he was asked the time. The result of the first attempt was a mistake of ten minutes. The second time this was tried, during the following visit, his statement was within less than a half minute of being correct. There was not any clock at hand and he had not previously examined his watch while in my office — about one hour or more. To eliminate the possibility of vision from beneath his closed eyelids, a large book was held between his eyes and the watch. He passed his index finger over the crystal in a circular manner, gradually limiting the movements until his finger appeared to detect the position of the hands. Then the finger was passed along each hand until its exact position was determined when he declared, in a positive manner, the results. Dr. Kulp informs me that this occurred spontaneously many times, and that Mr. X. was almost invariably within a minute of being correct.\*

\*Before the society, and at the request of the members, Mr. X. was asked, while he was in the hypnotic state, to determine the time. A book being held between his eyes and my watch he announced that it was 10.45. According to the watch, which was three minutes fast as compared with those

Because of the ordinary and almost justifiable skepticism of individuals when being informed of apparently supernormal psychic phenomena, incidents like these must be seen in order to be appreciated and credited. In this respect I must acknowledge the too frequent exhibition of the same incredulity.

STATEMENT BY HORACE LANDIS KULP, M. D.  
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Since 1904 I have treated Mr. X., and in the additional capacity of a friend, I was enabled to see him frequently and to observe closely the progressive development of the manifestations already described.

After the elaboration of the attacks of dissociation, a number of interesting phenomena were presented, prominent among these was the exhibition of what appeared to be clairvoyance. Upon one occasion, in the early summer, 1908, he had been having, for fully twenty-four hours, a series of severe paroxysms of coughing and dyspnea with interparoxysmal stupor. During the day I saw him several times, but had been unable to relieve this condition. In the evening, being called to see him after he had had an unusually severe paroxysm, I found him in a deep, trancelike state. While trying to arouse him, he pulled out his watch, and, by running his thumb over the crystal, traced out, by some unknown process, the position of each hand upon the dial. After noting the time in this manner he said, "H'm, it is now a quarter of ten; he said he would be here by this time." A few minutes later he remarked, "Here he comes now, he is just getting into his automobile." When I asked him how he knew this, he said very positively, "I saw him crank

of other members, it was 10.48. Mr. X. was unable to detect the position of the hands when a watch was set at 12.30 and he was informed that the watch was incorrect. This would seem to indicate that the third hypothesis is the correct explanation of this phenomenon and that the watch is superfluous. Therefore, this ability to recognize subconsciously the passage of time would be the same as that which some of us are fortunate enough to possess of being able to wake ourselves at whatever time we desired before going to sleep.



his machine and get into it." In the proper length of time required to make the trip in the machine, the man arrived. Mr. X. spoke to him in a rational manner about the business for which the appointment had been made. After the termination of the conference he excused himself on the plea of feeling very tired. In an hour or so, after he had regained his normal state of consciousness, he had absolutely no knowledge of anything that had occurred, and it was difficult to convince him that any one had called.

Prior to this occasion he had been working on a very complex case, one which caused much wrangling and disturbance of his emotional equilibrium. At this same time it was incumbent upon him to adjust some business for the family. As is usually the case, this caused much argument of an extremely irritating nature, which kept him in a state of constant nervous irritability.

Later in the year, and while this adjudication was still in process, he had a similar period of nervous irritability, during which there occurred many paroxysms of coughing and stuporous states. This terminated one evening in another attack of unusually severe and prolonged coughing. I left him later in the evening in a state of stupor rather than of natural sleep. The next morning, during my visit, he answered relevantly any questions that I asked him and showed nothing unusual in his manner or his actions, making due allowance for the ordinary sequelæ of such severe spells of coughing. Soon after I left him he boarded a car for the city, which trip required one change of cars.

On his arrival at the office he greeted in his usual manner the other members in his suite of rooms, then entered his private office.

After returning from lunch one of the firm entered Mr. X.'s room and found him in a deep sleep. After being aroused he was asked if he didn't intend getting any lunch. Thereupon he manifested surprise at the lateness of the hour. Being assured that it was past 2 o'clock, he immediately left for his lunch.

Whether he dined or where he had been he has never had the least knowledge. However, at about 4 P. M. he returned to his office and fell into a similar sleep that con-

tinued until he was awakened and informed that it was time to go home. After arriving home and telling his wife what time he wanted dinner, he had another short sleep, following which he dressed and dined.

During the evening, as he was to confer a degree upon some members, he went to the lodge and greeted his friends, calling each by his correct name. At the proper time he performed all the "work" that was expected of him, conferring the degrees with practically no error. There was about him, however, something peculiar, which, attracting the attention of some of his more intimate friends, suggested to them that he was not as well as he should be and they therefore advised him to return home. This advice he perfunctorily accepted and proceeded to go home; his actions, however, becoming more automatic.

After he arrived, I was again called and found him in a similar trancelike state from which I was unable to arouse him. He was led upstairs to bed without any remonstrance or resistance on his part, and he voluntarily prepared himself for the night. While doing so he talked coherently upon different subjects, exhibiting in his manner and actions a sense of extreme languor and this same automaticity.

In the morning he was without knowledge of anything that had occurred during the previous day and night. He appeared to be exhausted, but not any more so than I had seen him on previous occasions when, without the development of subsequent trancelike states, he had been subjected to a series of paroxysms of coughing.

During these two instances he remained in the somnambulistic condition longer than on any other occasion.

Nasal applications always produced a paroxysm of coughing followed immediately by the appearance of an auto-hypnotic condition. On one occasion, after I had made such an application, he had the usual cough, succeeded by a stuporous condition that was apparently of short duration. We decided, then, to play a game of parchesi. While the game was in progress I noticed a return of the somnambulistic state. He continued playing, however, without making any error, reading the dice by placing his finger upon each one.

After calling their values he moved his men the correct number of spaces; placing them to the best advantage and without making any mistake.

Once, while playing chess, this same condition developed. During the progress of the game, which he succeeded in winning, I purposely moved some of the men in a way that was not permissible. By tactile perception he immediately discovered these mistakes and objected to them. His movements, in these instances, were more deliberate and automatic than usual, being precise and accurate.

He could never be convinced that he had made any mistakes in the determination of the values of the dice or in the moving of the men. If for experimental purposes an argument was raised about the correctness of his plays, he would verify them by calling my attention to the values of the dice and to the correct number of spaces over which he had moved his men, making these calculations by tactile perception.

All the incidents I have mentioned have occurred in my presence and the quotations of his remarks are, as nearly as possible, in his own words.

I have observed the somnambulistic conditions develop from a slight "dazed" state until they had attained the elaborated form which has been described.

The use of drugs having been attended with but slight amelioration in his symptoms, and as his condition was almost entirely of psychic origin, resort was made to suggestive therapeutics. Since the first treatment his symptoms steadily improved. He was without any cough at all for as long as ten consecutive days, after which he contracted severe acute bronchitis. In spite of the coughing that accompanied this disease there was not at any time any indication of recurrence of dissociation. Several weeks ago he was in a mountainous region for six days without having had any respiratory distress. In the past, residence in similar altitudes has been impossible because of the severe dyspnea which it provoked.

His whole manner has so changed that his friends have observed the improvement and have remarked the return of his normal demeanor and activity. Ever since having

been under hypnotic treatment he has been engaged in the same kind of work, having had a number of prolonged aggravating cases that required as much intellectual application as any previous one. Furthermore, the adjudication of the family estate is still in progress.

We are all satisfied with the results of hypnotism in this patient, and we realize that no further improvement could be expected by this method of treatment.



## REMARKS ON A CASE OF COMPLETE AUTO-PSYCHIC AMNESIA

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THE following case presents nothing remarkable from a casuistic point of view; it was a combination of hysterical fugue and complete autopsychic amnesia, such as occurs commonly enough. Further, no detailed study of the case could be undertaken; my observations were confined to three interviews with the patient, of a couple of hours each. In spite of these facts a sufficient number of matters of interest was noted to make it seem worth while to utilize the case in illustrating a few of the simpler psychological mechanisms characteristic of hysteria. The actual interpretations offered of the various points must necessarily be of a tentative nature, but they are sufficiently in accord with the experience gained from extensive psycho-analyses to justify the pretension to a high degree of probability.

On the 20th of May, 1909, a man of about thirty walked into St. Michael's Hospital, Toronto, and complained of pain in an old appendicitis scar. On being asked his name he discovered that he had forgotten it, and, what was more, that he could give no account at all of himself or of his past life. He was at once admitted under the care of Dr. H. B. Anderson, to whom I am greatly indebted, not only for the opportunity of observing the case, but also for kind permission to make use of it in this article. When I first saw the patient, on May 29th, his mental condition was as follows: He conversed clearly and intelligently. Though he was naturally bewildered at his situation, his powers of attention, apperception, and comprehension were quite intact. He gave evidence of having had a fair education, knew a little French and German, and spoke with a slight Irish accent. In short there was nothing noteworthy

beyond his extraordinary lack of memory. This is perhaps best described by considering separately his memory relating to his own personality and that to external matters.

Of his *personal or autopsychic memories* only the following were present. He recollected having recently been on board a steamboat called the "Corona" — where he knew not, — and further had a dim remembrance of having been a good deal at sea. The latter fact we at once corroborated by finding on his body extensive tattooing, of the kind frequent amongst seamen. He also remembered having undergone an operation on his left elbow in Boston City Hospital about a year ago. Beyond this he knew practically nothing of himself. He could not tell us his name, address, profession, or nationality, and could give no information about his family or his past life. The memory of one or two unimportant matters concerning his travels returned later, as will presently be mentioned. His amnesia for all autopsychic processes was therefore complete. He had retained his somatopsychic memories, which in similar cases are often lost.

Of his *general memories* many disconnected fragments were present. He recalled the pictures of many seaport towns, with a few details about each. Thus he said he had been to Hamburg, and, when asked if he knew the St. Pauli, smiled and answered, "Yes, it is in the gay district." He had been to Rouen, and when asked if he recalled anything noteworthy about a bridge there, said, "There is a high one we had to strike our masts to pass; it is a 'transporter.'" Capetown, he said, lay between Table Mountain on the left and the Devil's Peak on the right, as seen from the sea. He similarly mentioned Durban, Sydney, Cherbourg, and other ports. He dimly remembered having been in the docks district of London. When told he was in Toronto, he remarked that he had never been to Canada except on one occasion when his ship lay at Montreal. He did not know how long he had been in Toronto. The sight of a large departmental store through the window attracted his attention and brought to his mind the name J. C. Myers. He surmised that he must have had to do with some store of that name, but could not recall in what town. He could not

remember whether he had ever been in Ireland, though it later came out that he had been born there and educated at St. Patrick's College, Cork. He caught sight of some praying beads in the hospital, and several Latin prayers automatically came to his lips. From this he concluded that he must have been at one time a Roman Catholic, though he felt sure he had not attended church for many years. Of Boston he could recall several streets, Boylston Street, Beacon Street, Tremont Street, and knew the Common, though not the name of the pond in it. Of New York he recalled the Bowery, Chatham Square, the Battery Park and Central Park, and added that Brooklyn and Jersey City were both across the water. He dimly remembered taking part in an excursion from New York to Niagara with a crowd of about two hundred, but, except for one or two details of the town, nothing more. In reality, this trip had taken place some years before, and he could recall nothing of his visit to Niagara a week ago which had immediately preceded his coming to Toronto.

The Corona steamboat mentioned by the patient plies across Lake Ontario, so we asked him if he was an American. His answer was significant: "Yes, I guess I must be, for all your clothes look strange to me and cut differently to those I am used to seeing." This led us to hope that indirect methods of questioning would succeed in restoring some of his memories where more direct methods failed, so as the first step in exploration we employed the "guessing" device. This consists, as is well known, in getting the patient to recall a given mental experience under the pretence that he is merely volunteering a guess, and is not being expected actually to recall the experience as a personal memory.

The first application of this more than justified our expectations.

Q. You say you can't remember whether you are married or not. Now suppose you had to guess whether you are or not, which would you say?

A. Well, if you put it in that way, I should say I was married and have a baby, but I can't remember anything about a wife or a baby.

Q. Not the wife's name?

A. Not at all.

Q. What sort of name would you give her, if you had to fit her with one?

A. (Pause). I should think Annie; that comes easiest.

Q. And the baby?

A. Katie. (The correctness of both these answers was afterwards confirmed.)

Q. And your own name?

A. Whenever I think about my own name the name Bert Wilson comes to my mind, but I am sure it is not mine. I can't remember my own name at all, except that I believe they call me Bert.

The last answer was so suggestive that it seemed legitimate to make the following speculations as being at least probable inferences from it; namely that the patient's name was one resembling in sound Bert Wilson; that there was a real person called Bert Wilson the memory of whom was playing an important part in the present symptoms, probably in the sense that the patient was for some reason unconsciously identifying himself with the other man; that, as he now recognized the falsity of that identification, the amnesia for his own personality was not likely to be profound and would probably yield to simple measures. It was also to be expected that when the memory of the true Bert Wilson returned it would do so only temporarily, and would again disappear for a longer or shorter period. The correctness of these seemingly fragile inferences was borne out by subsequent events.

As it was now probable that the patient had a young wife, who would be concerned about his absence, it became an urgent duty to try to recover his lost memories, particularly his name and address, as soon as possible. I therefore suggested to Dr. H. S. Hutchison,\* who was present and in charge of the case, that we should facilitate this by inducing hypnosis. This was done, and after a little time the patient recalled that Myers's store (see above) was in Albany, and that he himself lived in that town. He could picture to himself his house, but not the number of it or the name of the street in which it was. On having his attention directed

\*I am greatly obliged to Dr. Hutchison for taking careful notes during this interview, and for rendering me every assistance both then and later.



to neighboring streets, and particularly to the main ones, he slowly recalled that the one in which he lived was near Pearl Street. Then, by encouraging him to trace his steps from Myers's store along Pearl Street towards his home, one gradually got him more familiar with the neighborhood, and after an interval he burst out with: "Williams Street, that's where I live, and that's my name, Richard Albert Williams."

With that came back a flood of memories from which we pieced together the following story: The patient had for many years been a sea-cook in British vessels, and for the past three or four years had been a chef at various places in New York State. He got married in May, 1908, and about two months later underwent an operation in Boston for a stiff elbow that had been badly injured in a railway accident. In the winter he was for some time ill with appendicitis, for which he also underwent an operation, and through which he lost a great deal of work. In February of the present year he left his wife in Albany, and took up a post in Rome, N. Y. His wife bore a baby on March 12, and soon afterwards rejoined him. Early in April the restaurant where he was employed closed for the summer, and on April 15 he left Rome to seek work elsewhere. He failed to get any, partly because his equipment and clothes were needy; these rapidly deteriorated further or got sold. He traveled to Brockport, Utica, Syracuse, Rochester, Buffalo, Tonawanda, etc., tramping much of the way on foot. His small supply of money gave out, he had to sleep in the open, and got but little food; towards the end of the time he went for five days without any food whatever passing his lips. In addition to this physical stress he had to endure mental suffering of even greater severity, for he had left his wife with only money enough to last a couple of weeks, and these had now come to an end. He knew that she had no friends, was destitute in a strange place, and was not in a position to earn a living. He was exceedingly devoted to her, so that as time went by and his chances of getting work became more and more hopeless, his anxiety reached an almost intolerable pitch. On May 17, when now in a very light-headed condition, he walked from Niagara to Lewiston, he took the

ferry to Queenstown and got on board the *Corona*. In Toronto he slept in a Workman's Home, and for three days wandered the streets seeking vainly for work, until the pain in his abdominal scar forced him to apply for relief at the hospital.

Before going any further it is desirable here to interpolate a few general observations concerning the production of hysterical symptoms. That these are the external expression of mental processes which have become split off from the main body of consciousness, in other words "disaggregated," has of course been known for over twenty years. The cause of this disaggregation, though equally well established, is less widely recognized. It is commonly asserted to be due to the effect of psychical trauma acting on a mind congenitally unstable in certain respects. Those who hold this "traumatic" view would probably find no difficulty in explaining the case described above, and in attributing it to the action of the physical and mental stress just specified. This view undoubtedly contains a modicum of truth, but the incompleteness of it becomes more and more apparent the deeper we penetrate into the basis of the symptoms; the inadequacy of it in the case here described will presently be made evident. Closer investigation into the nature of the pathogenic mental processes demonstrates that there is always a very precise reason why they have become split off, or "disaggregated"; the defect in assimilation of these processes is due namely to the incompatibility of them with the main body of the personality. The patient cannot reconcile them with the rest of his mind because they are to him painful or unpleasant. He automatically strives to forget them, to submerge them, or, as it is technically called, to "repress" them (*Verdrängen*).

From this point of view it is plain that every hysterical symptom essentially rests on a pathological amnesia, though in most cases not only the nature, but the very existence of the amnesia is unknown both to the patient and to the physician. In some cases, as in the present one, the amnesia does not become converted into a symptom, but remains as such, and is manifest to all. This latter condition is not so simple, however, as might be supposed from these remarks,

for the amnesia which is obvious, and which can usually be overcome by very simple measures, is a secondary phenomenon, being dependent on a deeper mental process, which has been still more profoundly forgotten. Even when we have reached this second group of mental processes it is only to find that it in its turn has been "repressed" and forgotten because of the action of a still deeper group, which is itself similarly conditioned. An hysterical symptom is thus seen to be built up by an extensive series of amnesias, of different levels. If only the uppermost amnesia is removed it will readily recur, and the deeper the level reached in the analysis the less likely is the symptom to be reconstructed.

The treatment of a case such as the present one would consist in the following procedure. We ask why the patient wished to forget the memories in question, and we find it was because they are associated with other more painful thoughts he did not wish to recall. We then go on to ask why these other thoughts were too painful to recall, and we get a precisely similar answer, namely because they are associated with yet deeper thoughts which he was still more desirous not to recall. We continue the investigation in the same way, constantly asking "Why?" and continually penetrating deeper and deeper into the patient's mind, and reaching further and further back into his earliest memories. The pathogenic chain of associations is in this way traced to its original starting point.

There was no opportunity of making any such analysis in the present case, but enough indications were present in connection with the terminal links in the chain to illustrate some of the mechanisms by which they were forged. The question with which we started was: "What motive had the patient for not wishing to know who he was and where he had come from?" Or put in another way, "Why were his autopsychic memories so painful to him?" The patient himself naturally wanted to recover these lost memories, but some conflicting motive for suppressing them was also struggling in his mind to gain expression, and this "repressed" wish had finally succeeded in attaining gratification.

A direct clue to these questions was obtained by inno-

cently interposing in the conversation, which ensued on the patient's recovering his personal memories, the query, "Who is Bert Wilson?" He at once replied, "He was one of the cooks on board the Louise, the boat I went my first long voyage in." "What became of him afterwards?" "I haven't heard anything of him since I was a boy. All I can remember of him now is that he was a darkey, and that in between his voyages he used to live with a white woman who kept a sailor's lodging-house in Shadwell, London."

At this point the reflection naturally arises that the patient's motive in "repressing" his personal memories might have been to escape from the unendurable situation in which he found himself. If we reconstruct his mental state at that period we might express it in the following artificially definite phrases. "Oh, if only I didn't have the frightful responsibility, to which I am not equal, of having a dependent wife. If only my wife could support herself without having to look to me. If only I could go away, as Bert Wilson used to on long voyages, and safely leave my wife, as he used to, in the knowledge that I should find her all right when I returned. If only I were like Bert Wilson." The passionate wish, although suppressed on account of the unmanliness and disloyalty it connoted, realized itself, as wishes so frequently do, in the belief that he really was Bert Wilson. I deem it very probable that some such process as here depicted actually occurred, though, like most interpretations of hysterical symptoms, it is merely part truth and is only a very incomplete explanation of the real events. We shall presently note, however, several observations that go to support the suggestion just made. The mechanism of *unconscious identification* (Freud's "*Identifizierung*") is exceedingly frequent in hysteria, and accounts for much of the so-called "imitation" of the symptoms of other patients. The unconscious fantasy fuses its own "repressed" wishes with the realization of these wishes that occurs to some one else, and identifies the individual personality with that of the other person. In the present case it is likely that the similarity of the two names greatly facilitated the occurrence of the process.

Bert Wil — son

Bert Wil — liams



The significance of proper names to the personality varies considerably with different people, and is often very great. There was much evidence to show that with the present patient this significance was unusually great. One instance may at once be mentioned; namely, he volunteered the statement that he loved his wife so much that he could not bear the thought of any other woman being called by her name, Annie. Two other statements made at the same interview go to strengthen the suggestion ventured above. First, he had as a boy greatly admired Bert Wilson, and had much envied him his access to his mistress on the convenient arrangement above referred to. Secondly, his journey to Toronto, where he knew no one and had no prospect of getting employment, had been suddenly determined by his seeing a placard in Buffalo announcing that navigation was open on Lake Ontario. The picture of the steamship on the advertisement aroused his old longing for the sea as a means of escape from conditions he could no longer endure. In fact, he had himself, as a boy of twelve, escaped from school by climbing through a window at night, and run away to sea.

My second interview with the patient was on May 31. He had fairly well retained his recovered memories, with one notable exception, which will be mentioned in a moment. One of my first questions was, "Are you sure about your own name now?" He answered, "Oh, yes. Frederick Albert Williams." After a while he remembered that he had made a mistake and corrected the name to Richard Albert Williams. The origin of the mistake we shall come upon later. The most interesting feature of this interview, however, was the patient's absolute amnesia for the man Bert Wilson, an amnesia I had anticipated would probably occur, though I need hardly say that I let no inkling of this escape me which might act as a suggestive influence.

Q. Tell me again about Bert Wilson.

A. Wilson? You mean Jack Webb, don't you? (Pause.) Why don't you keep some fencing-foils or boxing-gloves here to pass away odd moments? (We were in my consulting-room.)

The unconscious deviating from a painful subject is very clearly seen here.

Q. Who was Jack Webb?

A. He was with me in the Primera for a couple of years. We had a big fight, because I wouldn't stand his trying to boss the fo'castle, and licked him. (Evidently the reason for the combative suggestion made to me in his preceding answer.)

Q. No, I mean Bert Wilson.

A. Bert Wilson, you mean the fighter in New York. (Preservation of the combative idea.) (Pause.) No, I must be thinking of Bert Keyes. (Pause.) I remember Jack Wilson; he was a schoolmate of mine and we ran away to sea together, but we went on different vessels and I have hardly seen him since. (Again the idea of "Wilson running away to sea" is in his mind, though in an innocent form; we also see now why the thought Jack Webb had come to him when he was asked about Bert Wilson — mediate clang association.)

Q. The man I mean was colored.

A. That must be Frederick Stanley.\* He was a fireman on the Mary Thomas boat out from Cardiff. He was a West Indian nigger.

Q. No, the man I mean was a cook, not a fireman.

A. The only cook I can think of whose name is like that is Bert Williams, a man of my own name. He's a chef in the Mansion House in T —.

Q. No, that man is white. Bert Wilson was a cook, but he was colored.

A. That must be Frederick Kerr. He was the second steward on the William Cliffe.

Q. Who were the cooks on the Louise?

A. Jimmy MacGregor was the first and Jack Green the second.

The last questions were put in a leading way only after prolonged efforts, employed after inducing a hypnotic state had completely failed. In two hours I could evoke no memory whatever of Bert Wilson. One felt fairly sure that the first account of Wilson was correct, as was later substantiated. It is a safe rule when an hysterical patient gives two different stories to rely rather on the first, sponta-

\*The unimportant names I have altered for obvious reasons.

neous one; the second is usually a product of subsequent "repression."\*

In the third interview, on June 4, the patient at once recalled the names of the men mentioned on the previous occasion, but still had no knowledge of any Bert Wilson. He now stated, however, that on the Louise there had been besides the two cooks whose names he had before mentioned, three other men in the galley; two of these were white, one the baker and butcher and one whose duty it was to prepare the vegetables, and one was colored, the scullery man. The name of the last man he did not know, but remembered that he "hailed from Dublin, and that he jumped (deserted) at Sydney."

At first he said he had never been to Shadwell and knew no one there, but after many efforts, aided by a map of Shadwell, he recalled the street in which the sailor's lodging-house was situated and the name of the woman who kept it. He then volunteered that Frederick Stanley used to live with her when ashore. (We here get the probable explanation as to why the patient temporarily altered his name to Frederick in the preceding interview — further "identification" of himself with a man who could go to sea and leave his wife.) "But there was another darkey used to live with her (pause), he was scullery man on a boat with me (pause), running to Australia. He hailed from Dublin." After awhile he remembered that this boat was called the Louise. "I fancy he was one time fireman on the Mary Thomas" (evidently now confounding Wilson and Stanley, the paramours of the same woman). He still could not recall the man's name, but from a written list of familiar and unfamiliar names he picked out that of Bert Wilson. Even now he hesitated, and seemed to think there was something wrong. "'Bert' is all right, but 'Wilson' seems to belong to Jack Wilson; when I think of the name 'Wilson' Jack comes into my head and fills it." After about half an hour's work on the point, however, the doubt was cleared up as follows: Bert Wilson was in fact the name of the negro scullery man on the Louise, but it was a false name he had taken after deserting from a ship so as to escape the penalties thus incurred.

\*Freud. Sammlung kleiner Schriften. 2<sup>e</sup> Folge. 1909. S. II.

Before again taking up the main theme of the "identification," we may shortly consider two little matters which illustrate some processes characteristic of hysteria. The first concerns what Freud terms "Überdeterminierung," that is to say the convergent action of several factors to produce the same result. There may be two causative factors acting in the same direction, each of which may be unable alone to bring about the result, though the two succeed when they act in unison. The following is an instance of this. When the patient hesitated as to whether Bert Wilson was the correct name of the scullery-man, I asked him whether any alternative name suggested itself. He slowly replied, "Perhaps Thomas; no; I am thinking of Captain Thomas of the Mary Thomas boat, owned by Radcliffe and Thomas, and sailing from Cardiff." Now, in inquiring why the name Thomas occurred to him in this connection, we find at least two trains of association indirectly binding the name Thomas to that of Wilson, so that when the patient was in doubt about the latter name the former associated name suggested itself as a possible though incorrect alternative. The first train was that the Mary Thomas boat was the one on which Frederick Stanley had served — the man whom we saw above he confounded first with himself and then with Bert Wilson. The second train reaches further; not only was there on the Mary Thomas, owned by Radcliffe and Thomas, a man who resembled Bert Wilson in the crucial respect of living with the same woman in London and under the same conditions, but another man, Captain Thomas, who bore more indirect relations to the name Wilson. Immediately after the remark quoted above the patient spontaneously continued, "There was another Captain Thomas of Llanelly who sailed on a boat belonging to Williams of Cardiff (the same seaport as the last), but I can't remember the name of the boat." He puzzled over this name and couldn't be got to leave the subject. I suggested the name "Sumatra,"\* but he answered, "No, that was his first boat, I mean a later one." After a long pause the name flashed to him "Gwalian." I asked him whether the name Gwalian reminded him of any other name, and he at once replied Gwilym. "Do you

\*It so happens that I knew the captain in question and his boat.



know the meaning of that?" "Yes, it is Welsh for *William*." So that Captain Thomas had a double connection in his memory with the name Williams, which as we have seen was closely associated with the name Wilson.

These facts show the astounding network of associations that is unconsciously operative in the lower forms of mental processes, and also illustrate some of the ways in which one mental process gets linked to another. Thus, William — Gwilym (Translation from one language to another; the Identity form of Extrinsic Association) — Gwalian (Clang Association).

A very frequent occurrence in hysteria is that, of two groups of memories, it may be possible for the patient to recollect either at different times, but not both at the same time. Each of the two is harmless alone, but the two are incompatible because the relation between them is associated with deeper painful memories. Thus the present patient had the greatest difficulty in retaining both the names Bert Williams and Bert Wilson. When he was first seen he knew the latter name; for a short time after hypnosis he knew both. When I next saw him he knew only the former.

The "repression" process also extends from the original memory on to harmless but associated ones. It is a general rule in clinical psychology that an indirect and apparently harmless association is much more efficacious in evoking an external manifestation of a painful complex than is a direct association. Thus in the association-reaction test a word indirectly bearing on a painful subject is more likely to be accompanied by delayed reaction-time, etc., than one directly bearing on it; a man accused of theft is more likely to give an abnormal response to the word "left" than to the word "steal." In the present instance the patient reacted normally to the word Williams at a time when he could not recall the word Gwalian.

Another instance of this was given at the first interview. The patient could recall many facts about New York, even some particulars about his former address there, but when I asked him on what street was the Grand Central Station — which he had left to go to his later address — he could not remember.\* On being persuaded to guess he suggested Twenty-fourth Street.

\*The station is, as is well known, on 42d Street.

This little example illustrates two common processes in hysteria. In the concealing of an unconscious complex the conscious manifestation frequently consists of the identical material of the complex, but in a distorted form (Freud's *Verwendung desselben Materials*); when a word or a name in particular is being "repressed" the form that appears in consciousness is often composed of the identical letters of the word, in an altered order. It was no mere chance that the patient did not guess 95 or 37. Further, one of the commonest modes of this distortion is, as here, simply the reversal of the content of the complex. The reversal may be either in space or in time; it is also particularly frequent in normal dreams.

When I asked the patient to guess again he answered this time with 28 ( $24 + 4$ ), then with 32 ( $24 + 4 + 4$ ), then finally with 26 ( $24 + 2$ ). The same play on the figures 4 and 2 is manifest throughout, 4 being naturally the more prominent of the two. It is perhaps also not without significance that the patient's address in New York was 4 Charles Street. Those who believe that the occurrence of these figures is a matter of mere chance are recommended to make a psycho-analysis of any figures which appear in their own dreams, or which they freely "choose" for any purpose without there being any reason why some figures should be chosen rather than others;\* if they do this they will soon be convinced that the occurrence of "chance" figures is just as rigorously predetermined by previous mental processes as are all our "chance" thoughts. The same unconscious play goes on with figures as with words, in the lower forms of associative activity.

To continue the history of the case. After the return of the autopsychic memories a number of other symptoms either developed or became more prominent, namely agoraphobia, auditory hallucinations, marked concentric contraction of the visual fields, reduction in visual acuity amounting in the evening almost to amaurosis, simultaneous micropsia with the left eye and macropsia with the right. His physical health was fairly good, especially towards the

\*See JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. III. p. 164, and Adler, Drei Psycho-Analysen von Zahleneinfällen und obsidirenden Zahlen. Psychiatr. Neur. Woch. Jahrg. VII. S. 263.

end of his stay in the hospital. We failed to find employment for him or in near Toronto, and as he said his prospects in Albany were good, we sent him there.

We may now summarize in the following way the "identification" theme developed above. The patient's unconscious fantasy had fixed his cowardly and "repressed" wish, to escape from his difficult situation, with the old memories of a man whose life was the actual realization of that wish. Bert Wilson was a man he had formerly envied, of the same profession and almost the same name as himself, who used to free himself of ties by going away to sea (as the patient had himself done when a boy), who could happily leave his wife to look after herself and would find her safe and prosperous whenever he returned, who had deserted from his duty, and had changed his name, to escape from the responsibility of that desertion. The resemblance is certainly striking enough to influence a man in such desperate straits as was the patient.

Still it is evident that this process, intelligible enough as it may seem, would not have occurred in a normal person, however great the stress to which he had been submitted. We cannot therefore have more before us than the beginning of an explanation of the symptom under discussion. We have penetrated below the first layer, but we are only at the outset of the task of tracing the symptom back to its earliest origins. This task was for obvious reasons pursued hardly any further in this case, but a few indications were present to serve at all events as a clue to the next step in the analysis.

When I saw the patient for the second time, fifty-seven hours after the first interview, one of my first remarks naturally was, "I suppose you have written to let your wife know you are all right." Not altogether to my surprise, he said, "No, haven't you done so?" He explained this by adding that "he thought the news would come better from a doctor, so that he had put off writing till he heard from her and knew that she was all right," though he had taken no steps to get any doctor to write. This lame excuse only added emphasis to the abnormal mode of reaction, which I think will be agreed was certainly unnatural for a man who was deeply concerned about his wife and baby, as the patient sincerely was.

Still more noteworthy were the following facts, elicited in the same interview. When he left Rome on April 15 it was with the fullest intention of going to Albany, where he had good prospects of getting employment, and he was at a complete loss to explain why he turned westward to Brockport, and not east to Albany. Some abnormal, unconscious impulse was evidently guiding his movements even at that early period. But most remarkable of all in this connection was the next memory, which was recovered after very great efforts. When he was in Brockport he received a postcard, which was forwarded to him from his Rome address, offering him a situation for the summer at Saranac Lake. The salary was \$90 a month, and it was specifically stated that his wife and child would be given free board and lodging. On getting this invitation, which was exactly what he wanted, he turned away from Rome and Saranac and proceeded to wander in the northwest part of the state looking for employment.

Light is thrown on these curious circumstances by a statement of the patient to the effect that all his life he had been subject to periodical attacks of what he called *Wanderlust*. He had not had an attack for a couple of years, but during the whole of March he had felt one coming on and progressively getting stronger and stronger. We thus have to do with some form of hysterical fugue, but, although several suggestive points concerning it were elicited, it would take us too far from the purpose of this article to enter on a discussion of this extensive subject. Enough, however, has perhaps been said to indicate the complexities to which even the partial elucidation of a single symptom leads, and to illustrate a few of the psychological mechanisms by which such symptoms are produced.

In conclusion a word may be added on the different forms of amnesia. It used to be taught that memory depends on four processes, registration, conservation, reproduction, and localization in time, and that an amnesia may be due to defective functioning of any one of these. The modern trend, on the other hand, is to look to reproduction as the source of every defect in memory. It is obviously incorrect to call the result of defective registration an amnesia,



for what has never been acquired cannot be lost, so that we are at once reduced to the other three. The fourth process, localization in time, has long ago been shown to be unnecessary for even perfect recollection of a given memory. The present case gave numerous instances of this fact. For example, the patient gave a detailed account of the public events concerned with the King's accession and coronation — his illness, etc., — but could not say whether it was before or after the Boer War, although he was in South Africa at the time of this; he gave the date of the accession as six years earlier than one he gave half an hour after for the death of the queen.

Most forms of amnesia are usually classified under one or other of the sub-groups of either retrograde or continuous amnesia. The present case was of course mainly retrograde in type, but many instances of continuous amnesia also occurred. For example, on May 31 the patient went to Hamilton to apply for work in a certain hotel there, but in the evening of the same day he had quite forgotten the name of the hotel and also several important details of the excursion.

It is frequently assumed that the two main types of amnesia, retrograde and continuous, correspond respectively with defects of reproduction and of conservation. Thus Coriat\* writes: "If the conservation of experiences is at fault, it is then impossible to have memory of any kind, because nothing is stored up. Impressions then are forgotten as fast as they are experienced, making what is termed a continuous amnesia." I must personally confess to the profoundest scepticism as to whether this latter process ever occurs, in other words as to whether there exists at all an amnesia due to a defect of conservation. The more carefully we investigate cases of continuous amnesia, the more do we find that they are due to defects, not of conservation, but of reproduction. It was easy to show in the present case that the continuous and anterograde amnesias were of this nature, for by special devices all such forgotten memories could be recovered, and my belief is that theoretically at all events this is always possible. It is evident that no one has the right to speak of a conservation amnesia until he has

\*THE JOURNAL OF ABNORMAL PSYCHOLOGY, Vol. IV. p. 4.

excluded the possibility of the symptom being due to defective reproduction. The evidence is rapidly increasing, which indicates that provided apperception, and therefore registration, are sufficiently unimpaired then the memories will be indefinitely conserved, and any apparent loss of them is really due to defective reproduction only. Such a view is of course very hopeful, for it encourages one to expect that with improved special technique cases of amnesia will always yield to treatment, provided that the mental functioning in general does not too greatly deviate from the normal. Corcket\* recently reported a case of complete hysterical autopsychic amnesia more profound than in the instance here reported, which was unchanged at the time of writing, two years after the onset. We have every reason to expect that with increased knowledge and improved technique such a case will in the future be readily amenable to treatment.

\*Corcket. *Ann. Méd-Psychol.* 1908. p. 37.

## THE MECHANISM OF AMNESIA

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*(From the Neurological Clinic of the Boston City Hospital)*

CONTINUED FROM APRIL-MAY ISSUE

### GROUP II

#### *Case 1.—Retrograde Amnesia following Trauma.*

(Service of Dr. Knapp.)

While walking on a railroad track one Friday evening about 8 P. M. two trains passed the patient in such close proximity that he became frightened. Nothing further was remembered until the patient found himself on the following morning in one of the wards of the Boston City Hospital. At first when he awakened at the hospital there was a retrograde amnesia comprising the whole of Friday and extending back to the previous day (Thursday), to about 11 P. M. During the day a portion of the retrograde amnesia cleared up, but there remained a blank in the memory from 8 P. M. Friday to Saturday morning. There is no recollection of having been struck by a train, no dreams, and the lost experiences could not be recalled by experimental distraction with the exception of a hazy memory of passing through a cemetery.

#### *Case 2.—Confusion after Trauma with Retrograde Amnesia and Gradual Spontaneous Recovery of the Lost Experiences.*

(Service of Dr. Thomas.)

The patient, E. S., age thirty-three, was admitted to the Boston City Hospital on Sept. 18, 1907. For a week previous to admission he had been in jail. It was thought that he had been in a drunken brawl and received a blow on the head. The diagnosis was basal fracture. On admission to the hospital he was conscious, but muttering and

rather dazed, and gave irrelevant monosyllabic replies to questions. It was learned that the patient left Lynchburg, Va., where he signed as laborer on a coal barge, some two weeks previous to his admission to the hospital. There was, however, a retrograde amnesia comprising these two weeks. He had a vague idea about leaving Lynchburg, but did not know when, neither could he tell the name of the vessel on which he sailed, the name of the captain, or the landing in Boston, or subsequent events. He did not know where he was. On Sept. 13, 1907, he talked freely, was clearly oriented, but gave his age as twenty-eight, said he was a porter in Lynchburg, Va., and signed to go on a coal barge. He is unable, however, to give the captain's name, says he never knew it, and is likewise unable to give the name of the vessel, claiming that it had no name, "It was only a coal barge." He now clearly remembers leaving Virginia and signing the paper, also the events of the voyage, and the landing and unloading at the wharf. He also remembers his drinking brawl, the quarrel, says he was struck on the head, and later was arrested and taken to jail.

### GROUP III

#### *Case 1.—Epilepsy with a Peculiar Amnesic Complex following an attack of Petit Mal.*

(Service of Dr. Bullard.)

J. C., age forty-five, had his first attack of unconsciousness, said to have followed an indiscretion in diet, when twenty years of age. These have continued in a modified form up to the present. These attacks are of one to two minutes' duration. During these momentary attacks he is conscious of his actions and the aura is usually sufficiently prolonged to enable him to reach a safe place so as not to fall or injure himself. During the course of the examination the patient had one of these light attacks, consisting of staring, a slow rubbing of the forehead with the right hand, mumbling a few disconnected syllables, and making a few guttural sounds, and then turn to normal consciousness with a start. The duration of the entire attack was about thirty seconds.

In this case it is necessary to give certain definite dates.



The patient first came to the neurological clinic of the Boston City Hospital on July 23, 1906. The history, as given above, was obtained from the patient, he was given a complete physical examination and advised as to treatment. It was during the course of this examination that he had the attack to which we referred above and which strongly resembled *petit mal*. We shall later see the effect of this single attack upon the patient's mental life, particularly his memory. He reported at the hospital again on August 3, 1906, and on August 6, 1906, and was not seen again until April 15, 1907. At this time he absolutely denied having been at the hospital before. He gave the same name as previously, however, and all the data of the former history and examination fully corresponded with an independent physical examination. When confronted with these facts, the patient still denied having been at the neurological clinic and stated that at this date (April 15, 1907) he saw me for the first time. He stated that he had no object in telling an untruth, and as the attitude was perfectly sincere, it became evident that we were dealing with an extensive amnesia. An analysis of the facts showed this to be the case. To the examination of this amnesic state we will now direct our attention.

The patient did not recollect ever having lived at No. 9 — Street, the address which he gave on coming to the hospital for the first time (July 23, 1906). In a note book which he carried in his pocket, however, this address was found, and likewise notes giving the days on which the nerve clinic of the Boston City Hospital was open. These were all dated July 19, 1906, four days before the patient's first appearance at the clinic. There was absolutely no recollection of making these notes, although he admitted that they were in his handwriting. He stated that he left for Cleveland, Ohio, in August, 1906, and remained there until three weeks ago, then returning to Boston. He distinctly remembered leaving Boston on a night train and proceeding to Buffalo, N. Y., and from thence he journeyed to Cleveland by one of the lake steamers. He furthermore stated that he was employed as night watchman by one of the banks in Cleveland during August, 1906. In his pocket was a recom-

mendation from this bank in Cleveland dated August 22, 1906, and although the patient stated that he was employed by this bank for a period of two months, the content of the note showed that he worked there for only a short time. An entry in his diary, dated "July 19, 1906," refers to the payment of his room rent at the time, although the patient has no recollection of this, and furthermore, when he first appeared at the clinic on July 23, 1906, he was at the same address. The patient must have left Boston after his last appearance at the hospital on August 6, 1906. Thus we have a total amnesic period of at least eighteen days. It is probable that the attack of *petit mal* observed on July 23, 1906, produced a retrograde amnesia extending back to July 19, 1906, and then a phase of altered consciousness persisting up to August 6, 1906, and for which the patient was subsequently totally amnesic. Attempts to restore the dissociated experiences by the method of distraction were unsuccessful.

Case 2.—Cerebral Concussion with Retrograde Amnesia.

(Service of Dr. Prince.)

W. M., age forty-eight, first came to the neurological clinic of the Boston City Hospital on Nov. 13, 1907, with the following history: Two months previously he had fallen from a window, a distance of fifteen feet, striking on the head. He was unconscious for twenty-four hours following the injury. Since the accident there has been a dull continuous headache associated with vertigo and a distressing sinking sensation. He is drowsy a great deal of the time, but no true narcoleptic attacks or episodes of confusion occurred. Although for years he had been a moderate drinker, yet he was not drinking before he received the injury, while since the accident there has been an intolerance to alcohol. The neurological examination was negative. An analysis of the patient's mental condition at the time of the accident revealed the following facts. The last thing he remembers on the day of the accident is attending a ball game, which he left at the fourth inning in company with some friends at 4.30 P. M. He remembers nothing more until he found himself in the hospital ward. As the accident

occurred about 8 P. M., there is therefore a period of retrograde amnesia of about three and one half hours' duration. The accident occurred about three fourths of a mile from the place at which he saw the ball game. He does not remember whether he drank any liquor during this amnesic period. The amnesic period was perfectly stable, it could not be synthesized during experimental distraction, neither did any episode of the period spontaneously return. His only knowledge of these hours was gathered from conversation with friends.

*Case 3.—Cerebral Concussion with Retrograde Amnesia and a Peculiar Fluctuation of the Amnesic State.*

(Service of Dr. Thomas.)

The patient, T. M., age forty-one, while working on a staging at about 9 A. M., fell a distance of thirty feet. There was no fracture of the skull. For three days following the accident, he was unconscious, and about ten days later he began to suffer from severe frontal headaches and vertigo, especially on stooping, but there was no loss of consciousness, no convulsions, and no vomiting. There was nothing of special importance in the neurological examination. An examination of the memory, however, showed an interesting retrograde amnesia, sharply limited and comprising a period of two hours. It extended from the time of the accident at 9 A. M., backward to 7 A. M. of the same day. The patient's home was a distance of five miles from the place at which he worked. He remembers going to bed the night before the accident, but does not remember awakening on the morning of the accident, dressing himself, eating breakfast, leaving the house, taking a car to the place where he worked (distance of five miles), arriving there or climbing the staging. Experimental synthesis of the amnesic period was unsuccessful. A week following this examination one of the memories of the amnesic period spontaneously returned. He then remembered going to work, but did not recall leaving the house or taking a car. The severe headaches continued, and the following peculiar condition was noted. When the headaches are particularly severe the

amnesia is absolute; when less severe, the memory of the period is hazy; and when he is free from headache, the amnesic period can be clearly recalled. On one day on which he was free from headache he gave a detailed account of his actions during those two hours. There have been no special dreams.

*Case 4.—Cerebral Concussion with Retrograde Amnesia.*

(Service of Dr. Knapp.)

W. J., age twenty-two, while in an intoxicated condition, received a blow on the head while resisting arrest. A scalp wound resulted, for which five stitches were taken. For a week previous to the head injury the patient was drinking hard and was almost continually intoxicated. Following the injury he was unconscious for eight or ten hours, and on regaining consciousness found that he was unable to recall any events of the week previous. The memories of the amnesic period have never spontaneously returned, although a period of several years has elapsed. His only knowledge of the events of that week comes through information gathered from friends. None of the memories returned in dreams.



## ABSTRACT

THE PHYSICAL BASIS OF MIND. By Charles Mercier, M.D. *The Journal of Mental Science*, Oct., 1908.

IN his presidential address before the British Medico-Psychological Association, Dr. Mercier enters upon an instructive discussion of the physical basis of mind. Of all the mysteries by which the mind of man is bewildered, the mystery of mysteries is the constitution of mind, and the nature of the connection between mind and matter. It is the practical aspects of this connection that confront us in our daily work; for we cannot move a step in dealing with our patients except we take for granted some hypothesis of the connection between mind and matter. Although we speak glibly enough of chemical combination, cohesion, surface tension, and so forth, we can gain no concept of the nature of mind, and we have but an imperfect knowledge of the modes in which it works.

Without attempting to discuss the hypotheses concerning the relation of mind to matter, one must, as a preliminary measure, set forth the main, fundamental divisions, modes, or faculties of mind. The basis of mind, then, is the ultimate origin out of which all other faculties seem to have been evoked in the tremendous experience of pleasure and pain. Immediately connected with, and arising out of them, are the members of the next couple — desire and aversion, the prompters and motives to all forms of action. Desire and aversion may be long dormant, felt, experienced, but inactive. Action does not follow unless and until they obtain the sanction of will, the immediate predecessor, nay, the immediate cause of action. Action brings us into relation with change in incident forces which produce sensation, the raw material of perception and of all forms of thought. Lastly, mind is a continuance in which present consciousness owes its existence to past consciousness and is moulded into what it is by past experience. The continuance or revival of past conscious experiences is conscious memory.

These, then, are the modes of consciousness for which we have to find answering modes of nervous activity — pleasure and pain, desire and aversion, will, sensation, thought, and memory.

As to memory it is agreed that when a process — at any rate a process of thought or sensation — takes place in the mind and an

answering process takes place in the brain, this brain process leaves in the structure of the brain a permanent alteration; and whenever this path in the brain is retraversed, the brain process is very much the same as when it was traversed for the first time, but in some respects it is different, for now it follows a beaten track, whereas on the first occasion it had to make its own way. Wherever motion passes in a novel path through cerebral substance, there a structural modification is left; there a structural memory is formed; and when that path is retraversed a conscious memory arises.

While each individual memory is localized in a specific individual structure — probably a network of nerve paths — the reverse is true of sensations and no doubt of precepts. There seems to be no doubt that the sensations of the different senses, and probably to a less extent the precepts which cluster around each several sensation, are respectively localized in more or less defined areas of the brain. By sensations and precepts is meant, of course, the brain processes corresponding to the mental processes.

The physical basis of thought presents little difficulty. The process of thought is the establishment of relations between mental states. Now, if the existence in the mind of any mental state is conditioned by the activity of an area of gray matter, it seems to follow as of course that the juxtaposition in the mind of two mental states is conditioned by the activity in immediate succession to each other of two areas of gray matter; and this immediate succession of activity can be brought about no otherwise than by the spread of motion from one area to another: and the use with which two thoughts can be juxtaposed will correspond with the permeability of the medium between the two areas of gray matter which severally underlie them.

Regarding the physical changes in the brain which underlie the mental experiences that we know as will, as desire, and as pleasure and pain we know very little. Here we are dealing with mental factors of a different character from memory, sensation, and thought. Having for many years accepted the theory of parallelism to account for the phenomenon of volition, the author has now grown too old to be cock sure about it, and year by year is more inclined to the hypothesis of dualism as being fundamental to all morality and therefore the foundation upon which all society is built.

What is the physical basis of desire? Of all desires the most fundamental is the desire of sex, and this is not experienced until the sexual glands arrive at maturity and become physiologically active.

For practical purposes it seems clear that we must regard as the basis of sexual desire the action upon the nerve centers,—the modification of their nutrition and mode of activity—that is produced by the chemical product of the sexual glands carried to the nerve centers in the blood stream. Scarcely any desires are more urgent than those of hunger and thirst, and neither is ever experienced except in circumstances that imply an alteration in the chemical constitution of the nerve tissue. In the case of other desires such as that of hibernation in animals and migration in birds, the evidence of chemical influence in the nerve tissue is more difficult to obtain, but is not wholly wanting.

If the doctrine of the chemical conditions of desire is true, then we have in our hands, in the preparation of various organic extracts, a means of modifying desire, of diminishing desire that is excessive, and of reducing to the normal a desire that is morbid in direction. One should not be unduly sanguine, but it is, perhaps, not beyond the reach of human endeavor to reduce morbid desires to order by the administration of appropriate materials.

Among desires classed as morbid the most important is the desire for alcoholic drink. It is often alleged and still more often assumed that the difference between the sober man and the drunkard is that one possesses and the other lacks sufficient self-control to enable him to overcome his urgent desire for drink. Surely this is not the case. Wherein then lies the difference? The facts are these—that when alcohol is applied in solution in the blood to the brain tissues of one person, there arises in that person a pleasurable feeling; in another person there occurs no such pleasurable feeling. The feeling in the latter is neutral or unpleasurable or displeasurable. In one case there arises desire, in the other aversion for alcohol, and hence it seems that the physical basis of desire is a chemical change in the constitution of the central nervous system.

As regards the physical basis of pain it may be said that the physiological substratum of pain—of the pain of painful emotion as well as of the pain of disease and injury—is the delivery into the convolutions of currents from tissues in which katabolism predominates over anabolism, or in which the tendency is on balance towards dissolution and disintegration. On the other hand the substratum of pleasure, of the feeling of wellbeing, of joyous elation, may be supposed to be due to the delivery into the convolutions of incoming currents that are vigorous, copious, and well proportioned, that

speak of tissues and organs in a high state of efficiency, and that tell of the preponderance of anabolism over katabolism in the body at large.

JOHN E. DONLEY.

## REVIEWS

LECTURES ON THE ELEMENTARY PSYCHOLOGY OF FEELING AND ATTENTION. By Edward Bradford Titchener. 12mo, pp. viii, 404. The Macmillan Co., New York, 1908.

ATTENTION. By W. B. Pillsbury. Medium 8vo, pp. x, 346. The Macmillan Co., New York, 1908.

THESE two volumes may be of interest to psychiatrists since they sum up very readably the more important discussions of recent years on the topic of attention, and that of feeling. Professor Pillsbury's is the larger and more comprehensive treatise (on attention alone), while Professor Titchener's handles with a somewhat sharper analysis such aspects (of attention and feeling) as it takes up. Both authors agree that attention is a matter of *clearness* of mental content, and by this they do not mean intensity but rather a second intensive 'attribute' or a second dimension in which mental contents may vary. Thus a sensation of fixed intensity can vary in its degree of clearness, and vice versa. This 'attribute' (by some called *vividness*), although it is not a novelty, is still rather fraught with dialectical mystery and will bear watching through subsequent discussions. Nevertheless this view has the merit of repudiating attention as an inscrutable "faculty of the soul," the bane of an older psychology, and a thing so difficult to put out of mind, apparently, that Professor Pillsbury has not firmly established himself at the new point of view. Thus he speaks of "the mental effects of attention" and of "attention . . . controlling the centrally excited processes" (*italics not in original*), and this use of terms savors of the faculty psychology and somewhat impairs the logic of his volume.

Professor Pillsbury's volume, to indicate briefly its scope, discusses the motor concomitants of attention (sensory adjustment to stimuli, etc.), attention and "mental activity," span and fluctuations of attention, measurement of the attention, degrees of clearness among ideas, association and attention, attention in relation to memory, will, reason, feeling or emotion, to the self, and to cerebral anatomy and physiology; further chapters summarize several psychological theories of attention and present further considerations connected with pathology (this for the beginner, merely) and with education. Thus the volume treats most aspects of the subject, and



if some of the chapters, as perhaps that on physiology, contribute little of importance, others, as those on mental activity and the self, are admirable. A useful though not large bibliography, indices of names and subjects, and a very convenient summary at the end of each chapter add to the value of this excellent volume.

Professor Titchener's volume should be called fundamental rather than "elementary," since while it is psychological elements that are mostly under discussion, the treatment is decidedly searching. Thus the first lecture defines merely the term "attribute," which in most "elementary" essays would be freely used but not defined. The second lecture is devoted to the distinction between affection or feeling (pleasantness and unpleasantness) and sensation. And the chief difference is found to be "that affections lack, what all sensations possess, the attribute of clearness. Attention to a sensation means always that the sensation becomes clear; attention to an affection is impossible." And a second distinction is possibly, though not certainly, to be found in the fact that sensations are merely different, while pleasantness and unpleasantness are opposite or antagonistic. The former statement is based on the fact that feelings disappear from consciousness when we succeed "in making the feeling as such the object of attentive observation." But anybody will testify that intense feelings, at least, are also "clear" or vivid even though they disappear when we try to make them "the object of attentive observation": and this may suggest to some that there has been a confusion between attention as clearness and attention as reflective observation, which latter in palpable contrast to the former involves memory and analysis. But as was said above, the notion of "clearness" will bear watching. The third lecture is an analysis of Stumpf's paper *Ueber Gefühlsempfindungen*, while the fourth discusses Wundt's tridimensional theory of feeling. For very good reasons this theory is not upheld. A later chapter, the eighth, gives Professor Titchener's own, in part physiological, theory of pleasantness and unpleasantness. The fifth chapter, on Attention as Sensory Clearness, reviews five types of attention theory and admirably discusses the empirical conditions of clearness. The sixth and seventh chapters, on The Laws of Attention, discuss the relation of clearness and intensity, the "two levels" (focal and marginal) of consciousness, the inertia, temporal sequence, instability, etc., of attention. The eighth chapter deals with the relations between feeling and attention. And the volume closes with a valuable series of notes and two indices.

While Professor Pillsbury's book presents many facts and theories in a clear style, and would make an excellent textbook for the relative novice, Professor Titchener speaks rather to the mature

reader for whom the minuter and less obvious issues are precisely the most important. These are handled in an impartial and scholarly fashion, and the volume is (to use an abused term) thoroughly stimulating. Its scope is also considerable, and each least item finds itself set, somehow, in a sort of logical high-light.

To the reviewer it is a matter of regret that neither of these volumes considers the recent motor theories of attention of Professors Meyer, McDougall, and Münsterberg.

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THE PSYCHOLOGICAL PHENOMENA OF CHRISTIANITY. By George Barton Cutten, Ph.D. (Yale). New York, Charles Scribner's Sons, 1908. pp. xviii, 497.

THIS readable book, "the basis of another study in which the theory shall have the more prominent part," as the preface says, sets forth and briefly describes nearly all the psychophysical relationships of occidental religion. A list of the thirty-two chapter titles would indicate how broad is the range of these relationships, but we may denote its nature by saying that it includes the more essential part of that mass of anthropologic and psychologic fact made familiar to all by scientists like Tylor, Scott, Myers, Leckey, Hecker, and Ellis. The importance of the book lies largely in the completeness with which these interesting elements of human religion are summarized in a way so simple that the most untechnical student of things in general may not only easily but pleasurably acquire their substance. The numerous references to the original literature can scarcely help inciting many readers to a fuller knowledge of these purely human matters at once so interesting and so important. This kind of information is precisely what is needed by the busy merchant and his too often idle wife, who no longer go to church, to restore their confidence and to give them an understanding of the basal nature of natural religion. One misses, perhaps, the extensive evidence for the universality of religious belief of some sort in every race and tribe of man however primitive and crude,—anthropological material of the most convincing and important sort to any who doubts the reality of man's eternal reference to something primary to himself and greater. This omission from such a book, however, is in part compensated by a most wholesome and sane treatment of the problems of immortality, especially in its relations to psychical research, a treatment at once fair and fearless. "Men

of such world-wide renown as Lombroso, Flammarion, Marconi, Sir William Crookes, Sir Oliver Lodge, Professor Richet, Professor Hyslop, Professor James, and others, cannot be easily set aside by calling them fanatics or dupes," especially, we may add, when it is so clear that the majority of psychologists have not as yet the courage of their often anti-bread-and-butter convictions.

Doctor Cutten's discussion of the influence of suggestion on both the individual organism and on the crowd is thoroughly scientific. Suggestion alone, however, will not account for the miracles, he thinks, nor that plus certain probable inaccuracies in our present biblical accounts of the occurrences. For a Baptist clergyman, however, raised in the Nova Scotian fogs (the first atmosphere of so much stern conservatism and so many thoughtful men) such a viewpoint can but be deemed eminently satisfactory even from a physiologic location. Two chapters of the book are devoted to the relations of sexuality to religion, and while much has been left out, as is fit, the gist of the psychological relationship is ably presented except perhaps in the anthropologic field familiar to readers of Ploss and Bartels. That sexual processes in their mental phase are closely concerned with religious zeal oftentimes no one can doubt, surely; causal relationship has, however, never been proven, and perhaps the author too little accepts the scepticism of Professor Ladd and of Professor James as to this matter, and it may be that he is too much convinced, as many others have been, by the multitude of mere associations between sex and religion.

The book is ably written and its reading is pleasant, the author having a style clear and precise, and yet free of forbidding technical diction. It should have a large usefulness among all classes, since none lacks interest in religion in some one or other of its meanings. Dr. Cutten is to be congratulated on the production of one more bond between academic psychology and the great practical and universal freeholds of mankind. Psychology is rapidly coming to possess its own and religion orients itself apace in the natural faculties of the mind.

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# THE JOURNAL OF ABNORMAL PSYCHOLOGY

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## REPORT OF A CASE OF PSYCHOCROMES- THESIA

BY THOMAS HART RAINES, M.D., SAVANNAH

OF all the phenomena encountered in the study of abnormal psychology few are of more interest than that rather rare phenomenon — psychochromesthesia, or “colored thinking.” Doubly interesting does it become when associated with the synesthesia of “colored hearing,” or, as the French term it, “l’audition colorée.” The studies of Galton, Locke, Albertoni, Peillaube, and Harris are familiar to most students of abnormal psychology, and occasionally the technical journals report a case. But the reported cases are not so numerous as to pass unnoticed. It is hoped the report of the following case will add something to the already growing interest in this peculiar condition.

M. C. O., the seer in this case, is an unusually intellectual and charming young matron of thirty years of age. The mother of two children, she has lost none of her love of youthful things, nor has the quality of her intellectual life deteriorated in the least. To be mildly critical, she is far above the average in vigor of intellect, and excepting her decidedly mystical turn of mind, a woman of no mental bias of any kind. Just what part heredity plays in this psychic peculiarity of hers it has been impossible to determine, but undoubtedly that factor must be taken into account. One of her sisters thinks in color, while another does not, and when a child it was her custom to occasionally pound her less fortunate sister because she could not see and enjoy the wonderfully brilliant display of color so constantly present before her own eyes. She does not

remember a time when she was not used to thinking in color, and as a child to shut her eyes and see ring after ring of gay colors whirling in mystic mazes through the air was one of her chief pleasures, and so realistic were they, and so vivid, that her mother on more than one occasion spanked her most soundly for what she thought wilful fabrications. These concentric rings were always composed of a central disc of yellow, a second and surrounding ring of red, another of green, this latter color being present in most of the chromatic thinking of this psychochromesthete.

In the association of colors with persons, M. C. O. does not associate color with all people, most people appearing to her as black, her psychochrome for space. Only certain persons produce the sensation of color, and then only following the visualizing of that person. Thus, when first entering the presence of M. C. O., she visualizes me, recognizes me, and at once becomes blind to all but a flash of clear and beautiful yellow. So accustomed is she to this phenomenon, that unless it is referred to she never alludes to it. In fact, few if any of her acquaintances are aware of this peculiarity of hers. Her husband, myself, religion, God, Buddha, priests, the word music and certain mystic symbols always appear to her as yellow. Those symbols showing an opening of any kind, as the circle, triangle, or swastika, are yellow, because, as she expresses it, "a flood of yellow light flows through them." To the contrary, those symbols presenting straight lines are always seen as white. As examples, the swastika, the circle  $\bigcirc$ , the triangle  $\triangle$  and the letter "S" are always visualized as yellow, while the cross  $+$  and the letters "T" and "I" are invariably white. A serrated line like this  $\wedge\wedge\wedge$ , no matter when seen or in what connection, always brings with it the vivid vision of sea water in that peculiar shade of green always referred to as "angry green." Her little daughter is red, and her son blue and white.

For the months, hours, and numbers M. C. O. has no psychochrome, but for the days of the week, excepting Thursday and Saturday, she has. Monday is green, Tuesday red, Wednesday and Sunday purple, and Friday black. For the hours she has no psychochrome only as they fall within the broad limits of morning, afternoon, and evening.

The word "morning" is visualized as green, to think of it is to see green, while the afternoon is red, and the evening always amethyst, passing into the darker shades of purple as night approaches. To think of space is to be plunged at once into utter darkness. An interesting feature of this case is that, as a rule, letters, people, and objects generally that have no distinctive psychochrome are not visualized as being in themselves colored, but with a background of color. There are, however, certain exceptions to this rule, as, for instance, the letter "L," which is not only colored in itself a clear green, but brings with it the actual vision of a green budding tree. Happiness, as a word or as an emotion, produces the psychochrome of green; all desire is green, storm is green, as is also the letter "A." "E" is red, "B" and "C" are purple.

The synesthesia of "color hearing" is rather pronounced in the case of M. C. O. Certain musical selections are invariably associated with certain colors. Chopin is purple, Mozart green, Wagner red. For the "Intermezzo" from *Cavalleria Rusticana*, she has a passionate fondness and always visualizes a purple iris; while Schubert's "Serenade" brings instantly into view a rainbow in all its gorgeous hues, and, strangest of all, the sensation of having swallowed it. In music, the dominant is red, while the low tones are always purple. Any loud noise is red; if an unpleasant voice, the green of angry water. The only change that has taken place in the psychochromes in this case is that of anger, which in the childhood of M. C. O., was red, but now a "dull green."

Odors, too, have their appropriate psychochrome. Musk is always gold and brings with it the vision of dark faces, and the odor of carnations causes clouds of crimson to pass before the mind's eye.

In the life of our seer, color has ever played the most important rôle. To close her eyes is to at once usher in a giant kaleidoscope with its never ending play of color. In addition to this there are two set pieces that alternate and which, when her mind's eye is not busied with those visions for which there is some objective cause, at once assume the center of the psychic stage. The first of these pictures was



present at so early an age that she does not remember a time when she did not see it. There is a green hill surmounted by two broken marble columns, with the blue sea lapping its feet. The other, more complex and elaborate, presented itself at a much later date, and is of a Moorish doorway leading into a courtyard cool with the spray of splashing water and sweet with the scent of pomegranate flowers. A giant black in garments of snowy white stands guard over all. These pictures are present only when there is a call to fill a vacant frame, much as we see the painted drop in our theaters.

Beyond the very interesting phenomena of chromatic thinking and hearing, M. C. O. presents certain characteristics of the psychic, or medium. She has had several premonitory dreams,—always in their appropriate psychochromes,—and on several occasions has written automatically.

## CONTRIBUTION TO THE PSYCHOLOGY OF GENERAL PARESIS

BY DR. A. SCHMIERGELD

*From the Psychiatric Institute, Ward's Island, N. Y.*

IT is an opinion among general practitioners, shared even by a certain number of specialists, that the general paretics admitted to the asylums are completely demented, that all their ideas are absurd, that they are unable to judge the simplest things.

This is true in regard to the paretics who are in the last stage of the disease. In cases in which the disease is not of very long duration a psychological study of the patients shows that if their mental capacities are reduced, they are able, however, to answer correctly a great number of questions. A conversation of a few minutes is not sufficient to acquire this conviction; a paretic who answers very badly the first questions, is disoriented in time and place, who claims to be a millionaire, God, etc., may show after a careful examination a considerable intellectual store. To be able to judge the mental state of a paretic it is necessary to observe him during a few days, to waken him from his dulness, to gain his confidence.

The study of the psychology of the paretics has been somewhat neglected. All the abnormalities of their mental life are explained by the intellectual deterioration. This seems to be so obvious that relatively little has been done to prove it.

Desiring to elucidate the pathogenesis of the delusions in general paresis, I started with the study of their psychology. The examination of their capacity of judging the length, time, and value of objects gave me some interesting results, which I desire to report, without touching at present the problem of delusions.

The patients who have been used for these experiments have all been in the hospital for a considerable time. This excludes the preparalytic period and presumes that we have to deal with somewhat advanced cases.

Taking into consideration the poor education of the majority of the patients, I chose very simple tests. Before starting the experiment I took care to prepare the patient for it. I spoke with him frequently, questioned him about his health, his future, etc. This awakened the spontaneity of the patient and he co-operated afterwards more willingly and with greater efficiency.

At the beginning of every experiment, I explained once or a few times what I expected the patient to do. Only after being quite sure that he grasped the explanation I proceeded to the test. For a better understanding of the results it is necessary to have a general idea of the clinical history of the patients, therefore I give a brief summary of the ten paretics who have been used for the study.

*Patient 1:* Forty years old; bricklayer; intemperate in habits.

Onset of psychosis in May, 1906; admitted to the hospital in December, 1906.

Pupils small, unequal, do not react to light; accommodation is good. Knee-jerks are absent. Tremor of tongue and fingers; slurring and sticking speech. Megalomaniac trend of ideas; he is King of England, millionaire, has a great number of houses, four gold ships. Orientation, memory, calculation, and judgment very poor.

*Patient 2:* Thirty-nine years; weigher.

Onset of psychosis in April, 1907; admitted to the hospital in October, 1907.

Unequal pupils, reacting poorly to light, coarse tremor of tongue and fingers, exaggerated knee-jerks, impaired speech and writing; positive spinal puncture.

Megalomaniac ideas: "I've got \$170,000,000 in cash besides the gold mines. I own two hundred and fifty horses." Orientation is most defective; retention poor, memory hazy, insight and judgment very defective.

*Patient 3:* Forty-nine years; grocer.

Pupils are unequal and contracted; the right is the smaller and reacts sluggishly to light, while the left reacts promptly; both react to accommodation. Exaggerated knee-jerks, tremor of tongue and fingers, defective speech and writing, positive lumbar puncture.

Ideas of grandeur; he has about \$1,000,000, and also diamonds, watches, and rings; he is Kaiser of Germany. Memory impaired and judgment poor.

*Patient 4:* Forty-one years; chemist's assistant.

Onset of psychosis four years ago; admitted to the hospital in March, 1908.

Permanent paralysis of the third cranial nerve. The pupils do not react to light, unequal exaggerated knee-jerks, defective speech and writing, marked tremor of tongue and fingers.

On admission patient was megalomaniac. He said that his name was Rockefeller, Astor. "I've got about \$20,000,000, and I will have a whole lot more. I've a yacht." Poor memory and insight. At the present time the patient has given up his expansive ideas.

*Patient 5:* Thirty-three years; clerk; intemperate in habits.

Onset of psychosis in November, 1905, admitted to Central Islip, in April, 1906, and to M. S. H. in May, 1908.

Pupils unequal, contracted, right does not react to light, left reacts very sluggishly; knee-jerks absent; fine tremor of tongue and fingers; spinal puncture positive.

Patient is emotionally elevated; vague auditory hallucinations (hears spirits talking), mystic ideas ("I am God, I am the Father; I never had a father on earth, my Father is up above in Heaven.")

Memory is good, extent of school knowledge fair, poor insight and judgment.

*Patient 6:* Forty years; musician.

First peculiarity six months ago; admitted to the hospital in January, 1909.

Pupils are unequal, react sluggishly to light and normally to accommodation, exaggerated knee-jerks; fine tremor of tongue and fingers. Defective speech and writing.

Patient feels "very well." Has unusual ability as musician, poet, business man, and politician.

Extent of school knowledge impaired, insight deficient, judgment poor.

*Patient 7:* Forty-six years; carpenter.

Onset of psychosis in December, 1907; admitted in August, 1908.



Pupils unequal, do not react to light; exaggerated knee-jerks, tremor of tongue and fingers; slurring speech; positive lumbar puncture.

Patient is emotionally depressed, disoriented for time and place; defective memory; impaired judgment; no hallucinations or delusions.

*Patient 8:* Forty years; musician.

Onset of psychosis in September, 1907; admitted in February, 1908.

Pupils unequal and react sluggishly to light; knee-jerks exaggerated; slurring and ataxic speech. Delusions of grandeur (is the greatest musician America ever saw), and ideas of persecution (people are after him because they are jealous); poor memory and judgment.

*Patient 9:* Thirty-three years; barber.

Onset of psychosis in 1906, admitted in February, 1908.

Pupils unequal, do not react to light, deep reflexes exaggerated, tremor of tongue and fingers; defective speech and writing.

Patient is emotionally unstable and childish; no delusions or hallucinations, poor retention and grasp; defective judgment and insight.

*Patient 10:* Forty years, salesman.

Onset of psychosis in 1905; admitted in October, 1906.

Pupils unequal, irregular, react to light and accommodation, exaggerated knee-jerks; fine tremor of tongue, fingers, and facial muscles; defective speech and writing.

Patient is emotionally elated, somewhat euphoric; no hallucinations nor delusions; memory grasp, judgment, and insight poor.

#### ESTIMATION OF SPACE

Wizel,\* on the basis of his experiments, comes to the conclusion that general paretics have no idea of distances, and therefore in estimating length, make absurd statements. One of his patients measured the length of a room and found it 10½ yards long; already a minute afterwards he had forgotten the result and said that the room was 4,800 yards long.

Before relating my personal results I desire to draw

\*Neurol. Centralbt., 1903, No. 14, 15.

attention to the fact that in the appreciation of length normal individuals easily make little mistakes. The errors are greater, the greater the distance to be estimated.

The following questions have been proposed to the patients:\*

1. How long is this room? (10 feet.)
2. How broad is it? (13 feet.)
3. What is its height? (12 feet.)
4. What is the height of the attendant? (5½ feet.)
5. How long is his left arm? (2½ feet.)
6. How long is this table? (5 feet.)
7. How broad is it? (2½ ft.)
8. What is the distance from this place to the river? (Quarter of a mile.)

The following are the answers of the patients:

No. of PATIENT	No. of QUESTION							
	1	2	3	4	5	6	7	8
1	20 ft.		6 ft.		3 ft. 6 in.			1 mile
2		20 ft.	50 "	10 ft.	3 ft.	8 ft.	5 ft.	200 ft.
3	8 "	8 "	15 "	5 "	2 "	3½	2½	200 "
4	18 "	20 "	25-30	12 "	3 "			200 "
5	18 "	18 "	18 ft.	5 ft. 6	2½	6 ft.	3 ft.	300 "
6	18 "	18 "	15 "	5 ft.	2 ft.	3 ft.	2 "	1 mile
7	12 "	8-10-12	10 "	5 ft. 6	3 "	7-8	½-4	1½ mile
8	25 "	12 ft.	36 "	6 ft.	1½	6 ft.	1½	60,000 ft.
9	20 "	20 "	20 "	6 "	10-12 in.	12 "	6 ft.	100 ft.

These samples show clearly that the exaggerations are very far from being as important as Wizel states. It is easy to see that in the estimation of the distance from the hospital to the river — the greatest length — the errors are the most important. The greatest number is given by the patient No. 8; the same patient answers the other questions fairly well. As I already stated above, the estimation of long

\*Certain patients could not be questioned for any length of time; therefore, to some of them I only gave a part of the questionnaire.

distances is difficult for normal individuals and it must be, of course, still more difficult for demented patients.

I have also controlled the observations of Wize concerning the drawings of general paretics. This author states that the patients are unable to draw regular figures and explains this by the defective judgment of distances. All my patients (except one who is very ignorant and never in his life tried to make any drawings) could do it in a very satisfactory way, some of them even very well.

#### ESTIMATION OF THE VALUE OF OBJECTS

One would expect a priori that paretics, especially those who are megalomaniac, have no idea of the value of objects. But it is not so in reality. They have sometimes even a tendency to diminish the prices. The objects shown to test this were the same in all experiments.

OBJECT	No. OF PATIENT									
	1	2	3	4	5	6	7	8	9	Price
Knife ....	10c	\$1	50c	25c	35c	25c	25c	35c	\$1½	25c
Watch ...	\$18	\$3		\$10	\$15	\$3-4	\$10	\$21-½	\$6	\$6
Pencil ...	5c	10c	5-10c	2c	3c	2-3c	10c	5c	5c	5c
P. book ..	5c	15c						50c		10c
C. Buttons-	\$1	\$1½	\$1		\$1½	25c	\$1	\$1	75	75c
Necktie ..	20c	50c		25c					65c	50c
Shirt .....	\$2	\$1½			\$1½	\$1½	\$2		\$1½	\$1½
Key .....		25c	5c	25c	50c	10c	50c	5c	75c	75c
Handk'ch'f	5c	10c	10c	15c	15c	10c	15c		25c	10c
Bed .....		\$4								\$6
Shoes .....			\$3½	\$3-4	\$3½	\$3	\$6	\$3½	\$4	\$4
Table ....				\$10					\$712	\$6

In all these cases we do not find any absurd estimation. No patient, even among those who claim to possess hundreds of millions, pays \$1,000 or \$10,000 for a shirt or a necktie. The "rich" paretics pay sometimes even less than the poor.

#### THE MEMORY OF TIME

This is a very difficult test, time being an abstract

notion. For its evaluation, normal individuals have to use watches; otherwise the errors made can be considerable. Some of the paretics have lost completely the idea of time. They cannot tell how many seconds are in a minute and how many minutes in an hour. These patients of course cannot be used for experiments. Among the others, one group gives fairly good answers, another group overestimates the time in an absurd way. The experiments are conducted as follows. A metronome is put in movement for a certain period, and afterwards the patient evaluates the duration of this period. He has not to count the number of beats because this could allow him to get an idea of the time. To avoid this the beats have to be very rapid. The metronome is used to attract the attention of the patient. The following results have been obtained with normal individuals.

N. P. INDIVIDUAL	TIME			
	30 sec.	2 min.	40 sec.	1 min.
No. 1	30 sec.	3 min.	1 min.	40 sec.
No. 2	25 sec.	2½ min.	32 sec.	53 sec.
No. 3	15 sec.	1½ min.	20 sec.	1½ min.
No. 4	1 min.	3 min.	1 min.	1½ min.
No. 5	2 min.	5 min.	3 min.	3 min.
No. 6	1 min.	3 min.	1½ min.	1½ min.

In the cases of paretics we obtained the following results:

PATIENT	TIME			
	30 sec.	2 min.	40 sec.	1 min.
No. 2	10 min.	25 min.	12 sec.	20 min.
No. 3	30 sec.	30 sec.	20-25 sec.	30-45 sec.
No. 5	1½ min.	10 min.	12 min.	5 min.
No. 6	1½ min.	8-10 min.	3 min.	4-5 min.
No. 10	7 min.	30-35 min.	25 min.	20 min.

These tables show two things, first the paretics evaluate time very badly; second, there is no difference in this regard



between paretics with delusions of grandeur and without these delusions.

#### CONCLUSION

What can we conclude from all this? The result seems to be that paretics have during a long time an approximately just idea about distances and the value of objects; their estimation of time is more erroneous. The errors are the same in the case of paretics with delusions of grandeur and of those without expansive ideas. We can, therefore, say that there exists no direct relationship between the genesis of delusions in general paresis and erroneous estimation of space, time, and value of objects.

## CERTAIN PULSE REACTIONS AS A MEASURE OF THE EMOTIONS

BY ISADOR H. CORIAT, M.D.

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THE influence of unconscious and co-conscious (subconscious) emotional complexes or of conscious ideas associated with an emotional tone in causing certain electrical and physiological reactions, has recently attracted considerable attention. The various electrical and physiological phenomena observed seem to follow only emotional stimuli. According to recent investigators, one of the most important accompaniments of the emotions is electrical in nature, the so-called psychogalvanic reflex. In these experiments, when an electrical current is passed through the body from a galvanic cell, variations take place in this current under the influence of the emotions, of test words having an emotional tone, or of certain sensory stimuli. According to the majority of investigators, the nervous relations of the sweat glandular system is probably the chief factor in the production of these electrical reactions, the emotions inducing certain changes in the resistance of the skin to the current. Indifferent test words caused no reaction. In association tests made with identical test words, it was found that large galvanometric curves and lengthened reaction times in the associations were parallel with one another. Furthermore, it was also shown, that the electrical reactions became exhausted through frequent repetition. Prince and Peterson\* demonstrated that in certain pathological conditions (multiple personality) rises in the galvanometric curves took place with test words connected with co-conscious (subconscious)

\*JOURNAL ABNORMAL PSYCHOLOGY. June-July, 1908.

(Read Before The New England Society of Psychiatry, at Medfield, Mass.,  
March 30, 1909)

emotional experiences which could not be voluntarily reproduced in consciousness as memory, but which may appear spontaneously in dreams or artificially in the hypnotic state. I hope to show in the course of this paper, that in certain physiological reactions (acceleration of the pulse rate) many of the same phenomena can be observed as in the psychogalvanic reflex.

The physiological accompaniments of the emotions are either vasomotor, respiratory, or secretory in nature, and comprise such phenomena as variations in the pulse rate, the blood pressure, and the respiration, or the influence of certain psychical processes upon the various secretions and motor activities of the gastro-intestinal tract. The experiments of Pawlow and Cannon have added greatly to our precise knowledge of the influence of mental states upon the functions of the alimentary canal. The phenomena observed, such as increase or failure of the secretion of the digestive juices and of cessation or acceleration of the motor activities of the stomach or intestines, were to a high degree inconstant. The same emotional stimulus was sometimes efficient and sometimes not, showing that the reactions were probably psychical in nature and not mere automatisms in the form of physiological memories. This inconstant reaction was called the "conditional reflex" by Pawlow, in contrast to the blind automatic activity of the "unconditional" in organic reflexes. The psychical nature of this conditional reflex was further established through some experiments of Nicolai.\* Like the galvanic reaction, these conditional reflexes also became exhausted through constant repetition, and were markedly selective in their nature.

The effects of the emotions in the vasomotor system have long been known. These investigations, however, were limited more to the arterial tension, the form of the pulse wave, and the changes in the peripheral vasomotor dilatation or constriction, rather than to the rate of the pulse itself. With a view of investigating these various pulse phenomena in certain conscious, subconscious, and co-conscious emotional states, the following systematic experiments were undertaken.

\**Journal für Psychologie und Neurologie*. October, 1907.

When a subject is placed in a reclined position in a semi-darkened room, and asked to listen intently to a monotonous sound stimulus, such as the beating of a metronome\*, after a short time certain phenomena will be observed. These phenomena are practically the same in all subjects. Briefly they are as follows: a sense of drowsiness with either a clearly retained or hazy memory, heaviness of the limbs and eyelids, limitation of voluntary movements, sometimes difficulty in opening the eyelids, either a muscular relaxation or a transitory cataleptic state develops in the limbs, a slowing of the respiration, and finally a diminution in the pulse rate, varying from eight to twenty beats per minute. This last may be called the rest pulse rate. It remains constant, altering only under the influence of the stimuli to be presently described. This lessening of the pulse rate has also been found to occur in hypnosis†.

In my previous publications I called the condition thus produced by listening to a monotonous sound stimulus the state of experimental or induced distraction. In many ways it seems to be analogous with the hypnoidal conditions (Sidis). It possesses a wide range of psychotherapeutic and psycho-analytic value. Suggestibility is increased in this state the same as in hypnosis, but to a more limited degree. Subconscious or suppressed experiences in this condition may flood the subjects, mind, and in states of functional amnesia it has been possible to synthesize the dissociated memories through this method‡.

After the subject has reached a stable condition, and the pulse has diminished to a constant rate, which usually takes place in about ten minutes, the subject is then in a condition for the experiment. If the subject then be asked to mentally recall an emotional experience or to intently

\*I have found that the state of abstraction is best produced if the metronome is so arranged as to give fifty beats per minute.

†E. E. Walden.—A Plethysmographic Study of the Vascular Conditions During Hypnotic Sleep. *American Journal Physiology*, 1900.

‡Isador H. Coriat.—The Experimental Synthesis of the Dissociated Memories in Alcoholic Amnesia. *JOURNAL ABNORMAL PSYCHOLOGY*, August, 1906. The Lowell Case of Amnesia. *Ibid*, August–September, 1907. The Mechanism of Amnesia. *Ibid*, April–May, 1909.



think of certain suggested test words having a direct relation to this experience, the pulse rate begins to rise in about five seconds and remains rapid for half a minute or more. Then it slowly sinks again, particularly if the subject be directed to cease thinking of the test word or experience. The pulse rate is very accurately taken with a stop watch. In the fear psychoses this procedure not only causes an acceleration of the pulse rate, but in some cases, particularly on recalling the original emotional experience, an abortive attack of the fear itself will be found to take place. On the contrary, ordinary intellectual problems, abstract mental exercise, painful stimuli, such as the prick of a needle or a strong faradic current, sudden noises, or indifferent stimulus test words without any emotional meaning, cause no alteration in the pulse rate. A deep inspiration will, however, cause a slight increase, as it does of the psychogalvanic curve. In any test word which causes the pulse to increase, on frequent repetition of the test word, we finally reach a point where no acceleration at all will take place; the reaction has become exhausted. The same phenomenon was found to take place in the psychogalvanic reactions and in some of Pawlow's experiments with his so-called conditional stimuli.

Experiments with emotional stimuli in the normal waking condition would also cause some variation in the pulse rate, but here the variations would be only slight. I chose the state of induced distraction for my experiments for several reasons. The pulse rate was decidedly less than normal while the subject was in this condition, the slow rate was a constant one, unaffected by ordinary sensory stimuli, and any variations from the rest pulse curve could be easily detected and counted.

Of course the pulse rate tends to decrease in any reclining position, but it is less marked than when a monotonous sound stimulus is used. The latent time between the stimulus word and the pulse rate is about five seconds. It seems necessary for the emotional state to reach a certain intensity before it can exercise any physiological reaction. In very strong emotional complexes the latent time is reduced, the pulse rate beginning to increase almost immediately

after the emotional stimulus word has been used. Between tests the time interval should be about a minute, in order that the pulse may fall to its resting state. However, if any indifferent stimulus has been used, with consequently no reaction, this time interval may be less! If parallel association experiments be made with identical test words, it will be observed that when a lengthened reaction time in the associations occurs, it corresponds with an increase in the pulse rate. The same has been shown to be true of the galvanometer. High galvanometric curves and lengthened association times run parallel with one another. As will be shown later, however, long reaction times in the association tests only took place when the words related to unconscious or conscious complexes. Subconscious complexes caused no increase of reaction time, although these same subconscious complexes could cause an acceleration of the pulse rate. This is in harmony with the observations of Prince and Peterson before alluded to, in which galvanic reactions were obtained from the subconscious processes of a subject in the same manner as from conscious experiences. It was furthermore observed in certain psychasthenic fear neuroses, that the increased pulse rate caused by emotional stimulus word or complex showed a tendency to react less markedly as the patient improved under treatment, although a sufficient interval was allowed to lapse between the individual tests, thus eliminating any exhaustion through repetition at near intervals. Of course, in these cases it might be said that only the emotional reaction improved, but a careful analysis demonstrated a parallel improvement in the entire mental condition of the subject.

Out of a mass of experiments only a few cases and curves can be given. The first curve shows the negative pulse reaction in a normal subject, when mental effort and sensory stimuli were used, without any emotional tone.\*

*\*Explanation of the curves.*— The numbers of the ordinates represent the number of pulse beats per minute, the abscissas represent the stimulus word or complex. The numbers above each stimulus test represent more exactly the pulse beats per minute, in reaction to the indicated tests. The numbers between each test word or complex represent the number of pulse beats per minute in the rest curve, the time interval being about a minute in each case. N. P. normal pulse, 5m.— After five minutes' abstraction. 10m.— Ten minutes' abstraction.





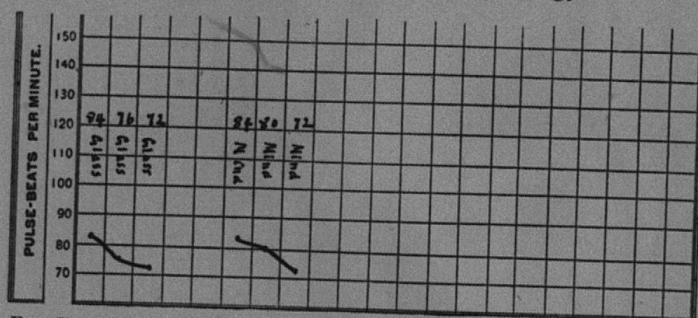


FIG. IV. PULSE REACTIONS IN CASE I SHOWING EXHAUSTION THROUGH FREQUENT REPETITION

cause no mental inhibition in the associations and no increase of the pulse rate. The exhaustion of the pulse reaction due to a frequent repetition of the same test word, is well shown in figure 4.

Stimulus Word	Reaction Word	Reaction Time (seconds)
Sky	Night	1.8
Reading	Book	2.
Cloth	Wool	1.4
Typhoid	Nurse	2.4
Ring	Diamond	1.6
Six	Clock	2.
Glass	Tumbler	1.
Mind	Reading	2.8
Pen	Fountain	1.4
Hand	White	2.4
Girl	Louise	1.2
White	Cloth	2.
King	Edward	.8
Newspaper	Times	3.8
Rain	Heavy	1.4
Note Book	University	2.4
Black	Hand	3.8

*Case II.* W. A., age thirty-two, teacher.—Psychasthenia. About ten years previously on one warm summer day, after a particularly fatiguing season of teaching, the patient was sitting in a crowded church gallery. Suddenly a peculiar feeling seemed to take possession of him. He felt that he wished to rise from his seat and scream, the jaws became set, a sense of nausea came over him, the back of the

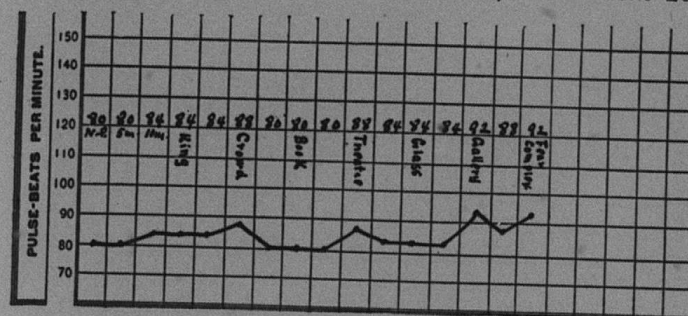


FIG. V. PULSE REACTION IN CASE II.

head felt numb, the surroundings seemed peculiar and unreal, his hands did not seem a part of himself. He immediately sought the church door, and having found an easy exit, the desire to scream disappeared. Then he began to anticipate that perhaps the same experience might recur if he again went into a crowded place, feared that he might scream and thus lead others to believe that he had suddenly become insane. As a result, he either entirely avoided crowded places, or if he went to church or theater, always sought a rear seat, so as to be near an exit. Since the first episode, if in a crowd without means of easy exit, the attack would recur in its original form. Here we have a type of case in which a morbid autosuggestion caused a mental state of fear with its accompanying physical symptoms. As a result of this suggestion the symptoms had become more or less automatic in their occurrence. Pulse curves taken at the beginning of treatment showed a marked increase of the pulse rate (8 to 12 per minute), when the patient, while in abstraction, was asked to think of the original episode (fear complex or words suggesting this episode). After a marked improvement had taken place under psychotherapeutic treatment, however, the pulse increase finally ceased to take place. The precaution was taken to allow a sufficient interval (weeks) to elapse, in order to rule out any decrease of the pulse due to frequent repetition. (See curves 5 and 6.)

*Case III.* Mrs. H., age forty-seven.—Psychasthenia. Three months before the origin of her present trouble, the







reaction time correspond in nearly every case with an acceleration of the pulse when the same test word was used (figures 9 and 10). The psycho-galvanic reactions were negative.

Stimulus Word	Reaction Word	Reaction Time (seconds)
Chair	Frame	4.2
Tripod	Three	2.2
Glass	Square	2.8
Black	Darkness	4.
House	Home	1.8
Harlequin	Fowl	6.4
Ship	Ship	4.
Heart	Red	6.2
Affinity	Like	4.2
Ring	Round	2.8
Book	Vellum	2.6
Police	Uniform	3.4
Jezabel	Wickedness	4.8
Dress	Gown	3.8
Prison	Bars	8.
Joy	Happiness	2.8

*Case VI.* Miss M. S., age twenty-six. In another case of dementia praecox, with the formation of complexes with a strong sexual and religious coloring (emotional episodes and dreams), there resulted after a time a state of emotional apathy. The delusions based on the complexes entirely subsided after a time. The analysis of the emotional state in this patient, who was very intelligent, was most interesting. She claimed that even distressing experiences in her own family made no impression upon her, and even if she tried to work up a state of feeling in her own mind in connection with these episodes, she was unsuccessful. "I feel like a stone without feeling." Yet even in this case, the word reaction tests showed a lengthened reaction time when words pointing to the trend of her experience were used. The pulse reaction tests likewise brought forth a marked acceleration of the pulse rate, when the same stimulus words were used. As in Case I, however, frequent repetition of the stimulus word finally failed to cause any increase in the pulse rate. The word *dream* refers to a particular vivid dream which influenced to a large extent the formation of the patient's delusions. It will be impossible,

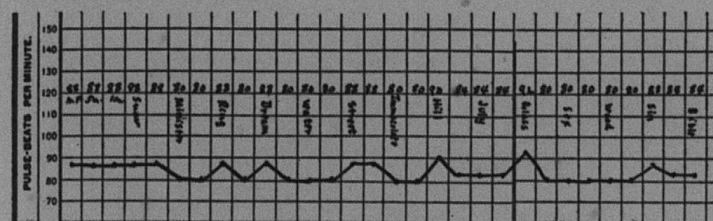


FIG. XI. PULSE REACTIONS IN CASE VI

in this case, to give a detailed account of the experiences which later formed the content of the delusion formation. It is of interest to note, however, in spite of the emotional apathy, that words associated with the patient's experiences not only showed a mental inhibition with a lengthened reaction time, but these same words caused an acceleration of the pulse rate. The experiences of the patient were preserved in the unconscious and possessed a certain amount of emotional activity. The emotional apathy was therefore only superficial, there existed a kind of an incoordination between the emotions and the ideas. (Figures 11 and 12).

*Association Tests.* (The italicized words are associated with the emotional complexes, and show either lengthened reaction time or pulse acceleration or both.)

Stimulus Word	Reaction Word	Reaction Time (seconds)
Snow	Coasting	1.6
Minister	Preaching	3.8
Ring	Finger	2.
Dream	Night	2.6
Water	Bridge	1.8
Street	House	2.6
Immaculate	Christ	2.
Hill	Climb	2.8
July	My Birthday	3.2
Glass	Window	2.
Sex	Girl	3.
Wood	Chair	1.
Sin	Nothing	7.6
Bible	Christ	2.6

*Case VII.* Mrs. F.—Psychasthenia. After a particularly fatiguing motor trip through Europe, during which the patient suffered considerably from sleeplessness and trifacial neuralgia, she suddenly had a peculiar attack



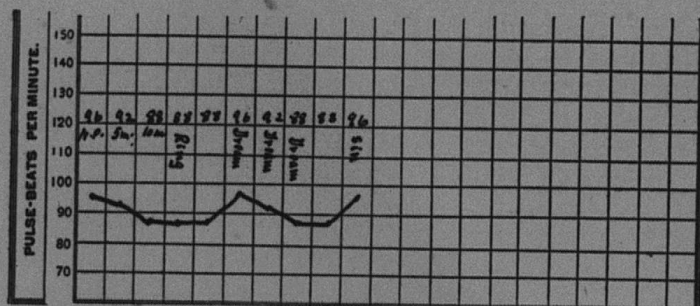


FIG. XII. PULSE REACTIONS IN CASE VI SHOWING EXHAUSTION THROUGH FREQUENT REPETITION

while in the *dungeon* of an old French chateau. In the attack she turned cold, the heart palpitated, the mouth became parched and dry, there was a sense of suffocation, and she felt that she was about to lose consciousness. When she was taken into the open air, the attack subsided. The same condition was repeated later, however, whenever she went into a close place, such as theater, church, in a passenger train, a crowded street, or in a crowded store. When the patient was placed in abstraction and asked to think of the original experience or of some word associated with this experience, the pulse rate rose from four to twenty beats a minute (see figure XIII).

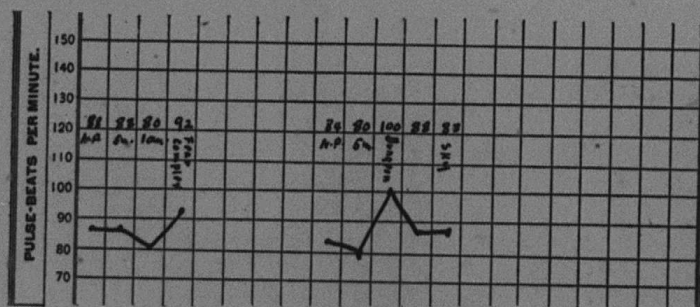


FIG. XIII. PULSE REACTIONS IN CASE VII

Case VIII. F. S., age nineteen.—Hysteria.\* Only

\*From the Neurological Clinic of the Boston City Hospital. Service of Dr. Knapp.

a brief outline of this case will be given, the complete details being reserved for future publication. For a number of years the patient has been subject to attacks consisting of frontal headaches, twitching of both arms, particularly the left, and palpitation of the heart. Sometimes these attacks are so severe that the patient is compelled to go to bed. The attacks followed two experiences, one sexual, the other a fright after seeing her cousin disguised in *white*, to resemble a ghost. In the sexual experience a stranger suddenly appeared at the kitchen door and asked for *food*; during this episode she struggled, bit, and was finally made unconscious through the use of chloroform. Neither of these experiences could be voluntarily recalled in the waking condition, but in hypnosis, the patient not only gave a vivid, dramatic account, but also reproduced an attack in which the arms twitched violently. On being awakened from hypnotic state, she again had no recollection of the reproduced experiences. A physical examination showed some of the stigmata of hysteria (complete hemianæsthesia and a marked concentric limitation of the visual field). The patient did not know the meaning of the test words relating to the dissociated experiences, either in the waking state, when these words were used for the association tests or in the state of abstraction, when the same words were used

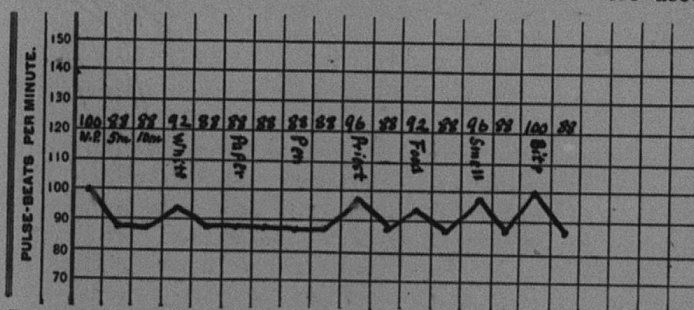


FIG. XIV. PULSE REACTIONS FROM SUBCONSCIOUS COMPLEXES IN CASE VIII

for the pulse reactions. When the association tests were used in the waking condition, there was no lengthening of the reaction time, yet these same test words cause a marked

acceleration of the pulse rate as shown in figure XIV, when the patient was placed in experimental abstraction. When the patient was hypnotized in this artificial state, where the memories of the experiences were vividly recalled, the same test words caused a marked lengthening of the reaction time. This case demonstrated that subconscious memories which cannot be voluntarily recalled in the waking condition, can cause the same physiological reactions as conscious memories.

<i>Test Word</i>	<i>Reaction Word</i>	<i>Reaction Time (seconds)</i>
White	Rose	.8
Priest	Holy	2.2
Food	Eat	1.4
Bite	Feeling	.8
Hand	Body	2.8
Smell	Scent	3.2

#### IN HYPNOSIS

<i>Test Word</i>	<i>Reaction Word</i>	<i>Reaction Time (seconds)</i>
White	Ghost	6.4
Priest	Man	3.8
Food	Eat	12.4
Bite	What I Did	6.8
Hand	Thing I Saw	4.
Smell	Handkerchief	6.4

In this case, after recovery through a synthesis of the dissociated experiences not only did the physical stigmata disappear and the visual field become normal, but the reaction time for the associations in hypnosis become as short as in the waking condition. Furthermore there was no acceleration of the pulse rate when the same test words were used while the patient was in experimental abstraction. The pulse curve had become a straight line, the same as in figure I, under the influence of non-emotional stimuli.

A number of other conditions, particularly cases of recurrent sensory motor attacks, the psychasthenic fear neuroses, and psycho-epileptic attacks showed an increase of the pulse rate when the subject was asked to think of either the fear complex, words associated with this complex, or the particular emotional experience which caused the pathological condition. As these patients improved under

treatment the pulse acceleration tended to become less and less, until finally a point was reached where the pulse rate was not affected. It would appear that in these pulse reaction phenomena we have one objective test of the progress of the patient's abnormal mental state.

In dementia praecox, the pulse reactions showed that the emotions were in a certain sense active, and that the emotional apathy or incoordination was only superficial. This observation is at direct variance with the absence of the psychogalvanic reactions found by some observers in some forms of this disease. In other words, the original unconscious experiences which later gave rise to the various hallucinatory and delusional phenomena of both dementia praecox and certain paranoiac states, still possesses an emotional activity as shown by the pulse reaction tests. The subjects, however, paid little or no attention to these unconscious residuals with their abnormal activities, and hence arose the emotional apathy or rather the incoordination between the emotions and the concepts.



## ABSTRACTS

PERIODIC MUTISM IN SERIAL SPEECH (UEBER PERIODISCHEN MUTISMUS BEIM REIHENSPRECHEN). Von Dr. A. Knauer, *Zentralblatt für Nervenheilkunde und Psychiatrie, Erstes Märzheft, 1909.* S. 153.

THE author describes a peculiar condition occurring in a patient suffering from a mixed phase of manic-depressive insanity and consisting in an inability to speak in an uninterrupted sequence. In this woman spontaneous speech was lost, and the patient had an initiative mutism, in Wernicke's sense. When questioned she answered slowly, monotonously, and in a low tone, but always formally and correctly. Her facial expression was strained, and she showed an unwillingness for many questions. She answered Sommer's reckoning tables correctly with few exceptions. When one questioned her about well-known facts the strained expression was lost, she became more lively and gazed at the bedclothes or at some distant object. The most careful inspection of her respiratory apparatus at such times showed no signs of speech. The facial expression remained unchanged about as long as it would take a normal person to repeat the answer; then she became expressionless again. If one reminded her that the question was yet unanswered she would declare that she had answered it.

Several times when asked to count or to name the months she showed a peculiar mixture of speech-reaction and mutism. She would name several months, suddenly become silent, after a pause begin with a month removed several places from the one at which she had stopped, then stop again and begin as before. When one observed the pauses closely they were found to be exactly as long as it would take a normal person to repeat the omitted words. The strained facial expression accompanied the spoken words and was lost in the mute period. The alphabet, for example, was repeated as follows: ABCD - - - KLMN - - - RST - - - YZ.

In this patient motor expression is strongly inhibited. In the reproduction of a series of words she became mute and frequently in a periodic fashion, although mentally she carried onward the sequence. She said she repeated the words although she did not speak.

Series of words which have been learned by heart are recalled in sequence much easier than unaccustomed phrases to the simple expression of which care must be given, and the will can modify the

former much more easily than it can the latter. Perhaps the woman recalled the series so distinctly mentally that she thought she really had spoken them. In this case the motor inhibition is important for the success of the deficiency. The phenomenon is closely related to dream speech in which the formation of sentences is easy but the motor expression is difficult or impossible.

The author discusses the views of Heilbronner and Cramer and then gives his own explanation of the phenomenon. The will and attention during waking periods in normal individuals are scarcely concerned with the distinct speech act, which is almost automatic, except in words and expressions which are more or less difficult, and on the motor expression of these the attention is concentrated to a greater or lesser degree. The patient had the feeling that the intensity of the speech image was not sufficient to overcome the resistance in the subcortical speech apparatus. Her attention was concentrated on the act of speech, and on that account she had a strained facial expression when talking. In repeating a series of figures this feeling of inadequacy was lost, and she did not feel that these perceptions did not automatically set the speech apparatus in action.

There may be more elementary causes at the bottom of this which Sommer has designated as the motor expression of a peculiar disposition of the nervous system which is shown in a periodic fluctuation. It raises the question whether there is not a tendency to a longer and shorter periodic fluctuation in all the actions of the nervous system. If such a fact could be proven the author thinks it would aid materially the understanding of manic-depressive insanity.

CHARLES RICKSHER

DISTURBANCE OF ATTENTION IN HYSTERIA (AUFMERKSAMKEITSTÖRUNGEN BEI HYSTERIE). Döblin. *Arch. f. Psychiatr. u. Nervenkrankh.* Bd. xlv. Ht. 2. S. 464.

THE author uses the description of a case of hysteria to develop some general considerations on the subject of attention. The patient, a woman of thirty-two, suffered from attacks of confusion and delirium. She had a left-sided hypo-algesia, many hyperalgesic areas, and marked contraction of the visual fields. The attacks were conditions resembling both twilight states and hallucinatory delirium. In them great motor excitement occurred, and the patient cried, bit, and spoke constantly.

They lasted about an hour each, complete amnesia for the period followed. She described in them a variety of visual hallucinations of men in white (dating from the time of a gynaecological operation), dogs, landscapes, etc. In the waking state she had continuous amnesia, or rather pronounced absentmindedness, for the amnesia was imperfect. Her attention was exceedingly hard to seize and harder to retain. She failed to grasp the meaning of sentences said to her, but the last word made such a deep impression that for hours after it would ring in her ears, and often played a part in directing her conduct. The essential feature of her waking mental process was the appearance of groups of ideas which would take complete possession of consciousness to the exclusion of all else.

The chief conception developed by the author in his theoretical considerations is that of "psychical energy." This he uses in the same sense as Wernicke and Breuer, except that he categorically refuses to pass over into neurological conceptions, as these do, but keeps to the psychical facts. For him attention is not a passive process, as with the older English association psychologists, but an active one of the highest significance. To the different values in psychical energy possessed by different ideas and mental processes he attributes the lack of uniformity in our thought. In the case in question this variation in value characteristic of the normal has gone on to an excessive degree. The psychical energy of some groups of ideas is so great that they displace from consciousness all else. This he calls a psychical ataxia, and coins for it the word "dysergasia." Many of his conceptions closely resemble the principles laid down by Freud in the last chapter of his *Traumdeutung*, but he only once refers to his writings.

ERNEST JONES

THE PSYCHOPATHOLOGY AND CLINICAL STATUS OF THE ZWANG AFFECTIONS (ZUR PSYCHOPATHOLOGIE UND KLINISCHEN STELLUNG DER ZWANGSZUSTÄNDE). By Skliar. *Allg. Zeitschr. f. Psychiatr.* Bd. lxxvi, Ht. 2, S. 278.

In an article fifty-four pages long Skliar discusses this important question from many aspects. He first gives an account of five cases, two of *Zwang* inhibitions, one of *Zwang* thinking, and two of phobias. The article is chiefly of value from a descriptive and clinical point of view, though the value of even the clinical portion is diminished by being made to rest on an inadequate psychopathology. The discussion of the psychopathology proceeds along conventional lines and

shows no essential advance on Pitres and Régis's well-known work on obsessions and phobias. The reason for this is that the author has, like most authors, merely taken the symptoms at their surface value, and has not striven, as Freud has, to trace them back to their development, and thus to penetrate into its actual significance of them. He gives a grotesque caricature of Freud's views, and dismisses them with objections that disclose his profound ignorance of the principles on which those views are based. For instance, he considers it impossible that an idea or emotion dating from childhood can retain its original force, for this "fades in proportion to the time that has elapsed." This shows how deeply he has penetrated into the minds of patients suffering from hysteria, obsessions, dementia præcox, or indeed into any mind! However, perhaps it would be fairer to let our author speak for himself, and to quote the conclusions with which he terminates his article:

1. Characteristic for *Zwang* phenomena (ideas, actions, inhibitions, affect) is the lack of any emotive element as a constituent of them. In addition the patient is clearly conscious, has insight into his malady, and a feeling of compulsion.
2. *Zwang* acts differ from impulsive acts in that the latter are evoked by strong feeling, which are altogether absent in the former.
3. *Zwang* ideas differ from delusions, autochthonous ideas and *idées fixes* in that with the first named the patient has insight into his malady, while in the others he believes in the reality of his ideas; in addition the ideas are in the first named unaltered and correspond with reality, whereas in the others they are falsified.
4. The compulsions present in these conditions differ from the compulsions that occur in other pathological manifestations (e.g. hallucinations, delusions, impulses, etc.) in that it is experienced by the patient, whereas in the other conditions the patient has no feeling of compulsion.
5. The feeling of compulsion that these patients have is explained by the internal splitting, which arises from the fact that on the one hand they are clearly conscious and have to do with unaltered thinking processes, while on the other hand mechanical actions and affects occur, which dispense with an emotional basis and thus appear strange and forced to the self-consciousness of the individual.
6. The root of *Zwang* phenomena is not to be seen in a disturbance of the intellect or of the will, but is to be sought in the region of feeling, in spite of the fact that the feeling-element of them has been lost.



7. The *Zwang* states arise in that the affect produces in one case an idea, in another impulse to carry out certain actions or movements of expression. All these manifestations, which are called forth by the affect and are originally accompanied by a feeling-element, are, after the emotional element has been lost, retained and repeated, a fact to be attributed to the character of indifference which is peculiar to these patients.

8. The phobias must be quite separated from the *Zwang* states, since they have no feature in common with these, and should be grouped with the twilight states (*Dämmerzustände*) which occur principally in this form with psychopaths, with whom a strong affect evokes a disturbance of consciousness that favors the appearance of delusions.

9. We adhere in general to Westphal's definition of *Zwang* ideas, and differ from it only in that Westphal saw in them a primary disturbance of the thought function, whereas we see the origin of them in the affects.

10. Clinically we must recognize a special disease form for the *Zwang* states, since they have a characteristic onset, course, and clinical picture. We divide these psychoses into the following subgroups: (a) those in which principally *Zwang* actions and inhibitions occur; (b) those in which the *Zwang* manifestations principally concern the sphere of thought, *folie du doute*, onomatomanic, etc., and (c) those in which chiefly *Zwang* affects occur.

ERNEST JONES

THE SEXUAL PSYCHOGENETIC HEART-NEUROSIS (DIE SEXUELLE PSYCHOGENE HERZNEUROSE PHRENOKARDIA). By Privatdocent Dr. Max Herz. Wein & Leipzig. W. Braumüller, 1909.

Those who are convinced of the correctness of Freud's theories are often confronted with such questions as this: "How is it that beyond Freud and his pupils no one finds the close connection between the psychoneuroses and sexuality claimed by the former?" "Seek, and thou shalt find," was the answer. Since the above question was asked there appeared two articles, one "On the Casual Relationship of Sexuality to Anxiety and Impulsive States," by Strohmeyer, reviewed for this journal by Dr. Ernest Jones, and the above named pamphlet; both authors worked independently and do not belong to Freud's school. Herz calls this morbid picture sexual because the sexual impulse plays an all-important role in its

etiology, and psychogenetic because in his opinion it is not the manifestations of the sexual impulse as such that are decisive, but the psychic alterations which accompany the same. The disease is a neurosis not so much of the heart itself as of the cardiac region. The pathognomonic symptoms are pain, changes in respiration, and cardiac palpitation. The pain is usually localized in the left chest and though the patient refers it to the heart its seat is definitely found to be outside of that organ; everything is in favor of its being a muscular pain, and from its relation to respiration it may be assumed that it is located in the left side of the diaphragm. Respiration is inhibited, the patient cannot breathe freely, expiration is especially difficult. To overcome this there appear at different intervals deep sighing inspirations, which are never absent in this neurosis. The third symptom, the subjective palpitation, is the only constant symptom. The author then describes the fluctuations and variations of these and the other symptoms of this neurosis, and the typical phrenocardial attack which is often mistaken for true angina pectoris. In the chapter on etiology the author shows the relationship between the sexual psychogenetic factors and the phrenocardia, and concludes that the only cause of the phrenocardia is a psychic alteration. It is "a persistent affect which may perhaps be best designated as a longing for love." Many examples are cited as illustrations.

One who is acquainted with Freud's views can readily recognize that all of the author's cases are nothing other than cases of the anxiety neurosis which Freud described about fifteen years ago. Indeed Herz states that in the psychic treatment of phrenocardia Freud's psychoanalysis may do good, and mentions the case of a widower who did not respond to his treatment but who was markedly benefited by one of Freud's pupils. This pamphlet of sixty-three pages contains many points of interest, not only for the neurologist but for the general practitioner.

A. A. BRILL

THE STATE OF THE BRAIN DURING HYPNOSIS. William McDougall -- *Brain*, vol. XXXI. 1908.

In hypnosis the brain is in some abnormal condition and functions in a different manner from the brain in the normal waking state. We cannot understand the phenomena of hypnosis until we learn the nature of this abnormal brain state. Any

explanation must be purely psycho-physiological. According to Bernheim hypnosis is closely allied to normal sleep because the hypnotic state is brought about by the same influences and conditions, such as withdrawal of all strong sensory stimuli, restful position, monotonous, gentle stimulation of one or more of the sense organs, expectation, habit, banishment of certain thoughts, and the concentrating of attention on some unexciting object or sense impression. In hypnosis the subject is inert and passive. Catalepsy may occur in normal sleep as well as in the hypnotic state; in both these conditions the subject frequently desires to move his limbs, but is incapable of doing so. This latter condition was described by the reviewer in some studies on nocturnal paralysis. There may be a gradual transition from hypnosis to normal sleep and from normal sleep to hypnosis. No hard and fast line can be drawn, however, there is an almost imperceptible shading from one state to another. Suggestibility is absent in sleep, but is present in even the deepest hypnosis.

Considering the close analogy between hypnosis and normal sleep, the problem is to find a good working hypothesis for the state of the brain during normal sleep and to understand what peculiarities of the brain state are connected with the positive features in which hypnosis resembles sleep. Unfortunately we have no finally accepted theories of sleep. None of the theories can give an adequate answer as to how the state of the brain tissue during sleep differs from its state during waking life. We are certain of only a limited number of facts. In sleep, the nervous substance of the brain is less excitable, and compared with the waking brain, impulses are transmitted less readily from part to part. In the waking condition the brain possesses a high degree of excitability, and there is a great freedom of transmission. Therefore the state of sleep is a negative condition, it does not have the activity of the waking state. The waking state is maintained only by constant impressions of stimuli on the sense organs.

Excepting in great fatigue, which may tend to produce insomnia, the withdrawal of stimuli from the sense organs is favorable to the inducement of sleep. The continuance of sleep depends on the absence of strong sense impressions. Sleep may be terminated at any time by a sufficiently strong sensory stimulus. In the waking life brain activity is sustained by nerve energy. This nerve energy is worked off by mental activity of any kind. The human brain does not reach a state of complete rest when external stimuli are withdrawn, because the brain may still continue to be excited by ideational processes. Therefore sleep can take place only when external stimuli are withdrawn and exciting thoughts are absent.

At the synapses or junctions of the processes of the neurones, the nerve excitement is transmitted from one neurone group to another. The resistance of any synapse is not a fixed quantity, but it may be diminished by repeated stimuli, fatigue, the chemical influences of the blood, and strychnin. The resistance of the synapses is raised by fatigue and by such substances as ether, chloroform, and alcohol. This resistance of the synapses tends to fall as neurone energy rises.

In the waking state, the neurones are charged with free neurokyme (Vogt) or neurone energy, and the synapses and conduction paths are kept in a state of partially lowered resistance. In sleep the supply of neurokyme is diminished, the available amount is banked up, and therefore the resistance of the synapses rises. In the sleep which follows great fatigue and to a less extent in normal sleep without fatigue the waste products of metabolism act like chloroform or alcohol and so raise the resistance of the synapses. Now according to the author it is this general raising of synaptic resistance which throws the brain into a condition of dissociation. Normal sleep therefore implies a state of cerebral dissociation, and the many points of similarity between sleep and hypnosis also indicate that the hypnotic state is likewise a dissociation.

After this long preliminary the author then attempts to answer the question indicated in the title of his paper, namely — how does the state of the brain during hypnosis differ from the dissociation of normal sleep? The onset of hypnosis is favored by the same influences which bring about normal sleep, namely, rest, quiet, withdrawal of sensory stimuli and the banishment of emotionally exciting thoughts and expectation. In addition, in the production of the hypnotic state we have the monotonous stimulation of the sense organs and the personal contact of the hypnotizer through verbal suggestions. The monotonous stimulation constantly drains the supply of neurone energy from the sensory side of the brain. The personal contact of the operator presents the main current of neurone energy from shifting from one path to another, and therefore keeps in activity the system which underlies the presence of the consciousness of the operator. This system is therefore active and waking, it serves as an open channel through which ideas can be introduced. These ideas are then accepted uncritically. This is the basis of suggestion. With the exception of this one system all the other systems of the brain are in a state of dissociation, and it is this which explains the effectiveness of suggestion. Hypnosis is therefore nothing but a dissociation of consciousness.

The whole paper appears to us to be rather fanciful psychology. It is true that the phenomena of sleep and hypnosis touch at a few



points, but here the analogy ends. The theories adduced in this paper are far fetched, there is no evidence, experimental or otherwise, to prove the author's points. While the author objects to the phrase dissociation as meaningless, confusing, and perplexing, yet he is constantly using the term. To base a psychology of hypnosis upon the theories of Forel and Semon appears to us to be unwarranted with the amount of evidence at hand, particularly when less far fetched and more tangible facts will explain the hypnotic state. The whole paper is a mass of confusing and ill-arranged material and theories.

I. H. CORIAT

## REVIEWS

A TEXT-BOOK OF EXPERIMENTAL PSYCHOLOGY. By Charles S. Myers, Lecturer in the University of Cambridge, and Professor in King's College, University of London. New York, Longmans, Green & Co., 1909. pp. xvi, 432.

THIS volume fills, so far as I know, a rather unique place in psychological literature. It is not, in the first instance, a manual of laboratory exercises or experiments, as the title might suggest. The book consists primarily of a statement, at once critical and impartial, of the results which have been achieved in experimental psychology. Only by way of an appendix, covering something less than a hundred pages, are practical exercises introduced. The aim of the book, as we are told, is "to describe the methods and principles of psychological experiment, and to set forth the most important results that have been attained in that field." General or "systematic" psychology is not gone into explicitly, though, as is pointed out, some acquaintance with that aspect of the subject must be presupposed.

In an introductory chapter the standpoint of experimental psychology is considered, and the science is defined as one which is concerned with "the responses of individuals to prescribed conditions," and more specifically with "those responses which throw light on the analysis and the course of mental states." The close relation between experimental and physiological psychology, especially in the study of sensation, is insisted upon; but, as is indicated by the author, important discoveries have been made by experimental psychology, in regard to memory, comparison, and mental work, which are at present wholly devoid of physiological basis.

Chapters II-IX discuss the sensations; the cutaneous and visceral, the auditory, the labyrinthine and motor, the visual, and the gustatory and olfactory; and in each case physiology and physics, when available, are drawn on quite as freely as psychology. The recent work of Dr. Head, concerning the two systems of cutaneous sensibility, is reviewed. The pros and cons of Helmholtz's theory of hearing are considered, together with the views of Rutherford, Ewald, and Max Meyer. Similarly the Young-Helmholtz and the Hering theories of color vision, with their more recent modifications, are discussed. Professor Myers, however, is not satisfied merely to state conflicting theories and to leave things standing at loose

ends. While refraining from precipitous or radical speculations of his own, he brings together the best established facts and discusses the theories in the light of the data thus attained. The thoroughly empirical standpoint of the book is well illustrated by the author's comment on Wundt's analysis of the consciousness involved during reduced or central reaction time, as made up of the three different processes, perception, apperception, and volition.—"This conception, however, is schematic instead of actual, philosophical instead of psychological. It is the outcome of *a priori* notions, rather than of an appeal to introspection (p. 135)."

After the treatment of sensations come discussions of specific energy, statistical methods, reaction times, memory, muscular and mental work, psycho-physical methods, weight, local signs, sensory acuity, experience of identity and difference, binocular and binaural experience, visual perception of size and direction, time and rhythm, attention, and feeling. The chapters on statistical and psycho-physical methods give a clear and concise account of a rather diffuse and scattered subject-matter. Especially good is the version of Weber's law and Fechner's speculations. In commenting on Fechner's scheme for measuring sensations, the author observes that this theory rests on the unwarranted assumption that an experience of difference can be taken as a difference between two experiences; and points out that, in fact, we cannot measure subjective experiences, but only the objective intensities or extents of stimuli which produce these experiences. "Indeed we are powerless to measure sensation strengths at all. . . . We cannot divide a sensation into equal unit sensations (p. 263)." Other factors as well as Weber's law, as Professor Myers shows at considerable length, are operative in determining our judgments of identity and difference.

This book impresses the reviewer as an unusually careful and judicious account of the facts, methods, and theories which make up the youthful science of experimental psychology. Its usefulness for teaching purposes might, indeed, have been increased by a somewhat more elaborate and detailed description of laboratory procedure. It is as a critical statement of the results of experimental psychology that the book is especially valuable. Well chosen bibliographies are added at the ends of the various chapters.

DONALD FISHER

Harvard University

LA COUCHE OPTIQUE (ÉTUDE ANATOMIQUE, PHYSIOLOGIQUE ET CLINIQUE)  
LE SYNDROME THALAMIQUE. Par le Dr. Gustave Roussy. Paris, G. Steinheil, Editeur. 1907.

It is obvious from a perusal of this volume that the author has spared himself no pains to make his work as complete as the present state of knowledge—anatomic, physiologic, and semeiologic—upon his chosen subject permits. The result is a comprehensive work of reference of three hundred and seventy-one well-printed pages, valuable to the specialist.

Particularly worthy of mention is the nice sense of proportion displayed by Roussy from beginning to end. In his opening section he exposes in historic review the work of other experimental investigators in the same field, and draws attention to the striking opposition of existing views, particularly with regard to the functions of the thalamus. He follows this with an anatomic consideration which is not merely descriptive of the ganglion itself, but includes all its known relations.

In the section devoted to animal experimentation the author shows that the value of conclusions drawn from the work already done in this line is considerably vitiated by the use of faulty technique, makes valuable suggestions as to the proper choice of animals, and describes in detail his own careful methods.

The clinical portion of the work also opens with a brief historical consideration. After this come a detailed description of symptoms and a lucid exposé of diagnostic data. Four personal clinical observations, with necropsies, are reported in detail from both points of view, and in connection with these, as well as in the section on animal experimentation, one finds satisfactory illustrative plates, some in colors.

As a result of his extensive historical researches and his anatomic, experimental, and clinical studies the author arrives at conclusions, which are of three orders: anatomic, physiologic, and semeiologic. Of these, lack of space permits us to reproduce the last mentioned only. They are as follows: "In man, foci of hemorrhage or of softening, sufficiently limited to permit survival for a certain period of time, bring about notable and persistent alterations of sensibility. They are manifest in part by objective disturbances: *hemianesthesia, both superficial and deep—the latter by far the more marked—with loss of the muscular sense and astereognosis*; and in part by subjective disturbances: *pains of central origin*. From the objective sensory disturbances results *hemiataxia*."

"In the overwhelming majority of cases, these foci of softening or hemorrhage are not strictly limited to the thalamus, but also invade



a portion of the posterior segment of the internal capsule and thus cut off a certain number of fibers of the motor pathway.

"When the lesion thus occupies the posterior portion of the optic thalamus, where it destroys, to a greater or less extent *the posterior third of the nucleus externus, a portion of the nucleus internus, of the centrum medium and of the pulvinar*, and involves only a few fibers of the posterior segment of the internal capsule, we have presented the clinical picture known as "*the thalamic syndrome*."

"This syndrome, which is to-day worthy of a place in nosography, is characterized by:

1. A persistent superficial hemianesthesia, of organic character, more or less marked as regards superficial forms of sensibility (touch, pain, temperature), but always very pronounced as regards the deep varieties.

2. A slight hemiplegia, always without contracture and rapidly regressive.

3. Slight hemiataxia and more or less complete astereognosis.

4. Sharp pains on the hemiplegic side, which are paroxysmal, of long duration, often unbearable, and unyielding to all available forms of analgesic treatment.

5. Choreo-athetoid movements in the limbs of the paralyzed side.

"Of these different symptoms, the objective sensory disturbances (from which come the hemiataxia and the astereognosis) as well as the pains result from the principal lesion — the *thalamic*; the motor disturbances (hemiplegia and choreo-athetoid movements) from the accessory lesion — the *capsular*."

An extensive bibliographic index closes this important contribution to a subject of great scientific and clinical interest.

J. W. COURTNEY

# THE JOURNAL OF ABNORMAL PSYCHOLOGY

DECEMBER, 1909 — JANUARY, 1910

PERSONAL IMPRESSIONS OF SIGMUND FREUD  
AND HIS WORK, WITH SPECIAL REFERENCE  
TO HIS RECENT LECTURES AT CLARK  
UNIVERSITY\*

JAMES J. PUTNAM, M.D., BOSTON

I WISH to call the attention of the readers of this journal to a recent occurrence of which perhaps few persons save a handful of psychologists, neurologists, and social workers took definite cognizance, yet which might well attract the notice of a far wider circle.

Within a few years we have had two visits and two sets of lectures from the well-known Pierre Janet, † of Paris, one

\*The essential principles of Freud's treatment have been admirably described in an article by Dr. Ernest Jones, of Toronto, a pupil and friend of Freud, and a thorough student of his writings. This article was published as one part of a symposium on Psychotherapy, in THE JOURNAL OF ABNORMAL PSYCHOLOGY for June, 1909. The whole series has been recently reprinted in book form, by Richard G. Badger, under the title, *Psychotherapeutics*. A number of Freud's papers have been translated into English by Dr. Brill, of New York, and published in a volume entitled "Selected Papers on Hysteria and other Psychoneuroses," as No. 4 in the Monograph Series of the *Journal of Nervous and Mental Diseases*. Ed.

†Freud has never claimed and no one of his adherents need claim for him more than is his due. Janet has been working from the first on lines more or less parallel with his, and if I do not attempt here to adjust the claims of these two observers and of the others who have followed them, it is because to do this lies outside my present aim. In general terms, Janet's work has been *descriptive* of the mental "dissociation" which takes place in hysteria and the "reassociation" through which the mind seeks to establish a new equilibrium. Freud's observations have gone further in the line of pointing out the *causative influences* here at work and have proved themselves to be of great practical value in indicating, with remarkable sharpness, the immense part played by *education*, taken in both general and special senses, in producing the results.



of the great pioneer leaders of the generation that is now passing, in the investigation of a series of phenomena of the highest importance alike for medicine and psychology. This summer we have had a similar visit from another great leader, Professor Sigmund Freud, of Vienna, of whose work the same statement can, with warmth, be made. Though little known among us, Freud is no longer a young man, and indeed he outlined his life work and "laid his course" so many years ago that it is a reflection on our energy and intelligence that we have not gained a closer knowledge of the claims and merits of his doctrines.

With Freud came two younger friends and colleagues, who are devoting themselves with vigor to the same cause with him, Dr. C. G. Jung, of Zurich, and Dr. Sandor Ferenczi, of Buda Pest.

Dr. Jung's observations, full of personality, fire, and life, have already excited much comment and — like the work of Freud — much criticism, from the neurologists of Europe. Dr. Ferenczi has written a number of admirable papers, partly in Hungarian, which are bound soon to bring him prominently into notice.

We owe their visit, and the gathering of the intelligent audience who came to hear them, to the energy of the officers of Clark University in Worcester, which recently celebrated, with intellectual sumptuousness, the twentieth anniversary of its founding. Some of your readers will recall that on the occasion of the tenth anniversary of this institution, two other eminent students of the nervous system and its disorders, Professor August Forel, formerly of Zurich, and the distinguished Spaniard, Ramon-y-Cajal, came over and lectured as its guests.

The doctrines of Freud and his colleagues have been made known to us here more through the gossip of prejudice and misconception\* than by the testimony of those who have really tested them, and this, in itself, is an interesting fact. For these doctrines involve at every point the belief that the hidden motives which help to rule our lives, and which frequently show themselves as prejudices, are made up of

\*On account of their insistence on the importance of the sexual life in the etiology of the psycho-neuroses.

"attraction," "desire," "acceptance," on the one hand, and, on the other hand, of "repulsion," "repression," "denial," mixed in equal parts. A strong prejudice often means a strong, instinctive attempt to set aside as false an influence which we feel that, if differently presented, we might be forced to accept, at least in part, as true, and the strength of the prejudice usually measures the importance of the half-felt but perhaps wholly suppressed truth. To say the least, our prejudices express feelings that at the moment we cannot or will not put to the test of reason.

Let me now attempt the task of modifying this prejudice — shared formerly by myself.

In brief, the history of Freud's investigations and opinions is the following: In 1881, an older colleague, Dr. J. Breuer, of Vienna, had occasion to treat an intelligent young woman suffering from hysteria in a serious form for which he tried the usual means in vain. At length, after long and tireless searching, he found that the facts offered by the patient in explanation of her illness, although they were freely furnished and represented her entire history so far as she consciously could furnish it, constituted only a tithe of the story which, in the end, her memory succeeded in drawing from its depths. Under the influence of a special method of inquiry, many hidden facts, representing painful experiences long ago forgotten, came one by one to light and were as if lived over, attended by the emotions that originally formed a part of them. And just in proportion as this happened, in proportion as the dense barriers were overcome that separated this hidden portion of the patient's past from that of which she had remained consciously aware, one and another of her distressing symptoms dropped away and disappeared forever. The details of the long and significant history of this case cannot be given here. Let it suffice to say that although no further investigations based on it were undertaken for ten years, yet the facts observed had made a deep impression upon Dr. Freud and were meditated on by him during this decade, a part of which he passed as a student of Charcot's in Paris, and that on his return he begged Breuer to take the matter up again. After this, for a considerable length of time, they worked together; later, Freud alone.

It became gradually more and more clear to them that the childhood of this patient had been in an unsuspected degree and sense the parent of her later years.\* For not only had it been found that many of the events which counted for so much in the production of her illness dated back to days of early youth, but the later experiences which had come upon her, one after another, and which were the ostensible and apparently sufficient causes of her illness, were discovered to owe a large portion of their power for harm to the fact that they reproduced in a new shape old emotions of childish form and substance, of which, before her treatment, she would truthfully have professed herself to be entirely unaware. Only when these emotions were reached and the experiences corresponding to them lived over, in memory and in speech, was the recovery complete.

There is little in the bare outlines of this proposition that a psychologist need count as wholly novel. Every one has heard the claim that no experience is ever wholly lost, that our present acts are the outcome of all our antecedent acts; that our perceptions, even when apparently new, are in reality nine parts memory,† and that disclosing and talking over old troubles clears the mind and relieves the feelings of distress. But this dictum of the psychologists has now received a practical confirmation of an unexpected sort. The number and character of the revelations eventually made; the demonstration that memories apparently so wholly lost could with sufficient effort be recovered; the discovery that symptoms of illness and old and forgotten emotional states were not only connected by a certain bond, but by a bond so subtle and yet so strong that this patient, through living her experiences over again in words, could succeed in freeing herself from the signs—physical as well as mental—of

\*I make no attempt, in this hasty sketch, either to separate the principles developed through the study of this first case from those of subsequent development, or to state these principles in the historical order of their discovery. Neither does this communication claim to furnish an authorized or systematic record of the Worcester lectures. My purpose is solely to reproduce the more prominent of my own impressions, obtained through reading, private conversations and the lectures, and reinforced through personal observation in my own practice.

†Cf. especially Bergson; *Matière et Mémoire*.

her present illness; the discovery, finally, that the nature of some of these experiences was what it proved to be; these were the surprising facts.\*

The physical signs of the hysteria in this case consisted partly in a paralysis and contracture of the arm and a peculiar affection of the speech. Such signs are of very common occurrence, and the fact of their mental origin had been clearly pointed out by Janet. But the study of their specific relationship to this patient's mental experiences was utilized by Breuer and Freud as the basis of an elaborate theory of "conversion," or substitution, which has proved to be of wide bearing. It would be an instance of such conversion if a person wishing to exclude from his mind an unpleasant thought or memory should strive instinctively to aid himself by closure of the eyes and then should find that an actual and uncontrollable closure of the eyes had remained as a persistent memorial of the misjudged attempt at self-concealment. We can "convert" or we can neutralize the effect of our experiences, but we cannot kill them. Every experience retains the right and need to express its influence in our later history. We can accept it, work it out, assimilate it to the remainder of our conscious lives, or we can repress it. If we adopt [instinctively or consciously] the repressive policy, we may give birth to a sort of evil genius, who keeps himself concealed only on condition that we yield up to him some physical or mental evidence of the hold that, until exorcised, he will have on us. The physical symptoms of hysteria are thus analogous, to use Freud's simile, to the monuments which people set up to commemorate important events in history. It became clear to Breuer and Freud, further, and in harmony with the principle just expressed, that this patient's painful memories of the past, which at first had seemed as dead to her as if the experiences which they stood

\*At first, the aid of hypnotism, later of "hypnoid" states, was invoked to secure this enlargement of the memory. Later it was found that quiet and relaxation, with the encouragement of the physician and the opportunity of talking and reminiscing, rather in his presence than under his scrutiny, were sufficient. This is accordance with the observations of Bernheim that the amnesia of the hypnotic state, profound as it at first sight seems, may be invaded and overcome by the power of the subject's memory, if sufficiently urged thereto.



for never had occurred, represented in reality living and acting forces.\* And not only this but that the very barriers which had to be overcome in reproducing them represented living and active forces too, all vibrating with significance for the present moment and for the details of the illness. In other words, the term "barrier" as used for the "forgetting" of the hysterical patient was shown to be a misnomer. Indeed, the forgetting of persons in normal health is largely repression, an active process of lending oneself to the task of learning how *not* to dwell upon a subject now painful but which perhaps had once a powerful interest. It has often been remarked that the conscious memory picks out the pleasant items of life and rejects the rest. We remember the charms and novelty of an ocean trip, of foreign travel, and conveniently "forget" — in reality turn away from — the seasickness, the dirty inns, the sleepless nights. It was the significance of this species of forgetting and its relation to sickness and to health that Freud was led to study, and to which he has devoted all the powers of a keen and well-trained mind for twenty years. In the course of these investigations Freud and Jung and their followers have dived more deeply than any one before into the mysteries of the unconscious life. These investigations were inspired primarily, not by theory but by the recitals of patients who had been helped to search out their memories and their motives to a degree that never before had been made possible. New evidence has thus been brought to show that this hidden life, if technically "unconscious," is anything but inactive.† On the contrary, it is the living supplement of our conscious and willed existences, the dwelling-place and working-place of emotions which we could not utilize in the construction of

\*Cf. Bergson, *Matière et Mémoire*; also Janet, *Etat Mental des Hystériques*, etc., and the works of other writers.

†Eminent psychologists sometimes deny the propriety of using the term "consciousness" for a mental state of which we are not at the moment given consciously aware. This criticism has been expressed and met in a discussion on the Subconscious, published in the *JOURNAL OF ABNORMAL PSYCHOLOGY* for June-July, 1907. It is there satisfactorily shown, as I think, by Dr. Prince, that "awareness" is not necessary for "consciousness," and that the suppressed mental states of hypnotized and hysterical patients, for example, are properly designated as conscious states.

the personality that we had shaped and rounded and that we longed to think of as standing completely for "ourselves." It is the study of this portion of our lives, repressed yet active, and not the attempt to push forward the sexual element in our experiences, that has constituted the main feature of Freud's work, looked at broadly and as a whole. The sexual element has indeed been pushed forward, but this has been due to two causes. In the first place, Freud's patients themselves, one after another, when urged to analyze the motives and influences that had prompted them to this or that act of repression or self-reproach, uniformly referred to one or another manifestation of this great passion as the ultimate source from which these motives sprang; and no wonder, for it is the basis of most of what we care for in this world. In the next place, the frequent references to the sexual life have been seized upon by Freud's critics as the basis for attack against the remarkable and truth-seeking observations of a remarkable man. I shall try, in the second instalment of this paper, to explain in more detail just what influences it is that, in Freud's view, the sexual life does introduce into the composition of our characters. What I wish to do here is to make a plea for open-mindedness in this matter. There are many subjects intensely disagreeable for discussion, from the social standpoint, which nevertheless the trained man of science studies eagerly and without a trace of unpleasant feeling. This is true, for example, of the bodily excretions. The study of sexual problems in all their manifold bearings are being taken up in this same spirit by an increasing number of persons of fine feeling and scientific instinct and a desire to work for the remedy of great practical evils. Each one of these persons has had to overcome an intense sense of aversion to this task of dwelling on details, of odious social connotation, but he has overcome it, at least to the extent of setting his intelligence moderately free to act. Most physicians are still in the grasp of this aversion and strive to justify themselves by denying the importance of the inquiry and the significance of the facts adduced. Meantime, the aversion means something more than it seems at first sight to mean. It indicates that the topic has or has had a sort of hold on us or a right to demand

our interest and attention, and that we fain would persuade ourselves that this was not the case. This hold on our attention which we instinctively feel this subject has the right to claim even when we repudiate this right, constitutes one instance of the "desire," which is made to play such a large part in Freud's doctrines. What once was an instinctive desire, the expression of a perfectly natural craving, the basis of the natural curiosity, of an infant or young child, becomes, next, something to be repressed, as incompatible with the social life which the child grown older plans to lead. Either one of several consequences are liable to flow from this repression. First, it may be adequate and successful. The craving, the curiosity, the desire may find some sufficient outlet, may be assimilated or neutralized, and disappear permanently from view. Next, instead of this, the process of repression may go too far, may become too manifest, may impress the character too strongly with its own features. Then the "desire" utterly disappears from memory, but the eventual outcome is an individual of so-called over-sensitiveness and refinement, overwatchful of himself. Or, again, the "desire" or "craving" element may be too strong, or the mechanism whereby it should have been assimilated or neutralized may have been inadequate. Then the patient — for such we may now call him — becomes conscious of a lack of harmony with himself. He is one person who wishes and strives, consciously, to lead a certain life, but is also another person with an unsatisfied craving. As the result of this tendency he becomes predisposed to undergo a still more complete and definite cleavage, and this may, through "conversion," on the occasion of some new mental strain or trauma, earn for him the title of "hysteric" (a portion of the symptoms becoming *physical*) or may cause him to adopt some "phobia" (through a process of substitution) in accordance with a principle to be described later. Thus fear and repressed desire are shown to have an intimate kinship.

The cravings based on the sexual instincts of infancy and childhood take their place, in this scheme, along with those of adolescence and adult life, and along, too, with a great number of other cravings and ambitions, emotional interests and desires, of manifold character and force. It

should be recognized that the doctrines and methods of Freud are full of interest as throwing light upon the mode in which the mind works, independently of the particular nature of the emotions that are involved. The life of every one, even the most commonplace person, even the most harmonious and best balanced, is complex enough to furnish the material for many a romance, for many a study of the conflicting tides of feeling. Every one acts from motives, many of which he does not clearly grasp; if it were not so no novels would be written, wars would have been few, and the great tragedians and mythmakers would never have existed. And yet, although we do not clearly grasp our motives, either as regards their nature or their origin; and although, if set to the task of describing ourselves and the history of our development we should leave out much that was important, yet the very fact that we understand novels and tragedies and character studies, and find them so entrancing, is an indication that we have felt, in some measure, the sentiments they are based on, and that we have passed through something corresponding in type with all the situations pictured. It may not be necessary that every one should become intimately acquainted with all these crooked byways and obscure corners of himself, or that each person should force himself to recognize his kinship with others whose qualities he deplores or whose acts he regards as criminal. But there are times when such knowledge becomes necessary for the preservation of the mental health, and the physician should fit himself to be the guide to its attainment.

I propose, in the rest of this communication, to consider a little further some of these psychological principles which Freud's observations have brought out in a new light, and to show their bearing on his therapeutic methods. The principles which I select as examples are embodied in the following propositions:

A. Desire, or craving, furnishes the motive for many thoughts and acts that seem actuated by sentiments of a different and even of an opposite character.

B. The principle of "conversion" in accordance with which the physical symptoms of hysteria are produced, is one manifestation of the wider principle of "substitution."



Other manifestations of the same general tendency are: (1) the attributing to other persons, without adequate reason, qualities whose interest for us lies in the fact that we ourselves possess or have possessed and have, likewise, sought instinctively to repress them; (2) the harboring of prejudices for or against certain persons, on similar grounds; (3) the identification of ourselves with others, as in the assumption of ailments similar to theirs; (4) the transference to one person of interest originally centered on another; (5) the substitution of fear or of some morbid impulsion, for desires which cannot be adequately gratified.

C. The "forgetting" considered typical of hysteria and kindred forms of mental disharmony and disturbance is a feature of every one's mental growth.

D. Dreams are closely related, psychologically, to psychoses, and, like them, are classifiable, from certain points of view, as "compromises." Dreams likewise furnish valuable information of the unconscious life and are analyzable to a hitherto unsuspected degree, in the interests of therapeutics.

E. Finally, I wish to add a few more words on the principles involved in Freud's treatment.

A. Desire and craving are generally admitted to be powerful if only partial motives to conduct. One need not accept the doctrine of "hedonism" as alone binding in order to admit that we all have instincts and passions which press for gratification, and that ungratified or imperfectly gratified desires remain as unwelcome comrades to our thoughts. The point which mainly calls for comment is that even concealed and partial desires and cravings play an immensely important part in health and in disease. A few illustrations may take the place of argument. The partial wishes or cravings of young children are familiar to every one. Accustomed to deal with fairy tales, living in a world of fancy, and subjected to but slight censorship in his fancies, the child gives his desires free rein. It is often felt as a fine thing by a child to be in the eye of friends and comrades, even when the cause for distinction is really a cause for grief. A partial hostility towards a parent is entirely compatible with warm

affection, but it is not recognized that when the child in question is of hysterical tendency, that is, when he is a person whose unconscious life plays too large a part in controlling his acts and thoughts, making him fitful, moody, and capricious, the affection may stand for an infantile passion, and the hostility which develops out of it may reach a high grade. The fable of the sour grapes hints at such a mixture of half-hidden and half-felt sentiments. The mental operations of older children and adults are not exempt from the working of these principles. The craving for recognition and sympathy flames in the eye and thrills in the voice of many a person who would deny that he was subject to these motives; disappointed hopes, the necessity for sacrifice and renunciation tinge a sincere grief with unwelcome and perhaps scarcely recognized longings. In these and in kindred ways mental conflicts arise, although the actual battle may be concealed from view.

The curiosity and emulation of children, as also of adolescents and adults, are other species of desire. They may be of manifold sorts, and in certain of their forms they represent cravings that are instinctively concealed. Out of such materials as these, in the manner thus indicated, and in the same ratio as we build the conscious personality, we form and feed and organize the unconscious life.

B. It will be recognized by every close observer that in entertaining a series of conflicting emotions, such as that typified by the sour-grapes illustration, for example, the instinctive effort is to escape from one distressing situation by grasping at another, which if in some respects worse is in some respects also better. This process is characteristic of the nervous invalid's mental life and, unsatisfactory as it is, it is often justified by the fact that it leads to the substitution of a definite evil for an indefinite. The operation of the principle under the form of "conversion" has been alluded to, but there are many other kinds of substitution, of analogous sort, and one of these is the substitution of a specific fear for a sense of humiliation or self-reproach. It is sometimes possible for a patient to witness the actual occurrence of this process of substitution. Certain forms of stage fright are of this order. In analogous fashion the personal

relationship between two individuals, as a pupil and a teacher, may be felt to have in it an element of excess or wrong, and this feeling may tinge the next friendship, not in itself objectionable, with a sense of fear which may spread by unconscious paths to a general sense of apprehension, but finally concentrate itself in some one direction. Similarly, the strong ambition to gain a social success and the dread of failure are said by Freud to account for some of the fears of appearing in public places [as in agoraphobia], or where people must be met, or even of travelling in trains. In other words, this fear is the accepted substitute for an exaggerated form of self-consciousness attended by a sense of shame or guilt. Thus "self-consciousness" means the consciousness of oneself as seen by others in an unfavorable light.

Of course I indicate here only the bare outlines of a transformation which might be accepted only when delineated in detail. Usually, the process of transformation is hidden, even from the patient. He finds himself with a fear — the fear of open windows, or of the railroad train, or with one or another of the morbid impulses enumerated by Janet or by Loewenfeld — but it may be only with difficulty and after overcoming reluctance that he can be led to see the full force of the desires which he repressed or the fact that it was to escape from them that he grasped the fear, to justify, as it were, the perturbation of his mind, as a drowning man catches at a straw. Janet has indicated, in an interesting paper, published in this journal, other modes of unsatisfactory substitution through which psychopathic patients instinctively seek relief.\*

C. It has been strongly urged by Freud that in the amnesia of hysteria, which every close student of the subject, since Janet, would admit to be a sort of active process, a contrivance for the obliteration of the memories of the unhappy and the disagreeable, we have an exaggerated form, a type of much of the forgetting of ordinary life. This principle is indeed admitted and widely acted on, but,

\* Fits of anger, and the commoner forms of depression, as I have elsewhere pointed out, are species of substitution whereby a person seeks to escape from the necessity of showing courage and clear thought. Unpleasant as those states are they really represent a sort of self-indulgence.

as in the other cases, it is in the detail, in the fulness of illustration and in pointing out that the principle applies when we feel unwilling to apply it, that Freud's main service lies.

Every one agrees that "hell is paved with good intentions," which means that we sooth our consciences with words, satisfy ourselves by calling ourselves bad names, and then proceed to actively forget our duties and to close our eyes to the real images of ourselves. But it takes a truly scientific conscience, or the conscience of a person who is sick and sees a real chance of getting well, to recognize the complexity, the elaborate exactness of the machinery by which, through this forgetting, we construct for the torment of our lives.

D. The laying down of the theory and mode of analysis of dreams is one of the most remarkable, and in principle the most original of Freud's contributions.

Accustomed as we are to see in dreams only phantasmagorias of the fancy, sparks leaping to and fro on burnt-out paper, to use William James's simile, it is hard for us to believe the explanations and constructions of this analyst, who shows, as one or two others have done in part, that they occupy a definite and useful place in the economy of life.

In our dreams as in our illnesses our unconscious and repressed thoughts and emotions find expression. But, as in our illnesses, again, the revelations are not straightforward, the instinct for compromise and concealment makes itself everywhere apparent. In the night dream as in the day dream, wishes are fulfilled, but they are often partial wishes, and such as in our waking moment we do not admit even to ourselves. Symbolisms and innuendoes take the place of direct statement, and the possession of a treasury of dramatic power is revealed by the sleeper, of which his waking moments may indicate no trace, so deadening, even though useful, is the repression of education and convention. The volume devoted to the interpretation of dreams indicates the method of analysis which underlies all Freud's work, and it must be studied carefully by any one who would be either a critic or an investigator working on his lines. Let it be, if one will, that there is exaggeration, too much ingeniousness of interpolation and explanation. That criticism is nothing.



No student need accept, in his own interpretations, more than he believes true. The fact remains that—in my view at least—Freud has offered us a master-key to many of the mysteries of life, and we need not reject this because we find ourselves inclined contemptuously to deny the reports brought back by this or that explorer of the dark realms of the unconscious.

E. Freud's therapeutic method is his method of analysis into the structure and working of the whole mind, the whole man, carried out with a searching and merciless vigor that is in the end fully justified by the fact that it brings at last a sense of freedom and of manhood.

A critical or rather a hostile feeling invariably raises itself in the mind of each new listener to these and kindred statements,\* and it is one that every earnest student of the subject, including the pioneers themselves, has had to deal with in himself before he could proceed. This critical sentiment favors the view that such inquiries as those here sketched out are unwholesome, unhealthy, morbid. The pretended cure is worse, it is said, than the disease. Introspection is of the devil. Why show us that we once were little animals, having no touch with the things that now make life so sacred and showing propensities our riper interests have no use for? Let us rather press constantly forward into the free air and more abundant light, and let those who have had a dark history forget it. Look forward and not back.

This is a fine cry, but unfortunately it has served the cause of ignorance, narrowness, and prejudice as well as that of progress. It was the cry of the church against Darwin, when he sought to "introspect" the history of life, and its echoes have drowned the voices of those who have sought to talk about the problems of sex, no matter with what earnestness. The cause of formal modesty and reticence has indeed had many noble martyrs, both before the days of Paul and Virginia and since. But there is such a thing as paying too dear for this niceness, especially when, through the opposite course, we can have all that we should gain by this, and more besides. Strikingly enough, this outcry against one or another sort of investigation is never raised

\*Cf. Boston Med. and Surg. Jour.

except with regard to our neighbors' efforts to find the truth; the purity of our own motives, the value of our own inquiries, provided they are genuine, rarely come in question. We may kill animals for food and put them to pain for our convenience, but may not inflict any pain on them as physiologists, even for the sake of preventing infinitely more. The detective novel is welcome at every fireside, but the scientific student of human acts and motives is considered a disseminator of morbid tendencies. We are ready enough to say "why worry" when the answer is only to show that it is unphilosophical to anticipate trouble, but we may not ask "why *do we* worry" if there is danger of finding out that we worry because we are unwilling to see ourselves as we are, or to recognize that we are what we are partly because we were what we were.

All this is wrong. A fool's paradise is a poor paradise. If our spiritual life is good for anything it can afford to see the truth. No investigation is wrong if it is earnest. Knowledge knows nothing as essentially and invariably dirty. It is a piece of narrow intolerance, cruel in its outcome, to raise the cry of "introspection," in order to prevent an unfortunate invalid, whose every moment is already spent in introspection of the worst sort, forced on him by the bigotry, however well meant, of social conventions, from searching, even to the death, the causes of his misery and learning to substitute the freedom, liberality, tolerance, and purity that comes from knowledge for the tyranny of ignorance and prejudice.

This outcry against intolerance may seem overdone and out of place, but it is not so, and one evidence of the fact is that these remarkable researches of Freud and Jung, and their small band of followers, have met with such bitter opposition, even among physicians.

It is a delightful task to lead our invalids to the mountain top and urge them to look out over the splendid fields around them, waiting for them to till. But it is cruel to attempt this when they must drag thither a heavy burden under which they are forced to stagger, pale and panting, to find themselves, at the summit, unable to proceed further. The real mountain top is always within the mind, and outward activity, which is so much prized, is of little value unless it is the

symbol of an inward harmony and peace. At every feast Truth should have the first place.

To sum up the essential facts, let me say that Freud's main thesis, as I apprehend it, may be stated somewhat as follows: (1) Whereas, hitherto, the most important cause of the functional psycho-neuroses has usually been considered to be a constitutional and in general an inherited taint, and the influence of environment and education has been rated as of secondary significance, the facts point to a different conclusion. Our inheritance varies indeed within wide limits, but that which makes us sick or well (so far as the symptoms of these psycho-neuroses are concerned) is the influences to which we are subjected after birth. This is not to depreciate the importance of what we bring with us to the world, but to exalt the significance of education taken in a wide sense. (2) But if the influence of education, whether for good or ill, is to be exalted, it must be shown that these influences are to be given a broader meaning than that usually accorded to them; and (3) in so far as it is held that adult invalids are susceptible of cure through re-education, to a greater extent than others have believed, it must be proved that there are educational influences hitherto unrecognized or insufficiently recognized, which can be called to aid in this work.

In support of both these propositions Freud brings forward a remarkable array of evidence, based on the actual recitals of his patients. Some of these have been published by him or by his colleagues, while many others, for obvious reasons, have been withheld. These recitals are held to justify a number of subpropositions, such as those which follow, and as the result of my reading of the published communications, from personal conversations with Freud, and with his colleagues, and from my personal observations, I believe these claims to be well founded.

(a) From birth onward our lives are builded on a double principle. We have ostensible personalities and concealed personalities, and though the two may harmonize fairly well they are never fully in accord. Society and our own choice and effort make us what *ostensibly* we are,—artists, merchants, honorable citizens, persons following an aim. But in order

to fit ourselves to moulds of such a sort we must, of course, at every moment discard temptations and repress emotions out of harmony with this or that set purpose.

(b) These emotions and temptations, in spite of being discarded and repressed, not only were but continue to be important portions of ourselves. They may never come to light again individually and in their own form, but at the least they contribute something, if only a note of seriousness, to our perceptions and our thoughts. When they do not help us to remember they may be forcing us to forget, and in reality these two results are often one. Even our discarded, repressed, forgotten childhood lives actively in our adult years, helping to form that variously named portion of our mental lives, of which we are not consciously aware, and *cannot make ourselves entirely aware except with special aid*; never, perhaps, completely.

(c) These repressed emotions and thoughts organize themselves\* more or less definitely into groups, and there is a constant interplay between them and the thoughts and emotions of our conscious lives. Thus, the repression of a desire gives rise to a vague sense of disquiet; and this feeling attaching itself to a definite object may be felt as a morbid impulse or a defined fear. The desire and repression may never, at best, have been more than half-conscious processes, and finally become wholly forgotten, in the sense above described.

The vague distress (*flottierende Angst*) is consciously felt as something unendurable, and is at once attached to a special object, as in obedience to an impulse which counts as "protective," although the relief afforded may be anything but complete. The fears of water, of the dark, of certain animals, of meeting people, of crowds, of church and theatre, and so on through all their multitudinous forms, are made up in part, according to this view, of *fears of ourselves*, i.e. fears engendered in the course of the effort to set aside a situation felt to be unbearable. Sometimes the whole process can be witnessed, as when a morbid fear of meeting people, or even a so-called misanthropy, arises out of the half-aware-

\*The organization of hell, as figured by Milton, may fairly be taken as representing a part, though only a part, of this unconscious realm of suppressed thoughts.



ness that one has been living under conditions that were socially compromising. Often, however, the links of this chain pass wholly out of sight, and a person finds himself fearing or hating a person or set of persons without knowing why, when in fact it is because these persons stand as representing certain aspects of our past selves.

It is a little harder to explain the common fears of open windows, bridges, and the like, than fears of less external sorts, but there can be little doubt that these also are at least partly due to a similar substitution. We would shine, we would be virtuous and recognized as such, consequently we fear to fall. "Natural" fear and symbolism do the rest.

(To be continued)

## THE DYSCHIRIC SYNDROME

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THE symptom known as Allochiria has, except in Janet's writings, received but little attention since it was first described by Obersteiner (13) nearly thirty years ago. The views held on the subject by most neurologists can fairly be summarized in the following statement, which is taken from the most complete modern text-book — namely, Nothnagel's *Specielle Pathologie und Therapie*: "Allochiria is a defect in localization, whereby a patient refers a cutaneous stimulus to the corresponding contralateral point; it occurs in a large number of diseases, notably tabes and hysteria, and is of no value in diagnosis." Having no precise significance the symptom would thus seem to be of no practical value to the clinician; it has further been denied interest even on the theoretical side, largely because a simple mechanical explanation, which is as I think certainly false, has been widely accepted, so that it would appear as if there remained no further problem to be elucidated.

Some two years ago I pointed out (8) that the incorrectness of these accepted views arises from the fact that under the term Allochiria fundamentally different conditions have been confounded. Before giving a description of true allochiria, then, it will be necessary to say a word about the other conditions to which the term should not be applied. What has incorrectly been called electromotor or reflex allochiria is a condition in which electric or other stimuli evoke movements on the contralateral side of the body. There is nothing in common between this condition and true allochiria, any more than there is between this and the consensual reaction of the pupil to light. Another condition which has more frequently been mistaken for allochiria is the defect in localization known as alloæsthesia, which has been shown by Spearman (15) to be due to a defect in afferent excitations, particularly those of the "articular" type.

This symptom occurs especially in *tabes dorsalis* and similar affections. I have given (8) seven distinguishing features by means of which the diagnosis between it and true *allochiria* can readily be made. The essential point about *alloæsthesia* is that in it stimuli are erroneously referred *in every direction*, and it is said that they may even be referred to the contralateral limb. I have never been able to satisfy myself that the last-named feature is not an erroneous observation, due to the frequent hallucinatory sensations that so commonly occur when a *tatetic* limb is being examined, but, whether this is so or not, it is at all events certain that in *alloæsthesia* most of the stimuli are referred to various points on the same limb so that there is a general defect in localizing capacity. In *allochiria*, on the contrary, there is no such general defect, but every stimulus without exception is referred to the exactly corresponding point on the contralateral side of the body.

I have collected (9)\* seventy-nine cases that have been published under the name *allochiria*. Of these, thirty-two are instances of true *allochiria*; twenty-nine were cases of hysteria alone, and three were cases of hysteria co-existing with some organic affection. I have adduced (8, 9) other confirmatory evidence to show that *allochiria* is essentially a hysteric manifestation, and therefore of very precise diagnostic import. A number of possible errors that its presence may give rise to (8, 9) need not here be mentioned, for they are of purely medical interest.

True *allochiria* is one stage in the evolution of what may be termed the *dyschiric syndrome*. The three stages of this syndrome, and some of their features, were first described by Janet (6), but he followed all previous writers in failing to recognize the fundamental distinction between it and the conditions mentioned above, and was thus led to entertain similarly erroneous views as to its clinical import, essential nature, and pathogenesis. *Dyschiria may be defined as a state in which there is constantly either ignorance or error in the patient's mind as to the side of given stimuli, quite independent of any defect in sensorial acuity or in the power*

\*Since this review, in which seventy-six cases were referred to, three others have been published, one by Schultze (14) and two by myself (12).

*of localization*. This closely corresponds with the original definition of *allochiria* given by Obersteiner, though, like all subsequent writers, he did not recognize the essential distinction between it and *alloæsthesia*, and in fact gave instances of both conditions in his description.

As was just stated, there are three stages of *Dyschiria*: (1) *Achiria*, in which the patient has no knowledge at all as to the side of the stimulus; (2) *Allochiria*, in which he refers the stimulus to the exactly corresponding point on the opposite side of the body, and (3) *Synchiria*, in which he refers it to both sides; there are three subvarieties of the latter. The *dyschiric* manifestations may be general in distribution, or they may relate to certain segments of the body only, for instance to one limb. There are characteristic, introspective, motor, and sensory manifestations of each stage. A short description may now be given of each stage separately, but those who are interested in the question would probably find it easier to realize the significance of the various points by reading a description of an actual case, particularly the first of the two I have published (12).

#### A. ACHIRIA

This designation is proposed instead of the term "simple *allochiria*" used by Janet.

(1) *Introspective*.—The patient has lost the memory for the feeling of the part of the body concerned, and declares that though he knows he has such a part he cannot feel it. The patient's attitude is thus the same as in the so-called feeling of "depersonalization" that accompanies the severer forms of hysteric *anæsthesia*, though *achiria* differs from this condition in that the sensory acuity is not necessarily impaired.

When the *achiric* manifestation relates to the whole of one side of the body then the amnesia may extend so as to involve the feelings of "sidedness" and "handedness" corresponding to that half of the body. Thus, in my first case, the whole right side of the body was *achiric*, and the patient was totally unable to conceive the meaning of the terms "right-sided" and "right-handed." He had no feeling or memory whatever that corresponded with the



expressions, which so far as he was concerned might have been Greek.

(2) *Motor*.—If the patient is asked to carry out any movement with the limb in question he is unable to do so unless the limb is indicated in some other way than by the use of the words right or left; even then strenuous attempts are often followed by actions of very disproportionate strength. In spite of this fact, various habitual and automatic movements can be performed by the same limb, and in general it may be said, as of so many hysteric defects, that functioning becomes more imperfect the more conscious and voluntary is the effort.

(3) *Sensory*.—A stimulus applied to the affected part arouses no feeling of "sidedness" whatever. It is not accurate to say that the patient is in *doubt* as to which side the stimulus has been applied; he is quite sure that he has no idea on the subject, and refuses to make any guess. All he can say is that such and such a stimulus has been applied to such and such a part of the body, but as to which side he has no notion.

Apart from this single fact there may be no defect of sensorial acuity, even with the most rigorous testing. The stimulus is perfectly appreciated, its exact nature recognized, and its position correctly localized.

#### B. ALLOCHIRIA

The second stage corresponds with what Janet called "complete allochiria." It is better to retain the term allochiria solely for this condition, in which stimuli are constantly referred to the corresponding point on the opposite side of the body. This restriction of the term, besides giving us an increase in precision, has the further advantage of agreeing with the sense in which it has been used by every other writer except Obersteiner. As stated above, Obersteiner's definition applies to the group here called dyschiria, while all subsequent writers have selected one feature in his definition and called it allochiria. That feature is the characteristic of the condition here also called allochiria, so that my suggestion is in conformity with the accepted use of the term, though it departs from the way in which Obersteiner defined it.

The following is a short account of the manifestations of this stage, though as they are so complex it is difficult to make it intelligible without describing the stage in greater detail, as I have elsewhere done (12).

(1) *Introspective*.—This differs according as the case is a unilateral or bilateral one. In the former instance the patient can appreciate the feeling of "sidedness" of an affected part only when he is moving the corresponding part of the opposite side under the impression that he is moving the part in question; if he really moves the affected part, or if this is stimulated, he invariably gets the feeling of "sidedness" of the opposite part. An example may make this clearer. If the right side only is affected then the patient can never feel that he has, for instance, an arm on the right side. Under certain circumstances he can, it is true, feel his right arm, *but on the left side*. He therefore feels two arms on the left side, superimposed in space, and my patient used to distinguish these as the "dead" or "clever" left arm (really the right) and the "alive" left arm (the true left) respectively. It was a matter of great difficulty getting him to distinguish the two, for at first he completely fused them and maintained that, as in the achiric stage, he had but one arm, on the left. If the two arms were passively moved he could distinguish them in the way just mentioned, though it is important to note that in the two cases the feeling of left-sidedness of the arm in question was of exactly equal vividness and certitude.

In a bilateral case the patient can appreciate a given feeling of "sidedness" only when the opposite limb is moved or stimulated. Thus the feeling of a right arm can be obtained only when the left one is being moved. So far as I can determine, the mental attitude of the patient in a bilateral case is normal until a part is moved or stimulated, whereas in a unilateral case introspection reveals to the patient the curious feeling of having two sets of limbs, etc., on one side, i.e. of having his body completely folded on itself with a hinge in the sagittal axis.

(2) *Motor*.—If the patient is asked to carry out a given movement he promptly and invariably does so with the corresponding limb of the opposite side, and is under the full

impression that he has correctly performed the required act. This is perfectly simple in a bilateral case, but in a unilateral one it leads to the complication that the limb on the normal side is used at different times both in its own capacity and in the capacity of the opposite one. Thus in my right-sided case the patient could not use a screwdriver if told to do so with the left hand (for he was originally right-handed) but could do so perfectly well with the same left hand if told to do it with the right; that is to say, the physiological functioning characteristic of a dextral hand became for the moment transferred to a hand that was usually sinistral. Blocq (1) and others have — unfortunately as I think — spoken of these motor manifestations of allochiria as *allokinesia*.

(3) *Sensory*.— Stimuli applied to an affected part are invariably referred to the corresponding point on the opposite side of the body. This is done with an air of absolute conviction, so that, for instance, a patient showing allochiria on the right side only feels no more certain that a given stimulus is on the left side when it is applied on this side than when it really is applied on the right. The point to which it is referred on the opposite side exactly corresponds with the symmetrical point touched, a fact which in itself disposes of the view that allochiria is in any way merely a disturbance of localization.

### C. SYNCHIRIA

The manifestations of the third stage, which Janet has appropriately termed *synchiria*, are as follows:

(1) *Introspective*.— The patient is unable, either spontaneously or when cutaneous stimulation is applied, to appreciate the affected feeling of "sidedness" alone apart from the simultaneously appreciated feeling of the corresponding opposite side, though he can appreciate it when he moves both limbs together under the impression that he is moving only the affected one. This may be illustrated by the same example as that chosen above. If the patient's right (affected) arm was passively moved he felt that both right and left arms were being moved, and could not distinguish the experience from that felt when both arms were really moved. If, however, he was asked to move the right arm he moved, as will

presently be mentioned, both, but felt that he was moving only the right, as he had been told. To direct introspection, apart from any movement test, the patient felt that his right side was displaced and shifting between the two sides. It was sometimes nearer the right, sometimes nearer the left, and sometimes in the middle line. When it quite reached the right all dyschiric manifestations disappeared, when it quite reached the left, *synchiria* was replaced by *allochiria*.

(2) *Motor*.— When the patient is asked to carry out a movement on the affected side he does so on both sides, though in so doing he gets the feeling of "sidedness" only of the affected part.

(3) *Sensory*.— A stimulus applied to the affected part evokes two simultaneous sensations, which are referred to the corresponding points on both sides of the body. The homolateral one shows no abnormal features, the contralateral one shows the phrictopathic attributes that will presently be described. Either or neither of these two sensations may seem more distinct than the other, so that three substages of the condition can be distinguished. In the unilateral case before referred to these substages accurately corresponded with the variations in introspective feeling; thus if for instance the patient said that he felt the right half of his body to be shifted nearer to the left side than the right, one could be sure that cutaneous stimulation of it would evoke two sensations of which the one referred to the left would be the more distinct.

The *Theory of Dyschiria* has usually been approached from consideration of the allochiric variety of the syndrome, a fact which goes to help explain the sterility of the conclusions reached, for allochiria is certainly the most complex of the three varieties. The previous hypotheses offered in regard to allochiria may be grouped into two. The currently accepted one, which has been expounded by a number of leading authorities, was independently devised in 1880 by Fischer (3) and in 1883 by Hammond (4), and is usually styled "Hammond's theory." According to this hypothesis an obstruction in the efferent path causes a passage of impulses to the contralateral side, and the cerebral hemisphere they reach refers them to the side opposite to that of their



origin. The hysteric cases have been explained on this view by Weiss (16) by postulating a functional block in the posterior columns of the spinal cord, and by Bosc (2) by postulating a similar block in one cerebral hemisphere, so that the impulses reaching it have to cross through the corpus callosum to the opposite hemisphere; comment on this is surely superfluous at the present day. The whole Fischer-Hammond hypothesis is the flimsiest speculation, and nothing could better illustrate the antiquated materialistic philosophy still rampant in the medical profession than the fact that this hypothesis is not only gravely expounded but universally accepted in neurological circles. I have discussed it at length elsewhere (9), and have shown that Hammond developed it by dint of ignoring all the observable facts concerning allochiria, and by indulging in the most vapid fantasies derived from the study of emergencies on American railroads, which he took to be a valid analogy of the human nervous system. One fact alone is sufficient to demolish the hypothesis, namely, that according to it allochiria should invariably accompany the Brown-Séquard hemisection syndrome,—where there is a unilateral block in the spinal cord,—whereas the truth is that allochiria has never been observed in this syndrome.

The second hypothesis, which has been built up by Head (5), Spearman (15), and Janet (7), is a valuable train of thought; it is not, however, necessary to consider it here, for I have shown (12) that really the problem these authors were discussing was that of the origin of alloæsthesia. Their incorrect use of the term allochiria in this connection was due to the fact that they did not distinguish between these entirely different conditions.

The most fruitful starting-point from which to study the pathology of dyschiria is the consideration of its most elementary manifestation, namely *achiria*. The most striking feature in *achiria* is the sharp contrast between the complete failure of the sensation to give rise to any feeling of "sidedness" and its capacity to yield information about all other attributes of the stimulus, the exact site, nature, etc., of this. I have seen typical *achiria* present at a time when tests carried out with the most sedulous care failed to reveal

any defect whatever in sensorial acuity. This fact in itself clearly demonstrates that the symptom is not dependent on any sensory deficiency, as Janet maintains. The amazing specificity about the one particular loss irresistibly reminds one of the other specialized losses that are so characteristic of hysteria. We may define the essential nature of *achiria*, then, as an amnesic failure to associate a given feeling of "sidedness" with certain mental processes that normally are associated with it; a failure of such a kind that the presence of these processes in consciousness fails to arouse the feeling in question. The defect is a typical instance of psychological disaggregation; it might preferably be styled a defect in psychical assimilation. Like all other similar defects it is caused by the action of a "repressed" (*verdrängte*) feeling-complex, as Freud has long shown.

Further light is thrown on the subject of *achiria* by considering the relation of it to the other losses observable at the same time, namely the amnesia for the bodily members. In order to do this a few preliminary remarks are necessary about the mental processes that concern any given part of the body. These are sharply divided into two groups: *First*, there are the æsthetic sensibilities that depend on the excitations flowing in from the bodily member *at any given moment*; they are subdivided into (a) the sets of common sensibilities (touch, pain, heat, etc.) that have to do with the immediate relation of the member to the external world, and (b) the cœnæsthetic sensations, largely unconscious, that have their physical origin in the functioning of the internal organs. *Secondly*, there is the group of memory feelings that originate in all the diverse mental processes that *in the past* have had to do with the member in question; to mention only a few of these, there are the memories relating to its functions, both motor and sensory, those relating to its appearance, "sidedness," position, and all that the member stands for to the individual; in short, all the memory feelings that can be aroused by the sight, mention, touch, or thought of the member in question. This group, to which I have applied the term "autosomatognostic" (10), has often in the past been confounded with the totally different group of cœnæsthetic sensibilities.

The first of these two groups can be affected by either organic or functional disease, the second only by functional; no organic lesion can affect the past memories that form the autosomatognostic group, any more than loss of both eyes can abolish the memories of objects formerly seen. We thus see that in functional disease two totally different forms of anæsthesia may occur, according to whether the dissociation implicates both groups or only the first. In the common form only the æsthetic sensibilities are dissociated, in the rarer one both these and the autosomatognostic memories are. In this graver form it frequently happens that the second group of mental processes are recovered before the first, so that the common form of hysteric anæsthesia is brought about. This may be called the common type of cleavage between the two groups of mental processes in question. On the other hand, it occasionally happens that the recovery of the æsthetic sensibilities is in advance of that of the autosomatognostic memories, and we may speak of this as the paradoxical type of cleavage.

I have developed the view (12) that achiria is a necessary result of this paradoxical type of cleavage. We saw above that achiria is essentially an amnesia for the feeling of "sidedness," or what may be called the "chirognostic sense." There is much evidence to show that chirognostic feeling is an integral part of the group of autosomatognostic memories, and is intimately associated with other members of this group. When this group is implicated in disaggregation it is so as a whole, chirognostic feeling being included. If now the æsthetic sensibilities are retained then a stimulus, which therefore can be appreciated, is felt, but on a part that does not seem to the patient to belong to him and the side of which he does not know; in other words, we have all the manifestations of achiria.

In this connection may also be considered a matter that till now has not been mentioned, namely the fact that sensation in dyschiria constantly shows certain peculiar attributes. These attributes, which I have grouped under the designation phrictopathic (8), may shortly be described as follows: *First*, the sensation is abnormally persistent. Instead of ceasing to be felt as soon as the stimulus is withdrawn it

persists in unabated intensity for from six to sixty seconds. *Secondly*, the conscious reaction time is delayed, so that an interval of between two and six seconds elapses after stimulation before the patient experiences any sensation. *Thirdly*, it is not perceived when a more normal sensation is present. It is prevented by a simultaneous stimulus applied to any normal part of the body, and is instantly abolished by the subsequent application of any such stimulus. *Fourthly*, it has a strong tendency to evoke an immediate and irresistible motor response. *Fifthly*, the quality of the sensation is always unpleasant, is often very disagreeable, and is sometimes so intense that it can be described only as a horrible shudder. *Sixthly*, the feeling of personal ownership of the part stimulated is gravely compromised, and may be quite absent.

In a discussion of phrictopathic sensation (10) I have attempted to show, and to explain in detail, that it arises as the result of the "paradoxical cleavage" above described, so that the three syndromes of achiria (or other secondary form of dyschiria), phrictopathic sensation, and paradoxical disaggregation of autosomatognostic memories are intimately associated one with the other, and form a unitary morbid state.

The dyschiric and phrictopathic manifestations, being dependent on the paradoxical cleavage, are naturally more pronounced the sharper is that cleavage. They are therefore not well marked when the loss of the autosomatognostic memories is not complete, and when the retention of the æsthetic sensibilities is imperfect. It was the imperfect retention of these sensibilities (i.e. hypoæsthesia) in Janet's case that led him erroneously to conclude that dyschiria arose from a defect in sensibility, whereas in fact it would be more accurate to attribute dyschiria to the abnormal retention of æsthetic sensibilities — for they are usually lost when the autosomatognostic memories are lost — rather than to any defect in them. In a case such as the one described by Janet the phrictopathic attributes are also less pronounced, and he mentions only slight indications of them. In one of my cases, on the other hand, the loss of autosomatognostic memories was absolute, while the retention of æsthetic sensibility was complete, so that the paradoxical cleavage



was at a maximum. How marked were the resulting phrictopathic attributes may be seen from the following extract of the description of the case: "A light touch on the right arm evoked after a pause of several seconds a diffuse shuddering which was accompanied by a sudden bound on the part of the patient. He declared that he felt the touch of a finger on an elbow, but had no idea where the elbow was, and no sense of recognition that it was *his* elbow. The sensation, which was not felt at all if the patient was simultaneously touched on the left side, persisted for over a minute and then rapidly died away. It could at once be abolished by the application of a left-sided stimulus. It was most striking to witness the way in which the patient, sweating with horror, was instantly relieved of his misery by the lightest touch applied to any part of the left side of his body." There is little doubt that the reason why these phenomena have been so largely overlooked in the past is because of the rarity with which the paradoxical cleavage is so complete as it was in the case just referred to. In most cases the disaggregation runs a more parallel course with the two groups, for autosomatognostic amnesia is usually accompanied by cutaneous anæsthesia, or at all events by hypoxæsthesia.

As was hinted above, achiria is to be regarded as the basal type of dyschiria, and the other forms merely as secondary developments of it. In studying, then, the pathology of *allochiria* it is necessary to bear in mind the considerations just advanced concerning achiria. From this point of view we see that the essential feature in the nature of *allochiria* is the presence of an abnormal association between a given feeling of "sidedness" and the memories of a contralateral part, of such a kind that any recalling of the latter simultaneously arouses the former in consciousness. Thus, with a unilateral right-sided *allochiria* the thought or use of the right arm evokes the feeling of left-sidedness. The next step is to find out what has brought about this abnormal association. We are familiar enough with the occurrence in hysteria of replacement of one symptom by another, and it is now known that this change always subserves the function of enabling the patient to gain with the second symptom some advantage in a way that was not possible with the first. The

difficulty of applying this teleological hypothesis to *allochiria* is in seeing in what possible way such an apparently meaningless occurrence could have any function, in seeing what gain could accrue, however indirectly. This difficulty can, to my mind, be solved by a comparative study of the states of *achiria* and *allochiria*. If we again refer to the unilateral case mentioned above we note that the change from the former to the latter state essentially meant to the patient two things — one dependent on a gain in dextrality,\* the other on a gain in autosomatognostic feeling. He became again aware of a whole group of motor functions — dextral acts — the meaning of which he had previously forgotten, and he again felt — imperfectly, it is true — the right half of his body, although this was on the left side spatially coinciding with the left half. This partial recovery of autosomatognostic feeling was always accompanied by a striking change for the better in the patient's sense of wellbeing. Not only was the bulk of his bodily feeling multiplied by two, but other qualities seemed similarly to expand; thus his courage and feeling of power, strength, and capacity also grew in the same moment. The great importance that autosomatognostic memory feelings have for the sense of general wellbeing, and the misery that results from the depersonalizations due to amnesia for these memories, are facts very generally recognized, and no further emphasis need here be laid on them.

We have in these observations the clue to the function subserved by the erroneous association of chirognostic feeling that characterizes *allochiria*. There are reasons for believing that the presence or absence of chirognostic feeling makes all the difference to the capacity to recall autosomatognostic memories, i.e. it has a most important influence on the patient's capacity to feel a given part of the body as an integral part of his personality. It would further appear that the appreciation of an inappropriate chirognostic feeling is effective in this respect in the same way as an appropriate one. An erroneous association of an inappropriate chirognostic feeling is thus a makeshift, the only one possible under the

\*I.e. the special capacities characteristic of the normal right hand. I have published a paper (11) dealing with the nomenclature of this subject.

circumstances, whereby an achiric patient can recover the memories of a given part, together with the knowledge of its functions. Allochiria presents, then, a means of escape from the disadvantages of Achiria. To the patient under consideration, the endowment of the memory-feeling of the right half of the body with left-sidedness was so far as it went merely an embarrassing awkwardness, but it had the solid advantage of enabling him to feel something of his right half and its functions; it was in this respect the next best thing to endowing that feeling with right-sidedness, a consummation which was prevented at this stage by the completeness of the loss of "right-sidedness." To sum up this teleological hypothesis: When the force of the "repressed" complex causing the disaggregation is too great to permit the recovery of a given chirognostic feeling, then the autosomatognostic memories concerned can be recovered only at the expense of replacing their constituent chirognostic feeling by its complement. Allochiria thus subserves the function of enabling certain autosomatognostic memories to be once more apprehended in consciousness, with a resulting marked benefit to the personal well-being of the patient.

Of the pathology of *Synchiria* little need be said. It consists in an abnormal association between the memory processes relating to a given part and the feelings of right-and left-sidedness, of such a kind that any recalling of the former simultaneously arouses both the latter in consciousness. In allochiria it might be said that the patient can tolerate in consciousness the memories of a given part of the body only on condition that it is felt on the opposite side. In synchiria we see the transition between this process and the normal. Stimulation of a right arm, for instance, arouses memories of an arm that can be accepted as right-sided only if it is at the same time left-sided. There are several interesting matters in connection with the sensory features of synchiria, and indeed of allochiria, which like many other allied questions are here omitted for purposes of simplicity.

A few remarks may now be added dealing with the *Dyschiric Syndrome as a whole*, and we may begin by considering the relation of the three stages one to another. Achiria represents the most advanced degree of disaggrega-

tion, synchiria the least. I have advanced evidence (12) to show that both these stages are essentially transitional in character. They are both very distressing to the patient. Passage from either of them into the stage of allochiria takes place with dramatic suddenness. When, in the synchiric stage of the case above referred to, the right side felt as though it were drifting in an indefinite medium, being neither on the right side nor on the left, the patient's general condition of disagreeable insecurity was about the same in all the substages; as, now, it passed over to reach its safe anchorage on the left, instantaneous superposition would occur in a way that almost suggested the snap of a lock, and the patient, having found security in allochiria, would sink back with the profound sigh of relief given by one who again exchanges doubt for certitude. In passing from allochiria to the normal it was so difficult to maintain synchiria for the time necessary to progress to the normal that often the patient would slip back again, as with a click, into the stable resting stage of allochiria. Exactly similar features are to be observed in the case of achiria. Whether they are necessary stages in the production of allochiria is not known, but it is certain that they may be transversed in a very brief period, even in a few seconds. If either of them is observed in a given case it is highly probable that at some other time allochiria will be observed, but the contrary by no means certainly follows.

Allochiria is thus the only stable variety of dyschiria, so that if a permanent defect in assimilation of chirognostic feeling exists it will find expression in allochiria. This explains why it is the variety that has most frequently been observed. Of the thirty cases of dyschiria I have collected from the literature, allochiria was present in all, achiria in only one, and synchiria in only two. It also explains the long duration that may be seen in cases of allochiria; in Janet's case the syndrome was present at different times over at least twelve years, and one of my patients had spent the greater part of seven years in an allochiric condition.

One of the most obscure questions in regard to dyschiria is that concerning the difference between the unilateral and bilateral cases. The more one penetrates into the exact



state of affairs the more striking becomes the difference between the mechanisms of the two classes, and the sharper the distinction between them. It is only possible to make the following general remarks on the subject. In a unilateral case of allochiria there is a conscious illusion of displacement, by which one half of the body seems to be folded on a vertical axis until it coincides with the other half, whereas in a bilateral case the patient is quite unaware that anything is wrong, and there is certainly no sense of displacement of any part of the body. This may be illustrated by the observation that if one touches the right arm of a patient with right-sided allochiria, there being a window on his right and a table on his left, he erroneously states that the touch was on the "table" side of him; in a bilateral case the patient makes no such mistake, though like the other he says that he had been touched on the left side. By means of some specially devised tests I have obtained a consistent body of evidence (12) showing that in a bilateral case the autosomognostic defect was more pronounced on one side, and it is to my mind very probable that all cases are originally unilateral. I have tentatively advanced the suggestion that the bilateral condition subserves the function of avoiding the contradictory experiences endured by the patient with unilateral allochiria, and that the occurrence of a given form may depend on the type of mind or the type of hysteria present.

The subject opens up many psychological questions of both theoretic and practical interest that cannot here be touched on, but perhaps enough has been said to show that the dyschiric syndrome has been unduly neglected in the past, and that the problems concerning it would amply reward further investigation.

## REFERENCES

1. Blocq, Richet's Dict. de Phys., 1895, t. I. Art, Allocinésie.
2. Bosc, De l'allochirie sensorielle. Rev. de Méd., 1892, t. xii, p. 841.
3. Fischer, Zur Symptomatologie der Tabes dorsualis. Deutsche Arch. f. klin. Med., 1880. Bd. xxvi, Ht. I, S. 120.
4. Hammond, Allochiria, its Nature and Seat. New York Med. Jour., 1883, Vol. XXXVII, p. 35. Nature and Seat of Allochiria. Gailard's Med. Jour., 1883, p. 129.

5. Henry Head, On Disturbances of Sensation, with special reference to the Pain of Visceral Disease. Brain, 1893, Vol. XVI, p. 124.
6. Pierre Janet, Une altération de la faculté de localiser les sensations, Rev. philosoph., 1890, t. I, p. 659. Stigmates mentaux des hystériques, 1893, p. 67.
7. Ibid, Névroses et Idées fixes, 1898, t. I, chap. VI. Un cas d'allochirie.
8. Ernest Jones, The Clinical Significance of Allochiria. Trans. of the First Internat. Congress of Psychiatry and Neurology, Amsterdam, Sept. 5, 1907, p. 408. Lancet, Sept. 21, 1907, p. 830.
9. Ibid. The Precise Diagnostic Value of Allochiria, Brain, 1907, Vol. XXX, p. 490.
10. Ibid, The Significance of Phrictopathic Sensation, Jour. of Nerv. and Ment. Dis., July, 1908, Vol. XXXV, p. 427. An abstract of this article appears in the present number of the Jour. of Abnormal Psychol.
11. Ibid, An Attempt to Define the Terms used in Connection with Right-handedness, Psychol. Bulletin, April, 1909, Vol. VI, p. 130.
12. Ibid, The Pathology of Dyschiria, Rev. of Neurol. and Psychiatr., August, 1909, p. 499, and Sept., p. 559.
13. Obersteiner, Ueber einige Sensibilitätsstörungen bei Neurosen, Wien. Med. Presse, Dec. 19, 1880. Jahrg. XXI, S. 1635. On Allochiria, a peculiar sensory disorder. Brain, July, 1881, Vol. IV, p. 153.
14. E. Schultze, Über hysterische Hemiplegie, Deutsche Med. Woch., 1908, Nr. 13, S. 544.
15. Spearman, Analysis of Localization, Brit. Jour. of Psychol., 1905, Vol. I, p. 304. Die Normaltäuschungen in der Lagewahrnehmung. Wundt's Psychol. Studien, 1906, Bd. I, S. 388.
16. Weiss, Über anderseitige Empfindungswahrnehmungen und anderseitige Bewegungserscheinungen., Wien. Med. Presse, Nov. 22, 1891. Jahrg. XXXII, S. 1779.

## ABSTRACTS

CONTRIBUTION TO THE PSYCHOLOGY OF DEMENTIA PRÆCOX (SCHIZOPHRENIA).  
By M. Wulf. *Zentralblatt f. Nervenheilkunde u. Psychiatrie*, Feb., 1909,  
No. 280.

FOLLOWING the Zurich school as propounded in Jung's "Psychology of Dementia Præcox," Wulf analyzes a case of dementia præcox. An American young lady of thirty-five was more or less nervous from childhood, and since 1906 she had to be confined in a German sanatorium. At the time of the analysis the patient presented the characteristic dementia, showing marked apathy and indifference as to habits and cleanliness, sudden emotional fluctuations, hallucinations, and vague delusions. The author analyzed her absurd utterances, as well as her dreams, by Freud's psychoanalytic method, and shows that all the hitherto considered absurdities had a definite meaning and depended on three complexes. In view of this the author questions whether the term dementia as applied to general paresis and epilepsy can also be applicable to this case. He thinks that here it can only be considered from the social-psychological side, inasmuch as the precocious dement is incapable of normal social life, but from the individual-psychological side "dementia" can hardly be spoken of if we penetrate into the patient's mind. Though there is some disturbance of impressibility, apperception, and judgment, still the picture is not the same as in general paresis, epilepsy, and senile dementia. The "dementia" in dementia præcox is due to an emotional stoppage. The intellectual capacities remain intact; the assertions to the contrary have never been proven. The author supports his views by numerous quotations from Jung's book.

The case presents many interesting features though the dreams are not fully dilated upon and the association technique is rather crude. The reviewer, however, fully concurs with the author's views concerning the term "dementia." Every investigator who uses Freud's psychoanalytic method is well aware of the fact that in all cases of dementia præcox where the mind can be entered no "dementia" is found. The term Schizophrenia, recently proposed by Bleuler, which lays stress on the mental dissociation, is a distinct advance, as the picture of dementia præcox described by Kraepelin usually shows "neither dementia nor præcox."

A. A. BRILL

MIND PARALYSIS OF THE ACT OF LOOKING, OPTIC ATAXIA, SPATIAL DISTURBANCE OF ATTENTION. (Seelenlähmung des "Schauens," optische Ataxie, räumliche Störung der Aufmerksamkeit). *Rudolph Balint, Monatsschr. f. Psychiatr. u. Neur.* Jan., 1909. Bd. XXV. S. 51-81.

BALINT gives in this article an excellent account of an unusually interesting case. The patient came under observation some four years after a sudden attack of giddiness, unaccompanied by loss of consciousness, which was followed by a hardly definable difficulty in his vision and in the use of his hands.

No trace of weakness was found, and there was no alteration in the reflexes or affection of any cranial nerve. The eye trouble was first noticed by the observer during the vision test, when the patient read the test type in the following way: first the single letter of the top line, then the last letter of the next line, and so on to the lowest line, only the last letter of each line being read. This remarkable occurrence was found to be only an instance of a general law; the patient noticed only objects on the right. Contrary to expectation, no hemianopia was present. A long series of ingenious tests are then described, from which it was established that the three characteristics of the defect in vision were as follows: (1) the patient perceived only one object at a time, unless his attention was specially directed to others, in which case the normal number could be seen; similarly his attention was of a superficial order, no details of an object ever being seen unless they were specifically pointed out. (2) All visual spontaneity of attention was absent; the patient's visual attention could never be attracted towards a second object except by speaking to him. This feature was less marked during reading, for the patient, once started in the act, would go on spontaneously, though he made numerous peculiar errors. (3) Of two objects the patient always perceived the one on the right-hand side, and his attention was more easily attracted to a second object on the right-hand side than to one on the left. This was so up to forty degrees from the middle line, beyond which the rule no longer held.

The field of vision, as tested by the perimeter, was intact, and the writer therefore speaks of a pronounced concentric reduction of the field of attention, or of the psychical field of vision. It is to be noticed, however, that the patient's attention and will power were in other respects than that concerning vision quite normal.

The motor disturbance consisted in an elementary disturbance of acts carried out by the right hand. The patient was quite unable to draw a line joining two points, or to perform similar tests. Analysis of the defect showed first that it concerned only acts for which vision was essential, and secondly that it was a true inco-ordination, and



not, as in apraxia, the substitution of one purposeful but inappropriate act for another. Bálint contrasts the defect with that present in tabes; in both the motor inco-ordination is due to a lack of sensory impulses, in the case of tabes of the "muscle-sense" type, and here of the visual. He speaks, therefore, of the defect in his patient as an "optic ataxia." It may be remarked that the symptom evidently resembles what is called Lasègue's syndrome in hysteria, which Janet has so well described.

Bálint considers that the visual trouble is primarily one of association, but reserves a discussion of its psychological aspects for another article. The patient, after being under close observation for two years, developed a right-sided hemiplegia with motor aphasia and soon after died. A detailed account of the autopsy findings is given. Symmetrical lesions due to old thrombosis were present in posterior part of the parietal lobes, reaching down, especially on the left side, to the temporal. On the left side was, as well, a more recent softening in the Rolandic region. The cuneus and whole visual apparatus was throughout normal.

The article, in which the case is fully described and discussed, is well worth perusal in the original.

ERNEST JONES

CONSCIOUS PROCESSES IN SLEEP AND IN DREAMS. (*Ueber Bewusstseinsvorgänge im Schlafe und im Traume.*) By Oscar Samuely. *Zeitschrift für Psychotherapie und medizinische Psychologie*, Bd. 1, Ht. 3.

THE author lays down the proposition that during the whole time that we are asleep ideas come and go. The evidence (?) of this is that a person laughs, weeps, etc., in his sleep. Such ideas, he states, cannot, however, be characterized as dreams, for we only call those ideas dreams which, after waking, we remember to have been co-ordinated with one another in some conscious experience. He then sets himself the task of determining what influences arouse ideas during sleep, and in what way that which we call a dream is constructed out of these ideas.

He finds that three kinds of influences are responsible for ideas which arise during sleep: 1. The recurrence of ideas from the waking consciousness. 2. The action of normal physiological or pathological-somatic processes. 3. External stimuli which wholly or partially overcome the resistance to apperception.

As to the first, it is often easy to recognize the connection between dream ideas and those with which we were occupied during the waking state. These latter may have been only some of the numberless associated ideas which emerged into consciousness in connection with some main idea to which we gave our attention. By the act of attention they were pushed out. Such ideas, which in the waking state flit in a shadowy form through consciousness, or are not at all apperceived, can in sleep reappear alone without the original main idea.

As to the influence of bodily processes — respiration, digestion, circulation, etc. — these act, not by awakening specific dream ideas, but by awakening pleasant or unpleasant feelings which determine the direction of the ideas which are immediately excited by other processes. The author relates, in illustration of the effect of changes in the circulation upon dream production, some simple experiments on dogs and men. The latter consisted in allowing the arm of a sleeping person to hang down over the edge of the bed until venous congestion occurred, or bending a finger, etc. The groaning, moaning, etc., ending in the waking of the person in an outburst of perspiration, with feelings of anxiety and fright which he observed, following these procedures, he interprets as due to these slight disturbances of the circulation, which acted by arousing the painful feeling tone. [The justification for this interpretation of the mechanism is far from being evident from the facts as stated.]

The third method of excitation of dream ideas — i.e. through external stimuli — has little influence in the production of those ideas which come and go during the whole period of sleep; for if the stimuli are sufficiently intense to be apperceived the sleeper is awakened. More important is the effect of these stimuli in arousing ideas just before or at the moment of awaking. This effect is not indirect, through the production of feeling tones, but direct, as shown by the conformity of the content of the idea to the stimulus.

The author comes now to his main thesis, which is this: "The ideas which arise during sleep under the influence of the three different causes just mentioned are not yet to be regarded as a dream. It is only when, after waking, we first become conscious of the ideas which arose during sleep, i.e. remember the same as a coherent experience consisting of a chain of causal and time-conditioned ideas that we can speak of a dream." In sleep we have innumerable sim-

ultaneous ideas unrelated in time and "that which we call a dream we construct, after waking, out of this mass of ideas, and particularly those which arise immediately before waking."

When we try to remember the various ideas which occurred in confusion during sleep, it is a question of mere chance in what order of succession they will recur in consciousness as memory. This order, however, having once arisen in memory, becomes fixed in the waking consciousness. The dream, therefore, as a coherent experience does not occur in sleep, but is a product of the waking state. Nevertheless, the feeling tone which prevailed during sleep influences the order of the ideas. A dream is consequently a falsification of memory — a delusion composed of ideas which occurred during sleep and the elaboration of the waking state.

Further, sleep ideas which enter into this falsified memory are for the most part those which occur just before waking, and are due to external stimuli rather than those which "come and go during the whole time of sleep." "The dream is constructed essentially only out of those ideas which arise immediately before waking."

All this is interesting and important if true; but is it true? What is the evidence on which the author ventures to postulate these radical and broad generalizations? It is asserted as a premise that ideas occur during the whole period of sleep. What evidence is there for this? It may be so, or it may not be so. To one who has thought at all about the problem it ought to be clear that from the very nature of the case it is difficult, if not impossible, to prove it one way or the other, and the author cites no evidence whatsoever for his premise, which remains a mere assertion.

The next assertion is equally dogmatic, viz., that we only call those conscious processes dreams which we remember after waking. This is true only in a limited way of the *social* use of language, and of the psychological use not at all. Any idea occurring during sleep is a dream, and as to the limitation of the use of the term to define only those conscious processes remembered after waking, or, as the author would say, believed to be remembered, he seems to be unaware that there is a large accumulated mass of evidence from hypnosis, automatic writing, crystal visions, etc., showing that coherent ideas or "dreams" occur during sleep, and even just before waking, which are not remembered at all. To claim that this evidence is also a falsification of memory is to beg the question.

When we examine the evidence on which the thesis is based,

that our memory of dreams is an artifact, a fabrication of the waking state, we are astonished at its paucity and quality. He adduces three experiments: In the first, a long dream is excited by a bright light and a loud sound which awakens the sleeper. In the second, to show that this dream is not made of ideas which preceded the external stimuli he awakens the sleeper, who shows evidence of dreaming by groaning, moaning, etc., as if in a nightmare. After being awakened he remembers no dream! Ergo, the ideas that "come and go" during sleep are not interwoven in what is believed to be remembered as a dream, but only those excited by the external stimuli that wake the sleeper; and, as a person could not possibly dream a long dream in a moment, ergo, such a dream is a fabrication. Surely such evidence and reasoning need no comment. As already said, the failure to remember a dream is not evidence whatsoever of a real dream not having occurred. All the rest of the argument is a metaphysical begging of the question. Further analysis of many elaborate dreams by hypnotic and other methods shows that their intent can be traced to previous waking experiences (recurrences) and not to external stimuli. The third experiment upon which the author lays much stress has no more value than the other two, and its publication (which would probably only be permissible in Germany) can in no way be justified by any contribution of value which it makes to the subject.

The worthlessness of these observations would not justify this extended abstract and criticism, were it not that it exemplifies an unfortunate tendency of present German methods in this and allied fields of research. In place of the exact, painstaking, and exhaustive accumulation of facts and conclusions drawn from all the facts known, such as have characterized German science in other fields, we are too often treated in medical psychology to superficial observation, painful unfamiliarity with the fundamentals of the subject in hand, and fanciful reasoning. The result has been to excite well-deserved criticism of this field of research. Not that there are no brilliant exceptions amongst German writers, but the tendency exists all the same.

The author of the article in hand may not be right in his various contentions, but they not only lack the evidence that justifies them, but cannot be reconciled with a large number of well-attested, fundamental facts.

MORTON PRINCE



THE SIGNIFICANCE OF PHRICTOPATHIC SENSATION. Ernest Jones, *Jour. of Nerv. and Ment. Dis.*, Vol. XXXV, No. 7, p. 427.

AMONG the many sensory disturbances that may be found in hysteria there is a group in which the characteristic features occur in such close clinical and pathogenetic association that it seems justifiable to consider them as forming a unity. This has not previously been done, though indications of some of the individual features are to be found scattered in the literature; Pitres' haphalgnesia, the disagreeable sensation which he stated followed the application to the skin of various precious metals, is an instance. They are as follows:

1. *Abnormal Persistence*.—Instead of the sensation ceasing to be experienced immediately the cutaneous stimulus is withdrawn, as it does in the normal; it here persists in unabated intensity for a variable time—for from six to sixty seconds; the dying away of the sensation is a rapid process occupying only a second or two.

2. *Delayed Reaction Time*.—An interval of between two and six seconds elapses after stimulation before the patient experiences any sensation. Unconscious reaction times in hysterical hypoaesthesia are shorter than in the normal, conscious ones are longer.

3. *Non-Perception when a more Normal Sensation is Present*.—The simultaneous application of a stimulus to a more normal part prevents the patient from appreciating even a strong stimulus, although his actual sensibility may be quite unimpaired; again, if the abnormal and long-lasting sensation is first evoked then the application of a stimulus to a more normal part instantly abolishes the first sensation.

4. *Tendency to Immediate Motor Response*.—The stimulus is followed by an instantaneous and irresistible start.

5. *Disagreeable Quality*.—The quality of the sensation is always unpleasant, is often very disagreeable, and sometimes is so intense that it can be described only as a horrible shudder.

6. *Impairment of the Sense of Personal Ownership*.—The sensation gives to the patient a curious feeling that he usually describes as "being touched on some part that doesn't belong to me."

Two types of hysterical anesthesia may be distinguished, according to whether the loss concerns only the esthetic sensibilities, or whether in addition the autosomatognostic memory feelings of the part concerned are also lost. In the second, graver type when restoration takes place both groups are usually recovered synchronously, that

is to say, the patient synchronously recovers the capacity to appreciate external stimuli and to the capacity again to feel his limb as an integral and familiar part of his body. Sometimes the second group is recovered and not the first, or at all events the second more perfectly than the first. In rarer cases the first group is recovered more than the second, and it is in these cases that the features here described under the title "Phrictopathic Sensation" are to be observed. In other words Phrictopathic sensation arises as the result of a cleavage between the esthetic sensibilities and the autosomatognostic memory feelings of a given part of the body, the latter being lost more completely than the former. This view is developed in detail, and each feature above described is explained on the basis of it. The whole phenomenon is, of course, a typical instance of hysteric disaggregation, and is brought about in the same way as other forms of this by the mechanism of psychical "repression" (*Verdrängung*).

AUTHOR'S ABSTRACT

## BOOKS RECEIVED

CONSCIOUSNESS. By Henry Rutgen Marshall, M.A., L.H.D. Author of "Pain, Pleasure, and Aesthetics," "Aesthetic Principles," "Instinct and Reason," etc. New York. The Macmillan Company, 1909. \$4.00. pp. xv, 679.

THOSE NERVES. By George Lincoln Walton, M.D., Consulting Neurologist to the Massachusetts General Hospital. Author of "Why Worry?" Philadelphia and London. J. B. Lippincott Company, 1909. pp. 203.

LE DOUTE. (Leçons faites à l'Université Nouvelles de Bruxelles, 1909), par le Dr. Paul Sollier. Paris. Felix Alcan. 1909. pp. viii, 407.

MENTAL MEDICINE, Some Practical Suggestions from a Spiritual Standpoint. (Five Conferences with Students at the Johns Hopkins Medical School.) By Oliver Huckel, S.T.D., graduate University of Pennsylvania, etc., with an introduction by Lewellys F. Barker, M.D. Professor of Medicine in John Hopkins University. New York. Thomas Y. Crowell & Co. pp. x, 219.

## REVIEW

SUGGESTION IN EDUCATION. By M. W. Keatinge, M.A., Reader in Education in the University of Oxford. London, A. & C. Black, 1907. Pp. viii, 202.

THIS is a noteworthy example of a sort of book whose advent into English print has long been awaited: namely, the application to elementary general education of the ideas and methods that in re-educating adults have proved so successful. The forbidding conservatism of the ancient university herein certainly belies itself and offers something almost more than timely.

The scheme and scope of the monograph may perhaps be best learned from a recital of its chapter headings, plus in each case a summarizing word or two (in parentheses), thus: Hypnotic suggestion (discussing its nature, phenomena, and usefulness in general); suggestion in the waking state (arguing the dynamogeny of associated ideas); experimental study of suggestion in the waking state (Binet's work on school children and the well-known experiments of Sidis); operations preliminary to suggestion (auto-suggestion through expectation and interest); the process of suggestion (further conditions of suggestiveness); suggestion and imitation (between master and pupil); character, method, and suggestion (character-formation ethologically considered); education as creative (the training energetics of the subconscious); some practical applications (moral behavior through imitative suggestion); and the sanction of suggestion (in the competency of the teacher especially). The brief appendix is devoted to Binet's "Mlle. R. L.," Morton Prince's "Miss Beauchamp," and to the "Mr. Hanna" of Sidis and Goodhart, in showing "The Relation between Mental Dissociation and the Symptoms of Hypnosis and Suggestibility."

The second chapter is a far-reaching although simple discussion of the important similarities of hypnotic suggestion to the inevitable ordinary suggestion always occurring in the waking state. It affords just the kind of information that the public at present craves and partly needs, the educating public above all. (One always admires the text's straightforwardness: "an honest tale speeds best being plainly told"). Thus: "In the waking state, then, we find the very same phenomena that are noticeable in the state of hypnosis. Ideas tend to produce vasomotor changes or to actualize themselves as sensations or perceptions; there is a strong tendency

to imitate movements and to accept ideas that are in the air; the dissociation of psychological states seems to be an essential for sound mental processes; and, finally, when once it has been introduced into a mental system, an idea tends to persist and to overflow into action or belief after a considerable period of inertness." Somewhat more recondite but not less true there appears later on in the chapter: "The more efficient the mind, the more complete is the dissociation of its parts, while at the same time the firmer are the bonds by which relations of unity knit it together. For its wholesome growth each fresh stage in organization, each tendency to split up the total complex, must be accompanied by an equally strong tendency to unification. The maximum of discreteness must co-exist with the maximum of homogeneity." Again, "A suggestive idea is one which exercises a disintegrating influence on the mind in such a way that cortical and inhibitory ideas are rendered ineffective." The present reviewer believes that from a physiologic viewpoint this is about all of importance that can at present be said toward the actual neurology of suggestion — the cutting-off (in the neuronal switchboards of the brain's internal nuclei) of the inhibitory cortical influences that usually restrain the impulsive vegetative processes guided below in the central nervous system.

Mr. Keatinge notes and discusses seven conditions which, he well considers, determine the efficiency of educational suggestion. These conditions as follows appear to be as applicable to therapeutics as to pedagogy. The suggested idea-complex must be massive, either in extensity or by repetition. It must stand in a certain opposition to other ideas present in the recipient mind, being heightened by the contrast. It must be expected or desired. It must convey a meaning. It must bring with it intensive pleasure or pain [affective tone is what the author probably means]. It must be introduced by a person who is trusted, loved, or feared; or under circumstances that inspire these sentiments; or in a tone of voice or with a manner that the subject has always associated with the ideas that are to be acted on or believed. Finally, it must be introduced so that reaction is not set up (that is, not too directly or too persistently), suddenness often aiding the effect. In a somewhat similar way Mr. Keatinge discusses the characteristics of the successful, i.e., suggestive, teacher.

One chapter (the sixth) examines into the influence of mass imitation from the viewpoints of Tarde, Espinas, and Stoll. An



other deals largely with character and temperament (along the well-known lines of Paulhan, Fouillée, F. Jordan, and Ribot), and with the pedagogic applications of these surely important but still vague abstractions. It is from the study of the subconscious aspects of mind apparently that we can expect the quickest and best analysis of the temperaments, as obviously of the moods.

It is the next chapter, the eighth, however, "Education as Creative," that brings out best the great value that possible discussions of this sort may have, based on the dynamogenic influence of the subconscious. One finds in this chapter a dim but sublimated echo of certain sentiments in Eduard von Hartmann's awful but priceless work. "The conception of the subconscious is necessary for the explanation of mental process; it is still more necessary for the explanation of conduct." One finds, too, hereabouts in the book excellent neurology, although it is easy to miss a large amount of important matter in the relation of body and mind recently brought out, especially in the most advanced courses in physical education.

The ninth chapter discusses certain ethical appreciations of suggestive education, while the short last chapter is in its effect a plea for physical, mental, and moral competency in secondary educators, thus affording the sanction that every sort of suggestion between individuals requires.

The general impression that this small book bestows is one of timely depth and breadth in a timely field, with a lingering demand for *more*. One can scarce escape the feeling that there is premise enough in the former half of the work for much more conclusion than the latter half affords,—applications to many conditions and with much profit that, because of brevity, are here ignored. As a theoretic discussion of the principles of successful suggestion and as a sanction for all kinds of deliberate suggestion in general (still demanded by so many conservative folk) Mr. Keatinge's book is of value to every one, although especially to the teacher and to the mental therapist.

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# THE JOURNAL OF ABNORMAL PSYCHOLOGY

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## DREAMS AND THEIR INTERPRETATION AS DIAGNOSTIC AND THERAPEUTIC AIDS IN PSYCHOPATHOLOGY \*

BY B. ONUF (ONUFROWICZ), M.D., OF NEW YORK

THE value of dreams as diagnostic aids has been recognized in a vague manner for some time past. It was known, for instance, that the delirium of alcoholics is often preceded by particularly vivid dreams, with predominance of the fear element and corresponding coloring of the dream pictures, also that certain physical conditions, heart diseases, for instance, gave rise to definite kinds of dreams. In the investigation of neurasthenic states the study of dreams of these patients has been of distinct value. No one, however, has so exhaustively treated the subject of dreams from the point of view of interpretation as has Freud,<sup>†</sup> and in particular none has so strongly insisted on the close affinity to and the importance for the understanding of psychopathic states, especially of the mental state of hysterics.

He was the first to demonstrate that the lack of sense, of logical connection, which strikes us in dreams, is only apparent; that we have to distinguish between manifest and latent contents of a dream and that the latter, represented by the so-called dream thoughts, are far from being nonsensical, but give us important clues to the nature and workings of our subconscious processes of thought. The absurdities in

\*Read (by title) before the Amer. Neurol. Assoc., May 29, 1909.

†Sigm. Freud: *Die Traumdeutung*, 2d edition, 386 pages. Leipzig & Wien, Franz Deuticke, 1900.



dreams, where such appear, are shown by Freud to be intentional, meaning to convey sarcasm about the subject represented in the absurd manner. Incongruities of emotions are demonstrated as being due to "substitutions," or "displacements," the emotion attaching itself to a different object than the one really meant. What in dream is represented as "mourning," a black veil, for instance, may thus in dream-thoughts signify "joy," i.e., the wedding veil, owing to a substitution or identification which the dream process has brought about. Or if in a dream a scene of mourning gives rise to joy instead of sorrow, the reason may be that the joy is meant for something different from the subject represented by the dream alone.

Very striking is the similarity between dreams and the somnambulistic and trance states of hysterics, observed in hysterical crises. This is already indicated by the fact that hysterics often cannot distinguish between a hysterical crisis and a dream of their own, being often at a loss to say whether what they relate or experienced was a crisis or a dream, and it may sometimes be very difficult even for the psychologically trained to decide this point from the report of the patient, even when amplified by the observations of an eye witness. A hysterical patient, for instance, whom Dr. E. G. Zabriskie referred to me for study, has attacks which are ushered in by a numb sensation and pain in the right arm, and in which she performs a beating motion with that arm. After that she falls into a state characterized by the occurrence of dream-like scenes which she usually forgets again.

In at least one instance, however, she was able to partially, if not entirely, recollect such a scene, which was the following:

She imagined that she saw herself sitting on the stoop of the house in which she lived, with something in her lap. It appeared to her to be some candy which (in the dream) she had just bought in a store across the street, and which she had in a paper bag. A man with a dog came along, and the dog wanted to have the candy and snapped for it. The man was annoying her in some way or other, and she remembered distinctly hearing herself calling to her mother, "Get the

man with the dog away." She then distinctly saw the picture of the man as he walked away with the dog.

This scene had the vividness of a dream and analysis brought out some interesting facts, showing the intimate relation of some parts of it to events of her life. It demonstrated at the same time how similar the building up of that scene was to that of the building up of dreams.

The dog, on inquiry, proved to be like one of those big, hairy "Eskimo dogs," used for sleigh-riding in the North, and she had frequently seen a dog of that description in her neighborhood. The face of the man was that of a stranger, but she seemed very familiar with him. He reminded her somewhat, in appearance, of the man who delivered ice to her parents. This man was in the habit of teasing her, being sometimes so forward as to make her angry. The man figuring in the attack, too, was teasing her just as the ice-man does.

We have here a composite picture, made out of originally unrelated parts and events:

The stoop on which patient sat in the dream, the candy bought at the store opposite, represent one component. The dog which is identified with the one seen repeatedly in the neighborhood by the patient is again another component; and the man of the scene, which in face is a stranger, yet seems so familiar and becomes identified with the ice delivery man through his actions and attitude, forms again another component, or really two other components, since his face is evidently taken from some other source in the events of the patient's life.

Similar compositions are met with in dreams and were typically met with in the patient's dreams, of which I mention the following, with a brief report of the events which gave the impulse to it.

One day the patient had an altercation with a conductor of a street car concerning a transfer ticket. It came to hard words on either side. The conductor was an Irishman, and another Irishman, who was a passenger, took his part against her, becoming very angry. The second night following this event, patient had the following dream: She also had an altercation with a man, but this occurred on the street.

The man was passing her and in doing so almost threw her over. He passed on, but the patient turned around and scolded him, asking whether he could not see which way he was walking. Another person who passed by interfered, saying that patient should not scold an older person, and using the same words which the Irishman in the street car had used in taking the conductor's part against her.

Analysis of the dream elicited the following additional facts:

The interfering man of the dream resembled in manner and stature the conductor of the street car, whereas the man who knocked against her in the dream bore likeness to the interfering man of the street car, so that there was a reversal of roles or exchange of personalities in the dream, as compared with the real events in the street car. This exchange was not quite perfect, not quite unmixed, however. For the man in the dream who knocked against her, while resembling the interfering man in the street car scene in *manner and dress*, was almost indistinguishable in attire and *physiognomy* with the real owner of the dog which had figured in the hysterical attack above related. On the other hand, the interfering man of the dream, while having the manner and the thin and short stature of the conductor of the street car, had no facial likeness to any one she (consciously) knew, whereas his clothing was a checked suit, exactly like the one worn by a remote relative of the patient, who played an important part in her life.

The street locality of the dream was one that she recognized as belonging to a street in her neighborhood and which had aroused her attention two weeks previously and awakened old associations connected with it.

The dream scene, therefore, just like the scene in the hysterical attack, was compounded from various sources: First: From the street car event, with reversal of roles of two of the acting parties. Second: From a street scene, seen by her two weeks previously and arousing old recollections. Third: From the facial appearance and attire of the owner of the dog which had appeared in the scene of the hysterical attack. Fourth: From events in the patient's life connected with a remote relative of hers, the connection being estab-

lished by the identity of the dress of that relative with the dress of one of the actors in the dream.

A further interesting feature in this dream is the amalgamation of different persons in one; as, for instance, the man in the dream who knocked against the patient and who in dress resembled the interfering man of the street car scene, but at the same time also resembled the owner of the dog in this respect. Another amalgamation or mixture is that of the interfering man of the dream, who, while resembling in attire a remote relative of patient, looked like the conductor of the street car in manner and stature, whereas his face was like no one's she (consciously) knew.

Such amalgamations or mixtures, leading often to identifications of peculiar kind, occur frequently in dreams, not only of hystericals but also of normal persons. This is demonstrated by the results of Freud's analysis of his own dreams, which I have found amply verified on myself as well as on others. But such amalgamations or mixtures of persons or other objects also often occur in hysterical states of obnubilation of consciousness, thus indicating the parallelism between one and the other.

The same is true of the reversal of roles observed in the dream just related, in which the personality of the aggressing man was partly exchanged with that of the interfering man in the street car scene of real life, while that of the interfering person of the dream was partly exchanged with the one of the aggressing person (the street-car conductor) of real life.

That such reversals or exchanges occur also in the hysterical states, namely, that an exchange of roles or of personality, complete or partial, may occur between persons or subjects of real life on the one hand and those figuring in hysterical states on the other, is illustrated by the following case, related by Janet,\* which I report slightly abbreviated:

A hysterical woman, thirty-five years old, while taking a walk in the zoological garden during her menstrual period, was frightened by a lioness that, as it was reported, seemed ready to rush upon her. Following this event she had crises

\*Pierre Janet: *The Major Symptoms of Hysteria*. Fifteen clinical lectures given in the Medical School of Harvard University. New York. Macmillan Co. 1907.



of the following kind: "She runs on all fours, roars, rushes on people, trying to bite them; and although she was anorexic before her attack and could eat very little, now she pounces on all sorts of food, picks it up with her teeth, and devours bits of paper and small objects she finds on the floor. In a word, she acts a comedy, for it becomes certain that she studies her part, and that she often replaces real actors by metaphors. For instance, she looks in a drawer for photographs, generally children's portraits, and tries to eat them up. Without any doubt, as she is unable to devour real persons, she devours them in effigy."

Another point of interest in the street quarrel dream above related by me was the role of the checked suit figuring in that dream. This article of clothing worn by one of the acting parties in the dream appears at first sight as an object of no importance to the patient, but it gained great significance as a psychic factor, in her case, by having been worn in actual life by a relative of hers, and by leading up to the discovery of events which concerned her very deeply. She had been interested in a friendly, helping way in this relative, and the latter repaid in a very bad manner the kindness shown him. Living in the same house as patient, he entered her sleeping room on two occasions when she was in bed, with apparently no good intent. These transgressions on the part of her relative, to judge from the records of patient's case, led to an accumulation of her hysterical attacks at that time.

In other words, a factor of decided psychic importance for the patient figured under the guise of an object in itself entirely insignificant, irrelevant to her, and analysis of the dream, that is, tracing of the dream thoughts, revealed the psychic factor of real value. In this manner the analysis of dreams may become an important adjuvant to other methods employed for tracing subconsciously acting causes of psychic disturbances. Particularly psychoanalysis may thus be directly supplemented and facilitated, although we must not overestimate the value of the help thus gained.

It is impossible in the short time allotted for this paper to discuss all the points of analogy between dreams and hysterical states, which form a fascinating study. In closing this part of the subject I wish to allude to one point, however,

which is closely connected with the one just related, and the elucidation of which has been largely the work of Freud. I have already mentioned in the beginning of my paper how in dreams, by a process of substitution, the emotions may suffer displacements, attaching themselves to other objects than those really meant; how, for instance, a scene of mourning, instead of producing sorrow, may awaken feelings of joy; this incongruous reaction having its cause in the fact that the joy is not aroused by the object of mourning presented in the dream, but by another one quite different in nature, although more or less closely associated with it in subconscious thought.

An instance of this is the case reported by Freud\* of a lady who dreamed seeing the only son of her sister lying on the bier. This dream Freud extensively interprets as a wish fulfilment. It does not signify, however, that she wishes the death of the little nephew. The real wish concealed under this guise is that of seeing again, after long privation of this sight, a certain loved person, whom she had actually once seen by the corpse of another nephew, after a similarly long period of privation of his sight.

Similar substitutions and displacements of emotions occur in hystericals, and give us an insight into the apparently unfounded or disproportionate, sometimes seemingly absurd emotional reactions which we observe in these patients.

We see a hysterical fall into a rage at the sight of a hat of a certain shape and wonder at the inadequacy of the reaction, but on making a psychoanalysis we may find that such a hat used to be worn by some person who had offended or exposed the patient in some very painful or atrocious manner. The patient has in the mean time tried to forget the insult and has seemingly succeeded. But actually the emotion has been retained and has attached itself to the harmless object intimately associated with the object of offense, namely to the hat, which thereby has become an object of hate to the patient. This hate the latter cannot explain, since by the suppression above alluded to, the associations of the hat with the person who wore it has been obliterated from conscious memory.

Similarly, a girl may burst into uncontrollable crying

\*Freud, l. c.

by the sight of a certain flower, because such flowers were in bloom near the place where her lover was killed by an accident, an association which she herself has consciously forgotten.

Seen in this light, the apparent incongruities of emotional reactions lose much of their absurdity, and it is very instructive to observe here again the parallelism between dreams and hysterical states in the mechanism bringing them about.

Another subject of considerable interest are the dreams by suggestion. These form an interesting problem in their relation to actual dreams, a problem which I shall be able to only briefly touch upon in this paper. If dreams can be suggested and made to materialize in every detail suggested, we may naturally ask ourselves whether it is justifiable to give natural dreams the complicated structure which Freud attributes to them from an analysis of the dream thoughts, and whether the dream thoughts themselves as traced by the analysis are not suggested. Undoubtedly this is a question not to be answered offhand. Nevertheless the connections which can be established between the traced dream-thoughts and real events on one side and the manifest contents of the dream on the other, are sometimes so clear and evident that there can be no doubt as to their reality. Moreover, the nature of dreams varies considerably in complexity. In children particularly, as Freud shows, they are much simpler, and they do at times represent almost exact reproductions of real occurrences. In this way they approach considerably the suggested dreams, where such occur with exact reproduction of all suggested details.

That dreams of this kind take place is demonstrated by the following instances: Forel, in his book "*Der Hypnotismus*," fifth edition, page 69, relates: "To a man who smiled at hypnotism my friend Prof. Dr. Otto Stoll declared quietly that in the following night at twelve o'clock he will dream this and that about the devil. The gentleman in question did not feel quite at ease, for he wanted to remain awake to escape the prophecy. But look, shortly before twelve he fell asleep on his chair, and at twelve o'clock sharp he awoke, exactly at the episode of the suggested dream at

which the awakening had been ordered to him. The dream had materialized in every point.

We see that in this case mere waking suggestion sufficed to bring about the result.

The report of this case is somewhat brief, and while quite succinct as to the statement that the dream materialized in every point and in the order suggested, does not give a description of the dream, so that we are not quite sure whether some additional things may not have been woven into it. Such weaving in of events not suggested took place in the following suggested dream of a hysterical patient of mine which, as intended, took place during hypnosis itself. This dream is of further interest because demonstrating how suggested landmarks may successfully be applied for ascertaining given stages of the dream, or for ascertaining its completion. Since it is very essential for a successful hypnosis to obtain clues as to whether suggestions are materializing, the value of the landmarks above mentioned becomes evident.

Here is the suggested dream, the specific purpose of which will be explained later: Patient shall dream of having a meal consisting of beans, sweet cabbage, apples, and melons, to be eaten with great appetite and relish, and leaving no injurious consequences, and causing the resolution of buying some beans and cabbage the next day and eating them with the same relish and lack of unpleasant or injurious symptoms. The landmarks suggested to ascertain the materialization of the dream were the following:

1. The beans suggested for the dream were to be oversalted and to make her so thirsty that, after eating them (in the dream), she would "de facto" (not imaginatively, i.e., in the dream only), take hold of the glass of water placed on the table beside her and drink it.
2. After completion of the dream she would "de facto" wipe her mouth, as is done after a finished meal. On awakening she was to relate the dream spontaneously.

All the dream suggestions took fully, with the exception that she did not relate the dream spontaneously. When asked, however, whether she had a dream, she affirmed it, and when questioned further of what she dreamt, she said, "of those darned beans; I dreamt I ate them with great



pleasure." She then proceeded to the report of the dream, rendering every suggested detail. But on being asked to describe the dream exactly, she gave the following addition, i.e. dream fabrication of her own: She did not want to eat the beans first, but then tried one and it tasted so well that she took more and ate quite a few. She also on inquiry gave the (non-suggested) stage setting of the dream, which was to have occurred in the kitchen, although the picture of it seemed to be rather vague to her.

Parenthetically, the fact that patient failed to respond to one suggestion, i.e. to that of relating the dream spontaneously, deserves a word of mention. It shows how failures of suggestions may be produced by not helping the patient along a little. Had this not been done in this case the materialization of all the other suggestions relating to the dream would have remained in doubt, in spite of the materialization of the suggested landmarks.

One important aid which suggested dreams can give us is the re-enforcement of hypnotic suggestions. The manner in which this is done is well illustrated in the instance just related. The patient referred to suffered from disturbances of gastric and intestinal functions, which inquiry into her antecedents had demonstrated to be due largely to psychic causes. Beans and sweet cabbage, for instance, caused her such aversion that the smell of them alone was enough to produce nausea or even vomiting, while fruit and melons caused diarrhoea traceable, also, to great extent, to psychic causes. How largely the psychic element entered in the production of these gastric disturbances is evidenced by the fact that once the sight of a girl wiping her nose with the undershirt and looking at the ejected secretion produced in patient a crisis of anorexia and vomiting, which lasted over three weeks. It is in such cases in which the psychogenetic factors of some symptoms are so strongly developed that putting the therapeutic suggestion in form of a dream may, if successful, lend much strength to the suggestion by shaking the patient's belief that certain things are invariably injurious, and by making them see the possibility of the beneficial effects thereof. It was with this purpose in view that the above related "dinner dream," as I will shortly call it,

was suggested, and it had, temporarily at least, the desired end.\*

Instead of suggesting a dream to occur in hypnosis one may also suggest posthypnotic dreams, to take place, for instance, in the night following the hypnotic session. Such a dream may give the patient a firmer conviction of spontaneity than a dream occurring during hypnosis, in which the possible influence of the hypnotizer may, vaguely, be thought of. The dream may thus, particularly in persons somewhat superstitiously inclined, be given prophetic power.

For instance, in the case just related a dream could have been suggested in which she would see herself in the future as healthy and strong, free from all the disturbances mentioned, because she had found out the erroneousness of her belief in the injuriousness of the things which she had avoided.

A further aid which suggested dreams can give us is the recollection of pathological crises or of occurrences of actual life that may have important bearing on pathological states.

We may suggest to a hysterical, for instance, to have a recollection of a hysterical crisis by living through it again in the form of a dream. This information may give us important clues regarding the events of real life on which the crisis was built up.

Such information we have, to be sure, to take with a certain caution, as it may be delusive, colored by auto-suggestions, but we may find other facts to help us establish the truth of the knowledge gained.

Aside from suggested dreams therapeutic aid may be obtained in an indirect way by inquiry about the occurrence and nature of spontaneous dreams. Often what is related as dream is not a dream, but a hysterical crisis, or a night terror, or something else, and asking the patients to relate their dreams may lead to the discovery of such states.

An interesting illustration to this view is furnished by the following crisis occurring in the patient to whom I had suggested the "dinner dream." When asked about her dreams she stated that when she was a child of seven years

\*The permanency of the result in such cases depends on various factors and was in this case partly frustrated by the fact that, for certain reasons, the treatment had to be discontinued.

she was for a long time haunted by a dream which occurred almost every night. She saw a woman dressed in a white wrapper, who stood in a corner high up. She would scream and say that the woman wanted to take her. Part of the dream also was that patient thought she and her mother were being rocked in their bed. This whole scene used to begin like a dream, but later she would wake up and see the white woman with her eyes open. Inquiry during hypnosis, with the suggestion that patient would have a full understanding of the meaning of the haunting scene, with recollection of the events of actual life which formed the basis of it, revealed the interesting fact that the white woman of the haunting scene was a woman who had died a few days before the said scene first appeared to the patient, and whose corpse she had from a distance seen lying on a semi-inclined bier.

Thus the inquiry into the dreams of the patient revealed the presence of crises which might be classed as night terrors, and which apparently in connection with other factors, which it is beyond the scope of this paper to mention here, continued to act subconsciously, causing a vague fear in patient, a fear to be alone, particularly at night. It is particularly the frequent repetition of the same alleged "dream" that ought to make us doubtful as to its being a true dream; the alleged dream being in such cases frequently a hysterical crisis or a night terror or something similar.

## THE CONCEPTION OF THE SUBCONSCIOUS

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No fact of abnormal experience can by itself prove that a psychological and not a physiological explanation is needed; it is a philosophical problem which must be settled by principle before the explanation of the special facts begins. — MÜNSTERBERG.

THE conception of the subconscious has of recent years acquired a dominating position in psychiatry. The utility of this conception in the co-ordination of our knowledge, and its fruitfulness in suggesting new lines of research have become so obvious, that the opposition which it at first aroused has been almost altogether overcome. Considerable disagreement, however, still exists as to the precise meaning to be ascribed to the term. What is the nature of a subconscious process — is it a physical or mental phenomenon? This and other similar questions constitute a fertile source of dispute, and the Symposium which recently appeared in this JOURNAL showed the very divergent views held by some of the leading psychologists and psychiatrists of the day.

The present paper is an attempt to investigate the essential nature of this conception, to determine its claims to a place in the structure of modern science, and the position which must be assigned to it within that structure.

It will be profitable to first consider the more important stages in the historical development of the theory of the subconscious. Our next step will be an enquiry concerning the characters which modern science demands that a conception shall possess in order to qualify it for admission within its portals. We shall then be in a position to consider how far the conception of the subconscious satisfies these demands, and to determine its place and function in psychology.

The history of all thought has been dominated throughout by an essential tendency of the human mind — the endeavor to obtain continuity. The mind abhors discontinuity as nature is said to abhor a vacuum. It strives to bring



every new experience into line with the old, to do away with inexplicable gaps, and to reduce its world to a connected intelligible whole. Mythology, religion, and philosophical systems provide us with numerous examples of this constant endeavor. Science is nothing but the same trend of thought become coherent and articulate.

Now it was early seen in the history of philosophy that, among the contrasts to be observed between the physical and mental, one of the most prominent was the comparative discontinuity of the latter. The psychical life made its appearance in an irregular manner, in flashes of limited duration, and in the intervals between these flashes it appeared to altogether cease to exist. In contrast to this the material world seemed relatively continuous, permanent, and independent of the individual. Hence, if the study of the mind was to be brought into line with the rest of our knowledge, an attempt had to be made to get rid of the apparent discontinuity and irregularity of psychical experience. Such an attempt has formed an integral part of most philosophical systems. The method adopted by the earlier philosophers, however, consisted mostly in imaginative and fantastic constructions, which aimed solely at internal coherence, and which had but little relation to the facts. It was only after the method of the inductive sciences had long demonstrated its utility in other branches of knowledge, that an endeavor was made to apply it to the sphere of psychology.

The first serious contribution to the filling up of the gaps in the psychical series was made by Leibnitz, who demonstrated that our conscious life contains small elements lying outside its main stream, but which nevertheless produce an effect by a process of summation and combination. Schopenhauer (1) thought that a large number of our sense perceptions were the result of unconscious processes of reasoning — and the same theory was propounded in a more exact form by Helmholtz (2). By this period, therefore, the attempt to bridge the intervals in the psychical series by processes of unconscious thought had taken definite shape.

The question of the subconscious first, however, became prominent with the publication of Hartmann's "*Philosophie des Unbewussten*," in 1868. The intense enthusiasm with

which this work was greeted in the most varied quarters affords a striking demonstration of that hunger for continuity whose existence we have already noted. Hartmann conceived the subconscious as a second personality concealed beneath the surface of our ordinary consciousness, but precisely comparable to the latter in its structure and functions. He appeals to this hypothetical being whenever there is a gap in the chain of visible causation, and endows it with properties of a really startling kind. "Let us not despair," he says, "at having a mind so practical and so lowly, so unpoetical and so little spiritual; there is within the innermost sanctuary of each of us a marvellous something of which we are unconscious, which dreams and prays while we labor to earn our daily bread" (3). Hartmann's work is of historical importance on account of the stimulus it provided to further investigation, but his use of the concept of the unconscious was so unbridled that the value of his actual results is almost altogether nullified. James has described his theory as a "tumbling ground for whimsies," and Höffding remarks, "We may say of it, as Galileo said of the appeal to an almighty will, it explains nothing because it explains everything" (4).

Some of the most important advances in the historical development of the subconscious have been furnished by the French School of Morbid Psychology during the latter part of the nineteenth century, initiated under Charcot and Ribot, and culminating in the work of Janet. In his classical "*Automatisme Psychologique*" the latter demonstrated that a large number of morbid phenomena can be adequately explained by assuming the existence of dissociated mental elements altogether outside the sphere of the personality.

Morton Prince has further developed Janet's point of view. He divides psychological material into that of which the individual is personally conscious and that of which he is not personally conscious. Those experiences are personally conscious which are synthesized in the "personality." The experiences of which the individual is not personally conscious are further divided into co-conscious and unconscious. *Co-conscious* corresponds in the main to Janet's "subconscious"—actively functioning ideas dissociated from the personality. Under *unconscious* are included the

phenomena of memory, and in general all the ideas, traces, etc., which are not at the moment actively functioning, and which are to be regarded as mere physiological residua. Any of these latter may at any time become conscious or co-conscious. Dr. Prince considers that the essential character of a co-conscious idea consists in the fact that it leads an autonomous existence, and is not dependent upon the ego-complex. Co-conscious, therefore, does not necessarily imply that the ego is unaware of the idea in question. Thus, in the well-known case described in "The Dissociation of a Personality," one personality knows all the thoughts and actions of a second, but considers them to be those of another being whom, indeed, she regards with unconcealed dislike. This extension of the meaning of Janet's conception is very important, and enables us to throw more light upon the analogous manifestations occurring in paranoia.

The most modern development of the doctrine of the subconscious is to be found in the works of Freud, Jung, and the Zürich School. Their conception is totally different from those enumerated above, far more different than is generally supposed. This point will be better appreciated after a consideration of certain philosophical questions, which will subsequently be discussed.

We have seen that the concept of the subconscious mind has gradually developed as a result of the demand for continuity in the psychical series. This same demand for continuity has, however, led to an endeavor to solve the difficulty in an altogether different manner. Certain philosophers asserted that the psychical was unreal, a mere epiphenomenal product of the physical, and that nothing but the material existed. The brain was considered to secrete thought as the liver secretes bile. This school reached its zenith in the materialism of Moleschott and Büchner — a crude and naïve philosophy now generally discredited. Later authorities, however, while admitting the reality of the psychical, denied that it could be made amenable to the method of science. Thus Karl Lange required that all psychological definitions should be replaced by physiological, and Münsterberg asserted that "mental facts, as they are not quantitative,

cannot enter into any causal relation" (5). It will be seen, therefore, that these authorities consider that so long as we are dealing with psychical facts there can be no question of causation or of science. They must be first translated into physiological terms, and it will then be possible to formulate laws concerning them, and thus to incorporate them into the structure of our knowledge. This school has been aptly described by Höffding as virtually wishing to abolish psychology in order to convert it into a science. For the exponents of this theory the question of the subconscious does not exist — consciousness and subconsciousness are alike to be reduced to physiological terms, and the difference between them consists merely in a varying mode of combination of the cerebral elements.

Certain other authorities adopt a compromise — they are ready to consider consciousness psychologically, but the subconscious is for them nothing but an inappropriate name for brain processes which have no psychological accompaniment.

The main question at issue between these various schools is, therefore, whether the subconscious is to be regarded as a brain fact or as a mind fact, whether it is a subject for physiology or for psychology. The present paper endeavors to show that this question is in itself based upon a misconception and that its solution becomes at once obvious when the meaning of the terms is correctly apprehended.

As a preliminary measure it will be necessary to temporarily diverge from our main subject, and to shortly consider the general properties of scientific concepts.

The philosophical consideration of the groundwork of science is a growth of comparatively recent years. The earlier scientists contented themselves with practical results, and did not consider the foundations upon which they were building. During the latter part of the nineteenth century, however, the need for a precise formulation and definition of these foundations began to make itself felt. Hence there arose a school of critical philosophy unique amongst philosophical creeds in the fact that its exponents have been men eminent in the scientific world — Clark-Maxwell, Ostwald, Mach, Karl Pearson. Pearson's "Grammar of Science" remains



the finest vindication in the English language of the principles, aims, and methods of modern science. The short exposition which follows is an endeavor to cull the essential points from its pages. But limitations of space prevent more than a short summary of the principal conclusions being given, and for the demonstration of their validity the reader must be referred to the original work.

Science is characterized, not by its content, but by its method of investigation — it embraces the whole field of knowledge and is as applicable to history as it is to chemistry. It deals, not with a fabulous entity called "matter," but with the content of the human mind, and acknowledges its incapacity to deal with anything which forms no part of that content. The material of science is therefore human experience, what James calls "the flux of sensible reality." In other words, phenomena, of whatever sort or kind they may happen to be, constitute the material, while science is simply our method of treating this material. Now it is found that human experience does not take place in an entirely haphazard and chaotic manner, but that the events follow one another with more or less regularity and order. This is the principle of the uniformity of nature. The aim of science is to find a means of proceeding from one point of experience to another with the least exertion of mental energy, in other words to achieve an "economy of thought." Its method is, firstly, to take some portion of human experience and to classify the facts found therein into sequences; secondly, to find some simple treatment which will resume an indefinite number of sequences in a single formula. Such a formula constitutes a scientific law. The law is the more fundamental the wider the range of facts which it resumes. It is not a mythological entity, it is merely a construction of the human mind to enable it to deal better with its experience. If we examine any scientific law in order to determine its essential nature, we find that it has no immediate reference to sense impressions, or, in other words, to phenomenal reality, but is purely ideational or conceptual in character. The meaning of this statement will be made clearer by taking an example, e.g., Newton's law that "every particle attracts every other particle." Now a particle is not a sense-impression; it is de-

fined as an infinitely small portion of matter, that is to say, a pure idea, formed by carrying what is given in sense impressions to a conceptual limit in the mind. "Newton is here dealing with conceptual notions, for he never saw, nor has any physicist since his time ever seen, individual particles, or been able to examine how the motion of two such particles is related to their position" (6). Similarly geometry, with its points, straight lines, and surfaces, is dealing with entities which are frankly acknowledged to be conceptual in character, and to have no real existence in the world of sense impressions. The physical conceptions of the atom and the ether are precisely analogous in their nature. We find, therefore, that science does not profess to mirror some hypothetical universe lying altogether outside the human mind, but simply to provide a conceptual model, a "conceptual shorthand," by aid of which we can resume our sense impressions and predict future occurrences. "The physicist forms a conceptual model of the universe by aid of corpuscles. These corpuscles are only symbols for the component parts of perceptual bodies, and are not to be considered as resembling definite perceptual equivalents. We conceive them to move in the manner which enables us most accurately to describe the sequences of our sense impressions. This manner of motion is summed up in the so-called law of motion" (7). We therefore reach the conclusion that science is simply a mode of conceiving things. The justification of science lies precisely in the fact that it does enable us to resume our sense impressions and predict future occurrences; its value as truth lies in its value as a working hypothesis by which we may become the masters of phenomena.

Now there may be more than one mode of conceiving the same things, and which mode we adopt may depend on the practical necessities of the moment. Thus the mathematician insists on regarding bodies as bounded by continuous surfaces, whereas the physicist is compelled to regard them as bounded by discontinuous atoms. Neither of these modes is more true than the other; the question is merely which one has the greatest practical value in the particular sphere of thought in question.

Armed with these conceptions let us now direct our

attention to those fields which more particularly concern us, and firstly let us consider the problem of the physical and the mental. What, in fact, is the difference between physics and psychology? We are usually told that there are two orders of phenomena, the physical and the mental, two series which are so qualitatively different that the passage from one to the other is unthinkable. Concerning the relation between these two series innumerable philosophical battles have been waged, and science must approach the question with a due regard for the metaphysical quicksands which await her on every side. It was pointed out by Bishop Berkeley that sense impressions are the only things of which we have any immediate knowledge, and modern science, having with some difficulty duly digested this fact, has discarded the pretence that it is engaged in a research into "things in themselves," and has relegated the latter to the limbo of useless figments. Being entirely pragmatic in its ideals, and having a criterion of validity measured solely by utility, it recognizes that its field is the content of the human mind, neither more nor less. The modern scientist cannot therefore be accused of sharing the vulgar conception that "reality" consists of "material substance," which by means of "energy and force" acts on "spiritual substance," giving rise in the latter to "sensations" which mirror the external reality. What, then, does he mean when he distinguishes between the mental and the material? The answer is that he means two different modes of conceiving human experience. On the phenomenal plane the physicist and the psychologist are dealing with precisely the same entities, sense impressions; the distinction between them lies in their different conceptual methods of resuming these sense impressions so as to express them in simple formulæ. The physicist resumes his sense impressions by means of a conceptual model involving space and time, whereas the psychologist regards them as actual or potential constituents of a consciousness. As Mach (8) puts it, there is a "change of direction" in their methods of research. The ultimate goal of the physicist is a complete description of the universe in terms of motion or mechanism, the ultimate goal of the psychologist is "personality." Neither method is in itself better, more perfect, or more real than the other, both have

an equal right to be incorporated into the structure of science, comparison between them can only be made on the grounds of utility. We are only entitled to ask by which method we are better enabled to resume our experience of the past and to predict our experience of the future. And the only answer to this question which it is possible to give in the present state of knowledge is that both methods are of value, and that neither can be abandoned in favor of the other.

For the present the physiologist and the psychologist must be allowed to proceed along their respective roads. But there must be no jumping from one mode of conception to the other. The physiologist must not introduce a psychological conception into his chain of cause and effect, nor must the psychologist fill up the gaps in his reasoning with cells and nerve currents. The former error is comparatively rarely met with, the latter is unfortunately only too common. No physiologist would consent to admit "ideas" as active elements in the sequence of changes which take place in the nervous system. He simply points out that he has no use for such a conception, and that, so far from helping him in his explanation of phenomena, it vitiates his reasoning, and destroys the validity of all his former concepts. The psychologist, on the other hand, is a weaker vessel; he less commonly belongs to what James has termed the "tough-minded" school of philosophy. He is usually prepared to humbly admit that the phenomena of memory are adequately explained by the potential physical energy of a brain cell, and does not venture to suggest that the potential psychological energy of an idea is a conception just as valid, and with precisely the same claim or lack of claim to real existence.\*

The distinction between the phenomenal and conceptual

\*This exposition of the method of science is mainly extracted from a paper by the author, entitled "A Philosophy of Psychiatry" (*Journal of Mental Science*, July, 1908), which contains a more detailed investigation of the scientific basis of Psychiatry. The term "sense-impression" has been used for the sake of simplicity. It can no longer be maintained, however, that the mind contains nothing but sensory elements. Thought and emotion involve factors which cannot be reduced to terms of sensation, in the proper meaning of that word. To be strictly accurate, "element of experience" should be substituted for "sense-impression" in the above description.



which underlies the principles given above, is of fundamental importance. Anything which can be experienced is a phenomenal fact — a scientific concept is a construction of the mind which cannot be experienced at all. A nerve fibre is a phenomenal fact, the nerve current which traverses it is a conception. The nerve current is not a portion of our experience, we only experience the results which we ascribe to it; in other words, we invent the nerve current to explain the phenomenal result. Similarly colors, chemical substances, falling bodies are phenomena; ether waves, atoms, the force of gravity are conceptions. Precisely the same distinction is met with in the scientific treatment of the psychological series, a fact which we shall hope to subsequently demonstrate.

It is only within recent years that morbid psychology has become amenable to the method of science. It was necessary that objectives should replace introspective psychology, and that the presence of certain external signs should be regarded as indicating the presence of certain conscious processes, a deduction from analogy which every man makes when he talks to any other man. Without this assumption any scientific treatment of the mental processes of the insane was obviously impossible. It is needless to point out that psychology must also postulate the existence of an absolute determinism within the psychical series. The law of causation forms the essential basis of the method of science.

Our conception of the nature of science, and its relation to psychology, may therefore be summarized as follows:

(1) The psychical and the physical are two different modes of conceiving human experience.

(2) From the point of view of science we are compelled to postulate an absolute determinism within each of these modes.

(3) The method of science is applicable to either mode. It consists in the more or less arbitrary division of phenomenal experience into artificial elements, and the construction of laws regulating the interaction of these elements. The sole justification of these laws consists in the fact that they enable us to resume and predict our experience, and hence to achieve an "economy of thought."

(4) Science does not claim that the elements with which it deals necessarily have perceptual equivalents, and it may ascribe properties to certain of these elements which are even contradictory to all perceptual experience, e.g., a weightless and frictionless ether. The constructions of science are therefore largely conceptual in character, and must be sharply distinguished from the phenomena which constitute our actual experience.

(5) The various elements entering into a conceptual construction must all be of the same mode, they may be either physical or psychical, but cannot consist in a mixture of the two.

We are now in a position to return to our main theme, and to consider in the light of first principles the various doctrines of the subconscious so far enunciated.

It is at once obvious that we must fundamentally disagree with those authorities who regard the subconscious as a brain fact and not as a mind fact. Such a view involves that jumping from one mode of conception to the other, from the psychological to the physiological which we have seen to be incompatible with the method of science. A conception must be in the same terms as the phenomena which it is designed to connect. We cannot conceive cells and fibres as the connection between two ideas. The conceptions of psychology must all be constructed within the psychical series. Only in this way can psychology have the same aim as its sister sciences, the construction of a conceptual model which will enable us to resume our past and to predict our future experience. The conception of the subconscious has been devised by the psychologist to explain certain psychological phenomena — it must be regarded as a psychological conception.

For the same reasons *memory* must also be regarded as a psychological conception, a conception constructed to fill up the gaps in the phenomenal psychic series. It is, of course, true that memory is not itself a phenomenal psychic fact, we only experience the recurrence of a certain mental process — we assume, in order to satisfy our demand for continuity, that it has in some way existed during the interval, and we invent the conception of memory to explain this continued

existence. To the reader who has not adequately grasped the essential principles of the modern philosophy of science this may appear to be a very unsatisfactory explanation of memory. He may object that if this is all that psychology can say in the matter he would prefer to adopt the physiological point of view, and to regard memory as the conservation of traces in the brain. But he will find that the physiological conception of memory is no more a phenomenal fact than the psychological. He will find himself using such terms as "nervous energy," "permeability of paths," and other purely conceptual ideas, and he will finally begin to realize that his "conserved trace" is merely a conception invented to resume the fact that a certain brain phenomenon is capable of repeating itself. Translating memory into the physical series does not make it a phenomenal fact, it must inevitably remain a conception. And if memory from both points of view is merely a conception, then surely if we are talking of the recurrence of mental phenomena it is a psychological conception. Both in this case and in that of the subconscious no useful purpose is served by suddenly jumping into the other series, and all hope of discovering a comprehensive scientific law is *ipso facto* abolished. To maintain that the subconscious is a brain fact and not a mind fact is precisely analogous to maintaining that the law of gravity is a psychological conception and not a physical conception.\*

\*Münsterberg (JOURN. OF ABNORM. PSYCHOLO., April, 1907) has objected that "Those who insist that the memory idea presupposes a lasting mental disposition and cannot be explained by physiological after-effect, only forget that the same logic would demand a special mental disposition also for each new perception. The whole mystery of an idea entering into consciousness presents itself perfectly every time when we use our eyes or ears." We cannot admit that this is altogether true — the logical extension of the doctrines enunciated above would be simply that every new sensation *might* be also due to a previous "mental disposition." But science demands of its conceptions that they should satisfy the criterion of utility. We construct a conceptual memory and a conceptual subconscious in order to explain our experience — the conception of a previous mental disposition for each new sensation would serve no useful purpose whatever. We have to admit that sensations appear in a mind without any antecedents in that mind, and there can be no scientific objection to such an admission. Such an objection could only have force if we postulated a law of conservation of psychic

The example of memory shows us that psychology, like its sister sciences, has its phenomena and conceptions. This is only a reiteration of the fact that sciences do not differ in their method, but only in their material. For the sake of simplicity we have so far spoken of the subconscious as if it were also conceptual in character, but this position now requires considerable qualification.

It is of fundamental importance to recognize the fact that different authors when they speak of the subconscious not only speak from different points of view, but speak of totally different things. Morton Prince has pointed out that "the term subconscious is commonly used in the loosest and most reprehensible way to define facts of a different order, interpretations of facts, and philosophical theories" (9). Hence it is meaningless to predicate any statement of the subconscious as a whole without first defining the sense in which we are employing the term. Dr. Prince has enunciated its various meanings in his prefatory note to the symposium which appeared in this JOURNAL. By Stout and others the term is used to denote those marginal portions of the field of consciousness which are not at the moment in the focus of attention. Here subconscious merely means "dimly conscious." Myers ascribes to the subconscious various supernatural properties which take his conception altogether beyond the limits of science. We have already dealt with Hartmann's picture of the subconscious as a second self comparable in all respects to the personal consciousness. The remaining meanings are best illustrated by the doctrines of Janet and Freud, and we must now proceed to examine these at some length.

We have actual experience only of our own conscious phenomena — we deduce the conscious phenomena of others by means of analogy in two ways, directly from what they tell us through the medium of speech, indirectly from

energy for each individual consciousness analogous to that holding in the material world. If we adopt panpsychism we may assert the existence of psychic antecedents to every sensation, but these would not, of course, exist in the *individual* consciousness. In the present state of our knowledge such a speculation takes us beyond the limits of utility, and therefore of science. Panpsychism may, however, be regarded as the Utopia of the psychologist.



their actions.\* Now the subconscious of Janet and his followers does not differ in its essential nature from any "conscious phenomena of others" with which we are acquainted — its existence is deduced on precisely the same grounds. This fact has been ably demonstrated by Dr. Prince in his contribution to the symposium. If we hold a conversation with a patient whose hand at the same moment writes of matters which are unknown to the personality, we speak of the subconscious phenomena attending the writing for the very same reason that we speak of the conscious phenomena attending the patient's conversation. The distinction of the subconscious lies solely in the fact that it is dissociated from certain other "conscious phenomena of others," which we designate as the personality. The subconscious of Janet is, therefore, a phenomenal fact. It may be reduced in complexity to even a single idea, but it remains a phenomenon. Janet himself has remarked, "These diverse acts are identical with those which we are accustomed to observe in persons like ourselves and to explain by the intervention of intelligence. Undoubtedly one may say that a somnambulist is only a mechanical doll, but then we must say the same of every creature. The term 'doubling of consciousness' is not a philosophical explanation; it is a simple clinical observation of a common character which these phenomena present." (10)

If, however, we now turn to the views of Freud and Jung, we meet again with the phenomenon of dissociation, but we find added thereto a mass of conceptions of an altogether different character. Limitations of space prohibit any adequate description of these doctrines, and we must therefore assume that our readers are already acquainted with their main features. We are here only concerned with

\*It may be maintained that our knowledge of the conscious phenomena of others is therefore really conceptual in character, as we ourselves have no actual experience of them. If conceptual is taken in an indefinitely wide sense this is of course true. But such deductions are on an altogether different plane from the conceptions of science. Relatively to the conceptions of science they are phenomena, just as helium in the sun is a phenomenon — and both science and everyday life are compelled to treat them as such. To refuse to subscribe to this point of view would involve the adoption of Solipsism.

the general conceptions underlying Freud's teaching, and these may, perhaps, be described in our own terminology as follows: The subconscious (*unbewusstsein*) is regarded as a sea of unconscious ideas and emotions, upon whose surface plays the phenomenal consciousness of which we are personally aware. These unconscious ideas are agglomerated into groups with accompanying affects, the systems thus formed being termed "complexes." These complexes are regarded as possessing both potential and kinetic energy, and thus are capable of influencing the flow of phenomenal consciousness according to certain definite laws. The nature of their influence is dependent upon the relation they have to each other and to the normally dominating or ego complex. The complex may either cause the direct introduction into consciousness of its constituent ideas and affect, or its influence may be distorted and indirect. The indirect effects may be of the most various types — symbolisms, word forgetting, disturbance of the association processes, etc. A single idea or image in consciousness may be conditioned (constellated) by a multiplicity of unconscious complexes.

All this is surely very different from anything that we have hitherto considered. In what does this difference consist? What is an "unconscious idea" — is not this a meaningless self-contradiction? Has anybody ever experienced an "unconscious complex"? The answer to all these questions is simple — we are no longer on the phenomenal plane, we have ascended to the conceptual. Unconscious ideas and complexes are not phenomenal facts, they are concepts, constructions devised to explain certain phenomena — they have not been found, they have been made. The implicit assumptions in Freud's doctrines may be expressed as follows: If we imagine certain entities which may be described as unconscious ideas and complexes, if we ascribe certain properties to these entities, and assume them to act according to certain laws — then we shall find that the results thus deduced will coincide with the phenomena which occur in actual human experience. This train of thought is the analogue of that underlying all the great conceptual constructions of physical science — the atomic theory, the wave

theory of light, the law of gravity, and the modern theory of mendelian heredity.

We thus owe to Freud the first consistent attempt to construct a conceptual psychology. The attempt is, moreover, a legitimate employment of the method of science, the construction of a conceptual model which will enable us to resume our experience. It is, of course, true that conceptions have to be employed therein which cannot even be conceived as having a phenomenal existence. But we have seen that the same statement is equally true of the conceptions of physics. An unconscious idea is a phenomenal impossibility just as a weightless, frictionless ether is a physical phenomenal impossibility. It is no more and no less unthinkable than the mathematical conception  $\sqrt{-1}$ . But objections of this kind do not in the least vitiate the use of phenomenal impossibilities as scientific concepts; the utility of such conceptions in physical science will surely suffice to demonstrate this. It is only necessary to clearly understand that we are speaking of concepts and not of phenomena.

Similarly when we speak of "complexes" we mean that it is convenient to conceive that ideas are bound together into systems, that these systems persist in the mind, although we are not conscious of them, and that they exert an influence upon the flow of phenomenal consciousness of which we may or may not be aware. The complex may be said to be the psychological analogue of the conception of force in physics. Strictly speaking, it can never itself become a fact of experience, a portion of phenomenal consciousness. Certain ideas, affects, and conative tendencies belonging to the complex may become facts of experience, we may be aware that we possess the complex — but the complex as a whole and as a directing force can never be actually experienced, it is a pure conception. This may be seen, for example, in what may be termed the "political complex." When the party politician is called upon to consider a new measure, his verdict is largely determined by certain constant systems of ideas and trends of thought which we refer to as his "political complex." He may be honestly convinced that he is influenced solely by an unbiassed consideration of the pros and cons of the measure in question, but the psychologist

knows that this is not really so. Even if the politician is aware that he is biassed, this complicated system we have described can hardly be present as a whole to his mind. The "political complex" is not conscious, and it is equally impossible that it can be co-conscious. It is merely a conception which enables us to explain the fact that when a certain man is confronted with a political situation he will tend to act in a certain constant direction.

We cannot agree with Dr. Prince when he says, "What is it that binds the mental experience of an emotional railroad accident, an obsession, or of a subject or mood complex, or whatever kind of association it be into a system? The answer must be sought in the nervous system, not in the mind" (11). We should prefer to say that it must be sought in the conceptual sphere, not in the phenomenal.

The conception of the complex is not, except in name, an altogether new departure in psychology. James's description of the various "selves" (12) which determine a man's actions can be immediately translated into the language of complexes. Similarly Höffding, when discussing the theories of the Associationists, has pointed out that "in the process of association it is the connected whole which exercises its powers over the single ideas" (13).

The lack of a perceptual equivalent to many of Freud's conceptions is very striking when we peruse such a work as the "Traumdeutung." Here the individual dream image is conceived as being constellated by a large number of unconscious complexes — as a result of the combination and interaction of these complexes the single image emerges into consciousness. Can we form any idea of a state of mind in which all this mass of mental elements is actually and phenomenally present? We have no evidence whatever of their phenomenal existence, such evidence as we had, for example, in the case of automatic writing previously considered. Freud has himself remarked on this point, "How can one picture to oneself the psychical condition during sleep? Do all the dream thoughts (subsequently elicited by analysis) actually exist together, or after one another, or do they constitute different contemporaneous streams finally coalescing? In my opinion, there is no necessity for us to attempt the



construction of a picture of the psychic state during dream formation. We must not forget that we are speaking of unconscious thinking, and this may quite possibly proceed altogether differently from the conscious thinking with which we are acquainted" (14). Similar considerations apply to Freud's description of the mechanism of word-forgetting, mistakes in speaking, etc.

It is this very aspect of Freud's teaching which has aroused so much opposition, because the introduction of conceptual psychology has seemed so strange to those who have been accustomed to leave psychology its phenomena, but to hand over its concepts to physiology.

All these difficulties vanish at once when we remember that we are speaking of concepts and not of phenomena. We are no more called upon to picture what a mass of simultaneous unconscious ideas may be like, than a physicist is called upon to picture what an ether without weight and without friction may be like. It is of the utmost importance that the phenomenal and conceptual should be sharply distinguished when dealing with these questions. The neglect of this principle has, we believe, led to that confusion of terminology and treatment stigmatized by Dr. Prince in his communication upon the Subconscious at the recent Geneva Congress. It is best to limit the term subconscious to the phenomenal facts demonstrated by Janet, and to speak of Freud's conception as the "unconscious," the literal translation of the German *Unbewusstsein*.

Scott (15) has objected that Freud's doctrine has revived an atomistic theory of psychology — but all sciences are compelled to more or less arbitrarily divide phenomenal continua into artificial elements. They demand, in fact, a "continuity of conception together with a conceived discontinuity of the material." The conceptual theory of the unconscious is, moreover, constructed on an altogether different plane to the philosophical system of the old Associationists, in which the elements were regarded as real, and the unity of the whole as unreal.

It must be definitely understood that we are making no attempt to demonstrate the validity of Freud's conceptions. Such an aim lies entirely outside the scope of the present

paper. Our sole concern is to show that his conceptions are cast within the legitimate framework of science, and that they have all the properties which science demands that a concept shall have. But if this be so, then the validity of Freud's theories must be tested by the method which has established all the conceptions of science, the method of experiment and verification. They cannot be proved or disproved by *a priori* considerations. The conceptions must be applied, and the results thus deduced must be compared with the results which are actually found. The truth of a scientific conception is neither more nor less than its utility in enabling us to resume and predict our experience.

We must now proceed further and endeavor to determine the relation between Janet's *subconscious* and Freud's *unconscious*. This relation is often held to be one of rivalry, but if our analysis of the two doctrines is correct, this view must be erroneous. There can be no rivalry between a description of the phenomenal facts, and a conceptual model constructed to resume these facts. The phenomenon of dissociation has not been disputed by Freud — on the contrary, it takes a prominent place amongst the circumstances which he desires to explain. His work lies on a deeper plane, his aim is not a description of the facts, but the conceptual explanation of these facts. We have here, in fact, that progression by which the method of science is invariably characterized. Firstly, the collection and classification of facts, represented here by the co-ordinated description of the phenomena of the subconscious or co-conscious; secondly, the construction of a conceptual model to explain these facts, represented by the theories of Freud. Precisely analogous advances are to be found in the history of physics. Kepler, for example, by classifying the successive positions in space of the planets, demonstrated that each moved in an ellipse, one of whose foci was occupied by the sun. Newton subsequently explained this fact by the construction of the law of gravity.

It must be carefully observed that we have spoken throughout of the relation of Freud's doctrines to Janet's conception of the subconscious, not to Janet's work as a whole. There can be no question that this larger relation

is to a considerable extent one of conflict. But this conflict only arises when Janet leaves the phenomenal plane and proceeds to construct conceptual generalizations. Thus his views on the essential nature of hysteria and psychasthenia, the separation of the latter as a distinct entity, the origin of obsessions, and other similar points — these cannot be reconciled altogether with the teaching of Freud. But whatever the ultimate verdict on these theories may be, Janet's indestructible monument will always be his vindication of the psychological method, his demonstration of the phenomena of dissociation, and a description of the facts of hysteria which has never been excelled in the history of psychiatry.

We are now in a position to summarize the results of our investigation: The word *subconscious* has been used by various authors to denote facts belonging to altogether different categories, and it is necessary in the interests of clearness that a terminology should be devised which will obviate this confusion. Excluding those speculative interpretations which do not enter into the field of science, these facts may be grouped under three heads. Firstly, the marginal elements of phenomenal consciousness (the *subconscious* of Stout), secondly, dissociated portions of phenomenal consciousness (the *co-conscious* of Morton Prince, and the *subconscious* of Janet), thirdly, a non-phenomenal conceptual construction designed to explain the facts of phenomenal consciousness (the *unconscious* of Freud). All these form part of the material of psychology, none of them form part of the material of physiology.

## BIBLIOGRAPHY

1. Schopenhauer. *Satz vom Grunde*.
2. Helmholtz. *Die Tatsachen in der Wahrnehmung*.
3. Hartmann. *Das Unbewusste*, quoted by Janet, *JOURN. OF ABNORM. PSYCHOL.*, June, 1907.
4. Höffding. *History of Philosophy*, p. 583.
5. Münsterberg. *Psychology and Life*, p. 127.
6. Pearson. *Grammar of Science*, 2d ed., p. 281.
7. *Ibid.*
8. Mach. "De la Physique et de la Psychologie," *L'année Psychologique*, 1906.

9. Morton Prince. "The Subconscious," *Comtes Rendus*, Geneva Congress of Psychology, 1909.
10. Janet. "The Subconscious," *JOURN. OF ABNORM. PSYCHOL.*, June, 1907.
11. Prince. "The Unconscious," *JOURN. OF ABNORM. PSYCHOL.*, Oct., 1908.
12. James. *Principles of Psychology*, Vol. 1, p. 291.
13. Höffding. *The Problems of Philosophy*, p. 18.
14. Freud. *Die Traumdeutung*, p. 205.
15. Scott. "An Interpretation of the Psycho-analytic Method in Psychotherapy," *JOURN. OF ABNORM. PSYCHOL.*, Feb., 1909.



PERSONAL IMPRESSIONS OF SIGMUND FREUD  
AND HIS WORK, WITH SPECIAL REFERENCE  
TO HIS RECENT LECTURES AT CLARK  
UNIVERSITY

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*Continued from December-January Issue*

IN the foregoing pages I have given, in broad outlines, some of the main principles of the doctrine of mental analysis introduced by Breuer and Freud, and the conclusions to which they led.\* In what follows I propose to call attention to certain points in more detail.

It is an interesting fact that the unfavorable criticisms which these researches have called forth, whether directed against their validity or against their value, have been of strikingly contradictory sorts. Most of these criticisms have centered really, whether the fact was admitted or concealed, on the prominence given by Freud to the sexual element in the causation of the psychoneuroses. This was considered as a disagreeable topic on which we had closed our eyes so long that we thought we might permit ourselves to regard it as legitimately outlawed. Its vast literature—well known to be of great importance—was repulsive, and should not be seen upon our shelves. It counted for but little that this immense subject was daily and hourly thrusting itself upon our notice, whether as the cause of terrible sufferings, of terrible crimes, of terrible misunderstandings and misjudgments, and that it has played a huge part in the history of religion and of civic progress; those who have ventured to study it scientifically have been, nevertheless, regarded widely as disturbers of the peace. There can be no doubt that prejudices of these sorts have warped the reasoning of students, otherwise of fair judgment, and have led to contradictory kinds of depreciation of Freud's work. Some

\*An excellent account of Freud's doctrine of dreams and their analysis was read by Dr. Ernest Jones at the recent meeting of the American Neurological Association, and will be published in the American Journal of Psychology. A valuable paper on the subject of dreams was also read by Dr. Morton Prince. In view of these publications I feel myself absolved from the obligation of saying anything further on this important topic.

able men claim to have thoroughly tested his opinions by methods which they regard as entirely equivalent to his, and declare his conclusions to be unverifiable and absurd. They believe that Freud mischievously introduces sexual notions into his patients' minds, and a mistaken conception of their importance into medical doctrine. Other men believe, on the contrary, that just because sexual influences, even morbid influences, are so widely prevalent, so much more so than the more serious forms of the psychoneuroses, they cannot play the important part in pathology which Freud assigns to them.

Without undertaking to discuss these conflicting differences of opinions it is clear that they suggest the prevalence, not only of serious prejudices, but also of real misunderstandings. Meantime, one good reason for hesitating to take up afresh the study of the sexual aspects of psychopathology has been for many persons the instinctive feeling that nothing practically satisfactory could come of it, either because of their belief that the wall of social repugnance is too strong, or because of doubt whether any new arguments could be more convincing than the old. Neither of these reasons seems to me applicable in the present case. There is an audience, small, perhaps, but constantly increasing, to which the researches of a band of workers, of whom Freud is one, strikingly appeal. Freud's particular contribution is of unquestionable importance, and yet there are so many investigators working on lines parallel with his that the conclusions of each one are sure to be both supplemented and controlled.

One other point needs special emphasis which, if understood, should place this whole matter, for intelligent students, on a better footing. The principal objection to the discussion of sex questions, or the prejudice against it, rests on the assumption that "sexual" means "sensual," and that to speak of sexual influences as of fundamental importance for psychopathology is equivalent to imputing immorality to the fine, intelligent men and women whose experiences might be at stake. But this hasty prejudice needs correction. In the first place, Freud's whole doctrine is permeated with the belief that much of the later neuropathic history of the adult patient was practically determined in

his infancy, i.e., at a period which indeed needs watching, but when "sensuality" is not in question. In the second place, it is an essential feature of his thesis that "repression" is one of the main agencies in the production of nervous symptoms, and also that much of what goes on lies for the most part outside the patient's conscious knowledge. The possession of the finest, the noblest qualities of thought and sentiment is not thus compatible with nervous invalidisms of every sort, and certain types of invalidism are the outgrowths of both early and late repression of sexual instincts under personal effort or parental discipline, "*Die Tugend ist der Vollendeter Kampf*." Every one has sexual instincts, if the word be correctly understood. Their possession is one of the universal properties and glories of all living things, and to assume that this is not so would be a piece of false and narrow pride. Here, again, it is the "sensuality" connotations that confuse the issue.

As a corollary to this proposition it should be recognized that with regard to this, as with regard to many other matters, no line is to be sharply drawn between disease and health. Stronger efforts to attain our own ideal of virtue always are in place, but so, too, is a deep recognition of the old sentiment, "*nil humanum a me alienum puto*" and a consequent willingness to arrest judgment, except when some practical decision is at stake. In place of moral judgments the physician may well substitute a wider knowledge. Morbid sexual tendencies are, indeed, extremely common, but the physician may and should study them with these sentiments in mind.

So true is this, that the argument ought to be recognized as properly applying to the medical estimate even of persons and acts classifiable as "abnormal," "criminal," or "perverted." For it is true, however those who have not looked into the matter may think otherwise, that, in the eye of science, perverted instincts — such, for example, as an excessive passion for a person of the same sex, carried from the realm of thought into that of act, — finds its analogue in many overdone or even quasi-normal relationships of daily life. It is a question of degree that is at stake, and although for purposes of punishment, prevention, public self-protection and social standards, we must draw sharp lines, yet

knowledge should make us prudent in passing scientific judgments. Furthermore, it is one of the propositions of the writer whom we are here reviewing, that from certain points of view, as, for example, in the production of symptoms and of dreams, thoughts count as acts, and if this dictum is accepted society would have to recast its estimates of the criminal and the abnormal. Let it not be imagined that it is in the annals of criminology alone that we should look for these analogies. The literature of the great myths and great tragedies call to mind the existence of tendencies in human nature which prove that conventional morals, important as they are, as indicating standards towards which every one should, for certain reasons, strive, are often, in a wider view, extremely narrow.

The course followed by Freud in classifying as "sexual" many common emotions, as of affection, and their opposites,\* as well as a great variety of apparently indifferent sentiments, longings, and "physiological" habits, having no obvious connection with the reproductive functions is, from the medical and scientific standpoints, useful and indeed essential. He and his colleague have sought conscientiously for some wider term which might include the idea "sexual" yet without making that word so prominent, but they have come to the conclusion that the attempt was useless and, perhaps, not worth making. Dr. Jung discusses this point in a footnote to his valuable paper on the influence of the father on the evolution of the child. (*Die Bedeutung des Vaters für das Schicksal des Einzelnen. Jahrbuch für Psychoanalytische und Psychologische Forschungen. I Hälfte, p. 155*), saying, in reference to the word "Libido," which they widely use, that this term corresponds to the "Longing and Striving" (*Wollen and Streben*) of the older psychiatrists, but, as employed by Freud is a *denominatio a potiori*.

The English word "craving" seems to me perhaps the most significant for general uses; but the main thing is that we should strive to comprehend the truth and not miss the important analogies, inferences, and symbolisms which are here at stake. The burden of proof lies with those who are willing to let their ignorance of the facts obscure their judgment.

Freud's position as to this question of sexuality, or of

\*Cf. the sexual significance of violence inflicted or received.



unsatisfied craving for which equally unsatisfactory outlets are instinctively being sought, and their significance for social evolution, is expressed in many places, but nowhere in a more significant and comprehensive form\* than in an article entitled *Die "Kulturelle" Sexualmoral und die moderne Nervosität*, published in his *Sammlung Kleiner Schriften zur Neurosenlehre: Zweite Folge*, 1909.

Without trying literally to summarize this article, I shall strive to give in my own words some of the principles there laid down, together with certain others, brought forward in his earlier papers. The task which the human race finds itself called upon to meet is one of twofold character. We must seek to build up a civilization corresponding to our higher needs, yet are forced to recall that we are under a sacred obligation to see that our species is perpetuated, and that, too, under the best conditions. These two sets of obligations often come, broadly speaking and narrowly speaking, into striking conflict. The pressure which all of us are under to make individual interests subservient to community interests finds its strongest, its most fundamental expression at the point where the problem is in question, how to raise to what may be called a higher level, the intense and varied emotions and tendencies that cluster round the great instinct and function of reproduction. This process of transforming our instincts into what may be called by courtesy nobler forms is designated by Freud as one of "sublimation," and he is surely right in saying that in it, that is, in the repression of our instincts in the interest of other sorts of gain, the march of progress toward a higher culture virtually consists. But the special form of instinct repression which is here in question and which is the most fundamental one of all, is not accomplished without a corresponding sacrifice, a sacrifice which falls partly on the individual and partly on the community as well.

It is true that this sacrifice is often unattended by a marked sense of personal loss, but this is because of the immense power of the influences which social imitation and convention, religion, and the obligations under which we instinctively place ourselves in the interest of common happiness

\*In this paper the evolution, normal and morbid, of the individual is traced out in relation to the evolution of society.

and stability, exert upon our emotions, our habits, and our thoughts. Every watchful observer, nevertheless, can trace, from infancy onwards, the working and the conflict of these two great influences, natural instinct and the repression of this instinct for the sake of society as a whole. This conflict complicates and underlies all the great movements by which the emotions, the hopes, the fears of men are stirred, and those investigators who claim not to trace its influence in psychopathology are either blind or do not know of what they speak. The greatest problem for the psychopathology of the future is to learn how to detect the subtle working of this conflict and the principles which it implies.

When the symptoms and history described by an adult nervous invalid are scrutinized it may be that we obtain at first no obvious trace of the sexual emotions and tendencies which played so important a part in the conflict from which his symptoms sprang. Least of all is he himself able to recognize these tendencies. He appears to himself a puzzle and a problem and his symptoms seem as irrational as if he was possessed by some parasitic demon. Like the balking horse, who through repeated vain attempts to draw his load has learned to expect failure, he often stands as if paralyzed before the problems of his life, or he may have learned to exchange his uncertainty for fear; or, as if in cramplike attempts to gain relief, he may have constrained himself to convert his fears into some impulsive act of useless outcome. Or, again, if he would make a strong fight against his troubles, he is likely to feel himself, like Braddock's army in the Virginia Wilderness, helpless against an unseen foe. It is only after a long and patient analysis of motives, instincts, and desires, that the real enemy from whose attacks he suffers is found to consist in the above described discarded elements that went to make up the secondary and hidden stream of life, described in the earlier portion of this paper. It is needless to refer here to these elements in so far as they form a portion of his adult experiences alone, because these are reasonably well known to all. I would only repeat that, as I have said elsewhere, if the process of gaining the knowledge of them is to be compared in any sense, as it has been compared, to the confessional of the Catholic Church, it should be understood that the

real analysis begins where the confessional leaves off.\* The remarkable fact, however, is that the nervous invalid is always discovered at last to be still partially under the sway of the influences of childhood. Few persons remember much of their infantile existence, but the researches of able men have made it clear that the sexual life of infancy, and the conflicts involved in childish forms of "sublimation," are of remarkable complexity and force. The child has many desires, complex sensations, and interests besides those which might be classed as intellectual or emotional in a higher sense. One series of his deeper feelings are related, of course, to hunger, but it has become certain that others form a large connected group, of which the most important members are those which later go to subserve the functions of reproduction. In the period of infancy he does not by any means distinguish clearly between the different members of this latter group,—which comprise, amongst others, the various sensations referable to all the orifices of the body, the nose and mouth as well as the vagina, the urethra, and the anus,—but only knows that through them all he can obtain analogous sorts of gratification. Thus equipped, the child is launched upon the task of evolution and repression. He is expected to follow a stated pathway, to retain and nourish the great function of transmitting his inheritance, but to do so under conventional and often highly artificial limitations. What wonder if, in the attempt to accomplish this, he so often goes at least partly wrong even when seeming to go most right. Why is it that sensitive, refined children are so prone to grow timid, shy, self-conscious, over-conscientious, morbidly dependent on a parent or a mother? These questions and others which they suggest have been variously answered and there are doubtless various influences at work; but it is certain that every answer must be false which denies the action of the subconscious and

\*This comparison and contrast are introduced for the sake of calling attention again to the fact that the thoughts, memories, and emotions which the physician seeks to set free are not simply with regard to matters which are "on the mind" of the patient. They form, indeed, a supplementary complex of vast amount, and one which is unified by one thread, running from infancy to later years, and reappearing again and again in moments of abstraction and in dream-life; but neither thread nor complex are to be discovered except by long and patient searching.

unconscious mental repressions and conflicts of the sexual period of infancy and childhood; and that every answer must be inadequate that is not based on an intimate knowledge of the real contents of the child life from which we emerge, and which, in the sense in which forgetting has been above described, we so soon forget. It is, of course, true that we know as yet little of the exact part played by hereditary influences in the production of the neuropathic invalid. What we do, however, know, is that we can inherit what may be called a predisposition only. The tuberculous adult was not tuberculous as a newborn infant, and there are many who through care and prudence escape the destiny to which many another less careful falls a victim. The same thing is true of nervous invalidism, and of some, at least, of the severer forms of mental illness. These new researches open a distinctly new door for hope. I find myself believing more strongly in the reasonableness of this hope; in this opportunity—furnished by a better self-knowledge—to work out our possibilities and to escape from our temptations. I cannot pretend to have verified as yet all the many inferences and conclusions of Freud and his companions, reaching as they do infinitely further than I have here been able even to suggest. But I have learned to believe fully in the theory and in the value of their methods of analysis and of treatment, and I am the more ready to accept their views for having made the personal acquaintance of the three men mentioned at the beginning of this paper, and for having found them so kindly, unassuming, tolerant, earnest, and sincere. I believe there is still a good deal to be said on the psychological side of the discussion, and believe also that the intimate knowledge of ourselves, which is so essential, needs to be supplemented by more or less distinct study of motives of a social and ideal sort. But these considerations do not detract from the importance of the ideas here referred to. However strongly we may believe in the importance of character and its relationship to social, philosophical, and religious training, it is not to be forgotten that one deep root of character lies in the influences brought to bear during the remote period and by the remote conflicts of infancy and childhood.



## ABSTRACTS

ON PSYCHO-ANALYSIS (ZUR PSYCHO-ANALYSE). Frank. *Journ. f. Psychol. u. Neur.* Bd. xiii, S. 126.

FEW of Freud's opponents — perhaps even none of them — altogether deny the value of his work; usually they agree that much in it is true and even important, but refuse to admit the validity of his generalizations. Without exception, these show no evidence of having either understood or tested his methods. The writer of the present article, Dr. Frank, of Zurich, stands in a special and — unless we include Bezzola — perhaps a unique position as regards the matter. He agrees with Freud's work and conclusions made before the year 1894, and then suddenly parts company, and refuses to accompany him further. He sees in Freud's renouncement of hypnotism the cause of his later heresies and errors. He regrets that Freud has given no explanation for this renouncement, a statement that indicates careless reading of Freud's later works, where he has very clearly gone into the question. In the present article Frank gives an account of four cases treated by the original Breuer method, i.e. by recovery of lost memories during hypnosis and subsequent cathartic "abreaction"\* of the accompanying affect. He states that by this therapeutic procedure he has obtained excellent results in cases of hysteria, compulsion, and anxiety neuroses, sexual perversions, etc. . . . In the cases here recorded the patient's malady was traced to some psychical trauma, such as a fright, which was not necessarily of a sexual nature, and did not necessarily take place in childhood. The relation between the trauma and the individual symptoms was not traced, so that no true psycho-analysis was made.

It is well known to those familiar with the subject that from 1894 to the present time Freud's views on the ætiology and treatment of the psycho-neuroses have undergone a continuous evolution. At no time has he had to surrender a previously made conclusion, though it has often happened during the evolution of the work that his attitude towards a given conclusion has changed so as to modify the perspective or setting of the conclusion. A typical illustration of this occurrence may be seen in the very question of the part played by psychical trauma. Whereas Freud was at first inclined to place the

\*Dr. Brill, in his recent translation of Freud's Selected Papers on Hysteria, has coined this excellent translation of the German "Abreagieren."

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question of trauma in the foreground of ætiological factors, he now regards it — though still an essential factor — as of considerably less importance. Realizing that similar psychical traumas occur in the life history of persons who do not develop a psycho-neurosis he set himself to answer the more fundamental question of how it comes about that these traumas are of such significance in the life history of his patients, and by following this line of thought has altered our perspective towards the subject and has opened up a number of deeper and darker problems. Frank, however, rests satisfied with the discovery of a trauma, even of a late and insignificant one; his thought has become set in a fixed mould and has shown itself incapable of adaptation to the evolving and progressive developments inaugurated by Freud.

ERNEST JONES

THE ATTITUDE OF PSYCHOLOGY TOWARDS TROPISMS (LES TROPISMES DEVANT LA PSYCHOLOGIE). Ed. Claparède. *Journ. f. Psychol. u. Neur.* Bd. xiii, S. 150.

PROFESSOR CLAPARÈDE, with the clearness and sanity that distinguish all his writings, gives here an excellent discussion of the subject of tropisms from the point of view of the psychologist. He first deals with the question of definition. Some writers, as Nuel, have defined tropisms as "reactions of living beings into which no psychical factor enters." This is evidently too wide, for, according to those who accept the principle of psycho-physical parallelism, it would include all possible living reactions. Verworn, Loeb, and others define tropisms as "reactions of orientation, in which the body moves either towards or away from the stimulus." This is also too wide, for by it the audience facing a lecturer would manifest a tropism. Some certain kind of orientation must be meant. The same authors find the criterion of the necessary kind of orientation in the fact of its following an *unequal* excitation, thus causing an asymmetry of movement. But a man's movement towards a friend whom he meets on the street is an orientation following an equal or unilateral excitation.

Bohn and many others maintain that a tropism is the response to an irresistible stimulus. The determinist would oppose to this the objection applicable to Nuel's definition, namely that strictly speaking it applies to all reactions. Pursuing this point, however, Claparède

from a biological point of view makes a distinction between (a) reactions that are in accord with the interest of the moment, i.e. that occur with the organic consent of the animal, and (b) those that are independent of this interest, such as, for instance, the movement of a muscle in response to faradism. The physiologists, however, would not restrict the term tropism to the latter class, for the phenomena described under that name are in no sense necessarily stereotyped and invariable reactions, but depend on what Jennings calls the physiological state of the organism, its age, state of fatigue, etc. This "physiological state" is only the physical basis of Claparède's "interest of the moment." Claparède here remarks that the reason why so many observers have found this variableness a strange and curious phenomenon is because it, like many others, evokes no clear image when physiologically expressed (tropisms vary according to physiological states), while when psychologically formulated it is seen to be a vulgar banality (the acts of an animal vary according to its needs). Of course many tropisms are reactions of an invariable nature, but so are many reactions of the higher animals. When a man is thrown out of a window and falls to the ground one does not speak of a geotropism, nor does one from it conclude that man has no psychical life and is only the plaything of external physical forces; it only proves that some of man's reactions occur without his "organic consent." In this connection Claparède remarks how difficult it is from a physiological point of view to distinguish between an attraction with consent and forced attraction, because the physiologist tends to regard the stimulus and the result as isolated phenomena and not to consider the organism as a whole. One dog is attracted by a plate of soup, another, clothed in iron, by a powerful magnet. To the physiologist, watching the phenomena from without, both cases are of the same nature. To the psychologist, concerned with the point of view of the individual, there is a world of difference between them. Yet it is difficult to express this difference in the new language of tropisms, auticlines, and other kineses. The subjection of an animal to an external force is often only apparent, and does not allow one to infer a "tropismity" in the movement. A dog who follows a lump of sugar towards the right or the left is not manifesting a "saccharotropism," he is merely following the line of his greatest interest. Even in the case of the lower animals many instances, e.g. of heliotropism, may be of the same nature and may correspond with complex needs and interests of the organism.

Claparède then expounds his own conception of tropisms, founded on consideration of the part played by the stimulus. A given stimulus may act in one of two ways: either as an *agent*, analogous to the ringing of a bell by a pull at the wire, or as a *signal* analogous to the ringing of a bell by pressing an electric button; in the first case there is a relation between the energy of the stimulus and that of the reaction; in the second case no such relation exists, for an intermediate mechanism intervenes. Now in the actual descriptions of tropisms given by physiologists there is nothing to recall the simplicity and precision implied by the idea of tropisms as due to a local modification of the animal protoplasm at the seat of stimulation. On the contrary, between the reaction and the excitation a certain independence is observed which is precisely one of the characteristics of reactions in which the stimulus acts as a signal. Besides, the conception of tropisms commonly accepted fails to account for the activities supposed to be of this nature. Thus Loeb describes as a "positive heliotropism" the action of climbing trees carried out by certain caterpillars when in a fasting state. But, as Wasmann has remarked, if this were the explanation then the unfortunate animals would perish of starvation after their first meal, for being at the top of the trees the positive heliotropism operative in their next hungry mood would prevent them from descending so as to climb other trees. Again, an animal placed in a generally unfavorable environment would not move at all, being not subjected to "unequal excitation," whereas, in fact, he behaves just as we would under similar circumstances, that is to say, he wanders to and fro experimentally, trying all modes of escape.

What has especially seduced those who seek to explain various activities as tropisms is the hope of thus filling the gap that exists between the animal and vegetable kingdom, and so of satisfying our life of uniformity. It is, in fact, botany that gave us the notion of tropisms, but in that science it no longer seems to thrive. Botanists have remodelled their conceptions of it, and while zoölogists attempt to bring animals down to the level of plants, botanists, on the contrary, are trying to raise plants to the level of animals. The two are sure to meet, but there seems much more reason for assimilating plants to animals than animals to plants. After citing some passages from modern botanists, Claparède adds: "Il m'a semblé qu'il était assez piquant de rapprocher ces déclarations de celles des zoölogistes. Tandis que ceux-ci ne voient dans les actes des animaux que



simplicité extrême, ceux-là au contraire s'efforcent de prouver que les réactions des plantes sont dues à des 'machineries' infiniment compliquées et dont on est loin encore d'avoir mis à jour le mécanisme! La conclusion de tout cela, c'est que rien dans les actes des animaux inférieurs,— et pas même le désir bien légitime pour un physiologiste de vouloir les assimiler aux mouvements des plantes — ne nous oblige à les considérer comme étant de nature spéciale, comme étant distincts autrement qu'en degré des actes des animaux supérieurs."

From his sceptical criticism of over-rash inferences on the subject Claparède in no way concludes that the idea of tropism is one without value for biology. On the contrary, he considers that tropisms, in the sense above defined, are the primary and fundamental phenomena of all life, and that the aim of comparative psychology should be to trace the development and evolution of them into the more complex forms of psychical activity. His last remarks on this subject should be read in conjunction with his admirable defence of comparative psychology in general (Rev. philosoph. mai, 1901, Arch. de psychol., t. v. 1905).

ERNEST JONES

THE INFLUENCE OF EMOTIONAL STATES ON THE FUNCTIONS OF THE ALIMENTARY CANAL. *W. B. Cannon, American Journal Medical Sciences, April, 1909.*

THIS paper contains a more detailed account of the author's previous work on the effect of emotions upon the gastro-intestinal tract. Studies along these lines are of value in the interpretation of the pathological effects of certain emotions upon the gastro-intestinal functions of man, and they throw considerable light upon the visceral expressions of some of the fear neuroses. Such investigations help to explain the mysterious effect of certain psychical processes upon the body. The various publications of Pawlow have already pointed out the influence of mental states in animals upon the secretions and motor power of both the stomach and intestines. Observations in man have shown the same phenomena to occur as the result of certain emotional conditions. Cannon does not restrict the word emotions to violent affective states, but uses the term in a wider, popular sense, as including all affective experiences. The emotions precede the bodily change, the nervous connections of the viscera acting merely as conduction paths. It was demonstrated by Cannon

that if these nervous connections were severed mental excitement caused no inhibitory effect upon the stomach and intestine. Pawlow also showed that if the nervous connections of the stomach were severed there was no flow of gastric juice in his sham feeding experiments. If we take these physiological investigations as the basis of a theory, it would seem to follow that the visceral expressions of the emotions were secondary to the psychical state.

Both the motor power and the secretory activity of the alimentary canal are largely dependent upon the nature of the excitation in the nervous system. Normal secretion is favored by pleasurable sensations; unpleasant feelings, such as fright and rage, are accompanied not only by a failure of secretion, but also by total cessation of the movements of the stomach and intestine. The sight of food to a hungry subject causes a flow of gastric juice. The inhibitory results of emotional states can persist long after the cessation of the exciting condition. Many of the abnormal motor and secretory digestive disturbances of man are caused by the emotional state of the subject. These physiological experiments show how profoundly the mental state may affect favorably or unfavorably, not only the secretions, but also the movements of the stomach and intestines.

I. H. CORIAT

## REVIEWS

SCIENCE AND IMMORTALITY. *By Sir Oliver Lodge.* New York, Moffat, Yard & Co., 1908, pp. 294.

THIS interesting book, by a well-known British scientist, is worthy of perusal by both lay and clergy. It is, of course, written from the scientific standpoint, to show that science is not opposed to religion, and also to show what science is doing to clarify religion. The contributions of that branch of science known as psychical research are called upon for aid to unite faith and science.

The book, the substance of which appeared in the *Hibbert Journal and Contemporary Review*, is divided into four sections. The title is almost misleading, as Immortality is only discussed in one section.

In the first there is a discussion of the problems which have for ages vexed science and faith — miracles, prayer, etc. It is argued that modern science, and particularly psychical research,

point out the way of reconciliation. At the present state of this science many may not be inclined to go as far as the author. Still it holds out a ray of hope for those who want such a union.

Section 2 deals with the very practical question of church worship and polity, which seems at first glance an odd and almost the last thing for the scientist to pry into. He points out very valid reasons why the church does not attract the best men and why it utterly fails to be the social power that it should be. In a word, the fault lies in a narrow and outworn organization. This criticism is justifiable and correct.

In Section 3 the old but ever new problem of Immortality is tackled. The author goes about it by distinguishing between the transitory and the permanent as science sees things, and then leading up to a definition of life and personality. This discussion does not seem so new and so clear as some other of Sir Oliver's writings. The argument from telepathy is a little previous. This and the argument from the pathological can scarcely be called arguments, except by courtesy.

In the first part of Section 4 there is a review of the foregoing and answers to some criticisms. He also overhauls some of the so-called essentials of Christianity, and, while admitting that they have played their part in history, holds that to-day they are inadequate and unacceptable.

In the latter part of this section Christianity is defined, and, according to the author, shown to be worthy of the best in man. Its teachings must be interpreted in a sane way, and not according to the creeds and timeworn formulas of theologians.

One must commend this book for the open-mindedness and spirit of fair play that runs throughout. To the fair-minded theologian it will be a help and an inspiration. To the others it will meet with the usual reception, viz., that the layman is too ignorant to write about such matters. Such spirit is a canker in the modern church.

WILLIAM D. TAIT.

PSYCHOLOGIE DES NEURASTHÉNIQUES. *Par le Dr. Paul Hartenberg.* Paris, Felix Alcan, 1908, pp. 248.

THERE is nothing startlingly original in this little volume. Its title raises expectations which the author fails to fulfil. This, how-

ever, is the worst that may be said of it. If the subject-matter is commonplace, and in large part a repetition of truisms, it is presented with a force that marks the author as a clinician of keen observation and sincere convictions, and with an elegance that denotes the finished stylist.

The thesis upheld is that the neurasthenic is first, last, and always a person whose general fund of vitality is at a low ebb; that the psychic aspect of his woes is never primordial; and that, so far as treatment is concerned, psychotherapy, unless combined with material measures, is irrational.

According to Hartenberg, the study of the psychology of the neurasthenic is the study of the pernicious influence of nervous depression upon emotional and mental activity. Pursuing this line of reasoning, he describes the results of this pernicious influence in a style at once brilliant and absorbing. There is nothing new in it all, as the reviewer has already said, but the reader forgets this fact in his absorption.

The chapters on diagnosis and prognosis contain nothing that has not already been said—although seldom so well—many times before.

With regard to treatment, one of the author's statements is sufficiently striking to be worthy of reproduction in its entirety. After deploring the tendency of the neurasthenic, discouraged by the failure of reputable physicians to effect a cure, to have recourse to charlatans of all sorts, the author speaks as follows: "To remedy all these causes of therapeutic failure, the disheartening effects of which I have for years deplored, I devoted myself to the discovery of a treatment for neurasthenia, which would combine promptness and ease, make no prolonged demand upon the sufferer's patience, permit a continuance at work and be free from involved procedures. This treatment, based upon the very nature of neurasthenia, I have at last found. A course of one or two weeks suffices to bring up the nervous potential of even the most depressed subjects, provided they are not too heavily overburdened by hereditary defects. And when I publish my method and its results, neurasthenics will be convinced that science still offers resources for the alleviation of their miseries."

This is certainly a message of cheer, not only for the neurasthenic, but also for the neurologist. Let us hope that the author will not keep either the one or the other waiting too long.

J. W. COURTNEY



## BOOKS RECEIVED

OUTLINES OF PSYCHIATRY, by *William A. White, M.D.*, Superintendent Government Hospital for the Insane, Washington, D. C.; Professor of Nervous and Mental Diseases, Georgetown University, Washington, D. C., etc. Second Edition Revised and Enlarged. The Journal of Nervous and Mental Disease Publishing Company, New York, 1909. pp. vii, 232. \$2.00.

SELECTED PAPERS ON HYSTERIA AND OTHER PSYCHONEUROSES, by *Prof. Sigmund Freud*, Vienna. Authorized Translation, by A. A. Brill, Ph.D., M.D., Chief of Nervous Dispensary, Beth Israel Hospital; Clinical Assistant, Department of Psychiatry and Neurology, Columbia University; Assistant in Mental and Nervous Diseases, O. P. D., Bellevue Hospital; Assistant Visiting Physician, Hospital for Nervous Diseases. The Journal of Nervous and Mental Disease Publishing Company, New York, 1909. \$2.00. pp. vi, 200.

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