The Journal of Abnormal Psychology

VOLUME I
1906-1907

RICHARD G. BADGER
THE GORHAM PRESS
BOSTON

ORIGINAL ARTICLES, VOLUME I

INDEX TO SUBJECTS

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Editorial about this journal may be found in vol 33 1938

THE JOURNAL OF ABNORMAL PSYCHOLOGY.

APRIL, 1906.

ON THE PATHOGENESIS OF SOME IMPULSIONS.

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A LARGE number of patients have impulses to perform certain useless, bizarre, and even dangerous acts. At certain moments they feel the desire for these actions arising in them; they have representative images harmonizing with their execution of the act; they even have in the muscles of the body little movements, more or less involuntary, which are like the beginnings of these acts; this is what they mean when they say that they feel themselves urged to perform these acts. However, they are fully conscious of the absurdity of the actions and judge them at their true worth; there is a more or less serious and real struggle between the tendencies which urge them on and their judgment which holds them back. The patients often resist when the act appears to them really bad; they yield when, rightly or wrongly, they regard the act as of little consequence.

Generally, the acts executed in this fashion are not very important, and the patient has the mania of believing himself drawn towards dangerous acts rather than being really drawn to their accomplishment. But, however, in examining, especially the obsessed and the scrupulous, I have, perhaps, gone too far in minimizing the danger of these impulsions; the patient may deceive himself, may let himself go farther than he wishes, and the actions really performed are often of decided importance. However the case may be, the act once performed, the patient experiences

a joy, a peculiar satisfaction, and for a time he seems freed from the fatigue and the various painful sensations he constantly suffered before.

These various characteristics of the impulsions it is difficult to explain, and we must not expect to establish a general theory which would account for all the observed facts in different cases of impulsion, or the reasons which urge a patient to desire so vividly such or such an action.

We must not think that all the impulsions in the various neuroses and psychoses have always the same mechanism. For example, it is probable that in certain cases the phenomenon may be explained by a mechanism analogous to that of suggestion: a complex idea, made up of a group of formerly associated images is completely developed in a narrow consciousness, abnormally narrowed because it does not meet enough antagonistic tendencies. In other cases we can apply the known laws of subconscious phenomena which completely develop outside of the field of a retracted consciousness and which enter it only when it is too late, when the development, being too complete, can no longer be easily stopped.

Explanations of this kind are certainly true in some cases, but it does not seem to me possible to generalize, and I think that there are a number of other explanations which must play an important part in any particular case. That is why I should like to point out here, in connection with some interesting cases of impulsions, a disposition of the mind, quite general among the obsessed and impulsive, which plays, I think, a pretty important part in at least a certain number of cases. The observations being rather curious in themselves, we shall give a brief résumé of them, then we shall look for those feelings which are pretty nearly the same in spite of the diversity of the impulsions, and we shall see the part such feelings play in the genesis of the impulsions.

Observation I. — It is sufficient to recall in a few words the well-known phenomena of *dipsomania*. I take one example among many. A young woman, thirty years of age, of the

best society and well educated, has been subject almost since her nineteenth year to certain nervous attacks, very painful to herself and to her family. From time to time, at irregular intervals, which in later years have become shorter and shorter, she experiences an intense desire to drink whisky. At first she takes a few drops secretly, for she well knows that it is dangerous for her; she does not want to yield entirely to her desire, but she simply wants to satisfy it to a small degree by tasting the liquor. The next moment, before she realizes it, she takes more, and thus continues, ashamed and unhappy, to drink in secret more and more. She drinks more than a half bottle a day, and quickly falls into a state of complete intoxication, — into a most shameful stupor, from which she only recovers after several days of real illness. Regaining consciousness with a feeling of profound despair, she speaks of killing herself, and only consoles herself with difficulty, by making the most solemn promises. In fact, she remains perfectly rational, drinking absolutely nothing but water, when in a few weeks or months the whole affair begins again. This is the classic form of dipsomania; it is needless to dwell on it, for we might easily add here twenty similar cases.

Observation II. — It is interesting to place beside this example a case of impulsion to eat, which is rarer than the impulsion to drink. Here is a young woman, Qe., twenty-six years of age; in coming to see us she brings with her a large bag, and her pockets are filled to overflowing. What is she bringing with her in coming to us for a consultation? It is simply provisions for the journey. She has in her bag and in her pockets several pieces of bread, a few slices of ham, some chocolate tablets, and some sugar. One would say that she was going to cross a desert, when it is simply a question of crossing a few streets. The provisions are indispensable to her, for, especially in the open air and in squares, it is absolutely necessary that she should take something to strengthen her. At the end of several steps she feels dazed, becomes dizzy, chokes, and is covered with cold sweats. The danger would be great if she did

not know the remedy. All she needs is to strengthen herself. She eats a piece of ham, puts a piece of sugar in her mouth, and is thus able to take a few more steps. But very soon it all begins again, and it is only with the aid of rolls and chocolates that she is able to cross a square. One can, therefore, understand her miserable plight when her provisions run short. She is obliged at all costs, with unheard-of efforts, to cross the desert to reach an oasis, — that is, a bakery. During this terrible journey she gets along as best she can. What do unfortunate travelers not eat? She may pick up a raw potato, capture an onion, or a few green leaves; this hardly sustains her, but gives her enough strength to reach a bakery. In general, she prefers to remain at home; that is less dangerous, and so she does nothing else but prepare and eat food all day long. Sad and unhappy, she finds relief only in this continual absorption of food. This condition lasts from ten to fifteen days, rarely longer. She then becomes calm, no longer experiences the need to eat, and is obliged to take care of the gastritis which she has acquired in consequence of the overloading of the stomach. She remains rational; eats moderately, even little, for several weeks or months; then, all of a sudden or gradually, as the case may be, the same comedy begins again.

Bulimia is rare in this typical form, which, as we see, is entirely analogous to the attacks of dipsomania; but it often exists in an attenuated form among many neuropaths. The physician should be warned of this, and should be on his guard against these pretended neurasthenics, who continually desire to remain in a recumbent posture and who always have on the table by their bedside bottles of wine and pieces of cold meats with which to fight their exhaustion. Great harm has been done to the minds and bodies of the neuropaths by the fine theories of overfeeding. More often than is thought, their poor digestion, their fetid breath, their cutaneous and even their mental troubles are prolonged by a true alimentary intoxication, brought about by ill-understood advice. When bulimia is seen

in its gross form, as in the case of Qe., the rôle which mental troubles play in these pathological cases of overfeeding is more easily recognized.

Observation III. — We now come to a still more singular case. This young woman, Ms., cannot be cared for in any sanatorium; she has hardly entered one when she is obliged to leave it because none of these institutions can place large enough grounds at her disposal. What can you expect? She must have exercise, and it is absolutely necessary for her to walk every day, without exception, forty or fifty kilometers on a public highway. The little garden of a sanatorium will not suffice, and the public highway with its kilometric posts which one can count is indispensable. It is only after having counted about forty-six kilometers that she begins to feel at her ease. Sometimes she has a carriage accompanying her, but she never enters it; she runs beside it while the horse is trotting. She hardly consents to stop for a moment to eat a morsel; she feels hungry, but that scarcely bothers her. She is more concerned by thirst, for she drinks enormous quantities, five to six liters a day, and she urinates accordingly. She starts again immediately, with an unconquerable need " to exhaust the superabundant energy of her nervous system."

This mania for walking, a variety of the *dromomania* of Regis, seems very strange; it is, however, more common than is supposed. There are in Paris unfortunate persons who have a cement track built in their yards on which they walk during the hours when they cannot cover kilometers on the highway. In a more concealed form the same impulsion is now very often found in the mania of sports, which brutalizes so many neuropaths (*ludomania* of Eissié). Here also, as in the case of overfeeding, there is a danger of which the neurologist should be warned, and that is why he should think over those cases where the mania is as manifest as that of our patient.

Observation IV. — Finally, I would like to cite with the preceding cases those patients who experience the desire

of inflicting suffering upon themselves. In many of these cases it is only a question of small pains, of pinching, twitching, or scratching the skin, which seems to give them relief. Cha., a young woman twenty-four years of age, presents a curious appearance when she takes off, in our presence, her beautiful blonde wig. Upon her uncovered skull there are but a few rare locks of short hair, separated by large, absolutely bald spots, especially in front and on the occiput. At first sight one is convinced that it is a remarkable case of alopecia, and is astonished to learn that the dermatologists refuse to treat her and send her back to the neurologists. It is a fact that the hairs did not fall out by themselves. For the last eighteen months this poor girl has been tearing them out one by one and eating them. In this short period she has eaten up the whole of a luxuriant head of hair. This singular desire only comes at intervals to a girl who is otherwise quite rational and seemingly well balanced. But at moments she is no longer able to resist this desire to pull out her hair and feel the little pain resulting from it. This new case may be grouped with the patients I have already described who tear out their hair, their eyelashes, their nails, and little pieces of skin, etc.[1]

Sometimes the impulsion to inflict injury on oneself becomes much more interesting when it is a question of severe pains.

Observation V. — This young girl of twenty, Ne., has her hands and feet covered with bandages, and looks more like one severely wounded than like a neuropath. Under the dressings there are a number of severe burns, some recent, with blisters, others suppurating, and others almost cicatrized. The parents of this young girl despair of curing her wounds, for scarcely is one on the road toward cure than a more severe one appears at its side. The young girl cannot stop herself from burning her hands and feet; her pleasure, when she is alone, consists

[1] *Névroses et Idées fixes*, 1898, II, pp. 388, 390; *Obsessions et Psychasthénie*, 1903, II, p. 232.

in taking a kettle of boiling water, and pouring it, drop by drop, on the skin of her extremities. If she cannot find boiling water she satisfies herself by placing her fingers on the stove until the skin is badly burned. If we undress her we find on her thighs long circular cicatrices of a keloidal appearance. She had wound twine tightly about her thighs until her skin had been cut.

Before arriving at such torture she had merely tried to stop eating and drinking. She kept herself from evacuating her bowels or passing her urine for a very long time; for hours she kept her arms and legs in fatiguing and painful positions, etc. . . . Gradually, she has perfected these painful processes. We have here, you will say, an insane person who has a mystical delirium and who is anesthetic. By no means; she is a young girl, intelligent and instructed, who is not at all delirious, at least when she is being examined, and who has preserved all her sensibilities. She hides her face and weeps when her wounds are uncovered. She says she is ashamed to let any one see the absurdities which she has committed: "But what will you have? I did not think that it would be so serious, or that the marks would remain visible so long; I hoped that pain would be the only result. When I once let myself go I cannot stop myself. I am in great despair that my wounds cause so much trouble to my family. For their sake I would make the painful sacrifice of giving it up, but it so difficult to resist this desire of harming myself; it requires so much courage for me not to give way to it." Exactly like a dipsomaniac, she takes all possible oaths, but no faith can be placed in them, and she must be watched, for in a few weeks she will begin again, first causing herself a little pain, then, as the appetite grows, she will not resist the pleasure of wounding herself severely.

These impulsions differ apparently in their aims; one relates to the desire for drink, the others to the desire for eating, to the need of walking indefinitely, or to a singular appetite for suffering; but yet they have common clinical characteristics: the periodic appearance of the desire;

its irresistibility; the satisfaction following its accomplishment; the remorse of the subject, and his good but useless resolutions. There is certainly a psychological unity hidden in these diverse phenomena.

II.

It is not difficult to see that these impulsions, differing so much from one another, have the same point of departure, and that they correspond to certain deep feelings quite the same in all the subjects. We must not believe in this illusory appearance which shows us the impulsions as primitive phenomena, appearing at the beginning of the attack. The patient deceives himself when he tells us that suddenly, without any reason, he is seized with the desire to drink, to walk, or to burn his feet. The observer can confidently state that in every case the impulsion is preceded by disease symptoms which are the essential part of the crisis. This is so true that in the following cases, we can with care foresee the return of the attack, and can place the patient on his guard against an impulsion which will not delay in coming, although he may not yet be conscious of the fact.

Our dipsomaniac, Dr. (Observation I), seems to be in very good health. She drinks water only, and can even look at a bottle of whisky on the table without the least desire to touch it. However, she is already troubled; physical or moral influences have already transformed her brain; now the change is produced during the menstrual period; now, following a simple cold; most often it is determined by her emotion on hearing bad news concerning the health of her husband, but it may sometimes follow an emotion caused by agreeable news. The patient reports at first without emphasis, then more and more forcibly, a general change in her feelings; it is like a veil of sadness spread over everything, a discouragement, a disgust for all action, a profound ennui which comes over her more and more. " Nothing interests me any longer, I am weary of everything, — to be interested in nothing is insupport-

able; it makes me nervous. Nothing is worth the trouble of an effort. I can no longer even get angry, for nothing is worth getting angry about, and I am astonished when I see people who have the courage to get angry. All things are well enough; the children are brought up well enough for what they have to do; the servants are satisfactory enough; everything in life is passable, and it is very wearisome. To be neither unhappy nor happy, to desire nothing, is very discouraging. You cannot imagine this feeling of a shadow which, little by little, invades the whole of life, like an eclipse of the sun."

The troubles of perception may even be accentuated; things may lose their reality and become like dreams; there are at moments feelings of false recognition, a feeling that the present is a part of past experience (*déjà vu*), agreeing well with the depression as I have often described it.[1] The disturbances of the attention and of the will become enormous: " There is in my head a boiling mass of ideas, and in the midst of it all I do not know what to do or what to decide. I become hesitating, timid; I need to be guided, not to have to think of anything. I ask everybody's aid, and I obey nobody, for I no longer love those whom I used to love. What a horror it is to lose all feelings of affection! How do you expect me to be interested in a life which is no longer anything to me? If I continue thus a few hours longer I shall kill myself. . . ." She need not kill herself because she begins to feel that there is another much simpler remedy within her reach.

Our second patient, Qe. (Observation II), afflicted with bulimia, does not express herself so well, but she entertains the same thoughts on the days preceding her impulsion to eat. She is the daughter of an alcoholic. She herself is exhausted in consequence of infectious diseases and puberty. She frequently has attacks of depression, which she roughly explains by saying that she has sudden stomach trouble. She does not exactly suffer from that organ, but, in consequence of some emotion, " she has lost all strength to act;

[1] " L'illusion du déjà vu," *Journal de Psychologie Normal et Pathologique.*

she feels herself weak, powerless, incapable of making a decision; she does not believe that she is in a real world; everything is a vague dream. At the same time, she is excited, anxious, and believes that she is going to fall into syncope. Her body might be said to be empty, not containing any nourishment." These feelings thus develop themselves during several days before she begins to eat in order to remedy this weakness.

The young woman, Ms. (Observation III), has passed a comfortable evening following her unreasonable walk; she slept well during the night. But in the morning she wakes in an extremely painful state; she feels weary and depressed; her head feels tightly bound; her heart feels swollen. "My head is smothered; it is as if some one were pinching me, as though some one were pressing the top of my head; my ideas become confused, and I feel that I am going insane." This fear of insanity produces a state of anguish that continues until the patient yields to the temptation to seek the habitual remedy. This poor girl belongs, of course, to a neuropathic family; her grandmother was insane, her father very nervous. She, herself, had typhoid fever when seventeen years of age, and for a long time afterward remained weak and suffered from digestive disturbances accompanied by vomiting. She then had attacks of mental depression which, at the end of four or five years, were followed by the impulsions we are studying.

Cha. (Observation IV), who tears out her hair, presents the same feelings in a still more naive way. She is the daughter of an alcoholic, of low intelligence, and little activity. Brought up in the country, she barely learned to read. She was fit only for the rough work of the farm. Unfortunately she was sent to Paris as a servant. She claims to have had masters who were exacting and who scorned her. That is possible; but as a matter of fact, she was hardly capable of more delicate work than was asked of her. She became discouraged, homesick, complained of headaches and weakness. "She felt enfeebled, without life, without desire, without hope, seeking in vain for something to stir her, to relieve her."

The last patient, Ne. (Observation V), with the mania for wounding herself, explains very well, even in her letters, this fundamental feeling of depression. For a number of years, ever since the beginning of puberty, she had been languid, weak, and dull, did scarcely any work, and dreaded any action or decision. "The further I go the more my mind weakens; the more complicated an act the more I dread it. I stop before the least obstacle without knowing what to do. My parents, who see me do something from time to time, are deceived and think that I am really acting. What I appear to do is not done by me; it is done mechanically, as if it were done by some one else who had control of me. I prefer to do nothing at all, rather than feel within me these actions performed by another, which are as if inspired or forced by some one, God or devil [feeling of automatism and of domination].[1] It is too sad not to do anything of oneself; it is too humiliating. I am ashamed, too, afraid of being laughed at, and I prefer not to stir rather than act so. . . . I but half feel things; I am in a world which I do not understand, which does not exist, and which inspires me with a vague fear. . . . I can no longer speak to living beings; in the first place I do not know whether they are alive; and in the second I no longer belong to the same world with them; they humiliate me when they speak to me; I am going to withdraw into a corner where there is absolutely no one; I do not live, I cannot live, I do not wish to live. . . ."

These feelings of incompleteness are the same among the various patients in all these cases of impulsion; they are expressed in the same terms and by the same metaphors. In many cases it is easy to see that for a long time these feelings existed alone without any other moral trouble. Even to-day they plainly precede the impulsions, sometimes by several days. Consequently they seem to me to constitute the essential part of the *psycholeptic crisis*[2] to which the impulsions are joined only as accidental phenomena.

[1] *Obsessions et Psychasthénie*, I, p. 272.

[2] *Obsessions et Psychasthénie*, I, p. 501; "The Psycholeptic Crisis," *Boston Medical and Surgical Journal*, January 26, 1905.

III.

I have already shown elsewhere, in a very typical observation, how the impulsions may be joined to the psycholeptic crisis in a somewhat accidental manner. D., a man of thirty, was subject, from the age of fifteen, to attacks of depression: "From time to time," says he, "it seems to me that I am giving way, that I am no longer good for anything, that I can no longer even read; everything appears strange and confused"; and he adds, "This state is intolerable." For a long time, up to the age of twenty-two, he bore these painful attacks with resignation; thus crushed he remained, sometimes only for two hours, sometimes for several days. He even had a vague feeling that he required some sort of stimulation to pull himself together. "He would like to perform an eccentricity which would cause an emotion and pull him out of that condition." But in reality he does not do anything foolish, and the condition gradually disappears. Towards his twenty-second year he lived at a German university, and was drawn into excesses of drinking by his companions during these attacks of depression. These intoxications had a remarkable result,—that of raising his feelings from their profound depression so that a vague idea grew up in his head that intoxication was a sovereign remedy for his tortures. Since that time the nature of his attacks was changed, and when he feels depressed he is overcome by the obsessing and impulsive idea of drinking.[1]

This is also what our first patient (Observation I) very distinctly experiences: "What will you have? I am forced to perceive that whisky has a wonderful effect on my dark moods. After I have taken a drink of it everything changes color and becomes interesting again. I no longer feel stupid; I can see, read, speak, and act. It makes life more worth living; it gives a fictitious value to things. How can you expect me not to take it when I am on the point of killing myself out of despair and when

[1] *Obsessions et Psychasthenie*, II, p. 424.

I feel sure that it is only necessary for me to drink in order to change everything?"

It is the same with food (Observation II) "which stirs one up, which makes one less timid; I would not be able to come to see you if I did not eat in the waiting room."

Exactly the same is true of physical exercise and of walking. When Ms. (Observation III) has walked rapidly on the highway for some time she feels transformed. "Her head is cleared, her ideas come back, she is no longer distracted, she can talk, she is even able to work. Better still, she can now rest and sleep, while formerly she was not able to take any rest." Moreover, this last detail corresponds exactly with our observations; for sleep is more than one thinks, a difficult act, which requires a certain nervous tension for its execution. Over-fatigue, nervous depression, renders patients incapable of taking rest.

The same facts are observed among those curious subjects who experience the need of feeling pain. The patient who burns her hands and feet (Observation V) has made a number of very clear observations concerning herself: "I feel that I make an effort when I hold my hands on the stove, when I pour boiling water on my feet; it is a violent act, and it awakens me; I feel that it is done by myself and not by another. . . . The means I use seem foolish, and I know that I abuse them; but what can you expect? Other people have the pleasure of doing things themselves; I desire to experience the same pleasure, and I cannot live without it. To make mental efforts alone is too difficult for me; I have to supplement them by physical efforts. I have not succeeded any other way, that is all: when I brace myself up to burn myself I make my mind freer, lighter, and more active for several days. Why do you speak of my desire for mortification? It is my parents who believe that, but it is absurd. It would be a mortification if it brought only suffering, but I enjoy this suffering; it gives me back my mind; it prevents my thoughts from stopping; what would not one do to attain such happiness?"

These are excellent psychological observations, which should be carefully considered by those who speak too lightly of asceticism without understanding the rôle which crises of mental depression play in mysticism. But we are not to study this question here: suffice it to say that the impulsions of all these patients have the same explanation. These absurd acts are sought for passionately, simply because they are exciting acts, and these individuals have an urgent need of excitation on account of the anguish which the mental depression produces.

If one pushes the question still further and asks why these acts should produce such great excitation in these patients, the answer seems to me very simple: It is not owing to the delirious convictions of these subjects, but it is because these acts are really exciting for everybody.

Absorption of alcoholic drinks, ingestion of food, a walk in the open air, pain, or, rather, for this is the important thing, the fact of courageously bearing pain,— all these are very exciting things for every human being. This excitation can be observed at meals, in walks, in work, or in combats and acts of courage.

This fact can be verified even among patients who have no fixed idea on the subject. How many neurasthenics feel better after a meal, how many depressed persons are relieved by a walk, by exercise, or by massage! Even among melancholics, M. Dumas having no knowledge of this subject, has been able to demonstrate the favorable change of physiological and psychological functions under the influence of pain.[1] Our obsessed have simply made correct psychological observations upon themselves; and have drawn the inferences from them. Still further to justify this interpretation, we can recall the large number of patients who, at first simply depressed, become dipsomaniacs, morphomaniacs, or erotomaniacs, in consequence of a fortuitous event which revealed to them a remedy of which they were ignorant. We may also lay stress upon those patients who have passed successively through

[1] G. Dumas: *La tristesse et la joie*, 1900.

several impulsions. Let us consider again the history of the case of Ms. (Observation III), who has the impulsions to walk; five years ago she had exactly the same attacks of mental depression, but she treated them quite differently. She remained in bed and gorged herself with food continuously. She was thus subject to bulimia before becoming a dromomaniac.

I have in my notes an observation of an exactly opposite character. A young girl of twenty-two, who is now subject to boulimia, and who even hides pieces of meat in her bed to eat during the night, began by having impulsions urging her to violent exercises; she wished to run or to ride horseback the whole day. We cannot say that the disease has changed in either of these two patients; they have both remained the same, subject to painful psycholeptic crises with a profound and rapid fall of the mental level. They have simply changed the means with which they strove to combat that painful state. The origin of the impulsion is, therefore, outside of their ideas; it is in the depression and in the horrible feeling of death and of dementia which it inspires in the desperate effort which men instinctively make to recover life and reason.

It is none the less true that among the means employed by the patients are dangerous absurdities. The subjects fall into a double error. At first they imagine that a process, mildly stimulating when moderately used, will increase indefinitely in strength when employed excessively. It is the childish mistake of drunkards who think that a thousand drinks will produce a thousand times the gayety of a single one. The second error consists in imagining that there is but one way of being relieved. They forget that there are innumerable stimulating influences, and that change and novelty are indispensable in order to have their full effect. But these very errors are the results of the disease; the lazy minds of the subjects have a horror of change; they are incapable of having a new experience, of trying new methods. It is already a good deal if they are forced by external circumstances to understand the influence of

walking and intoxication; they are not in a condition to make new discoveries by themselves. I have endeavored to show elsewhere that the obsession imposes itself unchangeably on the mind because it is an expression of a condition itself unchangeable. A free mind would have been able to find many other, often better, expressions, but the abulic mind is content with the expression once given, often furnished by chance, and is incapable of conceiving another one as long as the feelings of depression remain the same. The impulsion remains the same and does not vary because the subject is unable to conceive another remedy for a condition which does not change.

It is for us to introduce changes, and the understanding of the mechanism of the impulsions gives us the means of treating it. Let us not begin by declaring the means of the patient absurd. It is so far from being unreasonable that we ourselves make use of it. To many of these patients we recommend nourishment, the use of certain stimulating substances, walking, gymnastics, and even a seeking after emotions. In many of these patients I strive myself to cause painful emotions; reproaches, threats, often have as good effects as do encouragements and caresses. I remember a young girl who felt well only if I had succeeded in making her cry during her visit to me. What we must explain to the patient or rather what we must make them feel, is that there is a host of exciting phenomena besides those they have chosen; it is above all necessary for them to understand the rôle of certain mental phenomena, such as the efforts of volition and attention, which, to their great surprise, are able to produce the same effects as a bottle of whisky. Finally, what is most important, we must not forget that the cause of the impulsion is, above all, in the underlying attack of depression; we must endeavor to discover, what is unfortunately not always possible, the physical or moral conditions that determine it; and we must, by all sorts of hygienic means, by proper mental treatment, prevent its reappearance. It can be easily seen that the therapeutic measures should be quite

different in the cases where the impulsion depends on subconscious phenomena or suggestions, as is often the case among hysterics. It can be seen from this example that the psychological analysis of a pathological symptom is not only interesting from a scientific point of view, but that it can have practical application of the utmost importance.

WHAT IS HYPNOSIS?

BY PROF. W. v. BECHTEREW, ST. PETERSBURG.

We can review in short the history of hypnotism. Hypnotism and suggestion were undoubtedly known in ancient times, for the Egyptian priests made use of them. The history of the ancient orient reveals many examples of the use of hypnosis and suggestion in religious ceremonies. Knowledge of them was present in the time of the apostles. Their popularity was established among the priests, medical men, magicians, sorcerers, under the mark of influences coming from the gods, or from charms, exorcisms, and so on.

Hypnotism and the power of suggestion afterwards took refuge among the cultivated classes of European society, under the cloak of black magic, the so-called animal magnetism, mesmerism with its fluids, and other occult doctrines. This was greatly favored by the activity of charlatans and adventurers who presented the real manifestations of hypnosis in such an irrational way that it was almost impossible to distinguish between truth and deception. Such was the history of mesmerism which the learned academy of Paris declared unworthy of the attention of the scientific world.

In the course of the last century the concepts of hypnotism and suggestion came to the foreground among the cultivated public, owing largely to intercommunication between Europe and India with her mystic fakirs, who, to the present day, exhibit openly in the market place, for a small remuneration, the mysteries of hypnosis to the delight of the populace.

It is not long since hypnosis was regarded as a dark power. The scientific world looked upon hypnosis as something that did not belong to the great family of science. But the progress of time could not be arrested, and over and over again did the cultivated European classes make

acquaintance with the phenomena of hypnotism, especially the rough practical business hypnotists, who gave "hypnotic séances" for the benefit of the public at large.

Among the hypnotists, aside from Mesmer, we may mention the name of Hansen who, through his séances and hypnotic demonstrations, which he carried on throughout the extent of Europe, strangely awakened the interest of physicians and physiologists in behalf of hypnotism.

Marquis Puisegure, a pupil of Mesmer, discovered the importance of hypnotic sleep, of that sleeplike state in which the will of the subject becomes subordinate to that of the hypnotizer. One of the first scientists who formed a clear conception of hypnotism was Braid, 1843, but even after that a long time passed away before hypnotism could expect a scientific investigation, and as such belong to the sciences to which serious investigators were willing to turn their attention, or to devote themselves. This is easy to understand, because many people of high standing regarded it for a long time as a simple deception, or, at least, as such a mysterious affair that it did not appear to deserve real study. Liébeault, the French physician of Nancy, practiced a long time in practical therapeutics by hypnotic suggestion, and published a comprehensive book on the subject; in spite of all that, the doctrine of hypnotism and its power of cure remained in its previous status. It required the authority of one of the foremost clinicians, such as Charcot, to interest scientists and physicians and clear the study of hypnosis from a great number of prejudices which one had to encounter.

Great, however, as Charcot's merit and the investigation of hypnotism and the elucidation of its medical and scientific worth may be, still the practical application of hypnosis for therapeutic purposes is especially represented by the School of Nancy, of which the foremost representative is Bernheim, who has developed it further on the lines laid down by Liébeault. The doctrine of modern hypnotism may be identified with the names of Braid, Liébeault, Charcot, and Bernheim. Of other scientists who greatly

contributed to the development of the doctrine, we may mention the names of Azam, Durand de Gros, Dumontpallier, H. Tuke, Regnard, Farez, Richet, Pitres, Voisin, Luys, Liégeois, Bérillon, von Krafft-Ebing, von Schrenck-Notzing, Moll, Grasset, and many others; also many Russian investigators who, although they came rather late, have nevertheless richly contributed to the investigation of hypnosis.

In spite, however, of the enormous literature on the subject, there are some essential questions which until now have not been answered.

From the very beginning of the scientific development of hypnotism there was a split between Charcot and Bernheim, — a split that gave rise to the formation of two separate schools. The school at the head of which stood the late Charcot favored more the physical, while the other, that of Bernheim, maintained the psychological point of view. The old mesmeric fluid hypothesis can no longer be maintained, although it may find, perhaps, a foothold among professional hypnotists. With the death of Luys, its only scientific representative, it is no longer taken seriously by any scientific investigator.

Scientific investigations have thus given us two schools. The difference between them may be expressed in the following statement:

According to Charcot the state of hypnosis is nothing but an artificial or an experimental nervous condition, a neurosis brought about artificially and akin to hysteria, the various manifestations of which can be aroused at the will of the hypnotizer both by physical and psychical means.

The typical hypnosis, declares this school, consists of three phases: a lethargic, cataleptic, and somnambulic, each having its own peculiar characteristics. The lethargic, for example, is characterized by flaccidity of the body, heightening of neuropsychic excitability, and insusceptibility to suggestion. The cataleptic is distinguished by manifestations of catalepsy, tendency to paralysis, and suggestibility. Finally, the somnambulic phase is charac-

terized by contractures on irritation of the skin, hyperesthesia, and manifestations of various automatisms following suggestions. Any one of the three phases can appear first, and the hypnotized person by different means can be changed from one to another. Thus, when the subject in the lethargic state has his eyes open, he becomes cataleptic, and if the spine is rubbed he passes into the somnambulic state. Still, even Charcot thought that these phases were not often met with, but that they were typical and could be taken as general characteristics of the hypnotic state.

The views of Bernheim and of the Nancy School are quite different from those of Charcot. Hypnosis, according to the Nancy School, is to be regarded as sleep, which is induced by suggestion. There is no relation between hysteria and hypnosis. All the manifestations of hypnosis depend entirely on suggestion which especially characterizes the hypnotic state. The stages of hypnosis differ by the depth of sleep and by a greater or lesser susceptibility to suggestion. Persons who are in a state of hypnosis are subject to suggestion in different degrees. If the subject is in the hypnotic state and we close his eyes, then, according to Bernheim, the attention of the subject is concentrated upon the hypnotizer, and is controlled by suggestion. There is no need of closing the eyes in order to induce another stage, nor is there any need to rub the spine; it is enough to give a verbal suggestion to the subject to bring about the same results. There is nothing but suggestion in the Salpêtrière manipulations which, in themselves, are powerless to evoke hypnosis or change it in the slightest degree. The hysterical patients of the Salpêtrière were specially educated by a long course of training to react in certain definite ways when in the hypnotic state.

The Nancy School also recognizes stages of hypnosis, but they are classified according to the depth of sleep, the depth of amnesia, or, finally, according to the stage of susceptibility to suggestion. Various classifications of hypnotic stages have been advanced by the representatives of the

Nancy School, but according to Bernheim all those distinctions are more or less artificial and conditional and justified on practical grounds alone.

Let us now consider the essential points of opposition of the two schools: Can we regard the hypnotic condition as a neurosis, as a neurotic state closely allied to that of hysteria? There is no doubt that this standpoint is against facts, because hypnosis, as we know it now, can be induced in most men, and we cannot possibly regard most of humanity as hysterical. It has also been demonstrated that although hysterical patients may present classical hypnotic states, deep hypnosis may be presented by subjects who neither suffer from hysteria nor have the least indications of hysterical stigmata. Besides, hypnosis has also been induced in animals where hysteria is out of the question.

The psychological school, however, that refers all hypnotic phenomena to suggestion, is also one-sided, inasmuch as it overlooks the physiological side and attempts to explain all the facts by suggestion. Now many facts of hypnosis cannot be explained by suggestion. There are many cases where hypnosis is evoked by purely physical means without the least intervention of suggestion. Thus, in a case of mine, by taking the knee reflex I accidentally brought about a deep hypnotic state in an official, a patient of mine, who suffered from tuberculosis of the spine, with motor and sensory paralysis of the legs. The patient did not understand Russian and had no knowledge of hypnosis. Our object was to test for reflexes and not to induce the hypnotic state, and yet, to our great bewilderment, the patient fell into a deep sleep in less than a quarter of an hour. That it was an actual hypnotic state could be proved by the fact that we could induce in the subject olfactory and gustatory hallucinations, and that we could also give successfully post-hypnotic suggestions.

Another case is that of an educated neurologist who understood well the phenomena of hypnosis and who suffered from a severe disease of the spine, with paralysis, contracture, and complete anesthesia of both legs. The patient

was ordered passive gymnastics of the feet and passive extension of the contracted knees. Now it turned out that passive feet gymnastics put the patient, within fifteen minutes, into a deep sleep, during which the pain on extension of the contracted knees was no longer experienced. The patient himself was very much astonished, all the more so as the regular methodical suggestion (after Bernheim) could hardly put him into a slight hypnotic state, during which there was no loss of pain that might permit the forcible extension of the knees.

We have here, then, cases in which hypnosis could be induced by physical means as well as by means of suggestion. As in the case of the testing of reflexes, so also in the last case, the physical influence cannot possibly be referred to simple suggestion. This clearly contradicts the doctrine that hypnosis is entirely a matter of suggestion.

Again, hypnotic experiments on children without any verbal suggestion clearly prove that hypnosis is not necessarily conditioned by suggestion. Finally, an irrefutable proof of the position taken by me can be found in the hypnotic manifestations induced by purely physical manipulations.

In short, although hypnosis is easily induced by suggestion, still in some cases it can be induced by physical means without the least intervention of suggestion. From this standpoint Bernheim's definition of hypnosis as suggested sleep may be regarded as one-sided. I regard hypnosis not as suggested sleep, but as a *special modification of normal sleep which can be induced by physical as well as by psychical means*.

The ordinary normal sleep reaches in most people such a depth that the influence of suggestion is impossible. There are, however, people with whom we can enter into relation when they are fast asleep and to whom we can give successfully all kinds of suggestions.

We thus have here normal sleep with all the peculiarities characteristic of the hypnotic sleep. A similar suggestible state is also met with in persons as the result of certain

conditions, such as great bodily fatigue. In some, again, such a state of suggestibility is present at the beginning of deep sleep. It is also known that in the first stages of chloroform narcosis the patient can be spoken to and can even be influenced by suggestion. Recently, a new narcotic, named somnaphor, has been utilized for the induction of the hypnotic state. From all this, according to my view, it follows that *hypnosis is nothing but a modification of normal sleep.*

We can also finally bring in favor of our view the fact that in hypnosis we can reproduce dreams that have taken place in normal sleep, dreams which have been forgotten in the waking state.

Those who find difficulty in the objection that in hypnosis the subject can act, which is not the case in normal sleep, should keep in mind the well-known manifestations of normal somnambulism, in which the person can walk and act, and then forget completely all that has occurred.

While the memories of such somnambulistic states are not retained under normal conditions, the hypnotic subject can remind himself of what has taken place in the condition of natural somnambulism. In 1892, I exhibited before the Neuropathological and Psychiatric Society, at Kasan,[1] a case of this kind. It was the case of a patient who made nightly excursions in her natural sleep and who could not remember on awakening what had taken place, although, in one of her peregrinations, on a very frosty night, she had wandered through many streets and had had her hands frozen; on another similar occasion she hurt her thumb in an attempt to uncover an old well. In hypnosis, however, she could remember all her nightly wanderings in the state of natural somnambulism, and could give a detailed account of her experiences. Similar observations have been reported by others later on. Such cases clearly prove that hypnosis is only a modification of normal sleep which, in its deeper stages, is closely allied to natural somnambulism, and in its milder stages corresponds to light sleep or slumber.

[1] See report of the Society; also, W. v. Bechterew: *Some Cases of Nervous Diseases*, 1894.

From this standpoint the opposing views of the two schools can, in some way, be reconciled. For, regarded as a modification of normal sleep, hypnosis is a widespread phenomenon which not only can be evoked in most men, but which can also be induced in animals. From this point of view hypnosis need not be regarded as a manifestation of disease.

On the other hand, the deep stages of hypnosis are closely allied to natural somnambulism, and hence may almost be regarded as abnormal manifestations. That the same phenomena may be on the border line, approaching now the normal and now the abnormal, is quite conceivable if we remember that every pathological state is only an intensification or modification of a normal state. This holds true of the various manifestations of ordinary sleep. We should keep in mind the state of slumber with its dreams. This modification of normal sleep no one can regard as abnormal or pathological. On the other hand, there is a manifestation of normal sleep in which the sleeper can speak, walk, and act. This natural somnambulism, a modification of normal sleep, is, in reality, something which passes the limits of the normal and approaches closely certain neurotic states which, as in hysteria, with its well-known attacks and manifestations, strongly remind us of similar sleep states.

RECENT EXPERIENCES IN THE STUDY AND TREATMENT OF HYSTERIA AT THE MASSACHUSETTS GENERAL HOSPITAL; WITH REMARKS ON FREUD'S METHOD OF TREATMENT BY "PSYCHO-ANALYSIS."

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WITHIN the few years' space that a portion of a retired ward of the Massachusetts General Hospital has been at the service of the Neurological Clinic,[1] an excellent chance has been afforded for studying a series of cases of hysteria among patients of the poorer and middle classes, some of which are reported on in this paper.

I have been especially glad of this opportunity to form an opinion — which I admit is as yet provisional — of the method of treatment which has been associated mainly with the names of Breuer and Freud, although foreshadowed by earlier writers, and followed in this country, under special modifications, by Russell Sturgis and by Sidis. As the principles and practice involved in this method have been worked out most fully by Freud, I refer in what follows to his name alone.

The most important of Freud's earlier communications was that on hysteria,[2] published in conjunction with his older colleague, Breuer,[3] but the ideas which there found expression have been worked out in detail in a number of shorter papers, of which the following are the chief: "Ueber den Psychischen Mechanismus Hysterischer Phenomene," Neurol. Cbl., 1893, by Jos. Breuer and Sigmund Freud; "Abwehrneurosen," *Ibid.*, 1894; "Angstneurosen," *Ibid.*, 1895; "Traumdeutungen," 1900; "Psychopathologie des

[1] The hospital has maintained an exceedingly well-appointed and well-attended neurological out-patient service for twenty-five years past.

[2] *Die Hysterie.*

[3] Breuer's own work has likewise been of marked value.

Alltagslebens," 1904; "Drei Abhandlungen zur Sexual Theorie," 1905.

All of these publications are written in a fluent style and with an abundance of illustration, which give evidence of wide reading, general cultivation, and imaginative ability, and have secured for him an attentive audience, as well among professional psychologists as among neurologists of his own stamp.

Freud's main theory may be briefly illustrated as follows: A person has a painful experience or series of experiences, usually of a sexual character. The emotion thus aroused is accompanied by some sort of bodily or verbal expression. The original emotion itself may then fade out of the patient's sight, either because he voluntarily and studiously represses it by turning his attention elsewhere, or because it is incompatible with his prime interests and characteristics, etc., or from some analogous cause. On the other hand, the expression by which it was at first attended, whether symbolic (as nausea for disgust) or of some relatively accidental form (hysterical convulsion and the like), continues to live and to recur as an element of the patient's present consciousness. To a certain degree, and in the simpler cases, the recurrence of the expressive sign may involve also the recurrence of the emotion, but eventually the sign may persist alone, until such time as the repressed emotional state is given some opportunity to work itself out in some *adequate* and *natural* expression, after which the recurrence of the sign comes to an end.

In Freud's later writings[1] the controlling significance of the sexual element in this process, or, more accurately, the element of sexual repression, has been more and more strongly dwelt upon, and that, too, with a keenness and force that demands attention for the writer's view.

For Freud, hysteria, with its manifest dissociations of consciousness, is the type of all the psychoneuroses, including what is "falsely called" neurasthenia, and the sexual factor is prominent in the etiology of the whole group.

[1] See, especially, *Drei Abhandlungen zur Sexualtheorie*, 1905.

Thus he says:[1] "With all neurotics (without exception) there are to be found in the subconscious mental life tendencies toward 'inversion,' *i. e.*, the fixing of the desire upon persons of the same sex. Without a penetrating analysis, however, it is not possible to do justice to the significance of this factor in determining the form of the disorder; I can only assert that this 'inversion-instinct' is invariably present and that it is of especial significance in the causation of male hysteria." In the succeeding paragraphs he goes further, and expresses the conviction that the ordinary symptomatology of the neuropsychoses contains elements that hark back to subconscious feelings which represent, in embryo, the grosser manifestations of the most abandoned sexual perverts. Of all this dramatic relationship and genesis of their symptoms, however, the hysteric and the neurasthenic are usually profoundly ignorant, and their sexual consciousness and interests may be but slightly developed, or, rather, under-developed.

These principles are worked out further with an amazing fullness of detail, and the author's belief in their far-reaching and, indeed, universal application, as well as in their importance with relation to treatment (by the method of "psycho-analysis"), is made clear. He obviously feels that the sexual instinct is so fundamental a part of our mental furniture that it cannot and should not be crowded out of sight. Although through environment and education we come to be men and women of varied interests and aims, we are, first of all, like all organisms, plant and animal alike, the possible or probable parents of generations to come, and with the demands of the imperative function on which this possibility depends, our emotional existence is penetrated and controlled.

In many of the hysterical cases there are predisposing circumstances ("hypnoid states") without which, perhaps, the special (sexual or painful) experiences would not be able to exert the binding force which they exhibit. This predisposition does not, however, necessarily imply an

[1] *Drei Abhandlungen*, etc., p. 25.

inherited neurotic taint of any considerable amount. It may be solely the result of a morbid education of the emotions, such as, for example, is set up by elaborate day-dreaming, perhaps adopted in compensation for a too solitary or monotonous life. Another predisposing cause of much importance is the strain attendant upon prolonged service at the bedside of a near relative, a chronic invalid, with its sacrifices and its conflicting emotions.

It is, however, not under pathological conditions alone that strange links of association between present acts and past or hidden emotions may be found. Examples of the same law are of everyday occurrence. Our habitual acts, our modes of expression, our dreams, our guesses, in Freud's view, are not things of accidental origin, but have a hidden meaning, and are related to experiences of our past lives, experiences ostensibly "forgotten" but really surviving in the form of "impressions" that help to regulate our daily, present lives. If somebody asks us to suggest a number at random, the number which we name will usually be found, on careful search, to be related to some date, or figure, or series of figures which represent memories of personal and commonly of painful significance. The instinct which gave rise to the superstition that to stumble in a doorway on beginning a new enterprise was of evil omen was based on an instinctive recognition of this principle, for it signified that the enterprise was entered upon with hesitation and doubt, and was, therefore, more or less predoomed to failure. Mistakes in speech, the substitution of a wrong personal name or word, while they may, to be sure, mean a lapse in memory due to carelessness or fatigue, are very apt to be finger signs pointing to unpleasant subconscious memories which have more of a hold upon us than we know.

It would be impossible in a brief space to indicate all the workings of this law to which Freud attributes so much importance; what I chiefly wish to comment on is the method by which he seeks to get rid of these morbid associations. He claims to have found, as the followers of

neurological literature are well aware, that the mischief kept up by these repressed emotions is annulled if they are given an opportunity to complete themselves, to work themselves off by making themselves articulate in the presence of the conscious attention. In this way the "perturbed spirits" are appeased and laid to rest, while at the same time the outward signs which had stood for them in the world of social existence, *i. e.*, into which the emotions had been "converted," likewise cease from troubling. The method by which this "casting-out" of these morbid creations of the memory and associations is secured is known as the "cathartic" method. In order to accomplish this "cathartic" result, Freud does not think it usually either necessary or advisable to use hypnotic methods or "suggestion." Instead of this, he seeks only to induce in his patients a condition of relaxation and passivity, with abstraction from the engrossment of sense-stimulations, and then with his hand pressed upon the forehead, to urge and lead them to search their memories, as a housekeeper dusts the remotest corners of her rooms, in order to bring to life anything and everything, no matter how disagreeable, how offensively sexual, which may be related to the condition which is at stake, or may even come into the mind, without at first seeming to have any relationship to this condition. The accomplishment of this task is said to be usually easier than it would seem. In fact the repressed emotion, although it may be the thing which the patient seems to find the greatest difficulty in bringing vividly before his mind, is really the thing which, in fact, principally occupies his mind. The paradox is like that of the hysterical anesthesia, which in reality is often found to be a real hyperesthesia for the subconscious attention. When, therefore, the patient, lying in the hypnoid state, is told to mention the first thing that occurs to him, and if he is conscientious in abandoning himself to the physician's lead, it is just these desired pieces of information relating to painful experiences of the past that he will be most likely to record. He may for a long time resist the physician's appeal, but when the

"confidences" eventually come they will come with a sharpness of outline that gives warrant of the care with which the experiences underlying them have been preserved and recorded, and hints strongly at the importance of the part that they have played.

It will be observed that the strict "cathartic," psychoanalytic method, advocated by Freud, for dealing with the disorganizing effects of morbid, sexual experiences, or experiences repressed for any cause, is quite different from the method which is followed by most of the physicians who have successfully dealt with classes of patients similar to those of whom Freud speaks; and the question arises whether his method is essentially better than the others, and also whether the apparent differences between them are essential and fundamental or mainly superficial and in detail. The French neurologist Dubois, for example, treats his patients by emphasizing the possibility of "side-tracking" their troubles, by substituting for them a more "rational" series of associations and ideas, and the same principle is followed by those who prescribe occupations and engrossing interests. Even in the case of Janet and of the late Russell Sturgis, whose methods somewhat resembled those of Freud, the plan followed, and often with marked success, was to reproduce in memory, as it were, the original scene in which the noxious experience occurred, either with the aid of complete or partial hypnosis, and then to suggest a different series of associations with a different outcome, free from unpleasant features, and not entailing the consequences which actually followed in the patient's personal history. Again, in one striking case, Janet succeeded in banishing from a patient's mind the obsessive idea of "cholera," from which her husband had died, simply by suggesting to her that the *word* cholera should cease to be associated with the idea of *disease*, and leading her to adopt a series of associations based on the sound value alone. There is, of course, no reason why each of these methods of treatment should not have its value; but the question is whether the good effects of the treatment are not in reality obtained on

the same principle, that principle, namely, which controls the " forgetting " of daily life.

The following cases are reported in the present greatly abridged form, not for their novelty, but as affording a basis for the demonstration of the value of very simple treatment by certain sorts of " substitution," in a hospital ward used for the treatment of a variety of different disorders. The hospital ward to which I here refer and which is under the charge of my colleague, Dr. G. A. Waterman, and myself, is a small and pleasant one, containing about twenty-four small rooms, all opening on a common corridor. Most of the patients have dermatological troubles, while a few are under treatment for disorders of the nose and throat.

We have come to regard this admixture of cases as of distinct benefit to our psychopathical patients, because it has brought them into contact with others who are free from mental difficulties and who, as a rule, are improving in their condition. The mental atmosphere of the ward has, therefore, been one of cheerfulness, and this has been increased through the fact that a lady, well qualified for the work, has given a great deal of her time to instituting occupations of pleasant and artistic sorts.

The presence of a number of children has also helped to create a homelike atmosphere. Besides encouraging our patients to take part in this common life, we have treated them systematically with invigorating baths, high-frequency electricity, and Zander exercises. This latter treatment is given in a large, well-lighted, and pleasant hall, where, again, a large number of patients are brought together under favorable conditions.

In our personal relations with the patients we have sought to encourage in them the attitude that when the unpleasant features of their experience had been sufficiently revealed they could be forgotten, and a new course of life hopefully entered on.

Case I is that of an unmarried woman of twenty-seven, whose usual occupation was that of a worker in a shoe shop.

Her symptoms were those of a severe form of paramyoclonus, involving the shoulders and arms. Besides these clonic spasms, which were so severe as to throw her into a perspiration and which lasted all day long, except for short intervals while she was walking about, she had certain "tic-" like movements in which she would pull her clothes into place with such violence as sometimes to tear them, and also occasional attacks of hysterical unconsciousness, of epileptiform character.

A long and interesting history was obtained by careful inquiries, made partly during a half-hypnotic condition, through which it became evident that her present state was partly due to special emotional experiences due to a love affair of ten years before, which had a distressing outcome. A detailed discussion of these experiences failed to check her attacks, although the patient developed a remarkably close memory of many details of the events in question, but the attacks ceased themselves under the general treatment above outlined, so that the patient went home in a greatly improved state of health.

After a year of freedom, the attacks returned during convalescence from an exhausting illness, but again ceased under a brief treatment at the hospital. It is not impossible that they may come back again if the conditions of life are unfavorable, but the patient's *morale* is a good deal better than it was; she understands herself better, and her confidence in the possibility of relief is sufficient to insure hopefulness.

Case II is that of a young woman of about twenty, docile and free from morbid alterations of self-consciousness, but poorly nourished and subject to marked hysterical convulsions of epileptic form of character. The only discoverable (or discovered) cause for these attacks, even through careful searching with the aid of the method of Freud, applied as carefully as we were able to apply it, consisted in two accidents, one being a fall down the cellar stairs when she was a girl of ten, the other a still more serious fall into a hole near a railroad embankment, at the bottom

of which she lay for a long time unconscious, until aroused in a fright on the approach of a train. In this case, also, the treatment which I have above outlined, together with repeated friendly conversations and explanations, gradually induced both a noticeable gain in weight, strength, and facial expression, and with them a gradual disappearance of the nervous seizures. Here, too, as in the previous case, discharge from the hospital, after too brief a stay, was followed after a time by a slight relapse. This time, however, the symptoms were much less severe than before, and the patient herself now feels aware, both that she possesses an increased power of control, and that, under more favorable conditions than those which have been present, the control would be complete.

Case III is that of a man of middle age, an operator in a cotton factory until his symptoms obliged him to desist, who was seriously annoyed and practically incapacitated for work by a severe form of facial *tic*, which kept his eyes practically closed and covered his face with grimaces of a grotesque sort. The history of the onset of this trouble was an interesting one. It appeared that, ten years before, his wife had been a sufferer from a painful disorder which made it necessary to often call in a physician during the night, in order that she might secure relief through the use of morphine. On these occasions her unfortunate husband, tired out with his day's work, would find himself obliged to stand about the room, straining open his drooping lids, while he listened to the story of his wife's sorrows, and witnessed the ministrations of the doctor. In these facial contortions, which were half voluntary at this period, the involuntary movements had their rise. It is well known that these facial *tics* are apt to resist obstinately attempts at cure, but to our surprise, a course of "suggestive" treatment, carried on during hypnosis, skillfully induced by Dr. Hamilton, succeeded, little by little, in bringing about, first amelioration and finally almost a complete cure of the distressing condition, so that the patient was easily enabled to return cheerfully to work.

Case IV was that of an intelligent woman of forty-six, who in earlier years had been exposed to nervous shocks of emotional character, due to ill-treatment on the part of her husband, which had left her with a sense of misanthropy and disgust. While under the influence of these feelings she suffered another sharp shock, through a quarrel with an intimate friend. This was at once followed by a sense of bitter taste in the mouth, associated with mental depression, and from then on the taste and the depression kept recurring in each other's company, on the occasion of every slight emotional excitement. Careful and friendly explanations and encouragements, however, repeated with sufficient frequency, substantially induced a cure.

These few cases are reported not as illustrating the value of a new treatment, but as showing what can be accomplished in brief periods, through means which are at the disposal of almost any well-managed general hospital. Many other cases have come within our care which I abstain from reporting at this time, but shall speak of elsewhere in detail. Among these there was one characterized by outbreaks of hysterical mania associated with a persistent incontinence of urine; another by hysterical astasia-abasia; a third, by complete hysterical anesthesia with paralysis of one leg, in an adult man; a fourth, by hysterical convulsions of severe form and complex character, which distinctly had their origin in an unhappy and exciting experience during an amour of years before. In all of these cases, with perhaps the exception of the last, the effects of treatment were very satisfactory.

It may well be maintained that these cases differ from many of those reported by Freud, in the fact that the patients were able to give in a waking state as much information about their previous history as we succeeded in securing from them through the assistance of as much concentration as we were able to induce.

The conclusion that I draw is not that the "psychoanalytic" method of Freud is useless, for I believe the contrary to be the case, but that it is difficult of application

and often less necessary than one might think. Furthermore, on theoretical grounds, I cannot altogether accept the psychological explanation of the treatment which I understand Freud himself to offer, and I believe that the "psycho-analytic" method does not differ much, in principle, from the other methods which I have characterized as "substitutive." It is to the consideration of this point that the remainder of the paper will be devoted.

If any one goes beyond the range of hospital cases of hysteria, and interrogates private patients of cultivation and intelligence, accustomed to rational self-analysis, he will find instances enough of persons of fine character, who, in their youth, have had emotional experiences of sexual character, serious enough to have made a deep impression on their thoughts for many years. Yet these experiences may have been not alone outgrown but utilized for the broadening and strengthening of the character and the will. It will be said that it is not to cases of this sort that Freud's principles apply; that it is experiences and conflicts *of which we are unaware* that make most trouble and cause effects of which it is most difficult to get rid; that deep-seated instincts like that which is necessary for reproduction predispose, by their wide ramifications, to emotional storms, showing themselves as moods and passions which we are sure to deal with improperly unless and until we learn to understand their origin. But while admitting that this argument — which is parallel to that which describes the bodily manifestations of emotion as inherited survivals of purposive acts, useful to animal ancestors (Darwin, etc.) — is based upon scientific observations of great value, I think that as a basis for treatment it could easily be over-estimated. It is true that our insight into the future, on which our future conduct is to be based, is founded on our insight into the past, but this is quite different from assuming that special experiences, no matter how important, need to be specifically reckoned with, special emotions of years ago given the chance to "work themselves out."

If our memories and our past experiences were capable of continuing to live and to carry on an independent existence even in the subconscious life, then we might properly say that the " uncompleted emotion," which by reason of its lack of completion was causing mischief, could be given an opportunity to work itself out. On the face of the matter this seems to be what actually takes place. In fact, however, no mental process ever really repeats a previous one. Our memories and experiences are not " possessions," to be dealt with like books in our library or like bricks that have been used for building once and may be used again. When we say that one memory " calls up another," under the law of association, all that we have a right to mean is that a new mental state comes into existence which contains as one of its features something which *makes us think* of a past mental state. And what is true of conscious mental states is true of subconscious mental states. In the subconscious realm, also, we " live ever in a new day," though in a less degree than in the realm of our supraliminal consciousness.

This view, that the past phases of our conscious life no longer have any real existence, and that of a series of memory pictures of the same event no two are really ever alike but exhibit somewhat the same differences among themselves that would exist between the memories of one and the same event held by a series of different persons, is not contradicted by any explanations of the memory-processes based upon the supposition that each experience leaves its mark in the structure and function of the brain, as described, for example, by Fechner, cited by Hertwig in his " Allgemeine Biologie," p. 581. The fact is usually overlooked, that when we speak of a change in the structure of the brain corresponding to a mental process, this change is not to be regarded as something like a dent in a piece of brass, but rather as an alteration of the relation of various constituents of a fluid mass, or such an alteration as would occur throughout the solar system on the introduction of a new planet, — an alteration which each subsequent change will

again modify. The brain, properly speaking, is a fluid, and changeable as our memories are, and each succeeding mental "structural" event is bound to affect all past, as well as all present, adjustments, just as it is bound to influence the effect that will be produced by those which are to come.

It is not, therefore, strictly correct to imply, as Freud does, that the old unfinished experience is given a chance to work itself out in the process that leads to cure. It is, in fact, only true that a new mental state is induced which is *accepted by the patient as representing* an ideal "working-out" of the old and mischievous idea in which the morbid state originated, or a sort of acknowledgment that the new state brings a sense of reconciliation, through the substitution of a new association of a better sort for an older association of an unfavorable sort. Substitutions of a similar kind are found in the case of "religious conversions," or when the patient succeeds in raising himself to a higher plane of rational thought, where his mind is fully occupied with strong associations of a new order that are incompatible with the morbid group of associations and rob them of their former importance. The morbid associations are then, as I have expressed it above, "side-tracked," or left behind, and even if the patient still retains, as nervo-muscular habits, signs which may once have had a special emotional connotation, this symbolic meaning may now be entirely lacking. The touch, the gesture, which formerly had a sexual meaning may cease to have it after a time and may come to be retained (by the substitution of a new process of association) in an entirely different context, or simply as a now meaningless habit. The fact that the carnivorous animal once curled his lip to show his teeth may account for the curling of the lip in anger or scorn, even suppressed and unconscious scorn, but it is yet to be proved that the "habit" of lip-curling may not outlive this meaning. This is a sort of substitution which constantly obtains among persons in health under analogous conditions. Another species of substitution, which is

somewhat analogous to the familiar daily method of getting rid of one's emotional states by conversation or through ebullitions of temporary wrath, etc., is that adopted by persons of poetical or imaginative gifts, who put their emotional states into the terms of prose or verse, clothing with them, as it were, an imaginary person, thus ridding themselves of them, or — what is better than getting rid of them — turning them into food for an enriched mental life. Thus Goethe, as is clearly shown through Hirsch's admirable essay, looked upon his poems, not as allegories or as productions worked out to explain some phase of life as observable in the community around him, but distinctly and exclusively as outbursts of his own emotions, each one of them only a part, as he said, of " one great confession." Yet this sort of " confession " is quite different from that thought necessary by Freud. It is a confession of principles, not of details.

It is important that the similarity in principle between these different modes of substitution should be recognized, and likewise the fact that, even where the Freud method is exactly followed, the process is also one of the substitution of a new series of associations the adoption of which the physician expects to be therapeutically favorable and which the weight of his personal conviction leads the patient to look upon as desirable and sound. The practical question would, of course, remain, whether Freud's so-called " cathartic " method is the only one suitable for certain cases. Possibly this may be true, but just as that method is more universally applicable and, on the whole, more rational than the method which makes necessary the employment of hypnotism, so, too, it may be said that some of the other methods, which seek to relieve the patient by filling his thoughts and life with more favorable ideas and acts, such as leave the morbid associations " side-tracked," or those which secure his relief through encouraging him to discuss *the principles* involved in these same morbid associations, but not the repugnant details, and in this way to get rid of them, are preferable to the Freud method, provided they

are practically efficient. The value of direct "suggestion" is also not to be overlooked.

One point emphasized by Freud is of great importance for the establishment of his theory and method of treatment, and likewise points to a relationship between his method and those of various other observers. This point is that the amnesia which is so often developed by hypnosis, and which seems so absolute at first glance, is, in fact, only relative. He says that Bernheim had observed this same fact and had illustrated to him the possibility of breaking down the apparent forgetfulness and forcing the patient, in his ordinary waking state, to recall what had happened to him during the hypnotic trance. On the same principle, it sometimes proves that confidential conversation in the waking state may accomplish almost all that can be accomplished through the hypnoid state, provided the inquiries be pushed home. And the advantage of this method is that the physician can then judge just how far it is wise for him to probe the secrets of the forgotten past, just how far the remainder of the patient's mental powers and functions can be enlisted profitably on the side of benefit, and for the establishment of new and more favorable associations.

Finally, to judge by my own experience, the strict application of the "psycho-analytic" method in all its thoroughness is very difficult, and implies a degree of skill which few physicians can attain, if not the possession of personal characteristics of an unusual sort. It is an unfortunate feature of the Freud analytic method, as he himself points out, that it makes necessary, as a rule, the establishment of a relation of dependence of the patient upon the physician which it may, in the end, be difficult to get rid of. Janet long ago called attention to the same necessity in relation to analogous methods adopted by him, and indeed every one who has dealt much with the treatment of neurotic patients must have noticed the same tendency. This is an evil which must be accepted if it cannot be avoided, but when the physician is fully imbued with the belief in the sexual

origin of the patient's illness he must, by virtue of the closeness of this relationship, be in a position to impress his view, unconsciously, upon his patients, and might easily draw from them an acquiescence and indorsement which would not in reality be as spontaneous as it seemed.

While, then, I do not hesitate to assert that Freud's method constitutes a distinct enrichment of our means of treatment, I do doubt whether the facts which he thus digs out from the patient's subconscious memory always have the significance for the present state that he is inclined to assume, or whether his method, followed in its rigid strictness, is altogether preferable to other methods at our disposal. In fact, I think it must be sometimes objectionable as forcing upon the patient's present attention a number of (often revolting) memories which, after all, may not have at all the importance that the eager neurologist is inclined to attach to them. They may, indeed, acquire this importance and significance when once presented to the patient's mind in that light, but that is a very different matter.

Freud's sexual theory needs more study than is possible in this paper, and I prefer to reserve judgment concerning it.

It may be pointed out, however, that since with everybody, perhaps, the sexual instinct is a little too strongly developed or else not quite strongly enough, the best balanced person is, theoretically, a candidate for some neurosis.

THE PSYCHOLOGY OF SUDDEN RELIGIOUS CONVERSION.*

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THE subject of religious conversion is psychologically so complex that it is out of the question to attempt to deal with it as a whole within the limits of a fifteen-minute paper, and so I have selected one phase of the subject; namely, the phenomenon of sudden conversion. Indeed, as will appear, I am really only concerned with a particular type of sudden conversion, for I doubt not that the psychological mechanism, by which the point of view of the individual is instantaneously shifted and a new system of ideas, with a glowingly intense focus, becomes dominant, is not always the same. Let it be understood, then, that I am dealing only with a particular type of sudden conversion.

For those who have occupied themselves with experimental researches in subconscious processes of thought, William James, in his study entitled "Varieties of Religious Experiences," — a study in human nature which is as important as it is path-breaking, — has given a very plausible and seductive explanation of sudden conversion. After stating in descriptive terms the psychological meaning of conversion, James points out that while normal psychology is able to describe the alterations which have taken place in the point of view, the shifting of the focus of excitement, etc., it is incapable of giving the *how* or the *why;* that is, the mechanism which has brought all this about. He then goes on, following Starbuck, to classify cases of conversion into the *volitional type*, and the *type by surrender*. It is to the latter class that the sudden cases belong. Now James's theory is that these individuals possess very large fields of

* Read at the annual meeting of the American Psychological Association, December 27, 1905.

ultramarginal or subconscious thought (p. 237), and that in this field there has been going on for some time an incubation of motives deposited by the experiences of life (pp. 210, 230, and 236); finally, when these motives come to maturity, they burst forth like a flower into the conscious life of the individual.

That the subconscious plays a part in certain types of sudden conversion, I think there can be no doubt, and it is possible that, in certain cases, James's theory of an incubative mechanism may be substantially correct. These cases would be analogous to those in which problems of one kind or another have been experimentally or spontaneously solved subconsciously. Nevertheless, three difficulties may be raised to the acceptance of the theory as a general proposition:

1. If sudden conversion is to be accepted as a normal phenomenon, it has not yet been demonstrated that in *normal* life there is any active subconscious field sufficiently large to develop the ideas which have been noted. Still, as the experiences in question may well be, and as I believe are, abnormal, this is not a fatal objection.

2. The theory lacks experimental demonstration in any particular case. No case has yet been produced in which subconscious ideas of the kind in question have been shown either to have been, or to be, actually present in a state of incubation.

3. James, himself, remarks that "candor obliges him [me] to confess that there are occasional bursts into consciousness of results of which it is not easy to demonstrate any prolonged subconscious incubation," and cites as examples, among others, the case of Ratisbonne and "possibly that of Saint Paul" (p. 236). These, in his opinion, apparently constitute a class by themselves.

As I have had an opportunity to examine experimentally the content of the subconscious field in an instance of sudden ecstasy with change of view and belief, the whole, though not of a religious nature, being in every other way identical with religious conversion of the type last mentioned, I

have thought it worth while reporting the observation here. It is particularly interesting because the case resembles the Ratisbonne case in a remarkable way, both in the conditions under which the ecstatic state developed, and in the subsequent mental state of the subject. I wish time permitted me to cite in full the account given by James of the Ratisbonne case, in order that the two cases might be compared. For the present, suffice it to say that for several days Ratisbonne had been unable to banish from his mind the words of a prayer given him by a proselytizing friend, and that the night before the crisis he had had a sort of religious nightmare. Then, after entering a church, some kind of a psychical accident happened; all the surroundings vanished and the crisis came. It would seem clear from Ratisbonne's own account that he must have gone into a trance in the church at the moment when "the dog [which was with him] had disappeared, the whole church had vanished," and he "no longer saw anything" about him, but had a religious vision accompanied by ecstatic emotions. Or, at any rate, he went into a state which was abnormal, and presumably identical (although followed by partial memory, *i. e.*, the vision of the Virgin) with that state into which my own case fell. In the case I am about to report there was similarly suddenly developed a state of exaltation or ecstasy with the formation of a "new center of personal energy" or focus of excitement in a new system of ideas.

The case was that of Miss B.[1] The heralding of the sudden change in her personality was contained in a letter to me which ran:

"I want you to be the very first to hear my glad tidings of peace and joy. They have come to me at last, after all these years of unrest and suffering, come despite my impa-

[1] Since this paper was written a full account of the case in all its other relations, including the substance of this paper, has been published (*The Dissociation of a Personality;* Longmans, Green & Co., 1906). More lately some important additional data regarding the content of the subconscious field have been obtained and incorporated in the present account.

tience and unbelief, despite my little faith, my much sinning," and so on.

On examination I found her to be in a high state of mental exhilaration, because, as she averred, she was cured at last. All her symptoms had vanished, and she experienced a feeling of well-being and physical health. She believed herself well, and plainly interpreted every event through her dominant idea of physical, if not spiritual, " conversion " to health. She thought she was more like her old self, as she had been before her trouble came upon her, and she was supremely happy. She was also highly excited over the scheme of joining the Catholic Church, and going into a convent. The recovery of her health would allow her to follow a religious life in accordance with her ideals. Her condition was one of ecstacy. Although she had not slept more than an hour a night for several nights, nevertheless she was not a bit tired, although under ordinary circumstances she would have been a physical wreck.

Psychologically, this new mental condition plainly afforded an opportunity to observe an example of that state of exaltation into which notoriously so many religious enthusiasts have fallen when the feeling of a new spiritual life was awakened in them. Inquiry into the origin of Miss B.'s belief proved an interesting study. She was examined in three hypnotic states, each differing markedly from the other. These were known as B Ia, B II and B III; B II having broader, and B III the broadest, memories in comparison with B Ia. From B Ia the following was learned:

For several days Miss B. had been anxiously dwelling upon the distressing troubles which her infirmity had brought upon her, and upon the uncertainties of the future. In a condition of hopeless despair she had betaken herself to church, thinking that through self-communing and prayer she might find some way out of her difficulties.

The church was empty, and, as she communed with herself, her feeling of self-despair and hopelessness deepened.

Then, of a sudden, all was changed, without her knowing how or why. She became filled with a great emotion of joyousness and of well-being; a "great load seemed to be lifted from her," she felt "as light as air." A great feeling of peace, of restfulness, and happiness came over her. She felt well and believed herself well. With these emotions came religious memories, memories of her own experiences and of religious visions which she had had a long time ago. She remembered, for instance, visions of the Madonna and of Christ, and scenes of a religious character. Her cure seemed miraculous, and she felt and believed that she had had a *visitation*. Under the influence of these exalted religious feelings the idea naturally came to her of entering a convent. The life appealed to her and she thought that the freedom from care and anxiety which it offered would solve the problem of her own life, and that she would remain well. This was all the light that B Ia could throw upon the change in Miss B.'s condition. She was able to state the facts, but was unable to explain by what psychological process the transformation had been suddenly made from the state of hopeless depression to that of religious exaltation and happiness. A fuller explanation was obtained from B II.

There was a gap in B Ia's knowledge, i. e., between the ending of the depressed state and the inrushing of the exalted state. This gap B II was able to fill. (This hypnotic personality clearly recognized Miss B.'s condition as purely one of ecstasy, indeed so clearly that she analyzed her mental condition for me. The point is worth noting that Miss B. hypnotized into B II became a perfectly rational person who recognized the previous quasi-delirium of herself.) B II's account of the origin of Miss B.'s ecstasy was as follows: While Miss B. was communing with herself, her eyes became fixed upon one of the shining brass lamps in the church. She went into a hypnotic or trance-like state, of which neither Miss B. nor B Ia has any memory. In this trance state her consciousness was made up of a great many *disconnected* memories, each memory being

accompanied by emotion. There were memories of religious experiences connected with her own life, and other memories of a religious character; and these memories were accompanied by the emotions which they had originally evoked. There were also memories of her early life, memories of happy times when she had been well; these memories also were associated with the emotions which she had at the time experienced. For instance, to take a few specific illustrations and tabulate them with the accompanying emotion:

MEMORY	EMOTION
of a scene at ———, a view of the sea with the light of the setting sun playing upon the water.	of well-being: peacefulness and happiness.
of walking with a friend near the same place; conversing.	of peacefulness and rest.
of driving in the country with a friend.	of peacefulness and rest.
[The above were all real incidents of her girlhood.]	
of different visions of Christ and the saints. [All or most of these she had had at different times in the past.]	of exaltation, of lightness of body, of mental relief, peacefulness, and joyousness.
of a vision of herself shut up in a dungeon.	of restfulness, happiness, lightness of body.
of music which she had heard in a church.	[Not the usual emotional thrills of music, but] of lightness of body and great joy.

There was no logical connection between these memories; all were jumbled and without order, but the accompanying emotions were very strong.

After a short time Miss B. awoke, and, on waking, all the

memories which made up the consciousness of the trance state were forgotten. At first her *mind was a blank so far as logical ideas were concerned.* She thought of nothing definite, though isolated ideas rapidly flitted through her mind, and yet she was filled with emotions. These were the same emotions which belonged to the different memories and visions of the trance state.

These emotions persisted.[1] They were of lightness of body, of physical restfulness, and well-being, besides those of exaltation, joyousness, and peace, largely of a religious nature. Presently logically connected ideas began to come into her mind. The emotions were now accompanied by a lot of ideas and memories of religious experiences, those which B Ia had described. It is significant that these ideas were not those originally associated with the emotions in hypnosis, but newly suggested ideas; at least, they appear to have been suggested by the emotions. She felt well and believed herself cured at last. The idea of a convent life naturally followed this religious exaltation. As Miss B. did not know what occurred during the time gap when she was in the trance-like state, she thought that the sudden change in her mental condition and physical health was miraculous and due to a "visitation."

Recently, since the above was written, some additional details have been obtained from both B II and B III.[2] These details relate to the trance and the question whether subconscious ideas were present *after waking* from the trance. When the original observation was made, B II's memory was not tested for such ideas, though their presence was suspected from their having been so often present in analogous phenomena. Accordingly, to clear up this point, Miss B. has recently been examined again in hypnosis as B II in regard to any memories she may now have of ideas that may have been present at the time in question, but of

[1] I have often seen examples of this persistence of the emotion belonging to a dissociated state after the subject has changed to another state.

[2] For details regarding the characteristics of these "states" and the methods employed, I must refer the reader to the complete account of this case, *The Dissociation of a Personality.*

which she was not then conscious (*i. e.*, subconscious ideas). The following was elicited: B II recalls the scene following the crisis; the whole arises before her almost as vividly as a vision. She remembers innumerable pictures that passed as in a panorama subconsciously through her mind.[1] The pictures were fanciful and apparently without relation to one another, — pictures of nature (sunsets), and of persons, and religious pictures. For instance, a picture of " Christ walking by the olive trees," and " the Virgin with the child in her arms; the Virgin is just about to go away, and she turns back and looks at me. It was dear! " B II visualizes her memory in a marked way, describing vividly the situations, and using her hands to point out the different relations of the actors and the surroundings, as if the scene were still before her. She describes exactly how the Virgin stands; " the expression of her face is most beautiful; she has brown eyes, and there is more color in her face than is usually painted in pictures." (B II does not remember any painting resembling this visualized memory.) None of these subconscious pictures that she now recalls were identical with the memories (pictures) of the trance state, though similar in kind. (The patient volunteers the remark that at the time of the first examination she recalled these subconscious pictures.)

B II now describes the emotions which accompanied these various kinds of subconscious pictures. They were all " exalting, uplifting, and satisfying," and she, as Miss B., at the time, *consciously* felt them. (As B II recalled the religious subconscious pictures, she experienced over again the same emotions in a minor degree.) B II cannot say, however, that these emotions came from the subconscious pictures, as they were consciously " present there, anyway," as a residue of the trance state, and continued although the subconscious pictures changed from moment to moment.

The examination of the third state, B III, was made by means of automatic writing which was performed during the hypnotic state, B II. The memory of B III for the

[1] That is, she remembers now that they were present, although at the time she was not conscious of them.

trance in the church is, at the present time, at least, more complete than that even of B II. The same I have found to be generally the case, particularly in connection with subconscious, trance, delirious, dream, and allied phenomena. It is, therefore, likely that B III describes a momentary condition of which B II has never had a memory, as she has not to-day. The mental content of this trance moment was not important, being made up of a dreamlike conscious state, accompanied by emotions of joyousness. B II cannot recall this dream to-day, although she can revive, as has just been said, all the other memories with great vividness. Whether or not any of the ideas (memories, visions, etc.) of the trance state persisted subconsciously *as such*, after coming out of the crisis, is not clear. The evidence of the automatic writing was to the effect that this was in a fragmentary way the case, but the specific instances given could not be identified for various reasons. Nevertheless the memory of B III corroborates that of B II to the effect that numerous subconscious ideas were present after the crisis, as already described.

One point of interest and of practical importance in this observation is the difference in the completeness of the memories of the several hypnotic states, B Ia, B II, and B III. This conforms with what is known of memory synthesis in hypnosis, and emphasizes the fallacies which may follow from relying upon any given group of memories, whether of the waking or other states.

In this case, then, there was no incubation or flowering of subconscious ideas deposited by the experiences of life through a long period of time; there were simply emotions of the moment which had developed in a trance state, which persisted after coming out of the crisis as a state of exaltation, and which, of themselves, through their naturally associated ideas, suggested the beliefs which took possession of her mind. These emotions were reinforced by those belonging to a series of subconscious ideas which were a sort of subconscious continuation of the trance dreams. Besides the evidence of B II and B III, other experimental evidence

obtained in this case, in connection with other phenomena, went to show that after waking, in all probability, there were *subconsciously* present a certain number of discrete ideas similar to those which, in the trance state, originally had given birth to the emotions; and that, on waking from the crisis, these subconscious ideas still continued to keep the emotions alive. On numerous occasions I have been able to demonstrate the presence, in the waking consciousness, of emotions due to the contemporaneous presence of subconscious ideas. Time will not permit me to review this evidence here.

The evidence then, as a whole, goes to show that the part played by the subconscious mind consisted in furnishing emotions rather than ideas. It may again be repeated that the subconscious fanciful ideas, with which the emotion of ecstasy in the above observation was associated, formed no part of that system of ideas which constituted her waking belief.

The striking similarity between the conversion of Miss B. and that of Ratisbonne may be pointed out:

Ratisbonne, from his own account, clearly must have gone into a trance in the church, and, on coming out of this state of mental dissociation, he was filled with ecstatic emotions, as was Miss B. As he was not interrogated in hypnosis, it is not possible to determine the content of his mind in the trance state, and we can only infer that the psychological mechanism in his state was substantially the same as that of Miss B., and that they both belong to the same class. How large a class of cases of sudden conversion this type represents, it is impossible to say from the data which are at present before us, but I suspect it is larger than one would imagine from the published accounts. James thus sums up the mental condition of the subject in the supreme moment when the ecstasy develops:

"It is natural that those who personally have traversed such an experience should carry away a feeling of its being a miracle rather than a natural process. Voices are often heard, lights seen, or visions witnessed; automatic motor

phenomena occur; and it always seems, after the surrender of the personal will, as if an extraneous higher power had flooded in and taken possession. Moreover, the sense of renovation, safety, cleanness, rightness, can be so marvelous and jubilant as well to warrant one's belief in a radically new substantial nature." [1]

All this shows mental disintegration, and that the subjects at such moments are not in a stable condition of mind, but are often in a trancelike or hypnoid condition, or whatever name you may choose to call it by. The development of disintegration is facilitated and often started by the mental strain ordinarily induced by the doubts, fears, anxieties, and other emotions which go with the intense introspection which religious scruples call forth. Torn and distracted by doubt, the personality is easily disintegrated, and then the ecstatic emotions associated with religious hopes and longings take root. At this crucial moment the subject, perhaps half oblivious of his surroundings, sees visions which are apt to be the expression of his doubts, and hears a voice which speaks his own thoughts. On coming out of this hysteroid, or hypnoid, state, the exalting emotions persist, along with an incomplete or possibly complete memory of all that has taken place. These emotions then give an entirely new shape and trend to the individual ideas, just as the distressing emotions following hysterical accidents determine the form of the mental content. From this point of view, a study of the conversion of Saint Paul shows us, so far as we are able to determine it from the biblical accounts, the same psychological phenomenon. Saint Paul, while in the midst of his persecution of the heretic Jews and while empowered as a special commissioner to take as prisoners to Jerusalem any that he found, was journeying to Damascus for the purpose of continuing the persecution. As he came near to Damascus, suddenly he saw a bright light round about him. Then he fell down and heard the voice of Jesus saying, "Saul, Saul, why persecutest thou me?" etc. Besides hearing the voice,

[1] Page 238.

Paul, himself, preached that he had "*seen* Jesus Christ." It is noteworthy, as characteristic of the dissociated state which such morbid phenomena imply, that Paul was blind for three days following the event, undoubtedly an hysterical blindness. In the absence of precise information it is useless to attempt a psychological analysis of the condition of Paul's consciousness preceding these hallucinations, but, nevertheless, it may be pointed out that psychical factors amply sufficient to produce disintegration were present. "He became not only a persecutor, but a leader among persecutors. (Gal. 1:14.) What he felt was a very frenzy of hate; he 'breathed threatening and slaughter,' like the snorting of a war horse before a battle, against the renegade Jews who believed in a false Messiah. (Acts 9:1; 26:2.) . . . He, himself, speaks of having 'made havoc' of the community at Jerusalem, spoiling it like a captured city (Gal. 1:13, 23); in the more detailed account given in the Acts it is said that he went from house to house to search out and drag forth to punishment the adherents of the new heresy (8:3)."[1] Such a person must have been in a condition of intense religious passion and exaltation, pursuing his persecutions in "vindication of the honor of God."

The second point that I wish to make is that there is no difference, fundamentally, excepting in the content of consciousness, between a state of ecstasy with its corresponding system of ideas and beliefs, and an obsession of fear or anxiety with its system of ideas and beliefs. Both often may be traced to emotional influences as a primary disintegrating cause, and to a secondary hysterical crisis followed by a final obsession, the origin of which is unknown to the subject. It would seem as if it were of little consequence whether the emotion is an exalting one, like ecstasy, or a depressing one, like fear. Both give color to a systematized delusion, which may be characterized in accordance with the common usage of language as a "belief," but which may be equally well described as a systematized delusion

[1] Rev. Edwin Hatch : St. Paul, *Encyclopedia Britannica.*

in relation to the inadequacy of the data to which the belief relates.

A third point which I should have liked to make, if time had permitted, is that in other cases of sudden conversion, perhaps the most numerous class, the new system of ideas is not an " uprush " from a co-active subconsciousness (that is, a coconsciousness), but is rather an automatic crystallization of past experiences out of what may be termed the *potential* or *latent* consciousness. These memories of past experiences, until this moment not in systematized activity, now become, as a sort of emotional automatism, an independent focus of energy and the persistent dominant consciousness. I think there is considerable experimental evidence in favor of such a hypothesis, but its consideration does not lie within the scope of this paper.

THE JOURNAL OF ABNORMAL PSYCHOLOGY.

JUNE, 1906.

ON NEURASTHENIA AS A DISINTEGRATION OF PERSONALITY.

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To those who have studied neurasthenia in its multiform variations, and have attempted to penetrate beneath the surface of its purely phenomenal manifestations, the inadequacy of present conceptions regarding it must have become apparent. And this inadequacy must have been rendered doubly impressive when the attempt has been made in actual practice to identify the living, breathing patient before us with the abstract, inanimate descriptions of him current in the textbooks. Having listened to the story of his thousand ills, and having catalogued him in the conventional fashion, we cannot but have experienced the feeling, vague it may be, but none the less real, that somehow we had not gotten to the root of the matter, that there was an intangible something which had eluded us, and which may have been, we suspect, the very essence of the thing we were seeking to fathom. Such a feeling, when one reflects upon it, must be not uncommon, and has led to the present attempt to take a wider survey of the subject and to bring to its discussion certain of the facts and principles which the more recent psychology has furnished. It is, perhaps, a sufficient commentary upon the futility of the purely anatomical conception of neurasthenia to note that its only contribution to the pathology of the disease consists in the rather apologetic reproduction of some illustrations of nerve cells in a state of fatigue, —

studies inaugurated some years ago by Hodge. Regarding the phenomena, as phenomena, I shall have little concern, but shall endeavor to go behind them, and to study them from the point of view of their interpretation. I wish to discuss the functional theory of neurasthenia,[1] having for my purpose to show that it is in reality one in kind, though, of course, different in degree, with hysteria, multiple personality, and other types of dissociated consciousness; that it is, in a word, a condition of disintegrated personality.

The mere enunciation of such a theory may possibly appear to many to be unduly novel and to savor strongly of metaphysics, hence, to surrender that intimate dependence upon empirical fact so dear to the modern medical mind. But upon further consideration it will be obvious that this conception not only does not forsake experience, but that rather it has to offer an interpretation of the facts of experience which would seem to be more philosophic and more practically useful than any which has hitherto been suggested.

Since in the discussion which follows we are about to approximate more closely certain clinical types of disease, hitherto more or less distinct, since, furthermore, in maintaining that they are in truth but varied and particular expressions of the working of one fundamental psychophysiological principle, we are leaving the beaten path, it may be well if first we disabuse our minds of some traditional notions. As every one knows, the words we employ to denote abnormal conditions of mind or body have been transmitted to us in large part as an heritage, and to these words custom has attached a more or less definite, distinct meaning. It is not, therefore, surprising that unless we

[1] For an able presentation of the functional conception of nervous phenomena see, "The Value of the Physiological Principle in the Study of Neurology," James J. Putnam, M.D., *Boston Medical and Surgical Journal*, December 15, 1904; also, "The Problem of Psychiatry in the Functional Psychoses," Edward Cowles, M.D., *American Journal of Insanity*, Vol. LXII, October, 1905.

The recent work of J. Grasset, *Les Centres Nerveux*, Paris, 1905, treats the whole subject of neurology from the functional point of view.

are forewarned we are prone to take it for granted that different names signify in reality different things, the more so if authority in matters medical lends its weight to such belief. Thus does our thinking become permeated with a fallacy which makes it difficult to alter our opinions, and to perceive that despite a difference in nomenclature there may be an essential identity in the actual things in themselves. This has been shown to be true by Myers, Janet, Prince, Sidis, Breuer and Freud, and others, as regards hysteria and multiple personality; there is reason to believe it can be shown to be true as regards neurasthenia also.

It may be said, I think, without fear of dissent, that there is no word used in medicine which has been so loosely and withal so vaguely applied as this very word, " neurasthenia," — a fact in itself suggestive of a certain mental haziness regarding it. But the point to which attention should be particularly directed is this, namely: that, influenced by the mechanical symbolism of the day, and actuated by the belief that for every pathological manifestation there must be an underlying, definite " disease-process," many of us have come to look upon neurasthenia as a distinct, more or less stereotyped morbid entity, having an uniform symptomatic expression. Such a view is, I am sure, altogether erroneous; for neurasthenia, in any adequate conception of it, is not, and indeed, in the very nature of things, cannot be, a stereotyped affair like this, — a sort of pathological picture, each copy of which is identical with every other. It is a name used to describe a condition in which constantly varying factors produce a constantly varied result; or, to put it another way, a condition of psychological and physiological instability whose outward and visible sign is the neurasthenic symptom-complex. And just as every man has his own individual personality, so it may be said that every man has his own neurasthenia, which is nothing more or less than this same personality under altered conditions.

The problem of neurasthenia being, then, the problem of personality in a state of disintegration, it becomes nec-

essary to describe what is to be understood as constituting personality, and having done this, to show how its disintegration will have objective expression in the group of symptoms called "neurasthenia." It may be said at once, by way of reassurance, that by personality I do not mean a mere verbal abstraction existing in some metaphysical brain, but I do mean that living, unitary, self-conscious, mind-body mechanism which brings us in relation with the outer world of men and things and which we call "myself." Now personality in this empirical descriptive sense is a very complex product in whose elaboration many factors play their parts. Let us study these factors briefly, and to make the matter clear, let us take a concrete example. We will assume a man in the vigor of health who is living content and happy in a perfect community, — some modern Utopia. What constitutes his health and what makes him content and happy? Evidently there are two aspects to the problem: first, his own subjective feeling of comfort, stability, and power; and secondly, the agreeable, easy action and reaction taking place constantly between himself and his environment. As the psycho-physiological fundament of this feeling of comfort and power we find the great group of organic sensations, which are marked by the absence in the individual sensations of definite and local character. In Höffding's description of them the organic sensations "are lost in a general feeling of comfort or discomfort which, as it were, constitutes the result in the brain of the excitations received from different parts of the organism. We have here a feeling of our existence in general and of the general course of the vital processes. The property and quantity of the blood, the vigor of the circulation, the tension of the fibers (the tonicity), the abundant or scanty secretions of the glands, the relaxation or tension of the muscles (voluntary and involuntary), the quick or labored respiration, the normal or abnormal process of digestion, — these all help to determine it without any one of them having occasion to stand out alone. The general sensations constitute a chaos which receives its

stamp through the contrast between comfort and discomfort, and the special variations which are from the nature of the case determined by some one organ playing an especially prominent part without being always expressly known to consciousness as the source of the sensation." [1]

The fundamental mood produced by the pleasurable flow of the organic sensations is one of freedom, energy, comfort, — in a word a normal cenesthesis, such a feeling as once caused a reclaimed neurasthenic patient of mine to exclaim, " I feel as though I could annihilate a regiment! " On the other hand, any disturbance of these organic sensations will result in feelings of anxiety, fear, helplessness, and discomfort. Filled as we assume with the feeling of well-being, — a normal inner life, — our Utopian finds that when he approaches his environment, the outer life of relation, he is able to adapt himself to it with facility, both because of his subjective stability, and because this environment in the ideas, sensations, and emotions which it evokes is agreeable, making no demands which he is not able to supply, and furnishing him with conscious material whose feeling tone is pleasurable. His personality, therefore, composed of a unitary synthesis of diverse elements, is characterized by what I may term an adaptive stability, by reason of which it is able to consummate the myriad demands made upon it from hour to hour, and from day to day. Now each adaptation requires a rearrangement, possibly also an augmentation of conscious content, what Sidis has called a different " moment-consciousness "; and hence there results a constant ebb and flow, certain psychic elements dropping below the threshold of the personal consciousness, while others rise to enter into the new conscious state. In the language of recent psychology, what was supraliminal has become subliminal, subconscious, or, better, dissociated. Thus in the normal personality, by which is meant a personality psychologically and physiologically adapted and adaptable to its environment,

[1] *Outlines of Psychology*, Harold Höffding, New York, 1904. *Les Sensations Internes*, H. Beaunis, Paris, 1889.

there is a continuous process of integration and disintegration, of synthesis and katalysis, which is carried on without friction or any marked evidence of instability. A man in this condition is in the platonic state of *mens sana in corpore sano;* he is or should be an optimist, and we describe him as being possessed of perfect health.

Thus far we have considered personality in its genesis and have looked upon it as adaptable to its environment. If now we return again to our Utopian and observe the actual process of this adaptation we come upon a series of phenomena which are still consonant with health, but which under certain conditions pass over into disease. I refer to the phenomena of fatigue. The series of events produced by bodily and mental fatigue is an excellent illustration of the disintegration of personality, the weakening of psychological synthesis in a state of health. Fatigue is more than muscular and cerebral exhaustion due to the depressing influence of toxic products of activity. Such may very well be, and indeed, according to our best knowledge, really is, the physiological substratum; but this view of it as an interpretation is altogether incomplete unless we go further and include its psychological aspect, its affect upon consciousness. And here again, as in so many other instances, the impossibility of separating a living man into mind and body asserts itself. The separation, if made at all, should be understood as being merely methodological, since it has no objective justification. A physical change as being merely physical cannot produce any effect unless it acts upon a conscious being, and consequently physical changes are in their last analysis psychical; they necessarily affect personality in the sense we have already described. Ask our Utopian what are the conscious results of his daily activity and he will answer, "I feel tired and weary; I experience a sense of general discomfort; my head aches, my appetite is poor, my memory unreliable; my mind has lost its grasp upon reality and I find difficulty in concentrating attention for long upon what I am doing. Little things trouble me and I am irritable, while it seems to me I have

not the energy or volition to do things as well as when I am not fagged out." All this is true, and while the symptoms of fatigue will vary in different persons and in the same person at different times, the explanation is probably to be sought in diversities of anatomical structure, which will, of course, eventuate in varieties of physiological and psychological expression. As Sir William Gowers remarks, "Precise observation is, however, much baffled by variations in the sensory susceptibility of individuals. It is probable that these depend upon differences in the actual constitution of the nervous tissue, — more minute than we can well conceive and yet causing effects that are obtrusive. In different persons there may exist diversities of tissue which give rise to great differences in the products of action, rendering these much more harmful in one person than in another. The same diversity may render the sensory structures far more prone to disturbances and to more distressing disturbances. Thus an original variation which, if it could be discerned, would be minute beyond conception, may entail a profound difference in ultimate effect. Such considerations may help us to conceive the way in which the effects of fatigue are manifested, although they constitute little addition to our knowledge.[1]

Dr. Gowers here enunciates the anatomical variations underlying the phenomena of fatigue, and upon this hypothesis he explains the difference in results observed in consciousness or, as we would express it, upon personality. These results are those of disintegration and weakened synthesis. Fatigue, whatever its anatomical or chemical cause may be, is psychologically a feeling of exhaustion and discomfort; and this brings it under the rubric of the great class of organic sensations whose part in the formation of personality we have seen to be very great. Given this perturbation of organic sensibility, we can very well conceive how the intellectual, emotional, and volitional inefficiencies will follow, since the personality has become

[1] "Fatigue," W. R. Gowers, *Quarterly Review*, London, 1904, CC, p. 572.

unstable and so unable to make an easy adaptation to environment. So far as personality is concerned, stability stands in direct ratio to ability.

A great deal has been said in the previous pages about personality, its stability and its instability, and about weakened syntheses of consciousness. It is pertinent to inquire what is meant by these words. In the first place, we must distinguish sharply between facts and their interpretation. The former we know, the latter we speculate about, and the history of philosophy contains the record of these speculations. We do not know the intimate nature of the mechanism of stability of personality or of synthesis of consciousness, but reasoning from the facts we observe, we are compelled to postulate such a mechanism. Drawing an illustration from physical science we may compare a stable personality to a stable chemical compound, with this qualification, however, that personality is not merely passive, but also active, and that the combination of elementary psychic materials produces a unitary conscious state. Just as we believe a certain tension to exist between the atoms and molecules of a chemical compound, so we assume a certain neural tension as the physiological substrate, its psychological counterpart being stability of personality, or, in other words, a firm synthesis of conscious states. When such tension is maintained at a normal level we have a stable, healthy person; when for one cause or another this tension becomes lowered we observe its outward expression in a condition of disintegrated, unstable, weakened synthesis, which, in our view of it, is in its mildest expression, neurasthenia, and in its more intense grades, hysteria and dissociated or multiple personality.

Enough has been said, I think, about personality and its disintegration in the normal state of fatigue to enable us more clearly to comprehend what may be said about it in a condition of abnormal disintegration, namely, neurasthenia. The questions to be considered in the functional interpretation of neurasthenia are those of dissociation and automatism. Discoursing upon this subject, Dr.

Morton Prince expresses himself as follows: "Abnormal psychological phenomena, as phenomena, may be divided into two great groups, according as they are manifestations of (*a*) dissociations or weakened syntheses of conscious states, or (*b*) of automatism. These two classes (*a* and *b*) bear a reciprocal relation to one another, in that *pari passu* with the development of a weakening of the power of synthesis, or of a complete dissociation, the remaining restricted elements of the personal consciousness, or the dissociated elements, respectively, tend to take on automatic activity; as an example, take the obsessions of psychasthenia confined entirely to the personal consciousness, and the hysterical attack due to the automatic activity of dissociated (subconscious) memories of past experiences. And, *vice versa*, the development of automatism with its abnormal syntheses tends to induce dissociation, as when an artificially induced idea robs the personal consciousness of its sensory perceptions (anesthesia) or produces retrograde amnesia. Thus in any particular syndrome, such as the hysterical state, or the psychasthenic obsessions, we have combined the manifestations of dissociation or weakened synthesis with those of automatism." [1] In the particular syndrome of neurasthenia with which we are at present concerned these two processes, weakened synthesis and automatism, are found working side by side. With the lowering of psychological tension and consequent disintegration there is a tendency to the rearrangement of the unstable psychic elements after a different pattern; there is the formation of abnormal (in the sense of disagreeable) associations, the so-called "association neurosis" [2] which make life miserable for so many neurasthenics. These are the abnormal syntheses, the automatism, of which Dr. Prince speaks, and they may involve syntheses in the intellectual,

[1] "Some of the Present Problems of Abnormal Psychology," Morton Prince, M.D., *Psychological Review*, XII, p. 119.

[2] "Association Neuroses," Morton Prince, M.D., *Journal of Nervous and Mental Disease*, May, 1891. "Three Cases of Association Neuroses," John E. Donley, M.D., *Boston Medical and Surgical Journal* November 3, 1904.

emotional, volitional, sensory, or motor (musculo-motor, vaso-motor, or secreto-motor) spheres of personality, appearing either separately or in combination. The patient expresses it thus: " I feel all broken up," " I can't hold myself together," " I feel as though I would fall apart," — these feelings resulting from weakened syntheses of the personal consciousness. Again he says, " I can't get such or such an idea out of my mind," " I can't control my thoughts or feelings," " When I am alone a distressing feeling of terror comes upon me and I tremble like a leaf," — these being abnormal syntheses exhibiting automatic activity, and, because of deficient power of inhibition, incapable of being suppressed.

Neurasthenia is, then, to be looked upon as a disintegration of personality and as an effect consequent upon some causative factor, which causative factor or factors may act upon it from within or from without. In the former group of causes would be included the products of faulty metabolism, the toxins of bacteria, and such poisons as alcohol, lead, mercury, and copper; the disturbances of organic sensibility originating in disease of the various tissues and organs would be also classified here. In the second group, causes acting from without, we would include all those factors which produce their effect directly upon consciousness, and here we find the important class of emotions, such, for example, as terror and fright (traumatic neuroses), anxiety and fear. Whether acted upon from within or from without, or, as frequently happens, from both sides together, the effect is the same, first, a lowering of neural tension, and secondly, as a result of this, a condition of psychological instability and automatism; briefly, neurasthenia.

Pursuing our original purpose of studying personality objectively, let us return again to our Utopian. And to the end that we may not complicate description by the introduction of too many examples at one time, let us relate biographically, as being his, the experiences of a patient actually under observation at the present time.

After several years of ecclesiastical professional work, extraordinary in its variety and extent, he suffered a severe nervous breakdown and has been a victim of neurasthenia ever since. There are the usual periods of severe mental and physical exhaustion, intermingled with days of comparative, though not complete, comfort. Muscular fatigue, psychasthenic obsessions of homicidal import, morbid fears of possible insanity, vaso-motor flushing over the whole body, a " corkscrew " sensation arising in the pit of the abdomen and spreading to the head, a lack of mental concentration and grasp, together with a tendency to emotional depression and insomnia, — these are the main symptoms which, combined in various fashion from day to day, enact their several parts in this neurasthenic drama. He is continuously self-conscious and introspective; and as he very aptly expresses it, " I feel like the captain of a steamer who has to keep his eye on everything aboard ship." Like the poet who hears a voice in every brook, our patient scents disaster in every perverted sensation. As illustrating the working of an unstable personality in its endeavor to adapt itself to its environment, a social experience of his is instructive. Having accepted an invitation to dine with a friend, he set out with a great deal of trepidation and arrived at his destination feeling insecure about his ability to remain there. During the early part of the dinner he suffered from dizziness, flushings, and a general feeling of instability, while his obsessions and fears swooped down upon him with such intensity that it was with difficulty he remained at the table. Recalling to mind, however, what I had told him about neurasthenia being a disintegration of personality, in the sense we are discussing it in this paper, he decided to stick it out and to present a solid front to his obsessions, fears, and other sensations. The result was that gradually he regained a fair degree of control, so much so, indeed, that his witticisms evoked a great deal of laughter. He says that he felt like his old self again. This condition of personal stability obtained until some time later in the evening, when, in his

friend's study, the conversation turned upon certain saintly visions as being examples of subconscious mental activity. At this point the recollection of his own obsessions came to him, and immediately the same train of flushings, fears, and lack of control recurred as before; he was compelled to return home, followed, as he describes it, by " a thousand devils," who caused him a most uncomfortable night. Now, as I conceive it, there is but one explanation of this experience. It cannot be explained upon purely anatomical grounds, and must, therefore, receive a psychological interpretation as the oscillations of an unstable personality. The difficulty of adaptation to its environment caused the feelings of discomfort in the early part of the evening. With the gradual establishment of self-control, this adaptation became easier and more free; in other words, his personality had reached its highest point of stability, which it maintained until the discussion upon visions set off a train of automatic abnormal syntheses (association neuroses) whose activity resulted in the disintegration of personality which followed. With this psychological cleavage we must, of course, assume some perturbation or lowering of physical neural tension as its physiological counterpart. The same fluctuation of personal stability may be observed in certain cases of traumatic neurosis, where a neurasthenic or hysteric individual, who previous to a trial in court exhibits evident signs of disintegration, will undergo the strain of the witness stand with apparent self-control, only to go to pieces when she reaches home. No more convincing demonstration of the dependence of neurasthenic symptoms upon weakened syntheses of consciousness and automatism can be found than the case of Miss Beauchamp recorded in the recent volume of Dr. Morton Prince.[1] Miss Beauchamp was a young woman in whom several personalities became developed as the result of various causes. Each of these personalities was possessed of a different character and each exhibited a different state of health. " Not the least

[1] *The Dissociation of a Personality*, Morton Prince, M.D., Longmans, 1906.

interesting of the curious nervous phenomena manifested, are the different degrees of health enjoyed by the different personalities. One would imagine that if ill health were always based on physical alterations, each personality must have the same ailments; but such is not the case. The person known as B I has the poorest health. B IV is more robust, and is capable of mental and physical exertion without ill effects, which would be beyond the powers of B I; while B III is a stranger to an ache or pain — she does not know what illness means."[1] Here we observe these various personalities using the same body, and yet each of them presenting a different condition of health, the change from one state to another taking place sometimes in the twinkling of an eye. " Not the least remarkable of the phenomena following the transformation of B I or B IV into the real Miss Beauchamp (a synthesis of all the personalities) is the sudden disappearance of the neurasthenic state. It will be readily understood that when disintegration occurs, neurasthenic symptoms — fatigue, insomnia, and general instability — return. A suggestion of health is given to B *II*, and, with a snap of the finger, so to speak, she wakes and becomes Miss Beauchamp, buoyant with health. Such experimental phenomena have great significance in connection with the problem of neurasthenia. Neurasthenic symptoms are an expression of disintegration."

From the vantage ground of our present position, we are able more clearly to estimate the value of the different means employed in the treatment of neurasthenia. In a general way we may include them all under the groups of the physical and the psychic. If our theory of the condition be true, the exclusive use of either of these is inadequate, and as in other things, the *via media* is the proper one. It is by the combination of both these methods and their judicious adaptation to the requirements of the individual case that the best results are to be obtained. Many of the failures in the treatment of neurasthenia are due to the exclusive use of physical or of psychic methods;

[1] Prince: *loc. cit.*, p. 17.

or, if used in combination, to their improper employment in a given case. Obviously it is useless, so far as results are concerned, to prescribe glycerophosphates for a neurasthenic, if we allow him to leave our consulting room with the same ideas, emotions, and feelings with which he entered. By physical methods, we can give him a normal cenesthesis, the physiological basis of personality, but this is not enough. By psychic methods we should teach him properly to evaluate and to assimilate his conscious material, and by so doing to maintain a condition of adaptive stability in relation to his environment.

THE FEELING OF UNREALITY.

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UNDER this head may be included all those symptoms arising from the loss of the feeling of reality, whether it be in the field of consciousness relating to the outside world or to one's own physical or mental personality. Wernicke [1] has spoken of these different fields as the allopsychic, the somatopsychic, and the autopsychic. As we shall see later, this loss of feeling of reality may be limited to one field or may extend to all three fields.

Despite the frequency of this symptom in various psychoses, very little attention has been given to it until the last few years. Its recognition is not new, however, for over thirty years ago Krieshaber [2] described cases presenting this symptom, and nearly fifteen years ago Cotard [3] described this same symptom. The authors of various textbooks on psychiatry with the exception of Wernicke have given little or no space to this symptom, or when they have considered it at all have classed it with the so-called hypochondriacal delusions.

Quite recently a considerable amount of interest has arisen concerning this symptom, and Pick, Foerster, Alter, Juliusberger, Storch, Janet, and Deny and Camus have written papers describing carefully studied cases and offering explanations of the symptom. All these cases show this feeling of unreality in one or more of the three fields mentioned. In all these cases objective examinations of the various sensations showed little. Janet,[4] who made very

[1] Wernicke: *Grundriss der Psychiatrie*, pp. 132, 133.

[2] Krieshaber: *La Névropathie Cérébro-cardiaque*, 1873.

[3] Cotard: "Du délire des négations," and "Perte de la vision mentale dans la mélancolie anxieuse," *Études sur les Maladies Cérébrales et Mentales*, Paris, 1891.

[4] Janet: "The Psycholeptic Crises," *Boston Medical and Surgical Journal*, January 26, 1905.

careful and extensive examinations in his cases, found no disorder of cutaneous, muscle, or visceral sensibility. He did find, however, a tendency on the part of the patient to neglect agreeable or painful impressions. Alter,[1] in one of his cases, found some inconstant anesthesias and analgesias. On the whole, I think it is fair to say that so far no real demonstrable disorders of organic sensations have been demonstrated.

Concerning the explanation of this symptom all agree that at the present time too little is known about it to come to any definite conclusion. However, some hypothetical explanations have been advanced. " Storch claims that the feeling of reality of external objects and the projection into space depend upon the association of muscle sensations with sense perceptions." [2] The majority of observers agree with him in this and explain these symptoms upon that basis, Foerster,[3] for example, thinking that the change is primarily in an insufficient valuation of organic sensations and secondarily in a disorder of the consciousness of the external world. Pick [4] considered it an alteration in the feeling of recognition. Janet [5] differs in his hypothesis from the others. He calls it a " psycholeptic crisis " and points out that the onset of this symptom is frequently sudden. He also mentions, in connection with these patients during the crises, what he calls the " feeling of incompletion " in regard to action, perception, and emotion: " The mind does not carry out its processes to their normal completion." In his tentative explanation of these symptoms he suggests that mental activity may be divided into two classes of operations; the first or simple one where

[1] Alter, quoted by Hoch: " A Review of Some Recent Papers upon the Loss of the Feeling of Reality and Kindred Symptoms," *Psychological Bulletin*, II, No. 7, p. 236, 1905.

[2] Hoch: *Loc. cit.*, p. 236.

[3] Foerster: " Ein Fall von Elementarer Allgemeiner Somatopsychose (Afunktion der Somatopsyche)," *Monatsschrift für Psychiatrie und Neurologie*, XIV, p. 205.

[4] Pick: " Zur Pathologie des Bekanntheitsgefühls (Bekanntheitsqualität)," *Neurologisches Centralblatt*, 1903, XXII, p. 2.

[5] Janet: *Loc. cit.*

" the operations bear upon abstract ideas, general ideas, imaginary conceptions and representations, and even upon the reproduction of past events "; the second and more difficult where the operations " bear upon events which are present and real and produce a knowledge of complex events which are actually taking place in the universe at the moment; also where they produce reactions in us which are likewise perfectly real acts, that is to say, acts capable of determining modifications in the world as it exists." The first class of mental operations is easy for two reasons: " Primarily because they are a repetition of syntheses previously achieved, and secondarily because they deal with abstract elements few in number and enormously simplified." " The second class of operations, on the contrary, is difficult not only because they demand new syntheses but particularly because they act upon rich and infinitely complex elements." Assuming this he divides psychological operations into two groups, a higher, which calls for greater tension of the nervous system and includes the functions of the real, and the lower, which calls for less tension and embraces the abstract indifferent functions bearing upon the past and the imaginary rather than upon the present and the real. When this symptom is present it is to be explained by a loss of the function of this higher group, which in turn, he says, may be ascribed to a lowering of cerebral activity.

Quite recently Hoch [1] has written an exhaustive and valuable review of the recent literature on this subject, one which entailed a large amount of critical reading. From it I have drawn freely in writing this introduction.

While the above review is incomplete, it seems adequate for the purpose of this paper since it is not so much my desire to criticise or refute what other observers have said as to offer for consideration some ideas which seem to follow the study of a case presenting this feeling of unreality. It may be said that this is only one of many similar cases which have been observed at this hospital. They have

[1] Hoch: *Loc. cit.*

shown this symptom in varying degrees of intensity, from its very mildest forms where "things do not look just right" to the most marked forms, where there is a complete "*délire de négation.*"

Besides possibly some slight diminution of pain sensation and some fleeting inability to estimate distance by sight, nothing has been observed which would point definitely to any disturbance of organic sensations.

This symptom has occurred chiefly in involution psychoses, sometimes in manic-depressive depressions, and occasionally in dementia precox.

The following is an abstract of the case referred to above:

A young woman, thirty-four years old, with no heredity, comes from a well-to-do family, has had good educational advantages, is a musician and an artist. At twelve years of age she had more or less continual pain in the back, with frequent acute attacks of severe pain which at a later period were found to be due to renal calculus. Mentally she was bright, active, perfectly normal, until twenty years of age, at which time she began to feel discouraged at being kept back in her ambitions by her physical condition. She had visited many physicians who had made as many different diagnoses of her trouble. It was finally said to be hysteria. She rather suddenly became markedly depressed, sat about unoccupied, almost without moving, face without expression, "wooden." When spoken to she would sometimes obey requests, but showed no sign in her face of having heard them. She was sent to an insane hospital. There she gradually began to move about a little more and suddenly, three months after the onset, she awoke one morning decidedly happy, began to do many things, and was very energetic, but her exhilaration did not extend much beyond what might be called normal bounds. The pain in her back continued as before, but she was well mentally until three years later when, twenty-three years of age, 1894, a second depression came on suddenly, presenting the same characteristics as the first. Unlike the first, however, it wore off very gradually and as she became a little freer in her movements and talk she expressed many depressive ideas. At the end of a year all mental symptoms had gradually disappeared, but she was not as happy as after the first attack. She resumed her normal

activity, managing household and financial affairs. In December, 1903, although relieved from the old pain by an operation performed the previous year, she felt tired physically. She could not be made to rest as she said it was only natural fatigue. Two weeks later she felt so weak and exhausted that she was persuaded to go to bed. Within an hour she suddenly got depressed, said it was as if something had suddenly struck her in the head and gone all over her, had destroyed her life, killed her mentally; she was nothing but a body without a soul. Almost at once she began to say that she could not see people as formerly. When she looked at her mother, although she did not look right, she could not say what the change was, and concluded that the trouble was with herself. For about two months she sat about motionless, with immobile face. Then for three months she cried and moaned a good deal. After this she went to the country where her slowness of movement gradually wore off and she employed herself planting, hoeing, and weeding in a garden. She talked very little except to say that she was dead mentally and could never get well. She came to the McLean Hospital in March, 1905.

She was depressed and complained of some inadequacy, but foremost of all was a feeling of unreality. She said she had lost everything. She dated it from the time she went to bed in December when she said " the crash came, and ever since then things have gone farther and farther away." Characteristic utterances were: " I am nothing but a body sitting about without a soul." " Things about are like dreams." " This place is more of a dream than the last." " Nothing seems real until I get back to the time before I went to bed." " Everything I see and hear seems unreal." " I don't see nor hear." She modified this by saying: " I don't see or hear in a way; I could walk in the streets and find my way, could recognize people whom I know and all that, but yet I can't see." " I see the trees and yet I don't see them; they don't seem real and yet I know that they must be because they are the trees I always saw." Such were some of her utterances at admission.

During the seven months which have elapsed since entrance the patient has continued depressed, expressed a good deal of inadequacy, and except for a little sewing and writing has been unable to occupy herself to any extent. She speaks of a difficulty in thinking and in the pages which she has written in attempting to analyze and describe

her condition her sentences often show confusion of thought. Foremost of all has continued this feeling of unreality, and she continues to say such things as " I cannot see, nor hear, nor smell. I heard music the other day for just the flash of a moment only to appreciate that I could not hear it. I see the flowers only to find that I have lost the power to see them. I smell the lilacs but yet I don't smell them." At another time, when made to count fingers to prove that she could see all right, she said, " Yes, I can see it, but only for the moment; I can't associate it with the past." Or again: " I see the outside of things but I can't get the spirit of them; I see with my eyes, but not with my intelligence." " It is as if I were dumb, I can't sense things." " I have lost that which gave me my comprehension and connection and which made me Miss ——." " I would be suspicious of people if I had to start out by myself now because I could not comprehend them. There's no longer any comprehension out of myself; what little is left comes out of my memory." " I can't comprehend the pattern on the carpet sufficiently to know whether it is one I like or not." Again she says, " I can't remember," and when facts were given to show that she did remember she said, " I remember with my head but not with my feelings." Again she said to the physician, " If by some miracle I should get well to-night and you should come in the morning, I would see you for the first time; I would see you with my intelligence, and my feelings would appreciate and understand you." The patient also says, " I am only a body without a soul," but more often she says that it is not her body, " I know it's good muscle, flesh, and bone, good in the physiological sense as a body, but it's not my body; this is not I." She tries to explain it figuratively by saying, " When I went to bed and the crash came, every molecule of my body was turned and twisted and changed until this thing was left." While she often says that the houses and streets and outside things look different, do not look real, she is for the most part able to correct these statements and explain them by saying the trouble is with her,— her inability to see, hear, etc.

Various tests show that the patient has no real visual or auditory disorder, and no disorder of smell. The sense of touch is unimpaired, as is the muscle sense. At times the sense of pain has seemed diminished, but this has not been consistent. Likewise, objectively, the patient's memory is good.

In addition to the above the patient showed some symptoms which I have not seen mentioned in connection with these cases and which I wish to emphasize. It was frequently noticed in conversing with the patient that from time to time she asked the physician to stop and repeat what he had said, and then would cover her eyes and apparently try to think very hard for several moments before she could understand what the statement meant. Again it was occasionally noticed that when physicians or nurses entered the room it took a moment or two for her to recognize them fully.

In this connection some simple apperception experiments were tried. The first involved the simplest kind of apperception, that of simple relation. Six cards were given to the patient upon which were written such nouns as fire, ice, etc. Six other cards were given to the patient upon which were written in red ink adjectives which obviously qualified the six nouns, as hot, cold, etc. The patient was asked to put together as rapidly as possible the nouns and adjectives which most obviously belonged together. The first set was done correctly in fifty-five seconds, the second in thirty seconds, and the third in twenty-five seconds.

Next the patient was asked to put together in a similar way cards on which were written nouns where the relation was one of comparison. Theoretically this required a slightly more complex apperception process than the first experiment. The patient did each of the three sets, twelve cards in a set, correctly in twenty-five seconds. This gain in time seemed to be due, partly at least, to the increased familiarity with the method of experiment. It may be added that the normal time had been estimated by experiment at about twelve seconds for each set.

Finally the patient was given some simple stories to read aloud, and then asked to give the gist in her own words, bringing out the point. The first story was the following: "A cowboy from Arizona came to San Francisco with his dog which he left at a dealer's while he purchased a new suit of clothes. Dressed finely, he went to the dog, whistled

to him, called him by name and patted him. But the dog would have nothing to do with him in his new hat and coat, but gave a mournful howl. Coaxing was of no effect, so the cowboy went away and donned his old garments, whereon the dog immediately showed his wild joy on seeing his master as he thought he ought to be."

She read it at a normal rate with apparently perfect understanding, but when asked to reproduce it she could not give a single sentence and explained that she would have to take it and read each sentence by itself in order to understand the individual sentences even, and added that it would take several readings to get the point of the story. She was allowed to read it as she liked, and said (reading): "'A cowboy'—[to herself]—let me see, that's one of those men out West who takes care of cows—[reading]—'A cowboy from Arizona came to San Francisco with his dog'—[to herself]—came to San Francisco, that is, he took the train and went to San Francisco and he had his dog with him. [Reading] 'A cowboy from Arizona came to San Francisco with his dog which he left at a dealer's while he purchased a new suit of clothes.'" After some moments' thinking she said, "Oh, yes; he left his dog with another man while he went to buy clothes."

In this way the patient went through the whole story, stopping and forcing up associations, repeating many times the first part and adding on point by point until finally she finished and reproduced the story as follows: "A cowboy went to a store and bought some clothes. His dog did not know him, but when he put on his old clothes the dog knew him." When she had finished, she added, "I can't get it into my head unless I visualize the thing; I can't understand it with my head; the way I got it was by seeing a man and a dog and a store."

Several other stories were tried and the patient went through the same performance. She was unable to get the point unless allowed to read it over and over again and repeat out loud various simple associations and get visual images of the different parts of the story.

From the above experiments it would seem that the patient's apperceptive function for apperceiving simple relations and even simple comparisons is still intact but works with some difficulty. When it comes to the more complex synthetic and analytic apperception as is needed in the reproduction of the stories, there is a much more marked impairment of the function, and unless a great and abnormal effort is made the stories are not understood at all. We have then what seems to be a demonstrable difficulty of apperception, and upon this I wish to lay emphasis, because of its possible relation to the feeling of unreality.

Let me say that I have tried the same experiments on a number of other patients who were equally depressed and on some who were markedly retarded even, but none of whom showed any indication of a feeling of unreality. The results were entirely different. In every case the patients were able to give the points of stories well. Even retarded ones, although often reproducing the stories very slowly, in the end brought out the point correctly.

Before going further let us consider briefly what we mean by apperception. Baldwin [1] defines it as " the process of attention in so far as it involves interaction between the presentation of the object attended to, on the one hand, and the total preceding conscious content together with preformed mental dispositions, on the other hand."

Some other psychologists differ somewhat in their definition, but, whatever differences there may be among them, all agree that for apperception the present impression must call up certain old associations and be assimilated with them. In other words, if the present impression does not call up such necessary associations from the memory *residua* there can be no apperception.

Psychology tells us further that the feeling of familiarity is a composite feeling which depends upon the affective accompaniments of the elements of the previous impression which is called up by the present perception. If the present perception does not call up these elements of the previous

[1] Baldwin: *Dictionary of Philosophy and Psychology*, I, p. 61.

impression, the affective accompaniments of these elements will be lacking and there will be no feeling of familiarity. Things which we have never seen nor heard of before look unfamiliar because they do not call up all the necessary associations. In these cases which we are considering, the unreality is in connection with things which they have seen and heard of many times. May it not be possible that when the necessary associations are not called up in connection with things with which we *know* we are familiar, the result is not a feeling of unfamiliarity but a " feeling of unreality? "

If we accept this view, it seems possible to relate a feeling of unreality to an association disorder, and since we have seen that apperception is dependent upon associations, a way is opened to relate the patient's feeling of unreality to her disorder of apperception. Thus I am led to the hypothesis that the feeling of unreality is due to a disorder of apperception, which in turn is due to an association difficulty of some kind.

Let us test such a theory by applying it to the various symptoms presented by our patient.

In the first place she has said, " I cannot see," but she modifies and explains this by saying, " I can see with my eyes but not with my intelligence." " I see it, but only for the moment; I can't associate it with the past." " I see the outside of things but I can't get the spirit of them; it is as if I were dumb; I cannot sense things." Again she said, " I have lost that which gave me my comprehension and connection and which made me Miss ——."

Are not these the very statements which one would expect from a person whose apperception was interfered with through an association disorder?

In regard to the feeling of unreality relating to the outside world our patient at times says that things look unreal, and many patients are consistent in such statements; the houses, trees, and people do not look real. Here again we get just what our psychology teaches us to expect with an apperception disorder. The sight of the houses, trees, and people does not call up the necessary associations for their

apperception, and the lack of those associations causes the feeling of unreality in regard to them. This feeling of unreality relating to the outside world is very closely related to the feeling of unreality relating to the patient's own sight, hearing, smell, etc. Indeed, it seems to me to be the same thing made subjective when patients say, " I cannot see," and made objective when they say the thing does not look real. The patient above described at times, making the trouble objective, says, " The trees do not seem real," but again, making it subjective, says, " I don't see them, " and adds, " I know they must be real because they are the trees I always saw." This same shifting from objective to subjective was noted during the earlier part of the patient's illness, when she said that her mother did not look right, but finally concluded that the trouble was with herself.

But to go back to the feeling of unreality relating to the outside world, we find that taken alone it seems possible to explain it by the above hypothesis as due to the failure of the immediate perception to call up the necessary associations. If we admit that it is the same condition as that manifested by statements " I cannot see," etc., being in one case made objective, in the other subjective, we have another reason for considering it due to the same cause.

Now, in regard to the feeling of unreality relating to the body, as, for example, when a patient says, " This is not my hand, it is not a real hand," we have a condition which may at first seem quite apart from those already discussed. It is not difficult to imagine, however, that when the hand is looked at or when attention is called to it by other than visual sensations, just as with outside things, the present impression does not call up the normal associations, in which case psychology leads us to expect a feeling of unreality or, just what we often get, " It is not a real hand." The statement, " It is not my hand," may be simply an elaboration of " It is not a real hand," or it may be a part of what I will take up later in attempting to explain the statements such as " This is not I." In the same way it is possible to explain the feeling of unreality in regard to other parts of the body.

Such an explanation at least allows the organic sensations as such to remain normal as we have shown they seem to do. Theoretically, then, we see that the feeling of unreality relating to the outside world and to the body is really the same thing and can all be explained by the same hypothesis.

A complaint which the above patient has not made, but which is quite common in such cases, and which is very pronounced in another similar case which has been under my observation, is that solid objects look flat. It is well known that as the distance of a solid object from the subject increases, the impression of solidity diminishes, so that beyond a certain distance all angles of the binocular parallax disappear and the body appears flat, *unless* the impression of that object arouses elements of earlier percepts which are assimilated with the new impression.[1] Some observations made upon the patient referred to are very interesting. When a solid object was held near enough to his face so that a different image was projected on the retina of each eye, the patient recognized that it was solid, but when held at such a distance that there was no such difference of images on the two retinæ, he said it looked flat. This was tried with several different objects with the same result. The associations necessary for the recognition of solidity did not come up as with a normal person, and consequently the objects looked flat to him. Whether or not the above hypothesis is true, it seems significant that so many of these conditions can be explained by it.

We have left to consider such statements as " This is not I." The explanation of this involves merely an extended application of our hypothesis. In the preceding considerations it had to do with the explanation of the feeling of unreality in its relation to the more concrete things, the body, the outside world, etc. Here it has to do with the feeling of unreality in its relation to a more general and complex thing, the " consciousness of self." It is still an apperception difficulty but the apperceptive elements are

[1] Wundt: *Grundriss der Psychologie*, pp. 163, 270.

vastly more complex. There is a difficulty in associating the present, taken in its larger meaning, with the past.

In speaking of such cases James says, " The present thought of the patient is cognitive of both the old *me* and the new, so long as its memory holds good. Only within that objective sphere which formerly lent itself so simply to the judgment of recognition and of egoistic appropriation strange perplexities have arisen. The present and the past both seen therein will not unite." [1]

In another place he says, " Masses of new sensations hitherto foreign to the individual," etc., and then goes on: " At the outset these stand in contrast with the old familiar me, as a strange, often astonishing and abhorrent *thou*." [2]

Again he says; " One can compare the state of the patient to nothing so well as to that of a caterpillar, which, keeping all its caterpillar's ideas and remembrances, should suddenly become a butterfly with a butterfly's senses and sensations. Between the old and the new state, between the first self, that of the caterpillar, and the second self, that of the butterfly, there is a deep scission, a complete rupture. The new feelings find no anterior series to which they can knit themselves on; the patient can neither interpret nor use them; he does not recognize them; they are unknown. Hence two conclusions, the first which consists in his saying, '*I no longer am*,' the second, somewhat later, which consists in his saying, '*I am another person*.'" [3]

If we may be allowed to use a terminology somewhat different from that employed by James, the above is consistent with our own theory that " consciousness of self " depends upon a complex apperceptive process in which the present is always assimilated with the representations of the past whether these be focal or marginal in consciousness. To put it the other way around, if the present cannot be assimilated with the past there is a loss of the consciousness of self. This is just what happens in these cases showing

[1] James: *Principles of Psychology*, I, p. 378.
[2] W. Griesinger, quoted by James: *Ibid.*, p. 376.
[3] H. Taine, quoted by James: *Ibid.*

a feeling of unreality. The products of their present impressions will not fit with the past, and how can we expect them to? Things are presented to patients who have not only lost a part of their apperceptive function (as shown in the first part of our consideration), but who have to analyze this imperfect apperceptive product with an analytical machine which is also minus part of its apperceptive function. One can scarcely conceive of a more vicious circle. The products of impressions coming through such a distorted mechanism are so different from those which resulted in the past when the mental mechanism was normal that they cannot be assimilated with the past and consequently cannot be understood. Such a changed condition is comparable to the change of the caterpillar to the butterfly. The new products "find no anterior series to which they can knit themselves on," and we come logically to the same conclusions: "I no longer am." "I am another person." "This is not I."

THE VALUE OF BIOLOGICAL INTERPRETATION FOR ABNORMAL PSYCHOLOGY.

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To understand the functional psychopathological phenomena and to determine their pathogenesis, it is very frequently an advantage to interpret them biologically.

This biological interpretation consists in determining in each given psychosis which one of the great psychological functions, the alteration of which leaves its mark on the whole symptomatology, is involved.

One too often forgets that the processes of mental activity are *reactions*, that is to say, they are vital, biological processes, adapted to a certain end, which is useful either to the individual or to society. It is therefore necessary to ask, when we deal with a functional psycho-morbid phenomenon, whether this morbid phenomenon may not be an adapted reaction which had at its inception a reason for its existence, but which has become exaggerated or deviated from its normal function; and if such be the case, it is necessary to inquire which function it is that through its alteration has made it possible for the trouble to appear.

This biological interpretation has, one can see, the advantage of attracting the attention to questions which do not arise in the simple physiological cerebral interpretation of the morbid states. Such an interpretation alone, in fact, permits us to comprehend just *wherein* the process in question is abnormal, and in what sense it is abnormal, — whether by excess or insufficiency, while the purely analytical investigation (cerebral, physiological, or psychological) of the observed phenomenon tells us nothing of its abnormality. To refer a mental trouble to an inhibition, an amnesia, a fixed idea, is a matter of analysis, of description; such analysis is useful, — often, indeed, indispensable, — but

it hardly helps us any in the understanding of the disease: for inhibition, loss of memory, fixity in the orientation of ideas have, in themselves, nothing pathological; all these phenomena are to be found in the normal mental activity. In order to grasp wherein these phenomena are morbid, it is indispensable to resort to the biological interpretation.

This biological point of view has still another advantage: in making us look at matters from a more extended point of view, it enables us better to understand their relations. We can then more easily, if we have taken into account the biological significance of these morbid reactions, determine the order of the appearance and the sequence of these reactions, as well as the external or internal causes which produce them; we can then clearly perceive the tie which unites symptoms apparently so incongruous; in a word, one can trace the pathogenic evolution of the disease. Therepeutics will benefit by such knowledge; it is so much more easy to institute treatment (above all in cases amenable to moral treatment) when one has well understood the disease.

Let us take a few examples: I choose sleep as the first. Sleep, it is true, is not ordinarily an abnormal phenomenon. I, nevertheless, choose this example, because it shows, in a typical way, how much light the biological interpretation can throw on a subject until now considered as obscure. Moreover, the case of sleep serves as an introduction to the biological conception of hysteria.

Until now, sleep has always been considered from the exclusive point of view of the immediate physiological mechanism; this state has been regarded in turn as the result of asphyxia, of intoxication, of anemia of the nerve centers, of an ameboid retraction of the neurons, etc. Now from so narrow a point of view, one is unable to explain all the facts relative to sleep; the absence of parallelism between sleep and fatigue, the type of the periodicity of sleep, the suggestion of sleep, the possible postponement of sleep by interest or by volition, the variety of types of the sleep of animals, etc.

On the other hand, all these facts become clear as soon as one considers sleep from the biological point of view. Sleep now no longer appears as the result of intoxication, or of anemia of the nerve centers, but as an adapted reaction, as an instinct of foresight which has for its end, on the contrary, the prevention of the organism from reaching the state of exhaustion.[1]

Sleep is then, a reaction of defense. This reaction consists in an inhibition of the attention to the present situation. A being who sleeps is a being who is disinterested. But this inhibition, this distraction, is not passive, it is active; and like all the other instinctive activities of the organism, it is subject to *the law of the interest of the moment.* At each moment an animal accomplishes that act which is of greatest consequence to it, at the given moment. This explains the fact that sleep may (within certain limits) be postponed or supplanted by interesting occupations.

This point of view has not only the advantage of harmonizing with all the facts, but has the additional advantage of opening up to the study of sleep new horizons. If sleep is an instinct, it becomes legitimate to look for its phylogenetic origin, and one may then ask, At what step in evolution has it appeared? Sleep did not necessarily exist at all times; it is, in fact, a contingent phenomenon, and is not implied in the conception of life; the lower forms of animal life, microbes, infusoria, do not manifest any sleep. If sleep has developed, it is probably due to the fact that those animals whose activity was broken by periods of repose or of immobility have been favored in the struggle for existence, for they have been enabled, thanks to the accumulation of energy, during these periods of immobility, to manifest in consequence a more intense activity. As to these periods of immobility, they are themselves derived from the function of the inhibition of defense, which plays such a great rôle in the animal kingdom (simulation of death).

[1] For further details, see my work, " Esquisse d'une théorie du Sommeil," *Archiv. de Psychologie,* IV, Geneva, 1905.

This biological conception of sleep may serve as a foundation of a biological conception of hysteria, or, at least, of certain manifestations of that disease. Attempts have often been made to compare hysteria with sleep, and not without reason. The hysteric seems to be partially asleep. Unfortunately, the conclusion has been drawn from this comparison, that hysteria is the result of exhaustion, of intoxication (Sollier), but this does not explain the facts. On the contrary, the comparison between these two classes of phenomena becomes fertile when looked at in the light of the biological theory of sleep. Let us take, for example, hysterical anesthesia, or amnesia. It has been said that these phenomena resulted from distraction (Janet), which is perfectly true. But this is only the first step on the path of pathogenesis. What is the cause, the wherefore, of this distraction? Why this disinterest in events or memories manifested by the hysteric? The biological interpretation alone permits an answer to these questions. The study of sleep has taught us that the active distraction, the disinterest, was originally a reaction of defense. This hypothesis becomes fruitful if applied to hysteria. We shall, then, have to ask ourselves, *What is the significance of this hysterical distraction?* And whether it does not represent a reaction of defense which had its origin in adaptation.

Now, to state the question is to solve it. Repugnance is the cause of hysterical distraction. Repugnance, disgust, is one of the greatest functions of defense, perhaps the principal one, since this function has the important rôle of rejecting that which cannot be assimilated by the self, not only by the physical self (nutrition) but also by the psychological self. When an object or spectacle repels us we turn away the head, we expel it from our field of vision; when an idea is disagreeable or painful to us, we drive it from our consciousness, we turn away our attention from it, we become disinterested.

Hysterical distraction is thus homologous to a normal function. There is, nevertheless, a great difference between the hysterical and the normal reaction of repugnance.

This difference which, let us note in passing, can only be expressed in biological language, is this: in the normal man the inhibition from repugnance is subject to the law of the interest of the moment; that is to say, the inhibition ceases the moment that the interest which exists for taking the fact into consideration becomes greater than the interest of setting it aside. In the hysteric, on the other hand, this inhibition is exaggerated, excessive; it escapes the *law of the interest of the moment.* The amnesia and anesthesia persist even when it would be for the interest of the subject to integrate these perceptions or memories in the mental synthesis; it is a true psychic autotomy (*autotomie psychique*).

We thus see that, thanks to the biological interpretation which, in directing investigation to the altered function, enables one to compare it with the analogous normal function, we can put our finger directly on what constitutes the specific morbid character of the observed phenomena. In the case of hysteria we see that the essence of the morbidity is *the exaggeration of the reaction.*[1]

Naturally, the question, To what is this disposition to exaggeration due, still remains unexplained; but this problem is no longer in the province of psychopathology; it belongs to general pathology; it is the latter science that has to study the sources, hereditary or otherwise, of the neuropathic diathesis.

The same biological criterion helps us likewise to discern the factors which distinguish hysteria from sleep. Attempts have been made, as we have said before, to relate hysteria to sleep, both being states of distraction. Now a psychophysiological analysis does not at all indicate wherein these two kinds of distraction differ. Our biological criterion, on the contrary, helps us immediately to a clear understanding of the difference; while the distraction of sleep is

[1] Bernheim, in his recent memoir on the *Conception du mot Hystérie* (Paris, 1904), has also arrived at the conclusion that hysteria consists in an exaggeration of reactions. But I do not understand why this author considers the convulsive crises alone as belonging really to hysteria.

subject to the law of the interest of the moment, the hysterical distraction escapes that law.

The biological method may perhaps be applied with equal success to the study of certain psycho-therapeutic processes, notably the therapeutic action of confidence.[1] All clinicians agree on the importance of gaining the confidence of the patients. This confidence acts "like a real force," says Feuchtersleben. Each one of us can testify that, under diverse conditions, confidence gives strength, is dynamogenic. The question is to learn whence this energy comes, and what the means are by which confidence sets it free. Whence comes the energy of confidence? It is necessary again to appeal to the biological interpretation to discover it.

What is the biological function of confidence?

The instinct of preservation demands that the individual be always ready for the defensive, that he be always on his guard, even unconsciously. Not only must he defend his body against attack, but also his mind against error. Fortunately, this function of control has, as its antagonist, the function of confidence. In practice, indeed, it is impossible to verify everything; if we possessed the instinct of control alone, life would be for us an actual hell. We would doubt everything, never be sure of anything, and would never arrive at any action.[2] The obsessed, afflicted with "*folie du doute*," are patients in whom the instinct of control is excessive, or in whom the antoganistic instinct, confidence, confidence in others, confidence in the testimony of the sense and memory, is lacking.

However great, indeed, our interest in personal verification may be, it is kept in check by a still greater interest, that of economizing our efforts. Evolution has favored

[1] Ed. Claparède: "Sur le mécanisme du facteur confiance en psychothérapie," *Revue médicale de la Suisse romande*, April, 1905, p. 306.

[2] In their interesting work, *Isolement et Psycho-thérapie* (Paris, 1904), Comus and Pagniez have devoted a chapter to confidence, which they consider as an act of abandonment. But, not having placed themselves on biological ground, they cannot explain the reasons of this act of abandonment.

those who knew how to profit not only by their own personal experience, but also by that of others, who knew how to turn into account the testimony of others, to act by imitation; in a word, to have confidence. We see that confidence is as indispensable a function to our life as is control.

We are now in a position to understand the beneficent influence of confidence in psychoneuroses. A neuropath is most often a being who mistrusts himself, who shrinks and inhibits himself; in a word, one who strains his reflexes of defense. Confidence, which is the antagonist of this mental defense, acts in relaxing these reflexes of defense; at the same time it sets free the energy which had been stored up, potentialized by the activity of defense. This available energy, this energy in a nascent state, can then be usefully employed in the physical or psychic re-education of the patient.

There has been much discussion as to the difference between *suggestion* and *persuasion*. Certain authors consider these phenomena as absolutely different in their nature; others (Bernheim, for example) identify them completely. These discussions are absolutely sterile, for the answer to the question depends entirely upon the point of view one takes. If one adheres to the ordinary psycho-physiological point of view, it is impossible to state exactly wherein these two categories of phenomena differ. One cannot make a quantitative difference, and say, for example, that suggestion is a very strong belief. A very strong belief is not a suggestion if that belief is adapted, is of use to the individual, and has a biological reason. Here again one must bring in the biological criterion. It is only with such aid that we can see the distinction between suggestion and belief; belief is a normal fact because it is subordinated to the interest of the individual; suggestion, on the contrary, is abnormal because the relaxation of mental defense, which characterizes it, persists even when it would be for the interest of the subject to exercise his function of control in regard to the assertions which are made to him.

Suggestion is to persuasion what hysterical inhibition is to repugnance, — an abnormal exaggeration of a normal function.

There are many other psycho-pathological questions which would become clear if one approached them from the biological point of view. Take, for example, the *logorrhea*, the incontinence of ideas in maniacs and other insane patients (*Ideenflucht*). Certain authors have tried to account for this logorrhea by invoking an acceleration of the associative processes (Ziehen) or a greater readiness of the psycho-motor processes (Aschaffenburg). But these are explanations which explain nothing. To account for the incoherency of thought which is the special characteristic of the *Ideenflucht*, it is necessary to look deeper; it is necessary to descend to the biological sources of mental activity. It will then be seen that that which characterizes a coherent thought is its being adapted to the interest of the individual at the given moment. In a normal individual, the ideas, logical relationship, etc., corresponding to the interest of the moment, ought alone to be dynamogenic and cross the threshold of consciousness.[1]

When the thought is incoherent, it signifies that the function of interest for the given situation is insufficient, or is altered.[2]

I should like to cite, as a last example of the usefulness of the biological interpretation, the phenomenon of the *illusion of weights*, and the absence of this illusion in abnormal subjects. Every one knows that of two objects of the same weight but of different volume, the one of the larger volume will appear the lighter. This illusion is quite general, and it is impossible to escape it. Demoor

[1] Compare my communication to the Psychological Congress in Rome on " L'intérêt, principe fondamental de l'activité mentale " (summarized in the *Revue philosophique* for July, 1905, p. 70).

[2] Liepmann, who has just published an excellent study on *Ideenflucht* (Halle, 1904), has recognized that the phenomenon consists in a maladaptation; but he relates it to a trouble of *attention*. It seems to me that there is a little confusion in the matter. Attention is but one of the possible manifestations of interest and it ought not to be identified with the function of interest itself.

(of Brussels) has discovered, however, that certain abnormal children are free from this illusion. I have myself carried on some investigations in this field, and have been able to confirm the absence of this illusion of weights among the abnormal, a sign which I have proposed to designate by the name of the "Sign of Demoor."[1] How explain this bizarre result? Various explanations have been offered, but the theory which Flournoy has advanced, which makes an appeal to biological concepts, is the only one which makes the phenomenon intelligible: "By virtue of hereditary experience," says Flournoy, "the unconscious cerebral impulse proportions itself automatically to the probable weight, and consequently, all things being equal, to the visible volume of the body we are going to raise; on account of this, a greater speed is communicated to larger objects, from which results their apparent lightness."[2] This theory of motor adaptation — the truth of which I have been able to verify by demonstrating, by the graphic method, that the weights are actually raised with greater rapidity the greater the volume[3] — this theory explains at the same time why the illusion does not exist among the abnormal. Abnormal children are degenerates, and the degeneration consists in the dissolution of instincts, in the loss of useful adaptations. It is probable that among the abnormal, this function of automatic adaption of which we have just spoken has not been transmitted by heredity. This is only an hypothesis, it is true, but it harmonizes perfectly with all the known facts, while all the other purely psychological explanations offered for the illusion of weights do not have this advantage.

These examples show sufficiently, I believe, how fertile

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[1] Demoor: "Notes médico-pédagogiques," *Journ. médicale de Bruxelle*, January 18, 1898.

Ed. Claparède: "L'illusion de poids chez les anormaux et le Signe de Demoor," *Archiv de Psychologie*, II, 1902.

[2] Flournoy: *Année psychologique*, I, 1894, p. 198.

[3] Claparède: "Expérience sur la vitesse du soulèvement des poids de volume différent," *Archiv de Psychologie*, I, 1901, p. 68.

may be for psychopathology the biological interpretation of the phenomena with which this science deals.[1]

If we summarize briefly what has preceded we are able to formulate the following conclusions:

1. The biological interpretation alone enables us to see whether a mental phenomenon is normal or abnormal, and allows us to determine exactly what characterizes the abnormality of the phenomenon.

2. In furnishing in given cases the significance of the observed trouble, the biological interpretation enables us to reconstruct the sequence of the morbid phenomena, to recognize the origin of the disease and the causes, external or internal, which produced it, and consequently to institute rational psychic treatment.

Let us add that normal psychology could not but profit from a biological orientation of psychopathology. Normal mental activity is the resultant of the coöperation of a large number of autonomous functions. But under normal conditions it is impossible to perceive, to distinguish, to isolate, each one of these multiple functions. That which psychological analysis cannot accomplish is accomplished by disease. We can learn to recognize the isolated play of each one of these functions, if we study the pathological conditions in which one of them has altered. But in order to ascertain this alteration of the great psychological functions it is indispensable that abnormal psychology consider these mental phenomena from the biological point of view.

[1] Let us recall how P. Janet, in trying to determine which are the functions which are altered in psychasthenia, has cleared up the psychopathology of that disease (*Les Obsessions et la psychasthénie*, Paris, 1903). At the recent congress of French neurologists at Rennes, Professor Brissand brought forward the view that hypochondria is due to a failure of the function of security, a function which would itself have as a condition the proper functioning of the various organs. I believe that such a view is very fertile, since it permits us to assume that the cause of hypochondria may be either peripheral or central in the reaction of security. This biological conception unites and conciliates the two opposing theories (psychic and peripheral) of this disease.

ABSTRACTS.

1. *The Motor Area of the Human Cerebrum; Its Position and Subdivisions, with Some Discussion of the Surgery of this Area.* C. K. Mills, M.D., and C. K. Frazier, M.D., "University of Pennsylvania Medical Bulletin," XVIII, 134, 1905.

2. *The Significance of Jacksonian Epilepsy in Focal Diagnosis, with Some Discussion of the Site and Nature of the Lesions and Disorders Causing this Form of Spasm.* Charles K. Mills, M.D., "Boston Medical and Surgical Journal," CLIV, 453, 1906.

The first paper, by Mills and Frazier, represents the results of original work. Following a brief historical sketch of the electric stimulation of the human brain, several early cases are reported in some detail. Keen, in 1888, after locating the central fissure, was able, by stimulation, to determine the centers for various movements of the hand and fingers, and of the face, shoulder, and elbow, all being placed probably cephalad to the fissure. Cases of Lloyd, of Mills, and of Hearn also showed that the motor areas were cephalad of the central fissure. The importance of these cases was that the motor representation was shown to lie essentially in the precentral region.

Ten personal new cases are reported, in which it was possible, during life, to stimulate the cortex for the purpose of discovering the localization of motor function. The first case was a tumor lying across the posterior portion of the first and second frontal convolutions. Stimulation forward of the central fissure gave various responses of the head and eyes. The second case, a boy of eleven, had epilepsy with dural adhesions. Results of stimulation were doubtful. The third case, a girl of seven, with traumatic epilepsy, gave responses from stimulation anterior to the fissure. The fourth was a similar case, with similar results. The fifth case was a man of thirty-two, with brain cyst or tumor. Strong currents behind the central fissure produced convulsive and extensive response of the upper extremities. The sixth case, a girl of nine: adhesions over the face area. Six applications, both before and behind the fissure, gave no response. The seventh case, a boy of fourteen, was shot in the left temple. An area posterior to the fissure was alone stimulated, with no

response. In the three succeeding cases, studied with Keen, there was in the first no response from the postcentral convolutions; in the second (epilepsy following a skull fracture) a very slight contraction of the left hand and the left leg was obtained by stimulation in the immediate neighborhood of the central fissure. In the final case stimulation of the leg area appeared to show that this center is close to the mesal line, and probably entirely in front of the central fissure.

An analysis of the results of faradic stimulation in a series of twenty-five cases with one hundred and thirty-eight applications, showed responses from the cortex in front of the central fissure in sixty-two; behind in twenty; in uncertain positions in relation to the central fissure, fourteen; no response in front, fourteen; no response behind, twenty-eight. In general, these observations are in favor of the view that the motor region lies ventral to the central fissure.

The best practical division of the motor zone is to regard it as precentral and subdivided into four parts. From below upward three of these parts are occupied by the face and arm areas, and the upper fourth by the trunk and leg areas, the former occupying mostly a narrow strip, and the latter having also a representation on the mesal aspect of the brain. The area for the upper extremities is the largest of the main divisions of the motor zone.

The importance of accurate technique in faradization of the cortex is insisted upon. The standard bone flap, also studied on the cadaver, should be made two thirds of an inch in front of, and one third of an inch behind, the central fissure to best uncover the motor area. The stimulating electrode should be dull and not larger than the head of a pin, and the indifferent electrode should always be placed on the same part of the body. A definite current strength should be used, and weak currents are preferable in order to avoid the danger of diffusion and a consequent masking of results. A unipolar application is probably more satisfactory than the bipolar method.

The paper is concluded by a discussion of craniometric lines and craniocerebral relations.

Dr. Mills adds, in the second of the above papers, another significant contribution to his work on cerebral localization. Dr. Mills uses the term "Jacksonian epilepsy" as meaning monospasm or hemispasm due to cortical or cortico-subcortical discharge

usually exhibiting an initial symptom and a serial order of phenomena. By far the larger number of cases of so-called Jacksonian spasm are due to irritation or instability of portions of the motor area, but by no means always due to gross lesions of this area. It is desirable, therefore, not to attribute erroneous diagnostic value to localized spasm. Dr. Mills quotes several interesting cases which he has observed in connection with various surgeons, in several of which a successful operation was performed. These cases illustrate particularly the significance of Jacksonian spasms in gross lesions of the cortex. As warnings to the diagnostician it is suggested that tumors situated in other parts of the brain than the motor cortex may cause Jacksonian epilepsy; that other lesions beside tumors situated in the motor cortex may cause this form of spasm; that it occurs in toxic and other disease in which no demonstrable focal lesions are present; that a spasm closely counterparting the Jacksonian type may be observed in a reflex or an hysterical disorder; and, finally, that Jacksonian epilepsy may be simply an integral part or the entire expression of a case of idiopathic epilepsy. Cases illustrative of these points are discussed in some detail on the basis of personal experience and that of others. It is further pointed out that gross lesions of the motor area may cause monospasm or hemispasm, simulating that produced by neoplasm, by depressed fractures, localized meningitis, meningeal or cortical hemorrhage, focal hemorrhagic encephalitis or cortical polioencephalitis and focal necrosis from embolism or thrombosis inclusive of the effects of general arteriosclerosis. An important discussion regarding differential diagnosis with a further report of cases completes this important contribution.

TAYLOR AND WATERMAN.

Ueber das Verhalten der Reaktionszeit beim Assoziationsexperimente, Habilitationsschrift. By C. G. Jung. Ambrosius Barth. 38 pages (Zürich), Leipzig.

Experimentelle Beobachtungen über das Erinnerungsvermogen. By C. G. Jung, "Centralblatt für Nervenheilkunde und Psychiatrie," September 1, 1905.

Zur Psychologischen Tatbestandsdiagnostik. By C. G. Jung, "Centralblatt für Nervenheilkunde und Psychiatrie," November 1, 1905.

The recent studies of Jung on associations deserve the

closest attention of psychiatrists as well as psychologists. Jung has demonstrated, to state at once his most important contribution, that by means of association experiments the existence of complexes of ideas to which strong feelings are attached can be discovered, and he has made clear some of the influences which such complexes may have upon mental processes. The value which such studies must have upon questions of individual psychology and upon psychopathology is obvious. Some of the results represent, one might say, an independent discovery, from a different direction, and with simpler methods, of the valuable observations of Freud, to whom Jung frequently refers with full appreciation of his work. Through these studies of Jung the association experiment has become an extremely valuable method, not only for scientific investigation, but for practical clinical analysis as well.

His earlier contributions were published in the " Journal der Psychologie und Neurologie," and were reviewed by Adolf Meyer in the June number of the " Psychological Bulletin," of 1905.

In the first paper considered in the present review, certain peculiarities in the *reaction time* of the association experiment are considered. Jung uses in his experiments a watch indicating one fifth of a second, and his results amply justify his reasoning, that, since there are still large variations in reaction time which await elucidation, it is unnecessary to employ complicated apparatuses before these larger variations are sufficiently cleared up. It was found that the reaction time of men is shorter than that of women, while the association times of the uneducated were longer than those of the educated persons. The nature of the stimulus word was found to have some influence, inasmuch as words expressing concrete things elicited quicker reactions than general concepts; adjectives quicker ones than verbs. In the same way the reaction-word influenced the association time: general concepts came slowest; adjectives quickest. Again the quality of the association had an influence. External associations were quicker than internal, but also quicker than sound associations; indeed in most of the educated men the sound associations were often longer than the internal associations, whereas in women they were slightly shorter.

In a previous study, Jung had found that sound associations are often the outcome of a disorder of attention (hence their

frequent occurrence in states of flight of ideas); he now showed that they *may* be due to a special kind of internal distraction, namely: to the fact that the stimulus word has "touched" a "complex of ideas" associated with a strong feeling tone. This, together with other similar phenomena, above all, the lengthening of the reaction time depending upon the same psychological mechanism, is then taken up. The complexes which here come into question are usually associated with feelings of an unpleasant nature, and erotic complexes play an important rôle.

A very instructive analysis of the nature of the associations and of the association time is given for a number of cases, notably that of an educated woman. It was found that when the association time exceeded the probable mean of that person, this frequently depended upon the fact that the stimulus word had "touched" the following complex: The subject, a newly married woman, was pregnant; this fact was, in her mind, associated with feelings of anxious expectation, more especially with some jealous fears lest the husband's affections might become cooled by the pregnancy, etc. In comparison with this "erotic" complex, other slighter ones were more in the background. The probable mean of the association time of the subject was one second. In 30.5% of all the tests the time was prolonged. In 20.5% it measured 1.2 seconds, among these 32% depended upon the complex mentioned; 6% measured 1.4 seconds; of those, 75% depended upon the complex; 3% measured more than 1.4 seconds, and all those depended on the complex. Only in rare instances was the subject conscious of the cause of this retardation, indeed, often not conscious of any retardation at all; and the cause was discovered only by a careful subsequent analysis. These analyses may in places strike one as somewhat forced; and yet, if one goes over the studies of Jung carefully, I think one cannot help feeling that his conclusions are sound. There were a few obvious associations in which the subject at once became very clearly conscious of the complex; the same occurs in cases in which the feeling tone associated with the complex is very strong, and consequently the complex unusually prominent in the subject's mind. But the interest in the subjects described here lies in the fact that the complexes were not at all prominent, — a fact which leads Jung to the far-reaching conclusion that, after all,

the unconscious factors in the mental mechanism have a very strong influence upon associations, and that our thinking and acting are determined by innumerable factors which lie outside of consciousness, because mind and consciousness are not co-extensive. The other two instances which he studied were very similar, though instead of one prominent complex there were a number of lesser ones.

In addition to the slowing effect upon the immediate reaction, the influence may also extend over one or two or even more of the subsequent reactions. Another feature caused by the same mechanism was certain peculiarities in the nature of the associated words; that is, the complex determined incomprehensible reactions, superficial associations, a mere repetition of the stimulus word, translations, etc. Where such peculiarities appeared it could be demonstrated that a definite complex had been "touched." Jung calls these peculiarities "indications of complexes" (*Complex-Merkmale*), and he found later in his pathological studies that these indications are the same in the normal and in the pathological cases. It is obvious what a valuable contribution this is for the study of psychopathology. (See also Ricklin, "Ueber die diagnostische Bedeutung von Associationsuntersuchungen bie Hysterischen." "Centralblatt für Nervenheilkunde und Psychiatrie," August 15, 1904.)

The second communication of Jung is a direct continuation, in a special line, of his former work.

Jung and Ricklin claimed, like Freud,[1] that every hysterical patient has a "displaced" (more or less forgotten) complex which causes the disturbance. (See more especially the excellent analysis of the case of Lina H., which Ricklin published in the "Psychiatrisch-Neurologische Wochenschrift," 1905, numbers 46 to 52, and which was reviewed by Adolf Meyer in the "Psychological Bulletin" of July, 1905.) They find that, when in the association experiments on hysterical subjects the stimulus word touched such a complex, the subject did not react for a long time and finally asked what had been said; indeed it was evident, as was brought out by subsequent questioning, that the word was forgotten; this then was a part of the general tendency present in these patients to "forget," or to "displace" disagreeable impressions.

The psycho-analytic method which Freud uses for the demon-

[1] See page 101, review of Freud's *Psychopathology of Everyday Life.*

stration of such complexes in hysteria and other conditions is cumbersome; consequently it is exceedingly valuable to have a method by which such displaced complexes may be discovered, and the association experiment, as developed by Jung, furnishes an excellent method for this purpose. It is obvious that if we collect the stimulus words which give rise to any "indications of complexes," we shall be able to draw some conclusions about the nature of the complexes, and we may penetrate further by adding new stimulus words, which, to judge from the experiences, would be likely to give more specific indications.

In the present paper Jung adds a special modification to his method which furnishes additional objective data for the demonstration of complexes, even where the subjective analysis is impossible. Instead of going only once through the association experiment (consisting of 100 words) he went over the same words a second time in order to see whether there was any evidence of influences of complexes in the cases in which the reproduction of the first reaction was wrong. He found that preëminently those reactions were forgotten which in the first test presented peculiarities, and in which the analysis demonstrated the influence of complexes. Thus, in one case he found thirty-eight incorrect reproductions; in only five of these was it impossible to demonstrate the influence of a complex, and even they showed a lengthening of the reaction time in the first test. In another case the average of the association times in which the associated words were later wrongly reproduced was five seconds, whereas in the tests in which the reproductions were correct the average time was three seconds.

These results, if generally confirmed, show that this reproduction method is another means for the objective demonstration of complexes, and they give us an insight into the important question of the influences of feelings upon memory.

The influence of such idea complexes which have a strong feeling tone is very extensive. It is found in the normal, in hysteria, and in dementia præcox. Jung summarizes his views upon these influences, at the end of his paper, in the following manner: "In the normal we find a brief embarrassment, or 'momentary inhibition'; in hysteria, one of the so-called 'voluntary' amnesias; in dementia precox, the phenomenon of 'blocking' (*Sperrung schlechthin*), but the psychological mechanism in all is the same." His reference to dementia

precox is based upon studies not yet published, work which was commenced by Professor Bleuler, and further elaborated by Jung and Ricklin. The only publication which permits us to have some insight into the results of this work is the very suggestive paper by Ricklin upon the improvement sometimes found in dementia precox cases after transference to different surroundings ("Ueber Versetzungsbesserungen," "Psychiatrisch-Neurologische Wochenschrift," 1905. numbers 16, 17, 18). But the paper goes far beyond this, and gives many very interesting suggestions for the psychopathology of dementia precox, based, evidently, in great part upon association studies. There seems to be little doubt but that we may expect much elucidation along this line in the difficult analysis of dementia precox.

In his third communication Jung finally calls attention to an article published in the "Archive for Criminal Anthropology" in which practically his method is advocated for the sake of discovering crimes. He emphasizes his priority, which is all the more justifiable since he has not only developed the method, but had himself spoken of the possibility of discovering crime by this means. He then reports a case of a young man who was accused of having stolen some money from his guardian, and in whom Jung found by means of the association method such clear evidence of a guilty conscience that he did not hesitate to tell him frankly that he had stolen the money, whereupon the man broke down and confessed.

Hoch.

REVIEWS.

The Psychopathology of Everyday Life (*Zur Psychopathologie des Alltagslebens*). By S. Freud. S. Karger, Berlin, 1904.

The perennial interest in the psychology of dreams has received a further stimulus in the little volume by Freud, whose previous work in the same field is already well known. Amplifying the idea contained in many of his papers, and more especially in his "Traumdeutung" (Vienna, 1900). Freud enters upon an analysis of the mechanism and an interpretation of the meaning of dreams, whose *fons et origo* he believes to be in subconscious mental life. The dream, in Freud's view of it, is a manifestation of motives and desires, temporarily suppressed and submerged in the subconsciousness. There is an upper primary consciousness, — a censor, as it were, — which prevents these suppressed states, these motives and desires, from rising to the surface. When in sleep, however, the upper consciousness is more or less in abeyance, such suppressed states assert themselves, but not without having previously undergone a metamorphosis, — hence the bizarre and oftentimes fanciful fabric of our dreams. Upon careful analysis, — a task not always easy, — each element of the dream can be traced to co-existing subconscious states.

This mechanism of the dream is not by any means unique, for it is similar to what we observe in the various forms of the psychoneuroses, hysteria, etc. A similar mechanism is shown to exist in the normal mind, manifesting itself in certain familiar processes of our daily life, such, for example, as the forgetting of well-known names, slips of tongue and pen, the forgetting of important events which should be remembered, certain motor maladjustments, and apparently accidental and purposeless actions, none of which is merely fortuitous, since it is the expression of dominant suppressed motives. In our psychic life there is nothing arbitrary; no chance elements are to be found there, and all mental activity is predetermined by subconscious states.

The motives causing suppression of certain mental states are to be sought in moral training, in social environment, or in the painful nature of the states themselves. These suppressed

states do not remain dormant, they will not down, but force themselves above the conscious threshold, the occasion of their manifestation being an association existing between them and the conscious content of the moment. Such suppressed states during their manifestation interfere with the processes of consciousness and hence the resulting activity is a " compromise " between the two opposed states. The forgetting of a familiar name, for example, and the birth in the mind of many names which are immediately rejected, — a common occurrence, — is not a matter of mere chance, but is fraught with meaning. Freud analyzes at length several instances of this sort and shows that at the time the name is forgotten, there are present in the mind certain states which we voluntarily suppress because of their disagreeable nature. When the name together with these states is suppressed, it is because of an association between such states and the name in question. The names, moreover, which occur to the mind when we seek for the forgotten name, are not merely names of chance, but are " compromises " between what we endeavor to recall and what we suppress; they contain elements of each.

The conditions underlying this process are the following:

First, a certain disposition to forget the name.

Second, a very recently executed process of suppression.

Third, the existence of an association between the suppressed state and the name.

In a similar fashion the forgetting of important events can be traced to a voluntary effort of suppression, for there is an universal tendency, varying with individuals, to forget unpleasant experiences. Here is a striking example from Freud's personal experience. While looking over his account books, he came upon a name which he did not recognize. Neither could he recall the patient, although his books showed that treatment had been recent and of long duration. Evidently there was some motive for his forgetting the name. Subsequently the patient proved to have been a young girl whom he had treated for hysterical symptoms, with great improvement in her condition. A short time later the girl died of sarcoma of the pelvic organs, which the nervous symptoms had concealed and hence the organic disorder was overlooked. This was naturally a very unpleasant experience, and therefore the extraordinary loss of memory for such an important case.

Freud analyzes many cases of such familiar instances as slips of the tongue, maladjustments, and accidental and purposeless acts, all of which he interprets as manifestations of subconscious motives.

The subconscious is thus shown to exert a great influence upon normal mental life. In our psychic activity is nothing without import, and indeed it is impossible to make a meaningless combination. When, for example, we think of a chance name or of a chance number, the name or number that occurs to the mind will, on analysis, be found to be determined by motives which are entirely outside the field of consciousness.

Thus we observe the processes of normal life to be similar to those of dreams and the various psychoses. Between the normal and the abnormal there is no gap, the transition is gradual and imperceptible. Although perhaps not quite convincing, this little volume is interesting and timely.

SIDIS.

The Localization of Cerebral Function. By Alfred W. Campbell, M.D. University Press, Cambridge, 1905, pp. 348 and plates xxix.

It is peculiarly fitting that the scholarly volume before us should have been published by an Englishman, and we congratulate Dr. Campbell upon the completion of a work which represents, as it were, the consummation of British researches upon cerebral localization inaugurated many years ago by Hughlings Jackson, Ferrier, Bastian, and Broadbent. Opening the volume one who has a penchant for literary values is impressed immediately by the felicity of the style with which the author has clothed his scientific facts, and this literary excellence, — only too rare in medical writing, — renders doubly interesting reading the three hundred odd pages which the book comprises. Moreover, from the methodological point of view, there is a sequence of thought and a coherence in its presentation which are altogether admirable. These characteristics are, indeed, in a certain sense, extrinsic, but we commend them because of our firm belief in the importance of literary culture even in scientific works.

The general purpose of Dr. Campbell's labors has been the histological study of the cerebral cortex relative to regional variations of cell lamination and fiber arrangement, and the

correlation of such variations with diversity of function. While this has been his original contribution to the subject, he has, at the same time, marshaled the collateral evidence as furnished by comparative anatomy, experimental physiology, embryology, and clinical pathology, so that in reality the book becomes a critical commentary upon cerebral localization.

Having given us an introduction on the methods of histological research, and having devoted the first two chapters to the material and the method of its examination, together with some general remarks on cell lamination and the arrangement of nerve fibers in the cortex, the author describes in subsequent chapters the precentral or motor area; the postcentral or sensory area and the intermediate postcentral area; the visuo-sensory and the visuo-psychic areas; the temporal lobe and the auditory areas; the limbic lobe; the parietal area; the intermediate precentral area; the frontal and prefrontal areas, and the island of Reil. In an addendum he presents some further histological studies on the localization of cerebral function, the brains of *felis*, *canis*, and *sus* being compared with that of man. In each chapter we discover evidence of intimate acquaintance with the voluminous literature of the subject, combined with a critical attitude toward his own and the work of others, which makes the book in every sense a most conservative, sane, and trustworthy account of the present position of cerebral localization.

The material for the work is divisible into three categories; namely, normal human, normal comparative, and pathological. The normal human material consisted of three cerebral hemispheres completely examined for both nerve cells and nerve fibers, three hemispheres completely examined for fibers only, and two hemispheres partially examined for nerve fibers and nerve cells, the ages of the individuals varying from nineteen to forty-eight years. The normal comparative material comprised the right cerebral hemisphere of a chimpanzee, the left hemisphere of another chimpanzee, and the right hemisphere of an orang; while the pathological material consisted of two brains from cases of amyotrophic lateral sclerosis, seven from cases of amputation of one or other extremity, three from cases of tabes dorsalis, and one from a case of old standing capsular lesion. It is upon this varied material that the author bases his histological conclusions.

In view of the controversy that has obtained for years regard-

ing the precise delimitation of the motor area in the Rolandic region, the researches of Dr. Campbell are of especial importance. Writing in 1901, Professors Sherrington and Grünbaum published their account of some experiments conducted upon all the known species of anthropoid apes, and expressed their belief that the prevalent views upon the topography of the motor region needed extensive modification. Using electrical stimulation they demonstrated that the responsive area was confined to the precentral convolution and a small portion of the paracentral lobule, and did not include the postcentral convolution, as had been previously maintained by many. The brains of some of these anthropoids were examined histologically by the author, and the result of his precise observations appears to be that it is just as possible to define the motor area by this method as by electrical stimulation. Pursuing the same method of examination of the cortex in the cases of amyotrophic lateral sclerosis and amputation of one or other extremity, his conclusions are that it is possible, by noting the changes in the large pyramidal cells of Betz, to mark out with surprising accuracy the motor cortex. And furthermore, by studying the affected cell groups, the probable area of representation of the different segments of the extremities was defined. From the combined results of these diverse evidential facts, Dr. Campbell concludes with Sherrington, Grünbaum, and Mills that the motor cortex is situated entirely cephalad of the Rolandic fissure; he goes further and states that "it is impossible to reconcile these findings with the long list of clinical observations adduced in the past to support the view that the two central convolutions have an equal share in the control of volitional movements, and it is suggested that natural lesions, such as cerebral softening, cerebral tumor, and cerebral trauma, which form the basis of most of these observations, are only, in rare instances, sufficiently limited in their effects to allow of safe judgment on this question; hence, errors have arisen."

Such statements as these are, of course, contradictory of generally accepted views, but in face of the cumulative evidence, there would seem to be no other way open to us than to regard the Rolandic fissure as the posterior boundary of the motor zone. When, furthermore, the postcentral convolution was examined, the findings became strikingly confirmatory, for not only was the cell-lamination and fiber arrangement found to be

quite different from those of the precentral convolution, but a very painstaking examination of this part of the cortex in cases of tabes dorsalis and in a case of old standing capsular lesion showed, beyond peradventure, definite alterations in the cells of this region. The trend of argument throughout the author's treatment of this part of his subject is directed toward proving that the postcentral gyrus constitutes the terminus where the main system of fibers for the conveyance of impressions pertaining to tactile and allied forms of common sensation primarily impinges. As a result of his histological findings, Dr. Campbell becomes a strong ally of those who maintain that the Rolandic region, instead of being everywhere sensorimotor, is divided by the central fissure into two functionally distinct areas, the anterior being purely motor, the posterior purely sensory.

It would be interesting and well worth while, did the exigencies of our space permit, to follow the author in his description of the other cortical areas, each of which is treated from the histological, embryological, and pathological aspects. It must suffice to say that in the occipital lobe he describes what he distinguishes as a visuo-sensory and a visuo-psychic area, and observes that from an histological point of view there is found investing his visuo-sensory area a moderately extensive field of cortex, possessing a specialized type of arrangement of nerve fibers and nerve cells entirely different both from that in the visuo-sensory area and that in the more outlying parts. If it be granted that the calcarine area is solely devoted to the reception of primary visual stimuli, the mere existence of a second area placed in such immediate contiguity suggests the possibility that it is concerned with the sorting out and further elaboration of these stimuli.

In the temporal lobe there is an histological basis for the division of the region into a common audito-sensory and audito-psychic area, the latter having for its function the further elaboration of impulses received in the former.

Concerning the limbic lobe, the author states that histology supports comparative anatomy in suggesting that, in the human brain, the lobus pyriformis must be regarded as the principal cortical center, although not the sole one, governing the olfactory sense. On the other hand, definite information regarding gustatory localization in the cortex cerebri is wanting.

Adding histological confirmation to the conclusions of clinical medicine as expressed by Durante, Walton and Paul, Von Monakow, Redlich, and many others, Dr. Campbell agrees that the " parietal area " which he maps out represents a high sensory center, a center for the recognition of complex impressions embodied in the muscle sense and in that of stereognosis.

One of the most interesting areas of the brain, as evincing the relation between variation of structure and diversity of function, is that which the author terms the " intermediate precentral," because structurally its type is transitional between the precentral and the frontal cortex. Accepting the hypothesis of the different evolutionary levels first proposed by Hughlings Jackson, Dr. Campbell observes that, in his opinion, the " intermediate precentral " cortex forms a very important part, though not, of course, the whole of " the highest or third level." " I am of opinion," he says, " that this particular stretch of cortex is specially designed for the execution of complex movements of an associated kind, of skilled movements, of movements in which consciousness or volition takes an active part, as opposed to automatic movements "; and in this area are placed by him the graphic center and Broca's motor-speech center. Again it will be noted that a careful study of the subject reveals the important law that in the " intermediate precentral " cortex there is a sequential deposition of centers for the control of higher evolutionary movements, following the same order from above downwards as that observed in the precentral or motor area proper. There is the highest probability that corresponding centers in each area are associated by commissural fibers, and that corresponding centers lie approximately on the same level, and at all events in juxtaposition.

In his discussion of the frontal and prefrontal areas the author states that it is a region the functions of which are but little known. " It is a part where theory holds the major hand, one which has proved most resistive to workers in the several departments of experimental physiology and pathology, clinical medicine, embryology, anatomy, and histology, both human and comparative, and about which the little knowledge that we do possess has been acquired only by negative and roundabout processes of reasoning; further, as others have rightly observed, it is a realm where localization, in so much as this applies to the definition of fields having a specific function and

a specialized structure, seems unattainable." Such restraint as this is commendable after one has had something too much of the naive manner in which the relations between the frontal lobes and the higher psychic activities have often been discussed. To recognize the limitations of a method is often a most salutary thing. It saves many a leap into the dark, and Dr. Campbell's conclusions relative to the frontal lobe are but another evidence of that critical acumen which is obvious throughout his work. While he properly admits the general relationship between the frontal lobes and psychic processes, he refrains from further statements regarding them, and disclaims for the microscope any great service in elucidating this complex problem.

Obviously it would be impossible within the limits of a review to compass all the excellence of this work. Seeing its necessity, the author has begun from the beginning, and having collected the scattered and disjointed knowledge of cerebral localization, he has given us a research upon the structure and function of the brain which is a monument to his industry and learning, and an inspiration to those who read it.

DONLEY.

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THE JOURNAL OF ABNORMAL PSYCHOLOGY.

AUGUST, 1906.

THE EXPERIMENTAL SYNTHESIS OF THE DISSOCIATED MEMORIES IN ALCOHOLIC AMNESIA.

BY ISADOR H. CORIAT, M.D., BOSTON.

SINCE we have learned the important fact that amnesia is neither synonymous nor identical with unconsciousness, and that the disappearance of memories varies directly according to their organization, the subject has become fraught with a new interest. The fact that permanency of memory pictures depends on their organization and association with other memories had been previously pointed out by Lewy and Pilzecker, the latter insisting in its pedagogical application, and it has again been recently emphasized by Burnham to explain the symptomatology of retrograde and retroactive amnesia. During the last few years it has been shown that amnesia means simply a submerging of a certain patch of memories into the subconscious mental life; and in states of experimental and pathological distraction, these memories can be synthetized with the upper consciousness. These subconscious memories are very liable to occur in hysteria, epilepsy, eclampsia, injuries to the head, various acute psychoses, carbon monoxide poisoning, profound emotional shock, in states of exhaustion, attempts at hanging and drowning, and in alcoholic intoxication. Of the toxic amnesias, those caused by alcohol seem to offer the most promising field for study, on account of their comparative frequency. Alcohol is particularly liable to bring on pathological memory disorders, amnesia, confabulation, and paramnesia, particularly of the reduplicative variety. The so-called

Korsakow's Psychosis is preeminently of alcoholic origin, and consists of a severe disturbance of the memory, a kind of a continuous amnesia, and, consequently, an inability of orientation in place and time.

In alcoholic amnesia the lost memories are merely subconscious, and during a distraction or inhibition of the upper consciousness these memories come to the surface and occupy and synthetize with the gaps in the conscious mental life. This cropping out of lost memories occurs in dreams or in delirious or hallucinatory states, or it may be accomplished by means of proper experimental methods, such as hypnosis or by the experimental distraction method (hypnoidal) of Sidis. This latter was used and gave positive results in our experiments. Since publications along these lines are appearing from time to time, it is hoped that further research may be stimulated by a communication of our cases, all of which were observed at the Worcester Insane Hospital.

Case I, A. H., male, age thirty-two, was admitted to the Worcester Insane Hospital in April 8, 1905, suffering from delirium tremens. On recovery, two days later, it was found that he had a sharply localized amnesia, from Monday noon, April 3, 1905, to Tuesday morning, April 4, 1905. His last recollection was walking down M Street, in the city of W., and he remembers nothing further until the next day, when he found himself intoxicated and tumbling about the streets of the city of P., some forty miles distant. As his money was either lost or stolen, he was compelled to walk back to W., and, on arriving there, asked for police protection, in reaction to the fear induced by hallucinations. On account of the utter failure to recall the lost memories by a voluntary effort or waking suggestion, and as no dreams were noted, it was decided to attempt an experimental synthesis of the dissociated memories by the hypnoidal method. The experiment was made in a quiet and somewhat darkened room; there were no leading questions asked, neither was anything suggested except that he try and fill up the blank period. The patient was asked to close his eyes and to listen intently while a magazine clipping re-

lating to the Monroe doctrine was read to him, the reading occupying about three minutes. He was then asked to open his eyes and tell what events came into his mind, with the following result. The answer was immediate. "I have it all now. I remember being around drinking in W., about three o'clock in the afternoon, Monday afternoon. I met a friend and we went over to a barroom on A Street, and then went to a place on S Street, and had some more drinks. I can remember going down F Street, with the same fellow and buying some more drinks." "What were you doing?" "Talking and laughing like drunken fellows will. This was about 3.30 P.M. Then I got the idea into my head that I wanted to go to New York, and I went to the depot and bought a ticket for P., instead. This was about four o'clock. I left the other fellow in the depot." (NOTE. There is a 4.19 P. M. train from W. to P. arriving at P., at 5.48 P.M.) "I left the other fellow at the station in W. I think I traveled on an express train. When I arrived in P. I went into a restaurant and had an oyster stew. In the morning I went out into the street. I staggered around in the street. I don't know how long, but that brought me to my senses. The rest I can tell all right." "How did these things come back?" "While you were reading, something kept coming up and I could see things coming back." "Did you really see them?" "Yes, plainly. I happened to think of the fellow just then, then I followed it along and it came gradually." "Did you feel anything peculiar while the memory was coming back?" "Kind of a cloudiness coming out from it."

The synthesis of the memory remained stable, there was no longer a feeling of a "blank" in the mind. He knew he slept during the amnesia period, because he recalls the sensation of waking up. The physical examination was negative, with the exception of a moderate, *concentric limitation of the visual field*, which returned to normal in the course of a few days. The patient was discharged recovered.

Case II, M. P., male, age fifty, was admitted to the Worcester Insane Hospital on July 26, 1905, suffering from delirium tremens. He rapidly became mentally clear, but there remained a period of amnesia of four days comprising from Sunday, July 23, to Thursday, July 27, 1905. This was inclusive of the delirium, the arrest, and the admission to the hospital. There was no limitation of the visual field. The experiment to restore the memory may be given as follows:

" You remember coming here?" " I do not." " Which way did you come?" " I don't know. I couldn't tell you the first thing." " What is the last thing you remember?" " Before I went to bed last Sunday night, Dr.' D. came to the house. My daughter was there with another girl and there were two fellows there, one named W. We had half a pint of whiskey, and the two and me drank the whiskey. Well, one of the fellows went home and the other stopped for a smoke for ten minutes and I smoked with him, then he went home and I went to bed. That is the last I remember." " What is the next thing you remember?" " I remember lying in some part of this building." " Is everything blank since Sunday night?" " I don't remember a thing. I was never the way I am now. There is something in my brain that is keeping my memory from me."

The patient was asked to close his eyes and listen to the reading of a newspaper clipping which lasted one minute. The first trial was unsuccessful, but on the second trial, after a few minutes, he suddenly exclaimed spontaneously:

" I had a dream that I was pulled up by a policeman and that we had a tussle and he pulled and gave me a hell of a jam, and my head struck a jag and I was taken to some kind of a hospital. There was a doctor or two there, but they didn't look in to see me anyway. I was let out and let home. There were two or three fellows waiting for me. That is the last I remember. This was Monday evening, July 24. I was dressed." " How did you happen to

remember that?" "It just came to me." "Are they clear?" "As clear as I look to you, even to the cops."

It was impossible, with further experiments, to restore any more of the lost memories, except that he added a detail, "A carriage brought me home." This condition remained up to the time of his discharge from the hospital. Investigation showed that the details of his memory were correct.

Case III, J. O., age forty-seven, male, admitted to the Worcester Insane Hospital on September 6, 1905. He became clear on September 8, but there remained a sharply limited amnesic period from Tuesday evening, September 5, to Thursday morning, September 7, 1905, about thirty-six hours. This amnesia comprised the first portion of the delirium, but the hallucinations and disorientation continued and he did not become mentally clear until the next day. He remembers that on Tuesday evening, September 5, while drinking hard, he visited his sister's house, but feeling nervous and "shaky" he took some pills and returned to his home about midnight. He remembered nothing more until he found himself in bed in the hospital on September 7, 1905. (Thursday morning.) He made no voluntary effort to recall the amnesic period, neither did any of the subconscious memories surge up in dreams or during distraction while working in the wards. The hypnoidal method was used in an effort to restore the lost memories.

First and Second Experiments. Reading methods unsuccessful.

Third Experiment. Listening to tick of stop watch for three minutes.

"What came to your mind?" "Something tells me I was down to a neighbor's home, and I thought they sent me home and I can remember the tall young fellow coming round the bed with a lantern [referring to night nurse while in hospital]. Seems to me that I asked him if it was my bed and he told me that it was, and I lay down in it." "When was this?" "It must have been Wednesday."

Fourth Experiment. Listening to watch tick for five minutes. During hypnoidal state there was frequent deep sighing, and the pulse was 90.

"It seems as though he told me that it was my bed and after that I went to sleep." "Remember coming to the hospital?" "I remember Officer K. taking me in an ambulance." "Where did you go then?" "I must have been put in the ward." "At once?" "Don't know." "What did you do first?" "I don't know."

Fifth Experiment. Listening to watch tick for three minutes. Pulse 88. Asked to remember the facts of his admission to, and his early stay in, the hospital, but the effort was unsuccessful.

Sixth Experiment. Listening to watch tick for three minutes.

"Something tells me they took me to W Street" (police station). "Who was there?" "This Officer M." "Did you see any doctors?" "I don't remember." "Then what happened?" "I was sent down here." "How many came with you?" "Three or four" (correct). "Who were they?" "Officers" (correct). Unable to recall any more facts, and later tests were unsuccessful in recalling any more of the memories, but the patches that were revived seemed more real to him than the memories of dreams.

Case IV, G. M., age twenty, was admitted to the Worcester Insane Hospital, on Monday, September 18, 1905. He has used alcohol in the form of whiskey since he was fourteen years old, at times taking as much as a quart daily. Since March, 1905, there has been noticed increasing irritability, with transitory furor and delusions of jealousy. He frequently threatened his wife with a knife and revolver, and an attempt to shoot her finally led to his commitment. While in the hospital he was quiet, showed a normal reaction and answered all questions willingly. At an interview on admission he admitted excessive alcoholism with irritable episodes and reiterated the statements of his wife's infidelity, but denied threatening her with a revolver. The physical

examination was practically negative. At a complete mental examination on October 3, 1905, it was found that he was perfectly oriented, showed a quiet, normal reaction, and a perfect grasp in his surroundings, while the remote memory was perfect. There was no disorder of the time sense. The recent memory, however, showed a marked impairment. Following the forced sudden withdrawal of alcohol by reason of his arrest, there developed an amnesia of four to five hours while in the police station, then a spontaneous return of the memory, and then a sharply localized amnesic period occurring during the hospital residence, comprising from Monday afternoon, September 18, the day of admission, to Wednesday afternoon, September 20, 1905, almost forty-eight hours. He first began to realize the gap in his memory *in the afternoon of September 20*, during a visit of his wife. During the amnesic period he was conscious, reacted normally to his surroundings, and performed many complicated acts in the wards, such as reading, eating, talking, and sleeping. The amnesia was a perfect blank, and neither by mental effort, in dreams, nor during periods of distraction or abstraction, did any of the lost memories return. On account of the sharply localized amnesia, it was decided to attempt a revival of the subconscious memories by the hypnoidal method, with the feeling, that if unsuccessful, it would be extremely valuable, for it would be possible to verify all the facts, because of the occurrence of the amnesia while the patient was under observation. The experiment is given in detail.

On Thursday, October 5, 1906, the patient was taken into a quiet, partially darkened room, and instead of the reading method, the external stimulus used was the tick of a stop watch (while the patient's eyes were closed), as furnishing an extremely monotonous sound stimulus.

Preliminary Examination. "How long have you been here?" "Two weeks and two days" (correct). "When did you come?" "The 18th." "What day is this?" "Thursday" (correct). "Have you had any company?" "My wife came two weeks ago last Wednesday" (correct).

"Where were you between Monday and Wednesday?" (in the amnesic period). "I think in G. H." (a ward, correct). "Did you see any doctor when you came here?" "No" (incorrect). "When did you see me first?" "Wednesday or Thursday" (incorrect). "Didn't you see me before that?" "No." "Did this other doctor [assistant] talk with you before this?" "No." "What happened between Monday and Wednesday?" "I don't know that anything happened." "Do you remember everything between these two days?" "No, I don't remember anything." "Can't you remember anything?" "No." "Do you remember being brought to the hospital?" "I remember coming in a hack from the station" (correct). "What way did you come?" "I couldn't say whether I went directly into the ward or not." "What door?" "I don't know which door." "Who came with you?" "A young fellow. I don't know who he was." "What do you remember next?" "My wife and sister coming to see me." "Is your mind blank till then?" "Yes; I don't remember anything. I was sleeping and the nurse awoke me and said my wife was here." "Do you remember being awakened?" "Yes." "When did you find out that you lost your memory?" "On Wednesday [two weeks ago], when my wife was talking with me. I found there were some things I couldn't remember." "How did you happen to come to?" "I was lying on the settee and they woke me up." "Is it all a perfect blank?" "Yes." "Have you tried to recall what happened?" "Yes, several times." "Have you dreamed since losing the memory?" "No." "Made any efforts to recall things?" "Yes, last night in bed I tried hard." "Did you succeed?" "No."

The first experiment was unsuccessful.

Second Experiment. Allowed to listen to the watch tick for three minutes, during which period the eyelids quivered as before, while the respiration became more rapid. "What came into your mind?" "I think that Tuesday morning, September 19, I got up and read the papers, talked to the attendant and laid down. Two or three men

came in and walked about the ward and went out. I think they called me over and talked to me" (correct, referring to an interview with physicians). "Who talked?" "They asked me questions, how I got here and who sent me here. They asked me if I ever threatened anybody. I think that's all they had to say to me, and then I went back to the room. I laid down and slept till noon. Then I ate dinner and I think that is the first meal I ate. Then I read a book, 'The Wreck of the Governor.' I read a page or two and went to sleep. It was a black, thick book." "Who was the author?" "I didn't look." (In the ward library there was a book by Clark Russell, entitled, "The Wreck of the Grosvenor." It was cloth bound, but was covered by a dark gray paper.) "I remember Monday they took me out of the cell and put the handcuffs on me. I went to sleep on the way. When I reached the station the man [constable] gave me two cigars, a paper and some cigarettes. I think I went to sleep in the train. From the station we took a carriage and came here. That's the last I remember." "Do you recall anything more about Tuesday?" "I talked with P. [a patient with hypochondriacal depression] in the afternoon. He asked me if I came from Boston and I said, 'Yes.' He said all the people there were rotten. I thought he was bug-house and let him alone." "Remember having supper?" "Yes." "Remember anything about Wednesday?" "I remember when I got up, I rubbed up the floor and moved the chairs around and talked with an attendant." "Was that before your wife came to visit you?" "Yes." "And then?" "I think I was there all the morning, and then my wife came about three o'clock." "Did you sleep?" "I think I slept Tuesday." "How do you know?" "I think I went upstairs and went to bed." (The dormitory is situated above the sitting room.) "Are you sure of it?" "I couldn't swear."

Third Experiment. Asked to try and recall the facts of his admission to the hospital. Listens to watch tick for three minutes.

" What came to your mind?" " They weighed me Monday [correct]. And I think they searched me. They took my handkerchief, my hat, and a pair of cuffs. They asked me my name and then took me down into the hall. I don't think I ate any supper that night." " Did any doctor talk with you?" " I remember seeing you. You came into the doorway and stood there a minute and walked out. I was taken to another place where they weighed me." " What did the first place look like?" " Oh, it was a great big room, and there was a desk and I sat down and wrote to my wife and told her to get my money at the place where I was working. I put down the address." " What did the place look like where they weighed you?" " It was a room with a little hall way off. There was a desk there and a young fellow came in and sat down. This was where they searched me. I think that man [assistant] came in and talked with me Tuesday morning." " How did you happen to remember all this?" " I don't know ; it seemed to come back to my mind." " How?" " I did not seem to bother about anything else. Last night I stayed awake and tried to remember, but something else kept coming in my mind." " Did it come back all at once?" " No; little by little." " How does it all seem to you now?" " Something like a dream." " Is it as real as things you remember naturally?" " No, not as real." " How did the watch tick happen to bring the memory back?" " I did not seem to think of anything else. It seems almost like a dream, as though I dreamed those things."

He admitted that although the revived memories seemed dreamlike, yet, unlike a dream, the details were sharply outlined, and he furthermore added that the proof that the occurrences really happened to him, and were not dream memories, was the feeling that they seemed to be a portion of his own personality. A perimetric test of the visual field showed no limitation, either before or following the hypnoidal experiments. All the details of the revived memories were absolutely verified.

In all the cases, the amnesia was a toxic one, developing

under the influence of alcohol, was sharply defined in its onset, and at the time of its occurrence the patient was unconscious of the phenomenon. The dissociated memories were all sharply limited. In three of the cases, the amnesia comprised the delirium; in the fourth, there was no disturbance of consciousness, but it developed after an episode of irritability with a forced, sudden cessation of alcohol. In Case I, a single hypnoidal state was sufficient for a complete and stable synthesis of the memory in its totality, and it, therefore, must have been but slightly submerged below the threshold of consciousness. For the other three cases repeated stimulation was necessary. The memory here did not return instantaneously by a process of continuous association as in the first case, but was revived in isolated patches, which afterwards were connected and fused in chronological order. It was observed that in the deeply seated amnesias, the stop watch was preferable to the reading method for inducing the hypnoidal state, as it furnished an exceedingly monotonous and, at the same time, an accurately gauged form of stimulation. The most marked physical phenomenon, in connection with the amnesia of Case I, was the limitation of the visual field, a fact which had been already observed by Magnan and Bonhoeffer, as occurring in the height of delirium tremens. In our case, however, the delirium had subsided while the narrowing of the field of vision continued parallel with the amnesia. In our cases it seems fairly certain that the memory would never have spontaneously returned without the aid of some stimulus. This is evident from the cases of amnesia of various types which came under personal observation, and a review of the recent literature on the subject (Lührman, Alzheimer, Strümpell, Cowles, Paul, Berger, Hess, Burnham), shows the same to hold true. Indeed, Hess has pointed out that, where there is an alleged spontaneous return of memory, this is merely apparent and simulated, the events being gathered from conversation with others. In Cowles' case, with amnesia for a crime, the only spontaneous return of memory was a patch of dream-like recollection in the midst

of the act. The literature, however, affords a few examples in which the memory for an amnesic period was revived as the result of some stimulation, either in dreams or by experimental means (hypnotic or hypnoidal), or during a pathological mental state, either an hallucinosis or a delirium. In a case of amnesia following a moral shock, Toulouse made an effort to revive the lost memories by automatic writing, distraction, and hypnotism, but all these procedures were in vain. He insisted on the invariability of the amnesic field and asked the pertinent question: "Have the memories completely disappeared or do they exist in a latent state in the subconscious?" This important question was fully answered by subsequent investigators, notably Naef, Cristiani, Bonhoeffer, and Sidis. In 1897, Naef published a remarkable case of a total, temporary retrograde amnesia of several months' duration, which was completely cured by hypnosis. In this case alcohol was not an exciting factor, but in two later observations of Cristiani and Bonhoeffer, the amnesia was of alcoholic origin. In the former, the memory of a homicidal act returned during a depressive hallucinosis; in the latter, the circumstances of an arson were recalled during an attack of delirium tremens which developed two days after the crime. Lately, however, by means of hypnosis and experimental distraction (the so-called hypnoidal method), Sidis has been able to effect a synthesis of various dissociated mental states. I refer to the amnesias of epileptic and hysterical conditions and of alcoholic intoxications, mental dissociation in hysteria, functional psychoses, depressive delirious states, and functional motor disturbances, and, finally, the profound memory disorder as the result of trauma in the case of the Rev. Thomas C. Hanna. In discussing the disturbances of memory alone, it was shown by Sidis that amnesia does not imply unconsciousness, for the lost memories may be present, but submerged in the subconscious, in an intense, dissociated form. When the upper consciousness is drawn off, when its inhibitory influences are rendered weak or inert, these subconscious memories

surge up, break through the strata of the upper consciousness and become manifest. Sometimes they sink back again, but by continued stimulation a stable synthesis will be the result. Experimentally, this can be done in hypnotic or hypnoidal states, and physiologically fragments of lost memories surge up in dreams, only to sink wholly or partially back again in the waking condition. This latter occurred notably in the Hanna case, and in one of Janet's cases of continuous amnesia. For details of this interesting work, the reader is referred to the original publications, the titles of which are given in the appended bibliography. One abstract must suffice; a case of mental dissociation in alcoholic amnesia, one of the series of cases in the "Psychopathological Researches." The close resemblance of our cases is very evident. A middle-aged gentleman, previously a social drinker, inadvertently drank to excess within a short period of time, and, as a consequence, there developed an amnesia of three hours' duration, during which period he executed many complicated acts, such as driving, walking about the streets, etc. The writer very justly says, "The various things which he must have done must have been intelligent acts or otherwise they would have attracted attention and excited comment; the acts must also have been of too complicated nature to be designated as automatic. In other words, instead of being in a condition of *unconsciousness*, he must have been in a condition of *other consciousness*, for which, in his ordinary waking state, he was amnesic." By the hypnoidal method, however, the lapsed periods were entirely brought back, fragmentary at first, but finally completely synthetized in the order of their occurrence. The authors insist on the importance of careful studies of alcoholic amnesia, because of the large number of crimes committed for which amnesia is subsequently claimed by the criminal, and of which he cites several examples from the literature.

We see, therefore, that the memories of amnesic periods are not irretrievably lost, but merely exist in a diffused and dissociated form in the subconscious mental life. These

memories cannot return spontaneously, except in a very fragmentary manner in dreams, but by means of proper stimuli to induce distraction, they are capable of being fully revived and firmly synthetized with the upper consciousness. This can be accomplished in several ways,—either by hypnosis or by distraction of the upper consciousness as in the hypnoidal method, or in a subsequent delirium or hallucinosis, the two latter being a kind of pathological hypnoidal process, in contradistinction to the experimental variety. Of all these methods, the hypnoidal seems to be the most successful in its results, and the rapidity of the revival of the memories, so far as our cases are concerned, appears to bear a direct relation to the monotony of the stimulus. The memory may return in two ways, either in its totality without any disturbance of the time order, or, as is more frequently observed, there may be a synthesis in fragments, which later become completely fused in the order of the occurrence of the events.

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ON THE CLINICAL DIFFERENTIATION OF THE VARIOUS FORMS OF AMBULATORY AUTOMATISM.

BY J. W. COURTNEY, M.D., BOSTON.

The phenomenon under consideration is most apt to lend itself to clinical observation in the three following forms: the toxic, — as exemplified in alcoholism and dementia paralytica, — the epileptic, and the hysteric.

With regard to the toxic forms, very little will be said. In the paralytic dement types, the mental and physical conditions found are so absolutely pathognomonic that diagnosis presents little or no difficulty, and the same statement is largely applicable to the alcoholic. In the latter actual physical signs in the way of pupillary and tendon reflex changes may be lacking, but there is usually no dearth of other indications that determine the diagnosis. Such cases almost invariably fall into the hands of the authorities and through this channel into those of the alienist. The alcoholic facies, the coated tongue, the icteric scleræ, the general tremulousness and the marked disorientation as to both time and place, with ultimate return of memory, leave little doubt as to the exact nature of the etiologic factor at play.

Far different, however, is the case of the individual who suddenly departs from his accustomed surroundings, walks or, in some way, journeys to a distance under the guidance of an apparently normal intelligence, maintains while there a course of action that in no wise impresses as peculiar either himself or the people with whom he comes in contact, and then suddenly or gradually experiences a complete change in his mental processes, which brings him to himself, so to speak, and annihilates practically all memory of what has transpired during the period of his fugue.

In the older literature, as is well known, this phenomenon is practically always to be found under the designations

"epilepsia larvata" and "masked epilepsy," but since Charcot's time the attitude of certain clinicians toward the phenomenon appears to have undergone a radical change, and at present it seems to be their main endeavor to entangle it within the meshes of the capacious semiologic dragnet of hysteria.

Broadly speaking, any endeavor which makes toward exact and clear-cut differentiation of one morbid condition from another is most commendable. On the other hand, there are morbid conditions in which the transcendental looms so large and between which the border line is so blurred and ill-defined that no amount of endeavor, however well and zealously directed, can lead to more than purely arbitrary distinctions; but, curiously enough, this truism seems, for the most part, to have been lost sight of by certain writers who have attempted to dogmatize upon the clinical status of the phenomenon under consideration.

In approaching either hysteria or epilepsy from the pathologic side we have absolutely no dependable material data to guide us. We find ourselves at once hopelessly adrift upon a sea of speculation. Without the slightest exact knowledge of the factors at work, we ascribe, for example, the morbid psychic phenomena of epilepsy to inhibitory or irritative explosions within that portion of the cerebral cortex which presides over mental processes, and speak of the associated motor phenomena as the end result of perverted ideation. With equal sophistry we speak of the hysteric form as due to a disaggregation of mental processes, a doubling of the personality, a state of somnambulism. In other words, we establish pathologically a distinction in kind between the two types, which is identical with that which exists between tweedledum and tweedledee.

It now remains to be seen whether the "distinguo" of the clinician is any happier or any more convincing from a semiologic standpoint.

A review of the literature for the past fifteen years shows that individual experience with the phenomenon under consideration is not only relatively but absolutely limited,

and that even collectively such experience is not overwhelmingly great, a fact which tends to foster a healthy skepticism with regard to any broad clinical generalizations that may be advanced.

At the Congrès International de Médecine Mentale, held in Paris in 1889, Voisin, in a paper entitled, "Fugues inconscientes chez les hystériques; automatisme ambulatoire. Diagnostic différentielle entre ces fugues et les fugues épileptiques," attempts, on the basis of less than ten cases, all hysteric, to differentiate in the following manner:

He calls attention to the fact that in all his cases, during the period of the fugue, visual and motor images dominate the scene; that the patients perform acts which they have already performed in the waking state, and that they have thought about these acts, or have been preoccupied with them during the days preceding. He says furthermore that in all cases observed by him, the début of the fugue is marked by a feeling of suffocation on the part of the patient, which is accompanied by a deep inspiratory movement and vertigo. Of these feelings, however, the patient, having returned to the waking state, has no memory, and it is necessary to hypnotize him to elicit a history of them. Continuing, this author says: "These unconscious fugues, these scenes of ambulatory automatism, in a word, these changes of personality, last for a longer or shorter period of time. They last for several hours or several days, and no memory of this very peculiar existence remains with these patients once they have returned to their normal state. A page of the book of life has been torn out and no longer exists for them. To restore it a new attack must take place or the patient must be thrown artificially into the somnambulistic state. This ability to resuscitate these scenes by induced sleep is an absolute proof of the hysteric rather than the epileptic character of the phenomenon, for we know that an epileptic is hard to hypnotize. This element serves for differential diagnosis between the hysteric and the epileptic fugue.

"The fugue may present itself under two forms: It may be of short duration and coincide with the vertigo, or it may be of long duration and constitute a veritable doubling of the personality.

"Vertigo is frequent among hysterics. It is almost always accompanied by propulsion, with a sensation of a ball in the throat and suffocation. The patient gives the impression of attempting to get rid of this suffocated feeling by walking, and very often we see the hand go to the throat, the region of the heart or of the ovary. This vertigo with fugue is also a distinctive sign in the epileptic type, but the face of the epileptic is pale while that of the hysteric is rosy. In procursive epilepsy diagnosis is difficult at the onset, but even there, the face is pale and dull, the patient presents no sign of suffocation, and the termination of the attack with stertor, incontinence of fecal matters, and biting of the tongue removes all doubt as to the nature of the disease.

"In the epileptic 'absence' so-called, the face is pale, the eyes are usually rolled up convulsively and there is neither fugue nor suffocation.

"In the incomplete epileptic attack there is observed, independently of the pallor and dullness of the face, convulsions of a certain group of facial muscles, incessant repetition of automatic movements of the limbs, similar to those ordinarily gone through in the act of brushing, washing, etc., and at the same time there is heard a mumbling of certain words, always the same, and this incomplete attack often terminates with incontinence of urine, biting of the tongue, and a slight frothing at the corner of the mouth.

"In the cases of fugues of long duration, one notices among hysterics, both method and coördination in all their acts. The patient seems to be in a perfectly normal condition, judged by the orderliness of his acts, his bearing and his words. In him the change from the normal to the abnormal and back again is abrupt, the onset of the attack following directly in the wake of a suffocating feeling or a deep intake of the breath; cessation of the attack also following either this same latter phenomenon or a lucid lethargic sleep. In epileptics, on the contrary, agitation is commonly noticed, and most often violence. The patients frequently have terrifying hallucinations. They strike, break, and kill. In such cases we have before our eyes a veritable outburst of rage, a true delirium, and we do not find the stigmata of hysteria. When the patient offers no violence, his face is pale and almost always dull; his acts are not well coördinated. He wanders aimlessly about, seizes certain objects, and often

jostles persons who may be in his way. This epileptic fugue is almost always preceded or followed by a convulsive attack. This convulsive attack often takes place the night before, and the only indication of it may be the soiling of the bed. Moreover, when sleep terminates the scene, this sleep is heavy, deep, stertorous, and prolonged, and when the patient comes to himself, he is used up and unfit for work. These occurrences, by the frequency of their repetition, quickly lead to a mental failure on the part of the individual, a thing which does not happen in hysteria.

" Finally, in the epileptic fugues it is probable that the body temperature rises above the normal and the secretion of urea likewise, just as in the ordinary epileptic fit."

This article of Voisin is cited *in extenso*, not because it is relevant in its entirety to the matter directly under consideration, but because it states this author's whole case, and has been cited by others holding identical opinions.

Dr. Pierre Janet, in his extremely valuable work — " Les accidents mentaux des hystériques " — says (p. 291): " We insist particularly with this author [Voisin] upon the incoördinate, senseless character of the impulsive acts of epileptics. In our opinion, an automatism to be truly epileptic should be very short, senseless, and without intelligent combination of the acts, as regards the circumstances; whereas a complete fugue lasting for days on end and in which the subject talks and acts apparently like a normal person, seems to belong distinctly to hysteria rather than to epilepsy."

Pitres [1] says: " The epileptic doesn't reason in his disease; he loses consciousness suddenly and acts like an automaton, while the hysteric thinks upon and even carefully prepares his fugue."

Raymond,[2] in a clinical lecture delivered at the Salpetrière, and entitled, " Les délires ambulatoires ou les fugues," thus expresses himself: " The complete fugue, composed of intelligent and coördinated acts executed during a fairly long

[1] Cited by Raymond.

[2] Gazette des Hôpitaux, July 2 and 9, 1895.

space of time and followed by amnesia, with return of memory later in the somnambulistic state, is for me a type of the hysteric phenomena."

Before taking up these diagnostic criteria for detailed discussion, I wish to note one other upon which Voisin lays considerable stress, namely, the treatment by bromides. In his opinion, if a case of ambulatory automatism is not benefited by this form of treatment, it should be relegated to the hysteric rather than to the epileptic category.

In attempting to differentiate between the hysteric and the epileptic nature of the shorter fugues, Voisin seems to the writer to have fallen into the error of utilizing phenomena which are notoriously inconstant. It is undoubtedly true that in the hysteric form visual and motor images dominate the scene, that patients perform acts which they have already performed in the waking state, and that they have thought about these acts for some days preceding the fugue, but to say that this same combination of facts does not also obtain in the genuinely epileptic variety is to neglect the evidence furnished by carefully observed cases. Colman, for example, reports [1] the case of an epileptic whose fugue regularly took the form of walking to a house which he had occupied three years before, the present occupants of which did not know him. After a short stay there he would go away and not recover consciousness for some time afterwards. In another case reported by this author [2] an epileptic fugue of twenty-four hours' duration was the direct outcome of much anxious thought given by the patient to the search for money he had lost. Both of these patients responded favorably to the exhibition of the bromides.

Whether or not epileptic patients are, with difficulty, hypnotizable, and whether or not it is only the hysteric who can be thrown artificially into a state of somnambulism and made to revive the memories of his automatic acts, lost to him in the waking state, is an open question. From the repetition of the same apparently purposeful acts in

[1] *Lancet*, July 5, 1890, p. 14, 15.

[2] *Lancet*, August 29, 1903, p. 593, 594.

successive epileptic automatic states it is logical to suppose that the epileptic is actuated by a subconscious ideational synthesis identical with that of the hysteric. Two facts support this contention: first, that many epileptics prior to the first unequivocal manifestations of their disease are confirmed somnambulists. This fact, in and of itself, shows that in such epileptics, at least, the habit of subconscious coördination of mental processes is well established. The second supporting fact is to the effect that epileptics in the waking state are certainly extremely amenable to suggestion both from within and from without. As to their suggestibility during the attack, I can only say that in a case of my own,[1] which was characterized by ambulatory and other automatic phenomena, I obtained, by suggestion, the patient's signature to a promissory note for $10,000. This was done while he was quite unconscious of his acts, and was followed by complete amnesia.

With these facts in mind I, for one, am unwilling to accept the Voisin dictum that only hysterics can be made to recall the lost memories of their automatic actions in somnambulistic states artificially produced.

With regard to the purely physical phenomena which, for Voisin, characterize the beginning and end of the two varieties of automatism, there is very little need of special argument. The vertigo, feeling of suffocation, and peculiar inspiratory movement noted at the outset of the hysteric fugue, are also common to the epileptic, and hardly any of us would agree that the face is always pale in the latter form and rosy in the hysteric. As to the termination of the epileptic attack with relaxation of the sphincters, biting of the tongue and frothing at the mouth, experience teaches that only rarely do epileptics suffer from all of these accidents, and that a goodly number escape them altogether. We might even go farther and say that a certain number of genuine epileptics present the sensory and sensorial stigmata which are supposed by some to be the exclusive appanage of

[1] *The Medical News*, June 22, 1901. Psychic Epilepsy, with the report of a case.

hysteria. Gowers,[1] for example, has found a general reduction of the visual fields to a third after an attack. Colman [2] tells of a patient who snapped both bones of the arm without pain, and Spratling [3] records a further case in which the patient recoiled a little when stuck with a pin, provided he saw the act; otherwise he hardly seemed to feel deep penetration.

Coming now to the fugues of long duration, I will place in parallel columns the symptoms upon which Voisin bases his judgment as to which category, hysteric or epileptic, a given case belongs:

HYSTERIA	EPILEPSY
Patients show method and coördination in all their acts. They seem to be in a perfectly normal condition, judged by the orderliness of their acts, their bearing and their words.	Agitation is commonly noticed and most often violence. Patients frequently have terrifying hallucinations. They strike, break, and kill. We witness a real outburst of rage, a true delirium, and we do not find the stigmata of hysteria.
The change from the normal to the abnormal and back again is abrupt; the onset of the attack follows directly in the wake of a suffocating attack or a deep intake of the breath; cessation also follows such deep intake of the breath or a lucid lethargic sleep.	When patient offers no violence, his face is pale, and almost always dull; his acts are not well coördinated. He wanders aimlessly about, seizes certain objects and often jostles people who may be in his way.
Mental failure never follows attacks.	This epileptic fugue is almost always preceded or followed by a convulsive attack. This convulsive attack often takes place the night before; the only indication of it may be the soiling of the bed.
	When sleep terminates the scene, this sleep is heavy, deep, sterterous and prolonged. When the patient comes to himself, he is used up and unfit for work.
	These occurrences, by the frequency of their repetition, quickly lead to a mental failure.

Just how recorded cases of genuine epileptic fugues of

[1] Diseases of the nervous system, 1893, Vol. II, p. 747.

[2] *Lancet*, July 21, 1900, p. 128.

[3] Spratling, Epilepsy and its treatment, ed. 1904, p. 154.

long duration accord with the requirements set by Voisin now remains to be shown. I will not cite the well-known case of Charcot [1] because it appears not to be entirely free from objections. I will, in fact, make no attempt to cite all the cases found in the literature, but will take only such as I deem necessary to cover the point under consideration satisfactorily.

Colman [2] cites the case of a telephone linesman whose ambulatory automatism lasted five days. During this time his acts were entirely free from violence and to all intents and purposes well coördinated. On coming to himself he experienced a violent headache, but no other bodily discomfort. He had never had a genuine epileptic seizure of the *grand mal* type, but had experienced previous ambulatory episodes of shorter duration, from the first of which he came to himself with a half-startled feeling, as if awaking from a disturbed nap. He did not feel particularly ill and was able to return to his work the following morning. This case responded favorably to the bromide test. In another case cited by this author, the only feeling experienced by the patient on coming to herself was one of weariness, and in a third, severe occipital headache and hunger. In the second case no actual fits preceded the automatism, but the patient was subject to occasional sudden attacks of mental depression which did not occur while he was taking bromide. The third case had never had any actual epileptic fits, but had had two alarming attacks of vertigo, on both occasions while being shaved, the head being well thrown back.

Grandjean [3] reports a case which presented none of the symptoms of the common attacks of epilepsy, such as biting of the tongue, incontinence of urine, etc., but which was marked by long ambulatory automatisms during which the patient, according to the testimony of various people who

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[1] *Lecons du mardi;* January 31, 1888, Vol. I, p. 112; February 22, 1889, Vol. II, p. 313, and March 5, 1889, Vol. II, p. 372.

[2] *Lancet,* August 29, 1903, pp. 593, 594.

[3] Un cas d'automatisme comitial ambulatoire. Rev. méd. de Suisse Romande, 1891, Vol. II, p. 354.

saw him while in these automatic states, conducted himself in the most perfectly normal way. It was even ascertained that he wound his watch regularly while in the attack. In this case the cessation of the attack was marked by headache, great fatigue, and a total amnesia; hysterical stigmata were carefully looked for, but not found.

Spratling [1] records (p. 155 *et seq.*) a very striking case in which the patient, a confirmed epileptic, experienced an ambulatory automatic episode lasting twenty-eight days. "During this time," says Spratling, "the man traveled quite extensively in the West; visited his customers; wrote orders; sent telegrams; and engaged in various business transactions, that he afterward had no recollection of whatever. The only way that he could be convinced that he had done all these things was through reference to copies of all letters and orders he had written, and through daily entries in his diary, in which he had noted his condition with exactness and regularity, using a certain Greek sign to designate his epileptic attacks, as he did not want others to know that he was a victim of the disease."

Sweeney [2] reports a case of a contractor, age forty-three, who had had attacks of *grand mal* at the age of eleven, but had since been free from motor epilepsy. On August 11, 1902, he left his home to go to the town where he was engaged in erecting a building. He remembers boarding a train, but at this point recollection ceases. On September 30, 1902, he came to himself while walking the streets of a country village; the houses looked strange and unfamiliar and the people he saw were wholly unknown to him. His clothes were old and worn, and he was wearing a full beard. He was much confused, and entering a store he asked the name of the town and date. He learned that he was in Medford, Oregon, and that the date was nearly two months later than the day he boarded the train at Colorado City to go to his work in the adjacent town. He at once wrote a letter to his wife, but it was with much difficulty that he

[1] *Loc. cit.*

[2] *St. Paul Medical Journal*, March, 1904, p. 171.

could concentrate his thoughts, and he does not remember finishing it or mailing it, although subsequent events show that he did so.

It appears that when this patient stepped off the train at Medford, about August 20, he asked for work from a carpenter who hired him at once. He was set to work on some buildings, and did, with promptness and ease, the task allotted to him. Nothing strange was noticed in his behavior, except that he was rather taciturn and at times abstracted. At his boarding house he acted naturally, and nothing in his conduct suggested that he was not in full possession of his faculties. He talked but little, and then only of current events. He paid his board each Saturday night, and gave to the landlady the balance of his wages to keep for him, she having saved $90.00.

Enough cases have been cited to show that the epileptic fugue of long duration may, in and of itself, differ in no way from the hysteric type as described by Voisin. We do not find in the cases cited any evidence of terrifying hallucinations or of deeds of violence. There is method and coördination in all the acts performed. The change from the normal to the abnormal and back again was in certain ones abrupt, and in none was there any evidence of a convulsive attack preceding. Whether the face was pale, or the contrary, is not specifically recorded, and we do not actually know whether or not the sphincters were affected.

On the general matter of the convulsive attacks which are claimed by Voisin to nearly always precede or follow the epileptic fugue of long duration, I wish to quote the following paragraph from Spratling[1] (p. 171). "From the number of attacks of this kind (psychic) which I have had the opportunity of studying clinically in detail, I can say with quite firm assurance, that they were in no wise complicated with any other epileptic state or condition, the sudden loss of consciousness appearing in all in a sharp, distinct, clear-cut manner, without the shadow of motor disturbance in any degree in any part of the body."

[1] *Loc. cit.*

As to the mental failure which is supposed to follow invariably upon a succession of attacks of the epileptic variety, I should like to point to a case of Spratling's,[1] that of a girl who was eight years of age when the attacks began and who averaged from 40 to 60 psychic seizures daily, for six years, when they began to decrease, appearing four or five times only in twenty-four hours, again disappearing completely for days at a time. Notwithstanding all these, she developed naturally, mentally and physically, grew strong and robust, and at the age of fourteen showed every prospect of becoming rid of the seizures entirely.

In summing up the evidence furnished by the material before us, the conclusion which presents itself most strongly is, that the epileptic fugue, in and of itself, presents no peculiarities which distinguish it clinically in many cases from the hysteric fugue, and that in the face of this fact diagnosis between the two conditions should never be attempted on the basis of this phenomenon alone.

As Heilbronner[2] says in his very interesting and comprehensive article, "Ueber Fugues und fugue-ahnliche Zustande," it is not from consideration of single phenomena, like these fugue conditions, that we are able to keep a true perspective in diagnosis, but rather from a thorough study of the habitual condition of patients, both from the clinical and the forensic standpoint.

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[1] *Loc. cit.*

[2] *Jahrbucher für Psychiatrie und Neurologie*, Vol. XXIII, I and II, *Heft*, p. 107 *et seq.*

ON HYPOCHONDRIACAL MELANCHOLIA IN RUSSIAN SOLDIERS.[1]

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SEVERAL years ago, Dr. Stchegloff drew attention to the fact that mental affections occurring in soldiers are, in the main, not typical. Dr. Chaikevitch has confirmed the fundamental conception of Dr. Stchegloff, and has come to the conclusion that among soldiers many cases are encountered in which there is noticeable in the patients a state of depression, associated, in some instances, with a condition of stupor. To indicate these particular psychoses, Dr. Chaikevitch employs the term, "Depressive-stuporous psychosis." I may remark that the name, "depressive-stuporous psychosis," is likely to give rise to error, and to appear to be a collective term. All the forms, however, which bear this denomination should be distributed among the clinical groups which have been already well established. None the less, I concur in the view point of the military physicians who maintain that among soldiers afflicted with psychic maladies, many cases are met with wherein a state of depression is noticeable. For myself, a physician having to do with non-military patients, the fact has been noteworthy that among soldiers stricken with mental maladies, one can often observe a state of depression; and among these depressed patients we must accord first place to those suffering from melancholia. Whether it be an occasional occurrence or not, I am unaware, but up to the present time we have met with cases of melancholia which were not very typical; in fact, we have seen melancholia with obsessive ideas, alcoholic melancholia, delirious melancholia

[1] From the hospital for soldiers with mental disease. Director, M. Lakhtine, Privat Docent.

with self-accusation for sexual crimes, and reasoning melancholia; but we have not here met the typical picture of melancholia, nor have we observed melancholic dysthymia. Let us approach the principal theme of our communication, namely, hypochondriacal melancholia.

Since they have been more numerous here than the other varieties, we have observed five cases of hypochondriacal melancholia. It is, therefore, worthy of note that among the soldiers treated in this hospital, and presenting melancholia of varied type, cases of hypochondriacal melancholia predominated, and it is furthermore necessary to state that the hypochondriacal melancholia in the patients observed here differed from the ordinary typical hypochondriacal melancholia which one observes in non-military patients.

Indeed, the complaints of our patients were, upon the whole, very uniform; for example, the patient complains of having pain in the abdomen; he will repeat the same thing day after day; what he related to you yesterday, that he will reiterate to-morrow, for it is always the same story. In the construction of his hypochondriacal ideas he manifests astonishingly little initiative, and localizes his painful and disagreeable sensations in some definite region. One of our patients complained of painful sensations in the abdomen; another, of pains in the head; a third, of pains in the chest; a fourth, of pains in the region of the xyphoid process of the sternum, while a fifth patient once maintained that his lower extremities distressed him, where there was a wound in the region of the thigh. In none of these cases of hypochondriacal melancholia did the painful and distressing sensations correspond to the facts elicited by objective examination. As regards the patient whose lower extremity was wounded, his complaints were at one time undoubtedly exaggerated; for example, he asserted that pus flowed from his wound, while the latter was even then already cicatrized. So preoccupied was he with the disagreeable sensations in his lower extremity, that he sometimes begged to have it amputated, although such a procedure was not necessary, as was subsequently confirmed by the

satisfactory healing of the wound. He was, at times, somewhat talkative, and rather liked to speak of his sick limb.

The other soldiers suffering from hypochondriacal melancholia presented, on the contrary, a striking apathy; they were not loquacious, and were less active; furthermore, they complained in an uniform manner of pain and ennui, and declared that they had pains in some definite region of the body.

The ordinary civilian patients preserve their consciousness clear in hypochondriacal melancholia. In them one may notice pain and hypochondriacal ideas, while fragmentary hallucinations and illusions may appear under the stress of emotion. Under the influence of fear for their health, the field of their consciousness may narrow and become, for a time, only slightly obscured. In hypochondriacal melancholia in soldiers, on the other hand, consciousness not only becomes restricted, but there also appears at times a rather erroneous appreciation of what is going on in the environment, all of which is noticeable in the course of a certain period. Such patients, apparently, are capable of having hallucinations and illusions, more or less definite, although their consciousness is not profoundly disturbed, and remains comparatively well preserved.

Since hypochondriacal melancholia is more often met with in soldiers, than the other forms of acute melancholia, it is pertinent to inquire, To what is this fact due? That it is an occasional phenomenon I am not inclined to believe, but I assume the necessity of establishing the predominance of hypochondriacal melancholia in the melancholic soldiers whom we have observed in this hospital. To the end that we may approach this question upon its merits, and analyze it as scientific clinical psychiatry demands, it is necessary to elucidate certain questions bearing upon it.

In the first place, we are confronted with the fact that hypochondriacal melancholia develops by preference in soldiers called from the reserve and not very young. As a matter of fact, we have not up to the present time met a

single case in which hypochondriacal melancholia has occurred in a soldier fulfilling his military duties for the first time; and even if we should, in the future, chance to meet such cases, that certainly will not militate against our supposition that hypochondriacal melancholia develops preferably in soldiers called from the reserve.

Secondly, those patients who presented the picture of hypochondriacal melancholia had, in a large majority of cases, taken a recent part in military activities, that is to say, they had participated in combat. One of the patients in this category was, as I have already said, wounded by a ball in the leg, while another patient had fallen into a pit, and had received an injury in the region of the xyphoid process of the sternum. The existence of cases of this sort, when the patient has not participated in combat, assuredly does not speak against the fact that hypochondriacal melancholia occurs by preference in soldiers who have played their parts in combat. I do not, by any means, affirm that it is evolved exclusively in these two conditions, but I may be permitted to call attention to the predominance of this form of melancholia, under the given conditions; and here the idea presents itself that perhaps hypochondriacal melancholia is found in more intimate connection with active participation in combat.

We may surmise that war, as such, sometimes appeared, in the soldiers taken from the reserve, to be the proximate cause of hypochondriacal melancholia; but, no doubt, the part played by individual predisposition should not be disregarded. In fact, it is necessary to believe that only those soldiers who had already within them the predisposition to hypochondriacal melancholia subsequently developed that affection. It is quite possible that if these persons had not been called from the reserve into active service, if they had not engaged in war, they would not have been stricken with this affection, but would have continued in the enjoyment of health. Such a view is altogether hypothetical. For to prove it definitely would seem to be quite impossible, since the causes of many maladies, among them melancholia,

remain still insufficiently elucidated. To maintain that in these patients with hypochondriacal melancholia, war is the only cause, would be both unjust and unscientific. This cause has served merely to evoke the manifestation of morbid elements, which had already germinated in the organism of the subject himself.

In order to say with assurance that recent participation in war-like combats was, in our cases, one of the principal causes of hypochondriacal melancholia, it is essential to inquire whether or not this form of mental trouble is found in soldiers in time of peace. Moreover, it is interesting to know whether it affects young soldiers called to military service after the age of twenty-one. I cannot answer this question, because hitherto I have had no experience with soldiers, the victims of mental alienation. Our desire for knowledge of this sort might have been satisfied by the military physicians, who observe such patients in time of peace. If it were demonstrated that hypochondriacal melancholia is, then, scarcely observed at all, or, at most, very rarely, — which I consider hypothetically quite possible, — it would serve to confirm our supposition that the appearance of hypochondriacal melancholia is concomitant with active participation of the patients in war.

Nor is this all; the cases of hypochondriacal melancholia, which we have observed here, appeared in subjects whose intellectual development was slight, and whose mental horizon was more or less contracted. Hence, if we are to support our contention that hypochondriacal melancholia develops preferably in soldiers called from the reserve, that is to say, in soldiers who are not young and who have participated in combat, it is essential to show that this affection is not often encountered among the common people, in individuals of slight intellectual development. Upon this point we might have been helped by the study of psychic patients living in isolated countries where culture is immature, and life simple, uniform, and monotonous. We have occasion to see in Moscow patients occupying different social positions, and among others, persons of the common

people possessed of little intelligence; but among these patients I cannot recall having seen such cases of hypochondriacal melancholia as I have had occasion to study in the soldiers in this hospital. Neither am I acquainted with any investigations by alienists in the Provinces, wherein they have pointed out the predominance of just such hypochondriacal melancholia as we have noticed here.

All these factors justify my belief that hypochondriacal melancholia is observed principally in soldiers called from the reserve, and who have taken part in combat.

It is important to add, furthermore, that in all our cases of hypochondriacal melancholia the disease manifested itself for the first time, for previously the patients had suffered from no psychosis whatever. We regarded them, to judge from their conversation, as individuals in excellent psychic condition, and it would be interesting to study more in detail their precise characteristics, antedating their illness. A point to be remembered is this, that in ordinary hypochondriacal melancholia occurring in non-military persons, for example, in women, we observe that the malady from the view point of mental pain developed at a definite time, and simultaneously there arises an augmented fear for their health, and a dread of all sorts of grave physical maladies. But an attentive questioning of the patient discloses the fact that even before this time, before the appearance of the indisposition, she suffered from an exaggerated impressionability, scruples, etc. Consequently, there was, even beforehand, an inclination to hypochondriacal ideas, which were merely aggravated with the onset of the disease.

Concerning our patients with hypochondriacal melancholia, it must be said, that since they were not very loquacious, it is difficult, in a general way, to say what their character really was. This point is all the more difficult of solution because we had to do with individuals of little intelligence, persons not accustomed to self-observation.

The duration of hypochondriacal melancholia in our patients was unequal; in some it terminated with marked amelioration, or perhaps even cure, some months after its

first appearance, while in others it was more continuous, being prolonged for an indefinite period, and one cannot say even approximately when such a patient will recover.

In a general survey of the cases of melancholia in this hospital we may note, that, hypochondriacal melancholia aside, various other types are encountered; but these forms are apparently not so frequent as hypochondriacal melancholia. It is difficult to establish any definite nexus between these types of melancholia and a sojourn in the far East; for example, a patient with reasoning melancholia stated that he had been suffering beforehand, and that he was already distressed when he was called from the reserve into service. In another instance, where melancholia was accompanied by very marked obsessions, it was evident to us that these symptoms already existed in the patient, although they were less in degree. They arose in his childhood, and were an expression of a pathological neuro-psychic organization.

In still another case of alcoholic melancholia, we came upon so grave a cause as chronic alcoholism, one episode of which was the use of Chinese brandy of a very bad quality, and here, again, we cannot say that war in itself has played the part of the principal exciting cause of the melancholia. One of our soldiers suffering from melancholia with hallucinations, and presenting delirium of self-accusation for sexual crimes, gave rise to the question whether there was, perhaps, a pre-disposition to mental trouble, since he was one of our distressing and prolonged cases. It is difficult to decide here just what rôle his sojourn at war in the far East has played.

Studying the cases of melancholia presenting a state of light stupor, we cannot arrive at any definite conclusion, but it is important that we keep in mind the fact that in all the cases above referred to, excepting the cases of reasoning melancholia, the morbid modification of the emotional state and the appearance of mental distress manifested themselves in the far East, and developed in those who had not previously suffered from melancholia. This points to the

fact that a sojourn in the far East had a certain significance in the cases in question.

In conclusion, I wish to draw attention in particular to the appearance of hypochondriacal melancholia in our soldiers, and to the fact that it was observed preferably, though not indeed exclusively, in soldiers who had been called to war from the reserve, and who had participated in combat.

ABSTRACTS.

Are There Hypnotic Hallucinations? By Dr. Boris Sidis, "Psychological Review," July, 1906.

This is a timely experimental study and one that ought to stimulate the study of these hypnotic phenomena afresh. Dr. Sidis starts out by asking the question whether, when it is suggested to a subject in hypnosis that he shall have an hallucination, or that he should have it later as a post-hypnotic phenomenon after awakening, — that he shall see a watch, or a dog, or a snake, — whether it is a real hallucination which the subject experiences, and not a delusional belief or even kindly assent to please the experimenter. The author judicially points out that "we rarely find in the whole literature of the subject that any of the writers should even as much as refer to the question of the validity of the hypnotic hallucinations. The hypnotic subject accepts the experimenter's suggestion, and the experimenter takes the subject's honest word. The trust is mutual."

Dr. Sidis, after further insisting that we must be constantly on our guard and carefully sift the evidence, states that after many years' experience a doubt began to arise in his mind in regard to the validity of the hypnotic hallucination, and that finally he came to "the conclusion that the hallucinations hypnotically suggested are not genuine," indeed that "there is no hypnotic hallucination in the strict sense of the word." This conclusion, sweeping as it is, is based both on the author's theory of the mechanism of an hallucination and on certain experimental observations which he carried out to test the point. The author states he has made a large number of observations and gives, with more or less detail, those made on five subjects. To the first subject (F.) it was suggested that an hallucinatory watch would be seen on waking from hypnosis. Though the subject claimed to see the watch correctly, it was found that it was not seen in any one fixed position, but wherever he turned his eyes, a result which, in the author's view, shows the fictitious character of the hallucination.

With the second subject (H. R.), a series of experiments in

color hallucinations was made. It was concluded that (as after-images) the proper contrast color, and, in mixing hallucinatory colors, the proper mixture were seen only if the subject knew what color was wanted.

The third subject (N.), to whom it had been hypnotically suggested that after waking he should see a series of scenes from his former life, when asked if he really saw the scene in the bowl of water, replied, " No, I see it in my mind; I have it all in my mind."

The fourth subject (R. D.) described his hallucinations (hypnotic? or post-hypnotic?) as " mental pictures," as " auditory memories which lack exteriority, are not located in space," and as " fixed ideas."

The observations with the fifth subject are recorded with most detail: To the subject (M.) in hypnosis an hallucinatory watch after waking was suggested. As a result he claimed to see the watch (though he did not look where the watch was supposed to be) and " subconsciously " through automatic writing his hand wrote, " Yes, I see the watch," and in another experiment, " I see a flower." But when Dr. Sidis said emphatically to the subject in hypnosis " Look here; I want you to write what you really see, not what you do not see," after waking the hand wrote automatically, " I do not see anything," though the subject claimed that he saw the watch. Likewise when the subject claimed to see three real watches (there being only one real watch present) the hand wrote " one silver watch, real, the other golden, not real; nothing there." Likewise in regard to suggested hallucinations of his wife and child the hand contradicted his assertions by writing, " I mean that I see my child in my mind only, but ' in honest ' I don't see anything." The same assertion was made subconsciously about a snake. When the subject learned of his automatic writing, and " became fully aware that he was being entrapped, he once more began to claim in automatic writing the actuality of the suggested hallucination."

With subjects generally the author states that in experiments with contrast-colors (after-images) and in mixing hallucinatory colors the correct after-image or mixture is given only when the subject is sufficiently informed to know what the correct color should be. It is thought to be significant that if the subject is asked which watch he prefers, the real or hallucinatory one, he will select the latter.

Dr. Sidis concludes that "the alleged hypnotic or post-hypnotic hallucination is not at all of the nature of an hallucination, it is a delusion." "The subject believes that he perceives," and being under this "delusion, tries to convince us of the reality of his belief."

Dr. Sidis argues, on the basis of his own theory, that it is impossible for an hallucination to be excited centrally by an idea. According to his theory hallucinations always have a peripheral origin. Being sensory percepts they can only be excited through the sensory channels. An idea, a belief, can no more originate a percept than can the sensation of red be transformed into the sensation of blue. For an exposition of the author's theory of hallucinations the reader is referred to the original article. The conclusion of the author that the hallucinations in his observations were not true hallucinations, but rather delusions, if not fake phenomena, is undoubtedly correct, and his studies are important as calling attention to the danger of accepting credulously the statements of subjects regarding their mental state in such experiments. Nine out of ten observers would probably have accepted such statements on their face value. Few authors have taken the precautions to analyze the evidence for the validity of hallucinatory phenomena produced by suggestion. Yet a rigid critic might take exception to some of the conditions of Dr. Sidis's experiments and to the sweeping character of his generalization. It could be well argued that Sidis's cases were ordinary failures, and the fact that his subjects obligingly assented to describe their phenomena as real visualized objects, does not negative the reality of the visions in others. Then, again, the subconscious recognition, expressed by automatic writing, of the falsity of the hallucination does not prove that the "personal (waking) consciousness" does not have an hallucination. On the contrary, observations are on record showing that subconsciously a person may recognize correctly the environment, though the "personal" consciousness is hallucinated or delirious. The fact that subconsciously by automatic writing, the subject first claimed to see a watch, etc., and, later, after being warned not to write what he did not see, said he did not see anything, is open to another explanation. Experience shows that the subconscious self uses the pronoun *I* indifferently for the subconscious mental complex and for the personal consciousness. Now it might be claimed that the

automatic writing may first have referred to the personal consciousness and after the reprimand to the subconscious "personality." I have known this different usage of the pronoun to occur and thereby cause considerable confusion. Or it might be argued that the reprimand acted as a counter suggestion and directed the hand what to write. All these subtleties have to be taken into consideration in dealing with such a delicate mechanism as that of thought.

In generalizing from the results of his own observations, and denying the possibility of an idea or belief exciting an hallucination, Sidis takes his stand on his theory of hallucinations. Yet facts must count more than theories, and what is required is that his observations should be repeated on a larger scale. Sidis truly says "a suggestion, even in an hypnotic state, however deep, can do no more than a very vivid persistent idea can do in the waking state." But there is already accumulated much evidence showing that suggested ideas can give rise to true hallucinations. For instance, crystal visions and hypnogogic hallucinations are true hallucinations and they do, or may, arise from, conform to, and represent the content of ideas (memories), whether conscious or subconscious. Religious hallucinations, too, are plainly excited by the subject's belief. Dr. Sidis thinks that the reason why writers have not challenged the validity of suggested hallucinations is "because of the dubious assumption of the central origin of hallucinations, an assumption still current among psychologists, and especially among psychiatrists." But it may be questioned whether it is not the influence of his own theory that has forced Dr. Sidis to take the extreme, opposite view. At any rate, as I have said, his observations are timely and important, and, in showing the falsity of supposed hallucinations in his own cases, he will compel, in the future, all alleged phenomena of this kind to be put to a rigid analysis.

PRINCE.

Alterations of Consciousness in Epilepsy. Dr. Marchen. "Monatsshrift über Psychiatrie und Neurologie." Bd. XVII, Heft I, January, 1905.

Dr. Marchen describes a case of alteration of consciousness which on account of the aura and family history he regards as

epileptic. Epilepsy is one of those convenient categories under which the average medical man classifies the more difficult and problematic phenomena of mental life. The case is interesting from a medico-legal point of view as well as from that of abnormal psychology, being an example of the secondary psychical life which may make up the mental status of ambulatory automatism. Even if the case be correctly diagnosed as one of the states of the epileptic entity, it is still, from a psychological point of view, one of altered personality.

According to the patient's account his mother and two sisters suffered from " fallende Krankheit." When eight years of age he was knocked down, and since then he had suffered from headaches and had poor memory in school. He was also very sensitive to alcohol, he could not stand such a small quantity as four glasses of beer. There were in other respects no mental or nervous disturbances; he kept regularly at work. The death of his mother was the first occasion of the first attack of " double consciousness." Then the patient found himself in a forest some distance away from his home and did not know how he came there. Three months later he had a similar attack with total amnesia. Then the lapses of consciousness followed in quick succession.

The attacks set in with an aura of *malaise*, headache, buzzing in the ears, disturbances of vision, anxiety, and palpitation of the heart. Once, for instance, he fell down and thought he was dying. After a series of such attacks he found himself in prison and had no idea how he came there. During the attacks the patient led quite an adventuresome life, carried on transactions, and stole a bicycle, but gave his correct name and address. He traveled on the bicycle, looking for new adventures, and was finally arrested. His account of what he had passed through was confused and contradictory. During his imprisonment the patient suffered from paresthesia and severe headaches. The physician who at this time took care of the patient claimed that he observed tremors of the extremities and in consequence diagnosed the case as epileptic " Dämmerzustände " (twilight consciousness). At the time of sentence the patient had a maniacal attack, hit his head against the door and tore his clothes. He was then transferred to another place for observation and while there was found to suffer from total amnesia. He was then sent home and while at home had a series of similar

attacks during which he committed criminal acts and, as usual, was amnesic, when brought for sentence for his criminal acts. Dr. M. thinks the case is of an epileptic character, although he himself did not observe the patient during the attacks. It is an excellent illustration of the insufficiency of the conventional medical methods to determine the psychological condition in such abnormal mental states. Only by a thorough psychological analysis as developed by students of abnormal psychology can the true pathology of such cases be made out, whether they belong to the class of epileptics or to other forms of dissociated consciousness and automatisms.

PRINCE.

The Phenomenon of the Already Seen (Déjà Vu). By Dr. Pierre Janet. "Journal de Psychologie Normale et Pathologique," July-August, 1905.

In his introduction to a new handling of the vexing psychologic problem involved in that singular illusion — the already seen — Dr. Pierre Janet deplores the exaggerated attention given to it by psychologists as an isolated phenomenon. He believes that in its study, as in that of many such phenomena, there is need of more clinical observation and less philosophy and theoretic psychology. The symptom should not be isolated and considered in an abstract way, but should be viewed in its true *milieu* among others of like complexion.

Perhaps the first formally expressed description of the phenomenon under consideration is that of Wigan (1844): "It is," says this author, "a sudden impression that the scene witnessed on the instant has formerly passed before our eyes, with the same persons seated in exactly the same positions and expressing the same ideas in the same terms. The poses, expressions, gestures, intonations, all seem to be recalled, to come to our attention for the second time."

Janet considers this formula too precise, and observes that discussions of it have dealt overmuch with its theoretic interpretation, without concerning themselves sufficiently with its exactness, or pausing to consider if the problem may not be insoluble.

Under Wigan's formula the illusion of the "already seen" is established as a matter of genuine recognition. This implies

the existence of two series of phenomena, — the one actually at hand and furnished by present perceptions, the other representative in character and supplied by memory.

Certain writers viewed the "already seen" as a matter of recognition in the above sense and endeavored to find in it the two series of phenomena required for true recognition. The first, the perception of the situation actually existing, was not far to seek, and, as it was considered normal, was given no further study; the second, bizarre and absurd. Since it had no previous situation to which it corresponded, was assumed, labelled pathologic and made a disease of memory. The difficulty was to explain how this second pathologic image was formed. Out of this arose the so-called intellectualistic theories. The formation of the second image was explained in various ways: as real memories wrongly interpreted, forgotten phenomena, dreams, reveries, a difference between sensations and perceptions, subconscious phenomena, the activity of so-called polygonal centers, the independent action of one cerebral hemisphere, telepathy even.

The fatal defect in all these theories is that they introduce purely imaginary and unsubstantiated phenomena.

Other writers, Ampère and later Hoffding, James, and Bergson, dissatisfied with these interpretations, endeavored to utilize others, based upon the fact that in very elementary recognition, requiring but little intellectual effort, the vague feeling of familiarity and facility which accompany habitual perception play an important rôle. Hence they set up what might be termed impressionistic theories of the "already seen." In these the difficulty of explaining the formation of a second image is overcome. There is no second image; the disturbance lies in the perception itself; we deal with a disease of perception, the latter being modified in such manner as to give to the patient the impression and feeling which ordinarily accompany the perception of objects already seen and recognized.

These newer theories have one advantage in that they are less hypothetical, but they lack precision; as Janet says, they explain a vague feeling of familiarity and facility in perceptions, but they do not explain the recognition, properly so-called, of an object which one claims to see for the second time. The memorial factor, a *sine qua non* in true recognition, is absolutely neglected.

It is not at all surprising that Janet, or anybody else for that matter, should turn from this hopeless maze of theoretic difficulties to the clinical side of the problem, — but even there it is not all plain sailing. There is danger of attributing too much importance and precision to the very conventional expressions by which patients attempt to make known their troubles of consciousness. In certain cases the apparent illusion of the " already seen " is in reality a delusion, as in the interesting case of M. Arnaud cited by Janet. In a second class of cases it is stripped entirely of the spontaneity that should characterize it and results from an argumentative process which the patient carries on with himself in the face of a given set of conditions. In still a third and rather extensive class the illusion is the result of pure suggestion.

If we eliminate these three classes of cases in which the " already seen " occurs only as an artefact, so to speak, we still have left two clinical conditions in which the phenomenon is encountered in its purity: epilepsy and psychasthenia. Its association with the latter condition is the more interesting because there it forms one of that rather extensive group of phenomena which signalize the loss of the function of the real. In this connection Janet regards the illusion of the " already seen " as the result of a disturbance of the psychologic functions which have to do with concrete and present realities. The person experiencing the illusion lacks — to use a freshly minted word — the power of presentification, of bringing the present environment clearly before the mind. For such a person all reality is but a dream; there is an illusoriness attached to everything concrete and present in the world about him.

Studied as Janet thus studies it the illusion of the " already seen," acquires a real semiologic value and is removed from the realm of theoretic psychology. To have advanced the solution of an extremely knotty problem to such an extent is a signal achievement, and one which clearly proves the superiority of clinical observation over philosophic abstraction in dealing with such a proposition.

The writer still believes, however, that the illusion of the " already seen " as formulated by Wigan may occur as an episode in the life of the most normal individuals and that such episodes have absolutely no clinical significance whatsoever.

COURTNEY.

A Biological Theory of Sleep, by Ed. Claparède. Geneva. 1905. (Reprinted from the "Archives de Psychologie," Tome IV.)

The biological method is of paramount importance in the investigation of vital phenomena, since it concerns itself with the reason why a certain phenomenon occurs, rather than with the mechanism of its occurrence.

On this account the recent theory of Claparède is of interest. He sets for himself this problem: Why is sleep produced? What is its significance to the organism, and how is it related to other organic activities? Reviewing the physiological theories of sleep, he rejects them, because in his view of it, those theories based upon anemia of the brain, hyperemia of the brain, retraction of neurones, and so forth, predicate conditions which, even if true, may just as well be the results as the causes of sleep; and, moreover, they would leave unsolved the question as to why there should be a periodic anemia, hyperemia, or neuron retraction.

Having set aside the physiological explanations of sleep as being inadequate, the author turns to the consideration of the chemical theories which endeavor to explain sleep as resulting from the action of toxic substances, the accumulated products of fatigue, upon the nerve cells. These, too, he finds wanting in so far that they do not explain the facts. Sleep has nothing in common with states of intoxication; it is not parallel with fatigue, because indeed fatigue rather produces insomnia. Furthermore, sleep may be voluntarily postponed and voluntarily induced; it may result from suggestion, and varies in its intensity and duration in different animals, — all of which facts fail of explanation on the supposition that sleep is the expression of toxemia.

The weak point of both these physiological and chemical theories is that they regard sleep as a merely passive result of physiologic or chemical changes. Sleep is thus a negative state, the cessation of all activity. Now, from the biological point of view, sleep is to be looked upon as a positive function, rather than as a cessation of activity. The author enters into an examination of the part played by sleep in the lives of different kinds of animals, particularly in their relation to their environment, and comes to the conclusion that sleep is a function of defence, having for its purpose the protection of the organism against fatigue; hence the need of sleep is felt before fatigue

sets in. This instinctive adaptation is absolutely necessary in the struggle for existence, because by it the animal is guarded against carrying its activity to the state of fatigue.

On analysis, the function of sleep will be seen to possess all the characteristics of an instinct. It is a well-coördinated activity, carried out by each individual of the species without his having been previously taught how to do it, and without any realization on his part of the purpose it serves. It is a coördinated adaptation, requiring the activity of the whole organism, and like other instincts it is elastic, that is to say, it is not an inevitable response to an external stimulus, but may be set aside in favor of other activities, which possess for the moment greater interest for the organism. Like other instincts also, it is not absolute in its demands, but yields to the exigencies of the moment. Sleep, then, is not mere physico-chemical change, rather is it a vital function, active in character and preservative in its ends.

Viewed from the biological standpoint, all the difficulties which beset the chemical theories are removed. The voluntary suppression of sleep means simply the subordination of the sleep instinct to another instinct which, for the nonce, is of greater interest to the organism. The variety of the sleep of different animals must be interpreted as a secondary adaptation to a diversity of environments.

There remains to explain the physiological mechanism by which the instinct is carried out, and for this purpose Claparède invokes the physiological conception of inhibition. Sleep consists in a loss of interest in the external word, resulting from inhibition of the higher centers. With this inhibition of the higher centers there is increased activity of the trophic centers; hence the great restorative influence of sleep. This inhibition is not to be regarded as a passive state, but as a positive reaction of disinterest to present reality. Claparède's theory that sleep is a physiological device to protect the organism against fatigue, rather than a physiological change which is the result of fatigue, acquires at once a practical importance which invites attention.

LINENTHAL.

REVIEW.

The Subconscious. By Joseph Jastrow, Professor of Psychology, Wisconsin University. Houghton, Mifflin & Co., Boston, 1906, pp. 549.

The problem of the subconscious is not in its more general aspects new; for in the early eighteenth century, Leibniz recognized its importance, and following Leibniz, Kant, Sir William Hamilton, Laycock, Dr. Carpenter, and our own versatile Oliver Wendell Holmes appreciated the significant rôle of what was then termed "unconscious cerebration" in the economy of mental life. Within more recent years the subject has been approached from various, often divergent, points of view, — religious, sociological, psychological, aesthetic, — by Prof. James, Myers, Von Huegel, Prince, Dresser, Sidis, Breur and Freud, Janet, Putnam, and many others, while the most recent contribution is from the pen of Prof. Joseph Jastrow.

It is a source of genuine gratification and an encouraging sign of the times, that one of Professor Jastrow's eminence should have devoted his talents to the discussion of the problem of the subconscious, a problem which, at the present time, is undoubtedly of dominant psychological and practical interest. There is a whole world of reality that can be neither examined by the microscope nor stained with methylene blue, and although, for some time past, this world has received scant attention, we seem now to be entering upon a renascence of interest in it, which bespeaks a broader culture.

In discussing a subject so complex as that of subconscious mental activity, there is danger that we may allow the mystical tendency in us to overreach the demonstrable facts, and one of the distinctive merits of Professor Jastrow's book consists in this, — that throughout he keeps to earth and correlates the more unique, remarkable, and abnormal manifestations of mental life with those that are recognized as normal. He divides his subject-matter into three parts, — normal, abnormal, and theoretical. In the first part he treats of the normal consciousness, its relation with the nervous system, the will, and the

attention, and its intimate dependence upon subconscious maintenance. The second part comprises such interesting themes as the dream consciousness, the variants of the dream consciousness, the dissociated consciousness as seen in hysteria and hypnosis, the genesis of altered personality, and the disintegrating lapses of personality. In the theoretical part are discussed the conception of the subconscious and the subconscious as abnormal.

The central idea of Professor Jastrow's dissertation is that, in normal life, consciousness draws its materials, in large part, from the vast stores of the subconscious, and he criticises that false perspective which weakens, distorts, and obscures the intimacy of relation that really exists between the normal tenor of thought and those modifications thereof that most distinctly disclose the participation of the subconscious factors. The great mass of mental operations is not of the definitely logical type; their *motif* resembles more closely that of a melody, or a poem, or a picture, than that of a problem. In the dream consciousness, the dissociated consciousness, and in altered personality the author sees at work the same psychological principles that may be observed in normal mental life, except, of course, that in their abnormal activity, the results are more striking and oftentimes bizarre.

Proceeding to the theoretical discussion of the subconscious, Professor Jastrow invokes three principles, — acquisition, elaboration, and expression,— which, he says, compose the triumvirate that direct the affairs of mind. Both in normal and abnormal mentality, these principles are held to be sufficient for the interpretation of the facts, and in this interpretation the author displays considerable ingenuity.

Among the many excellences of the book, there is to be found what must be regarded as a defect of presentation; we refer to the over-elaboration of style and the use of figurative language which too often renders the meaning obscure. Professor Jastrow has laid under tribute all the most recent material, and while his book may, perhaps, have a more immediate appeal to psychologists than to practicing physicians, we welcome it as a timely pronouncement upon an interesting subject.

DONLEY.

THE JOURNAL OF ABNORMAL PSYCHOLOGY.

OCTOBER, 1906.

A CASE OF DOUBLE CONSCIOUSNESS — AMNESIC TYPE, WITH FABRICATION OF MEMORY.

BY EDWARD B. ANGELL, M.D., ROCHESTER.

THE subject of the present sketch, a frank, open-hearted Englishman of some twenty-five years of age, was introduced to me late in January of the present year by his physician, Dr. H. J. Vary, of Rochester, to whom I am greatly indebted for much of my material. Prior to this meeting Dr. Vary had told me he had had under his care a Mr. Robbins, who, shortly after his marriage on Christmas Day of last year, had suddenly disappeared from home. No knowledge had been obtained of his whereabouts until his bride received a letter on January 19 from him, to the effect that he was at a hospital in Sayre, Pa. Dr. Vary went to Sayre, and after a long search found him at a hotel in a nearby village and brought him to Rochester. When I first saw him, a day or two later, I found Mr. Robbins in a state of slight excitement, associated with a decided confusion of mind. His face was flushed; his eyes suffused, he evidently being in a condition similar to the hypnotic state. This was so evident that it occurred to me I might solve his riddle by hypnotic suggestion. Of this, however, more anon. Although his memory of his recent adventures was somewhat hazy and his statements contradictory, yet he gave a connected and apparently lucid account of his past life. The story he told me then, however, differs very radically from the one given me recently, — since his full recovery from his mongrel existence. Other accounts

must be woven into the narrative, which in truth is a modern collection of Canterbury Tales.

THE PATIENT'S FIRST TALE.

"My home was in Musselburgh, near Edinburgh, Scotland. My father, an officer in the English army, shot himself in 1904, because of my mother's death in 1902 and recent financial reverses. A twin sister died in 1905, and I am the sole member of the family now living. I attended King's College, where I rowed on the eight and played football. Some years ago I came to Canada, and during the Boer War I enlisted in the Canadian contingent, but later I was transferred to the Imperial Yeomanry. During my service I received a slight sunstroke, without loss of consciousness, which, however, incapacitated me from service only three weeks. On returning from Africa I spent some three months in England and then came to Canada. From time to time I received various sums of money from my father's estate. In consequence of some irregularity in the remittance of this fund I was called to England last October, sailing from New York on the *Kaiser Wilhelm*. I became ill during the voyage and remember nothing until awaking one morning in the Edinburgh Hospital. I was told that I had had brain fever; that I had been taken from the ship at Plymouth, and brought to Edinburgh by Dr. Macdonald, my brother-in-law, and placed under the care of Dr. Black. I made a rapid recovery, transacted my business, and returned to Rochester by way of Canada in time for the wedding late in December last. In some way, however, my trunks, containing wedding presents to my bride, both from my family and myself, together with papers of value, were held up by the customs officials and lost; no trace of them has yet been found.

"I was married on Christmas Day, and on the 26th fell ill and called Dr. Vary, under whose care I was for a few days. Early in January I felt I ought to go to Washington to see about some minor appointment promised me in connection with the British embassy. As I had just

received a remittance from home, I left by the night train. As to what happened subsequently I am quite hazy, but I distinctly remember being registered at the Grand Union Hotel in New York, of going from New York to Buffalo, via Lehigh Valley Railroad, of being in Canandaigua and various other places, and of finally coming to, in Sayre, Pa., whence I wrote my wife, realizing that she would be quite alarmed at my leaving her. Dr. Vary came to Sayre and we returned together on January 21."

THE DOCTOR'S TALE.

Doctor Vary was called to see the patient on December 26, 1905. Found him a man of good build and well nourished. Weight, 160; height, 5 ft. $9\frac{3}{4}$ in. Face flushed; pupils dilated. He was depressed and mind clouded. I regarded these conditions as being due to the excitement of the previous day. He was irrational at times. Tongue coated; breath foul. He complained of headache and dimness of vision. Temperature normal; pulse full; rate, 90 per minute. Slow cerebration and motor aphasia quite marked. Heart, lungs, and kidneys apparently normal. I sent patient to bed; cold applications to head. Calomel in divided doses. Saline at night. Nerve sedative t. i. d.

December 27: Patient felt better; head clearer and wanted to go out. Kept him in bed.

December 28: Patient improved, up and dressed. Motor aphasia marked. Repeated calomel.

December 29: Discharged patient. Aphasia cleared up in about three days.

January 6: Patient went down town on business about 11 A.M., and did not return to dinner and was not seen until about 10 P.M., when he came home, saying he had been to Buffalo, but the trip had not been of any advantage to him, nor did he accomplish anything by going.

January 8: Saw patient a moment and he said he felt "fine." Noticed he was nervous and showed a slight return of the motor aphasia.

January 9: Patient left home about 10 A.M. to stop at

my office and do two errands and to return home for his wife, who was to accompany him down town. He failed to call at my office, but did the errands. That was the last we saw or heard of him until January 19 (ten days), when his wife received a letter from him. This was written in pencil, postmarked Sayre, Pa., and headed "Memorial Hospital," Sayre, Pa. He wrote that he had just come to his senses to find himself there under the care of Dr. Fox. The nurse told him he had been taken from the Black Diamond express on Thursday of the week previous in an unconscious condition. He had remained in that condition until the day before the writing of the letter. He said they had tried to find his friends but had not succeeded. He was solicitous for his people, especially his wife, whose feelings in the matter he seemed to realize. He said he wanted to come home, but the doctor advised his going to Laquin — a mountain place — to recuperate. Said he would be home in ten days, and asked if his wife could not come and see him.

January 21: On the day following the receipt of the letter I left for Sayre, Pa. On my arrival I was surprised to find no "Memorial Hospital" or "Dr. Fox" in the town, nor had he been heard of at the only hospital there. Everything in the letter proved to be without any foundation, and I had only the postmark to aid me in locating my patient. I found him at 10 P.M. in a neighboring town, at a hotel. He was stopping there and was with some men interested in some canvassing proposition, and they told me he was working with them. My patient recognized me after a moment; called me by name, but seemed dazed and abashed, as though discovered in some wrong. I had no trouble in getting him to come home with me.

My unexpected intrusion gave him quite a mental shock, and he was more like himself than he had been for the last ten days. He could not account for the ten days, although certain events seemed very clear to him. His appearance when quiet was that of one in a "day dream," staring at one spot; pupils dilated; face flushed; breath foul; very

slow cerebration; motor aphasia; much gesticulating while talking; nervous, but complained of no pain. Looked thinner than when he left home. Seemed to have no recollection of what had been written in letters, and was much concerned because he had written falsehoods, and seemed very anxious to have explanations made. I had patient constantly watched.

January 22: In bed until noon. Brain much clouded. Not much clearer as to past ten days, but gradually recalled more events that had occurred. Wanted to talk a great deal. Gradually overcame the gesticulating while talking. Appetite very good. Gave warm bath, 95–98 degrees, for one half to one hour each night. Calomel and saline.

January 23: Patient slept five hours. Felt clearer. Had impulse to go away three times during day and said if he had been left alone he would have gone away again. Would have "bad spells" as he termed them, which consisted of staring at one spot and becoming wholly oblivious to all about him, and could be roused only by loud words and slapping. Each day he would recall more of the ten days' absence. He was at a loss to know where he obtained the money to leave town. He had no overcoat or diamond ring which he had when last seen in Rochester.

January 24: Patient improving. Had "bad spells" or autohypnotic spells. Used hypnotism each day. Had his wife hypnotize him whenever he felt his brain clouding. Continued baths and calomel in small doses. Appetite good.

January 25: Patient better. No desire to wander. Did not rest well at night. Electrical treatment given three times a week for one week.

January 26: Put patient to sleep by hypnotism at night and he slept all night well, awaking at six sharp. Was clear mentally till noon. Had been singing and reading, apparently all well. At noon brain began to cloud, when I would hypnotize him, with the same good results on awaking. The presence of strangers seemed to hasten the "poor spells." Occasionally he would show anger at these times,

especially toward those he was most fond of. Patient was put under hypnotic influence and given some "medicine" (which was clear water), and told it was bitter, and that the same taste would come back whenever he was angry with his wife. A few days later when he refused to obey my orders and his wife remonstrated with him, that bad taste came back so strong that we had little trouble with him along those lines again. Whenever he was not just right mentally and would do or say anything foolish, he would realize it at once, and would try to cover it up.

Cold sponge baths in the morning were substituted for the longer warm bath. Results better, — more clear mentally. Would have fewer "bad spells" each day and finally in two or three days was able to ward off these cloudy periods by exercise or change of occupation and by will power.

January 30: Patient much improved. Mind clear and he wrote some business letters, all of which were passed upon by his wife. She did not know the details of his business. Patient gradually recalled the events of past ten days, also recalls some events of the last year that seem strange, — as, for instance, sitting in the lobby of his hotel all night and reading instead of going to his room. These strange actions date back to his father's death, he thinks.

Put patient on sodium salicylate, grains x, after meals. Used hypnotic suggestion that he would have no more poor spells.

February 1: Patient feels splendidly. Gets out every day. Never alone, if going far.

Patient gained seventeen pounds in three weeks, looks well and is seeking employment. Since this time he has appeared absolutely normal.

THE AUNT'S TALE.

On February 14 the patient's aunt, Miss C., of England, reached Rochester, and gave us in his presence the following unquestionable facts regarding the patient's life:

His name is not Robbins, but Horace Rawlins. He has a mother, two sisters, and two brothers living. His father died quite a number of years ago. Young Rawlins left home some twelve years ago, since which time he has not been home, although Mr. Rawlins asserts he has been in England three times. His family heard from him more or less regularly up to last summer, since which time no news whatever had been received, and much anxiety had been felt regarding him. All letters from his people since last summer had been returned unopened.

When confronted with these facts by his aunt, the patient was dazed and at first inclined to deny his aunt's identity. But gradually his mind seemed to clear and he acknowledged she was right; that his name was Rawlins, and then made the following explanation of his conduct:

PATIENT'S SECOND TALE.

In 1900 the patient himself (Horace Rawlins) and a Horace Robbins graduated from McGill University in engineering courses and both went to Winnipeg, Manitoba, to accept positions. Both were taken ill with some "fever." Robbins was taken first, became unconscious and died, just as Rawlins became unconscious. Rawlins himself was given all of Robbins's worldly goods by a will said to be in a certain bank clerk's hands, by name Ballantine. Rawlins left Winnipeg to recuperate, and from that day has been called by the name of Robbins, and all the history given by patient belongs not to himself, but to Robbins, who is dead. The only exception is his enlisting in the Boer War, which patient knows was his own history. Patient claims still to be entitled to Robbins's estate, and says he has received money from the same. He has lived Robbins's life, suffered his sorrows and even paid his own money for lawyers to fight for Robbins's estate. He was married, too, under his friend's name. He found that with his electrical education he had no trouble in obtaining work, and has been at the same for several weeks.

Upon writing to McGill University we learned that neither

patient nor his friend Robbins ever attended the University, nor can we find any man by the name of Ballantine at any address given by the patient. Any letter received by patient during the weeks previous to and following his illness was always without an envelope when seen by his friends. In that way his name was not seen. A Christmas card was received and signed by his young sister, and he called her his cousin.

One day just before his disappearance he went down town and on returning home told his wife he had seen his trunks and opened them; that the customs officers went through them, and patient told to the cent how much duty there was on each article. All this was fanciful. The trunks have never been seen. A letter from the General Hospital at Winnipeg contains the information that no patient by the name of Robbins or Rawlins was treated there during the years 1899–1902.

THE WIFE'S TALE.

"I met my husband in July, 1905, and we were together a great deal until his departure from Rochester in October for Buffalo. We were to have been married on October 9, but I received a letter from him from Buffalo, asking me to postpone the wedding for a month or two, as he had received a cable to return to England in connection with settling up some family matters. He was to have left New York on the *Kaiser Wilhelm* on the 9th of October, and he promised to write me while on the voyage, and mail it as soon as he landed. I failed to receive any news of him whatever until November, when I received a telegram which was sent from St. Catherine's, Ontario, and signed presumably by a cousin of his, telling me that my intended husband was ill with brain fever in Edinburgh, Scotland. I heard no more of him until the 22d of December last, when I received a telegram from Suspension Bridge, N. Y., asking me to meet him in Rochester. He arrived here that evening. He appeared greatly changed from his condition when he left in the fall. He was very quiet and looked as if

he had been very ill. He was very thin and nervous and did not seem like himself. He remained with us until Christmas eve, when we all went to my grandfather's at Sodus to spend the Christmas holiday. He seemed in good spirits then and had apparently begun to improve. At my grandfather's earnest request, we were married on Christmas Day, and we returned to Rochester that evening. The next day my husband was taken ill and was under the care of Dr. Vary for a few days. On January 9 he was going down town to do some business, and while at breakfast felt very sleepy and could not keep awake. He left the house at about ten o'clock, and that was the last I saw of him until Dr. Vary brought him to the hotel in Sayre about two weeks later. He seemed to know me when we met, but did not seem to realize our relationship to each other, as he greeted me in a very matter-of-fact way. We brought him back to Rochester, and he was under the care of Drs. Angell and Vary for some time and was very ill, but has now entirely recovered. He has gained wonderfully in weight, and there is no trace of the vacant stare that he used to have, while he looks and feels like a different person."

THE PATIENT'S FINAL TALE, WRITTEN BY HIMSELF SINCE THE FULL RECOVERY OF HIS NORMAL MENTALITY.

My name is Horace Rawlins, and my age is twenty-seven years, having been born on the 25th of March, 1879, at Finchingfield, Essex, England. My family, consisting of my mother, two brothers, and two sisters, at present reside at Cedar Road, Hampton Wick, Middlesex, England. They never were in Scotland. My father died some two years before I left home. He had been ailing for two or three years, but I think his death was due to natural causes. I had one brother younger than myself who died when I was very young. I think his death was caused by convulsions. I came to America some ten years ago, landing at New York, and remained there a few days. I was employed by a Mr. Wells, who was then living at a hotel in New York, to do his correspondence and other things, and

I remained with him until he died in East Aurora, N. Y., some two years after. I then went to Toronto, Canada, where I roomed on Elm Street, and not finding a position, I went to Montreal, where I worked until October, when I went to McGill University. From that time until the past winter my movements have been somewhat erratic, although I realize that there were periods of long duration for which I cannot account, and there are also periods for which I have proof that my statements are correct. These statements I can vouch for and can prove, so I write them knowing they are absolutely true.

(Signed) HORACE RAWLINS.

Address: Rochester, N. Y.

The statements made below are presumably of events that have occurred since my leaving Montreal, although I cannot vouch for them all, so I write them knowing that they may be either fact or fancy.

After leaving Montreal, I went to Winnipeg, Canada, and was taken ill there a few days after my arrival, which, I think, was early in 1900. I know it was June when I was able to leave the hospital, when I returned to Toronto, and not being able to work, I went to Muskoka, where I stayed until September. I went to Winnipeg with a Mr. Horace Robbins, who was the son of a colonel in the British Army. Mr. Robbins was taken ill a day or so before I was and died in a day or two, and I have apparently been living his life since that time, until the past winter. I realize now that I may have been using both names and perhaps others, although I think that is extremely doubtful. I was employed on my return from Muskoka by the Canadian Bank of Commerce for a time, leaving them to go to South Africa with the Canadian Contingent. I served through the war, being transferred some six months after my arrival to the Imperial Yeomanry. I was very well all the time I was out there except for a slight sunstroke. I returned to this country by way of England, staying there for a month, and arriving in New York in April, 1904, by the

SS. *Majestic* of the White Star Line. I remained in New York for a few days and came to Rochester. I was then not feeling very well, and decided to go on a farm and try and build up. I went to work on April 24, 1904, for Mr. L. D., at Pittsford, N. Y., and remained with him until all his work was completed, late in November of the same year. I then went to New York and from there to England, but did not go near my relatives for some unaccountable reason. I came back in January, 1905, and spent several days in Rochester and vicinity, visiting friends. From there I went to the Canadian lumber camps in Temiscamingue, Canada, with a Mr. Hurd, of Buffalo. We went on a visit and stayed only two weeks. I returned to Buffalo and went to work for an incubator company, where I remained until I came to Rochester to work in the office of a large camera concern. I remained there until September, when I secured a better position with a telephone company. I was only there one month when I received a cable message from England to return. (This I now realize was only a myth, as no one knew where I was at the time.) I seemed to have left Buffalo on the 8th of October and sailed from New York on the *Kaiser Wilhelm* for England. I have no recollection of landing, but have a clear idea of having been ill somewhere, which seems to me to have been Edinburgh Hospital. I was treated there or wherever I was by a Dr. Black. The first instance after October that I recollect clearly is my returning from somewhere (presumably England) and coming through Canada. I sent a telegram to my wife from Suspension Bridge, N. Y., on the 22d of December last, and arrived in Rochester the same evening. I was married at Sodus on the 25th, and returned to Rochester and the next day I was taken ill the same way again. I was under the care of Dr. Vary for about a week, when I felt a great deal better, but could not control my mind at all times, and on the 9th of January I ate a hearty breakfast and felt very well, except for a very sleepy sensation, falling nearly asleep several times at the breakfast table. I went down immediately after breakfast to the barber's

and did not return home until I was brought from Sayre, Pa., by my wife and Dr. Vary, two weeks later. I seemed to have been in a number of places during that time, among others, New York City, Buffalo, Erie, Penn Yan, Canandaigua; but I have no proof that I was at any of them. I met a friend of mine at the New York Central station in Rochester on the evening of the day I left home, and have seen him since, and he tells me that I was very drunk the night that he saw me in January. This must have been due to the mental condition I was then in, as I have never to my knowledge touched alcoholic beverages of any kind whatever. When I was found in Sayre I was engaged in some business of canvassing, of which, however, I have no recollection. I returned to Rochester with Dr. Vary and he called Dr. Angell in consultation. The next day I was taken by Dr. Vary to Dr. Angell's office and from that time on I commenced to feel like a different man. Between that and the present time I have gained thirty pounds in weight and have never felt better in my life. From the time I first saw Dr. Angell, he, Dr. Vary, and my wife all seemed to exercise a great influence over almost everything I did. I was seemingly easily moved by suggestions of either of them. I continued to improve rapidly, and by the middle of March I started to work, taking a position as a bookkeeper, which I now hold. I did not feel altogether well when I first started, but now I never feel the peculiar sensations which I used to, and I do not think they will ever occur again, as I feel vastly different from what I have felt in years.

(Signed) Horace Rawlins.

THE NEUROLOGIST'S TALE.

My own examination of Mr. Rawlins, begun on January 22, at his home, was completed next day at my office. In addition to the data already given by Dr. Vary, I found him to be, as I have already intimated, in an excited, confused state of mind. His face was flushed, his eyes suffused and lids heavy, almost a double ptosis; his tongue coated

yellow; his skin sallow; his reflexes exaggerated; dermographia marked and sensibility blunted. Indeed, his general symptoms were such as are commonly met with in hysericals. Careful inquiry established the absence of any indication of epilepsy in his own history or that of his family, except a younger brother, who had several convulsions for two weeks preceding his death at five years of age. I found him very susceptible to hypnosis. Within three minutes or less he was in the lethargic stage, responding to any idea presented to him. The post-hypnotic suggestion was then given him, that his mind would be clear and that he would no longer have any desire to leave home. He was allowed to sleep quietly for ten minutes and then awakened. For the first time since I had seen him his brain seemed clear and his memory for the events occurring during his absence definite.

Static electricity was employed a few times to stimulate normal skin sensibility and reawaken objective consciousness. I advised the use of a warm bath of an hour's duration twice daily, and the induction of hypnotic sleep whenever symptoms of the automatic state manifested themselves. Later, I taught Mrs. Robbins to use hypnotic suggestion, and thus he was easily placed within the absolute control of his wife.

One or two odd circumstances in connection with the hypnotic state may be worth recording. A valuable ring belonging to his wife had been taken by him, when he left home so unceremoniously, for the purpose of getting it repaired. The ring had apparently been lost, as he did not have it on his return, and could remember nothing about it. It occurred to me that I might recover it by questioning him about it during hypnosis. He instantly responded, saying that he had left it at Tanke's, corner Main and Eagle streets. This identified the transaction clearly enough as having taken place in Buffalo, but unhappily the firm wrote in response to a letter of inquiry that no such ring had ever been left there.

During his improvement he had periods of great irrita-

bility, especially on one or two occasions, toward his wife. During his last hypnotic *séance* in my office I gave him a wineglass of clear water, and told him it was a very bitter medicine, but that it had the virtue of renewal of its bitter flavor whenever he felt in any angry mood, — that thus he would know when to check himself. And so indeed it proved, for the wormwood in his own mouth promptly appeared when he next vented his spleen upon Mrs. R., and turned his wrath into a laughable joke upon himself. From this time he rapidly improved, gained some thirty pounds in weight, became alert and keen mentally, a very different state from the hazy, dreamy automaton of a month before.

And a dreamer of dreams he was. Both Dr. Vary and myself are satisfied that his tales are but creations of an unstable imagination. His name is not Robbins, it is Rawlins; he never was a student at McGill University; he never was in a hospital at Winnipeg. His friend Robbins was a myth. He received no money from abroad; he had no trunks detained at the customs; he did not sail on the *Kaiser Wilhelm* last October, nor was he ill in Edinburgh. Doubtless he was seriously sick somewhere, as Mrs. Rawlins's statement shows. The telegram she received from a friend in St. Catharine's, Ontario, repeating a cable from Mr. Rawlins, was sent by himself undoubtedly. We very much doubt whether he was ever in South Africa. Doubtless he pawned his overcoat and the diamond ring, with the proceeds of which he may have journeyed about within a short radius of Rochester during his recent absence. He did not go to New York; he was not in Buffalo. Indeed, I am of the opinion that his consciousness when in this state, so akin to hysteria, registers fact and fiction alike; makes no discrimination between objective fact and subjective image. Such is the condition of the hypnotic. Very similar indeed is the mind of the hysterical. There is a subjective, unconscious falsification of memory, a species of amnesia, for the real events of an uneventful existence, and the gap is filled with visions, with real unrealities, with plausible impossibilities. Surely, if the facts of such dual existence could

be proven, much that has been accepted as actual occurrences during the dispossession of the *ego* would be found illusions. They are but shadows of reality, misty radiographs which rapidly fade from the mind when Richard is himself again.

In the case I have presented the patient himself stated that he felt more and more uncertain as to things he earlier regarded as actual occurrences. Memory is not altogether treacherous, for as time elapses the real is more vivid, the unreal, the subjective Mr. Rawlins, is passing away. I would do our patient an injustice did I not again assert our absolute belief in his honesty of purpose and frankness of mind. There is no trace of guile in word or act. The disturbance of mind, whatever it be, is real, not fictitious. Although Mr. Robbins never existed, unhappily Mrs. Robbins does, for by that name she was married. What shall be done for her? No hypnotic method can resolve her status, though legal phraseology may be invoked to make her a Rawlins.

HYSTERIA FROM THE POINT OF VIEW OF DISSOCIATED PERSONALITY.[1]

BY MORTON PRINCE, M.D.,

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My object in this paper is to study certain well-known types of hysteria from the point of view of dissociated or disintegrated personality, and conversely, dissociated personality from the point of view of hysteria. For the purposes of this study the method will be entirely clinical, that is to say, I shall take into consideration only such manifestations as may be observed by the clinician, without consideration of the psycho-pathological changes which underlie hysteria and multiple personality.

Let me at the outset define the type of hysteria which has been selected for study, for there is hysteria and hysteria. Probably in no disease is there such a diversity of type, ranging all the way, for example, from a localized anesthesia of the hand caused by a pin prick, through hemi-anesthesia and hemiplegia accompanied by various stigmata, to fixed ideas, obsessions, amnesias, and insanities. Only by grasping the fundamental pathology of this protean disease can this diversity of type be understood; but this aspect of the problem lies beyond the scope of this paper.

The type, then, which has been selected for this study is that well-known one which often follows traumatism and emotional shocks, and is then known as a form of traumatic neurosis or psychosis, but also follows other conditions. Examination of the individual case frequently reveals one or more of various physiological stigmata like anesthesia, paralysis, limitation of the visual field, contractures, vomiting, sometimes hemorrhage from

[1] Read before the Boston Society for Psychiatry and Neurology, February 15, 1906.

the mucous membranes, pains, insomnia, convulsions, and various crises, and, most frequently of all, the neurasthenic state. With or without such physical stigmata there may be, and commonly are, various mental alterations: for instance, there may be amnesia in its various forms; emotionability; irritability; change of moods, which may be characterized by violence and quickness of temper; altered reactions to the environment; abnormal instability and suggestibility; abulia and fixed ideas; especially in the form of fears of one kind or another. Hallucinations, either idiopathic or artificially induced, may occur. A greater or less number of these corporeal and mental manifestations may be present. Sometimes the corporeal predominate and sometimes the mental, but it is a fact which is often overlooked that a high degree of hysteria characterized entirely by mental alterations without any corporeal stigmata other than the neurasthenic state may exist. But sometimes the mental stigmata are only mildly manifested, in which case they are often entirely overlooked or ascribed to mere moodiness. Aborted forms, or little hysteria, these minor alterations may be called. Every neurologist is so familiar with this general type of hysteria that I need not cite individual cases, but I may point out that when we group the mental stigmata we find that they often constitute a veritable alteration of the personality of the individual. Even the friends of the patient often comment on this fact. The gentle mannered become violently irascible; the patient, impatient; persons with good memory, forgetful, and even totally amnesic for certain periods; the truthful, untruthful; the thoughtful, careless; the well-balanced, unbalanced; the cheerful, depressed and moody; the even-tempered, uneven; those with decision of character and strong will manifest indecision and abulia; the self-reliant become dependent; and so on.

Turning now to so-called dissociated or multiple personality, we shall find that the same symptom-complex which passes under the name of hysteria now may make up one or more of the phases of the multiple individual, where it

can be recognized as the manifestation of disintegrated personality. Multiple personality, of course, is the same thing as dissociated or what is also termed disintegrated personality, where the normal individual alternately becomes disintegrated and healthy, changing back and forth from disease to health; or, from the point of view of this study, becomes alternately a hysteric and healthy. Where there are more than two personalities, we may have two hysteric states successively changing with each other, and, it may be, with the complete healthy person. That multiple (disintegrated) personality is a type of hysteria is well recognized, but it is not recognized that the converse is true, viz., that the hysteric is a disintegrated personality, and, therefore, as contrasted with the previous normal condition, is pathologically a phase of multiple personality, and, potentially at least, always liable to exhibit the phenomenon of alternation. The failure to recognize this relationship of the hysteric state to the normal condition is due to the fact that what we call the hysteric *remembers* his previous normal life; but so do, as we shall see, many types of disintegrated (multiple) personality.

The clinical characteristics of multiple personality are not so widely understood as those of other psychoses, nor, so far as I know, have they thus far been clinically studied in a group, as we are in the habit of doing in delineating the characteristics of a psychosis. I have selected, therefore, from the reported cases, those which have been sufficiently well analyzed, some twenty in number, to allow us to recognize the essential clinical characteristics manifested, and have tabulated their chief characteristics. (See table.)

Two of these cases I have been able to study continuously myself, while one (Case XI) I was able to observe through the kindness of the reporters. When we analyze the clinical manifestations of these cases we find that while amnesia is often the most obtrusive and, from its character, the most impressive symptom, it is not always present, and that the one fundamental characteristic which

runs through all cases is the alteration of character or personality in one or another of its forms. In other words, disintegrated personality means fundamentally just what its name implies. Nevertheless, the notion of multiple personality has become so strongly but wrongly associated in our minds with the presence of amnesia that the two are sometimes regarded as necessarily linked, if not as synonymous terms. The fact is that our conception of multiple personality has been derived entirely from those sensational cases in which, with the development of a second or third personality, there has developed an amnesia on the part of one of the personalities for the life of another. These amnesic cases may exhibit very great alterations of character, habits, modes of conduct and of thinking, as well as alterations of the intellectual faculties of the individual. These peculiarities, combined with amnesia for alternating epochs, necessarily give rise to what are known as secondary characters or personalities. These secondary personalities may possess very acutely endowed mental faculties (Case I,[1] B I and B IV); or they may have mental faculties so impaired as to live a life of delirium, or dream life (Case I, several states, B IV*c*, B IV*d*, etc.; Case XVIII, S II; Case XIX, F II; Case XX, — II); or to be little more than dements (Case I, B II*a;* Case X,— IV; Case XIII, B I and B I*a* and B X). In character they may be highly moral, or they may be so-called degenerates of an extreme type (Case V, F I; Case IX, Vivé III; Case X, — III; Case XIII, B IX (?); Case XV, E II; Case XVII, — II), given to lying, stealing, brawling, and other crimes. Such cases appeal to the imagination, and, from their very bizarre character, have colored the popular conception of multiple personality; while the loss of memory for large epochs of the individual's life has given the amnesic stamp to our conception of this condition.

Now, when we come to study the cases of the table it

[1] The cases cited throughout the text in illustration of the statements are not intended to be all the examples that might be taken from the table. For complete data the reader is referred to the tabulated cases.

will be seen that in a certain proportion of cases any given symptom-complex may develop without loss of memory for the previous normal life, the patient sliding, so to speak, into a condition in which there is a marked alteration of the mental faculties, of the moral character, and of the physical condition, these alterations embracing many of the multiform stigmata of hysteria. The patient may remain continuously for a long period of time in this condition, perhaps for many years (Cases I, II, III, IV, V, VII, etc.), and, it might be, indefinitely, if artificial interference is not invoked to change the condition. In this state there is nothing to suggest, from the point of view of the conventional conception of hysteria, that we have to do with anything more than the classical hysteric. The patient remembers his whole life, he exhibits certain alterations of character, such as moodiness, ugliness of disposition, mental depression, noisiness, etc., or the reverse; and he presents one or more of the conventional stigmata — hystero-epileptic attacks, paralysis, contractures, anesthesia, limitation of the visual field, etc. The case is in reality a type of hysteria, as it is customarily and quite properly diagnosed.

Now, after a certain length of time, either through artificial interference, such as the hypnotizing process (Cases I, III, IV, and X), or as a result of an emotional shock (Case VI), or it may be without demonstrable cause (Case V), the subject suddenly becomes completely and wholly normal. In this restored normal condition the patient may (but not always) have a complete memory for the previous abnormal life. Thus far it will be seen nothing very unusual has happened. Sudden cures in hysteria are as old as the world. But now it may be that there is a sudden relapse, a sudden restoration *in mass* of the previous hysteric state. It would seem as if the hysterical disarrangement of the neuron systems, or, if one prefers, of the nervous and mental processes, had previously become by habit so organized as to form a system that could be substituted for the normal system. At any rate, the

hysteric state is reëstablished; but now amnesia for the first time is added to the hysterical symptom-complex, but it is not an amnesia for the previous normal life (which is remembered as before), but only for the newly restored normal condition. Amnesia, in itself, as we shall see, is nothing extraordinary in hysteria, but is more or less frequently observed, particularly when this psychosis is suddenly developed, as often occurs after shocks.

In such cases as we are describing, another phenomenon, that of alternation, is now added. The hysteric state alternates from time to time, in mass, with the normal condition, the alternation occurring perhaps only as a result of artificial interference (Cases III and IV), or spontaneously (Case V), or in both ways (Case I).

While in the hysterical state there may continue to be amnesia for the restored normal condition, in the normal condition the patient may have, as just stated, a complete or nearly complete memory for his whole life, including that for the disintegrated hysterical condition (Cases I, III, IV, V, VIII (?), X), or, on the contrary, he may have amnesia for the latter (Cases VI, XVI, XIX, etc.).[1]

In the popular conception rather undue importance is given to this alternation in mass of the pathological and normal states, as well as to amnesia. Alternation, in one or another of its various forms, is a well-known phenomenon of the hysterical complex. The well-known sudden transfer of anesthesia and paralysis from one side of the body to the other under artificial interference (verbal suggestion, metallotherapy, and other therapeutic devices), or spontaneously, is a phenomenon of alternation, one half the body becoming alternately well and abnormal, as well as alternating with the other half in becoming possessed of the stigmata. Likewise, the sudden coming and going of such conditions as paralysis, contractures, tics, anesthesias, and

[1] Some of these examples of amnesia perhaps belong to the type of sudden transformation into the disintegrated state, rather than to that of gradual transformation. Similarly, examples might be taken from the more complex cases with several secondary personalities. Various mixed forms also occur.

the alternation of one or more with others, is an analogous phenomenon. In the particular type we are considering the alternation is of a large group of symptoms in mass instead of a limited number. In circular insanity we have the alternation in mass of a large group of mental alterations. I might cite here, too, in illustration, a case of "psychasthenia" (hysteria?) of my own, in which, with absolute precision on alternate days, the patient presented absolutely different pictures; a condition of melancholia, pain, paresthesiæ, and fatigue, alternating with one of restlessness, motor energy, and freedom from pain and fatigue. Case XVI is a remarkable example of this cyclical alternation of an extreme form and accompanied by amnesia.

The fact of alternation is a phenomenon in itself, and has great significance from the light it throws on the nature of the hysterical derangement; but the fact that an hysterical phase alternates with a normal phase, or, as occurs in another class of cases, with another different hysterical phase, in no way alters the hysterical character of the phases.

The alternation in mass of an hysterical state with the normal condition allows it to be seen that the hysterical symptom-complex is not only a disintegration of personality, but, from one point of view, a phase of multiple personality. The changing back and forth of the two states, with amnesia on the part of one or the other, or both, brings out the contrast between the hysteric and the normal. The hysteric stands out plainly as a different personality, in the sense of a disintegrated personality with a well-organized though pathologically deranged nervous system. There is a doubling of personality,—a normal and abnormal one,—and the abnormal hysteric is seen to be a phase of this double personality. Before the phenomenon of alternation was established, this doubling was obscured by the gradual transition from health to disease, and by the retention of memory. There was no contrast. Nevertheless, at this period the pathological condition was

in every way identical with that which existed after alternation occurred. That the hysteric is both a disintegrated personality and a phase of two cycles, of which the normal is one cycle, is, perhaps, still more clearly brought out in those more complex cases where the normal person breaks up into two or more different hysterical states or psychophysiological systems (Cases I, VII, IX, X, and XIII). Each state is an hysteric. Each successively changes in mass with the others. That each is a secondary personality, and a phase of multiple personality, is manifest; yet one of them, say the first to appear, has, in a given case, a complete memory for the previous life before the break-up, and until the development of a third or fourth personality could only be regarded as an ordinary hysteric (Cases I, VII, IX).

The final restoration of the normal life as one of the cycles becomes the final demonstration of the disintegrated nature of the hysteric state. The following short *résumé* of certain features of Case I will make this clear:

Case I, Miss B.[1] When this case first came under observation, B I was the sole personality in existence. There was no reason to regard the case at that time, and for that matter there is no reason to-day to regard this personality as anything more than a hysteric. In many clinics the case would have been diagnosed as neurasthenia. The main symptoms were a persistent and extreme sense of fatigue, insomnia, poor nutrition, and pains without apparent physical basis; the memory of the whole preceding life was normal.

My diagnosis of hysteria was based on views which some may remember I have for years held, namely, that a very large part of so-called neurasthenia is hysteria.[2] My notes, taken at the time, when I never had a suspicion that the case, or rather the character, under examination, might be regarded as a secondary personality, may be ably cited to illustrate the clinical picture which the case presented:

[1] *The Dissociation of a Personality*, Longmans, Green & Co., 1906.

[2] "Hysterical Neurasthenia," *Boston Medical and Surgical Journal*, December 29, 1898.

"Is a pronounced neurasthenic of extreme type; has never been able to pursue steadily any occupation in consequence. Tried three times to do professional nursing and broke down. Is now studying at ——— College; ambitious; good student; does good work, but always ill; always suffering. Over-conscientious and mentally and morally stubborn. Is very nervous, and different parts of body in constant motion. General appearance of an hysteric; cannot sit still, cannot fix her eyes to properly test field of vision; probably slight visual limitation, but this is difficult to determine. No objective anesthesia or other physical stigmata."

Later, when the case was deeply studied in view of the development of other personalities, it was found that various hysterical stigmata could be determined, though I want to point out that those special stigmata, — anesthesia, limitation of the visual field, and paralysis, — which in the popular neurological mind are supposed to be almost the *sine qua non* of hysteria, were absent. There were plenty of other stigmata, however, to establish the presence of the hysterical state. For instance, there was abulia, first mistaken for stubbornness; extreme instability, through which environmental factors produced mental and physical reactions out of all proportion to the cause and which would never occur in a healthy stable individual; there was an extreme emotionability, expressing itself in moods which were manifested by depression at one moment and exaltation the next; there was a tendency to domination of ideas and limitations of the field of consciousness; and there was abnormal suggestibility, which enabled anesthesia and hallucinations to be produced at will.

Surely here was a classical picture of hysteria; and yet it was also an altered or so-called secondary personality without amnesia for the whole previous life; for when, years afterwards, the normal individual was suddenly restored, there was then found, when a relapse occurred, to be amnesia on the part of the disintegrated hysteric for the restored normal condition.

This case is most instructive and gives us a new point

of view for the interpretation of other cases. The case was typical of hysteria, on the one hand differing in no way from hundreds of other cases of hysteria which are met with in daily practice, while on the other hand the long-continued and exhaustive study proved conclusively that, though originally there was no amnesia, yet it was a condition of disintegrated and, therefore, secondary personality, the primary personality being the restored healthy individual.

An analysis of the tabulated cases reveals a number of other examples of classical hysteria which later developments demonstrated were pathologically dissociated personalities and cycles of double or multiple personality, the normal condition being another cycle. Conversely, of course, phases of multiple personality may be types of hysteria. Take the first phase of the following:

Case III was an hysteric from the age of thirteen, manifesting hysterical chorea, crises, anesthesia, paralysis, and uncontrollable vomiting; this condition alternated in mass with the normal state.

Case IV was an extreme hystero-epileptic, exhibiting anesthesia in its various forms, deafness, amblyopia, achromatopsia, paralysis, contractures, etc. This symptom-complex also alternated with a substantially normal condition.

Case V described as an extreme hysteric from the age of thirteen, exhibited delirium, convulsions, paralysis, contractures, lethargy, trance, pulmonary hemorrhage, etc.; this condition alternated in mass as in Case III and Case IV.

Case VII is an incomplete case, in that the normal phase was not restored, and therefore cannot as a cycle be contrasted with the hysteric. It is instructive, however, as exemplifying the successive development of two hysteric states, I and II, which were analogous to the states B I and B IV in Case I; both hysteric conditions having a continuous memory for the previous early normal life, while No. II, which had lasted nineteen years up to the time of the report, had amnesia for the nine years during

which hysteric I persisted. Originally, as a consequence of an accident, the normal patient had developed a traumatic neurosis, manifested by paralysis, blindness, pain, convulsions, pulmonary hemorrhage, loss of speech and special senses, anesthesia, contractures, etc. This hysteric state, I, after a trance changed to II, with similar stigmata, including amnesia for I. If the normal state had been restored the case would have resembled in many ways Case I.

Case IX is a complex case, and it is difficult to analyze all the various states, of which there were at least six. The interest for our present purpose lies in the fact that each was characterized by marked alterations of character and by its own physical symptoms. Thus the first hysteric was quiet, good, and orderly in character, but had paraplegia with contractures. The second, which developed out of a hystero-epileptic attack, had no paralysis, but was quarrelsome, violent, choleric, greedy, and a thief. The third, which also arose out of a hystero-epileptic attack, was quiet and orderly, but still altered in character; there was right hemiplegia with contractures. All these states remembered the original normal state, though ignorant of each other. Each symptom-complex, mental and physical, could change in mass with the others. The fact that each of these hysteric states is an undoubted hysteric personality, though remembering the previous normal life, brings out strongly the point of view from which hysteria is seen to be a disintegration of personality.

Case VI is also a type of hysteria, but as a phase of multiple personality it exemplifies another variety of such phases, as there was amnesia for the previous life. That there was amnesia was probably due to the fact, as borne out by other cases, that the hysterical condition developed suddenly, as the result of a railroad accident, instead of progressively. Later the normal condition was suddenly restored as a result of a second shock, and then memory of the previous life antecedent to the railroad accident was revived, though lost for the seventeen years of the hysteric state. The hysteric state is described by Dr. Mayer as

depressed, moody, fearful, having fearful frantic sick headaches, ocular paralysis, constant hepatic pain and tenderness (diagnosed mistakenly as abscess), restless sleep, fits of abstraction, etc.

Most instructive are cases like III and IV, where an artificial interference caused a sudden return to the normal condition, and yet, owing to the prevailing misconception of the nature of hysteria, the true state of affairs was not recognized. The first abnormal personality, perhaps because recognized as an hysteric, was regarded by the reporter, Dr. Jules Janet, and has always been described by subsequent writers, as the normal state or personality, while the completely normal person who was artificially restored was, in consequence, regarded as a secondary (dissociated) personality. The same erroneous interpretation has been given to Dr. Azam's case (V). The error is a natural one, and the logical sequence of the failure to recognize that hysteria is a dissociation of personality, and that any hysterical state must be to a greater or less extent a secondary personality.

On the other hand, if hysteria is to be regarded as the "normal" personality (no matter how abnormal the patient really is, then, logically, when a sudden reversion to another state occurs, the latter, even though a perfectly healthy individual with normal memories, must be regarded as a secondary personality. The confusion of ideas is obvious. The point is sufficiently important to warrant the following brief abstracts of these classical cases:

Case III, Marcelline R., studied by Dr. Jules Janet and frequently referred to by Dr. Pierre Janet, from the age of thirteen had been a miserable hysteric of the extreme type. Among other troubles she had crises, anesthesia, paralysis, chorea, etc., and she was affected by uncontrollable vomiting, which threatened her life. Here was a classical case of hysteria without amnesia. There was nothing to suggest that such psycho-physiological alterations as had occurred were identical in kind with those which are

observed under other relations as secondary personalities, and in fact the patient was regarded as a normal personality, although abnormal in health. Now for therapeutic purposes a device (suggestion) was employed to change her mental state. This change was easily effected *in mass*, and a state was obtained in which mentally and physiologically she was perfectly normal. All the stigmata, including the anesthesia, the paralyses, and the previously uncontrollable vomiting, disappeared. Her health was immediately restored and her mind seems to have been normal, both in the absence of abnormal manifestations and in intellectual capacity, for she passed successfully a written examination for the position of hospital nurse, although she had previously failed to pass it in her original or so-called " normal " state. Whether in the new healthy state she remembered the previous hysterical state is not specifically stated, though implied; but when she was brought back to the hysterical state she had complete amnesia for her new normal condition, though her memory for her previous life continued as before. The method employed for obtaining the new normal state was that which is used for hypnotizing a person, and for that reason it was supposed that the new state was one of hypnosis. Plainly, however, the hysteric was " waked up " (synthesized); it was not a dissociated state as in hypnosis, but one which included the normal functions of the body and the intellectual faculties; in other words, the normal healthy person had been restored.

Here was a case, which does not stand alone in literature, where owing to a misconception of the meaning of alteration of personality a secondary personality had been mistaken for a normal personality with stigmata, and a normal personality without stigmata for a secondary hypnotic personality. The first condition of Marcelline R. was that of a typical hysteric, but, from another point of view, it was a typical secondary personality without amnesia, resembling in every way B I of Case I.

Case IV, known at Blanche Witteman, when first

observed was an extreme hysteric, manifesting complete anesthesia in all its forms, paralysis, amblyopia, deafness, limitation of the field of vision, contractures on irritation of the skin, etc. Her memory was apparently continuous for her whole life, and therefore there was no reason to depart from the ordinary point of view and regard her as other than an hysteric. The true relation of such a condition is not seen until it is reconverted to normality. In this case this was done approximately, if not absolutely, by a device, and Blanche I was artificially converted into a condition in which she lost all her stigmata, and, excepting for one thing (a peculiar suggestibility, called electivity), appeared to be a normal person. "One would truly believe," the report states, "that he had to do with the waking state, and, indeed, with the waking state of a well person. The most skilled observer could not now distinguish Blanche Witteman from a normal, non-hysterical person. We have no longer before us a neuropath, an incomplete person, but truly a woman, in the full enjoyment of her nervous functions . . . completely well and normal."

In this case again the hysteric was mistaken for the "normal" personality, while the nearly normal person, suddenly restored in hypnosis, was mistakenly looked upon as a hypnotic and secondary personality. As the hysteric Marcelline, like the classical hysteric, remembered her previous life, it was not seen that this state could be equally well regarded as a disintegrated and secondary personality. But, with the sudden restoration of the healthy person, Marcelline II (for whom the hysteric had amnesia), it is easy to recognize what had escaped attention, that the preceding state of hysteria was a phase of double personality.

Case V. The classical case of Félida X., reported by Dr. Azam, has been so frequently quoted by writers that its proper interpretation is important. A study of it in the light of the recent acquisitions to our knowledge of multiple personality shows that its original interpretation needs revision.

Félida, when she came under Dr. Azam's observation, was, like Marcelline R., an hysteric. As early as thirteen years of age she had manifested marked symptoms of hysteria, such as pains, hemorrhage from the lungs without organic cause, and various nervous troubles. That is to say, what in the light of after developments was erroneously called the "normal" or first personality was already abnormal in health. When about fourteen and a half years old she developed for the first time the second state, which was one of health. At frequent intervals during thirty years this alternation in mass of the "normal" hysteric with the healthy state and doubling of personality was observed. The symptoms of hysteria in the "normal" or first state (Félida No. I) grew worse until she became a hysteric of an extreme type. The abnormality of this first state may be appreciated when it is remembered that the patient is described as sad, even morose. Her gloomy manner and disinclination to talk were particularly noticeable. She answered questions, but that was all. Her higher feelings seemed to be little developed. She was spiteful and made violent scenes in her home. Indeed, her supposed "normal" character was a source of unhappiness to herself in her second state which remembered her first hysteric state.

The first state manifested the following symptoms: delirium; convulsions; pains; hemorrhage from lungs (hysterical); paralysis; contractures; lethargy; and trance. Surely, this is not a normal *personality* — I do not say *body*. If there ever was a disintegrated personality it was Félida No. I. Compared to her B I (Case I) was a normal person. Now compare the so-called "abnormal" second state with this. In the second state, as Dr. Azam recognized, all her faculties were more fully developed and more complete. All the physical ailments disappeared. She was well. Mentally and morally also she was different. She was gay, bright, with a happy disposition, and attended to all the household duties and responsibilities of life like a normal person. No one would have noticed anything unusual about her, etc.

Félida I, the hysteric, also like B I of the first case, and Marcelline I, had normal memory for her whole previous life, that is, antecedent to that period when she was restored to health as Félida II. From one point of view she was an hysteric, but it is clearly seen that when the second normal state was restored the hysterical state could be properly characterized as a phase of multiple personality.

A careful examination of the report of this case reveals the fact that when Félida first came under Dr. Azam's observation, at the age of fifteen, the real self had already become disintegrated, had disappeared and changed into Félida No. I, the hysteric, who, therefore, from this point of view, was not the " normal " personality, as supposed, but a secondary personality. [The transition had been gradual and, therefore, there had been no loss of memory. She had become simply an hysteric.] Taking the case as it stands, it is hard to see any other interpretation than that, when Félida changed to her second state, she waked up, so to speak, became her real self, and was well. It was this new state that was the normal person, and when restored to health (like the real Miss B. and the real X, in Gibson's case) remembered her previous secondary hysteric self, though the hysteric self did not know the new normal self. It is not to be wondered at that the first state tended to disappear more and more, until Félida remained, with few interruptions, in her normal second state.

A consideration of the phases of multiple personality other than those of the classical hysterical type would carry us too far at this time, and beyond the scope of a JOURNAL article. Suffice it to say that some of these phases are characterized by an alteration of character, not obtrusively pathological in itself, and by amnesia (Cases XI and XV), rather than by physical alterations of health. Others show extreme modifications of character (Cases IX, X, and XIII), sometimes without physical stigmata. On ultimate analysis it can be shown that all such alterations of character depend upon the same derangements and rearrangements of the mental organization as take place in

hysteria. The amnesia is also identical in character and behavior with hysterical amnesia. It presents many types. Sometimes on the part of the secondary hysteric state it is only for educational acquisitions (Case I, B III; Case XII, Z II and III; Case IX, Vivé I); sometimes for the whole previous normal life, either including educational acquirements (Case VIII, R II; Case XIV), or inclusive of them (VI, VIII, XI, and XV); sometimes only for the restored normal life; sometimes for other hysteric states, etc. On the part of the normal state there is sometimes amnesia for the hysteric states and sometimes not. Experimental investigation shows that such amnesia represents only dissociated memories.

A study, then, of the reported cases of multiple personality brings into strong relief several facts:

1. The individual, physiological, and mental alterations observed, including the amnesias, taken by themselves are in no way uncommon as phenomena and therefore are not peculiar to this condition, but are frequently observed as elements in other symptom-complexes, particularly hysteria.

2. That amnesia is not in any way an essential characteristic of secondary personalities, but that some of the most marked alterations of personalities have developed with complete recollections of their previous lives; retention of memory is more likely to be met with when the alterations have gradually developed.

3. That the symptom-complex observed in certain types of hysteria differs in no way from that manifested by many so-called secondary personalities without amnesia.

4. That the pure hysterical symptom-complex — the classical hysteric — may form such an organized system that it may be made to alternate in mass with either the healthy psycho-physiological organism or with another abnormal symptom-complex. When this occurs the hysteric may exhibit some form of amnesia. The alternations may be brought about by artificial devices or by accidental factors (emotions, etc.).

The conclusion to which an analysis of the cases brings

us is that certain symptom-complexes which commonly pass under the name of hysteria, with or without amnesia, are from another point of view to be regarded as disintegrated or secondary personality, and, if taken in connection with the normal condition, may be regarded as a phase of multiple personality. That is to say, the previous or later acquired normal state may be regarded as one personality, and the disintegrated hysteric as another. As the hysteric ordinarily develops insidiously, and equally gradually returns to health, retaining a continuous memory through the whole cycle, the splitting of the personality and the multiple characteristics are disguised. One condition slides into the other so gradually that in the absence of any loss of memory there is nothing to mark the division of personality. But when, as is sometimes the case, a sudden restoration to health is effected, bringing with it an amnesia on the part of the hysteric or of the restored normal person, the duality of personality becomes plainly recognizable (Cases I, III, IV, V, VI).

Hysteria, then, is a manifestation of disintegration, and the neurasthenic state,[1] one of the stigmata of hysteria, is pathologically a type of dissociation of personality. Conversely, disintegrated personality is no bizarre phenomenon, but in its mild forms an almost every-day clinical affair, though ordinarily, in consequence of the absence of amnesia, it passes unrecognized.

[1] Since this paper was read Dr. John E. Donley has published a valuable contribution ("Neurasthenia from the Point of View of Dissociated Personality," JOURNAL OF ABNORMAL PSYCHOLOGY, June, 1906), in which it is shown, arguing along other lines, that neurasthenia is a type of dissociation of personality. As it happens, these two papers complement one another and should be read together.

ARE HYPNOTIC HALLUCINATIONS SIMULATIONS?

BY BORIS SIDIS, PH.D.

FROM the candid review of my paper, "Are There Hypnotic Hallucinations?"[1] by Dr. Morton Prince,[2] as well as from letters received by me, there seems to be an impression that hypnotic hallucinations are regarded by me as simulations. It is certainly of importance to correct this impression. I wish to have it understood that I do not maintain that hypnotic hallucinations are simulations. While there may be some hallucinations where simulation enters as an element, it certainly does not hold true generally of most of the hypnotic hallucinations. What I claim both from observation and experiment is the fact that hypnotic hallucinations should not be regarded as sensory experience, but as purely ideational states. The hypnotic subject, when a suggestion of an hallucination is given to him, does not really experience a sensation of sight, a sensation of hearing, or a sensation of smell, but he *believes* that he actually experiences them, the belief being greater in proportion as the hypnotic state is deeper. In other words, the hypnotic hallucination is not genuine in the sense of being *sensory* but it is *genuine in the sense of belief in reality*. The hypnotic hallucination is a delusion, a *genuine delusion*.

It is wrong to facts to regard the hypnotic state as one of simulation. The hypnotic subject, especially the somnambulist, rarely if ever simulates. What I insist on is the fact that mental states induced by suggestion are not qualitatively sensory in character. As far as facts go we can only say that suggestion can only induce belief. Suggestion cannot give rise to sensory experience, to hallucinations. Suggestion can only *affect belief* and can give rise to delusions. Hypnotic hallucinations are delusions in the true sense of that word. Delusions, however, are not simulations and, as mental states, are as important as hallucinations. Hypnotic hallucinations are essentially

[1] *Psychological Review*, July, 1906.

[2] JOURNAL OF ABNORMAL PSYCHOLOGY, August, 1906.

states of belief, they are delusions of external reality, they are delusions of sensory experience shorn of all sensory elements; in other words, hypnotic hallucinations are delusions of perceptual experience.

The whole bearing of my communication on hypnotic hallucinations is not to deny them as such, but to point out the fact that mental states induced by suggestion are not of a sensory character and that hypnotic hallucinations, the stronghold, the marvel of hypnosis, are essentially of a delusional character. The upshot is that mental states induced by suggestion, whether hypnotic, post-hypnotic, or non-hypnotic, are only so many modifications effected in the subject's states of belief. We should, therefore, study such states not from the standpoint of sensation in terms of which the suggestion is originally given, but from the standpoint of delusion, which is the actual experience present to the subject's mind.

It is certainly a great pity that this point has not yet been recognized and that competent observers should cling tenaciously to the face value of hallucinations induced by suggestion. The more I work on the subject of hypnosis the more do the facts force upon me the conviction of my position. The whole chapter of hallucinations induced by suggestion is one of the richest in abnormal psychology on the nature of belief. One clearly realizes the importance of such a study. Many of the "facts" that go under the name of hallucinations must certainly be re-examined. Religious hallucinations, crystal gazing, shell hearing, etc., must be submitted to a thorough searching examination before any conclusion as to their sensory character can be accepted. A sifting process of experimental investigation will no doubt show that they belong to widely different categories. "Facts" in psychology in general and in abnormal psychology in particular cannot be accepted on their face value, but must first be rigorously sifted and tested. Now I claim as the result of such a process that "SUGGESTED" HALLUCINATIONS *are neither sensory experiences, nor simulations, but are* GENUINE DELUSIONS.

ÜBER SPRACHLICHEN INFANTILISMUS ALS FOLGE CEREBRALER HERDERKRANKUNG BEI ERWACHSENEN.

VON PROF. A. PICK (PRAG).

Als theoretische Consequenz der von *Hughlings Jackson* der *Evolution* gegenübergestellten *Dissolution* ergab sich die Annahme, dass im Gebiete der Sprache die durch entsprechende cerebrale Läsionen zustande kommenden Störungen der Sprache die verschiedenen Stadien der Entwicklung derselben, wie sie uns in der Kindersprache entgegentreten, wiederspiegeln müssten.

Die Richtigkeit dieser These schien auch in der Tat, um nur einige besonders praegnante Erscheinungen zu nennen, durch die Beobachtung von Agrammatismus, Störungen des accentuellen Lautwandels, weiter durch das etwa auch hieher zu zählende aphatische Stottern als Folge cerebraler Herderkrankung bei Erwachsenen bestätigt.

Im Nachstehenden möchte ich nun zeigen, dass auch gewisse articulatorische Erscheinungen, welche der Kindersprache ihr, ich möchte sagen, internationales Gespräge aufdrücken, bei Erwachsenen durch cerebrale Herdaffection zustande kommen können; es wird sich dann am Schlusse der Besprechung dieser, bis jetzt meines Wissens nicht bekannten, Erscheinung Gelegenheit bieten, zu erörtern, welcher Einschränkung die eingangs angeführte Gegenüberstellung der Evolution und Dissolution bedarf, um Theorie und klinische Erfahrung in Einklang setzen zu können.

Am 8. Februar wird die 69 jährige Taglöhnerin Marie K. mit nachstehender Anamnese zur Klinik aufgenommen: Sie war früher immer gesund, verkaufte Grünzeug; seit 14 Tagen spricht sie schlecht, fehlerhaft, plaudert, auch der Umgebung auffällig, sehr viel, versteht nach Ansicht ihrer Angehörigen Alles zu ihr Gesprochene; vor 3 Tagen

fiel sie Abends aus dem Bette und seitdem kann sie die rechte Hand nicht mehr recht gebrauchen, dabei kein deutlicher apoplectischer Insult. Da die Pat. nur tschechisch sprach, unterlasse ich die wörtliche Wiedergabe aller Examina, die an dieser Stelle ja ohnedies nur für wenige Leser verständlich wären; nur einige derselben sollen ausführlicher mitgeteilt werden, um als Beläge für die Deutung der Erscheinungen zu dienen.

Sofort bei der Aufnahme der Kranken fällt der lebhafte Redeschwall auf, den sie spontan und durch Fragen aufgefordert producirt; weiter zeigt sich exquisite Echolalie, einerseits in Form direkter Wiederholung des oder der letzten (auch bis zu 4) Worte, anderseits in der Form der Umstellung der Frage in die Ichform; die Sprache ist ausgesprochen paraphatisch, aus zum grossen Teil einzeln verständlichen Worten bestehend; dementsprechend gelingt auch öfters die Bezeichnung von Gegenständen; die Kranke zeigt sichtliches Verständnis für ihren Sprachdefect, was sie, sowohl sprachlich, wie durch entsprechende Gesten zu erkennen giebt; das Sprachverständnis erscheint nicht deutlich gestört. Das Reihensprechen (Vater unser u. a.) ist intact; Lieder erkennt sie, kann aber nicht singen, sondern sagt nur den Text, aber mit erkennbarem Rhythmus her; Schreiben unmöglich; Lesen bis auf einzelne Buchstaben aufgehoben; Erkennen von Ziffern nahezu ganz erhalten. Mit Rücksicht auf die später eintretende Änderung sei gleich hier hervorgehoben, dass die Articulation und Betonung seitens der Kranken eine vollständig normale war.

Die somatische Untersuchung ergab neben Arteriosklerose: Homonyme lat. rechtsseitige Hemianopsie, normaler Augenhintergrund; Trübung beider Trommelfelle, Hörschärfe L: in 5 M. laute Stimme, in $1\frac{1}{2}$ M. Flüstersprache; R.: in 4 M. laute Stimme, in $\frac{1}{2}$ M. cca leise Stimme (Untersuchung vom 20. Februar durch H. Priv. Doc. Dr. Piffl; ein von diesem gemachter Versuch mit der Bezold-'schen Reihe gelingt nicht). Im Gesichte in der Ruhe keine deutliche Differenz, beim Sprechen und Lachen bleibt der

r. Mundwinkel deutlich zurück; der r. Arm hängt schlaff herab, ist in allen Gebieten paretisch, aber nicht vollständig gelähmt; das rechte Bein ebenfalls, aber in geringerem Grade paretisch; die Sensibilität am rechten Arm herabgesetzt, Lagegefühl nicht prüfbar; deutliche Astereognose. Bauchreflex links angedeutet, r. fehlend; Kniephaenomen beiderseits lebhaft; Fusssohlenreflex beiderseits plantar.

Schon bei diesem ersten Examen fällt auf, dass das Bewusstsein der Kranken von ihren rechtsseitigen Extremitäten beträchtlich gestört ist; aufgefordert die rechte Hand zu zeigen oder zu reichen, reicht Pat. immer wieder die linke und erst durch mehrfache Ablehnung der gleichen Action wird sie dazu gebracht, die rechte zu zeigen; gelegentlich kommt es auch vor, dass sie, trotzdem sie selbst die Frage echolalisch wiederholt und sichtlich versteht, das linke, oder später das rechte Bein anstatt der rechten Hand vorstreckt; als sie corrigirt wird, sagt sie vollständig correct: "anders kann ich Ihnen die Hand nicht reichen" oder "wie soll ich sie anders reichen?" Das Zeigen der übrigen Körperteile erfolgt vollkommen correct.

Bei dem am Abend des ersten Tages fortgesetzten Examen zeigt die Kranke Andeutungen anscheinend ideomotorischer Apraxie in der linken Hand; aufgefordert, eine Kerze anzuzünden, zieht sie mit der linken Hand das Hölzchen aus der Schachtel, nähert es aber unmittelbar der Kerze; dabei merkt man ihr die Vorstellung an, es sei so nicht richtig; trotzdem versucht sie es noch einmal so, streicht auch das Zündholz an der Kerze und sagt dann: "es geht nicht; ich kann es nicht"; erst als man sie auf die Streichholzschachtel verweist, streicht sie richtig an; andere Objecte gebraucht sie richtig; dabei vernachlässigt sie die rechte Hand vollständig.

Am folgenden Tage (10. Februar) tritt das noch deutlicher hervor; sie beachtet die rechte Hand gar nicht mehr, sondern nimmt zu allem irgendwie complicirterem den Mund, sichtlich ohe jedes Überlegen, zu Hilfe; z. B. aufgefordert einen Lappen zu nähen, bringt sie rasch, abwechselnd bald diesen, bald die Nadel zum Munde; dabei

entwickelt sie eine bemerkenswerte Geschicklichkeit in der Verwendung des Mundes z. B. beim Aufwickeln von Bindfaden auf eine Spule; sie fasst sofort das Ende des Fadens mit dem Munde und wickelt die Spule an dem Faden rasch auf.

Die apraktischen Erscheinungen treten aber im Verlaufe der Untersuchung sehr bald wieder hervor und zwar sichtlich auch solche rein motorischer Art, direct in Form des Ausfalls der betreffenden Bewegungsvorstellungen. Ein Bügeleisen erkennt sie sofort, aus den paraphatischen Reden ist zu entnehmen, dass sie auch den Gebrauch kennt, aber erst nachdem man ihr die Anwendung vormacht, ahmt sie die betreffenden Bewegungen nach; gelegentlich gelingt auch das Nachahmen von Bewegungen nicht; es wird ihr eine Kindertrommel gereicht, die sie erkennt, aber sofort zum Munde führt; als ihr jetzt der Schlägel gereicht wird, führt sie ihn zuerst zum Munde, dann nimmt sie ihn in die linke Hand, will die Trommel mit dem Munde fassen, um schliesslich doch wieder den Schlägel in den Mund zu stecken; dabei ist es bemerkenswert, dass sie diese und ähnliche Manöver mehrfach mit der verständlichen Frage begleitet: "Ist es so richtig?" als ihr jetzt die richtige Bewegung des Trommelns gezeigt wird, schlägt sie wohl mit dem Schlägel, aber senkrecht, gegen das Fell.

Es werden ihr eine Wäscherumpel, wie sie zum Reiben der Wäsche verwendet wird und ein Lappen gereicht, mit der Aufforderung zu waschen; sie erkennt die Rumpel richtig, fasst das Tuch mit dem Munde, dann wieder hält sie es an die Waschmaschine, dann wieder den Mund an die Waschmaschine, ist aber nicht dazu zu bringen, Waschbewegungen auszuführen; vielfach führt sie auch die gereichten Gegenstände, die sie alle sichtlich erkannt hat, an den Mund und hält sie dort; eine Brille legt sie richtig auseinander, setzt sie aber unterhalb der Nase auf; dieselbe Bewegung des zum Mundeführens, mit der linken Hand natürlich, macht sie auch oft, wenn sie aufgefordert wird, zu winken, eine lange Nase zu machen, mit der Hand zu grüssen; gelegentlich fasst sie, anstatt der verlangten

Bewegung, an die eigene Nase oder an die Wange, auch nachdem man ihr die Bewegung vorgemacht; bei all diesen apraktischen Bewegungen, sowohl während, wie nach Abschluss derselben, also wenn sie z. B. die Brille unter der Nase quer hält, bekommt man von der ausdrucksvollen Mimik der Kranken den Eindruck, dass sie, ähnlich wie sie das früher sprachlich ausgedrückt, besagen will: " ist es so gut?" oder " so ist es doch gut!" Bewegungen, bei denen der Kopf, oder der Rumpf in Frage kommen (mit dem Kopfe verneinen oder bejahen, sich aufsetzen, nach links oder rechts drehen) macht sie dagegen fast ausnahmslos richtig.

Die Arme zeigt sie zuerst richtig, auch die Beine weiss sie zu zeigen, irrt sich aber bezüglich der Seite; später neuerlich aufgefordert, den rechten Arm zu zeigen, hebt sie mehrfach das linke Bein, trotzdem sie die Aufforderung selbst mit Verständniss echolalisch wiederholt; bemerkenswert ist dabei, dass sie, über die dabei erfolgende, im Tone der wiederholten Aufforderungen sich ausprägende Correctur seitens des Examinierenden sichtlich erstaunt ist und dem auch sprachlich Ausdruck verleiht; sie zeigt also hier die gleiche Erscheinung, die eben bezüglich der apraktischen Bewegungen beschrieben worden.

Die lebhafte Sprache zeigt noch immer ausgesprochene Paraphasie, gelegentlich kommt auch ein Zug von Agrammatismus vor, aber die Echolalie ist insofern geringer, als die Kranke nicht mehr ganze Sätze, sondern nur einzelne letzte Worte wiederholt. Als sie aus dem Untersuchungszimmer fortgefahren wird, verneigt sie sich, greift sich aber, wie zuvor an den Mund und wiederholt das auch, nachdem ihr das Winken mit der Hand vorgemacht worden.

11. Februar. Die rechtsseitigen Extremitäten sind heute vollständig schlaff gelähmt; die Sprache stärker paraphatisch und zeigt eine, bis dahin nicht resp. wie nachträglich festgestellt wird, erst bei der Abendvisite am vorigen Tage in Andeutung vorhanden gewesene Störung; sie entspricht heute vollständig der eines kleinen Kindes, indem die Kranke das l, ž, š, d, t, h, sowie besonders die aus

denselben bestehenden Silbencomplexe vollständig wie ein Kind mit den, der Kindersprache entsprechenden, Lautverschiebungen ausspricht [1]; dabei ist ihr sonstiges Verhalten vollständig unverändert und bleibt, um das gleich anzuführen, so bis zu ihrem Ableben.

Wie heissen sie? No, Pucija (Kučera); Schlüssel: Cisek (klíček), Messer: Nous (nuž). Spontan sagt sie: " Uz budu zlava (zdravá), to poctají (počkají) ja si to musim uzdlavit (uzdravit)," (Deutsch: " Ich werde gesund werden, warten Sie nur, ich muss mir das gesund machen ") oder: " Videjí us (už) jsem psece (přece) mohja (mohla) us (už) jako pseci (přece) trosku (trošku) us. . . . To vjedy (vědi) Ze (že) by mi bylo dobze (dobře) ze (že) ma ne je dys (když) jako uz (už) se uzdjavím (uzdravím) a jako ze (že) vjedy (vědi) ze (že) je ze (že) pude (bude) lepsi (lepší) "; aus späteren Ausserungen hebe ich hervor: " pjetný " statt " pěkny," " lepsi " statt " lepší," " vidjet " statt " vidět," " napísu," statt " napíšu," " dela " statt " děla," " dobze " statt " dobře."

Zum Gebrauche verschiedener, von ihr jedesmal erkannter, Gegenstände aufgefordert, ist ihr Verhalten häufig das zuvor geschilderte; einzelne gebraucht sie richtig, andere führt sie oft in ganz unzweckmässiger Stellung zum Munde und hält sie dort.

12. Februar. Die Sprache gleicht vollständig der eines Kindes; sie sagt: " dobze " statt " dobře," " esce " statt " ešte," " placovat " statt " pracovat," " tjosku " statt " trošku," " vodlostly " statt " vodrostlý," " vopjavda " statt " vopravda," " juzenec " statt " ruzenec," " vsecto " statt " všecko," " takjec " statt " taklec," " boze " statt " bože," " zict " statt " říct," " poctejme " statt " počkejme," "secto " statt " všecko," " otazou " statt " ukažou."

Die apraktischen Erscheinungen sind ganz deutlich, und gelingen jetzt auch solche Bewegungen, die früher noch

[1] Natürlich lässt sich das auch für den Kenner des Tschechischen schriftlich nicht ganz praegnant zum Ausdruck bringen; für die Hörer war die Erscheinung sofort so deutlich, dass dem Erstaunen darüber alsbald Ausdruck verliehen wurde.

frei waren, oft nicht mehr; aufgefordert die Zunge zu zeigen, hält sie die Lippen mit der linken Hand und erst als man ihr die Hand festhält und die Aufforderung mehrmals wiederholt, gelingt es; auch die Nachahmung von Bewegungen gelingt schlecht; aufgefordert, sich mit einem ihr gereichten Kamm zu kämmen, hält sie ihn an's Kinn; als es ihr gezeigt wird, thut sie es auffällig kurz, ungeduldig und ungeschickt, indem sie den Kamm mit der breiten Fläche auf die Haare aufsetzt und herabstreicht. Den rechten Arm beachtet die Kranke gar nicht; aufgefordert, aus dem Bette aufzustehen, setzt sie das linke Bein aus dem Bette heraus, das rechte bleibt gerade und schlaff im Bette liegen, wie nicht ihr gehörig; auch durch wiederholte Aufforderung gelingt es nicht, ihr die rechten Extremitäten in die Erinnerung zurückzurufen.

Abends 6 Uhr P.M. Sprache kindisch. Auf die Frage, wo der rechte Arm ist, schaut sie umher, greift sich an das linke Bein, wendet sich zur Wärterin: "Ich weiss nicht welches?" Aufgefordert die Hand zu reichen, reicht sie die linke.

13. Februar. Patientin lobt sich, aufallend euphorisch, in ihrer gewohnten kindischen Sprechweise ihren Zustand; spricht "douho" statt "dlouho," "tzi" statt "tří," "cicatý" statt "třicaty," "dluhy" statt "druhý," "vysehlade" statt "vyšegradě," "vobjazet" statt "vobrazek," "bjejle" statt "brejle," "límet" statt "limec," "tlají" statt "krají."

Die Echolalie ist ganz geschwunden, dagegen zeigt die Kranke jetzt oft intensive Perseveration beim Sprechen.

Zu gebrauchende Gegenstände werden fast alle an den Mund geführt, nur das Taschentuch gebraucht Pat. richtig; auch die Aufforderung zum Gesten machen wird in der gleichen Weise beantwortet; bei complicirteren Handlungen z. B. Verwendung von Briefpapier, Couvert und Marke, die sie nicht zustande bringt, sagt sie selbst, sie wisse nicht, wie es zu machen sei; erst nach wiederholter sprachlicher und mimischer Erklärung gelingt es leidlich.

Am 14. ist der Zustand nur insofern verändert, als man

gelegentlich den deutlichen Eindruck hat, dass Pat. nicht mehr Alles zu ihr Gesprochene versteht.

Am 16. entwickelt sich eine Bronchitis mit Pulsarythmie, der Allgemeinzustand der Kranken verschlechtert sich. Dementsprechend ist am 17. die Sprache wesentlich schlechter, sowohl hinsichtlich der die einzelnen Worte betreffenden, paraphatischen Verstümmlung, wie hinsichtlich der Articulation; doch tritt auch jetzt noch der kindliche Charakter der Sprache, wenn auch nicht mehr so häufig und deutlich hervor; die apraktischen Erscheinungen bestehen fort.

Am 22. ist zum ersten Male am rechten Fuss Babinski nachzuweisen; Nachmittags verfällt Pat.; am 23. ist sie soporös; am 24. gelingt es sie für kurze Zeit zu erwecken; auf die Frage nach ihrem Befinden, sagt sie: "Dobze" statt "dobře" (deutsch: gut); später dauernder Sopor, Exitus am 28. Februar.

Mit Rücksicht auf die Zwecke der vorliegenden Arbeit will ich die Besprechung der rein klinisch-pathologischen Tatsachen, sowie der nicht die infantile Sprache betreffenden Störungen hier möglichst kurz gestalten. Zunächst sei bemerkt, dass wir von Anfang ab, der ganzen Sachlage nach, eine Erweichung annahmen, die dem weiteren Verlaufe entsprechend zu jener seltenen Form gerechnet werden musste, welche als sogenannte progressive Erweichung bezeichnet wird. Für die Frage der Localisation erwuchs aus diesem Momente eine grosse Schwierigkeit, da man sich von vorneherein sagen musste, dass während des langen agonalen Sopors die Erweichung weiter vorgeschritten sein dürfte und dadurch die Möglichkeit, den klinischen und pathologisch-anatomischen Befund in Einklang zu bringen, vielleicht ganz ausgeschlossen würde.

Der erstere liess sich zu diesem Zwecke so zusammenfassen: Schwere motorische und sensible rechtsseitige Hemiplegie, rechtsseitige hom. Hemianopsie, gemischte Apraxie der linken Hand, geringe, später deutliche Worttaubheit, schwere paraphatische und amnestische Sprachstörung, Schreib- und Lesestörung, Echolalie. Die diesem Befunde entsprechende Läsion war etwa so in der linken Hemi-

sphaere zu localisieren: Vordere- und hintere Centralwindung, oberer und unterer Scheitellappen mit tiefgreifender Beteiligung des weissen Markes, Schläfewindungen bei geringerer Beteiligung der ersten derselben.

Die am Tage nach dem Exitus der Kranken im pathologisch-anatomischen Institute vorgenommene Section ergab nachstehenden Befund:

Die weichen Schädeldecken blass. Der Schädel 50 cm. im Horizontalumfange messend, diploereich, von gewöhnlicher Form. Die Dura mater dem Schädeldache stärker adhaerent. In ihren Sinus reichliches dunkles, zum Teil geronnenes Blut. Die inneren Meningen über den Convexitätsabschnitten des Grosshirns diffus leicht verdickt und getrübt. Die basalen Gehirnarterien in ihrer Wandung allenthalben ungleichmässig, und stärker verdickt mit klaffendem Lumen. Die linke Grosshirnhemisphaere sehr weich und zerfliesslich, weshalb das Gehirn ohne weitere nähere Untersuchung rasch, nach Zerlegung in Pons, Medulla obl., Kleinhirn und in die beiden Grosshirnhemisphären, in 10% Formol eingelegt wurde. Von der Erweichung erscheint das Gebiet der Arteria fossæ Sylvii sin. betroffen zu sein, so dass der grösste Teil des Stirnlappens, der Parietallappen und der oberste Teil des Schläfelappens in sie einebzogen sind. Die übrigen Teile des Gehirns zeigen von aussen nichts abnormes. In der linken Arteria carotis interna, soweit sie im Canalis caroticus verläuft, lockere dunkelrote Blutgerinnsel. Die linke Arteria fossae Sylvii und ihre Äste durch fahle Thromben verschlossen. Im Rückenmark lässt sich makroskopisch keine deutliche Veränderung nachweisen. In der Aorta thoracica mässige fleckige Verdickung und Verkalkung der Intima. An den Teilungswinkeln der Arteriæ carot. comm. weist die Intima dieselben Veränderungen, nur hochgradiger auf; besonders an der Abgangsstelle der l. Carot. int. springen die Kalkeinlagerungen stark gegen das Arterienlumen vor, um dasselbe im Verein mit einer ihnen festanhaftenden, derben, fahlroten Thrombusmasse vollständig zu verschliessen. Bereits 1 cm. peripher von der Abgangsstelle

dieser Arterie ist die Intima frei von Kalkeinlagerung, während sich die Thrombusmasse, der Arterienwand fest anhaftend, das Lumen des Gefässes vollständig verschliessend, noch auf eine Strecke von 1½ cm. gegen die Peripherie zu fortsetzt, um hier in einen dunkelroten, nicht adhärenten, weichen Thrombus zu übergehen. Am 11. III.06 wurden beide Grosshirnhemisphaeren in Pitres'sche Schnitte zerlegt. Hiebei zeigte sich in der Tat das ganze Gebiet der Art. fossæ Sylvii sin. mit Ausnahme des vorderen Abschnittes des Gyr. temp. suprem. und des ganzen Gyrus temp. II. et III. als Sitz hochgradiger Erweichung und zwar sowohl die Rinde, das Mark, als die Grossganglien betreffend.

Mikroskopische Schnitte von dem Stamme und den Ästen der Art. foss. Sylv. sin. zeigten ältere obturirende Thrombose mit leichter stellenweiser Verdickung der Intima.

Dem vorliegenden Sectionsbefunde an sich brauche ich hier nur soweit einige Worte zu widmen, als darauf hinzuweisen ist, wie sich aus demselben einerseits die Verbreitung der Erweichung und weiter besonders schön die progressive Natur derselben erklärt; auch der klinishen Erscheinungen, in ihren Beziehungen zu dem Befunde, soweit es nicht das eigentliche Thema des vorliegenden Aufsatzes betrifft, sei nur kurz gedacht; zunächst liegt es, Angesichts der enormen Erweichung auf der Hand, dass die Befürchtung bezüglich der Verwischung der Beziehungen zwischen den Erscheinungen im Sprachgebiete und dem damit in Einklang zu bringenden Befunde tatsächlich eingetroffen ist; wenigstens glaube ich nicht, dass man mit dem jetzt in seinem Endausgange vorliegenden Befunde eine andere Sprachstörung als eine reine Totalaphasie in Einklang bringen könnte; und so müssen alle Versuche, die vorangehenden, allmälig entwickelten Erscheinungen der Aphasie aus dem Befunde zu erklären, bei Seite gelassen werden.

Von den übrigen Symptomen erscheint nun besonders bemerkenswert, die fast vollständige Ausschaltung der rechtsseitigen Extremitäten aus dem Bewusstsein der Kranken. Die Ursache dieser, von verschiedenen Autoren (Fr. Müller, Anton, Pick, Hartmann) beschriebenen Er-

scheinung möchte hier vielleicht in der Combination von Zerstörung des motorischen und sensiblen Rindenfeldes mit der der basalen Ganglien (inclusive der inneren Kapsel?) gelegen sein.

Auf die Erscheinungen von Apraxie an der linken Hand, die einen Beitrag zu den neuen Feststellungen Liepmann's bringen, sei gleichfalls nur kurz hingewiesen; die Annahme desselben, dass die Zerstörung der Balkenstrahlung dabei die Hauptrolle spiele, findet jedenfalls hier ihre Bestätigung. Endlich wäre noch zu gedenken der Gesprächigkeit der Kranken, die sichtlich der typischen Redseligkeit im Schläfelappensymptomencomplex entspricht; es ist hier nicht der Platz, die Deutung, die ich, von Hughlings Jackson's Theorie der Dissolution ausgehend, diesem Symptome als einem aus primären Hemmungsausfall hervorgehenden gegeben, neuerlich zu discutiren; nur das eine möchte ich bei dieser Gelegenheit bemerken, dass ich unter den Einwäden gegen diese Deutung den meines Erachtens wichtigsten noch immer vermisse, nämlich den Nachweis, dass rein motorische, also nicht — aucht nicht functionell — den Schläfelappen einbeziehende Affection des Sprachgebietes jemals ähnliche Erscheinungen gezeitigt, wie die von mir als typisches Schläfelappensymptom gedeutete Hemmungslosigkeit des Sprachmechanismus Neuerlich discutirt Heilbronner, (Monatsschr. f. Psych. & Neur. XVII, page 459); eingehend dieses Symptom und deutet es als Reizerscheinung; ohne näher darauf hier eingehen zu können, möchte ich eben wegen der ausführlichen Darstellung Heilbonner's doch der Ansicht Ausdruck geben, dass auch in seinem Falle die Annahme eines Fortfalls entsprechender Hemmungen meines Erachtens in besseren Einklang mit den übrigen Erscheinungen gebracht werden kann, als die von ihm gegebene Deutung.

(*Continued in next number.*)

THE JOURNAL OF ABNORMAL PSYCHOLOGY.
DECEMBER, 1906.

APPARENT SUBCONSCIOUS FABRICATION.

BY JAMES H. HYSLOP.

[NOTE. — The interest in Mr. Hyslop's paper for students of abnormal psychology lies in the unfolding of subconscious dreaming or invention similar to the dreamlike or fabrication memories of the personal waking consciousness described by Dr. Angell in the report of his case[1] published in the October number of this JOURNAL. In this sense Mr. Hyslop's case may be regarded as a companion piece to that of Dr. Angell. Whether the subconscious phenomena are to be regarded as pure dreams believed by the subconscious personality or intentional subconscious invention is a matter of interpretation. The latter theory is made more interesting by the fact of the unquestioned honesty of the subject. The phenomena are also interesting from two other points of view: first, as showing the large systems of thought which can through training develop subconsciously in an apparently healthy individual, and acquire independent activity;[2] secondly, as evidence of the reality of subconscious mental action as opposed to the view maintained by some psychologists, — without personal experience with abnormal psychology, it should be said, — that automatic writing and similar " subconscious " phenomena in reality are only the expression of purely physiological processes without accompanying ideas, are produced alone by the physiological habits of the neurons, and not the expression of dissociated ideas. It is inconceivable that the phenomena recorded by the author could be produced by physiological processes without thought. This latter interpretation of subconscious phenomena is maintained, for instance, in a recent paper, *An Appeal from the Prevailing Doctrine of a Detached Subconsciousness*, by Prof. Arthur Henry Pierce in " Studies in Philosophy and Psychology." It is in these border-land cases as well as in those of pronounced abnormal conditions that the subconscious can be best studied.

Finally, as the author remarks, " The believer in spirits will have to learn that he has first to exhaust the field of abnormal psychology before he can trust his judgment to accept any explanation of such phenomena but that of secondary personality." EDITOR.]

THE subject of the following observations in subconscious fabrication manifested through automatic writing was to all appearances a perfectly healthy woman physically and mentally. A certificate to me from her physician, who was

[1] "A Case of Double Consciousness—Amnesic Type, with Fabrication of Memory."

[2] See " On a Series of Automatic Writings," page 226 of this issue.

unable to detect anything abnormal about her, testified to this fact. The wife of a clergyman, she was of a very religious mind, and being of robust health did all her own domestic work and had entire charge of the children. Her ability to perform automatic writing dated from her childhood, when her father made experiments with her with a planchette. At the first trial she could write automatically. These experiments were a matter of interest for a while and were then dropped, very little having been done until her marriage, a good many years afterwards. No records were made until 1895, when the experiments were carried on by her husband, Mr. Smead. (The subject's identity is concealed under this name.) These records have been submitted to me for examination. Mrs. Smead originally did not go into somnambulism (so-called trance) when the writing was done. She remained in a perfectly normal conscious state, but was unconscious of what was done through the planchette until it was told to her, or until she read it herself. Later in the history of the case, and after I became acquainted with it, in 1900, the somnambulistic condition was a frequent incident of the phenomena, but it was apparent that she would not go into somnambulism unless she so willed it herself, that is, was willing that it should be assumed. But she often decided that the writing should be done in her normal condition. According to the 1895 records, the subconscious writing claimed to give communications from deceased persons. In these communications were accounts of life on the planet Mars, thus resembling Flournoy's celebrated case of Mlle. Hélène Smith. It is noteworthy, however, that these phenomena occurred soon after the appearance of M. Flournoy's book, which had actually been purchased by Mr. Smead, but taken out of the house to prevent its casual reading by Mrs. Smead. How much his conversation with Mrs. Smead on the book may have affected the results cannot be determined.

The first allusion to planetary knowledge in the record referred to Jupiter, which was said to be the "babies' heaven," and a number of naïve statements were made

about it which would suggest subliminal memories of childhood. Later an inquiry was made by Mr. Smead at one of the sittings whether any of the planets was inhabited, and the answer came that Mars was inhabited. Soon afterward a map was drawn which purported to represent a continent with various zones marked off and bodies of water indicated. The names given to these several zones were " Zentin " (cold), " Zentinen " (very cold), " Dirntze " (north temperate), " Dirntzerin " (south temperate), and " Emerincenren " (equator). It was at this point that the evidence of a so-called Martian language manifested itself, but it did not show any tendency to develop until inquiries were later made on the matter. The drawing of the map and zones was followed by some dialogue between Mr. Smead and the " communicator," in which it was said that the inhabitants of Mars resembled our Indians, and that some of them were fairly well civilized. An allusion was also made to " the way they fix the water," and this was described as representing canals connecting the oceans, which were represented on the map.

This was in 1895. The experiments were then interrupted for five years, with the exception of a few attempts which did not represent anything purporting to be Martian. In 1900 the case came under my observation, and the experiments were systematically undertaken, with the following results: The Martian matter took a more systematic and better developed form. A hieroglyphic language was ready for the emergency, and though it was not worked out into the detail of Flournoy's case, it has the same interest for its originality. One of the first incidents of the resumption of the Martian episode was the drawing of a figure which was called a " sea vessel." It was christened " Cristririe." The name for any sea vessel was said to be " Seretrevir." In connection with the incident it was said that the ships were made of trees, and that the people on Mars did " not use sawmills as we do." There is a curious suggestion in this of Indian habits and so again of childish memories.

The next experiment resulted in a rather unrecognizable figure, which was said to be a " dog house temple," and the Martian words for this were, "Ti femo wahrhibivie timeviol." These words were in hieroglyphic figures and explained in English as I have given them. Also the Martian characters were drawn for the sentence, " The boy walks," in response to the request by Mr. Smead that it should be done. They were given as, " Ti inin amaravim," and the explanation appended that in the Martian it was " The boy walking."

Again, in addition to a number of Martian objects, at various times there was drawn a large, fine palace, which was described in detail, and when reproduced according to the description represented a massive stone structure, a part of which was white and a part of gray stone. A fine park and lawn with artificial lakes were in front of it, and the background lofty mountains and a blue sky. A few days later the ground plan of the palace was drawn and also a curtain which was said to hang in the palace. This curtain was represented with a fringe at the bottom and next to it a border with flowers. Then a colored band, followed by the picture of a ship, with mountains and sky in the background, and above this another fringe. The whole margin was in various colors. When reproduced according to the drawing and description in color, it is a fairly fine work of art.

On another occasion the picture of a woman was drawn, and the words given for man and woman. " Mare," pronounced " marry," was for " man," and " kare," pronounced " karry," for " woman." The plurals were given as " maren " and " karen." At the same time the description of the persons represented was that " the men wear dresses and pants," and the women " bag-like skirts and funny hats " and " their hair hanging down their shoulders. The men put theirs up and keep long hair under their hats." Have we subliminal dreaming here over pictures of oriental and Indian habits jumbled together in their natural confusion?

Again, a barrack was drawn and the statement made that

it was the place where Martians lived before marriage. Some associated statements indicated that it was the aristocratic class which had to spend a period of work in this way before matrimony, a humiliation which the democratic temperament might impose on its rulers.

At various times there were Martian sentences written out to illustrate the words and construction of the language. The alphabet was not given except in a few instances, and one is at a loss to know why the subconscious operations were not decided on the one policy or the other. Apparently the most economical thing to do in most cases was to invent a hieroglyph for a word and then when called on to give the elements of a word an alphabet was extemporized. It was interesting, however, to remark that the use of the letters and hieroglyphs for any word remained the same during many months of experiments. There was no lack of promptness in the reply to inquiries on any point of language or representation, as if the subconscious action were ready for the emergency.

This Martian period did not last long enough to make it as interesting as the Martian episodes of Mlle. Hélène Smith. It had no romantic features and was, perhaps, less systematic than hers, but was, nevertheless, as real in its purport and as consistent in its incidents. The detection of its relation to normal experience could only be found in the structure of the sentences, though there were occasional deviations to suit the demand for consistency in natural variation. But on the whole the general structure appears to be evidence of invention, and this interpretation is reinforced by the curious fact that a hieroglyphic language, supposed to be economical in its resources, regularly employs the article! The language was not fully enough developed to ascertain whether any system of inflection was used.

We can but conjecture the source of this subconscious invention. Mr. Percival Lowell had published four articles on Mars in the *Atlantic Monthly* of that year, 1900, and we might suppose that Mrs. Smead had read these articles

and gotten the subconscious impulse from them. But there is every reason to believe that Mrs. Smead never saw nor heard of these articles until after some of the incidents had occurred. However, it is not necessary to trace their origin to these articles. The newspapers were probably interested in the perennial controversy about the habitation of Mars, and in fact the Smeads had their attention called to the subject by a coincidence between some of the alleged Martian messages and an article in one of the papers printed in Boston, or dated the day after an experiment of some interest. This article alluded to Lowell's papers. The whole subject of Martian life was in the air, and planetary habitation has been a favorite subject of the imagination for centuries. Hence we do not require to trace the initial impulse to any special discussion contemporary to the experiment. But it is interesting to find the phenomena occurring coincidental with a public interest in Martian affairs, and when we know more about subliminal creations, apparently a phenomenon intermediate between day dreaming and real dreams, we may be able to make the facts intelligible.

These subconscious Martian inventions were interrupted very suddenly and without warning by another system of subconscious thought, of which the author claimed to be another personality calling itself "Harrison Clarke." Previously the planchette was the only instrument apparently usable. But "Harrison Clarke" could use the pencil or planchette indifferently, and could write in normal, inverted, and mirror writing with equal facility, and apparently liked to show his genius in these. No trace of the Martian phenomena appeared in his work. The break was absolute, and no hint of Martian associations came until a few years later, and this only in a word or two that suggested tapping the Martian memory. But the chief interest in "Harrison Clarke" was his response to the demand for proof of his personal identity. Mr. Smead made this demand upon him, and his response was a detailed set of incidents which, if verifiable and not known by Mrs. Smead, would have been

the wonder of the psychic researcher. The incidents told of himself were somewhat as follows:

Born in a town near Chicago, now incorporated in that city, he was at two years of age brought to Albany, N. Y., and there brought up by an aunt. At the proper age he came first to New York City, and afterward went to Baltimore, where he found employment in a store and became engaged to a young lady in that city, giving her name. Finding that, if he was to be married, he must have a trade, he came to New York again and engaged as a typesetter in the office of the New York *Herald*. In the meantime his fiancée died, and the incident breaking his heart, he enlisted in the army and was in the last regiment leaving New York for the war in 1862. He said he was marching in the ninth line through the streets. He was in the battle of Shiloh, naming correctly the generals on both sides. One morning, in the dawn, he and his comrade were discovered by a rebel guard and both were shot, " Harrison Clarke " through the lungs. In his dying condition his deceased lady love appeared to him and announced that he was going with her. He protested, but finally consented with the promise that he should some day return to prove that he still lived.[1]

The circumstantial character of this story invited investigation. Accordingly as soon as I received the data, I made inquiries in regard to them. I found no traces of such a name in the New York City directories for 1862 and two or three years preceding. The New York *Herald* would not permit an investigation of its books. Inquiries made in Washington for me resulted in the circumstance that *no New York regiments were in the battle of Shiloh*. Only Ohio, Indiana, and Illinois regiments took part in it. I sent these facts to Mr. Smead and had him confront " Harrison Clarke " with the facts as an experiment. He followed my directions, and when this personality was made aware of the falsity of his story, he admitted their embarrassing

[1] The romancelike character of this subconscious story resembles that of the waking dream memories of Dr. Angell's case report in the last number of this journal.

character, but insisted on his reality as a discarnate spirit. At the suggestion of Mr. Smead that he must have deserted his regiment, he seized upon the opportunity and admitted the fact, adding that he had joined one that admitted of his being in the battle of Shiloh! *But he stubbornly refused to give the name that he had given on his reenlistment.* He was not to be caught again lying. Soon afterward, and under the insistence that he must prove his identity, he disappeared, with the statement that the pencil could not be used in the writing if he went, and since his departure Mrs. Smead does her best automatic writing with the planchette and finds it almost impossible to use the pencil. " Harrison Clarke " had said that he had been sent to develop the pencil writing, and this personality could certainly use the pencil with a facility that Mrs. Smead could not consciously do. She had never seen or tried mirror writing in her life until after " Harrison Clarke's " feats.

Mrs. Smead does not recall knowing or reading anything about the battle of Shiloh, and both she and Mr. Smead had to look up the history of the war to ascertain whether the verifiable incidents about the battle of Shiloh were correct or not. Mrs. Smead has no recollection of any such name in her acquaintance and no recollection of ever having read about any such person. We are, therefore, left to pure conjecture for the source of the subconscious ideas. We may suppose that it is the resurrection of some forgotten knowledge, or a dream fabrication associating disconnected names and incidents in a consistent whole. As for proof of this, there is none. But it is the only natural hypothesis after the inglorious failure of the personality to tell a true story.

As interesting proof of the play of secondary personality, the following incidents are of importance: In my inquiries in Washington about " Harrison Clarke," I ascertained that there had been a Harrison Clarke in the 125th Regiment of New York, but this man was mustered out in 1865, and is now living in a city not a thousand miles from New York. The facts did not fit him in any respect. But such as they were they were communicated to Mr. and Mrs. Smead, and

she knew that there was a " Harrison Clarke " as described. Evidently her mind was puzzled by the falsity of the incidents, for, some time later, she had a vision of " Harrison Clarke " standing by her side and pointing to the *125th Regiment of New York* and to a vacancy in one of the lines, as evidence of the truth of his story and death. The most interesting part of this incident is the attempt of the subconscious to insist on what Mrs. Smead's normal consciousness knew was not true.

As I had suggested the necessity of proving personal identity and of supernormal knowledge as a condition of considering the reality of " Harrison Clarke's " claims, his disappearance was marked by a long period of impersonations apparently in response to this demand. Various personalities purported to communicate, but as they were not persistent, they have no interest for the phenomena of secondary personality in a systematic form. The old pre-Martian personalities return and with them various individuals deceased and within the knowledge of Mrs. Smead, some of them apparently representing incidents not known by her, but at one time so closely associated with her knowledge that we may suppose the incidents to have been forgotten. With these personalities we are not interested here, as any interpretation of them may be confronted with the absence of demonstrative evidence. But this defect is not so apparent in the interesting episode which I have now to narrate.

As I have said, Mrs. Smead was a very religious woman, and accepting the spiritistic nature of her planchette writing, she became impressed with the matter representing the " Imperator group of trance personalities " in my published report on the Piper case. But knowing what I should say about results of her own work relating to me personally, she purposely refrained from reading my report, and only heard Mr. Smead talk about it and its incidents. He read to her the " Imperator prayers " that I had collected together, and on various occasions mentioned to her little incidents that had struck him in my report. But Mrs.

Smead had no systematic memories of my work, having refrained from reading it, as I have remarked. But she had gathered enough from her conversation with her husband to appreciate the personality of " Imperator " as an interesting religious character. Thinking that she would like to have the " Imperator group of controls " for her own case, and knowing that they purported to have been the " controls " of Stainton Moses in England before his death, she began to wish that they would assume the management of her case. The wish became a fact in some months.

There was an interval of experiments which were comparatively barren in results of any kind. Efforts to get systematic " communications " failed very often, and only a few lines of writing would occur, but it is apparent from the detailed record of all sorts of impressions and occasional results that some sort of mental change was going on. Finally the name " Luther " was printed in capitals, as proper names are often done in the Piper case. I found that in 1896 or 1897 the name of Martin Luther was associated with the " Imperator group " in the Piper record, a fact which was as unknown to me as to Mrs. Smead, and which had never been published. Soon afterward Mrs. Smead saw a vision of a cross. The cross is the sign used by " Imperator." This occurred several times, and it was finally written by the planchette in the same way that it is written by Mrs. Piper. A little later the name of " Luther " was repeated and in connection with it that of St. Augustine, and finally that of Gustavus Adolphus. The next day apparently an allusion was made to Stainton Moses, the English clergyman who had been a " medium " and had died in 1892, and has figured in the experiments with Mrs. Piper since that time. In the midst of these the name of " Chesterfield " was given, with some allusion to his manorial property or home in England, but no reference to his being Lord Chesterfield. On a question of Mr. Smead, " Chesterfield " claimed to be " Prudens," one of the trance personalities of the Piper case. Two weeks

later an apparent attempt at the initials of " Imperator's " signature were given. They are " I. S. D." On one occasion later the symbol " U. D." was used in the proper manner. This was a spontaneously adopted device by the " Imperator group " for an abbreviation of the word " understand." I was present at the experiment when this occurred, and it had all the fitness of having been directed to me, as if the Smeads did not understand its application. In the meantime several prayers occurred, which were identical in character with the " Imperator " prayers in the Piper case, but showed no merely photographic reproduction of them. The thought and language were the same, and the use of the sacred " thee " and " thou " as in the Piper record. The manner of arranging for sittings became the same as recorded in my report.

This simulation of the trance phenomena in the Piper case was so striking and so apparently repeated some of the incidents in the history of that case, that I resolved to put the matter to a conclusive test. I arranged for three experiments with Mrs. Smead, *without telling her what my object was.* Simultaneously I arranged with Dr. Hodgson to have one sitting with Mrs. Piper coincident with one of those I was to hold with Mrs. Smead. My plan was to test the claims of the presence of " Imperator " by interchanging " messages " with Dr. Hodgson. My first sitting was on Monday morning. Dr. Hodgson's was to be on Wednesday, coincident with mine on that day.

When we began the experiment on Monday morning, Mrs. Smead soon went into a deep trance. " Chesterfield," who had now become the regular " control," was on hand, and I explained to him what I wanted, not mentioning Mrs. Piper's name, but saying that I wanted a message taken to the " other light," the term used by the trance personalities in the Piper case to designate " mediums." I named the third day (Wednesday) as the date when I wanted the message taken. In response to my request, " Chesterfield " at once replied through the planchette that Martin Luther would take it for me. When Wednesday came, after the

usual preliminaries with "Chesterfield," Luther reported and I sent the message to Dr. Hodgson, without naming him. In a few minutes my father purported to return from Dr. Hodgson, naming him, with a message. Then Mr. Myers purported to be present ready for a message, and I sent one to Dr. Hodgson through him. He soon returned, apparently with a return communication, but as Mrs. Smead was coming out of the trance it was not delivered, and after the experiment she lay down on the sofa and had a short sleep. In it she dreamed of the presence of Mr. Myers. The next day, at the experiment, Mr. Myers purported to be present and apparently tried to deliver his message. But the experiment was a failure, the writing being so difficult and confused that nothing clear or intelligible came. The experiment on Wednesday also had been a similar failure. We must remember in all this that Mrs. Smead's normal consciousness did not know what I had planned or was doing, but the adjustment of the planchette writing to my scheme was perfect. Now for the sequel.

When Dr. Hodgson's record was interrogated it was found *that he had received no messages whatever from me, had sent none to me and that the trance personalities in the Piper case had been in complete ignorance of what I was doing.* It thus appears that we have as complete proof as could be desired that the whole "Imperator" impersonation in the case of Mrs. Smead was a product of secondary personality. The intensity of her interest in the religious aspect of the problem and of the "Imperator group of trance personalities" had had the effect of setting her subconscious mind into action and stimulating it to the reproduction of the whole affair, and it was equal to the complicated action of adjusting its action to the situation which I had concealed from her normal consciousness. Mrs. Smead, when later informed, was so disappointed at the result that she at first resolved never to have anything to do with further experiments of any kind, but was finally induced to continue them for the sake of finding what such phenomena meant.

The primary interest in this last personation is the extent to which a given instance can be simulated with a small stock of knowledge. All the essential points in the character and manner of " Imperator " were clearly impersonated without having read my report, and only on the basis of casual conversation with Mr. Smead on the incidents of that report. The resourcefulness of subconscious mental action is thus shown to be very great, and that little material knowledge is necessary for more or less perfect dramatization, and the believer in " spirits " will have to learn that he has first to exhaust the field of abnormal psychology before he can trust his judgment to accept any explanation of such phenomena but that of secondary personality. Suggestion and impersonation are masters which we cannot ignore.

When it comes to an explanation of these phenomena, the task is not yet an easy one. In the facts which I have described there is no question about their nature. The claims for the supernormal are summarily thrown out of court, and we are left with subconscious mental action of the subject as the one general source which cannot be doubted. But when it comes to the specification of associated incidents suggesting a special cause for the peculiarity of the phenomena, it is not to be found on the surface. Mrs. Smead is apparently a perfectly healthy woman and shows none of the marks by which the physician would suspect physiological or psychological disintegration in any of her functions. There are no hysterics, no discoverable diseases, no physiological stigmata of any kind, no mental peculiarities discoverable, no foreign incidents, physical or mental, that would suggest any specific influence in the result. There is nothing discoverable but the cleavage between the normal and subconscious mental action, and hence all that we have to puzzle investigation is this systematic simulation of foreign realities. We do not yet know enough of neural action to trace the result to any specific cause or center, and even if we did know neural action well, we should have the problem of searching for the cause of the special

form which the phenomena take. The utmost that can be done is to search for certain psychological impulses and syntheses and dissociations to make the case intelligible. What they are it is difficult to ascertain.

But there are two or three things to remark. The character of the alleged "communications" are more or less definitely related to the conceptions which Mrs. Smead has of "spirit" messages. At first it was enough for her convictions that the phenomena were unconsciously produced and not the product of conscious and voluntary effort, such as normal thinking and writing. But my conversations with her and Mr. Smead soon convinced them that incidents purporting to represent the experience of the "communicator" when living were necessary to make the spiritistic theory even plausible. The "Harrison Clarke" personality followed this information, and the phenomena differed distinctly from the Martian episodes. Then when "Harrison Clarke" was shown to have failed in the production or proof of the supernormal, a long period succeeded in which the attempt to prove personal identity was persistent, though many of the cases were explicable by secondary personality. Then when the religious aspect of the Piper case was realized, the mental interest in that feature of it led at once to the simulation of it, the apparent result of an intense and persistent wish that the trance personalities of that case would intervene and give her record a similar character. The facts that indicate this simulation are fragmentary and disjointed, as association might make them, and the appearance of great names was connected with the supposition that the trance personalities in the Piper phenomena were individuals in a long past age. Subconscious memories might easily come to the front in this way, though it is interesting to know that her belief that "Imperator" was a certain historical person did not result once in the writing of his name. Apparently the process is one of interrupted association in subconscious activity and its casual influence on the motor system.

The mental and physical conditions which would explain

the phenomena must be the subject of pure conjecture. The nearest description of the facts which I can assume is that which would be expressed by the partial suspension of muscular tonicity to allow the subliminial action to let occasional subconscious ideas slip through. Mrs. Smead is a lethargic and phlegmatic temperament, and this is conducive to that passive state of consciousness which is favorable to the diminution of muscular tonicity, and as all her early work was done in a conscious state this suspension of its effect on the motor system would most naturally give rise to a habit of that system to assume this passive accessibility to subliminal impressions, and we may suppose that when she goes into the trance the motor mechanism is from habit open to subconscious action, and the fragmentary stream of subliminal action, dissociated from the normal, thus gets expression. In our normal conscious life there is a constant fringe of ideas and memories not connected with the main stream of attention and apprehension. But we suppress them as irrelevant to our main interest, and they are either easily forgotten or are not sufficiently apperceived to remember them as a part of the whole at the time. Now give the motor system that condition in which it might respond to these subliminal associations and they would appear as apparently independent personalities, and the habit of doing this would naturally carry itself over into the trance state. Something like this is apparently the description of the phenomena which I have discussed, though I think we have much to do yet in order to assure ourselves of even so simple an hypothesis as this.

ÜBER SPRACHLICHEN INFANTILISMUS ALS FOLGE CEREBRALER HERDERKRANKUNG BEI ERWACHSENEN.

VON PROF. A. PICK (PRAG).

(*Continued from October number.*)

Gehen wir jetzt zu einer Besprechung der Haupterscheinung der voliegenden Beobachtung über, so wäre vorerst die Frage zu erwägen, ob man überhaupt berechtigt ist, die infantile Sprache in unmittelbaren Zusammenhang mit der Hirnaffection zu bringen; derselbe wird wohl nicht geleugnet werden können, denn die Tatsache, dass die bis dahin an der Kranken nicht beobachtete Erscheinung im Laufe der Entwicklung der Erweichung aufgetreten, die in erster Linie auch andere sprachliche Störungen gezeitigt hatte und daraus vielleicht auch die Beschränkung des Infantilismus auf die Sprache sich erklärt, ist wohl nicht anders zu deuten.

Versuchen wir dann weiter zunächst von rein klinischen Gesichtspunkten aus die Erscheinung des sprachlichen Infantilismus verstehen zu lernen, so werden wir als Wegweiser jedenfalls die Methode der Analogie benützen und dazu die anderen, gleichzeitig vorhandenen und auf dieselben anatomischen Befunde zu beziehenden Erscheinungen des Falles heranziehen müssen. Fassen wir die ersteren in's Auge so sind es offenbar, wenn wir von einer einzigen, nicht ohneweiters klaren, sofort zu erwähnenden, Erscheinung absehen, alles solche von Functionsherabsetzung, Defectsymptome und es wird dem nichts entgegenstehen, auch die hier im besonderen zu besprechende Erscheinung als eine solche anzusehen; die Ausnahme, die ich eben erwähnt, ist die auffällige Redseligkeit der Kranken; nach dem früher von mir in dieser Frage gesagten, halte ich auch diese Erscheinung für ein (indirectes) Ausfallssymptom; aber selbst für den, der dieser Deutung nicht zustimmt, kann es sich dabei nur um eine Ausnahme von den, im übrigen zweifellosen Erscheinungen herabgesetzter Function handeln, etwa in dem Sinne, wie an der zuvor citirten Stelle Heilbronner das Nebeneinandervorkommen von Ausfalls- und Reiz-

erscheinungen zur Erklärung heranzieht; da nun selbst unter dieser Annahme nichts dafür spricht, dass die eigentümliche Erscheinung des sprachlichen Infantilismus als Reizsymptom zu deuten ist, so ergiebt sich daraus, dass wir es auch dabei mit einer solchen herabgesetzter Function zu thun haben. Man wird demnach sagen dürfen, dass durch eine auf die Sprachregion (ganz allgemein) beschränkte Läsion bei Erwachsenen gelegentlich eine Störung der Sprache zustande kömmt, die wegen ihrer Ahnlichkeit mit der Kindersprache als sprachlicher Infantilismus bezeichnet werden kann. Einer Bemerkung bedarf wohl auch noch die Tatsache, dass die Sprache *unmittelbar* nach der, durch die Läsion gesetzten Functionsstörung, ohne irgend ein in der Aussprache merkbares, in anders gearteter Articulation sich ausdrückendes Schwanken, die, doch als wohl abgerundeter Typus zu bezeichnende Form der Kindersprache zeigte; man wird das gewiss nicht anders erklären können als durch die ganz unbewusst [1] wirksame, ausserordentlich feine Adaption jedes normalen, ebenso wie des kranken Mechanismus an veränderte innere oder äussere Bedingungen. In diesem Zusammenhange erscheint es mir nun bemerkenswert, dass an unserer Kranken noch eine zweite, ganz gleichgeartete Beobachtung gemacht werden konnte, nämlich die sichtlich instinctiv, ohne jede Ueberlegung, vollzogene Benützung des Mundes an Stelle der unnütz gewordenen rechten Hand (wobei allerdings besonders die bei Frauen auch normaler Weise schon geübte gleiche Function des Mundes in Betracht zu ziehen ist). (Vergl. hierher die Besprechung ähnlicher Tatsachen bei *Mach* Erkenntnis und Jrrtum 1905, page 181.)

Man wird sich einem Einwande gegen das hier vorgebrachte nicht verschliessen dürfen, nämlich dem der Seltenheit der Erscheinung der infantilen Sprache gegenüber der, immerhin doch schon recht umfangreichen Lehre von den aphatischen Sprachstörungen. Die Ursache dieser Selten-

[1] Nachträglich sehe ich, dass Delbrück (Einleitung in das Studium der indogerman. Sprachen 4. Aufl. 1904, p. 154) ausführt, wie sich der Lautwandel in der Sprachentwicklung unbewusst vollzieht.

heit dürfte sich aber durch nachstehende Erwägungen klarlegen lassen; die übergrosse Zahl der uns zur Verfügung stehenden, genauer studierten Erscheinungen der Aphasie entstammt solchen Fällen, in denen die Sprachstörung meist mit einen Schlage, complet zur Beobachtung gekommen; der vorliegende Fall bot uns das, an sich bekanntlich schon sehr seltene, Bild einer progressiven Erweichung, und schon dieser Umstand macht es verständlich, dass so ein Stadium zur Beobachtung kommen konnte, das eben nur bei allmäliger Entwicklung der betreffenden Läsion oder doch wenigstens sehr selten dem Beobachter entgegen tritt (ich selbst werde später eine eigene einschlägige Beobachtung erwähnen); dass es dazu eines glücklichen Zufalles umso mehr bedurfte, als die Studien über die Entwicklung und Rückbildung der Sprachstörungen noch recht im Argen liegen, braucht wohl nicht erst durch den Hinweis auf einschlägige Tatsachen aus ähnlichen Studien bewiesen werden. Das letztere Argument beseitigt aber auch den, anscheinend mit einer gewissen Berechtigung von den Hirntumoren in entsprechender Localisation herzunehmenden Einwand; dass auch das Studium der durch solche bedingten aphasischen Erscheinungen, speciell der Entwicklung derselben noch recht mangelhaft ist, brauche ich wohl nicht zu beweisen. Endlich möchte ich noch ein weiteres Argument anführen, welches die Seltenheit der Erscheinung verständlich macht; es ist dasselbe, das ich auch sonst schon unter Zustimmung der Fachcollegen zur Erklärung für die Seltenheit gewisser Erscheinungen im Rahmen der aphasischen Störungen benützt; es ist von der Schwere der Erscheinungen hergernommen, durch die eben feinere und deshalb meist auch leichtere von den massiven Folgen grober Herde unterdrückt werden.[1] Und dieses Moment scheint ja auch hier zu zutreffen, insofern man wohl, ohne Widerspruch erwarten zu müssen, sagen darf, dass die dem sprachlichen Infantilismus zu Grunde liegende Störung als eine leichte zu deuten ist. (Zur Vermeidung von Misverständ-

[1] In diesem Zusammenhange ist darauf hinzuweisen, dass speciell am 17. Februar diese Überdeckung auch an unserer Kranken merkbar wurde.

nissen sei speciell hervorgehoben, dass diese Deutung natürlich nur dieses eine Symptom betrifft und demnach sehr wohl mit der Schwere der übrigen Erscheinungen und der schweren Läsion im Allgemeinen in Einklang gebracht werden kann.)

Es läge nun nahe, noch der Frage näher zu treten, ob wir es bei der Störung, die wir hier besprochen, mit den Folgen einer kleinen umschriebenen, oder der einer weiter verbreiteten, dafür aber vielleicht schwächeren, einem Frühstadium der Erweichung entsprechenden Läsion zu tun haben; leider ist, wie zuvor ausgeführt, durch den Befund der weit verbreiteten Erweichung jeder Versuch einer solchen Deutung von Haus aus unmöglich gemacht; aber auch der Versuch etwa auf Grund dessen, was wir über kleinste Läsionen des Sprachgebietes wissen, jene Frage theoretisch zu beantworten, darf wohl als aussichtslos bei Seite gelassen werden; denn, um nur eines hier anzuführen, wissen wir vorläufig fast noch nichts über die Symptomalogie partieller Läsionen der Broca'schen Stelle und nicht viel mehr auch über leichte Störungen desselben Centrums in toto. Aber gerads Angesichts dieses Dunkels scheint mir die vorliegende Beobachtung dadurch von Bedeutung, dass sie die Entstehung einer besonders gearteten *articulatorischen* Sprachstörung von der Rinde (oder dem Mark?) des Grosshirns aus nachweist.

Treten wir nun noch der Frage nach der Ursache des sprachlichen Infantilismus in unserem Falle näher, so legt schon die Erscheinung selbst, ganz ohne Rücksicht auf die im Vorangehenden erwähnte Lehre von den Beziehungen zwischen Dissolution und Evolution es nahe, nachzusehen, ob auch in dieser Hinsicht bestimmte genetische Beziehungen mit der Entwicklung der Kindersprache nachweisbar sind.

Das scheint mir nun in der Tat der Fall zu sein und möchte ich deshalb dieser Frage und zwar auch in Hinsicht der Sprachentwickung überhaupt, einige Bemerkungen [1]

[1] Ich hatte mich bei dem Studium der einschlagigen Tatsachen der weitgehenden Unterstüzung des Vertreters der vergleichenden Sprachwissenschaft an unserer Universität, Herrn Prof. Berneker zu erfreuen, wofür ich ihm an dieser Stelle besten Dank sage.

widmen. Ohne in eine ausführlichere Darlegung der Ursachen der die Kindersprache charakterisierenden Articulation einzutreten, wird man, rein von physiologischem Gesichtspunkten ausgehend, sagen dürfen, dass die Mangelhaftigkeit derselben auf ungenügender Entwicklung der dabei in Betracht kommenden motorischen und gewiss auch sensiblen Mechanismen beruht [1]; weiter wird der Schluss berechtigt sein, dass die mit der zunehmenden Uebung sich vollziehende functionelle und wohl auch anatomische Reifung der betreffenden Mechanismen den allmäligen Uebergang zur Sprache der Erwachsenen im Gefolge hat. Halten wir diesen Typus der Evolution unserem Falle von Dissolution entgegen, dann darf man wohl sagen, dass bei der Kindersprache ein Stadium von mangelhafter Function in Folge unabgeschlossener Entwicklung, in unserem Falle mangelhafte Function in Folge von Störung des voll entwickelten Sprachmechanismus vorliegt und dass beiden diesen Fällen als wichtiges Kriterium das Fehlen jedes gröberen Defectes an Motilität oder Sensibilität an den betreffenden Mechanismen zukommt; es erscheint demnach die Gegenüberstellung der beiden Fälle als gegensätzliche Typen von Evolution und Dissolution auch dadurch gerechtfertigt.

Alledings will *Wundt* (Völkerpsychologie: Die Sprache I. Thl. 1900, page 298) die oben angeführte, ziemlich allgemein acceptierte Ansicht bezüglich der Lautvertauschungen in der Kindersprache nicht gelten lassen, vielmehr andere Momente dafür verantwortlich machen; aber gerade die hier mitgeteilte Beobachtung spricht doch sehr im Sinne der von ihm bekämpften Ansicht; denn wenn wir sehen, dass eine, ganz der Kindersprache (hinsichtlich der Lautvertauschungen) gleichende Sprachstörung acut durch Herdaffection zustande gekommen, dann muss man wohl auch für die Kindersprache zugeben, dass wenigstens

[1] Einem Buche des Philologen Wechssler entnehme ich das dem entsprechende Citat aus Goethe (*Maximen und Reflexionen* III) " die Verwechslung eines Consonannten mit dem anderen möchte aus Unfähigkeit des Organs entstehen."

einer der von Wundt zur Erklärung der kindlichen Lautvertauschungen herangezogenen Factoren, die unvollkommene acustische und optische Apperception der Laute und Lautbewegungen zu ihrer Erklärung nicht nötig ist. Ich glaube aber, dass auch das von Wundt gegen die allgemeine Ansicht in's Feld geführte Argument nicht zutrifft. Der Einwand, dass das Kind schon in den Anfängen seiner nachahmenden Sprachbewegungen im vollen Besitze aller Articulationen ist und dass die gleichen Laute in gewissen Wörtern vermieden und gleichzeitig in anderen gebraucht werden, lässt sich auf Grund der uns geläufigen Erfahrung widerlegen, dass ein durchaus normaler und in gewissen Combinationen vollständig zureichender motorischer Mechanismus in anderen wieder versagt oder ungenügend fungirt, bis entsprechende Uebung ihn auch das überwinden lässt.

In diesem Zusammenhange seien auch noch ein Paar Worte dem Lautwandel oder — Wechsel in der Sprachentwicklung im Allgemeinen gewidmet. Ein Ueberblick der darüber jetzt geltenden Ansichten in der vergleichenden Sprachforschung zeigt, dass es in letzter Linie immer wieder physiologische Momente sind, welche dafür verantwortlich gemacht werden,[1] sodass auch hier das Element noch unvollständiger Evolution der beginnenden Dissolution in unserem Falle gegenüber steht.

Unter der Bezeichnung des Puerilismus hat *Dupré* in verschiedenen Publicationen der letzten Jahre[2] einen Symptomencomplex zusammengefasst, der durch eine Reihe von Erscheinungen auf dem Gebiete der Vorstellungen, des Fühlens und Wollens, sowie durch entsprechende Ander-

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[1] *Delbrück in Ostwald's Annalen der Naturphilos.* I. p. 295, führt aus, wie einerseits functionelle, die Sprachwerkzeuge betreffende Momente, anderseits solche in den Lebensbedingungen gelegene, also in letzter Linie wieder physiologische Momente die Lautverschiebungen bedingen, was auch für die weiteren, Beschleunigung des Redeflusses, Bequemlichkeit resp. der Wunsch, sich Schwierigkeiten in der Aussprache erleichtern, gilt.

[2] In der letzten Publication in der Iconographie de la Salpètr. 1905, finden sich die vorangehenden citirt; eine zusammenfassende Arbeit hat sein Schüler Soulard als Thèse im Jahre 1904 ausgearbeitet.

ung der Sprache und Mimik sich als Änderung der Persönlichkeit, als ein Rückfall in das Wesen eines Kindes darstellt.

Während nun die einschlägigen Tatsachen aus dem Gebiete der Hypnose und Hysterie wohl ziemlich allgemein bekannt sind, ist das Auftreten des gleichen Symptomencomplexes bei grober cerebraler Erkrankung bisher nur von Dupré gewürdigt; wenn dieser Autor selbst die Erscheinung mit der Moria und dem kindischen Wesen, welche speciell die deutschen Autoren von Cerebralkranken beschrieben haben, in Zusammenhang bringt, so scheint mir eine solche Nahestellung doch ziemlich weit hergeholt, vielmehr glaube ich, dass der von Dupré sogenannte Puerilismus in der Tat eine ganz eigenartige Erscheinung darstellt. Wenn nun das Zustandekommen derselben durch Hypnose oder im Laufe hysterischer Zustände aus der psychogenen Natur dieser Zustände erklärlich erscheint, so muss man für den gleichen, durch Cerebralaffection, zuweilen sogar ganz acut, zustandekommenden Symptomencomplex wohl Dupré zustimmen, wenn er die Pathogenese dieser Form des Puerilismus als vollständig geheimnisvoll bezeichnet; man könnte allerdings sich damit behelfen wollen, dass man annimmt, dass durch den apoplectischen Insult etwa latente hysterische Dispositionen geweckt würden und nun von der Psyche aus nicht blos die psychischen Entäusserungen im engeren Sinne des Wortes, sondern auch Sprache und Mimik im Sinne eines Rückfalls auf die kindliche Stufe der Intelligenz modificirt würden. Zieht man aber in Betracht, dass diese Erklärung eigentlich gar nichts besagt und dass die Erscheinung auch bei senilen Individuen zur Beobachtung kommt, von denen nichts hysterisches bekannt ist, dann wird man alle Veranlassung haben, sich nach anderen Momenten für eine Erklärung der Erscheinung umzuthun; einen Anhaltspunkt dafür glaube ich nun durch die Mitteilung der hier berichteten Beobachtung bieten zu können. Schon gelegentlich einer älteren Beobachtung eines Falles von Hirnerweichung, die namentlich intensiv den Schläfelappen befallen hatte, war mir neben den dadurch bedingten Erscheinungen von aphatischer Sprachstörung

aufgefallen, dass die Sprache der betreffenden Kranken, einer hochbetagten Frau, vollständig der eines Kindes mit dem typischen Lautwandel entsprach; es wurde damals nicht weiter darauf geachtet, offenbar weil man, bezüglich des Beginnes der Erscheinung nicht aufgeklärt, annahm, dass es sich bei der Kranken um jenen Rückfall auf die kindliche Intelligenzstufe handle, wie er wohl jedem, der viele senil Demente sieht, geläufig ist, wobei jedoch bemerkt sei, dass Dupré diese Erscheinung von seinem Puerilismus getrennt wissen will.

Eine solche Deutung erscheint auch dadurch entschuldbar, dass die betreffende Kranke mit schweren cerebralen Erscheinungen, Hemianopsie, Asymbolie, Worttaubheit, Paraphasie und ohne Anamnese zur Klinik eingeliefert wurde, sodass eine Analyse der so auffälligen Erscheinung kaum möglich war; als bemerkenswert muss es jetzt nachträglich allerdings bezeichnet werden, dass nur die Sprache dem kindlichen Typus entsprach, während das übrige Verhalten der Kranken nichts auffällig pueriles erkennen liess.

Einen Anhaltspunkt für die Beziehungen zwischen dem (allgemeinen) Puerilimus im Sinne Dupré's und dem hier beschriebenen partiellen liesse sich vielleicht aus der Doppelstellung der Sprache als psychischen Process und physiologischen Vorgang gewinnen; dem ersteren entsprechend finden wir den sprachlichen Puerilimus als Teilerscheinung im Rahmen hysterischer Änderung des Persönlichkeitsbewusstseins, bei seniler Demenz oder andeutungsweise im sogenannten Ganser'schen Symptomencomplex; im Gegensatze dazu als physiologischer Vorgang tritt er uns als Functionsherabsetzung in Folge von Herdaffection entgegen; die von Dupré nach Herdaffection beobachteten Fälle allgemeinen Puerilismus wären das Correlat dazu.

Einige Bemerkungen möchte ich noch der Eingangs dieses Aufsatzes erwähnten Gleichsetzung der Rückbildungsstadien der Sprache mit den in der Entwicklung der Kindersprache zu Tage tretenden Stadien derselben widmen; man hat einer solchen Gleichsetzung mit Recht widersprochen, wenn damit vollständig Gleichheit gemeint sein sollte.

Hughlings Jackson selbst, dem wir ja die grundlegenden Studien über diese theoretischen Fragen verdanken, hat sich (in seinen Croonian Lect. on Evolution and Dissolution of the nerv. sys. Repr. fr. Brit. med. J. 1884, p. 5) sehr vorsichtig in dieser Frage darüber geäussert, indem er sagt: " Scarcely ever, if ever, do we meet with a case of dissolution which we can suppose to be the exact opposite of evolution "; er führt das dann noch weiter für die diffusen und die herdförmig angeordneten Processe aus.

Es lässt sich auch, sowohl im Allgemeinen wie insbesondere für den speciellen Fall, nachweisen, dass eine solche Gleichheit, wenn auch nicht als unmöglich, so doch als unwahrscheinlich bezeichnet werden muss. Ich wüsste das nicht einfacher darzulegen, als durch die Analogie mit dem Gegensatze zwischen geistigen Defectzuständen und den erworbenen geistigen Schwächezuständen. Es liesse sich allerdings ein Stadium der Dissolution theoretisch construiren, durch welches der Sprachmechanismus derart geschädigt sein könnte, dass nur jene Elemente desselben noch functionieren möchten, durch deren Zusammenwirken auch wieder nur eine unvollständige, einem bestimmten Stadium der Entwicklung entsprechende Sprache zustande kommen könnte; aber entsprechend der eben angeführten Analogie wird sich nicht erwarten lassen, dass durch den schädigenden Process die noch functionsfähigen Elemente auch noch derart geschädigt würden, dass sie des ganzen, während der späteren Zeit gewonnenen, Zuwachses an individuellen und gemeinsammen " Erfahrungen " verlustig gegangen wären.

Von diesem Gedankengange aus liesse sich endlich auch ein Gesichtspunkt zur Erklärung für die Entstehung des Dupré-'schen Puerilismus in Folge von Herdaffection gewinnen. Wenn wir hier durch Herdaffection umschriebener Art einen partiellen, nur auf die Sprache beschränkten Puerilismus entstehen sehen, dann ist es wohl denkbar, durch besonders localisirte, den cerebralen Mechanismus in weiterem Ausmasse betreffende Störung einen allgemeinen Puerilismus im Sinne Dupré's entstehen zu sehen.

Durch die voranstehende Mitteilung halte ich nun den Nachweis für erbracht, dass ein solcher, allerdings auf die Sprache beschränkter Rückfall durch Cerebralerkrankung zustande kommen kann und dadurch vielleicht einen ersten Anhaltspunkt für die Lösung des Räthsels des Puerilismus im Sinne Dupré's geboten; auch zweifle ich nicht, dass, nachdem jetzt einmal die Aufmerksamkeit auf dieses anscheinend seltene Symptom gelenkt worden, die dafür geschärfte Beobachtung bald eine Bestätigung und gewiss auch Ausbreitung des einschlägigen Tatsachengebietes bringen wird.

ABSTRACTS.

On a Series of Automatic Writings." By Mrs. A. W. Verrall, "Proceedings of the Society for Psychical Research," Part LIII, Vol. xx, October, 1906, pp. 432 + x.

Out of the mass of detail presented in this exhaustive study only a very brief account can be given in the limits imposed by a review. The phenomena of automatic writing here described are the personal products of the writer, who carried out a long series of experiments, some 322 in number, upon herself, and obtained as many "unconsciously" written pieces of script. The experimenter gives the facts without commentary or theorizing and wisely leaves the interpretation of the complex subject to the individual reader. That she was already accustomed to having her subconscious mental life "tapped," so to speak, is expressly stated. In 1889–1892 she had recorded and later published a series of observations on herself in crystal gazing. She allowed this faculty to remain dormant, however, until, after repeated attempts, she found herself able to produce automatic writing in 1901.

The method employed to develop the faculty is instructive: "On January 19, 1901, I spent a quarter of an hour or more in sitting perfectly still in a dim light, with a view to giving myself the opportunity of recognizing any impression that I might have. I continued this daily. . . . Unless my attention was actively engaged in some other direction the pencil did not move; if I tried to occupy my attention with reading the pencil merely reproduced some of the words of the book or occasionally traced characters resembling those on a brass table on which the pencil and paper lay." . . . These attempts were continued daily for about two weeks and only three attempts made during the following month. On resuming the experiments the first successful result was obtained. A strong impulse to change the position of the pencil was felt, and "in obedience to the impulse I took the pencil between my thumb and first finger [having previously held it between the first and second fingers] and after a few nonsense-words it wrote rapidly in Latin. . . . On this first occasion, March 5, 1901, my hand wrote about eighty words almost entirely in Latin, but though the words

are consecutive and seem to make phrases, and though some of the phrases seem intelligible, there is no general sense in the passage."

These early attempts resulted in mere rubbish, but by continued "practice" the writing became the logical expression of ideas, "whole phrases were intelligible," and finally developed into elaborate compositions, written indifferently in English, Latin, and Greek, the experimenter having an excellent command of the two latter languages. Rude drawings were also included in these phenomena. Curiously enough, although Mrs. Verrall is perfectly familiar with French, and constantly dreams in it and apt to use it abstractedly in imaginary conversations with herself, there was no trace of this language in the script. In commenting on this fact she says, "The complete absence of such traces is one of several indications that the subliminal strata tapped, so to speak, in the automatic writings, are not those reached by the usual ways of dreaming or semi-conscious thought."

Mrs. Verrall was entirely unaware of what her hand was writinga, lthough she was apt to perceive a word or two, but never understood whether it made sense with what went before. "Under these circumstances," the report states, "it will be seen that though I am aware at the moment of writing what language my hand is using, when the script is finished I often cannot say till I read it what language has been used, as the recollection of the words passes away with extreme rapidity." At each experiment, as a rule, the writing ceased after a sheet of paper was covered, that is, from 70 to 90 words, but as many as 265 have been produced. The content of the writing embraced all sorts of topics; for instance, allusions or descriptions, of persons and places, exhortations, messages, reminiscences, anecdotes, philosophical and quasi-mathematical disquisitions. enigmatic or oracular sayings, etc. On occasions English, Latin, and Greek verse was produced, although Mrs. Verrall disclaims a capacity normally to write English verse at least.

One interesting point mentioned is the influence of the content of the writing upon the writer, notwithstanding her ignorance of that content. "Thus once I found the tears running down my face when the writing was over; the contents apparently alluded to two friends of mine who had died under tragic circumstances." On another occasion her left hand which was

not writing was very cold and she had a recollection of feeling a wind on her left side. At this moment in the script occurred the words, "a cold breeze blows." These observations are in accord with similar phenomena frequently described in abnormal conditions, when subconscious ideas produce emotional feelings, whether of exaltation, depression, fear, etc., in the subject. Many examples of this are recorded in the Beauchamp case (Prince). In the great majority of occasions while writing, Mrs. Verrall was in a "perfectly normal condition," though very occasionally she felt sleepy and a few times lost consciousness of her surroundings.

Telepathic experiments, with the avowed object of determining whether information unknown to the writer could be conveyed by automatic writing, were practically unsuccessful.

Sometimes there were concomitant phenomena, such as a "sudden impulse" to write (21 out of 306 occasions) and a feeling of fatigue and discomfort in the right arm. There was, however, no anesthesia of the writing hand and none of that intense abstraction with its systematized anesthesia of all the sensory and motor functions which has been observed in hysterical automatisms.

The content of the writing did not merely represent mechanical repetitions of previous experiences, such as might be done by physiological automatisms of nervous processes without accompanying ideation, but often were elaborate compositions of an original character. The data offered by the author in these observations are of extreme value for the study of the subconscious, in that they show the possibilities of the splitting of consciousness and the formation of large organized systems of subconscious thought in healthy individuals. They thus contradict the view maintained by some academic psychologists that subconscious phenomena, like tics and choreiform movements, are produced simply by physiological nervous processes without thought. They also contribute to our understanding of abnormal conditions, for with these normal phenomena in mind we can readily understand that when the subconscious ideas have an undesirable character, like fears, horrifying or repugnant ideas, etc., they may unfavorably influence the personal consciousness and the whole organism and produce abnormal phenomena such as occur in hysteria.

In Mrs. Verrall's experiments, as might be expected, there is

nothing to show that the content either did not represent the previous knowledge and experiences of the subject, or was not pure fabrication. [See Mr. Hyslop's article in this number.] In the former case the source of this knowledge may have been long forgotten, as has been often shown to be the case. For instance, the fact that allusions to neoplatonic phraseology appeared in the script before these writers were read can well be explained on the basis of a hasty but forgotten glance at their works (or some forgotten essay) by a well-educated individual.

CORIAT.

My Conception of Hysteria and Hypnotism. By J. Babinski, "Archives Générales de Médecine," August 28, 1906, No. 35, pp. 2186–2206.

The value of any author's conception of a morbid process is absolutely proportionate to the extent of his personal experience with such a process. In the case of Dr. Babinski, whose name has long been identified with neurologic and psychopathologic work of a distinguished order, any views that he may express upon a subject like hysteria are distinctly worthy of attention. This is particularly true of the views emitted in the paper under consideration, for they are of an order that may be characterized as unconventional, not to say revolutionary, and betray an independence of thought that is certainly praiseworthy.

For Babinski the division of hysterical phenomena into two orders — the permanent and the transitory stigmata — has no logical foundation, since the terms permanent and transitory cannot be made to apply. He declares that there are no permanent stigmata in hysteria, since all stigmata are produced by suggestion, either from within or from without, and are removable by its opposite — persuasion. On the subject of suggestion he is particularly precise, defining it strictly as a determinant of undesirable symptoms, the removal of which is brought about by what he terms persuasion. He affirms with emphasis that such stigmata as hemianesthesia and concentric limitation of the visual fields practically never occur in the hysterics under his control, since the evil element of suggestion is zealously avoided by himself and his associates. He further contends that the property which certain symptoms possess of rapidly disappearing is not peculiar to hysteric cases, and instances in support of this

contention a similar property in renal colic, the gastric crises of tabes, gout, etc.

Babinski next criticises the theory of Möbius, that one may group under hysteria all bodily modifications caused by mental representations. As a definition this does not satisfy him because it does not apply to all the manifestations of hysteria, and does apply to disturbances which are incontestably foreign to hysteria. He admits that the characteristics which impel Janet to speak of hysteria as a psychosis belonging to the group of mental diseases from cerebral insufficiency, diseases which are marked particularly by an enfeeblement of the faculty of psychologic synthesis, do really belong to hysteria, but denies that they constitute its attributes and contends that they cannot serve to define it. He further contends that before one can define hysteria he must determine and demonstrate by comparison with other nervous troubles, admittedly not hysteric, the characteristics which hysteria alone possesses. By this process he has satisfied himself that hysteria possesses two characteristics which are distinctive; first, the possibility of being reproduced by suggestion with rigorous exactitude in certain subjects and, second, of disappearing under the exclusive influence of persuasion as above defined. He then proceeds to define hysteria as follows:

Hysteria is a special psychic state capable of evoking certain disturbances with characteristics that are peculiar to them.

It is manifested principally by primary disturbances and accessorily by secondary disturbances.

What characterizes the primary disturbances is the possibility of reproducing them by suggestion with vigorous exactitude in certain subjects and of making them disappear under the exclusive influence of persuasion.

What characterizes the secondary disturbances is that they are strictly subordinated to the primary disturbances.

This definition has been the subject of much adverse criticism, but, in spite of this, Babinski stoutly maintains that in pure neurasthenia, *maladie du doute*, and other conditions of similar nature, persuasion is absolutely without avail.

An interesting query propounded by the author is the following: Is hysteria really a pathologic state, or are its phenomena simulated?

In Bakinski's opinion many hysterics become simulators(!)

and reproduce, either from caprice or as a means to an end, troubles which at the outset were the result of suggestion or auto-suggestion.

Coming from such a source as this, this latter statement particularly arrests the attention; it is a reversion to the opinion held by the very earliest observers and possesses an added interest from the fact that Freud has recently expressed himself in identical terms with regard to this same subject.

Hypnotism, as defined by Babinski, is a psychic state which renders the subject capable of coming under the suggestions of others. It is manifested by phenomena caused by suggestion, and can be made to disappear by persuasion just as hysterical stigmata are made to disappear.

From the point of view of treatment Babinski prefers rational psychotherapeutics to hypnotism. Hypnotism he uses only in refractory cases or in cases where patients are skeptical of its potency. The difficulties which arise in the attempted use of hypnotism vary with the temperament of the operator; hence the difference in the results obtained by different observers.

In conclusion, Babinski makes a plea for the abolition of the term hysteria and the substitution of the term "pithiatism," derived from the Greek words πειθώ, persuasion, and ἰατός, curable, and denoting a property peculiar to the condition now termed hysteria.

This plea is based on the author's conception of the morbid condition under consideration, which in turn is in conformity with the old adage: *naturam morborum curationes ostendunt.*

The article will repay reading in its entirety.

COURTNEY.

Periodic Paranoia and the Origin of Paranoic Delusions. By Dr. Gierlich, Wiesbaden, "Archiv für Psychiatrie und Nervenkrankheiten," Vol. xl, pp. 19–40.

Contribution to the Doctrine of Paranoia. By M. Friedmann. "Monatsschrift für Psychiatrie und Neurologie," Vol. xvii, pp. 467–484 and 532–560.

The two articles here reviewed are valuable contributions to our knowledge of paranoia. They show that in special cases, in which the delusion formation is not essentially different from that of chronic paranoia, the outcome may be much more

favorable than is usually expected; and they treat, moreover, of the genesis of paranoic delusions, a subject which of late years has been in the foreground of psychiatric interest. While formerly a purely intellectualistic genesis of paranoia was assumed, of late the importance which the affects play in the development of delusions has become more and more recognized. When we look over the beginning of many cases we find either an affective disorder in the sense of an empty uneasiness, an unsettled state of mind as the starting point of a paranoic development, or the delusion formation follows conflicts, that is, originates from ideas or complexes of ideas associated with depressive feelings. According to the opinion of *Bleuler*, the latter only is the origin in the Kraepelinian paranoia. It is evidently the genesis in the cases of *Friedmann*, whereas in those of *Gierlich* there is, to my mind, a combination of conflicts and a more independent uneasiness.

Gierlich reports three cases. We can give a brief summary of the first case only. The patient was a high German official, a man of fifty. He was ambitious, and when he was not advanced as he had expected, this was a considerable blow to him, yet he got over it and only at times worried about it. A year later he had very fatiguing work, became run down, morose, uneasy, and irritable, and in this state rapidly developed ideas that his superiors wished to get rid of him, and that the man who was put over him was plotting against him. He thought that he had offended the latter by staring at his wife at a reception, and had thus injured her reputation. Later, he also thought that he had compromised his own wife. Many were in the plot and he thought that he might be arrested at any moment. He was throughout considerably stirred up about the matter. He recovered in four weeks, but subsequently had two very similar episodes on the same basis. Gierlich's second case resembled the first in many ways, while the third was somewhat different. In none of the cases were there any hallucinations. They all showed a marked hereditary taint and a decided tendency to relapses. According to Gierlich's opinion the paranoic development started upon a complex of ideas associated with depressive feelings, which latter increased in the neurasthenic condition. But it is of interest to add that it seemed, after all, to be essentially the morose, uneasy state which brought about the paranoic development. No doubt, not every one would agree with *Gierlich*

that his cases differ only in the course from chronic paranoia, but some would probably point to the greater affective disorder, more of the nature of a real anxiety, as being somewhat foreign to the typical chronic cases. But there is no doubt about the close relation which such cases bear to that of chronic paranoia, a fact which should be recognized and not obscured by classification. It seems to us probable that the quick recovery in cases such as *Gierlich* describes was due to the relative independence of the affects on the one hand, and on the other hand to their intensity and the feeling of contrast which followed the lifting of the emotional disorder and thus permitted a correction of the ideas. To regard such cases as manic depressive would certainly not be justifiable, and *Gierlich* rejects this diagnosis on good grounds.

Gierlich's view regarding the formation of paranoic delusions has partly been mentioned, and we should only add that he also makes a concession to *Berze's* theory of an apperception disorder, but he regards such a disorder as produced by the affects.

Friedmann, in his excellent paper, reports nine very interesting cases of "mild" and "mildest" paranoia. They are mostly individuals with a certain predisposing make-up; namely, a tendency to stubbornness, sensitiveness, and exaltation. In them a conflict gives rise to a gradual delusion formation, yet in contradiction to what takes place in chronic paranoia, the tendency to extension of the delusions, the malignancy, as it were, is absent and the conflict remains the only grievance. The ideas of reference which occur, chiefly in the "mild" cases, remain also within the sphere of the original conflict. After a period of two or three years, with the gradual subsidence of the emotional disorder, the ideas cease to have any influence on the behavior of the patient, they recede to the background, but — are not corrected. One case, however, later developed chronic paranoia. In his attempt to differentiate the clinical picture of such cases, which he regards as essentially the same as the chronic paranoia, from the recoverable paranoic states, notably those developing in the course of manic-depressive insanity (he gives some good examples), *Friedmann* lays much stress upon the distinction between *endogenous* and *exogenous* delusion formation. The endogenous delusions are in harmony with the patient's nature (*Friedmann* speaks of the continuity of the personality), develop (in "predisposed" persons) upon a con-

flict, and the elaboration throughout remains logical and in a certain contact with reality. The exogenous delusions are not in harmony with the individual's nature, the logical elaboration is absent, or much less clear, they are more disconnected and formed upon accidental happenings. They have, as he calls it, a more " impulsive," " suggestive " origin. There is no doubt but that the distinction which *Friedmann* makes here is, to a certain extent, helpful in our present state of knowledge, if we do not draw the line too sharply. *Friedmann* evidently feels that himself, and admits that the two kinds of delusion formation run together, that only the end poles of a long line of cases are clean cut, and that the disposition, too, is necessarily complex. He urges, therefore, the necessity of creating types without the expectation of finding them always pure; a very healthy tendency which lays more stress upon the establishment of principles which underlie the clinical pictures than upon classification.

Hoch.

Observations on the Functions of the Association Areas (Cerebrum) in Monkeys. By Shepherd Ivory Franz, Ph.D., "The Journal of the American Medical Association," Nov. 3, 1906.

In 1902 Franz conducted a series of experiments on cats with the object of determining the relation of the frontal lobes of the cerebrum to the production and retention of simple sensori-motor habits. As a result of his investigation he concluded that after a bilateral lesion of the frontal lobes, certain habits which he had established in the animals were lost, while unilateral lesions of the frontal lobes were followed by a slowing of the motor response.

The author's recent experiments on monkeys have been conducted along the same lines, and the results, though somewhat varying, are of great interest.

Simple associations were established in a series of monkeys by means of what the author terms the " food-box experiment " and the " hurdle experiment." In the former a hungry animal is placed in a small wire cage in which is a box of food, the door of the food box being kept closed by means of an old-fashioned turn button which must be turned to a certain angle before the food can be obtained. Naturally the monkey soon learns to turn the button and open the box when food is placed in it.

The " hurdle experiment " consists in training the monkey to make his way over and through a series of obstacles and lift the cover from the middle one of three boxes to obtain his food.

When the animal had learned these two processes so as to go through them quickly after freedom from practice for a week, his frontal lobes were removed and the experiments were repeated when the operation had been recovered from.

Nine monkeys were successfully operated upon in this way. Two of these lost the associations in both experiments, but since neither one lived over five days the results were not considered of value. Three monkeys lived from three to five months, and showed no memory of their well-learned habits, although one of these was re-educated to them later.

In the remaining four cases the association was not lost, but the execution of the feat was retarded in varying degrees. The author explains this retention of the sensory-motor habit on the theory that when the habit is firmly fixed by much practice it becomes a sort of reflex which may be executed through a lower level than the cortex, perhaps through the basal ganglia.

Franz concludes that (1) in monkeys, as well as in cats, the frontal lobes are normally employed in the formation of simple sensory associations; (2) when the frontal lobes are destroyed, recently formed habits are lost, although the animal may form new associations or relearn old ones; (3) when the associations are firmly established, destruction of the frontal lobes is not always followed by such a loss, but (4) the sensory stimulus may give rise to the same motor response in the form of a reflex taking place at a level lower than the cortex.

The writer calls attention to the importance of the physiological method of investigating this field as supplementing the clinical method, and states that although the clinical methods have advantages, since they deal with human beings who can express their thoughts and feelings, nevertheless too much has been claimed as resulting from frontal lesions without sufficient analysis of symptoms to support the claims.

WATERMAN.

REVIEWS.

The Dissociation of a Personality. By Morton Prince, M.D., Professor of Diseases of the Nervous System, Tufts College Medical School, etc. Longmans, Green & Co., 1906, pp. 563.

It is not often that the physician is given the chance to take his science lesson in so agreeable a form as in this striking study of Dr. Prince's. The very incidents are so dramatic that a straightforward narration of them alone was needed to capture the interest and attention of the reader and to clothe the scientific observer with the power of the romancer.

When the patient, a delicate and sensitive but intelligent lady of twenty-three, first presented herself for treatment, her case appeared to be one of hysteria, and it was only at a later period, when hypnosis was resorted to as a therapeutic measure, that the true nature of the problem first disclosed itself.

One by one, four dissociated personalities (including the original and *apparently* real one) made their appearance, presenting themselves in turn with a stability that made it possible to study and appreciate their widely varying traits. One of these four, and one alone (designated in the account by the name of Sally) seemed to deserve the name of "subconscious," as being able to carry on an existence at once independent of the remaining personalities and yet side by side with them.

The first part of the book is devoted to a description of the mode in which the case unfolded itself, given in such detail that the reader can make his own estimate of the value of the facts. The second part is taken up with an account of the experiments made to determine and reconstruct the "original" self.

Incidentally, the author presents studies which may be made the basis for further investigations into various phenomena of disease. These involve inquiries into the nature of neurasthenia, alterations of character, ecstasy and sudden "conversion," hallucinations, automatic speech and writing, crystal vision, abulia, disintegration of personality, and various phenomena of the subconscious life. It is intended, the author

tells us, that another volume shall be published at a future day, in which various subjects here touched upon will be discussed at length.

The theory of " multiple personality " states is plain enough, so plain, indeed, that one is sometimes tempted to conclude that any person, through introspection of his own changing moods, could learn all that the observation of a patient or of many patients could reveal. Every person is indeed composite, a species of colony-individual, a team-unit. But what the imagination assumes to define with ease, nature constructs with difficulty, and the conscientious and conservative psychologist finds it by no means easy to draw exact parallels between the phenomena of his own consciousness and those suggested by such a case as this. What is the proper conception of " subconsciousness," a term which is now so glibly used? To what extent is it " organized "; to what extent variable and accidental? Do normal persons have " subconscious selves," in any proper sense, and can either normal or abnormal persons have two " selves," two coexisting consciences that can watch and influence each other's lives? To what extent is it possible that a transference of attention, from moment to moment or from second to second, may give a false appearance of coexistence to different partial " selves," which are really only selves of shifting interest? These questions and many more suggested themselves in the course of the seven years' study of the Misses Beauchamp. In the case of this patient herself, even long before she came under Dr. Prince's notice, there were apparently present, in one body, two fairly well-organized personages (or at least two personages, each with a well-organized mental nucleus, which is all that any one can claim as permanent), one of whom rarely if ever slept, and so knew, not only the waking thoughts, but the dreams and the fever-deliriums of one of her mates, and the acts, though not the thoughts, of another, almost as if the two had been Siamese twins, each with its own brain and organs of special sense.

Although forced to believe in the possibility of this coexistence of two separate organized personalities, under morbid conditions such as these, Dr. Prince gives good reason for not believing that an analogous state of affairs is present under normal circumstances. This is a highly important, and, as it seems to the writer, a just conclusion, though one that might

be doubted by persons who had not studied the arguments with care.

It has been said that the thoughts and dreams of one of the personalities were her own, yet they were not so completely her own but that " Sally " could, by exciting an *emotion* in her mind, assert a mastery over even this Miss Beauchamp's inner life. The study of the means by which this was accomplished forms a real contribution to the influence of the emotions on the thoughts. Indeed, the reflections and the observations from behind the scenes, of this singular half-person who gets the name of " Sally " and who makes one think of the Undine, the soulless maiden of Fouqué's most human fairy tale, suggest many subjects for future study, in health and in disease.

Fortunately, like the novel of the good old sort, Dr. Prince's long-suffering and sadly taxed composite being became at last reunited and happy, and still lives to bear witness to his skill and to stimulate others to follow in his path.

Instances of " dissociation " such as this, or of morbid dissociations in a far larger sense, have proved their claim to be considered as necessary data for the construction of theories of the normal mind. No psychologist would to-day presume to work without taking them constantly into account, and no educator can ignore them safely.

A caricature, a monstrosity, is not, it is true, simply a magnified image of the normal, and cannot be taken as giving more than a hint of what will there be found. But then, it is not to be forgotten that the true " normal " exists only in name. Every complex human being demands a separate study and interpretation, but the study of each one helps to interpret something that is mysterious in the rest. So, too, all the reported cases of multiple personality are different, and each is full of interest. The main peculiarity of this case lies in the great — one would hesitate to say unique — development of the coexisting and nearly sleepless subconsciousness of Sally Beauchamp, able to furnish a running commentary of dramatic interest, and apparently of great value, on the lives of all the rest, and, even by writing, to interpret them to each other, a service often somewhat maliciously performed.

The more closely the history is followed, the more impressive becomes the evidence of close, patient, and long-continued study, and one lays down the book with the sense not so much

of having seen an interesting picture or heard a good description, as of having become intimate with a new circle of friends, and, in a measure, more intimate with one's own self.

There are times when the narrative seems too long drawn out, and here and there, especially in the earlier part, there are needless repetitions, but as a whole the work is admirably done, and a great deal of its value lies in the authority with which the author acquires the right to speak, as the result of an amount of labor which is rarely devoted to one case. It is by detailed and careful labor such as this that the student of morbid psychology can learn to accomplish, in his field, results analogous to those obtained by the patient worker in anatomy. It is a sort of work that the community should recognize and support.

PUTNAM.

A Primer of Psychology and Mental Disease. By C. B. Burr, M.D. F. A. Davis Company, Philadelphia, 1906, pp. 183.

This admirable little primer has deservedly entered upon its third edition. It differs from the two preceding editions in that the section on psychology has been revised and in the adoption of Kraepelin's classification for the descriptions of the various forms of mental disease. The book is truly a *multum in parvo*, and no other work of the kind which has come to our notice contains so much useful material. It is admirably arranged and delightfully written and is neither too elementary for the general practitioner nor too technical for the nurse. The first portion gives a general review of psychology and contains only those facts which are necessary for a clear understanding of the clinical section. The second part discusses the various causes of insanity followed by brief and clear descriptions of the different forms of mental disease, with the treatment of each in detail. The psychologic analysis affixed to the individual descriptions affords a ready means for a rapid review of the chief features of each disease. In Parts 3 and 4, on the management of cases of insanity from a medical and nursing standpoint, the author is at his best. We are glad to see the stress laid upon the personal influence and relation of the nurse to the patient, as most nurses seem to lack this sympathetic attitude. From our experience in training schools of insane hospitals, we have no hesitation in recommending this book

not only to practitioners but to all nurses who are about to take up the care of the insane as a specialty.

CORIAT.

Pathological Aspects of Religions. By Josiah Moses, Ph.D. Clark University Press, Worcester, Mass., 1906, pp. vii + 264.

This volume forms the first monograph supplement of the "American Journal of Religious Psychology and Education." It is designated as a dissertation submitted to the faculty of Clark University in partial fulfillment of the requirements for the degree of doctor of philosophy. The work is another proof of the recent tendency in America for the study of normal and abnormal religious experience, of which the recently established "Journal of Religious Psychology" and the treatises of James, Leuba, Starbuck, and Stanley Hall are notable examples. Dr. Moses's book deals with all varieties of pathological religious experiences of the mass and the individual, rather than with those isolated individual experiences in which the religious emotion is an episodic or developmental feature of some mental disease. Therefore there is lacking any particular reference to religious motives in the absolute domain of psychiatry and abnormal psychology, a religiosity which is a result rather than a cause, a subconscious or supernormal phenomenon rather than an episode in the course of an otherwise healthy-minded development. I refer to many of the interesting narratives in Professor James's book, — to the startling conversion as the result of a subconscious ecstatic state in Dr. Prince's case of multiple personality, and finally to those episodic religious phenomena of an exalted nature which are found in various psychoses, particularly katatonia, melancholia, and in some types of alcoholic and epileptic delirium. These offer interesting problems in comparative psychiatry, a feature which I previously pointed out in my review of Kraepelin's "Vergleichende Psychiatrie" in the "American Journal of Psychology" for October, 1904. Dr. Moses' book, in the novel field which it occupies, is interesting and scholarly, it possesses that breadth of view which is so essential in the psychological interpretation of religious phenomena, and that earnestness of purpose which could only emanate from an enthusiast. It is timely because of the present reaction from sordid materialism on the one hand and a

nebulous spiritualism on the other. A treatise on religious pathology should occupy the healthy mean between these extremes, and Dr. Moses in his monograph has taken this well-balanced, sane position. For him, " Religion is a whole-souled or rather a psychophysical reaction to one or more preternatural objects or beings or to ideals which are believed to be somehow constantly and seriously related to the individual and the race. . . . Religious experience which is not a well-rounded, well-balanced reaction of the whole soul is pathological, but in saying this it must be remembered that not all people react with the same fullness of force nor in the same way. There are all stages of religious development in the individual as well as the race, and the reaction which is normal to one stage of development is different from that which is normal to another. Indeed, what is normal for one may be pathological for another." There is discussed in turn the emotional, intellectual, and volitional elements in religion, together with mysticism, symbolism, fetichism, and interpretation. The far-reaching influence of the sex-consciousness in individual religious development and in religious epidemics is well recognized. This is a tendency which we cannot afford to ignore since the epoch-making work of Krafft-Ebing. Minute accounts of the great revivals are given, various forms of mysticism are carefully studied, while in the section on symbolism special attention is paid to the symbolic aspects of Judaism as revealed in the Talmud and Cabala, this being, we believe, the first serious effort in this direction. Within the limits of this review, it has been possible to give only a bare outline of the contents and tendencies of Dr. Moses' book, but the work is one that will well repay reading by all students of abnormal psychology.

CORIAT.

The Psychic Treatment of Nervous Disorders. By Dr. Paul Dubois. Translated and edited by Smith Ely Jelliffe, M.D., Ph.D., and Wm. A. White, M.D. Funk Wagnalls & Company, New York, 1905, pp. 461.

Dr. Dubois begins his volume with an interesting account of the characteristics of modern medicine, which has derived its spirit and its methods from Virchow, Pasteur, Lister, and the other pioneers in pathology and bacteriology, whose labors became the ground of future progress. Because of the direction

taken by these men and their followers, the chief interest of cultivated physicians was for a long time centered upon diseases with organic lesions, while functional troubles and neuroses were forgotten, since the psychic side of patients was all but neglected. There were, however, a few physicians of eminence, like Briquet, Charcot, Liébault, and Bernheim, who kept alive the flickering interest in functional, nervous troubles, and prepared the way for the contemporary study of the psycho-neuroses, of which study Dr. Dubois' book is one of the most noteworthy examples.

In his classification the author strikes from the list of neuroses all the affections of which the anatomist is able to discover the cause; he retains in the group of true functional neuroses the affections in which the psychic influence predominates, those which are more or less amenable to psychotherapy, for example, — neurasthenia, hysteria, hysterical neurasthenia, the lighter forms of hypochondria and melancholia, and finally certain conditions of very serious disequilibration bordering on insanity. It is in these conditions, in which the emotional and psychic influence is of transcendent import, that mental therapeutics attains to its greatest triumphs.

Having shown abundantly the inadequacy of purely physical treatment in the psycho-neuroses, the author inquires, Is there really nothing better to be done? To which he replies, There is something better to be done, namely, to employ in conjunction with physical measures the methods of rational psychotherapy. The object of treatment ought to be to make the patient *master of himself*, the means to this end being the *education of the will*, or more exactly *of the reason*. In the exercise of the healing art the moral influence plays a most important rôle, and if by the special circumstances of his position the physician finds himself in frequent contact with patients suffering from nervous diseases, it is impossible for him to succeed without exercising, either consciously or unconsciously, some moral influence over them.

In practical medicine the psycho-therapeutic ideas that one gives to a patient must vary greatly according to circumstances, and according to the end one has in view. The mentality of the subject must be considered here, and the conditions of his environment. The idea as addressed to the patient may be diametrically opposed to that which is offered to his relatives.

On the one hand, it calls the patient's attention to the efficacy of moral effort as if he were not sick, while on the other hand, by laying stress upon the pathological nature of such and such a mental peculiarity, it makes the relatives a little more kindly indulgent.

Pursuing this moral re-education, the physician must have definite philosophical ideas concerning the problems of liberty, of will, and of responsibility. Upon these points Dr. Dubois entertains decided opinions, which serve as the philosophic basis for all his psychotherapy. He gives his allegiance absolutely to determinism as against free-will. "The task of the physician," he says, "as that of the educator, is to ascertain the *abnormal mentality*, to find out its moral or physical causes, applying to both of them the necessary idea of determinism, so as to be able, with the aid of physical aid and moral influences, to practise mental orthopedia."

The method employed by the author in his work is that of persuasion, and although the technique of its application may be gathered from a perusal of the book, it is impossible, on account of the complexity of the subject, to reduce this technique to any simple or rigid formula. In a general way, it may be said that in order to proceed with method in this line of therapeutics one must clearly understand the nature of nervousness and the causes which give birth to it or keep it in existence. One must analyze the symptoms back to their origin, distinguish those which depend upon the body, and recognize the purely psychical character of others. Only clear views upon this subject can give a physician assurance, establish his moral prestige in the eyes of his patients, and give him the power to cure them.

A word as to the position of hypnosis in this scheme of psychotherapy. Dr. Dubois will have none of it, for he maintains that the psychotherapy which he advocates has no need for the preparatory narcosis of hypnosis, since it is addressed simply to the mind and the reason of the patient. But in order to obtain his end the physician must know how to get hold of his patient. It is necessary from the very start that he should establish between them a strong bond of confidence and sympathy, and when this has been done persuasion and appeals to reason, without hypnosis, may be depended upon to establish the cure if this is possible.

Following his able discussion of the principles, psychological

and physiological, which underlie the symptomatology and treatment of the psychoneuroses, Dr. Dubois proceeds to the detailed consideration of the individual symptom-complexes, and here his method of psychotherapy is illustrated by a wealth of reference to patients who have passed under his care. There are chapters devoted to psychasthenia, neurasthenia, hysteria, melancholia, degeneracy, disturbances of the gastrointestinal, urinary, and circulatory functions, motor troubles, and disorders of sleep. The author concludes his book with the advice which he inculcates throughout, "Let one display the legend, 'Master of myself,' and patients will follow it to victory."

DONLEY.

La Cure Définitive de la Neurasthénie par la Rééducation Psychique, par le Dr. Paul Emile Levy. "Archives Générales de Médicine," No. VI, Fevrier, 1906.

In the present paper, Dr. Levy adds another to the communications which he has already published, and which have had not a little influence in drawing attention to the subject of psychotherapy. After all the misconceptions and obscurities, and notwithstanding these, the author still thinks it quite possible to indicate the general lines of a rational therapeusis of neurasthenia and of the other neuroses. The causes which have retarded this therapeusis are not far to seek; they have consisted in the obvious insufficiency of the theories put forth to explain the neurasthenic conditions, among which may be mentioned the gastric theory, the theory of autointoxication, the exhaustion theory, the theory of visceral ptosis, and so forth. Such explanations as these are in accord with only a part of the facts, for they fail to take into account the rôle played by the psychic element, and hence in practice give rise to an imperfect method of treatment.

Since in every one there exists a different moral constitution, there is no psychotherapy, or as Dr. Levy likes to call it, no psychic re-education, which is adapted to all and to each without modification. A rational psychotherapy ought to be simple and sincere, capable of application to the diversity of temperaments and the numberless varieties of character.

Chief among the methods of approach to the minds of patients are persuasion and reason. The theatrical announcements of

cure at a certain date, the prescription of placebo drugs, and the other means which are calculated to appeal to the imagination or to the credulity of the subjects, and which, with the classic hypnosis, have for long constituted the alpha and omega of psychotherapy, are not the methods of predilection. The patient should be placed upon the solid ground of truth by the use of logical and reasoned demonstration. To an individual, for example, who is suffering from a pain of purely nervous origin, it should be explained that this pain is based upon and exaggerated by his own excessive impressionability, since such pain does not arise from any organic lesion; and by thus appealing to reason the patient's active coöperation is enlisted, he is taught to become master of himself and to resist his disagreeable impressions and sensations. Not by the treatment of symptoms, incomplete and inadequate at best, but by a true *therapeusis of character*, which seeks out the disease in its origins, may we hope for a true, complete, and permanent cure.

One is sometimes confronted with the objection that while in hysteria the method of psychic treatment is of undoubted value, the same cannot be said of neurasthenia, because the latter is based upon modifications of organic nutrition, upon toxemia, etc. This, as Dr. Levy believes, is by no means true, for it is a well-recognized fact that the emotions are of profound importance in the production of neurasthenia. But if this moral element is of etiological importance, why should it not be of equal importance in obtaining a cure? Who has not seen depressed neurasthenics temporarily exhilarated merely by the presence and the conversation of the physician? It is true that one cannot regulate the dosage of this psychotherapy, but its conscious, persistent use cannot but eventuate in permanent good to the patient.

The more closely we scrutinize neurasthenics, the more clearly will we perceive the vast influence of impressionability in the production of their symptoms, and as a consequence of this, the more certainly will we recognize the importance of reducing this impressionability by psychic re-education. The patient is excessively sensitive to all sorts of external impressions, that is, he is hypersensitive to sights, sounds, contact, etc., while in him simple fatigue is easily transformed into a sensation of profoundly painful exhaustion. Furthermore, he is hypersensitive to moral influences, for he is irritable and easily excited. Added to this

is an hypochondriacal tendency, which leads him to believe he is affected with some disease of the brain, of the heart, etc. Hence the importance of the proper interpretation of these sensations and the reference of them to their true causes. To reconstruct the character of the patient, as is in large measure possible, is to render him immune to the provocative causes of neurasthenia.

As practical illustrations of the application of psychic re-education, Dr. Levy gives with some detail the histories of two patients suffering from neurasthenia, and then concludes his paper with a résumé of the principles which ought to guide us in the treatment of the neuroses; first, there ought to be no question as to the importance of psychotherapy in the treatment of neurasthenia and the other neuroses; second, this psychotherapy ought to consist before everything else in education or re-education; third, it is not difficult to understand that the cures obtained under these conditions ought to be real and definitive; fourth, psychotherapy should not be employed to the exclusion of other therapeutic measures.

DONLEY.

The Journal of Abnormal Psychology

FEBRUARY, 1907

ON PSYCHOPHYSICAL RELATIONS OF THE ASSOCIATIVE EXPERIMENT

By C. G. Jung, M. D.

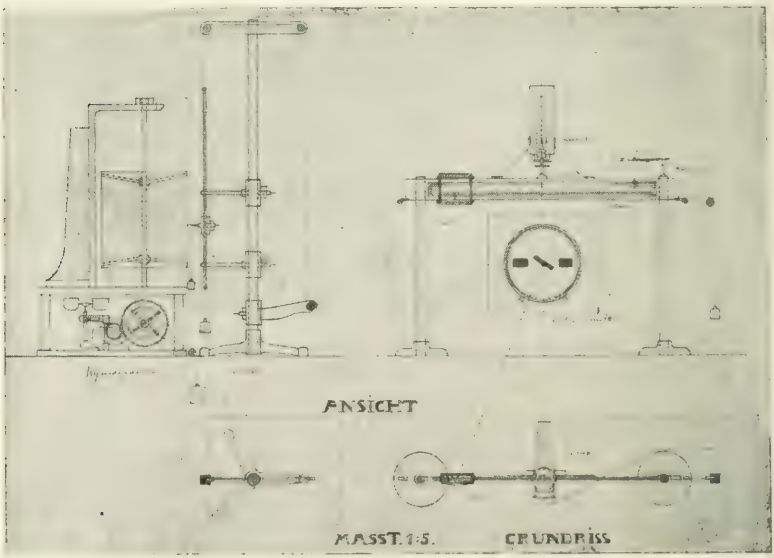
Privat docent in Psychiatry at Zürich. From the Psychiatrical Clinic of the University of Zürich.

At the second German congress for experimental psychology held at Wurzburg (18-21 April 1906), Dr. Veraguth, Privat docent in neurology at Zurich, reported upon a galvanic phenomenon, called by him "galvano-psychophysical reflexes." The author conducts a current of low tension (about two volts) through the human body, the places of entrance and exit of the current being the palms. He introduces into the circuit of the current a Deprez-d 'Arsonval galvanometer of high sensibility, and also a shunt for lowering the oscillations of the mirror. Employing this technique, if one applies to a subject tactile, optic or acoustic irritations of a certain strength, the galvanometer will indicate an increase in the amount of the current, *i.e.*, a lowering of the electrical resistance of the body. Very soon in the course of these experiments it was discovered that the action of the galvanometer was not in direct relation with the strength of the irritation, but more especially with the intensity of the resulting psychical feeling tone. Of great interest is the fact that the inconstancy of the galvanometer did not appear at the same moment with the perception of the irritation, but after a latent period of one to six seconds.

Somewhat later Veraguth observed that a movement (often of great intensity) occurred when the irritation, instead of being actually applied, was merely announced to the subject. This phenomenon he terms, "oscillation through expectation" (Erwartungs-schwankung). From these observations Veraguth concludes that in this experiment *feelings* are *objectively represented*. The only difficulty to be met with in this procedure consists in the technique of the registration of galvano-metric oscillations.

Veraguth takes photographs of the curve of the mirrors' movements on a rotating film; but this method is rather difficult and expensive, furthermore we can obtain only short curves, while for the graphic representation of feelings long curves are most to be desired. I have therefore constructed an apparatus, by means of which curves to an extent of more than thirty to sixty feet can be taken. In such considerable periods of time, many and different experiments can be made without difficulty.

The principle of my apparatus is as follows: I add to the scale a movable slide with a visiere. The slide, pushed forward by the hand, always follows the moving mirror reflex. This manœuvre can be done very easily and exactly after some practice. To the slide is fastened a cord leading to a so-called ergograph writer which marks the movements of the slide on a kymographic tambour fitted with endless paper, upon which the curves are drawn by a pen point.[1] For measuring the time one may use a "Jaquet chronograph," and for indicating the moment of irritation an ordinary electric marker.



With these arrangements I am able to take long curves

[1] See illustration.

which are of special value for the representation of feeling-tones resulting from the associative experiment.

As it may perhaps be known, I have clearly demonstrated in the Diagnostic Association Studies (Vol. I, J. A. Barth, Leipsig, 1906)[2] that strong feeling tones often accompany the association, and cause characteristic and regular disturbance in the association processes. I conduct my experiment as follows: I call a series of stimulus words to a subject who is requested to answer as quickly as possible, announcing the first word that comes into her mind. I measure the time that elapses between the pronouncing of the stimulus word and the occurrence of the reaction (the "reaction time"). Having noted a rather large number of reactions (about one hundred), I then make the subject repeat one by one, the answers to the stimulus words (so-called "reproduction method"). What will occur during such an experiment I shall elucidate by an example.

Stimulus Word.	*Reaction.*	*Reaction Time.* Min.	Sec.	*Reproduction*
Head	Hair	1	4	+
Green	Meadow	1	6	+
Water	Deep	5		swim
Stab	Knife	1	6	+
Long	Table	1	2	+
Ship	Wreck	3	4	steamer
Question	Answer	1	6	+
Wool	Knit	1	6	+
Insolent	Gentle	1	4	+
Lake	Water	4		blue
Ill	Well	1	8	+
Ink	Black	1	2	+
Swim	Know	3	8	water

In considering the reactions of this subject there is nothing remarkable to be seen at first sight. She has, with some few exceptions, relatively short reaction times, while there are also a few incorrect reproductions. But upon looking closer we discover that the reactions after water, ship, lake, swim, were followed by a reaction time of rather long duration; and

[2] Compare the report of Adolf Meyer in "Psychological Bulletin," Vol. II, pp. 242-250; also August Hoch in "Journal of Abnormal Psychology," Vol. I, No. II.

at the same time we observe that with these reactions, the subsequent reproduction is incorrect.

So far as we know, we may suppose that the words "water," "ship," etc., awoke lively feelings retarding the reaction. The incorrect reproduction of the reactions arises likewise, as we can prove by experience, in interference by lively feelings. Regularly the feelings causing such phenomena are those of a disagreeable nature and therefore we venture to suppose that the stimulus words mentioned above gave rise to a complex of ideas having some relation with water, and possessing great importance for the subject. The subject, cautiously questioned, tells us that a short while ago, having to suffer most painful and exciting experiences, she had seriously thought, in a moment of desperation, of *committing suicide by drowning herself*. But as the days began to look brighter her destiny did not bring her to such an untimely end.

The complex of the intention to commit suicide, to which strong feelings are attached, betrayed itself by different psychological disorders in the experiment. In the same or in similar fashion, all other complexes in connection with affections, might naturally betray themselves. Hence the association experiment is a good means of fathoming and of analyzing the personality. According to the opinion of some German authors this method should be applied for the purpose of tracing the complexes of culpability in criminals who do not confess. At the present time many experiments are being carried out along these lines in Germany, experiments which have been of great scientific interest, but which as yet, have not produced results of undoubted practical value.[1]

With this experiment, however, apparently so simple, there is one great difficulty, namely, the interpretation of the disorders; or, to express it another way, what sort of complexes are they which cause these disorders ("indications of complexes")? In reply to this question we may say that it is the *routine* of the experiments which is the main thing, and in view of this fact, we suggest that the interpretation is at present rather an art than a science. In the future, perhaps, laws will be found for the method of interpretation.

[1] Vide bibliography.

He who does not possess this routine may easily suggest something wrong, and thus go astray. This reproach, and especially that of arbitrary interpretation, was made concerning my analysis; and consequently every means helping to circumscribe the complex and its feeling-tone is useful. Such a means would seem to be the "galvano-psychophysical reflex."

By representing graphically the galvanic oscillations during the association experiment, we occasionally obtain curves of very great interest, of which I wish to give some few examples. (The vertical strokes indicate the moment at which the stimulus word was given.) It may be seen how

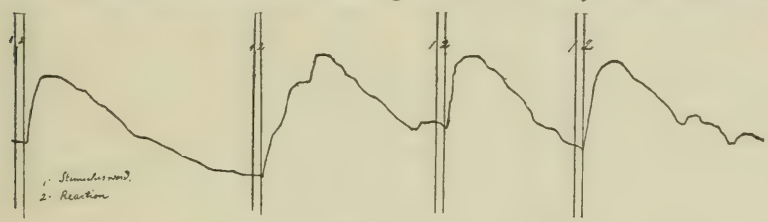


Figure I.

shortly after the preceding reaction the curve quickly rises and then slowly falls again. In this case every reaction is succeeded by a movement of the galvanometer. If by a special proceeding we diminish the sensibility of the apparatus, only the most intensive feeling-tones have influence on the current, so that occasionally we shall obtain very distinct curves, which place before our eyes the strong feeling-tone in a specially clear manner. The following is such an example:

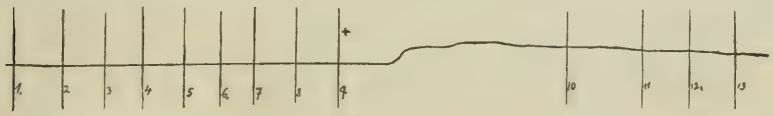


Figure II.

In the beginning we see the curve taking its way horizontally, without any irregularity. In this phase are the following eight reactions:

1.	Hot	Cold	5.	Mouth	Teeth
2.	Hand	Foot	6.	Wake	Wake up
3.	Apple	Fruit	7.	Drink	Eat
4.	Naughty	Angry	8.	Bed	Sleep

These reactions do not show anything of interest; their

feeling curve accordingly goes in an horizontal line.

9. Pretty Not pretty 11. Call on Not Call on
10. Danger No Danger 12. Workman Workwoman

These reactions are obvious :

1. The first three are uttered in two words, which, as a rule, is unusual with this subject.

2. There are obvious and for the most part contrast associations that are not easily intelligible.

3. There is to be seen beginning with the words, " Not pretty," a striking perseverance in the linguistic form. " Workman," " workwoman " is rather a superficial association.

It is evident that this strange phase takes its origin in " pretty." On the curve we can see, beginning with the reaction " not pretty," the appearance of a strong feeling-tone, which lasts for a long time, and disappears only with the last reaction. The *linguistic perseverance* (" not pretty," " no danger," " not call on ") *is therefore in connection with a feeling, lasting probably through quite the same time.*

What I suspected from the beginning was, that the young man had a sweetheart. He told me that he had been married a week previously. Upon my asking him whether his wife were pretty, he very characteristically replied, " Other people do not find her very pretty, but for me she is quite pretty enough." From this it is evident that the word " pretty " had hit upon a sore point.

The next curve illustrates a very interesting case. The subject is a young, diligent and gentle man, of whom I knew nothing, except the fact of his being an abstainer.

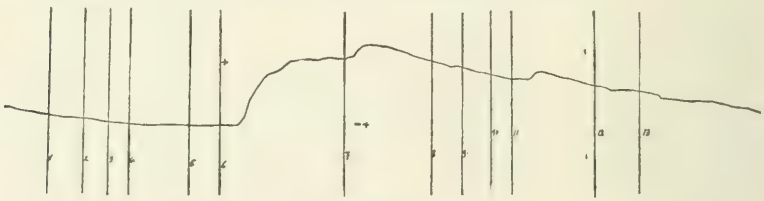


Figure III.

In the beginning we note the curve falling slowly, then taking a rather horizontal course until the sixth stimulus word, where a sudden enormous rise sets in and maintains itself until the thirteenth reaction.

The reactions are as follows :

1.	Pay	Money	4.	Love	Hatred
2.	Snake	Animal	5.	Help	Assist
3.	Fine	Beautiful	6.	*Restaurant*	*Non-alcoholic*

With the sixth reaction the rising of the curve begins. The reaction " non-alcoholic " indicates a very individual complex of ideas. And a very strong feeling seems to be attached to the fact that he is an abstainer.

The reaction next following is :

7. *Polished* *Glass*

accompanied by a new rising of the curve. " Glass " might be another association of the " restaurant " complex.

The associations following next are :

8. Soldier, Military. 9. Write, Letter. 10. Looking-glass, Clear.

which present nothing special and are also galvanically indifferent.

11. *Full* *Man*

(The German word " volt " full has also the regular meaning " totally drunk "). This association which distinctly indicates the idea of being drunk is again accompanied by a rising of the curve.

The association :

12. Intelligence Prudent

As things present themselves we may be right in our supposition that there is a complex with strong feelings which has some relation with " restaurant " and " drunkenness." When asked, the man confesses that having once been drunk he had committed the crime of a serious assault, and had consequently been sentenced to a long incarceration. Because of these occurrences he had become an abstainer as a means of preventing his getting again into a similar situation. (This confession was corroborated by others as being the truth).

As may be easily understood, this event left behind a serious and lasting impression, deepened by the fact that his former crime had become a great social hindrance to him.

These examples may serve to show that the associative experiment is under certain conditions, a suitable way of demonstrating the feeling-tones which accompany the associations. I say, under certain conditions,—for not

always will one succeed in obtaining such clear and distinct curves as those shown above. The experiment possesses numerous complications, to overcome which a great deal of time and work is required. Moreover, there is still to be mentioned the difficulty that the physical and physiological part of the experiment is still hidden in obscurity, notwithstanding the work of Tarchanoff, Sticker, Sommer and Veraguth. At the present time, Binswanger in Zurich, is occupied with these researches. His work already concluded I will not here anticipate.

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PSYCHASTHENIC ATTACKS SIMULATING EPILEPSY.[1]

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We are occasionally brought in contact with persons who give a history of attacks that on superficial examination might be regarded as epileptic, and yet it is questionable whether they should be classed either under epilepsy or hysteria. Recently a boy, five years of age, of Jewish parentage, was brought to me with a history of peculiar attacks. He had had these since teething. He had not had any aura, had never bitten his tongue nor voided urine nor injured himself in an attack, but he falls to the ground, does not attempt to catch hold of any support while falling, lies quietly without any convulsive movements, is unconscious about five minutes, and after the attack is drowsy about half an hour. I have been unable to find hysterical stigmata in the little patient, but the examination was difficult. His father informed me that the boy never had an attack unless his feelings had been hurt. Two children in the family, a little older than the patient, have had attacks of exactly the same character; in one child they lasted until the age of two years; in the other not quite so long. It is difficult to make a diagnosis in such cases as these.

In the *Journal fur Psychologie und Neurologie*, Vol. VI., 1905-1906, Oppenheim discusses peculiar attacks under the title of Psychasthenic Convulsions. Although he has spoken briefly of this condition previously, he gives in this recent paper a full presentation of his views. Convulsions may occur in certain forms of neurasthenia, in cases where there is not hysteria, nor epilepsy, nor organic disease. The first contribution to this subject was made by Westphal in 1872

[1]Read at the joint meeting of the Philadelphia and New York Neurological Societies, held in Philadelphia, November 24, 1906.

(*Archiv fur Psychiatrie*, Vol. III.) in his paper on agoraphobia, and according to this author the occurrence of convulsions with agoraphobia is not uncommon, and they may be seen as frequent signs of various psychopathic and neuropathic conditions. Oppenheim refers to the fact that Westphal's views have not met with general acceptance.

As Oppenheim presents the subject, the individuals are intensely neurotic or psychopathic from birth, and show the first symptoms of this diathesis in childhood. The neurasthenia is of the grave type which has been regarded by French writers, especially Janet and Raymond, on account of mental abnormalities, as psychasthenia. The tics, states of anxiety, phobias, obsessions and vasomotor disturbances predominate. On such a foundation, with, however, some immediate cause such as emotional disturbance, mental or physical overwork, alcoholic indulgence especially by one unaccustomed to it, sleeplessness or a period of anxiety the attack may develop.

This may be only deep unconsciousness with involuntary defecation and micturition, or there may be also convulsions, biting of the tongue and rigidity of the pupils. Usually only a few of these attacks occur, interspersed with periods of vertigo, anxiety, etc., and the tendency may disappear under proper hygienic treatment.

These attacks are not hysterical, every hysterical stigma is wanting, and the attacks themselves are not hysterical in character. Oppenheim dismisses the question of any resemblance to hysteria in a few lines. It would be better had he devoted more space to this aspect of the subject. The differentiation from epilepsy is more difficult :

(1) The attack in itself cannot be distinguished from that occurring in epilepsy. The patient is not an epileptic, he has not had such attacks in childhood or early youth, he is always neurasthenic or psychasthenic, and always periods of anxiety, phobias, tics or vasomotor disturbances have preceded the convulsions.

(2) A special cause for the convulsive attack is always necessary, such as over-exertion, mental or physical; anxiety, vertigo, etc.

(3) The attacks are merely episodes in the course of the psychasthenia; they may be few or there may be only

one during the life of the individual.

(4) The attacks may resemble fully the epileptic, but on the other hand there may be variations, thus profound unconsciousness may occur without convulsions, or the convulsions may be limited to a few muscles, or they may persist after consciousness has returned. They may resemble petit mal.

(5) Intelligence and memory do not become impaired even though the attacks may be numerous.

(6) Treatment should be mental, bromides are of little value.

Acquired neurasthenia probably never causes these convulsions. Oppenheim prefers the name of "psychasthenic convulsions," even though convulsions are not always present; "psychasthenic attacks" he regards as too comprehensive, but it seems to me that the latter designation is preferable. Mistakes of diagnosis may be made easily, indeed Oppenheim himself has made them, as in one of his cases an organic condition was present. I am inclined to think that the danger of mistake is especially great as regards the dreamy state of epilepsy described by Hughlings Jackson under the name of "uncinate group of fits."

Attacks of ambulatory automatism may belong to a psychopathic diathesis. In one of Oppenheim's cases pain which he regarded as neurasthenic or hysterical was present. His first case resembles closely one of the two that I report.

A young woman, when in a crowd, as in the theatre or on the street, became possessed with the idea that she saw a person bleeding from the nose, she passed into a condition of anxiety or fear, sometimes became unconscious, fell, and voided urine and feces. The description of this case is very brief, and it is not stated whether the person seen was always the same or not.

I have not been able to find any reply to Oppenheim's views, and as yet they seem to have received little attention. The subject is, however, one of importance, because of the resemblance of these conditions to epilepsy, and it is most desirable to make the differential diagnosis. The word epilepsy conveys much dread to the patient and his relatives, but far more important is the fact that not only the diag-

nosis, but also the treatment and prognosis of the psychasthenic attacks are essentially different. These psychasthenic attacks are very different from those known as psycholeptic crises.

In these, as described by Janet, we have a very different condition. The attack may come on suddenly, and terminate suddenly, or in another form may terminate imperceptibly, after running an almost indefinitely prolonged course. The chief feature of the attack is the sense of unreality, both for the person himself and his surroundings, but there is no mental confusion, the memory may even be more active, there are no convulsions and no disturbance of voluntary movements. It is a dream-like state.

Janet[1] also shows that there are certain features in common between psychasthenia and epilepsy, that an epileptic may be a psychasthenic, but this is not the same as saying that a psychasthenic may have attacks exactly like those of epilepsy and yet not be epileptic. It is very probable that many will not dismiss the resemblance of these psychasthenic attacks to hysteria so briefly as does Oppenheim.

The question largely depends on what we shall call hysteria; for example, Morton Prince[2] regards as signs of, but not peculiar to, hysteria fixed ideas and obsessions, and most frequently of all the neurasthenic state. Hysteria, according to the recent presentation of the subject by Babinski[3] and a few others is a peculiar mental condition in which the disturbances may be produced by suggestion and cured by persuasion, while Janet[4] would omit the latter part of the definition having reference to cure by persuasion, but he includes obsessions, phobias, etc., under his designation of psychasthenia.

There are several recent papers in which the resemblance of hysteria to epilepsy is discussed. Unquestionably many of the psychoneuroses are related, and the boundary lines cannot be sharply drawn, but that does not imply that they should be abolished. We are not yet at that point where

1 Pierre Janet; Boston Med. and Surg. Journal, Jan. 19, 1905, p. 93 and Les Obsessions et la Psychasthenie, Vol. I., p. 502.

2 Prince; Journal of Abnormal Psychology, 1906.

3 Babinski; Société de l' internat. des hôpitaux de Paris, Seance du 28 Juin, 1906.

4 Janet; Boston Med. and Surg. Jour., Dec., 1906.

we may say that hysteria and epilepsy are identical, although some writers seem inclined to regard them as such. In an interesting paper Putnam and Waterman[1] discuss the relation of the hysterical to the epileptic attacks, and cite a number of cases with more or less doubtful diagnosis. They think it is possible that the paroxysms of epilepsy and hysteria, or at least, certain forms of epileptic and hysterical manifestations may stand more closely in relationship than has hitherto been assumed, and in this they do not lack the support of other writers. No one, they say, has studied the subconscious memories of epileptics, and closer resemblances may be found between these and subconscious states of the hysterics than we now imagine. They even think it may be possible that in patients with states of altered consciousness, hitherto classed as strictly epileptic, memories of the paroxysmal period might be developed through the medium of hypnosis.

There is much danger of making a mistake in diagnosis when the question is one of psychic epilepsy. Thus Wm. A. White[2] describes a case which resembled one of epilepsy of the psychic type. The patient had at times a condition bordering on double consciousness, and its relation to psychic epilepsy was shown by an aura preceding the attacks. White says that the real character of the case was one of mental dissociation, the presence of dissociated systems in the depths of the subconscious. In this case hypnosis and hypnoidization were employed, the details of the events for which the patient was amnesic were thoroughly traced and united to her upper personal consciousness, and a cure was effected. Probably this case would have been considered by some as one of psychic epilepsy, but it evidently was not.

A case, possibly even more interesting as regards the subject I am discussing, is reported by George M. Parker[2]. A man had attacks preceded by a feeling of pain and distress over the epigastrium and a foul taste in the mouth accompanied by a fetid odor. He usually fell and laid quietly outstretched, sometimes his hands fumbled aimlessly.

1 Putnam and Waterman, Boston Med. and Surg. Jour., CLIII., 509, 1905.

2 Psychopathological Researches by Boris Sidis, Wm. A. White and George M. Parker, G. E. Stechart, New York, 1902.

At times he had general motor disturbances, his arms and legs twitching and he frothed at the mouth. Sometimes he would not fall but sat in a chair staring fixedly before him. Any degree of excitement was sufficient to initiate an attack. Complete amnesia and stupor followed all attacks. He became progressively unable to attend to his duties, constantly forgot and became confused. His physician regarded the condition as epilepsy. Parker found that the patient could now and then give a stray memory from one of the attacks, and as he says, the definiteness of the flash of recovered fragments of memory did not quite resemble the mental condition of the attacks of typical organic epilepsy. Under hypnotization he succeeded in producing a recovery of memory of the events occurring during the attacks and in tracing the origin of the foul taste in the mouth, and thereby proving that the condition was a functional psychosis simulating epilepsy. By hypnosis and hypnoidization, the latter originated by Boris Sidis, and consisting in the production of a state of abstraction, mental composure and relaxation, a cure was effected.

Parker, in speaking of this case, says it shows that many a typical epilepsy may on closer study turn out to be a functional psychosis. This is especially true of the psychic epilepsies which investigations in their laboratory have demonstrated are all pure functional psychoses, subconscious dissociated states, having the tendency to recur, periodically or not, and often mimicking the psychomotor manifestations of epilepsy, but he does not call them hysteria. The treatment in such a case, as Parker puts it, consists in bringing the dissociated memories out of the depths of the subconscious and reassociating them in the synthesis of the upper personality, restoring all the lost psychic material to the contracted active personal consciousness, and thus bringing about a state of former mental activity which will maintain the former synthesis. The treatment in both these cases was by hypnosis and hypnoidization.

If we are to include the psychasthenic attacks under hysteria, there is no need of making any distinction for them, and yet I think Oppenheim is right in putting them in a class by themselves. Two cases have been under my observation that have a resemblance to epilepsy, but careful

study of them has convinced me that they are neither epilepsy nor hysteria, and I report them in the hope that they may draw attention and discussion to the subject of psychasthenic attacks.

C., twenty-one years old, consulted me about five or six years ago, at which time the following notes were made :

A maternal uncle died in an insane asylum. No convulsions had occurred in the family of either parent. The mother of the patient is very irritable, easily excited, and somewhat quarrelsome. The patient has had five brothers but no sisters. His father has shown great artistic talent.

The first son is a sculptor and is irritable.

The second son does not appear to be neurotic.

The third son was very eccentric. He tried to commit suicide two or three times while at home, and finally succeeded. He at times became very much depressed and when occasionally he had these attacks he would wander away and stay away over night. Once he was absent two days. Before he wandered away his expression would become peculiar, so that his relatives would know he was about to leave home. In one attack he went a distance of several hundred miles.

The fourth son seems to be normal.

The fifth son is the patient.

The sixth son is sixteen years old and is afraid to go into the dark.

C., the patient, has never had convulsions. When he was seventeen years old he had his first visual hallucination. He was in church. He heard the minister begin his sermon, and then as he looked across the church he noticed that a certain man was looking at him. At first he liked the face and something in it reminded him of a boy of whom he had been very fond and whom he had not seen for about two years. This boy had taught him masturbation. In this first attack he did not know what occurred about him, he got up and came out of the church after the service was over, and the money he had intended to put in the plate he had still in his hand. Whether this was unconsciousness or not is uncertain. He did not speak during the attack. After this first attack he began to hate and fear the face, and always had a warning before seeing it, " a sort of spasm

would go through his whole body," or if he were holding a book his hand would tremble violently, and then if he looked across the church the " face " would be looking at him. It was always the same face and had always the same sneering expression. Except on one occasion the man was always in the same part of the church. He was not motionless, but was not seen by the patient to walk out of the church except on one occasion, when he followed the patient. During the first year the man was observed always in the same church, then he was seen in another church, and later was seen repeatedly on the street. The whole figure of the man was visible, but the patient spoke of the hallucination as " the face."

If the patient fixed his eyes upon the wall he could bring the figure of the man before him but it did not seem real to him and did not " satisfy " him, as he expressed it. The attacks occurred every Sunday during the first year, but not so frequently during the second year, and during the third year not more than four times. The patient believes the face is real. The attacks have been frequent proportionately as masturbation has been frequent.

He can always tell the day in advance that he will see the face. His eyes seem to be out of focus, he can not keep them focused upon the model he is copying, and if he tries to do so he gets a bad headache, then becomes sleepy for the rest of the day. The aura usually occurs about 4.00 P.M. He has always had a bad taste in his mouth during the aura, " like cheese after you have eaten it the night before," or a " musty taste." If he falls asleep after the aura he has very vivid dreams, on one occasion he saw a comet coming toward him, and exploding; and on another he saw clearly the face of his brother who a few days later committed suicide. He has had the aura without seeing the face the following day, but has never seen the face without having had the warning the day before.

Within about fifteen minutes after the visual hallucination he gets sleepy and stupid, and does not know what is going on about him. The vision is followed by fullness of the head and palpitation of the heart. He has formed the habit of taking a back seat in church so he can hide behind the people and from the vision, and support himself against the

wall. Only on one occasion he saw two children with the man. Each time he has had the vision his "eyes have gotten out of focus" and objects seem to move to and fro. He then has had a sick feeling and had to sit down. He has the same taste in his mouth during the hallucination that he has during the aura. Immediately after seeing the man his "ears ring like bells and insects all singing together." He has had occasionally aural hallucinations without other disturbances, *i.e.*, he had heard his mother calling him, or bells ringing.

The young man is very intelligent. He has never wet his clothing during an attack nor cried out, nor bitten his tongue. When he feels he is about to have the vision and resists it his face flushes, he gets cold and hot alternately, and all objects appear queer.

I have seen this patient again within the past few months. He is in excellent health. The visual hallucinations lasted one or two years after I first saw him, and then ceased entirely. They gave place to a difficulty in swallowing. The man believed he could not swallow and was depriving himself of food. An examination showed nothing abnormal to explain the dysphagia. The condition lasted about a year and a half and then disappeared.

Interesting in this report are: The neurotic history; the attacks of wandering in one brother; the aura always preceding by one day the visual hallucination and associated with a bad taste in the mouth, suggesting Hughling Jackson's uncinate group of fits, and associated also with ocular disturbances and followed by drowsiness; the occurrence of the hallucination at first always in one place, a church, and therefore in a crowd, but later in other places and on the street; the resemblance of the face seen to that of a boy who had taught him masturbation, the frequency of the attacks proportionate to the frequency of masturbation; the bad taste in the mouth and sick sensation during the attack; the possible unconsciousness in only one attack; the drowsiness, fullness of head and palpitation of heart following an attack, and the absence of all convulsions.

Oppenheim says that an abnormal impulse to wander occurs in certain individuals presenting all the symptoms of psychasthenia, who are neither hysterical nor epileptic.

One brother of my patient showed the fugue.

The occurrence of the attack for a long time only in one place, therefore in association with a certain train of thought or a certain environment, occurs sometimes in epilepsy; thus Raymond in his lectures refers to a case of psychic epilepsy in which epileptic convulsions were produced by directing the patient's thoughts in a certain channel. Worthy of note is the fact that the face seen was that of a boy with whom the patient had been friendly and from whom he had learned masturbation, and also the occurrence of the attacks in proportion to the frequency of masturbation. Freud[1] has called attention to the importance of sexual errors in the etiology of the neuroses. There is in this case something very much like a subconscious working and made evident without the use of hypnosis, and it in itself makes a diagnosis of epilepsy improbable, as does also the cessation of all attacks during a period of several years under psychotherapy. Possibly the condition may be explained, as is done for many other peculiar mental states, as a dissociation of the personality.

The diagnosis of psychic epilepsy has to be considered in this case, and indeed at first I thought it might be the correct one. The treatment was conducted some five or six years ago by a method similar to that which Dubois has recently made familiar, viz., by explaining the condition to the patient, assuring him that the attacks were not serious, and arousing his resistance to them. The result was all that could be desired, and the patient has had no attacks for three or four years. The difficulty in swallowing, evidently psychical, that followed the cessation of his attacks, is worthy of notice.

The second case has much resemblance to epilepsy and was so regarded by some, but careful examination showed that it could not be so considered.

A. B., thirty-six years of age, consulted me September 10, 1906. He was a patient of Dr. Radcliffe Cheston, and is at the head of a large business. He comes of a neurotic stock. His father had nervous prostration and now is tormented by unreasonable doubts as to the manner in

[1] Freud: Sammlung kleiner Schriften zur Neurosenlehre, Franz Deuticke, Leipzig und Wein, 1906.

which he conducts his business.

The patient is a hard worker. Some years ago he undertook to study a profession, but as he was engaged all day, he was obliged to study at night. After passing his examinations he "went all to pieces," as he expressed it. He would sign a letter and after a few minutes would tear the envelope open to see whether he had signed the paper. On one occasion he visited his sister, and wandered about the house in a dazed condition. He was very irritable. Two or three years ago he went away for complete rest for fourteen weeks, and since then he says he has "felt his nerves" more. He had difficulty in fixing his mind on his work, and has frequently repeated his actions in order to be sure he had done his work properly, and often would read a paper without being able to fix his attention upon it. He took exercise in the same energetic manner in which he carried on his business.

He is the father of three healthy children, two of whom are "high strung." He gives no history of sexual irregularity. He had never had any attacks of any kind before July 4, 1906.

In the early part of the summer of 1906 he went to Europe and took an automobile trip from Paris lasting two days. He traveled about two hundred miles each day. The weather was not very warm, but he was much tired by the trip. After the second day's journey, in the evening while talking to some one he fell and was said to be unconscious. His face was a little flushed and his eyes had a vacant look. He was "perfectly limp" about ten minutes, then he became rigid in his feet, and had involuntary movements of the upper limbs of a purposive character. He was put to bed and had what he called a "chill;" he shook all over, his teeth chattered, he became red in the face, and cold in the feet, but the thermometer showed no rise of temperature.

After the first attack he had weak spells in which he would sit with a vacant expression. These attacks occurred once or twice a day and nearly every day. He was not unconscious in these attacks, although he seemed to be "wandering in mind."

The second severe attack occurred July 13, and in this

he fainted. Other attacks occurred July 17 and 21. In one of the latter he had a vacant expression, became limp, then got up and tried to walk and fell after he had gone upstairs. He then became unconscious and was rigid. After this attack was over he got up and went to bed, and had a chill and headache in bed.

Attacks occurred on July 24, 26 and 27. After the first two or three attacks he had a warning in general weakness and a sensation as if he were "charged with electricity." His memory began to be impaired. The attacks continued every few days until he got on a steamer August 29, on his return journey. He had two attacks on board the steamer. In all he had twenty-five major attacks. The last attack was on September 3. In one attack when walking alone he fell and became covered with mud.

Before taking the steamer he had an attack in which he was unconscious one hour, and in this his body was more rigid than in the other attacks. In two attacks the face twitched, but convulsive movements were confined to the face.

He had taken one drink of whiskey or beer daily, occasionally some claret, and had smoked about twenty cigarettes daily. He had also been much worried about his wife's condition as she had been in a hospital three times.

Before leaving America he had been having headache since April, 1906, more on the right side and in the parietal region or over the mastoid process, but this pain disappeared. There was no mastoid disease.

This was the history as I obtained it from the patient and his wife at my first interview. A further study of the patient by himself revealed some interesting facts:

He told me that sometimes when he was supposed to be unconscious he was not so, and the so-called rigidity was often purely voluntary on his part, and was the result of an attempt to get the numbness out of his forearms and ankles. While he was on the ocean on his way to Europe he kept control of himself, but when he reached Paris he did not care and gave way to his feelings. He did not care whether he fainted or not, as it was a temporary relief to do so, and if he felt like sitting still and looking at a spot upon the wall he did not make a mental effort to avoid

doing it. He would become weak after dinner, and he began to dread this period, and if he could have been fooled regarding the time of day he believed he would not have fainted. He does not know why he fell.

The man presented no hysterical stigmata nor signs of organic disease. The treatment was psychotherapy.

I saw him again October 19, 1906. He had been weak twice and had had constant slight headache. On one occasion he felt that an attack was coming on, his wife urged him to resist it, but he pleaded with her to be allowed to fall, pushed her from him and said she must let him fall. His attacks have usually occurred when his wife was present. At the time of these two attacks he was again on a vacation with no business to occupy his mind, and he felt that he need not control himself. He told me that if he were asked any time in the day whether he had headache he would say yes, and yet usually he was not aware of headache. It was not real pain that he experienced, but as he expressed it it was "consciousness that he had a head." He said if he had known that falling would have injured him he would never have fallen. Such a case as this can hardly be regarded as epilepsy, and it is questionable in my mind whether it could be regarded as hysteria.

THE LIMITATION OF THE TERM HYSTERIA, WITH A CONSIDERATION OF THE NATURE OF HYSTERIA AND CERTAIN ALLIED PSYCHOSES.

BY CHARLES L. DANA, M.D.

I.

Hysteria.

Professor Janet has said that *hysteria* is a disease with such a beautiful history that it would be a very sad thing if we had to do away with it. There is not much danger of this happening, and it is not my purpose to attempt to promote such a catastrophe. I think it will be a great help to physicians if we could narrow and make more definite our conception of what hysteria is.

I am not going to go over the subject of the definition of hysteria,—at least, not in any historical way. If we take in all that is usually called by this name, it is a condition that cannot be defined. But a certain clinical group of symptoms can be very well and sharply characterized both by academic definition and clinical description.

DEFINITION FROM THE PSYCHOLOGICAL STANDPOINT.

There is now a general tendency to accept the view that hysteria is a morbid mental condition in which ideas control the body and produce morbid changes in its functions. This is not far from the view expressed by Moebius, Strumpell, Freud, Breuer, and Janet. The advocates of this point of view, proceeding further in their analysis, urge that there is in hysteria always a tendency to dissociation of consciousness or of the associative memories leading to the disintegration of the personality and the dominance of subconscious states. Hysteria is a condition in which subconscious states, then, morbidly control the body, and produce changes in its functions, and states of morbid association usurp the place of the old and healthy ones.

These views regarding the disintegration of the personality must be accompanied with a clear idea of what is meant by *personality* and its *disintegration* or the physician will not feel that the situation is clarified so very much by the analysis. There is, for example, a disintegration of personality in all forms of dementia and in many of the great psychoses, and we know that the weakening of the person-

ality, and the overaction of the subconscious self, plays a part in a great many normal mental activities. So that the hysterical disintegration has to receive certain further qualities to fit well to the psychoses. However, I do not wish to find any fault with the " disintegration " hypothesis, except that I doubt if it can ever be understood at all by medical students or general practitioners. What physicians see is that in hysteria some mental function is lost, so that the patient cannot lift the legs, control his spasms, or feel an injury. A certain activity is cut out, just as when the stomach, under fright, fails to secrete, or the liver to pour out its bile. This functional loss of certain parts of the psychological mechanism seems to me to be the thing which we find obviously the clinical condition in hysteria. With this functional loss we also observe that certain psychic activities are at work on the body and are doing it harm, and the patient can't help herself. In other words, there are mental states, either ideal or emotional, which are acting on the body without the person's really knowing it, or being able to control it. As I have already said, the tendency for ideas more or less consciously to modify bodily functions to a morbid extent is very frequent in individuals, and is present in many neuroses and psychoses. It is sometimes a characteristic of the individual's whole psychic life, and these people usually receive the credit of being hysterics. But this does not make them cases of hysteria. It is only when some serious and dominant disorder of the bodily functions can be explained by the morbid mental state that we can say we have a case of hysterical disease, while most hysterical phenomena are mere episodes like a headache. So I would urge that the definition that modern authority has evolved should properly apply only to the major and persistent cases, under which, owing to the serious morbid cleavage of the associative memories, we have paralyses, contractures, anesthesias, abulias, and hypnoid states, this morbid physical state being dependent on the subconscious mental state. The *disease hysteria*, then, is a morbid mental condition in which ideas or emotional states seriously and unwittingly control the body and produce more or less permanent and objective morbid states.

DEFINITION FROM THE CLINICAL STANDPOINT

This conclusion regarding how we should confine the term hysteria is, it seems to me, the logical result of assuming the definition that I have given, and which is so widely accepted as a correct one. But if there were no definitions of hysteria, and no astute analyses of its psychology, I would come to a similar conclusion from a purely clinical study of the matter, and it is to the importance of applying the clinical method independently and objectively that I wish to draw especial attention.

Reviewing the cases of hysteria which I have seen and studied in the past twenty-five years, I find coming before me a very clear-cut picture of a disease which may be called by this name. It is a rather rare malady. It occurs in men as often as in women. Its characters are very striking, and its diagnosis is as free from any possibility of question as is a case of advanced tabes or general paresis. We make this diagnosis not from any knowledge of the disintegration of the person's personality, but because of the objective tests to which he reacts. We do not ask whether the excitation of his personality was endogenous, as in psychasthenia, or whether it was exogenous. We do not have to say a word about the patho-psychological state in teaching medical students how to recognize the malady.

A TYPE CASE OF HYSTERIA

This illustrates the familiar type: A man, thirty-five years of age, had been working as the superintendent of a manufacturing establishment for fifteen years. He was a skilled mechanic and an intelligent man. His habits were good; his nerves fairly steady. He was sober and extremely industrious and anxious over the details of his work. This work involved a responsibility which was perhaps a little greater than he was equipped to endure. One day he saw a man fall off a stage and sustain a serious and distressing injury. It gave him a considerable shock, but he went about his work. Two days later he suddenly had an attack resembling almost an apoplectic stroke. He fell down nearly unconscious and had a slight convulsive seizure. When he came out of it it was discovered he had a rather flaccid hemiplegia of left arm and leg with hemianesthesia of the skin and special senses, tremor, and a condition of

nervous weakness and excitability which made it impossible for him to pursue his work. He gradually improved, but continued to have a residuum of the original trouble, so that he was not equal to the responsibility of his position. I need not go into the several clinical details because they are exactly similar to that of the type of cases to which I have reference and which are familiar to all. I shall only add that even after three years the man still had traces of his trouble, with hysterical or emotional episodes, though not subject to seizures of any kind and never showing signs of organic disease.

I only cite the foregoing case in outline because my hearers will recognize its definiteness and special characters. It is the disease *hysteria*, and the only one to which the word properly applies. Clinically defined it is a disease of acute origin and usually chronic course, characterized by episodes or seizures, with an intercurrent condition, in which are present more or less of the hysterical stigmata objective and subjective. As to the fact that there is here a sick bodily condition dependent on mental state, there is no doubt.

PATHOLOGY

As to the question of its pathology, there are certain facts to be borne in mind which it is worth while to discuss. Sometimes in a few weeks the whole disorder vanishes, as in hypnotic phenomena. I have seen this particularly in grand hysteria following alcoholism. Here there cannot be disintegration, but only a suspense of function.

But in most cases the condition is permanent, or there is permanent residuum of physical and mental defects. No form of suggestion, education, moral or medical influence, changes greatly the paraplegia, the hemiplegia, the tremors, or the depressed and unstable mental state.

So that it seems to me that in the severer forms of hysteria there is a permanent loss of function, and that this loss is due to practically a senility or wearing out of this part of the psychic machinery. It seems to me to be a condition comparable to that in wry-neck and in occupation paralysis. Here we know there is no paralysis or spasm dependent upon idea in the ordinary cases, that is to say, in the older and degenerative cases; but the power to retain control over certain defined muscular groups is almost or completely

worn out. Once a case of writer's cramp, always a case; and so it is true, to an extent, of wry-neck and real hysteria. I would infer, therefore, that in some major cases of hysteria the trouble is more than perhaps functional. There is a metabolic degeneration which makes it impossible for certain groups of cells to any longer carry on their work. Hysteria of this type is a form of teratological defect. Just as we have in wry-neck of mental type cases which sometimes get well rather early and also as we see occasional relative cure of writer's cramp, so in hysteria there are the mild and functional types which, under a proper environment, speedily bring about adjustment, but in the severe types this readjustment is never perfect. The machine is originally injured or defective, and this fact finds its expression in the prognosis which experience gives to the severer and more profound types of hysteria major, that they never get entirely well.

Thus I should urge that most cases of real hysteria are forms of a very definitely appearing disease of a very chronic character and usually expressive of a teratological defect and a worn-out link in the neuronic chain.

II

The Hystericals

There is another group of cases which might be said to correspond somewhat to the definition of hysteria given by Kraepelin, that is to say, this group includes persons whose "mental states express themselves with extraordinary ease and rapidity on the bodily function."

The clinical characters of this group are somewhat as follows: The patient, usually a woman of over twenty, is intensely egotistical and selfish, though often very intelligent and very conscientious and candid in theory and discussion of herself and her condition. She has continually serious headaches, backaches, attacks of exhaustion, and falls ill at once on attempting to do what she does not want. She is self-indulgent, and flies to her bed at the slightest symptom of distress, but she, when feeling better, may work with a persistent and foolish industry, exhausting herself in her meticulosity and mania for doing things with the precision she demands. She is dissatisfied with what

others do, and made ill by what she does herself. She is exacting of those about her, alternately petulant and coaxing, and generally ineffective, a worrying and foolish mother and a nagging and exacting wife. She always has some periodical or chronic physical ailment. She falls permanently ill and insists upon the seriousness of her stomach trouble, her womb trouble, or her general feebleness and inability to do things. She takes no interest, finally, in anything but herself and her infirmities. These are largely imaginary or, at least, due to the focussing of attention on her symptoms.

Such cases are called "hysteria" by many eminent authorities. They are treated by the specialists; are operated on for their prolapsed kidneys, and curetted for their menorrhagia or amenorrhea; washed out for their gastro-achlorydia; washed and douched and toned up by the mechanical auxiliaries of our art.

Are these women ill because of the degeneration of their personality, and are the symptoms due to the suggestions of a lurking and hidden and morbid automatism? They are, at least, far apart in symptoms and signs from the ordinary case of hysteria with palsy and anesthesia. In my experience, at least, they suggest much more the worrying psychosis or hypochondriacal melancholia of later years, transformed by the conditions of early life. They have, no doubt, wrong ideas of life and of themselves; they admit it even and adduce the old saying of Romberg, the motto of the hysterical, "I can't help it."

But it seems to me that it is the conscious personality that is at work all the time, not the second one. They will, if displeased, go off and have a headache or a fainting spell, but it is a voluntary performance, or pretty nearly so. Hypnotism does not help them, but sound admonition and a proper régime of life does.

When patients of this kind are unusually silly women, and have become totally self-centered, the dominant idea of illness leads them to stay in bed or decline exertion, to continual complaints of their sufferings, with emotional outbursts when not properly attended to,—with entire loss of interest in ordinary pursuits of life, and a state very much like the hypochondriacal melancholia, with more hypo than

melancholia. I know that these latter cases are called "hysteria" by the Germans, for some of my patients have been so diagnosticated by them. But I think in these latter stages of the malady there is an active degeneration and exhaustion, and the body is under the control of a morbid mind not simply a subconscious idea or a degenerated personality.

At any rate, we have in our experience a very great number of patients who present the clinical picture I have briefly outlined. It is definite and perfectly familiar. And these cases are as unlike the cases of grand hysteria as possible. They do not even ever become grand hysterics. They are not the food on which this disease feeds. Railroad accidents, shocks, collisions, turn out a crop of grand hysterias, but they are mostly the tired-out, hard-worked, and not very strong mentally.

In the case of the group I refer to, many symptoms occur which are usually called hysterical, *i. e.*, dependent on an idea or emotion; but these so-called hysterical incidents are only episodes and are not always to be explained by subconscious mental action.

I did not mean to include in this group the persons who suffer from persistent morbid fears, fixed ideas, or obsessions, or impulsions, although some of these things are more or less present. While I might go on into a more extended psychological analysis of this state, I can indicate it better by the simple story of one of the type.

I could make out a much better case for this group of patients if I had the time to devote to the recording of many definite cases. The point which I would insist upon, however, is that these patients represent, clinically, an absolutely well-recognized type. No physician who sees them long calls them cases of neurasthenia, though they have a certain amount of neurasthenia or neurasthenic episodes. They are generally called cases of hysteria.

The laity, who observe them, and are brought in contact with their antics, often say that they must be insane, on account of their unreasonableness and frantic attempts to lead a foolish life.

The term *psychasthenia* has been applied to this group, but that word is made to include also the group of persons

who have the obsessions, phobias, and impulsions, and I would put these in a separate class. Psychasthenia is a word which might, in a way, apply to them, but there is an enormous amount of psychasthenia which is characteristic of other psychoses, and these patients are not really as much mentally weak as they are mentally ataxic, and the term *psychataxia* would apply much more aptly to their characteristics.

CHARACTERISTICS OF THE PSYCHATAXIC OR PSYCHASTHENIC

I find in this group of cases :

FIRST. A constant and morbid tendency to self-inspection, often despite the fact that they realize they are doing it to excess. Their trend of thought is all as to what they had best do for themselves so as to get well. They do not so much exaggerate as they simply study and dwell on their condition, and do it without the anxiety and worry and depression of the melancholia, but with a certain clearness and satisfaction.

SECOND. *Impulsions.* They get ideas of what should be done, and become quickly the victims of these. Those ideas are almost impulsions and they often go and at once do foolish, inconsiderate, and possibly wise things. Not infrequently they rush off or do things from an impulse of resentment and a desire to make others uncomfortable. Often their acts are simply whimsical. They will go and take off their clothes and stay in bed, or go out on some unnecessary visit, or even do wantonly injurious things to make themselves more in the center of the stage. They are histrionic performers.

THIRD. *Fixed Ideas.* There is generally a very great obstinacy of purpose or idea, either about what is good or bad for them or what they can eat or drink or wear. A patient insists she can only live on milk, or that she can only eat a certain limited number of articles of diet. By this obstinate belief in their incapacity they cut themselves off from a large part of the interests of life.

I have known a woman to run away from home and live in a boarding-house where she could get the milk she wanted and would not have to do certain household duties she disliked. These impulses and obsessions bring them close to the group of those who have morbid fears and doubts. Yet

they are of a rather different type in that they believe in them, whereas the phobic class recognizes the foolishness of their acts and only lament their helplessness.

FOURTH. *Moral and Family Instincts.* They lose their real moral sense and do not care for their children or husband or family, except in a theoretical way. They perhaps retain their ideas and talk about them beautifully, but this has no practical meaning in their lives.

FIFTH. *Abulia.* They are decidedly deficient in will power. They will, impulsively and obstinately, carry out certain fixed ideas, but they have no strength of purpose to do what is best, even if admitting it.

SIXTH. *Non-dementing.* They are not mentally weak in the sense that they are unintelligent. On the contrary, they are often alert and quick-minded, and can be witty and agreeable.

SEVENTH. *Causes.* The cases are mostly women; and usually there is a history that they have all their lives been indulged and never had to practice inhibition or self-control.

EIGHTH. *Physical Condition Disturbance.* They are not physically very weak, but they always have some functional derangement. They usually have migraine and some stomach or intestinal disturbance; occasionally spinal pains or attacks of pseudo-angina are the affecting episodes.

NINTH. *Periodicity without Crises.* They do not have hysterical crises, though they may have explosions of anger or tears. They do not have convulsive attacks, paralyses or contractures, or anesthesias. The conditions vary in periods of long duration.

TENTH. *Mild and Extreme Types.* In the milder types they are simply self-indulging, uncontrolled, whimsical, selfish and foolishly impulsive women with various idiosyncrasies, unsocial, content with the narrowest domestic life. In the severe types they are bed-ridden or room-ridden or house-ridden hypochondriacs, suggesting states somewhat like that of an hypochondriacal psychosis without especial mental depression. Their sufferings and grievances are assigned to both bodily conditions and external surroundings. But the terms hysteria, hypochondria, neurasthenia, do not fit them.

This group is not quite like the psychasthenia of Janet,

but that word is coming into use, and it may be made to fit them. This term is also made to include the obsessions, the doubting manias, and phobic states.

It may be drawing distinctions too fine to separate the two, and I have used, perhaps unfortunately, the term *phrenasthenia* for these latter. However, it is only a matter of terms, and custom will decide which is best.

I should, however, divide up the group of psycho-neuroses into :

1. Hysteria, proper or major.
2. Psychasthenia,—the type just described.
3. Psychasthenia (or phrenasthenia), with obsession, doubts and fears and impulsions and compulsions, including some forms of dipsomania.
4. Neurasthenia, simple, and symptomatic.
5. Abortive types of the major psychoses, such as melancholia, dementia, etc.

Finally let me repeat : Hysteria proper or major, is a well recognized clinical type, a rare disease but unmistakable even by objective symptoms alone.

Hysterical episodes occur in all the psycho-neuroses and are simply the expression of the way the individual reacts, or may react, being constitutionally unstable.

ABSTRACTS

Some Experience with the Simpler Methods of Psychotherapy and Re-education. By Lewellys F. Barker, M.D., American Journal of the Medical Sciences, October, 1906.

That psychotherapy is fast being recognized as both a scientific and practical method of treatment of certain functional disorders will be denied by scarcely any one who has observed the progress of therapeutics; and since this is so, the subject should be studied and mastered by the general practitioner. It should be approached in a spirit of frank and sincere criticism, characterized neither by extravagant optimism, nor, on the other hand, by a supercilious cynicism. The proper student of psychotherapy is the cultured physician, not the faith curist, the charlatan or the quack. What is needed in these early days is a careful study of individual cases, so that thereby may be determined not merely the uses and the value, but what is equally important, the misuses and the limitations of the method employed in psychotherapeutics. To the elucidation of both of these points Dr. Barker has made valuable contributions. He has published the notes of a few patients who have resisted treatment and have been but little benefited; and in the present paper he reports a series of some fifteen patients who have been either improved or cured.

While in Paris in 1904 Dr. Barker was much impressed with what he saw in the Pinel ward of the Salpetriere, where Prof. Dejerine was treating the psychoneuroses, especially hysteria and neurasthenia, by isolation and psychotherapy. Drugs were but seldom employed; hypnotism was not used, and yet paralyses, contractures, anorexias, nervous crises, gastropathies and other nervous conditions, many of them having lasted for months or years, disappeared in a few days, weeks or months under the influence of this simple treatment.

In the medical service of the Johns Hopkins Hospital the opportunity has presented itself of employing these same measures, and the results obtained through combining conscious psychotherapy with rest in bed, isolation and other means, have been eminently satisfactory in a certain group of cases.

Historically it is interesting to note that, consciously or ununconsciously, psychotherapy has been practiced by physicians from the earliest times. In ancient days the conscious psychotherapy of religious teachers, and, at all periods, suggestion by pharmacotherapy have had much to do in the alleviation or the cure of functional nervous troubles. Out of magnetism came mesmerism, and following this hypnotism, which was hailed at first as a great healing measure, but which is now somewhat in disrepute as a therapeutic agent. The best psychotherapy of our own time is largely one of education, explanation, and

persuasion, rather than of suggestion; but as Dr. Barker truly remarks, the significance of the persuasion-therapy would scarcely have been grasped had it not been for the thorough study of suggestion-therapy.

In his personal work the author has used only the simplest methods, that is, persuasion, isolation, and occupation; for it has seemed best to gain experience with these before resorting to more complex procedures, such as Freud's "psycho-analytic" method, Jung and Ilberg's analyses, Janet's "suppression and substitution" method, and Sollier's "organic" method.

The patients who have responded most readily to psychotherapy are the psychoneurotics, sufferers from hysteria, neurasthenia, psychasthenia and so forth. Among the neurasthenics, psychic treatment aids enormously the somatic measures in combating the sensation of fatigue, the circulatory disturbances, the insomnias, the digestive troubles, the sexual weaknesses, and the abnormal mental states. Among the broader group of psychasthenics the feelings of incompleteness (voluntary, intellectual and emotional), the psychic insufficiencies (aboulias, amnesias, phobias, etc.), the physiological insufficiencies (nervous, digestive, circulatory, genital) yield to treatment by psychotherapy more quickly than to any other therapeutic measure, while even in organic disease, psychotherapy is of value in combating the functional disturbances so often associated therewith.

As to the use and abuse of psychotherapy Dr. Barker has some judicious remarks. He does not believe that psychotherapy should be tabooed because some men abuse it, or because quacks and charlatans degrade it. The true psychotherapeutist should be an honest man and an expert clinician. He must be interested in functional disturbances and not simply in anatomical lesions. *He should be skilled in all the modern refinements of diagnosis, and should exhaust them in the study of his case before beginning his therapy.* He will enter into a sympathetic understanding with his patient and will explain to him the relation of his mental states to his symptoms, thus securing his co-operation in the cure. For while these patients require firm guidance, they also need judicious sympathy, a fact which it is to be feared too few physicians, and scarcely any of the laity, understand.

Among the pitfalls of which psychotherapy must beware are the "philosophic nebulosity" and the "psychologic subtlety" which are bound to produce absurdities in treatment and to obstruct the healthy development of this branch of therapeutics. While nothing, perhaps, is easier in psychoneurotics than to make some symptoms disappear, the experienced neurologist will not be duped into thinking that he has made a cure by driving away a symptom. In many cases it is only by slowly influencing the mind and body by careful re-education that anything like a real cure can be obtained. DONLEY.

Concerning Kleptomania (De La Kleptomanie). By R. Dupouy, "Journal de Psychologie normale et pathologique," September-October, 1905, pp. 406-426.

Pitres and Regis distinguish in the impulsion to theft, commonly called kleptomania, two varieties, which manifest themselves under absolutely different aspects. The first includes the generally more or less unconscious thefts of a stupid, amnesic order, by inferior degenerates, senile or paralytic dements and epileptics. The second is composed of so-called conscious impulsions to theft. Here the pathologic substratum is very much less apparent and the act can by no means be clearly distinguished from ordinary theft.

In the opinion of Dupouy these two sharply defined varieties do not cover the entire ground, and in this paper he devotes himself to a consideration of a so-called "mixed" class in which the underlying morbidity often presents marked diagnostic difficulties, and to which by far the largest number of soi-disant kleptomaniacs appear to belong.

Thieves of this order are individuals who possess, under ordinary circumstances, both feeling and will within normal limits. In the presence of an object which, for some private and individual reason, seems to them desirable, they experience an emotion of medium intensity and agreeable nature. (In dements the emotional element is nil; in the obsessed so violent as to produce anguish.) On the other hand their will-power is sufficiently strong to stifle the impulsive tendency which every desire arouses and which conscience warns them is wrong. The result is that this moral victory, far from engendering the feeling of atrocious *malaise* from which the obsessed suffer when they cannot satisfy their impulsion, is commended by the conscience and fills the victor with joy.

The kleptomaniacal tendencies of this class are, then, the result of desire. Desire is an emotion felt in the presence of a beloved object and implies an impulsive tendency to possess this object.

In an independent category stands the will, which may be the enemy or the ally of desire. If our judgment represents desire to us as something that should be realized, the natural tendency of desire to satisfy itself is sustained by the conscious efforts of voluntary activity. If, on the contrary, judgment tells us that desire is wrong, the will opposes the realization of desire. In normal cases, the will, that is to say, the thinking and willing ego, should master and annihilate the desire adjudged culpable. But sometimes the desire is victorious over the will and the kleptomaniacal impulse is produced, either because of an augmentation of the coefficient of the desire or of a diminution of the volitional resistance.

Desire being an emotion, all causes susceptible of increasing the emotivity will increase the appetitive power of the individual and will quicken his particular desires. In this causal category

come repeated moral shocks, intense psychic traumata, profound chagrin, violent nervous agitations. The variety of emotion which results from sexual irritation seems to be particularly active in the genesis of morbid emotivity. This irritation, by augmenting the emotivity of the subject and impelling him toward morbid desires, leads to obsessions. For this reason certain collectors and fetichists become kleptomaniacs. They keep sharpening their desires regardless of what these desires stand for— artistic bibelots, postage stamps, women's apparel (erotomanic fetichists)—they waste their entire sensibility in the contemplation and in the incessant physical or mental handling of their collections. The enjoyment they derive from it becomes more and more voluptuous and in turn fans the flame of the desire they have to renew it. This is the vicious cycle in which these unfortunates turn, the desire to enjoy increasing their pleasure ten-fold, the latter causing the former to light up again. The impulsion, logical and fatal result of desire awakened in the presence of the object wished for and not possessed, ends by becoming sufficiently powerful to triumph over the resistance put forward by the will, and the collector becomes a thief. Going a step farther, the emotion carried to its maximum becomes an agonizing, irresistible impulse; the desire has created an obsession, the collector is replaced by the kleptomaniac.

The fetichistic sexual pervert who gets, for example, his voluptuous satisfaction from the rubbing of a special stuff, generally silk, follows the same morbid course as the collector.

A question which naturally arises in connection with this category of cases is one which deals with the mental responsibility. It is a question which taxes the judgment and commonsense of the expert to their utmost, and one which should be passed upon only by men of wide experience in psychopathology, —men who are prepared to ignore the social status of the delinquent, to lay aside all sentimentality, and to be governed in their final opinion by a profound study of all the facts which a searching and painstaking history may reveal.

In the opinion of Dupuoy this "mixed" category of cases stands upon the frontiers of responsibility. Many of the victims are hereditarily predisposed, the remainder arrive at morbidity only through a combination of circumstances which is often extraordinary (overlapping catastrophes, painful and repeated emotions, frequent and profound chagrin of one sort or another), all of which things must be taken into account in weighing their acts.

The study which Dupuoy makes of a specific case of this type is unfortunately far too extensive in scope for reproduction here. It is, however, a splendid model for any one who may have just such a case to unravel.

COURTNEY.

THE QUESTION OF TACTILE APHASIA.

" *Un Cas d'Aphasie Tactile* " by M. Raymond and Max Egger. Revue Neurologique, April 30, 1906, pp. 371-375.

" *Considerations sur la Soi-Disant 'Aphasie Tactile'* " by Dejerine. Revue Neurologique, July 15, 1906, pp. 579-601.

" *Agnosie et Asymbolie.* A Propos d'un Soi-Disant cas d' Aphasie Tactile." Ed. Claparede. Revue Neurologique, September 15, 1906, pp. 803-805.

A renewed interest in the question of tactile aphasia and asymbolia is offered by a recent observation of Raymond and Egger and furnishes material for a rather lengthy polemical controversy. In Raymond and Egger's patient, after a radually increasing paraesthesia, there developed a paralysis of the right hand and in addition there supervened a slight degree of amnesic aphasia, especially for nouns. There was however no alexia, agraphia or word deafness. The paralyzed hand was practically free from sensory disturbances of any type (touch, pain, temperature, deep and bony sensibility, sense of weight and position), excepting a few errors of localisation and a slight disorder to the tests with the aesthesiometer. When palpating an object the patient perfectly appreciated its shape and tridimensional form, knew of what material it was made, and whether warm or cold, rough or smooth. But even with all these data derived from palpation, there was complete inability to name the object, even if the latter were perfectly familiar. For instance an orange was described merely as " large, round and rough," a sponge as " cold, damp, not a handkerchief."

The authors interpret this condition not as a paralysis of palpation, but as a pure tactile aphasia. They thus postulate a new type of aphasia, analogous to that for which they previously coined the term " vestibular ataxia," as an equivalent of a cerebellar-vestibular syndrome (Revue Neurologique, June 30, 1905). According to them all the impressions normally derived from palpation arrive perfectly at the cortex, but here do not remain as isolated sensations, but are combined, in normal persons, to awaken a visual image of the extent and form of the object alone. In their tactile aphasias the object palpated remains a complex of pure physical qualities without any notion of its use. They find an analogy in word-deafness, where the sounds and modulations of spoken language are appreciated without the acoustic impressions awakening the auditory image of the word. Upon the experimental evidence offered by the case, they carefully distinguish the condition from asymbolia, stereognostic dissociation and Wernicke's psychic paralysis of palpation.

Dejerine criticizes this conception of Raymond and Egger and does not believe in elevating the symptom-complex to the dignity of a new aphasic disorder. In extenuation of his views he presents a similar case presenting the thalamic syndrome, in

which there was the same disorder of recognition associated with slight sensory disturbances of the hand. Dejerine believes, that slight as were the sensory disturbances in the palpating hand, yet these were sufficient to prevent the tactile memory from completely evoking the name of the object. For him, these disorders are merely agnosias due to disturbances of the sensibility and have nothing to do with the aphasias. An aphasic preserves the ideas of images of objects, but is unable to recall the words to designate these objects. In disorders of the peripheral sensations on the contrary, the image of the object is not called up, because the concomitant associations are not made in the cortex. There is no more a tactile aphasia where there are slight disorders of sensibility, than there would be an auditory or visual aphasia where the visual acuity is lessened or where there is slight deafness.

In common with Dejerine, Claparède objects to classifying tactile aphasia as a clinical entity and proposes as a substitute the more satisfactory term of tactile asymbolia. According to him the mere form of an object, even its complete recognition, is inadequate to convey an idea of the object itself, especially if this object be something with which we are unfamiliar. The idea of the object itself is furnished by the higher associations, by what he calls " intellectual recognition," which is equivalent to Wernicke's secondary identification. The disorder of secondary identification constitutes asymbolia, while agnosia in Dejerine's sense refers only to primary identification or stereognosis. The palpation of an object develops in us a pure visual image only. It is extremely improbable that there exists a tactile aphasia analogous to an optic aphasia, because we do not possess any autonomous tactile memory.

In the observation reported by Bourdon and Dide (Un Cas d'Amnesie Continue avec Asymbolie Tactile, Complique d' Autres Troubles—L'Annee Psychologique, 1904, pp. 84-115), they carefully distinguish tactile asymbolia from astereognosis. For them, the former is the loss of the faculty of *recognizing* objects by touch, the latter is merely a loss of the recognition of *shapes* of objects by touch. In their case, there were no disorders of sensibility, except a diminution of the pressure sense. There were, however, many complications, such as continuous amnesia, word blindness and word deafness, so that it is extremely difficult to form any but the broadest generalizations. They distinguish between the disorders of perception of isolated properties of an object and those of an object in its totality and interpret tactile asymbolia as tactile blindness, a rupture of associations between the centres of musculo-tactile images and those of visual images. They claim that on account of the continuous amnesia and of a certain amount of motor perplexity, the patient would forget that he had palpated a certain portion of an object and thus the different sensations did not come

together. Therefore he was unable to produce a mental picture of the object in its totality, the sense of fusion was lacking. It is well known that both for the skin and retina an impression persists for a certain time after removal of the stimulus, and if these impressions vanish as soon as they are received nothing is preceived but mere isolated sensations. Therefore, if I may be permitted to use the term, in this case we seem to be dealing with a kind of continuous amnesia for tactile impressions. For a full account of the paper, the reader is referred to my abstract in the American Journal of Psychology (April, 1905, pp. 252-254).

Whether we interpret the disorder as a continuous tactile amnesia or as a complex of isolated tactile sensations without any concomitant visual imagery, much of the confusion seems to arise from the limitations of the term " asymbolia." Outside of the applications given in the course of this review, it has been utilized to refer to certain apperception disorders occurring in the course of various delirious and confusional states and even the term " asymbolic dyslexia " has been coined to describe the reading defect of alcoholic delirum. For the present it is best to limit asymbolia to that disorder of tactile sensation, in which there is not only failure to recognize the shapes of objects and their cardinal qualities, but also the ultimate recognition of the objects themselves. Astereognosis should only apply to inability to recognize the forms of objects, while disturbances of apperception are best described as such. To utilize an asymbolic disorder as equivalent to an entity of tactile aphasia, appears to be unwarranted at present, considering that less theoretical explanations can be offered for the syndrome.

CORIAT.

The Subdivision of the Representation of Cutaneous and Muscular Sensibility and of Stereognosis in the Cerebral Cortex. By Charles K. Mills, M.D. and T. H. Weisenburg, M.D. " Journal of Nervous and Mental Diseases," October, 1906.

As early as 1888, Mills attributed sensory functions to the parietal lobe, and in subsequent papers in 1895 and 1904 he expressed his belief that the cortical sensory area of the brain was subdivided into centres in a manner corresponding to the subdivisions of the motor cortex.

Dana Starr, Horsley, and others, have maintained that along the borders of the Fissure of Rolando are located centres jointly sensory and motor; but much evidence has been recently brought forth, to show that this stand is untenable, and that the motor centres are limited to the cortex anterior to the Rolandic Fissure, while the postcentral convolution and the adjacent cortex is sensory in its function.

The object of the present paper by Mills and Weisenburg is to bring forward the three following propositions: (1) that the cortical representation of cutaneous and muscular sensibility i

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independent of motor representation, that it surrounds the motor zone, and that it is subdivided into a mosaic of centres, each centre or group of centres being anatomically and functionally correlated with a motor centre or centres. (2) that every muscle or group of muscles producing a movement or movements which are represented by separate centres in the cortex is topographically related to a segment of the skin which has also a definite cortical centre, this centre being correlated anatomically and functionally with the motor centre. (3) that stereognostic representation like that of cutaneous and muscular sensibility and of movements has also its independent cortical area, and is subdivided after the manner of the motor and sensory areas.

In support of these points abstracts are given of cases reported by Knapp, Darkschewitsch, Madden, Starr and McCosh, Klien, Bonhoeffer, Fischer, Kramer and Sandberg. In these nine cases sensory disturbances were present in the upper extremity, generally existing in limited areas. This limitation was especially noted in the hand and certain fingers. The impairment of sensation present was, in several instances, more or less dissociated, certain forms of impairment being present and others absent, or different forms of disturbance existing in different parts. It was a striking fact that in four of these cases sensation was most disturbed in the fingers of the ulnar side of the hand. Although the lesion was undoubtedly a cortical one in each of these nine cases, in only five of them was it shown to be post-Rolandic by autopsy or by operation.

Reports of four cases are then presented in detail by the writers in support of their views. In one of these only was an autopsy performed to corroborate the diagnosis of a post-central lesion; in two the lesion was presumably post-central as judged from the clinical picture; in the fourth case the localization of the lesion was more problematical, since in the absence of any objective disturbance of sensation the diagnosis was made on the presence of paraesthesia and ataxia of the extremity.

In three of these cases the impairment of sensation was most marked and persistent in the ulnar side of the hand and in the middle, ring, and little fingers; and in all the disturbance was more decided distally than proximally. In three cases also, the disturbance was more noticeable on the palmar than on the dorsal surface of the hand. The writers call attention to the fact that in one of the cases the sense of position and motion of the fingers was absent on testing by extension, while flexion was recognized.

In explaining the fact that sensation is less disturbed over the radial side of the hand and the corresponding fingers, the writers suggest that these are more active in the daily life of the individual and that they therefore have larger areas of cortical representation and are more deeply organized. The earlier return of

sensation to the palmar surface of the hand and fingers, and the earlier loss of the sense of position and motion in extension, can also be explained by the same theory.

Regarding the centre of stereognosis, Mills and Weisenburg are in accord with many recent writers, expressing themselves as of the opinion that the stereognostic centre lies in the postero-parietal region. Observations have shown this centre to be of later development in the life of the individual, and clinical experience has demonstrated that it can be destroyed by post-parietal lesions without causing impairment of the sense of touch or pain.

In support of the second proposition indicated at the beginning of the paper, the writers quote a series of experiments tried on hypnotized subjects as cited by Heidenheim. These experiments consisted in stroking the skin along the spine of a hypnotized individual and thus producing contractions of groups of muscles which at times may lie under the point stimulated, and at times be at a distance from this point. (As when the lower lumbar and sacral region is stroked, the flexors of the legs contract.) The inference is drawn that this is a cerebral and not a spinal reflex.

In conclusion the authors disagree with Horsley regarding the combined function of motion and sensation in the same area, and discuss at some length the recent paper by Russell and Horsley, in which the latter writers illustrate their theory that the strips of skin in the extremities, represented by the spinal segments and nerve roots, are re-represented in the brain.

WATERMAN.

The Physiological Explanation of Emotion. By G. R. d'Allonnes, "Journal de Psychologie normale et pathologique," January-February and March-April, 1906.

In his first part M. d'Allonnes reviews several recent works on the James-Lange-Sergi theory of the emotions, and presents the upshot of opinion as follows: "The immediate physiological conditions of emotion are organic reactions that are felt. The stimulus that leads up to the emotion produces, by a centrifugal discharge, contractions of the viscera and mimetic movements of the face and other members. Sensory currents from these rebound toward the centres and affect them emotionally" (p. 132).

In his second Part the author presents the results of some experiments of Bechterew and Sherrington as evidence that the one essential of emotion is sensations of muscular activity in the viscera alone. "Mimicry movements are in themselves indifferent emotionally, and constitute an independent function which may finally lead on to emotional phenomena, without furnishing the actual basis of the emotion" (p. 133). The work cited from Bechterew consists of cases in which certain animals after

removal of the cerebral cortex showed well co-ordinated mimetic movements (manifestations of pleasure and pain) on being stimulated. The sensory currents resulting from such movements are not, then, an essential part of the emotional mechanism, since these animals in losing their hemispheres were incapable of feeling any emotion! "The persistence of co-ordinated mimicry, in appropriate response to various stimuli, which is nevertheless no longer subtended by any conscious emotional state, is the important fact appearing from Bechterew's researches; and those of Sherrington should be viewed in the light of this same fact" (p. 146). These latter are cases of animals submitted to cervical transection of the spinal cord and of both vago-sympathetic nerves, in which mimetic co-ordinations of the face and fore-paws survived the operation: these occurred both spontaneously and in response to stimulation. To Sherrington it seemed as if the animals experienced emotions, but here again M. d'Allonnes hypothecates an 'entire absence of true emotivity,' in order to conclude that the sensation of these mimetic movements is not an essential part of the mechanism of emotions.

The one piece of direct evidence adduced in favor of the author's view is the case of a woman (previously reported by him) who, "in consequence of an anaesthesia depriving her of certain somatic sensations, has lost all emotivity in spite of the integrity of her mimetic reactions, of her intelligence, her will, and her inclinations" (p. 149). She declares herself to experience no emotions.

M. d'Allonnes distinguishes the direct visceral sensations (*l'emotion-choc*), as the sole process that is essential to emotion, from all motor and sensory phenomena pertaining to mimetic movements (*l'inclination inemotive*). The two together he proposes to call *l'emotion-inclination*.

HOLT.

BOOKS RECEIVED.

Mental Development in the Child and the Race, by James Mark Baldwin, Ph.D., Hon.D.Sc. (Oxon.), LL.D. (Glasgow, etc.) Prof. of Philosophy and Psychology in the Johns Hopkins University. With seventeen figures and ten tables. Translated into French and German. Cloth. Pp. 473. Price $2.25. New York. The Macmillan Company. 1906.

Social and Ethical Interpretations in Mental Development, by James Mark Baldwin, Ph.D., Hon. D.Sc. (Oxon.), LL.D. (Glasgow, etc.), Prof. of Philosophy and Psychology in the Johns Hopkins University. Translated into French and German. Cloth. Pp. 602. New York. The Macmillan Company. 1906.

An Editorial about this Journal can be found in Vol 33 - 1938