

age, as he had been at that time, and he recognized neither his wife nor his own children; in fact, he had no knowledge of ever having been married and had also forgotten his business and his friends. He was an entire stranger in the city where he had lived for a long time, and the trolley cars upon which he had ridden for years, and the electric bells which he had used repeatedly, were as strange to him as upon the first time that he saw them.

WHAT HAPPENED IN THE SEVENTEEN YEARS.

The first five years after the accident are lost. Mr. W. has no remembrance of anything that happened, neither is there any one known who can tell of his life during that time. Twelve years ago he first came to Pittsburg; there he met his present wife, and two years later they were married. She has supplied the information as to the details of his life up to the present time. We present only that which has a bearing upon our subject. At no time during these twelve years did he give any information concerning his previous life. Insistent questioning on the part of his wife always failed to reveal anything. He had, however, always remembered his name; that point should be especially noted. Shortly before his oldest child was born, nine years ago, he wandered away one Sunday afternoon and did not return until Monday evening. This was exceptional with him, for he never went out, other than to work, unless his wife accompanied him. He was a total abstainer, therefore alcohol could not have been responsible for this action. His only answer as to where he had gone, was that he had been out riding.

About a year later, eight years ago, while painting a house with his brother-in-law, he suddenly stopped work and went away without saying anything by way of explanation. Two days later a postal card was received from him, written at his mother's house, so he wrote, and telling his wife that he would be home in a day or so. This is the first knowledge his wife had that his mother was living, but ever afterward he remembered her. The memory of his mother seemed to have come to him suddenly, and, acting impulsively, he had instantly gone to visit her.

During these years he worked in succession at farming, running a sawmill and painting. He was at times afraid to come home, his wife states, and seemed constantly downhearted and worried. So moody did he become that she was afraid to leave him alone with the children.

He was always affectionate, was a kind husband and a good father. He suffered much from sick headaches, the pain of which would make him almost frantic. He would often moan in his sleep, but was never somnambulistic. While conversing he would often stop in the midst of a sentence and commence anew without seeming to realize it. He had an attack of painter's colic several years ago, but the exact time is not known. Some time ago he began to have violent pains over the right hepatic region, and this region began to swell up, "long strings of corruption," as his wife styled it, being passed through the mouth. The condition was relieved somewhat by free action of the bowels and kidneys, but it recurred monthly for a time; later the intervals became longer and the suffering less in intensity with each attack. The pain, however, was present between the attacks, and to such an extent that no one could sleep with him on account of his restless tossing from the pain.

Dr. S. G. Small, his physician at that time, diagnosed the condition as one of hepatic abscess. The slightest

A CASE OF LOCALIZED AMNESIA.*

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The following case illustrates one of those interesting phases of abnormal psychologic experience, which have been occasionally noted in actual life, and which have as often been made the subject of novels. When used in literature they are looked upon as the invention of an imaginative mind, yet observations of scientific men have shown even more novel and seemingly impossible instances than are portrayed in books. The cases of Macnish, Sidis, Azam, Dufay and others have been made the subject of much comment, and the works of Azam, Ribot, Binet, Sidis, Richet, Tuke, Maudsley and writers of this class have helped to lift the clouds that surround our conceptions of consciousness and personality. The following case of amnesia presents such very peculiar features that it has been thought of sufficient interest to warrant its presentation.

Charles W. was born in Eastern Pennsylvania in 1860. His father and mother became separated, though keeping up a communication with each other. In 1884, the son, hearing of his father's death and knowing that the latter had some property in the West, where he had lived, set out to investigate. Traveling west from Chicago, he had gone but a short distance when the train was wrecked. That was seventeen years ago. He remembers at the present time that there was a crash, that he felt himself hurled through space, and then—nothing. In February of this year he became unconscious and after twenty-four hours, when he awoke, the seventeen years between the accident and the present had been completely obliterated and he had gone back to the time of the accident. He thought that he was 24 years of

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touch over the liver region caused intense pain. The last attack was on February 23, 1901, and he was walking the floor of the dining-room, suffering intensely, when a daughter who was in the room accidentally overturned the lamp. Mr. W. tried to catch it as it fell, but as he reached for it murmured, "Oh, my head," and fell to the floor unconscious. He was put to bed and Dr. Small summoned, but all attempts to revive him remained futile. About 4 a. m. he awoke for an instant, but again went to sleep. He awoke some time in the morning, asking, "Am I much hurt?" His wife wonderingly replied in the negative, and he then inquired as to what hospital he was in and asked whether she was the nurse. Upon being told by her that she was his wife he resented it by saying that he was not in the mood for joking.

After sending for the doctor, in obedience to his request, she asked him whether he wanted to see his children. "I'm not married," he replied. "It's a nice thing for a man 24 years of age to wake up and be told that he is the father of four children." "But you are not a young man," persisted his wife. Finally a mirror, pictures taken of him at various intervals, his marriage certificate, and the various exclamations of the four children who were brought in, convinced him of the truth of her statements. He did not recognize the doctor, to whom he insisted that he felt entirely well. No further evidence of hepatic abscess was present and he had not the slightest feeling of pain, being able to stand quite severe blows where formerly the merest tap was excruciatingly painful. The next day he came under the care of the writer.

PRESENT CONDITION.

I found a man of spare build, 5 feet 9 inches high, weight 132 pounds, spanning 5 feet 11 inches from the tips of one hand to the other. His head was 22 inches in circumference and 12.5 inches from glabella toinion. The long bones were all well formed, but his chest was slightly carinated. His musculature was under-developed, the dynamometer showing 42 on right side and 40 on the left. Both deep and skin reflexes were about normal. His pupils were wider than normal and reacted slowly to light. All ocular muscles functionated normally. His head and face are asymmetric, ears badly set and protruding, but not very badly formed. His lips are thin and compressed, his teeth uneven and irregular, and the palatal arch is very high. Upon the right side the labial folds are much slighter than upon the left, and he shows traces of a former right facial palsy; however, no history of it can be obtained. He gives a totally negative family history and all his children are healthy except Ruth, who is 7½ years old and did not speak until she was 6 years of age. She was born with "the cord around her neck," the mother says. She is choreic and when sent to school last fall she was sent home by the teacher with a note saying that as she constantly slept in school, she had better be kept at home. She is a middle-grade imbecile.

This patient presents nothing pathologic upon examination of his various organs. Sexually he is normal, his wife having again become pregnant recently. His childhood, which he now remembers, reveals nothing abnormal. Attention, judgment, perception are all good. He has a high moral sense, never smoked or drank, has been a steady church-goer, and is now considerably worried for fear of having done something wrong in the five years after the accident, as his actions during that time are totally unknown to every one whom he now knows. His memory for recent events and for those up to 1884

are perfect. Close questioning by myself and also by various members of the Pittsburg Academy of Medicine, before whom he was presented, failed to detect any error or lapse in his story.

At the present time he passes his former friends in the street without recognizing them, and is much embarrassed when accosted by any one. He must be closely directed else he will miss his way on the street. When going to consult the doctor he stood outside until noticed, not finding any knocker and never, so far as he knows, having seen an electric bell before. The same is true with all the modern improvements he sees.

On account of his illness of the last two years he had been compelled to quit work and his wife had opened a small grocery store. He had spent his time, as far as able, in delivering goods in the neighborhood or in taking orders for the store. He is now ashamed of the condition that he finds his "new" family in. In going over the books, something he had never done before, he rebuked his wife for the careless way in which they were kept. He did not remember the customers that he had daily called on for orders.

He has spent much time picking up the details of his old life, relearning it from his wife's lips. His memory seems to be very retentive, but his wife says that formerly he was very forgetful. Being anxious to better things, his friends secured for him a position at his old trade. He found that he did not know anything about it, but his employers were kind to him and he began to relearn it, but only able to earn the wages of an apprentice, while formerly he had been able to command one of the highest salaries in the city at his trade. He began to have heavy depressing dreams. It seemed that their central idea was one of being declared insane and being sent to an asylum—the comments of his friends, the strangeness of his life and the unfortunate newspaper notoriety given him worrying him very much. On March 8 he left home at 8 a. m. for work. He did not return until 9 p. m., staggering like a drunken man, weak and exhausted, and declaring that he found himself at 5 p. m. in Greensburg, about 30 miles away from his home, and took the next train home. He had no recollection of going there nor can he give any reason. Information reached us later of his having stopped at a wholesale house in the morning and of his ordering some goods for his wife's store. The salesman reported that he seemed dazed and confused at that time. The next day, his wife not knowing this, she gave him \$25 with which to buy groceries. He left home and did not return. No trace of or word from him has since reached us, and he seems to have entirely disappeared from the face of the earth.

This is then Mr. W.'s history. We shall make a few remarks concerning his condition, not, however, going into detail, as what we might say would be only a rehash of the writings of Ribot, Binet, Sidis and others.

EXPLANATION OF CONDITION.

What constitutes memory? It is plainly the consciousness or recognition of events and impressions. These must be retained or reproduced, but unless recognized by our conscious ego would not be remembered, psychologically speaking. Impression and reproduction are the two essential elements of memory, but, unless we can localize, we are not conscious of the first two. Studies in amnesia or loss of memory have shown that it is first confined to recent events, and embraces, in turn as it progresses, ideas, sentiments, affections and actions.

In the present case the amnesia may be called localized after the classification of Boris Sidis, because it embraces a definite period of time. We have with him similar alterations of personality to what we see in somnambulism and petit mal, where we find the presence of certain automatic acts, but without the other factors of conscious personality. A difference, however, lies in the fact that in one case memory localizes the acts, in the other it does not; but in both cases we have the impressions of acts or ideas and their reproduction. Mr. W.'s loss of memory was not complete, and it is rare to find a complete amnesia. His remembrance of his name, his retention of the automatic acts of speech, walking, etc., are examples.

We see also in the sudden remembrance, eight years ago, of his mother's name and address, an interesting example of an impression present in the subconscious mind, welling up, becoming recognized by his conscious ego and becoming a conscious memory. It is probable that in these seventeen years many other old memories were revived, but were not localized for any period of time, or were not strong enough to be actively remembered.

The patient's condition during these seventeen years was not, from what we can gather, a normal one. His moodiness, his fits of abstraction amounting at times to a condition of distraction, reveal this. He would often sit when talking to someone, staring intently into space as if he wanted to look through them, as they expressed it. This was particularly noticeable in recent years, after his attacks. The picture, which I will pass around, taken after one of these attacks, shows vividly his abstracted, staring look and an ocular paralysis, which is not present now.

Were these periods of changed personality, of transient duration, so slight as not to be recognized? Were they simply conditions of alternated personality, unnoticed by his ego, in which subconscious memories were active? No one can say. We know that the conscious and the subconscious are ignorant of each other. It seems as if the lower consciousness is able to arise to the surface and take charge of things, the individual showing no signs of having once known the other—the conscious ego. Professor James' case of Rev. Ansel Browne and Osgood Mason's case of Alma Z. shows this.

It may be that Mr. W.'s case is an example of dual personality, often seen as a manifestation of epilepsy. The fragmentary account, as given to us, of his previous life, seems to indicate the presence of psychic automatism at times. Those temporary attacks of abstraction and his frequent stopping in the midst of a sentence are very much like petit mal. Consider in this light the latter period of his history, when observed by us. His wandering to Greensburg, awaking there unconscious of how he had come, his mind a perfect blank concerning the five or six hours which had preceded; this is similar to what we observe in procursive epilepsy. His second wandering, no knowledge of his whereabouts for the last eight weeks having been obtained, might be the result of another alteration in personality similar to what had happened before in his history.

Consciousness is not a simple matter; in fact, we do not have a single consciousness, but states of consciousness, just as we do not have a will but volitions. It must not be supposed that we can sharply divide organic from psychic memory. All stages of transition exist, from the purely subconscious to the conscious. With Mr. W. we seem to have a sudden transition, due to cerebral

shock, with just as sudden a change to his primitive memory, after a lapse of seventeen years. This was almost a complete change from conscious to subconscious memory. But it is extremely probable that he presented transient changes in the intervals, so slight in intensity, so short in duration, that he was not cognizant of them, except, as in dreams, for the time being.

HYPOTHESES.

Two hypotheses have been given to show the cause of such amnesias: 1, "the registration of anterior states being effaced;" 2, "the conservation of anterior states persisting, their power of revivification by association with the present being destroyed." Mr. W.'s case seems to show the truth of the latter hypothesis. If the registration of anterior states were effaced, would they so suddenly recur after a lapse of seventeen years? Is it not more probable that they were suddenly revived by being associated in some way with the present and the memory of the seventeen years at the same time becoming disassociated? We see that the semi-organic memories, i. e., speaking, walking, etc., remained intact, they were permanent, automatic, while personal impressions were entirely inhibited. In his case they were not destroyed but were simply suspended, as they returned in full intensity after an absence from consciousness of seventeen years. This is what is called by Sidis a dissociation of moments of consciousness. It is according to him a dissociation, not of individual cells where impressions are supposed to be stored, but of the cellular groups or memory as we all know is not a simple state but a very complex one. We have in addition to this dissociation, a disaggregation of the cells, a breaking up of cellular complexes.

Amnesia has also been explained physiologically in accordance with the neuron theory. The cells which are joined by their terminal processes unite to form groups, then systems, communities, clusters and constellations. The more complex these associations are the more unstable it is. When amnesia is complete we have a retraction of terminals and of fibers down to the final ones in the nerve cell itself. This hypothesis, founded on the retraction theory of the neuron, not yet proven itself, must wait before it can be accepted. In fact, we have no adequate explanation of these processes.

No one has proven that cells receive and store impressions. We accept the hypothesis of idea-association centers on the path between the sensorial gateways and the motor centers, without it having been proven, though from the destruction of certain parts of the brain causing aphasia and the like, we are almost warranted in doing so. Many of us believe in the vibratory theory concerning the receiving of impressions, but the fact remains that the exact nature of these processes remain unknown and perhaps unknowable. Wernicke's recent hypothesis and his conjunctive state, which figures in it so prominently, is also ingenious but not conclusive.

Attempts were made to study Mr. W.'s psychic processes during the time that he was under observation, but with no results. His dreams never revealed anything of his past, forgotten life, and his entire waking period was dominated by the fear that his strange experience would lead to his incarceration in an insane asylum. Attempts to suggest to him proved unavailing, yet his mental equipoise was increasing, calm was succeeding anxiety, and his weight had increased eight pounds in six weeks. Then he suddenly vanished from all the life he had known.¹

1. Later.—September 2, 1901, Mr. W. came back to Pittsburg.

DISCUSSION.

DR. T. D. CLOTHERS, Hartford, Conn.—This is one of the very rare and unusual cases we sometimes hear of, and it has been studied with a great deal of care. These patients are examples of a subconscious state, and offer a promising basis for new fields of study. They furnish the outline of a new phase of psychologic study which will receive more attention in the future than it has in the past. Dr. Mayer's case is a phenomenal one in many particulars.

DR. J. H. MCBRIDE, Los Angeles, Cal.—Pennsylvania seems to be a paradise for cases of this order. In the Mary Reynolds case reported by Weir Mitchell there was a number of times in a long life a complete amnesia of her previous personal history, with the development of a new and different consciousness, during which a restless and aggressive personality took the place of the former quiet and retiring one. The case of the clergyman Ansel Bourne, of Rhode Island, is interesting in this connection. He disappeared suddenly, and some months later was found running a little shop in a village in Pennsylvania, to which state he went when his old consciousness was so suddenly swept away. While in Pennsylvania he seems to have had no recollection of his home, family or previous life, but very suddenly one day his old consciousness returned to him and he was greatly alarmed to find himself in strange surroundings. Professor James hypnotized him and reproduced the amnesic state, and while hypnotized he failed to recognize his wife and friends and could not recall his name or residence.

DR. C. EUGENE RIGGS, St. Paul—About five years ago at the Salpêtrière, I had my attention called to a case of dual consciousness which had existed practically during the life of the patient. At certain times she was an ignorant and uncultured woman; at others she was educated and refined. These two striking contrasts in her mental condition were very interesting. Some years ago one of my medical friends in this city sent me a case of nocturnal epilepsy. The patient was a commercial traveler who spent most of his time on the road. After one of these epileptic attacks he would go from town to town, take orders from his customers, write letters to his firm, and yet be absolutely unconscious afterwards of what he had done, nor were those with whom he came in contact during one of these spells aware that he was not in his normal condition.

DR. HAROLD N. MOYER, Chicago—We have recently had in Chicago a case strikingly similar to the one described by Dr. Mayer. Unfortunately, we were not able to get the early history of the patient. About three or four years ago she had a sickness, the nature of which I was not able to learn, and upon her recovery there was complete loss of memory for a period of about four years preceding her illness. When I saw

His wife had gone to the Union Station to seek work as a cleaner, having had difficulty in supporting herself after their savings had gone. There she met a man who had just stepped off a train. He held out a piece of paper and asked her if she could direct him to the address. It was one of my letterheads, which he had found in his pocket. She then recognized him and took him home. He had left home on the 9th of April. Upon the 11th, he found himself in a hotel in Wheeling, W. Va., was asked to register and, confused, wrote down a name, which he retained till his return. His own name and all recollection of the past were forgotten. He wandered around, found work as a painter, and at last determined to seek me out and try to find out who he was. His employers dissuaded him from leaving for some weeks, he claims, after finding my address in his pocket. He is depressed and moody, reticent and suspicious, does not recognize me and refuses to allow me to examine or interrogate him. Formerly he was friendly and loquacious. Since he has returned home (till November 4) he has had three attacks, in which he feels dazed, like he was walking on air, voices appear muffled to him, and he says that he does not feel like the same man at those times. This condition lasts about two days, but does not prevent him from working (painting). He has a constant headache and looks badly. Is much emaciated, restless, and very downcast. His wife is worried at his statements, but does not notice anything wrong. His memory is as it was before he left, but he does not remember what happened from April 9 to 11. This looks very much like a phase of epilepsy, but I have not seen any of these attacks myself, and only have his statements of them. He refuses to see me or any other physician and further questioning by me at his home elicited nothing additional to what is noted above.

her she had no recollection of the last eight years of her life. It was found impossible to re-educate her, as she was utterly incapable of registering impressions for a period longer than a few seconds. Her mental condition corresponded perfectly to what you would expect from a person who had lost the power of registering mental impressions. Her reasoning powers were not affected only in so far as she was unable to register impressions and retain them.

DR. W. A. JONES, Minneapolis—Dr. Mayer's paper has recalled two or three cases that have come under my observation. The first case occurred in London, and it was looked upon as one of those cases of mysterious disappearance. The man disappeared from home, assumed another name, engaged in another occupation, and after a number of months returned. He was unable to recall anything that had occurred during his absence from home. Dr. Ferrier regarded it as a case of epilepsy of a peculiar type. A man in Omaha, with a neurotic family history, suddenly left home, and when he regained his former mental condition, which was several months afterwards, he found himself at work in a lumber-yard. His hands showed the effects of hard labor. Subsequently, he became an Eddyite lecturer, and he continued at this work until he had trouble with his board of managers. He has since renounced Eddyism and gone back to his original business. A young man in Minnesota suddenly left home. He found himself on a steamer in mid-ocean. Subsequently, he borrowed a large sum of money, which he spent in London, and returned home. He was then sent to a hospital for the insane, where he is still an inmate.

I recall a man coming from Iowa who was supposed to have epilepsy. He suffered from attacks of temporary unconsciousness, which he described as coming on with a peculiar sensation; his head apparently was lifted from the shoulders, and he could watch it as it gradually disappeared. Following this sensation, he had periods of partial consciousness lasting for hours or days. Suddenly his head would appear as a speck in the distance and gradually approach and settle on his shoulders, and then he returned to his normal state. We subsequently discovered that this man was under indictment in Iowa for having made away with a large sum of money, and that he had left town to escape arrest. In some of these cases it is pretty difficult to decide whether the person is suffering from an improperly received and improperly discharged impression, or whether he is an example of a peculiar type of degenerate, and is clever enough to assume these abnormal conditions. Some of these cases are no doubt genuine, while others are open to question.

DR. F. SAVARY PEARCE, Philadelphia—Last year, while investigating the subject of deaf-mutism, I saw a report that a man in Pittsburg who had been deaf for a long time had had his hearing suddenly restored. In order to verify the report, I sent an inquiry to the editor of the *Pennsylvania Medical Journal* (See August, 1900, issue), and was informed that a man, 69 years of age, who since twelve years of age had been a deaf-mute following ear disease; had fallen from a ladder and sustained a slight shock. Shortly after this he began to speak well and intelligently and his hearing was restored in one ear. The question arises whether he had been malingering all these years. Since then I have seen the same case reported in the January, 1901, Number of the *American Annals of the Deaf* by a layman. The man is no longer a deaf-mute. This whole subject again brings up the theory of the possible motile activity of the neurons. Usually an injury forms part of the history of these singular cases, and there is no doubt that injuries frequently cause great disturbance in the nervous system, whether we understand the mechanism of the changes that occur or not. The so-called neuron theory will satisfactorily explain away normal association and co-ordination of nerve force; and certainly offers a beautiful explanation of the phenomena cited to-day, i. e., some forms of amnesia, certain double conscious states, and restored hearing and speech as in the case I mention.

DR. EDWARD E. MAYER, in reply—Many of the cases cited by the gentlemen who took part in the discussion seemed to be

true examples of ambulatory epilepsy or somnambulism, and not, properly speaking, cases of localized amnesia. In my case the length of the period of amnesia, namely, seventeen years, is remarkable, as well as the sudden onset from a severe psychic shock with the sudden return of his original conscious memory. This seventeen years' lapse was in my mind not epileptic. Suggestion was tried upon him in all different ways, with no result in bringing out any details. In answer to Dr. Crothers, I would say that all memory of his previous occupations had been entirely lost.