ON ATTACKS OF LETHARGY AND ON HYPNOTIC SUGGESTION.¹

BY PROFESSOR HITZIG.

ALTHOUGH, on the whole, I am not very fond of casuistics, I beg leave to call attention to a single case of hysteric sleep, which I have successfully treated by the employment of hypnotic suggestion. I do so, not only to submit this method of treatment for criticism, but because the case appeared to me to be not altogether without value on account of its ætiology, the peculiarity of its course, and on account of some observations which were made on the metabolism before, during, and after the sleeping fits.

A labourer, twenty years old, met with an accident in the night of the 11th of July, 1891, working a dredging machine. A bucket became loose and fell on his left arm, and a connecting-rod on the left side of his head. He sustained some considerable wounds of the skin and muscles of the extensor side of the left fore-arm, and some minor cuts on the left side of the head near the middle line. General symptoms were wanting; indeed, he was able to call upon the doctor himself.

He was further treated in a hospital, where the wounds on the head healed in four or five weeks, and those on the arm in about twelve weeks.

About the middle of August, according to the statements of a medical report, at intervals of from two to three weeks: and, according to the statements of the patient, at first every eleventh or twelfth day [subsequently every Tuesday or Wednesday], *states of excitement* began to set in, accompanied by headache and *rise of temperature*, upon which, as soon as the latter had reached 39° C, a *period of sleep* regularly followed. The sleep usually lasted from the evening of one day till noon of the third day, so that the patient slept nearly two days. The increase of temperature, which at the beginning of the attacks was said to reach 39.9°, become later less and less marked, until the temperature during sleep was stated to amount to only 36.3° C.

¹ Read before the Congress of Experimental Psychology, London, 1892.

During the sleep complete amnesia prevailed. During that time the patient never took any food, but during the attack he repeatedly drank, and discharged urine. The nurse, it was said, pressed, for this purpose upon the scar on the arm, whereupon the patient became awake for a few moments, and asked for a drink. Even this, however, he only learned from the lips of others.

After the attack regularly, but only for a short time, great faintness prevails, and a violent headache; after that the patient begins to feel very well, and to take abundant food.

Present State.

The patient, a middle-sized, strongly built and well-fed man, exhibits on the left parietal bone, about 3 cm. from the middle line, some movable scars, which are not painful when pressed. But another spot, of the size of a finger-joint, is painful when pressed, not so much when tapped; it is situated about the breadth of three fingers to the left of the sagittal suture behind the other scars, just midway between the coronal and lambdal sutures.

On the dorsal aspect of the left forearm there is a large red scar, forming an irregular acute angle; transversely it measures 8 cm., and reaches from the medial edge of the ulna obliquely upward to the middle of the radius, its longitudinal portion, 5.5 cm. long, lying above the radius. Across the middle of the fore-arm, corresponding to the scar and below it, there is a deep cavity caused by muscular defect; it deepens when the muscles are contracted, and at the same time the transverse portion of the scar is displaced with the muscles. On the dynamometer, the patient presses 55 kg. with the right hand, 21 kg. with the left.

When the face is not moving, the left naso-labial furrow is much more marked than the right one. When one-sided movement takes place, this difference is also clearly to be seen, and much more so when bilateral movement reaches its maximum. *Sensibility* is altered only near the scars, so that touches with a brush and pin-pricks are felt more painfully about a finger's breadth above them, and about 7 cm. laterally and below. Pressure on the transverse portion of the scar, and on a spot immediately below the middle of it is very painful, and it produces abnormal sensations in the back of the head. All this region is very sensitive to the touch of the shirt, and there is slight left-sided ovarian tenderness.

The knee-jerk is increased, and also produced by a blow on the tuberositas tibiæ.

Other anomalies are wanting.

When I saw the patient, for the first time, on the 15th of February, 1892, I told the assistant physician, with a suggestive intention: "You will see that the patient instantly falls asleep as soon as I look in his eyes." In fact, after I had fixed his eyes for a few seconds, I had put him into the hypnotic sleep. Afterwards hypnotism, easily produced by any means, was usually effected by the humming of a deep tuning-fork.

In his hypnotic state a complete left-sided hemianæsthesia was suggested to him for clinical purposes. Therefore, when I presented him in the *Clinique* on the 24th of February, he was completely anæsthetic all over the left side of his body to all sorts of stimulation, even the strongest induction currents. He had besides lost the sense of smell in his left nostril, and that of taste in the left side of his tongue. His organ of hearing had not been affected, but I suggested to him in a high degree a concentric restriction of his field of view in his left eye, and in not so high a degree in his right one. I succeeded in doing so, first by shrinking in a high degree both fields of vision, and then by widening the right one, as far as I pleased. So he was, on the whole, a specimen of a hemianæsthetic patient, as it is principally known to us by Charcot's classic descriptions.

After the demonstration, I made him fall asleep, and, by a short verbal suggestion, I made the whole hemianæsthesia disappear again before the clinical students.

The hypnotic state was made use of for some other ends besides. First of all, I thought it useful to render *anæsthetic* once for all, the *painful scars* on the arm of the patient. It is well-known since the publication by Pitres that painful spots on different parts of the body may play the part of so-called "points hypnogènes," which I need not explain here more in detail. Though simple stimulation of the scars did not produce any fit of sleep, still a relation between the scar and the fits is made probable, for the patient, who did not react against other stimulation, could be awakened for a short time by pressing the scar. So, for my part, I am of the opinion that scars are much more commonly causes of hysterical than of epileptic attacks. I, therefore, wished to exclude from the sensorium the painful stimulation, which was produced by irritating the scars. I placed my confidence in the effect of anæsthetizing by suggestion; but isolated anæsthetizing of the scars miscarrying, I was obliged to anæsthetize the whole fore-arm. The effect of such a suggestion done but once, lasted for several months; so far completely, that

the patient very soon did not perceive a touch at all, and painful stimulations he only felt as a touch. I do not think it impossible that the diminution and the temporary suppression of the prodromal loss of weight, of which I shall speak further on, is to be explained in the same way.

Hypnotic suggestion was next employed against prodromal headache, partly with complete, partly with, but passing success.

Lastly, I employed it against the fits of sleep. However, before discussing this application of the treatment, I shall describe the course of the fits of sleep themselves.

The patient had finished his last period of sleep out of the clinique, exactly eight days before the setting in of the first fit, which attacked him in the clinique. On the whole, he had seven fits in the clinique; each of them was preceded by a prodromal stage.

Usually, about two days before the setting in of the sleep, the weight of the body began to decrease. At the same time, pain and humming in the head began; the expression of the face, cheerful and open before, became distrustful and irritable; in a similar way, he was mentally changed, and the nearer the fit approached the more his eyes closed, so that one could judge from the patient's eyelids hanging down that a fit was approaching.

The fits of sleep, except the last one, which was stopped, lasted from 34 to 36 hours, once 41 hours. *The intervals* lasted from 7 days and 13 hours to 13 days and 13 hours. *During the fits* the patient usually reclined quietly on his back; sometimes, however, he tossed about. This principally took place after 15 cgrs., churrus (a very active species of *cannabis indica*) had been given to him during his fit. The eye-lids did not quiver. Contractions or convulsions, especially of the masseters, were not present. The eyeballs were directed upward, and when the lids were kept open for a time, slowly moved to and fro. His temperature, pulse, and respiration did not show any considerable changes; the last two only when churrus had been given.

The patient could be awakened by any means, sometimes, by pressing the left ovarian region or the scar; then he asked for water, drank and passed urine, whereupon he at once went to sleep again. Once, on the 2nd of March, he awoke spontaneously and behaved in the same way.

During his sleep, the weight of the body, the volume, the specific gravity and the quantity of nitrogen in the urine decreased. The secretion of phosphoric acid was not examined.

After his sleep, the patient had a more or less violent headache; soon, however, he began, with a good appetite, to eat freely; the weight of his body rapidly increased; in the same way, the volume, the specific gravity, and the nitrogen of the urine increased. The patient then felt very well, worked hard indoors and in the garden, and betrayed no signs of a hysterical character till the prodromata of the new fit began to act.

I said above that the patient once had a long interval of 13 days between his fits. It lasted from the 21st of March till the 3rd of April. It is to be noticed that during this time, *i.e.*, on the 25th of March his usual prodromata took place, and on the 27th of March very free bleeding of the nose occurred. Then he felt as if he had gone through his sleep, and, indeed, between the bleeding of the nose and the sleep, there was the same mean interval as usually took place between two sleeping periods. In this case, evidently, the bleeding which interrupted the regular course of the symptoms took place as an equivalent of the fit. Then I tried suggestively to interrupt this course in different ways, supposing that if this end could be really attained, the fits would be effectually stopped. For this purpose, I hypnotically suggested to the patient several times in the interval that the fits would leave between them a pause longer than usual and would not reappear before a certain day appointed by me. Then I suggested to him during the sleeping fit that the fit would last a shorter time than usual, in fact, till an hour appointed by me. These experiments, however, had no result whatever.

Then I hypnotized the patient on the 26th of April, in the afternoon, during the prodromal stage, when he had a violent headache, and when from his half-closed eyes it might be with certainty supposed that his lethargic sleep would occur that night. Then I suggested to him that I had just put him into a magnetic sleep, that this sleep never passes into his morbid sleep, and that though I had not been able to awake him from his morbid sleep, I should awake him from his present sleep. This would take place on the next day. I should three times clap my hands, the third time he would awake, but not before. In this way he would be cured; he would never again suffer a new fit.

I adopted this process from reasoning that, since experience shows that the effect of suggestion usually (as was, in fact, the case of our patient), decreases on account of other sensations intervening, suggestion ought to have an extraordinary effect, if it were made as near as possible to the impending fit, if it were applied during the hypnotic state, and if by inducing the hypnotic

state external stimuli were excluded, as much as possible during the interval. As a matter of fact the result agreed with this reasoning.

On the 27th of April, 22 hours after the setting in of the hypnotic state, the patient awoke when I clapped my hand for the third time. Since then, that is, during more than three months, he has never had a fit. Nevertheless, the patient is by no means completely cured. His prodromal symptoms described above still occur, but they appear, it is true, in irregular and longer intervals, of from a fortnight to three weeks, and his head-ache is not so intense as before.

These symptoms still usually last two days, as before, and they are accompanied with the former irritability and excitability of his state of mind. The patient says that though he remembers all the events of those days, yet he afterwards fancies that he did everything in a dream. Besides this, the scar and its neighbourhood always becomes sensitive, as soon as I remove the anæsthesia of the fore-arm.

In this case we again draw the conclusion that, by suggestion, we can remove some hysterical symptoms, but that by it alone we are not able to remove the hysteria itself. The patient has been submitted to a therapeutic treatment, but it has so far not proved completely successful.

Now, I desire to call attention to some points of very particular interest. First, as regards the character of these pathological states of sleep, I am of opinion that, from the recent investigation by Charcot and his school, above all by Gilles de la Tourette and Cathelineau, by Lowenfeld and others, there can be no doubt but that they belong to hysteria. Therefore, I do not hesitate to include the fits of our patient among hysteria, though, in this case, not only all the symptoms of hystero-epilepsy were wanting, but also all the other symptoms of hysteria, except the ovarian, the susceptibility of being hypnotized and the possibility of suggestion. From this very reason the case seems to me to claim a greater interest, because differing from the majority of the cases hitherto published. It gives a very clear idea of lethargy occurring in a marked degree, and modified only by our various operations upon it. Further, agreeing as I do with the doctrine of Charcot and his followers, I am inclined to consider the sleeping fit as a part of the hystero-epileptic attack, and in our case, therefore, as an abortive fit. Not only the general impression, the prodromata, the fit and the post-hysterical state strikingly remind us of the analogous states of epi-

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lepsy and hysteria, but, in our case, there is also a certain, though not complete, confirmation in the very peculiar changes of nutrition with those in the fits of *grande hystérie*, which according to the investigations by Gilles de la Tourette and Cathelineau, are identical in the various other phases of the hystero-epileptic fit and the sleeping fits.

In the second place, the ætiology of the disease is full of interest. Without any doubt we have to do here with a functional neurosis of hysteric character caused by a trauma. It is not in the least my intention to enter into the dispute on traumatic neurosis which of late has been so vigorously conducted. Suffice it to say that I have seen a very considerable number of traumatic diseases of the central nervous system of a functional character, and that they may be divided without any difficulty into hypochondriacal, neurasthenic and hysterical forms. The latter, though not so common as the other forms, are not at all rare, considered by themselves. Therefore, I do not regard with approval the view of certain authors who, because they have not observed such cases, or because they did not recognise them, declare the occurrence of hysteria and hypochondria in persons of low extraction, above all in males, and especially after trauma, to be exceptional, and who assert that other authors, who in this respect command a greater experience, have been deceived by dissemblers. The nutritive processes before, during, and after the sleeping periods, seem to me particularly worthy of the attention of scientific men, because their study may be presumed to afford a nearer insight into the changes of the cerebral mechanism occurring in the fits of *grande hystérie*.

The few facts I can impart in this respect differ in some points from the observations of Gilles de la Tourette and Cathelineau. These authors have stated that the nutritive troubles described by them did not begin before the fits set in, and ceased with them. This did not apply in my case. Before and during the first two fits, the patient lost 4 and 3 klg. respectively. I cannot tell how much of the loss is to be put to the account of the prodromal period, because daily weighing was not then made. During the prodromata of the three following fits, however, he lost 2 kg., 750 g., 2 kg. and 1 kgr. Before the sixth fit no loss of weight was to be detected, and before the seventh fit, which was the last, it amounted only to 500 gr.

You will have noticed that these figures, except the last, show a continual decrease, and I once more insist upon the

possibility of the improvement being caused by the diminution of the prodromal headache, perhaps as well by suggestive anæsthetisation of the scar. There is, however, an inverse ratio between the decrease of the weight of the body during the fit and the decrease before the fit; the latter more and more diminishing, the former augmented in the same degree, so that the addition of these two figures always yielded the same weight during the whole of a fit, that is twice 3 kgr. 500 gr. and twice 3 kgr. 250 gr.

Not only the weight of the body, but also the excretion of nitrogen showed considerable changes during the prodromata.

In order to be surer of my ground, I desired Professor von Mering to ascertain the nitrogen, which he did according to Kjeldahl's method. Unfortunately, the results furnished me did not form a complete series, so that I must confine myself to stating them simply. Thus, the secretion of urea increased from 24.6 gr. on the day before the setting in of the prodromata of the fourth fit to 30.21 gr. during the first day of the prodroma, and to 44 gr. during the second. The patient having headache on these days, and therefore certainly not having consumed more food than usual, but having lost considerably in weight, the augmented excretion of urea may with certainty be put to the account of the loss of weight.

Easier to explain is the augmented excretion of nitrogen immediately after the fit, which, in three fits, reached its highest point with 37.95, 33.25, and 30.4 gr. of urea, on the day after the fit, for it has been ascertained that on these days the patient consumed a much larger quantity of food. During his sleep, as has been stated, the secretion of urea diminished, corresponding to the statements of Gilles de la Tourette and Cathelineau. The lowest standard noticed during a complete sleeping day amounted to 5.93 gr.; the patient, at the same time, ate nothing, and sustained a considerable loss of weight. The latter, therefore, may be put (or to a large extent) to the account of the metabolism destroying tissue. The volume of urine generally fluctuated very much, but during the five fits in which it could be measured, it showed, relatively speaking, great regularity. It was diminished, and reduced on the basis of 24 hours, amounted to 1000, 987, 770, 867 and 800 ccm. In the last fit part of the urine was lost.

Of course there was, during the intervals between the fits, an inverse ratio between the specific gravity and the volume of the urine, and it was, therefore, also very fluctuating. But on the complete sleeping days it was very constant, that is, 1017, 1018,

1016 and 1017. On the sleeping day, which had been ushered in by the hypnotic sleep, it amounted to 1020.

I am very far from drawing far-reaching inferences from the few observations which I have given above. I think, however, I am justified in saying that the question of the nutrition during the hysterical sleep is not yet answered by the formula.

“Little metabolism occurs in hysterical persons during the fit”: this formula contains only a part of the whole truth. Finally, since many command a much more extensive store of observations on hysterical persons than myself, I beg to call attention to the mode of cure which I applied. I am far from thinking that persons with inveterate hystero-epileptic fits can be cured by anæsthetizing hysterogenic zones, or by stopping their sleeping fits by means of hypnotising and suggesting at the same time. But since every outbreak of inveterate fits is preceded by a period more favourable to our therapeutic operations, the experiment of leading the disease into another channel during this period, in the manner I have described, seems to me worthy of trial.

Month	SLEEP.		INTERVAL.		Loss of weight during sleep.	Loss of weight before sleep.	Increase of weight after sleep.
	Days.	Duration.	Days.	Duration.			
February.	9th ev. to 11th noon.	40 hours.					
February.	19th 2 p.m. to 21st 8 a.m.	42 hours.	11th noon to 19th 2 p.m.	8 days.		4 kgr.	5.5 kgr.
March.	1st 3 p.m. to 3rd 7½ a.m.	41 hours.	21st Feb. 8 a.m. to 1st March 3 p.m.	9 days 7 hours.		3 kgr.	3.5 kgr.
March.	10th ev. to 12th 8 a.m.	34 hours.	3rd 7½ a.m. to 10th ev.	7 days 14 hours.	0.750 kgr.	2.750 kgr.	5.5 kgr.
March.	19th 9 p.m. to 21st 8 a.m.	35 hours.	12th 8 a.m. to 19th 9 p.m.	7 days 13 hours.	1.5 kgr.	2.0 kgr.	6.0 kgr.
April.	3rd 9 p.m. to 5th 8 a.m.	35 hours.	21st 8 a.m. to 3rd 9 p.m.	13 days 13 hours.	2.250 kgr.	1.0 kgr.	2.5 kgr.
April.	13th 9 p.m. to 15th 9 a.m.	36 hours.	5th 8 a.m. to 13th 9 p.m.	8 days 13 hours.	3.250 kgr.		3.0 kgr.
April.	26th noon.		15th 9 a.m. to 26th.	11 days.	2.0 kgr.	0.5 kgr.	3.750 kgr.