2. *German Retrospect.*

By William W. Ireland, M.D.

On Loss of Consciousness following Cutaneous and Sensory Anæsthesia.

Professor A. Pick, of Prague, has a paper of fifty pages on the so-called muscular consciousness of Duchenne ("Zeitschrift für Psychologie und Physiologie der Sinnes-organe," 8 October, 1892). This seems to consist of a knowledge of the position of the limb and of the force of the muscular contractions expended to produce a designed movement. There must also be in the mind a conception of the designed movement. When through anæsthesia a person is unaware of the position of his limbs, he cannot, without the use of his eyes, ascertain where his limbs were when the movement began, and what point they had reached in a given time. He thus must use his eyes to guide the motions of his limbs. This assistance of the visual sense is generally afforded more or less in all complicated movements, even where the cutaneous and muscular sensibility are intact. The visual and muscular senses act together and support one another. We may execute movements with the aid of the cutaneous and muscular sensibility alone as in the dark, and, on the other hand, we may execute movements guided by sight alone. In 1848 Dr. Duchenne made observations upon three patients in whom there was a complete loss of cutaneous sensibility. He found that, when these patients were hindered from seeing their own limbs, they had lost the capacity for voluntary motion. On the attention being diverted from the execution of the designed movement, even when the eyes were left open, the movements were arrested, or were performed in an embarrassed manner in proportion to the degree of distraction. Such extensive anæsthesia is a rare affection. It sometimes follows severe epileptic attacks, or it may supervene after chronic epilepsy, or alcoholism complicated with fits. Sometimes in addition to the loss of cutaneous sensibility there is the suppression of taste and smell, and concentric narrowing of the field of vision. Sometimes the anæsthesia is confined to one side, or to one region of the body, and in such cases the phenomena of transfer have been observed. It is thus a functional affection occasionally attending hysteria. Drs. Thomsen and Oppenheim have minutely described eighteen cases of sensory anæsthesia occurring amongst lunatics ("Ueber das Vorkommen und die Bedeutung der gemischten sensorisch sensibeln Anæsthesie bei Geisteskranken." "Archiv für Psychiatrie," xv. Band, 2 Heft, und xvii. Band, 2 Heft.)

As we shall see, complete anæsthesia of the cutaneous surface

with sensory deficiency may occur with individuals who are quite sane.

It is curious that some patients affected with anæsthesia should remain capable of executing movements without the association of vision, while others are quite incapable; but this can be easily proved. We can, in fact, arrange a series of cases where the dependence of the patient upon one sense approaches more and more to completeness. Gley and Mariller have described an anæsthetic patient who could execute movements when the eyes were shut, through a species of motor memory, but more slowly and imperfectly than when the movements were seconded by the vision.

On examining the handwriting of anæsthetic patients, in many cases the writing was found unaffected; in others there was more or less disturbance. It appeared that with some patients the impulse to write came through visual images; in others through impressions of muscular sense and touch (Kinæsthetischen Vorstellungen). Binet observed that in some hysterical patients affected with anæsthesia, the closing of the eyes or the privation of light still leaves them in possession of all their motor powers, while in others the motions are rendered slower. In other cases closure of the eyelids produces almost complete motor incapacity, while in others again the suspension of vision brings on a clouding of the memory and of the intellectual faculties in general.

Professor Pick himself describes a case of the kind: a woman of twenty-one years of age, who worked in a sugar manufactory. She was brought to his asylum in a maniacal condition, suffering from hallucinations, aphonia, hystero-epileptic convulsions, and slight hyperæsthesia, which later on passed into complete anæsthesia and analgesia. There was narrowing of the field of vision, so that her hallucinations seemed to be fragments of figures. When she shut her eyes the sense of position was lost. She thought that she was standing when she was really sitting, and when she was only using one arm she thought she was using them both. On this patient Dr. Pick performed a number of thoughtful experiments. He found that sleep could be induced by closing the eyes and ears to external excitations. His paper contains references to analogous cases which have been described in German and French medical literature. Some of these we have studied in the works cited.

In cases of extensive anæsthesia there is a marked tendency on the part of the patient to stagger and fall when the eyes are shut. This, however, does not always happen.

Krukenberg ("Deutsches Archiv für klin. Med.," xlvi. Band, p. 210) describes the case of a sailor forty years old, afflicted with complete cutaneous and sensory anæsthesia. The manner of walking was much affected when the eyes were shut; but there was no falling. This man could be put into the hypnotic state by fixing

the gaze with a glittering object, rubbing of the eyelids, and the suggestion of sleep. The illness ended in death; but no lesion could be found in the brain.

Dr. Schütz showed to the Berlin Society for Psychiatry ("Neurologisches Centralblatt," No. 237, 1883) a patient twenty-three years old, suffering from paranoia with hallucinations, and ideas of persecution and suicide. This man had convulsions of the *recti abdominis* muscles without loss of consciousness. When shown to the Society he had complete anæsthesia of the whole cutaneous surface save the muscles of the right ear, the lips, and the fingers of the right hand. To touch, pain on pricking or pressure, cold, heat, and the interrupted current, he was equally insensible. The muscular sensibility was also gone save in the fingers of the hand in which feeling remained. When asked to execute a movement with shut eyes his limbs remained motionless.

In his "Leçons Cliniques sur l'Hysterie," Pitres remarks, in reference to some cases of anæsthesia of the muscular sense, that the shutting of the eyelids had a disturbing effect on the function of muscles which were not usually under the control of vision. Thus when both eyes were shut, the patient could neither speak nor put out the tongue, nor swallow some water already put into the mouth. When one eye was shut, he could still speak or swallow, but with much difficulty. When both eyes were closed the patient was as it were stunned, unable to comprehend what was said to him.

The case described by Dr. Strümpell ("Deutsches Archiv für klin. Medicin," Band xxii., s. 321) is so often cited that a short *resumé* may here be given. A lad fifteen years old was admitted to the Clinique at Leipzig complaining of giddiness, headache, and other nervous symptoms. A loss of cutaneous sensibility was soon noted, which in about three months progressed into complete anæsthesia. The patient was insensible to painful impressions, to cold, and to heat. Weights of from 15 to 20 lbs. laid on the arm were not felt, and a powerful faradic current could be passed through the limbs or body without the patient feeling anything. The conjunctivæ and the mucous membrane of the nose and throat were equally insensible. The senses of smell and taste were also wanting, and he neither felt hunger nor thirst. The lad had lost the sight of the left eye and the hearing of the right ear. Thus the right eye and the left ear were the only sensory organs remaining in function. When food was put into the patient's mouth he did not feel it, but he could voluntarily carry on the action of chewing, and he had a sensation which let him know that the action of swallowing was accomplished. The muscular system was weaker than formerly; but there was no paralysis save in the *extensor digitorum* of the right arm. The gait was peculiar and irregular, but could not be called ataxic, as in tabes.

The intelligence was diminished. By degrees the anæsthesia became less marked, when the intelligence was observed to improve.

On Dr. Strümpell starting the question, what he would do if the power of vision were cut off, the youth answered, "If I cannot see, I am nothing." The experiment was tried. The right eye was bound up, and the ear stuffed with wax. He uttered exclamations of wonder, and tried, by striking with the hand, to arouse impressions of hearing. In two or three minutes he fell fast asleep, the pulse and respiration being quieter. The sleep continued after the bandage was removed from the eye, and, under favourable conditions, might last for some hours. He could only be wakened by sounds in the ear, or a light flashed on the eye, or similar excitations. Dr. Strümpell considers that this condition resembles ordinary sleep. He is inclined to believe that the waking state can only be sustained by the stimulus of outward impressions, conducted to the brain by the peripheral nerves. He observes that there was no anæmia of the brain to be detected, assigning as reasons for so thinking that the pulse became harder when the patient was put into a cold bath, and that the redness of the skin after stimulation took as in a healthy person.

Dr. Gilbert Ballet ("Le Progrès Medical," 25 Juin, 1892) had under observation for about four years a similar case. His age was thirty-six. He had a neurotic heredity. The exciting cause was a fall from a rock into the sea. After this there were symptoms of neurasthenia and exophthalmic goitre. The thyroid was enlarged. There was trembling, and the pulse was from 120 to 160 in the minute. He had previously suffered from hysteria. There was anæsthesia, absolute in degree and completely covering all the skin and all the accessible mucous surfaces. Neither by touching, pinching, pricking, nor burning could the least sensation be excited. Though the patient could feel hunger, food was swallowed without any sensation. The muscular sense was entirely abolished on both sides of the body. He had no consciousness of the movements of his limbs and of the position in which they were. He was obliged to look at his arm or his leg to know where they were. Taste and smell were completely suppressed, and the sense of hearing notably diminished. There was a double concentric narrowing of the field of vision, especially of the left eye. His perceptions of the outer world only came through the senses of sight and hearing. Thus visual images played the principal part in his perceptions He had often hallucinations, such as that he was in a forest surrounded by animals and armed men. As there was no way of comparing these appearances with his other senses, especially touch, he could not resist believing these hallucinations. "When I am with you," said he to the doctor, "I see well that all that is false, but, when I am alone, I believe in my nightmare and my dream." Dr. Ballet found the patient to yield gradually to suggestions like a hypnotized person.

I introduce, he goes on, a little wadding into the ears in a manner to close them as completely as possible. Nothing is yet changed in the attitude and the physiognomy of the patient. Then I lower the eyelids, and immediately the situation is quite changed. Aim sinks down. He is extended on the floor like an inert mass. I raise his limbs, they fall back a dead weight. When I take away the wadding which shuts the ears, the patient does not appear to hear any longer. It seems as if the little auditory sensibility which remained had been extinguished by shutting the eyes. In this case the waking state was promptly succeeded by the sleeping or lethargic condition. The rapidity of the pulse and the number of inspirations diminished. He found that this condition could be brought about by putting something in front of the eyes as well as by closing the eyelids. The patient could be awaked by opening the eyelids, when he rose and looked round in a confused manner, asking what had happened, for he professed to have no remembrance of this phase of his being.

M. Ballet discusses at length whether this condition was one of hypnotic lethargy or of sleep. He thinks that Aim's condition is rather a form of hypnotic sleep, from the intermittent contractions of the *orbicularis palpebrarum*, and from the resistance of the muscles of the jaw. By some cleverly devised experiments, he made out that the patient could be made to perform actions suggested while he was yet awake, and even that he could receive suggestions while in the lethargic condition. This, however, leads into subtleties for which we have at present no space. Even when it is granted that this singular condition resembles the hypnotic rather than the sleeping state, there is much that is mysterious and unexplained.

At the end of his paper, Dr. Pick cites a case reported by Liégeois, in which this strange species of insensibility and apparent loss of consciousness was induced by closing the ears, instead of shutting the eyelids. Dr. T. Grainger Stewart has allowed me to examine a patient, whom he has repeatedly shown to his clinical class and also to several medical societies. This woman had lost the sense of smell and the sight of the left eye through basal meningitis. There were evident traces of paralysis of one leg, but no general anæsthesia. Her hearing was good, and her intelligence did not seem to have suffered ; but on closing the seeing eye, or on interposing some object between the eye and the light, she promptly fell into a condition of unconsciousness, which was ushered in by a loud snoring, and passed away in less than a minute, with a blowing through the half-closed lips.

This woman has been the subject of careful observation and experiments. She has recently died. The case will be published at length when the microscopic examination of the brain is completed. No doubt the observations and comments of the

learned professor will throw some light upon this obscure, though interesting field of inquiry.

Depth of Sleep.

Edward Michelson (Dis. Dorpat, 1891, quoted in "Allgemeine Zeitschrift," xlviii. Band, 5 Heft) has studied the depth of sleep at different times. For the first quarter-of-an-hour the sleep is not deep; then the torpor increases and reaches its maximum after three-quarters-of-an-hour. This lasts for half-an-hour and then diminishes. After two hours the depth of the sleep is diminished, and continues in about the same degree of intensity for five hours longer.

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3. *Retrospect of Criminal Anthropology.*

By Havelock Ellis.

A Museum of Psychiatry and Criminology.

The deeply interesting and instructive Museum of Criminal Anthropology, founded by Lacassagne in the noble university on the banks of the Rhone, is well known to all medical visitors to Lyons. It is now proposed by the Faculty of Medicine at Turin to establish a museum somewhat similar in character, though of wider scope, at the university with which Lombroso has so long been connected. All the material, so far as it can be collected, for the study of the causes, symptoms, and therapeutics of insanity and criminality will here be brought together. The medical man, the lawyer, and the philosopher will be able to examine the "palimpsests" of the asylum and the prison, the data concerning the ætiology of crime and mental perturbations, the geography of crime, etc., and the skeletons and brains of the insane and criminal will demonstrate the close connection between mental aberrations and corporal abnormalities. Such a museum must form a most valuable source of instruction in psychiatry, and it is to be hoped that the initiative of France and Italy may before long be followed in England. I may add that a Museum of Psychology—not of morbid psychology especially—was founded a few years since at Florence by Professor Mantegazza.

Lombroso and the Natural History of the Criminal.

Dr. H. Kurella, the well-known editor of the "Centralblatt für Nervenheilkunde," has just published, as one of Virchow's "Sammlung gemeinverständlicher wissenschaftlicher Vorträge," a pamphlet which is perhaps the most judicial statement in brief compass of the position of criminal anthropology which has yet appeared ("Cesare Lombroso und die Naturgeschichte des Ver-