nomonic, and the clinical picture, which we possess, is not sufficiently definite to warrant us in regarding the affection as a disease by itself. After a personal experience with sixty-eight cases, and after a perusal of the literature, I must still regard it as belonging to the category of hysteria, an opinion which is not shaken by the fact that Schmaus has described as following spinal concussion anatomical changes consisting in a necrosis of the axis cylinders, which often occurred long after the trauma (Schmaus, Münchener med. Wochenschr., 1890, 28; also Arch. f. klin. Chir., 1891, xlii, Heft 1). In all cases of hysteria, particularly in the neurosis produced by fright, we can scarcely be cautious enough in our prognosis. It is always very uncertain so far as complete recovery is concerned, especially in individuals who are badly endowed psychically, in cases with a bad heredity, and in alcoholics. It may also be said that the harder the former occupation of the patient the worse, *cæteris paribus*, is the prognosis.

With regard to the very important and difficult practical questions we may with Römer (Irrenfreund, 1889, xxi, 9, 10) mention the following: 1. Is the disease the consequence or the exclusive consequence of the accident? 2. Is it curable, and, if so, in what time? 3. Will the patient be completely or partially incapacitated? The discussion of such questions can not here be entered upon; the general points of view from which they can be answered will be found, however, in what has been said above.

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The symptoms that appear after a person has been struck by lightning sometimes resemble the array of symptoms observed in traumatic neuroses. Paralyses in the nerves of special sense, and motor and sensory paralyses, appear and last for a shorter or longer time. In the spring of 1889, when thunderstorms were so frequent, I had the opportunity of examining a man who, as a consequence of being struck by lightning, on recovering consciousness after three quarters of an hour, presented loss of the power of sight and smell on the side on which the lightning had entered and left the body, while on the same side hearing was diminished, and there was total anæsthesia. These symptoms were associated with an obstinate insomnia. By hypnotism, frequently repeated, we were enabled to lessen this insomnia, and under the use of the galvanic current and the faradic brush the hemianæsthesia disappeared.

The nerves of special sense implicated became fully normal after a month's treatment. In this case motor disturbances were never seen. According to the investigations of Limbeck (Prager med. Wochenschr., 1891, 13), we have to distinguish between direct and direct paralyses due to lightning; he regards only the former as due to an action upon the nervous system, and has observed that the sensory paralysis disappears sooner than the motor. For further symptoms in such cases and for the post-mortem conditions found after death by lightning, we would refer the reader to Schmitz's article in the Deutsche Med.-Ztg., 1887, 73, 74, in which further references on the subject may be found.

Treatment.—The treatment of hysteria is always a very tedious matter, and for the physician sometimes the most tiresome and thankless task imaginable, and one to which he should only devote himself if he be assured of the implicit confidence of his patient, so far as this is possible in the case of hysterical individuals. This confidence is indispensable because the treatment of the disease does not consist in the main in the administration of drugs in a routine fashion—valerian, asafœtida, castoreum, and the nervines—but must depend more upon the psychical influence by which we endeavor to diminish the abnormal sensitiveness of the patient to external and internal stimuli, to arouse her energy, and to strengthen her will power. This is, we admit, much more easily said than done, and we shall often have to confess that the patient's views about her trouble have not changed in the least, that she is as irritable as ever, that her moodiness and capriciousness are in no way improved in spite of all our lectures—in a word, that we have obtained no positive result after "preaching reason" for hours. Still, we must not allow ourselves to become discouraged, but ever again and again renew our efforts to obtain the desired end.

If we clearly see that these are fruitless, and especially if we are convinced, as is often the case, that the family, far from assisting the physician, are virtually acting against him during his absence, we must impress upon them the necessity of removing the patient to some institution. French physicians lay the greatest stress upon isolation in such cases, and are inclined to attribute the relatively favorable results of their treatment to this factor. In this country people are not so easily persuaded to agree to this procedure as in Paris, where in the city itself or in the suburbs there are various admirably conducted institutions which receive only hysterical patients. With us, therefore, home treatment ought first to be tried. In France this is usually discarded from the first. It is a different matter, of course, if we have to deal not with a mild degree of hysteria, but with hystero-epilepsy and major attacks. Then a transference to an institution, as soon as practicable, ought to be urged.

The bodily treatment may be either general (that is, directed to the nutrition, to the condition of the blood, and the strength of the patient) or symptomatic (that is, intended to relieve the troubles of the patient as they arise). In the treatment of contractures we should never make use of plaster-of-Paris bandages (Charcot).

With reference to the nutrition, it was Weir Mitchell and Playfair who first recommended absolute rest in bed, with massage, electricity, and copious feeding. Their patients were forced to take considerable quantities of milk, meat, bread, etc., and it was found that with the increase of the body weight the hysterical symptoms and attacks diminished. Of late years good results have been obtained from this practice by Binswanger (Allgem. Zeitschr. f. Psych., 1883, xl, 4), and the communications of Leyden (Berl. klin. Wochenschr., 1886, xxiii, 16) and Burkart (ibid., 1886, 16) should encourage us to further trials with this method, although as far as my own experience goes the results have by no means always been brilliant. The cases in which the excessive ingestion of food was badly borne and led to a disagreeable gastric catarrh were by no means uncommon, and even where the food was well assimilated the desired results were not always obtained (cf. also Gilles de la Tourette et Chatelineau, La nutrition dans l'hystérie, Progrès méd., 1888, viii, 48; 1889, ix, 18, 19, 31). That much attention has to be paid to the nutrition there can be no question, and the increase in the body weight usually can be regarded as a favorable indication. To attain this, however, in many cases, not absolute rest, but, on the contrary, systematic muscular exercise is needed. Well-regulated home gymnastics, undertaken according to definite principles (Schreber, Angerstein, and Eckler), are to be preferred and will be often found an excellent means of combating the distressing insomnia.

In certain cases, to be selected of course, with care, general

faradization as recommended by Beard and Rockwell is of great service. The patient for this purpose is placed upon a stool with his bare feet upon a moist large electrode, which is connected with the negative pole of the secondary coil. With the anode, which consists of a large sponge electrode, all parts of the body are treated in succession. Instead of the moist we may avail ourselves of a dry electrode in the form of a soft brush. The pain which is caused by the latter method is, at least with strong currents, quite considerable; nevertheless, the method deserves warm recommendation in certain hysterical affections and especially in joint neuralgias.

About the influence and the value of static electricity as a therapeutic agent our experience is not sufficient to warrant any definite conclusions. It is not easy to judge of the usefulness of the treatment, as it is usually combined with other measures, the therapeutic significance of which must not be left out of consideration. Whether the action of static electricity differs essentially from that of the faradic and galvanic current, and, if so, in what this difference consists and under what circumstances the one or the other is indicated, we are not as yet in a position to say. Clemens has used it with good results in cases of hysterical aphonia by applying one pole with condensers directly over the muscular branches of the accessorius as spark-producing electrode (Therap. Monatshefte, 1890, iv, Heft 8, p. 402).

It is rare that we treat a case of grave hysteria without at one time or another during the course of the disease being obliged to resort to massage—for one thing, because the patient desires as much variety as possible; but at the same time we must not overlook the fact that by its use many of the patient's troubles are considerably relieved. This is not the place to enter into the minute details of this method of treatment. They may be found in the writings of Schreber, Reibmayr, Zabludowski, and others.

The cold-water treatment is indicated where we desire to harden the constitution against external influences, changes of temperature, etc. We should be very careful, however, in employing low temperatures, and the water with which the patient is sponged or in which hip baths and the like are taken ought to be at least 80° F. For the use of ice-cold douches, in the way recommended by the French, certain facilities are requisite. The pressure of the water should be very great and

the duration of the bath should be so short (from ten to fifteen seconds) that the patient has not time to become aware how cold the water really is. I have watched this practice repeatedly in some of the well-known hydrotherapeutic establishments of Paris, and have had occasion to notice the immediate beneficial effects following the application. The lasting results, as Charcot and others are quite convinced, are so marked that (in Paris) cold douches are considered to be indispensable in the treatment of hysteria. It would be a very desirable thing if the necessary arrangements for this treatment could be introduced into our hydrotherapeutic institutions. The ordinary shower bath, which comes down upon the patient just about like rain, is, of course, not sufficient. In the treatment of some of the particularly distressing symptoms it is, of course, in the first place the paroxysms which deserve our attention, because they, more than any other of the hysterical phenomena, are liable to render home treatment almost impossible. We may sometimes be able to cut short an attack by steady pressure with the hand over the ovaries continued for some time, but this can be better accomplished by allowing the patient to inhale a little chloroform. To guard against a repetition of the attacks we have no reliable means, yet cool prolonged baths with affusions of colder water deserve a thorough trial. If these do not seem to be beneficial, and if the patient complains, before the onset of every attack, of pains in the ovarian region, and if we, moreover, can succeed in bringing about an attack by pressure over the (tender) ovaries, the question of oöphorectomy has to be considered. The family relations, especially the sterility which naturally follows the operation, have to be taken into consideration, nor should we forget that the operation has often by no means been followed by the desired effect, although the fact that it frequently exerts a favorable influence, as Hegar and Schröder have seen, can not be questioned. Whether the ovaries are actually diseased or not is altogether of minor importance. It is the presence of pain immediately before or after the attack in the region of these organs which should suggest an operative interference. Cauterization of the clitoris, advised by Friedreich, is a procedure which should only be resorted to in the most exceptional cases. In all instances the sexual organs ought to be carefully examined, and small operations, such as dilatation of the cervical canal, reposition of the uterus when in a position of flexion or version, if

indicated, should be undertaken. Vaginismus, if it exists, should also be treated.

The motor and sensory disturbances have to be met in the manner indicated above. In cases where we suspect malingering or willful exaggeration, procedures which are disagreeable or even painful are to be preferred—for instance, the cold baths, the faradic brush, the actual cautery, etc. The more minute details of the treatment must be left to the personal tact of the physician, whose capability of individualization, of treating every case by and for itself, should make it unnecessary for us to enlarge upon all the principal phases of this disease. With regard to the internal medication, let it suffice to warn against the use of narcotics, especially morphine, which can not be given in a disease of such long duration in effectual doses without creating the habit.

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CHAPTER III.

EPILEPSY—FALLING SICKNESS—MORBUS SACER—MORBUS COMITIALIS.

THE term epilepsy is often misused, inasmuch as it is applied not only to the genuine classical epilepsy, but also to many conditions, characterized by convulsive attacks, in which on careful examination we can detect various other abnormities, and which, unlike genuine epilepsy, have a tangible cause. If a person in consequence of traumatism, of fright, of peripheral irritation (pressure upon a sensitive scar), or in consequence of cerebral syphilis, etc., becomes "epileptic"—that is to say, suffers from convulsions with or without loss of consciousness—these convulsions clinically may resemble very closely those of genuine epilepsy, but pathologically as well as genetically the two conditions are entirely different.

For all such cases the term "epilepsy" is unjustifiable. Traumatic epilepsy, fright epilepsy, and reflex epilepsy are not genuine epilepsy. The difference is still greater between the so-called Jacksonian and the genuine epilepsy. In Jacksonian epilepsy the convulsive attacks depend upon a disease of a portion of the cortex. Hence the term "cortical epilepsy" is also applied to this condition (cf. p. 186).

The genuine epilepsy is a general neurosis, and we do not know that it ever produces a permanent anatomical alteration in the brain, and that the changes are not rather molecular in character, appearing from time to time in the brain, most probably in the brain cortex, and leading to the "epileptic attack" and then disappearing again. About the *rôle* of auto-intoxication we shall speak later.

Ætiology.—We are not acquainted with any essential cause for classical epilepsy. Physicians with a large experience have often enough occasion to see genuine epilepsy develop without there being any appreciable etiological factor.