

cidental, for, in the more recent text-books, this disproportion is not alluded to.

The state of the constitution seems to possess no influence in this disease, for most of the children attacked by paralysis have enjoyed good health, and have flourished well up to the time of the attack. While scrofulous children are sometimes its victims, there is, nevertheless, no conclusive evidence that the very common scrofulous cachexia furnishes any special predisposition to the disease. The only tolerably constant occurrence in it is congestion of the brain, and disposition to constipation during dentition. In some of the more recent works it is stated, with especial emphasis, that exposure to cold is the most frequent exciting cause; but a single case, however, is cited, in support of this statement, namely, that of a child which sat upon a cold stone, and thereupon contracted a paralysis of one of the lower extremities. The many hundred other children, especially those belonging to the lower classes, who habitually sit upon cold stones, and yet escape the disease, furnish evidence which weakens this theory as to the exciting cause of the disease.

**Therapeutics.**—The antiphlogistic treatment, local abstraction of blood, calomel, etc., has, as in almost all diseases, also been employed in this paralysis, but without better results than those obtained from the expectant treatment. The same may be said of purgatives, and, in fact, of all the other remedies recommended in its treatment. Many of these have been enthusiastically praised, because most essential paralyzes disappear after one or several weeks, whatever agents have been employed. But, as to a specific effect of the remedies recommended, it is futile to speak, for there are many cases of essential paralysis, as to the diagnosis of which there is no doubt whatever, and yet resist all methods of treatment, even that with electricity.

The most rational and the *simplest* treatment for the first few weeks of the paralysis seems to be the daily employment of the cold douche, afterward wrapping up of the limb warmly, passive motion, and spirituous frictions. Most essential paralyzes are easily cured by these means. If, after four weeks, no improvement is effected, then it is time to obviate, by induced electricity, applied daily for ten minutes, the consecutive atrophy of the muscles.

If, after several weeks more, no improvement is realized, the internal use of sulphate of strychnia,  $\frac{1}{16}$  to  $\frac{1}{4}$  gr. pro die, may be resorted to. This preparation is much preferable to nux vomica, on account of the variable quantity of strychnine the latter contains. The utmost caution should be employed in the use of this remedy; the relatives should be informed of its toxic action, and precautionary measures should be adopted in case sudden violent tetanic attacks happen to

come on. The best means for this purpose is to dash some cold water on the body, and to administer strong coffee.

Deformed extremities must be restored to their normal shape by orthopædic treatment, and, for the incurable paralysis, mechanical orthopædia, with its numerous ingenious apparatus, may likewise be advantageously resorted to.

(3.) CHOREA MINOR. THE LITTLE OR ENGLISH ST. VITUS'S DANCE, MUSCULAR JACTITATION. INVOLUNTARY MOVEMENTS OF THE MUSCLES. BALLISMUS, SCELOTYRBE.—The best description of the little St. Vitus's dance is given by *Hasse*, in his Diseases of the Nervous System, in *Virchow's Pathology and Therapeutics*, and which also forms the basis of the following characteristic description.

By *chorea minor* we understand a constant involuntary movement of almost all the voluntary muscles, which increases in severity when the movements are being directed by the will, and ceases only with the total abolition of consciousness; for example, in sleep. This definition sufficiently distinguishes St. Vitus's dance from the other conditions which were formerly spoken of in connection with it, such as the great St. Vitus's dance, the dancing mania, the imitatory popular diseases, and the tarantula disease.

**Symptoms.**—The constant involuntary jactitations are seen either in all the voluntary muscles of the body or in some portions only. They may be seen in the upper moiety of the body, or confined to one side; in one arm, and the corresponding leg, giving rise to the dance-like movements in those limbs. In very rare instances one arm and the opposite leg are affected by this muscular restlessness. Nor are all the extremities always implicated in a uniform manner, for, while one arm is not at rest for a single moment, twitching incessantly, the other may be at rest for several minutes, and, indeed, only be affected by slight, barely-perceptible muscular tremors. The same inequality of the affection is also observed in the lower extremities. The muscles of the face may possibly be wholly spared, while those of the lower extremities are in an incessant state of jactitation.

Now, as regards the single twitchings, those on the upper extremities, as a rule, are the most noticeable. The most peculiar distortions and tremors are observed in the arms; the shoulders are drawn high upward, as if the patient were trying to scratch himself; the fingers are sometimes closed, and then again extended, or they are incessantly employed in pulling at the garments. The feet are not at rest for a single instant, and an incessant stamping is produced by the different involuntary contractions. When the patient lies down, the toes spread out, and contractions also take place at the knee-joint. The gait becomes unsteady and uncertain, and, in extreme cases of the

affection, walking becomes altogether impossible. When one limb is more severely affected than the other, it produces limping. The most singular movements take place about the head. It is twisted, shaken, sometimes spasmodically drawn to one side, and then again to the other. The contractions of the facial muscles produce the most wonderful contortions which may even degenerate into the severest caricature-like grimaces. The eyes glare, or temporary strabismus comes on, and the eyelids usually blink incessantly.

The muscles of mastication and deglutition also become affected by the restlessness, and during mastication the patients bite the tongue or mucous membrane of the cheek. Even gnashing of the teeth, when the mouth is empty, occurs. Deglutition is not always performed according to the will, nor are the movements of the tongue. Hence these children stutter, stop in a middle of a sentence, and often bite their tongue in the attempt to speak. The body is turned about and twisted in every direction. The respiratory muscles, however, do not noticeably participate in the jactitation, at least the inspirations are not executed irregularly.

The immediate effect of this condition is of course a constant interference with the voluntary movements, which react and cause a visible aggravation of the convulsive affection. The patients are unable to eat properly, are attacked by twitchings while in the act of carrying the food to the mouth, they bespatter themselves with fluids, and prick themselves in the face, if imprudently a fork has been allowed them. While in the act of writing, they will suddenly make long hooks, and crooks in the letters, or thrust the pen so violently upward as to pierce through several pages of the copy-book. When they attempt to undress themselves, such violent tremors result, in consequence of the greater voluntary movements necessary for that purpose, that the clothes are torn. When they are commanded to stand quietly, the very effort to comply only renders the stamping still greater. If ordered to protrude the tongue, that organ will be rolled out of the mouth with the most peculiar shiftings and twistings, and can in no case be kept quietly protruded for any length of time.

When an attempt is made to hold the affected part firmly, the restlessness becomes still more aggravated than when a voluntary movement is undertaken. A permanent aggravation of the whole affection may even be produced thereby.

The sensibility of the skin is not diminished in chorea, and the ordinary reflex movements may be induced by the various cutaneous stimuli, such as pricking, burning, etc. Also sneezing and gaping are executed without any hinderance, nor does the disease seem to exercise the least influence upon the evacuation of the bowels or

bladder. It is worthy of remark, and a curious fact, that these children, even in the severest cases, where they are the whole day through in a constant state of agitation, never complain of fatigue, the contractions being as severe in the evening; often, indeed, they even become stronger. No constant signs of any disease in the nervous centres can be detected in this affection. Nor has the symptom advanced by *Siebel*, of pressure along the vertebral column almost always producing pain, been confirmed by other observers.

The disposition of the mind in choreic patients often undergoes a change. They are much inclined to weep, and become choleric; previously well-disposed and kind children become petulant and malicious. If the disease is protracted for a long time, the memory will also become somewhat impaired. Numerous and noticeable as the symptoms are when the child is awake, in sleep they almost disappear. In the evening when the patients become tired and lie down, the jactitations gradually subside, and cease completely as soon as consciousness is gone. The sleep is usually less tranquil than in healthy children, and even some slight choreic movements are made during dreams, but, with the awaking, all the symptoms come on again with their former severity.

Chorea is not attended by fever, and runs its course without any visible disturbances of the general system; on the contrary, it has even been observed that the muscular twitchings became markedly feebler during the course of an intercurrent acute affection, for instance, an acute exanthema, and, in that case, are quickly followed by a permanent improvement, and a complete recovery. The pulse, in simple chorea, is neither irregular nor accelerated; the contradictory statements of some authors are probably due to the difficulty of securing the radial artery, owing to the constant jerking of the tendons. But, if the heart is carefully auscultated, it will be conclusively seen that the rhythm and frequency of the cardiac contractions are always normal.

When the disease lasts for some time, the nutrition will now and then suffer materially, the children become pale and lean, and, in older girls particularly, anæmic cardiac murmurs and chlorotic symptoms generally manifest themselves.

Its course is always chronic, and a tolerably well-developed chorea is scarcely ever cured in less than two or three months, others last half, and even a whole year; indeed, *Romberg* relates the case of an old woman seventy-six years of age, who suffered from chorea seventy years, was still living, and would undoubtedly take it with her to her grave.

Chorea has also been divided into stages, such as (1), the stadium

of premonition; (2), of aggravation; (3), of the climax; and (4), of subsidence. But divisions into stages, in diseases where the transitions are so gradual, and are not ushered in by any marked symptoms, have but little value. The invasion of the disease is gradual in all cases. The subjects noticeably become awkward, drop every thing, break almost every thing that is given them, often stumble, and become anxious and intimidated in consequence of the injuries which they suffer as the result. Generally, the first involuntary movements take place after some mental excitement, such as fright, fear, anger, etc. At first they are seen in some small groups of muscles, but subsequently, and more or less rapidly, become general, so that in two or three weeks the disease has attained its climax. From that time the symptoms remain stationary for at least four to six weeks, without undergoing any exacerbation or amelioration. Finally, an almost imperceptible improvement ensues. Relapses, however, are of frequent occurrence. *See* observed them thirty-seven times in one hundred and fifty-eight cases. In the end, however, a complete recovery generally takes place. An exceptional case may sometimes occur, in which a twitching of individual groups of muscles, especially of the face, remains for years, or through life. *Wicke* and *Leudet* also describe some fatal attacks. The disease, in those cases, rapidly assumed a form of the utmost gravity, coma came on, attended by the involuntary passage of the stools and urine, soon followed by collapse, irregular respirations, small pulse, and death.

**Etiology.**—Chorea is almost exclusively a disease of childhood, and, when adults suffer from it, it will be found that they acquired it during their youth. Most frequently it attacks children between the sixth and sixteenth years, owing to which, its origin has sometimes been sought for in the second dentition, and then again in the prospective puberty. Although these processes may also furnish a disposition to chorea, still their connection with it is not a very intimate one, for, it very frequently disappears without a molar tooth having been cut through, or menstruation having made its appearance.

Chorea is one of the few diseases which attack the sexes in unequal numbers. According to a compilation by *Duffossé*, seventy-nine out of two hundred and fifty patients were males, and one hundred and sixty-one females, and *See* maintains that the ratio of cases of the disease among boys, as compared with girls, is as one-third to two-thirds. Here, in Munich, this disproportion seems to be still greater, for, among eleven chorea patients which I noted in my diary, I find only one boy affected.

No special inheritance exists here, and it happens only exceptionally that the child, of a mother affected during her youth with chorea,

is attacked by it. On the other hand, however, the fact is not to be ignored, that most of the mothers of such children have an irritable nervous disposition, and suffer from the most varying forms of hysteria. Preceding febrile diseases likewise predispose one to chorea.

No distinct influence of the season of the year can be perceived in this country, while chorea very seldom occurs in the tropics; in the northern latitudes, on the contrary, it is said to be more frequent. Whether it may also be epidemic, as is claimed by some of the investigators of medical history, is still not satisfactorily established. Those so-called epidemics are probably referable to simple imitation. That chorea may originate in girls' boarding-schools, as the result of mimicry, is vouched for by many reliable observers, and instances of that nature have recently occurred in a Tyrolean village, and in a *pensionnat* at Eisenach.

We find an analogy for this circumstance in the origin of hysteric spasms, by merely seeing a person suffering from such convulsions, as is often observed in the female sections of large hospitals.

Fright, in particular, is often accused of being a psychical cause. It may, no doubt, hasten the outbreak of chorea in a child commencing to suffer from it; but if fright is really capable of producing it in one who is healthy in all other respects, then we ought to have many more choreic patients, for there are many timid children who, by the slightest cause, are greatly frightened.

*See* lays great stress upon the connection between chorea and rheumatism, discovered by himself. This connection, however, seems to be a very loose one indeed; for, although it must be acknowledged that chorea may succeed to acute rheumatism, still the frequency of the occurrence has been very much over-estimated. In cities where much rheumatic sickness occurs, chorea ought to abound, and *vice versa*, but it is not so. In Geneva, for example, according to *Rilliet's* statement, there is a great deal of rheumatism and hardly any St. Vitus's dance. Moreover, if there were any actual connection between them, then more girls than boys ought to suffer from rheumatism; for it is well known that the former are predominantly subject to chorea. Just the reverse happens to be the case in rheumatism, which notoriously attacks more boys than girls.

Pathological anatomy furnishes totally negative results in this disease, which may, in part, be due to the rarity of fatal attacks. *Froriep* found the odontoid process of the axis thickened in two cases, and describes it as a simple hypertrophy of its osseous substance. They are, on the whole, too solitary instances for any definite conclusions to be drawn from them. In fact, the true cause of chorea has not yet been fathomed, notwithstanding the numerous theories ad-

vanced by *Siebel*, sen. and jun.; also the connection with worms, upon which great stress was formerly laid, in reality does not exist, for otherwise chorea would probably be more frequent in worm regions, and be cured by anthelmintics, which, however, is not the case.

**Diagnosis and Prognosis.**—The disease is usually so easily recognized, that even every layman who has once seen it knows it again at a glance. It distinguishes itself by the uninterrupted and protracted duration of the symptoms, which last for many weeks, from all other convulsions that have been embraced under the not very appropriate denomination of chorea-like affections. To the latter belong stuttering, blinking, contractions of the angles of the mouth, the so-called weaver's and writer's cramp, over which, collectively, the will has some, although very little, influence. Besides, these affections occur only paroxysmally, or at the most diurnally, and are by no means as continuous as chorea. The disease described by *Dubini* under the inappropriate name of *chorea electrica* may be easily distinguished from chorea by the fact that, in this condition, according to *Hasse*, there are headache and pains in the back, followed by electric twitchings of the lower extremities, at first confined to one side, but soon extending over the whole body; general convulsions, with perspirations and fever, now supervene, and the patient dies paralytic in a few weeks.

The prognosis in the great majority of cases may be set down as favorable, and that in three, or at the most six months, most of the children under a treatment that is at all rational will recover completely. That kind of chorea which, according to some authors, runs into epilepsy and imbecility, depends, in fact, upon organic disease of the nervous centres, and consequently ought not to be classed with pure St. Vitus's dance.

Relapses are not of rare occurrence; I have had two children placed under my care, who had completely recovered, were entirely free from muscular twitchings for several months, and were again attacked by a tedious chorea. A most decided disposition to neuralgia of all kinds remained behind in these children. It is a remarkable fact that the cure in boys, according to statistical compilations, takes place much slower than in girls; in the former the treatment lasting seventy-four to eighty-one days, in the latter only thirty-three to thirty-seven days. The latter averages seems to me to have been put rather too low.

**Therapeutics.**—The main reason why a treatment directed to the cause can hardly ever be practised is, because the true cause of the disease has not yet been fathomed, as has already been shown. In this respect we should pay attention to the condition of the patient's

residence, to the evacuation of worms, onanism, menstruation, and rheumatic complications.

Its treatment, with the countless number of remedies that have been recommended, can only, then, be properly appreciated when we bear in mind the spontaneous recovery from chorea. Indeed, a cure is often accomplished in a few weeks, or, at the most, months, with almost any remedy, however absurd, but not intensely toxic. This superabundance of remedies is only found in two classes of diseases and which are diametrically opposite in their terminations, namely, in those which recover spontaneously, and in those that are almost certainly incurable. Epilepsy may be taken as a prototype of the latter.

Abstractions of blood were considered appropriate when the disease occurred with vascular excitement in robust subjects, and *Sydenham* was brought forward as an authority for this practice. It seems to me, however, that every antiphlogistic measure is totally useless, if not actually injurious, for the vascular excitement alluded to is not in the least critical; and an anæmic condition, when the disease lasts for a long time, supervenes spontaneously, which condition is only accelerated by the previous abstractions of blood. Counter-irritants applied to the nape and spinal column, among which ointments of tartar emetic and sublimat., vesicants, and croton-oil, hold a high place, are useless tortures, and leave upon the poor patients permanently disfiguring cicatrices, which may, in future years, mar their attractions and mortify their pride.

Derivatives applied to the intestinal canal are less objectionable, and the most appropriate remedies are the neutral salts, castor-oil, rhubarb, senna, and aloes, and, when the presence of intestinal worms is suspected, they may advantageously be combined with vermifuge remedies. Calomel and tartar emetic, on account of their subsequent constitutional effects, should be avoided, whether in large or small doses, for it is certain that they exercise no marked influence upon chorea.

When vascular turgescence is absent from the very beginning, empirical remedies may be resorted to at once. Among these, iron is, to say the least, the most rational, especially when the child is anæmic, and suffers from incipient chlorosis. The preparations of iron, and mineral waters containing iron, are recommended by the most experienced physicians as useful, and may be given for many weeks without detriment, even after the muscular jactitations have subsided. Serious constipation, resulting from this practice, should be relieved by the above-named aperients. So far as the effect of the remedy upon the nervous system is concerned, it is almost immaterial which preparation is selected; this may be decided on the grounds of its digesti-

bility, and the ease with which it is taken. Children, especially young ones, are not good at swallowing pills; although they will swallow large numbers of cherry-pits with the greatest readiness. They bite pills, and retain the pieces in the mouth till they become soft, and their disgusting taste renders the object sought, viz., the introducing of remedies in a tasteless form into the stomach, unattainable. The administration of powders is, in the long run, inconvenient, as they have often to be frequently repeated at the apothecary's, on account of their deliquescent character. I, therefore, prefer the tincture of iron, and almost always use the ext. ferri pomati, which seems to be most easily assimilated. *Romberg* recommends ferrum cyanatum; others the sulphate and carbonate of iron. According to my experience, large doses of iron do not act more favorably upon the course of chorea than small ones; besides, they are more apt to cause disturbances of digestion and constipation, and, for this reason, I do not consider it advisable to go beyond twenty to thirty drops pro die. During convalescence, quinine, cinchona, and other tonics, may also be given with advantage.

There are, in addition, a number of empirical remedies, which are more highly praised than brilliantly curative. The first to be mentioned here are the metallic remedies, zinc, copper, and arsenic; and, of all the zinc preparations, the oxide is mostly preferred, given up to sixteen grains, three times daily; next, sulphate of zinc, in one to eight grain doses; cyanide of zinc, daily, up to three grains; and, lastly, ferrocyanidè of zinc. *Escobar* praises valerianate of zinc, in two to twelve grains pro die.

Sulphate and ammoniate of copper have been justly abandoned, on account of their nauseating action. The same should be done with Fowler's solution, an article which *Henoeh* has recently so strongly recommended.

It seemed quite pertinent to try narcotics in chorea, and various experiments have been made with them. Opium, belladonna, haschish, hyoscyamus, hydrocyanic acid, aconitine, and atropine, have been discarded long ago; so, too, strychnine, first suggested by *Trousseau*—who has been most unfortunate with his therapeutic discoveries—has been abandoned by all rational physicians.

In very severe chorea, where the children are unable to obtain any rest at night, temporary palliation may be derived from chloroform. But, when too often repeated, these inhalations affect the head unpleasantly, and disturb the digestion.

Animal and vegetable nervines have been quite as generally employed as narcotics; valerian, assafoetida, camphor, moschus, castoreum, colchicum, etc. Cold baths and douches are of decided benefit, and, as they are mostly disagreeable to the children, exert a good influence

by inducing them to use every possible voluntary effort to avoid the necessity of their application. Under this influence, they may resist the involuntary movements to some extent. *Dupuytren* is an enthusiastic advocate of cold baths and douches, and holds that, with their persistent use, every case of chorea is curable, in which declaration, however, he may possibly go too far.

Of late, warm baths, and warm sulphur-baths in particular, have come into use, as many girls are unable to bear cold baths. For this purpose, four ounces of sulphate of lime are added to every bath, in which the children are allowed to sit for an hour every day. *Rufz* is of the opinion that, by this measure, the disease is shortened to twenty-four days; *Köhler*, however, observes, in this connection, that there are also cases where the disease becomes aggravated by it, and prohibits the further use of the sulphur-bath.

As regards the psychical treatment of chorea, more harm than good is often done by harshness and severity; but by this we do not intend to say that the stimulation of the volition should be entirely abandoned. By kindness and promises of presents, the children should be urged to keep quiet until ten or twenty are counted; they should be induced to make simple and easy efforts to control the movements of the hands and feet, and, when successful, should be praised, etc.

Formerly, it was considered injurious to hold children firmly, or to tie them or bandage them in splints; lately, however, cases have been reported where the application of the splints—at first at night only, where the children, on account of the severity of the chorea, were unable to obtain any rest; subsequently, also, by day and night, continued for many days—produced a remarkable improvement, and ultimately led to a cure (*Monahan*, of Dublin). It certainly will only be necessary, in this treatment, to fix gently the extremities, by properly bent and padded splints, while it will seldom be possible to restrain the motions of the body. This method, at any rate, deserves a further trial.

The little voluntary exercises, recommended above, have been more systematically developed by the Swedish-movement cure, by first practising passive, then the so-called duplicate, and, finally, active complicated movements.

The dietetic treatment is of little importance. The irregularly and badly-fed children of the poor recover as rapidly as those of the wealthy class, where every morsel of bread and meat is first subjected to the physician's examination before it is given to the patient. A healthy, dry residence, and the enjoyment of fresh air, accelerate the cure; mental exertions retard it, and those addicted to onanism it is often entirely impossible to cure.

If we make a *résumé* of the entire treatment, we shall find it to consist essentially of cold baths and douches, of the administration of iron, and prudent psychical strengthening of the will. In the severest form, chloroform is to be preferred to narcotics, and a trial with splints would also be rational.

(4.) CHOREA MAJOR (the Great St. Vitus's Dance)—CHOREA GERMANORUM.—A very rare affection, in which term spasmodic diseases of various kinds are included. Chorea major attacks girls almost exclusively, and only those who are approaching puberty. The essential character of this disease consists in this, viz.: the children are attacked by paroxysms of regulated movements, apparently executed with consciousness and proper will, in which a peculiar potency of the mental abilities manifests itself. The transition into somnambulism, animal magnetism, miraculous mania, etc., is very apt to happen, and it requires the utmost professional sagacity to strike the exact boundaries between imposition, or deception, and an actual pathological state.

**Symptoms.**—The phenomena vary so much in individual patients that it is difficult to sketch a picture of symptoms applicable to all cases. The outbreak of the paroxysm is almost always preceded by psychical and corporeal premonitions. To the first belong sadness, great moodiness, depression of spirits, fear of phantoms, active dreams, and restless sleep; to the latter, palpitation of the heart, cardialgia, disturbances of digestion, anorexia, headache, and pain in the back, may be added.

Finally, actual paroxysms develop themselves. The patients begin to make apparently voluntary, sometimes simple, sometimes again complicated movements, which they execute with unnatural strength, steadiness, rapidity, and perseverance. The patients are seen to perform the movements of swimming, climbing, jumping, dancing, crawling, and attempting the most wonderful contortions of the body.

In others, again, it approximates more to pure psychical alienation or exaltation; they begin to declaim, compose, preach, and sing with great volubility, or to talk nonsense with lofty pathos, or to imitate the cries of beasts.

The influence of the will is not always completely abolished; some cannot be roused from the paroxysm by any means, not even by inflicting any amount of pain, while others, again, are recalled to consciousness by simply dashing water in the face.

This condition most resembles the incomplete narcotism from chloroform, in which the patients are in an unusual state of excitement. Sometimes these paroxysms last only a few minutes; then, again,

several hours; and end either by the patients becoming more calm, or then waking up as from a dream, and looking about in surprise, or by relapsing into a profound sleep, often lasting several hours. The recollection which the patient has of what transpires during these paroxysms is variable. Some recollect about as much of what was said and happened in the paroxysm as is remembered of a dream, or they retain nothing at all of it in the memory.

During the attack, external irritation induces no reflex movements, or but very slight ones, a fact which will always give rise to a suspicion that it is feigned. When, for instance, a girl tolerates pinching, pricking, and blows, without flinching, but sneezes when her nostrils are tickled, shivers for an instant when cold water is poured upon her, and when burned arouses, complains of pain, there is usually no actual disease at the bottom, but only a mental derangement, by means of which the nervous child is seeking to excite sympathy.

Here, again, the course of the entire complaint is very variable. Every thing may be completed with a single paroxysm, or several may follow each other at greater or lesser intervals, varying from a few hours to many days. When the period between two paroxysms is very short, and only a few days in duration, the general condition barely ever becomes normal, for the patient complains of muscular debility, and is whimsical and petulant, and suffers disturbances of the digestive organs. The whole affection generally lasts only a few weeks or months, and, with the appearance of the menses, complete recovery is established. Relapses have also been observed in this disease, during which the catamenia disappeared, or became irregular. A state of extraordinary nutrition, and a disposition to obesity, take place in these girls after recovery, especially in the so-called spiritualists.

As regards the sex, the disease, according to a statistical report by *Wicke*, who has collected one hundred and twenty-six cases, attacked eighty-eight girls and thirty-eight boys. Of one hundred and seven patients in whom the date of the commencement of the disease could be ascertained, eighty-four were between the tenth and twentieth year of age, and, of these eighty-four, sixty-two were between the tenth and sixteenth year. An hereditary disposition is often observed, and these patients are almost always brought up by hysterical, eccentric mothers.

In regard to the organic basis of this disease, conjectures can only be formed. No certain parts of the brain are affected in any case, otherwise the symptoms would be more constant and uniform; and in no case can an inflammatory exudation or a permanent alteration of the form of the brain properly be assumed, because the disease al-