most always terminates in recovery, and only exceptionally ends in paralysis or epilepsy. In fact, the entire activity of the brain has simply attained to a high degree, and this disposition sometimes manifests itself most in great irritability of the motor nervous system, and sometimes, again, more in an exaltation of the psychical department of the brain. *Hasse* very fittingly observes: "There is only one condition which can be suggested to explain this singular disease, namely, sleeping and dreaming." When we bear in mind that such manifold, sometimes uniform, sometimes again changeable performances transpose the dream into actual action, we have in reality all the phenomena of the great St. Vitus's dance.

What tends to complete this analogy is, the circumstance that the paroxysms begin with a kind of sopor, a stupefaction, and terminate with an awakening, as from a dream; so that in chorea major, according to this view, we have nothing else than a potential, lively dream, with great irritability of the sensorium.

The *prognosis*, inasmuch as the disease is not fatal, must be favorable. The paroxysms almost always cease, although not until after a long time, and these persons always retain for life a something singularly *bizarre*, which begets a cautiousness about intercourse with them. They sometimes relapse into religious enthusiasm, sometimes into exalted love-affairs, and are rarely known to make quiet, sensible women.

Treatment.—There are no medicines which will certainly prevent the attacks, not even such as are capable of arresting the disease; but the general state of the system often furnishes opportunities for therapeutic measures. These girls, as a rule, suffer from chlorosis and obstinate constipation, on account of which iron and laxatives are usually indicated. The constipation, in most instances, is so difficult to overcome, that powerful drastics have to be employed, with which finally a few copious evacuations are obtained.

The desideratum is always the psychical treatment. If the paroxysms once become the subject of public wonder and town talk, they will not cease again for years. It is therefore necessary, first of all, to remove the child to a suitable neighborhood, and at the outbreak of the paroxysms remove it from its excited parents into private rooms. The attacks should be allowed to pass off quietly, and when passed they should not be mentioned. Never should the child be told what it said and did during the paroxysm.

All exciting studies and society should be strictly avoided; suitable bodily exercises and even active exertions have the double advantage that the digestion is thereby stimulated and the mind is diverted from pernicious fantasies. *Hasse* holds that the experiments with animal magnetism, and all experiments generally, are objectionable. In the only case which stands as a precept for me, I found cold water of decided benefit, and the paroxysms ceased entirely after the extremely eccentric child was separated from her half-demented mother and placed with her sensible grandfather. The fits consisted in this, viz.: the girl would suddenly sit down upon the floor, set up a peculiar grunting cry, and at the same time revolve with lightning-like rapidity. A few glasses of water dashed with force into her face soon brought her to her senses again, and after this had been repeated five times the paroxysms did not return.

(5.) Epilepsy, Morbus Sacer, Comitialis, Caducus, Fallsucht, Falling-sickness, Fits.—By epilepsy we understand convulsive paroxysms which recur often and are accompanied by sudden abolition of consciousness and of the functions of special sense.

Epilepsy and its causes, the kind and the effects of the paroxysms, are so minutely treated of in the works of special pathology, that it does not seem necessary to here give a very exhaustive description, and the student may therefore be referred to the excellent delineations found in the works of *Canstatt*, *Romberg*, and *Hasse*. A few peculiarities appertaining to children only will be mentioned here.

Symptoms.—Very often, in adults, remote and almost always near premonitions (aura) are observed. The former consist of an altered disposition of the mind, great irritability, headache, vertigo, and a feeling of weariness. The latter, which immediately precede the attack, and are often so brief that the patients have barely time to prepare themselves for it, consist in headache, giddiness, tinnitus aurium, darkness before the eyes, perception of bad odors, trembling, chilliness, oppression and palpitation of the heart. In children the remote premonitions are mainly unnoticeable, for the reason that the attacks are much more frequent, recurring daily, or at least weekly, and therefore no very distinct prodromata appear. The near premonitions, the aura, are also unheeded by most children, because they pay very little attention to themselves generally. Indeed, while quietly playing, the child is usually surprised by the paroxysms with such lightning-like rapidity that in general no aura can be assumed to exist.

As regards the paroxysm itself, it almost regularly begins with an inarticulate, unnatural cry or moan, and with tears flowing from the eyes, by which it is claimed that the commencement of the paroxysm must be painful. All subsequent perception of pain, however, is abolished by the rapidly-supervening unconsciousness. During or immediately after the cry the child falls down suddenly; it does not, however, first sink down upon the knees and then on the floor, but drops down with such force that it seems as if prostrated by a violent blow. The

direction in which it falls is decided by the position the body was in at the time of the seizure, and has no pathognomonic significance. Often it is dashed to the ground with such violence that serious injuries happen to it which may lead to death. It may be assumed with tolerable certainly that the more sudden the invasion and the prostration, the more violent and protracted will be the paroxysm.

After the child has fallen, the most variable convulsions begin, sometimes tonic, sometimes clonic; sometimes, again, they alternate. Epilepsy of children particularly distinguishes itself from that of the adult by the inequality of the spasms. While, in adults, especially men, one fit runs just the same course as another, in children the duration and kind of the convulsions often vary very much; nor does the same group of muscles always participate in the contractions. The most frequent phenomena are gnashing of the teeth, tetanic jerkings, and contractions of the extremities, contractions of the thumbs, backward curving of the spine, and the most multiform contortions of the muscles of the face and eyes. Still, none of these symptoms are so constant as that their absence should render the diagnosis of epilepsy doubtful, when the other diagnostic signs correspond. The popular supposition, that convulsions in which the thumbs are not contracted do not belong to epilepsy, is totally devoid of foundation. This symptom, though of frequent occurrence, is absent in a considerable number of otherwise well-pronounced cases.

In more violent paroxysms the respiratory muscles also participate, in consequence of which the breathing does not go on properly and rhythmically, and the expiration in particular, owing to the constant contractions of the muscles which ought to be relaxed, becomes laborious. As a result of this, the thorax becomes distended and the respiratory sounds are but feebly heard, if it be at all possible to auscultate the lungs. The general jactitation of the body, and the rattling in the throat of the accumulated mucus, however, often make an examination of the lungs impracticable. The direct effects of this disturbance of the circulation are: cyanosis, swelling of the veins of the neck, injection of the eyes, tumefaction of the tongue and entire face, and finally even bleeding of the mucous membranes of the conjunctivæ, nose, and mouth; not all hæmorrhages from the mouth, however, proceed from this source. Oftener they are the effects of wounds of the tongue inflicted by the teeth during the paroxysm.

The cardiac muscle seldom participates in the spasms; the pulse, in consequence of the general exertions, is indeed somewhat accelerated; still, it is not unrhythmical, and, immediately after the completion of the paroxysm, returns to its normal condition.

The urine and stools pass involuntarily more frequently in children

than in adults, and white or even bloody foam at the mouth is also more frequently seen in them than in adults, because the secretion of mucus and saliva is generally much more plentiful. In consequence of the great bodily exertion, a profuse perspiration breaks out at the end of the fit, the strong contractions subside, and the children wake up as from a dream, and, sighing deeply, stare about bewildered. Hardly ever do the attacks last longer than five minutes, but to the anxious parents the time naturally seems much longer, and is unintentionally greatly exaggerated. Although there are many adult epileptics who barely suffer one paroxysm a year, the children afflicted with this disease are attacked by it at least once a week; still, no approximation to any regularity can be noticed: sometimes long pauses ensue, sometimes the paroxysms appear every day, sometimes several follow each other at the same hour, so that it was actually thought that it had an intermittent character, and quinine was therefore administered—always, of course, without the least effect. Sometimes, again, they appear at different times of the day.

The individual symptoms are not always so conspicuously developed as the above delineation declares, and there are also many milder forms which have been covered by the name of epileptic vertigo. In this form the child does not fall down; it may stagger somewhat at the most, seek to sit down, or, when attacked while walking, continue on its way as if in a dream, with rigidly-contracted features. This condition barely ever lasts longer than a minute, but recurs often during the day. Some children have paroxysms of different degrees of severity, sometimes only a slight giddiness, sometimes violent convulsive fits, with prostration. There are the most multiform gradations, from slight giddiness, up to horrible paroxysms, attended with rupture of muscles, fractures of bones, and hæmorrhages. After a mild attack the children recover promptly, and eat and play as before, but after a severe one they sink into a long and profound sleep, from which they awake with headache and fatigue, which generally last for several days.

During the intervals the state of the health differs according to the duration, severity, and frequency, of the paroxysm. Some children, who only suffer from the milder form, retain their healthy appearance, and continue to develop both bodily and mentally; others, however, especially after an epilepsy of several years' duration, acquire a brutish expression of countenance, become morose, choleric, ravenous, and retrograde instead of progress in their mental development. Their physical development is also arrested, and they ultimately degenerate into complete cretins; cicatrices and contusions, the effects of the falls, are found on the body; the teeth, from the constant grinding, are worn off; and the tongue is fissured by the wounds it has received.

But milder forms of the disease are borne throughout life without any ill consequences, as is shown by the well-known fact that many persons eminent for their mental endowments have suffered from epilepsy to the end of their lives. The most prominent of this class of epileptics are: *Julius Cæsar*, *Mohammed*, *Charles V.*, *Petrarch*, *Fabius Columna*, *Rousseau*, and *Napoleon I.*

The *course* of epilepsy is decidedly chronic, for the patients retain it for life and take it with them to the grave; the commencement is eminently acute, for in most cases very uncertain premonitions precede it, and the disease can be diagnosticated only after the first paroxysm has appeared. The younger the child, the more frequent the paroxysms; and they diminish in frequency with advancing age till about the period of puberty, when they again become frequent, and so continue for more or less time, and finally assume a more constant form, and the intervals become more uniform. The disease is decidedly aggravated by onanism, spirituous drinks, and all kinds of mental excitement. No scientific connection can be demonstrated to exist between epilepsy and the growth and decline of the moon, a very common supposition among lay people. On the other hand, the climate, or perhaps only the temperature, is not wholly devoid of influence in some cases. I am acquainted with a man who in the cold winter months suffers from a mild epilepsy, but in summer is entirely free from it. For the last two years he has spent the winter in Algiers, and has been free from the attacks.

Epilepsy is arrested during acute febrile diseases, but is exacerbated by chronic affections, such as helminthia, constipation, and neuralgia. The influence it exercises upon the mental functions has already been spoken of above.

The usual *termination* is, in fact, in death. Epilepsy, it is true, does not prevent the child from growing up to thirty or forty years of age, but it appears from statistics that it very seldom outlives this age. Serious cases usually run into other cerebral diseases, such as cerebral apoplexia, mania, or imbecility, which are soon fatal. Recovery is a very rare occurrence; less so, however, in children than in adults. In children, epilepsy has been seen to disappear after the cutting of the four molar teeth, and sometimes upon change of residence. Additional minutiæ upon this point are to be found in the section on etiology. Recovery either takes place suddenly or gradually. The last paroxysm is either just as violent as the previous one, or the fits disappear gradatim, and first merge into mild epileptic vertigo, and finally disappear.

Etiology.—Difficult as it is, in most cases, to fathom the true cause of epilepsy, a particularly careful examination, and close inspection of the body, must nevertheless be practised, for it may discover something upon which to found a rational treatment. The form of the attack furnishes little or no data for the etiology. Even the kind of aura preceding the attack is not available in children, since in general it is very short, and is immediately forgotten after the fit.

As regards the *age*, epilepsy spares none. Young children in general rarely suffer from true epilepsy, as we might expect, if the more frequent eclampsia be regarded as a distinct disease. Eclampsia is easily distinguished from the disease under consideration, by the fact that it almost always occurs at the breaking out of an acute affection only; that the general condition of the patient, after the termination of the convulsions, is not restored; and that it is often fatal, while epileptic attacks are almost always devoid of danger.

According to a statistical compilation by *Beau*, two hundred and eleven epileptics present the following history:

Congenital epilepsy	17	From beginning of 20th to 30th year	29
From birth up to 6 years of age	22	" " 30th to 40th "	12
" beginning of 6th to 12th year	43	" " 40th to 50th "	15
" " 12th to 16th "	49	" " 50th to 60th "	5
" " 16th to 20th "	17	" " 60th to 61st "	1

It will be seen that two-thirds of these patients, at the invasion of the disease, had not attained the sixteenth year.

As regards the *sex*, it is generally assumed that in adults more women are epileptic than men. I am not aware of any tabular compilations of epilepsy in children arranged according to the sex, but, from the cases which I have so far observed, the statement above given as to adults will not apply to children, for I can recall to mind more epileptic boys than girls.

The *hereditary nature* of epilepsy is generally acknowledged, even among lay people. It is by no means necessary that the inherited epilepsy should also be congenital, i. e., occur immediately after birth; it may remain latent for a long time, and only come on at the period of puberty, or even still later. Congenital epilepsy is especially observed when epileptic mothers suffered from frequent paroxysms during pregnancy. In children under one year of age, it is very difficult to distinguish it from eclampsia, or general convulsions, and it is only characterized by its chronic course, and by its not being followed by any acute disease after the fit has passed off.

Epilepsy sometimes overleaps a whole generation, and appears in the second with all its former severity, or it attacks only portions of the descendants, sometimes the male, sometimes the female.

Besides the causes already assigned, there are many others men-

tioned in the text-books; few of them, however, are demonstrable. Thus, for example, it is claimed that great mental excitement, especially from fright or anger, is a very potent cause. If this were the case, the great majority of persons ought to be epileptics. Various forms of epilepsy, according to the locality of the aura, have been distinguished, such as epilepsia spinalis, thoracica, abdominalis, nephritica, genitalis, and peripherica, without it being possible, however, to confirm these varieties by *post-mortem* appearances.

An epilepsy excited by tuberculosis chiefly occurs in children. A large tubercle in the bronchial glands, or in the brain, an hypertrophied tuberculous lymphatic gland exerting a pressure upon the circumjacent nerves, are some of the supposed causes of epilepsy. In rare cases, cryptorchidismus is the alleged cause. These recover after the testicle has descended, or, if arrested in the canalis vaginalis, after the testicle is removed. Of the peripheral causes, the most frequent is the eruption of a cuspid or wisdom tooth, after which a recovery has been seen to ensue. Epilepsy is repeatedly reported to have been cured by the excision of a cicatrix. These instances, however, are very rare, although all epileptics, since that fact first became known, are closely examined for cicatrices, which, when found, are excised with the best of hopes; still, the paroxysms are generally in no way affected by this operation.

The *post-mortem* examinations of epileptics furnish no uniform results whatever. They sometimes turn out to be totally negative. In many cases the most variable lesions of the brain are found, atrophy and hypertrophy, induration and softening, plastic and serous exudations on the meninges, hæmorrhages, tubercles and abscesses in the substance, hernia, exostosis, caries or necrosis of the cranial bones. In congenital epileptics, in addition, there are found asymetrical cranial bones, flattening of the forehead, a broad or pointed occiput; the bones of the skull are sometimes remarkably thickened; sometimes, again, attenuated. *Elliotson* is perfectly correct when he says that this kind of cranial bones does not necessarily produce epilepsy. It is, however, certain that this evil very frequently occurs in imperfect development of the brain. In the older medical works, vascular congestions of the brain and spinal cord play an important part, but lately these anomalies of the distribution of the vessels have justly come to be regarded as phenomena occurring at the time of, or even after death. The *post-mortem* appearances in the other organs may vary still more than those of the brain; in other words, epileptics may perish not only from the effects of this chronic malady, but also from all possible acute and chronic diseases. On carefully dissecting the nervous centres, neuromata have also been frequently found.

Diagnosis.—The main difficulty in the diagnosis in female adults is to distinguish hysterical attacks from the truly epileptic. But that is chiefly and especially accomplished by the circumstances that, in the former, consciousness is not wholly abolished, and for that reason also no prostration and no wounds from the teeth occur. In children it is not hysteria but eclampsia that may be confounded with epilepsy. It is impossible to distinguish an eclamptic fit by itself from an epileptic one, but the condition by which it is succeeded furnishes a correct differential sign. After an eclamptic attack, the child never feels perfectly well; it is always feverish, suffers from an acute exanthema, or some other acute disease, or vomits at least the undigested contents of the stomach. Epileptic children are perfectly well on the same, or, at least, on the next day, and are free from all signs of fever.

Spoiled children sometimes also take it into their heads to feign epilepsy, in order to escape corporeal chastisement, for they observe that truly epileptic children are never very severely punished. Those who attend large schools, and inmates of educational institutions, have great facilities for acquiring this simulation, for they have frequent opportunities to observe epileptic children. It is not always easy to distinguish the feigned from the genuine epilepsy in children who are refined and possess imitative talent. Under no circumstances should simulation be assumed unconditionally, so long as there is no positive proof. The tutors should be instructed to treat such children with the same indulgence as they would treat genuine epileptics, and should rather allow themselves to be imposed upon for a time than to aggravate the condition of a really sick child by undue severity. It is, however, scarcely possible that the impostors will ever succeed in imitating the strong turgescence of the face during the paroxysms, and still less the subsequent abnormal pallor. It is very difficult, according to *Marc*, to extend the thumbs and open the hands of a genuine epileptic, but, after this has once been accomplished, the hand will stay open. The feigner is not aware of this peculiarity, and will shut his fist again as soon as he feels no resistance. In regard to this sign, however, a great number of epileptics have yet to be examined before undoubted value can be awarded to it.

Treatment.—The practical therapeutics of epilepsy is perhaps the most extensive, and at the same time most unprofitable of any disease. All possible remedies are administered, and such brilliant success is ascribed to them, that it requires great medical skepticism to doubt them. The supposed good effects of many remedies may also be based upon error, or at least self-deception and imperfect observation, but a correct inference as to their value is rendered still more difficult by the circumstance that, from all remedies, no matter what

may be their chemical composition, a decided improvement is always obtained at first. This observation, first made by *Esquirol*, has since been confirmed by great numbers of observers, and clearly shows that the psychical state possesses great influence upon the morbid process.

The treatment itself comprises (1), the prophylactic; (2), the removal of the cause; (3), the use of specifics; and (4), a general bodily and mental hygiene.

(ad 1.) The *prophylactic* treatment, on account of the acknowledged hereditary character of the disease, consists in restraining epileptics from marrying, and in preventing an epileptic mother from suckling her child, and in treating the children of epileptic parents with the utmost possible forbearance. Over-stimulation of the nervous system by early and exacting studies, or by exciting impressions, such as scoldings, chastisements, ghost-stories, etc., is to be avoided.

(ad 2.) The treatment directed to the *cause*, where the cause can really be fathomed, is by far the most favorable. But, unfortunately, it is much less possible to discover the true cause than is usually supposed, for the statements of the relatives, of a fall, fright, or of a grave sickness recovered from, etc., should be received with the utmost caution. First of all, the child should be undressed, and every part of the body subjected to a critical examination; the assertion of the relatives, that the entire body is normally formed, should never induce us to forego this examination. By it a tumor pressing upon a nerve, a cicatrix involving a nerve, or a foreign encysted body, has often been discovered, located in the course of the peripheral nerves, whose removal was followed by the disappearance of the epileptic convulsions. It is even stated that epilepsy has been cured by the excision of corns, and extraction of carious teeth (?). In this peripheral epilepsy, the exsection of the affected nerve is attended by the surest effects. The condition of the brain and its adjacent parts, of course, deserves special attention. The cranial bones should be carefully examined for depressions, otorrhœa, syphilitic exostosis, etc.; chronic congestive conditions of the brain should be relieved by revulsions to the alimentary canal, or by derivatives, and counter-irritants, such as vesicants, irritating ointments, setons in the nape of the neck, and even moxas. With this object in view, the carotids have even been tied, and recently a trial of compressing them has been made. Both these measures, however, proved ineffectual. Trephining of the formerly injured cranial bones is also indicated, in cases where the paroxysms do not improve after the cicatrix of the scalp has been excised. *Tissot* thinks so highly of this operation, that he recommends it to be tried in all desperate cases.

When worms are present, they are to be removed by the methods suggested in the chapter on "Intestinal Worms." Disposition to constipation should be obviated by frequently-repeated clysters, or aperient waters. The genitals should be closely examined for evidences of onanism. Rapidly-cured eruptions of the skin and arrested habitual sweatings may sometimes be reëstablished.

The *treatment of the paroxysm itself* essentially consists in protecting the body against injury. The furniture of the room occupied by the patient should not present sharp, exposed corners, the stove should be guarded, the floor covered with carpets, and the couch should be low, so that the patients may not sustain serious injury should they happen to fall from it during their nocturnal attacks. They should never be left without surveillance. All restraint at the commencement of an attack is injurious, and tight garments should be loosened. All measures employed during the paroxysm, such as frictions, sprinkling of cold water, compression of the carotids, magnetism, inhalation of irritating gases, opening of the thumbs, and tying the face, however popular these may be, are either useless or injurious.

The attempts in a protracted aura to prevent the fit itself have not heretofore proved very successful. On the whole, only those paroxysms which are of peripheral origin may possibly be arrested. The remedy consists in tying the affected limb tightly with a strong ligature, which is gradually slackened after several hours. By this means it is certainly possible in some cases to prevent the paroxysm altogether; in others, however, it causes the utmost dread and apprehension, and the patients insist upon the speedy removal of the ligature, preferring to suffer the convulsions. Children generally rally very rapidly after the fit, so that there seems to be no occasion for an after-treatment. Sopor, a feeling of weariness or nausea, which occasionally remain behind for some time, are quickly relieved by a sinapism or a derivative foot-bath.

(ad 3.) The *anti-epileptic specific remedies* have lately become so fearfully numerous, that the denomination "specifica" may be regarded as a veritable disgrace to the physician. It would be of no use to copy here the whole list of the anti-epileptica that were and still are used. Those most extensively employed only will be briefly mentioned.

For the treatment of the recent attacks the following remedies, according to *Köhler*, are appropriate:

(1.) Rad. artemisiæ vulgar., 10 to 20 grs. of the fresh powder, given as short a time before the fit as possible.

(2.) Rad. valerianæ, daily, ℈ss to ℈j of the fresh powder.

(3.) Flores zinci, gr. j to x, or in as large doses as possible, is recom-

mended by many physicians, especially *Herpin*. The treatment should be continued for three months. Valerianate of zinc is, in fact, a combination of two remedies for epilepsy, but the effects of the zinc do not seem to be improved in the least by the valerian. Others prefer the sulphate of zinc, and give it in j to v grain doses pro die.

The following remedies are employed in older cases, and in which those just described have proved ineffectual:

(1.) Ammoniate of copper and the various preparations of copper with which, owing to their nauseating properties, it is not usually possible to go beyond $\frac{1}{8}$, at the most $\frac{1}{4}$ grain doses.

(2.) Argent. nitrat. is recommended by many physicians, especially by *Heim*. In children it must be given in $\frac{1}{6}$ to 1 grain daily for years. There seems to be no very great danger of the skin becoming gray from it, as that happens in only a very few patients. I, for instance, notwithstanding a most extensive employment of this remedy, have never yet observed that result. The great precaution that is taken to introduce the nitrate of silver, as such, into the stomach, is probably superfluous, for the combinations of chlorine which are constantly present in the gastric secretions must certainly convert it quickly into a chloride.

(3.) Mercury, internally in the form of calomel, sublimate, or cinnabar, or externally in the form of blue ointment, is only indicated when there is a suspicion of the presence of Tophi syphilitici. It, however, must not be forgotten that, on account of its consecutive constitutional effects, it may prove very injurious.

(4.) The additional metallic remedies to be mentioned are, acetate of lead, oxide of zinc, nitrate of bismuth, the preparations of iron, manganese, and arsenic.

(5.) The narcotics have been extensively employed, and are invariably found in the numerous secret remedies. No certain curative effect has been derived from opium, but a rapidly-developed imbecility has very often indeed been observed from its use. Rad. belladonnæ, and latterly atropine in gr. $\frac{1}{60}$ to $\frac{1}{10}$, chloroform, ether, ext. stramonii, hyoscyamus, digitalis, agaricus muscarius, narcissus, pseudo-narcissus, nux vomica, and strychnine (gr. $\frac{1}{30}$ to $\frac{1}{2}$ pro die), have been repeatedly recommended.

(6.) Finally, there is yet a list of vegetable and other kind of remedies from the various classes of the materia medica: selium palustre, indigo, viscum quercinum, sedum acre, folia aurantiorum, radix pæoniæ, cotyledon umbilicus, scutellaria geniculata, assafœtida, moschus, castoreum, camphor, amber, cinchona and its preparations, rad. dictami albi, pepper-corn, turpentine, Dipel's oil, phosphorus, and the mineral acids.

(ad 4.) *The general bodily and mental hygiene* is of great importance. The diet should not be too nutritious, and alcoholics should be prohibited altogether, for in many patients a fit is induced by indigestion, and, still more surely by a use of alcoholic drinks. Constipation should never be permitted. It is of especial benefit, in all cases, to stimulate the functions of the skin by cold and warm baths, so as to produce copious perspiration. Bodily exercise, especially in the open air—for example, in garden and field—often effects a complete cure. Of the bodily exertions, only such, of course, are to be chosen as will not of themselves induce a paroxysm; riding and swimming, for example, can hardly be recommended. Travelling and change of climate, particularly changing a colder for a warmer, often bring about a suspension of the paroxysms, to which the diversion and the agreeable state of the mind which result from some travels may contribute not a little. It is a well-known fact that children are seldom attacked while playing, or when occupied, but only at night, or when they sit morose and idle.

They should not be encouraged to forego mental exertions, for the mind, if not exercised, sinks into a state of unhealthy torpor. But the hours of study should be so arranged as to allow sufficient intervals of rest; and they should be taught in such a manner as to interest them in their studies, and thus render learning comparatively easy—a fact, however, every tutor does not know, and a result he does not know how to accomplish. These children should not, if possible, be sent to the public schools, for most of them learn much slower than healthy children, and, on account of the fits, are feared and even derided by the latter. Under these circumstances the mental depression becomes considerably aggravated, and it is a serious detriment to a person, in after-life, that his previous affliction should be generally known, although he may have been subsequently cured of it.

APPENDIX.

Diseases of the Mind.—In children, *imbecility* and *idiotism* predominantly occur. It is necessary to discriminate between real idiotism and arrested or retarded development of the mind, although there certainly are steps of transition where this distinction is difficult to make. The development of the body, also, in real idiots, is always visibly retarded, while many children, with extremely feeble mental endowments, the so-called *enfants arrières*, corporeally thrive all the more. Marked abnormalities are also always detected in the skull of idiots, which are due to the smallness of the brain.

The circumference of the skull is small, the head is compressed or pointed from before backward, or from side to side, in contrast to