PART III.—PSYCHOLOGICAL RETROSPECT.

1.—*German Retrospect.*

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The present parcel of German Psychological Literature submitted to us may be divided into three important groups:—

1. Papers on the action and effect of remedies.

2. A paper on Syphilitic Mental Disease, of which so little is known in this country, and which may be regarded as a contribution to "Skae's Classification of Mental Diseases."

3. Miscellaneous cases, papers, and facts, which usually go to swell the Retrospect.

The Action of Bromide of Potassium.

In the first group the action and effect of bromide of potassium and hydrate of chloral are considered at some length and in detail. In the *Correspondenz Blatt der deutschen Gesellschaft fur Psychiatrie und Gerichtliche Psychologie, Nro.* 6, *Juni,* 1872, a contribution by Dr. Katz on the value of bromide of potassium, gives the critic an opportunity of collecting the material scattered in literature, of sifting the observations, and of drawing attention to the most important results. Opinions as to the value of the remedy have been drawn from many sides; some have praised it to the skies as a calmative and soporific medicine, while on the other hand it has been decried as perfectly useless. While most works on the subject have been consulted, and the recent discussion on bromide of potassium in the Société Medico-Psychologique has been extensively used, it appears that no reference has been made to the excellent and thoroughly scientific paper of Dr. Clouston, published in the "Journal of Mental Science" for October, 1868. The facts of many of the French physicians are inexactly recorded and vaguely stated, while in the essay referred to the results are founded on a numerical basis and drawn from a rigid exactitude of research, which, it is to be regretted, have not claimed the attention of our German confrères.

The first observations on the effect of bromide of potassium on the nervous system date five years back, when it obtained the most extended application as an anti-spasmodic, anti-convulsive, and anæsthetic remedy in general and local hyperæsthesia, &c. At that time the first psychological experiments were made by Huette and Rames. They observed, after the administration of 10-15 grammes for some

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days, headache, sleepiness, deafness and stupor, followed by anæsthesia of the conjunctiva, *increased appetite and constipation.* In large doses they observed catarrh of the stomach and intestines with anæsthesia of the larynx and pharynx. They also detected depression of the sexual power.

Later, Voisin stated (1866) that he had met with a disturbance of the articulation even approaching to complete aphasia. He also observed the hypnotic effect, but he regarded it as due rather to a certain kind of intoxication. He also drew attention to skin eruptions of all kinds (ague, erythema, &c.). Labord found that bromide of potassium increased the reflex activity of the spinal marrow. Martin d'Amunettee and Pelvet state that this drug acts directly upon the tissue by destroying the function of the sensitive and motory nerves. Eulenburg and Guttman are of opinion, however, that the disturbance proceeds from its influence upon the cerebro-spinal system. In 1869, Lewitzky declared that bromide of potassium lessened the reflex irritability by its action on the spinal marrow.

The author of the treatise serving for this notice, in order to solve all these contradictions, has made a series of experiments on man and animals, from which he deduces the following conclusions :—

Applied locally it has no sedative effect; it irritates the conjunctiva even to inflammation, but does not diminish sensation, and creates no anæsthesia, but a somewhat increased sensibility. Taken internally it acts as a sedative upon the reflex activity, and upon the mucus membrane of the eye, the throat, the pharynx, and the trachea. The constipation it causes probably proceeds from anæsthesia of the mucus membrane of the intestines, and the absence of peristaltic motion caused by the drug. It increases the appetite. In doses of 15 grammes daily, symptoms of poisoning occur after four to six days, a disagreeable feeling in the head, difficulty in thinking, and disturbances of mobility, which disappear on the cessation of the medicine. Bromide of sodium acts like common salt. The action of potassium is quite different from that of the former ; it considerably lessens the pulse (the bromide of sodium never), and never causes anæsthesia.

To these notices the critic adds something from other observers.

Schouten, from administration of the potass-compound (bromide of potassium), has, without exception, observed an increase in the frequency of the pulse, while the bromide of soda never acted on the circulation. He found, by some exact experiments on the pressure of the blood, that the bromide of potassium accelerates the frequency of the pulse, but at the same time reduces the blood-pressure. Kemmerich also observed that the respiration was diminished.

It may be interesting to our readers to know the most recent experience as to the effect of bromide of potassium in epilepsy. After its administration, Falret observed anæsthesia of the palate, but as this occurred in epileptics who had not taken the medicine, it cannot be regarded as due to the drug. He always saw eruptions of

the skin, especially on the shoulders and back. Of 50 patients the epilepsy was not touched in 25 ; in the other half an amelioration was noticed. Bromide of potassium has less action in epilepsy combined with hemiplegia, or other perceptible cerebral disturbances and deeper mental diseases. Its action is most influential in pure, distinctly separate and distant attacks. The fits of the night disappear sooner than those of the day ; so, too, the maniacal excitement abates sooner than the epileptic attacks. Fits of giddiness are the most obdurate. He states that the administration of this drug may lessen the intelligence and the memory, and be followed by somnolence and coma.

Morel in many cases of spermatorrhœa found an essential amelioration.

Legrand de Saulle has never seen any of these disagreeable effects when the preparation was pure. With it he has treated 138 epileptics ; of these he has cured 10, essentially ameliorated 19, rendered the fits of 45 milder, and left 64 without result. He recommends bromide of ammonium in *congestion of the brain, chronic meningitis, and old apoplexies.*

Voisin has noted salivation, but no anæsthesia of the palate, rather a lessening of the reflex excitability of the posterior palate, the base of the tongue, and the epiglottis. Lowering of the sexual power he almost constantly observed, and only in some few cases the contrary condition (pollution). He also found difficulty of breathing, with dry cough ; the anæsthesia of the skin he ascribes to a central cause ; the eruptions he has almost constantly observed. With very high doses he saw a condition of intoxication, accompanied by maniacal outbreaks, hallucinations, and trembling of the limbs. He has had beneficial effects not only in idiopathic epilepsy, but also in that form accompanying brain disease, cretinism, idiocy, and malformation of the skull. In epilepsy of children the drug has a less quick action.

Ravin-Bussière (Eng. des hop, c. 26) highly recommends the bromide of potassium, but only gives it with orange syrup, in which form the stomach bears it.

Gimbert, in consequence of its prejudicial action upon the stomach, prefers to give it in the form of clysters (Bull de Mer, 81, p. 461. Nov. 30, 1871), and even recommends it for the obstinate sickness of pregnancy.

The critic, in conclusion, cannot help producing a contribution, which is all the more important as it comes from one of the most distinguished alienists of Germany, who has published some excellent aphorisms upon the pathogenesis and therapeutics of epilepsy. In this treatise Spinholtz observes that since 1864 bromide of potassium has been his chief specific for epilepsy, and it he has to thank for the majority of his cures. He also points out that the drug has warm friends and as decided opponents ; the latter chiefly among the alienists, since in their practice lengthened and complicated cases present no beneficial results. Spinholtz did not give the remedy in combination with a

seton in the back of the neck, and its influence in all cases was unmistakeable. In old cases, too, bromide of potassium, he observes, has done more good than any other medicament tried in such maladies. It was well borne, and, in doses of 10 grammes, remained without action upon the intestines, the trachea, the lungs and heart, but acted with some irritation upon the throat and the bladder. With higher doses, not unfrequently a very disagreeable feeling was produced, ending in a falling off of health, with lengthened and very slow recovery, and with acne and eczema.

Spinholtz gives as the results of his observations:—

1.—Bromide of potassium has no narcotic or hypnotic effect, but it exercises an extended anti-spasmodic, anti-convulsive action in conditions of increased central Motility and sensibility, in abnormally excited irritability of several of the cerebral and spinal organs, particularly the medulla oblongata.

2.—After six years' experience within and without Institutions, Spinholtz must assign to bromide of potassium the first rank amongst anti-epileptics, an opinion with which Dr. Laurent, of Bordeaux, agrees. He states that by a continued and methodical administration, partly by itself and partly by a simultaneous local application, it can cure idiopathic and sympathetic epilepsy, or ameliorate their symptoms, and he declares that this action is brought about by lowering the excited irritability of the nervous centres, particularly of the medulla.

Hydrate of Chloral.

The first subject connected with hydrate of chloral is a remarkable effect of this drug first noticed by Dr. Volland, and now given in more detail by H. Schule, in the All. Zeitschrift für Psychiatrie, Bd., xxviij., Heft. 1.

Soon after hydrate of chloral had come into application in the Institution of Vienna, special complaints were made by one and the other patient of temporary internal heat and congestion of the head, though all were loud in praise of the soporific action of the drug. This symptom, first regarded as an eruption by Schule, was soon recognised as being entirely dependent on the use of chloral. The heat and redness of head did not arise immediately or at any definite time after the administration, but not until small quantities of beer or wine had been taken. In every case the medicine had to be used for several days, as if the system must first be chloralised to the requisite degree to let the eruption appear. This symptom did not disappear immediately after the administration of the drug was abandoned, but every day it became weaker and weaker, and finally passed away in from four to six days. Once known, these feelings and appearances could be most perfectly produced experimentally. Schule demonstrated them in two minutely recorded cases, and, by an opthalmic examination, detected a congestive condition in the interior of the skull. The

epiploic veins which, before the taking of the beer, were completely filled in a chloralised patient, became remarkably broader and of a darker red, while the epiploic arteries which before were but weak, became developed into deep filled trunks and branches; even the finest twigs reached an exquisite development. The pulse rose from 84 to 104. Schule distinctly shows by his cases that the chloralisation of the body must reach a certain height before the characteristic changes can take place in the innervation of the heart and vessels, and that the *individual* irritability fixed the quantity sufficient to produce the eruption. These clinical facts are given in the following conclusions:—

1.—The use of chloral produces a disposition to fluxionary hyperæmia with increased and strengthened heart action. This symptom first shows itself in the head, which is most liable to it, dilating and overfilling the vessels, and giving rise to an erythema, sometimes in spots, but more generally diffuse.

2.—This congestion, shortly designated as chloral rash, is latent till produced by an irritation of the muscular system, when it makes its appearance with an intensity and rapidity parallel to the degree of chloralisation.

The irritation of common spirits, wines or beer, even in the most moderate quantities, as also the altered condition of the vascular nerves, caused by digestion after a meal, are sufficient to produce the chloral rash. The *sufficiency* of the irritation is individually different, and depends on the vascular irritability of the individual.

3.—The time sufficient to bring round the system to this fluxionary disposition is also individually different.

4.—After a long-continued use of chloral a remarkable change of nutrition occurred in one case (rapid and immoderate corpulency, continued hunger, weakness of the muscles) with disturbances of the respiration.

Schule, grounding his opinion on the basis of his cases, believes that the want of energy (anenergie) in the vessels of the head, produced by the chloral, and to which the arterial fluxion of the brain and countenance is due, is to be placed in the vaso-motor centre of the medulla oblongata. A progressive, paralysing influence from this organ upon the vagus nerve would explain the almost instant acceleration of the heart, supposing that this symptom were not a simple result of increased mechanical power and repressed pressure.

The numerous cases where bad symptoms or death have occurred after the administration of hydrate of chloral, the difficulty of determining the minimum dose which may induce symptoms of poisoning, and the different circumstances which may cause mismanagement of the chloral by the patient, and thus bring about a fatal result, have induced Dr. Erlenmeyer, jun., to take up this subject in the "Correspondenz-Blatt der Deutschen Gesellschaft für Psychatrie und Gerichtliche Psychologie." (Jahrgang 18, No. 2, Feb., 1872.)

After thoroughly describing the symptoms of poisoning, he recommends, as the most important remedy, the immediate removal of the chloral still in the stomach, which can always be effected by the stomach-pump, or by producing sickness by mechanical irritation of the throat and œsophagus. If this treatment be not successful, the chloral must be still further diluted by the introduction of large quantities of fluid. For this purpose, not only warm water, but coffee, tea, or rum, may be used. By this method an irritating influence is exercised upon the mucous membrane of the stomach, all the more necessary since all the remedies applied to the external skin are quite inert.

The second recommendation is the excitation of the respiration, which may be effected by the double-working bellows of Spencer Watson, or by irritation of the respiratory muscles and the phrenic nerve, by an induction apparatus.

The third indication comprises the administration of the so-called antidotes of chloral, which may be given by subcutaneous injection. Among these is strychnine, though its effect is by no means certain, and sometimes dangerous, as stated by Von Arnould ("La Strychnine et le Chloral, Press. Med. Pier, 1870"), who in a case of chloral poisoning gave this drug, and produced a tetanus, which rapidly ended in death.

The administration of the extract of Calabar bean is not more certain nor less important. Chloral prevents the bad effects of the latter, but the bean does not act with equal efficacy upon the symptoms of chloral poisoning. Another proposed remedy is the subcutaneous administration of musk. The injection of caustic ammonia appears to be most beneficial, as it most rapidly quickens the respiration. Before applying it no delay should be made in removing the chloral from the stomach.

Should all the foregoing remedies be of no avail, the author, judging from the analogy of chloral to that of other blood poisons, recommends transfusion, which he then enters upon describing the operation and the actual transfusion first carried out by Von Graefe, and more recently by Professor Hute.

In connection with the foregoing papers, the same author (Dr. Erlenmeyer, junr., of Bendorf, in the "Correspondez-Blatt der Deutschen Gesellschaft für Psychiatrie und Gerichtliche Psychologie," July, 1872, No. 7), gives a further series of observations, by himself and by others, upon chloral and its combination with opium. As regards the mode of administration, he has already expressed his most decided opposition to subcutaneous injection, as by this method very *dangerous inflammations of the skin* have been produced, and *because the result is not always certain.* He thinks that in this way decomposition of the drug probably takes place, or the quantity thrown into the system is not sufficiently large. This method, however, is recommended by Dr. Verga and by Dr.

Valsnam, also by Dr. Alois Monti ("Jahrf. fur Kinder Heilkunde"), Dr. Stark ("Würt. Cor.," xli., No. 38), is unfavourable to injection, and so is Hauren, from his own experience. Fischein Pfuzheim, after subcutaneous injection, saw intense inflammation and gangrene. Very different opinions have been expressed anent its administration in the form of clysters. Dr. Monti, who, in young children, has seen a better result from its administration in this form than by the internal mode, is prejudiced against it. Other parties have also expressed their opposition to it. In the Bendorf Institution it has been given by clysters without danger, and, in his consulting practice, Dr. Erlenmeyer, sen., has frequently recommended chloral clysters. Its action is so certain that in all cases where the drug produces any stomachic or intestinal ailment, this mode of administration is to be recommended. Dr. Fischer in Pforzheim gives chloral not only in clysters, but also in embrocations and fomentations.

The combination of chloral with morphia, already mentioned, is made in different ways. The two drugs have been given at the same time by different methods, chloral by the mouth or the rectum, and morphia by subcutaneous injection. In these two ways *no danger has ever been seen*, but in every case a *more rapid and certain result.* Jolly and Pelman declare this combination dangerous. In the case recorded by them somnolence, œdema of the lungs, and death occurred. Dr. Stark is unfavourable to the use of chloral combined with morphia. Lastly, it may be stated that chloral, in cases where it produced gastric disturbance, has been neutralised with bi-carbonate of soda. The result in every case was excellent, and the hypnotic effect certain. As to the dose of chloral, opinions are still very different. Dr. Erlenmeyer states that a ½ oz. to a 6 oz. mixture was generally prescribed, and of this at night ½ to 2 table-spoonfuls were administered (2 scruples, or 2·5 grammes). In some particularly obstinate cases as much as 4 grammes were given without causing any dangerous symptoms. Five grammes were never used, because a series of observations had been made of dangerous symptoms setting in after this dose.

W. Hunt Watkins ("Brit. Med. Journ.") and Crichton Browne ("Lancet," i., 13, 14) have recently reported cases in which death followed upon 5 grammes. It is, however, surprising that Fischer, without seeing any danger, has risen to a dose of 8 or 9 grammes. Dr. Kunst recommends 1 drachm as the most suitable dose. Numerous cases in medical literature prove that even a small dose may be dangerous, and that one must be careful in the administration of chloral.

Schlossberger, after 1·8 grammes, observed dangerous symptoms set in, facies decomposita, with loss of consciousness, imperceptible pulse, and cessation of respiration. The application of artificial respiration and the administration of stimulants restored the patient, but the intoxication and prostration continued till next morning. After

waking he stated that he had not slept at all, but was conscious of everything that went on around him, without being in a position to move himself or speak a word.

Tuke also saw the same symptoms in a drinker after a dose of 1·8 grammes. Fuller has seen the cardiac impulse disappear in a case of Bright's disease. In St. George's Hospital at London a case of death occurred after 1.8 grammes, and Webb has observed dangerous symptoms after the same dose.

It is quite certain that difference of action does not always depend on difference in the purity of the preparation, but mostly on the individuality of the patient. Cardiac and lung ailments certainly demand the greatest care, although Dr. Fischer does not consider lung disease to be a contra-indication. The kind of preparation, however, is decidedly not without influence.

Dr. Kunst, Assistant Physician in the Virginia Hospital, states that a good result can only be obtained when the preparation is not too old, but freshly used, as under light and other unknown influences it becomes worthless.

Dr. Erlenmeyer also takes advantage of this paper to state that the hydrate of bromal has no hypnotic action, as asserted by different parties. Taken internally, it gives rise to pain and itchiness of the neck and over the stomach, sickness, and diarrhœa. It has already been mentioned that after its use skin eruptions occur. Recently Dr. Crichton Browne has reported urtiearia, which Winter Fisher has seen in another case. Purpura has also been observed by Crichton Browne, and, as stated in the notice of a foregoing paper, erythema, by Schule, after the use of chloral. Upon the mode of action of this drug various views have been entertained. When it is observed that in patients who take chloral the use of spirits produces an intense erythema, that after long continued administration chloral causes *decubitus;* that after large doses the cardiac impulse and the respiration become slower, there can be no doubt that this medicine has a powerful paralytic action on the sympathetic. The same view is entertained by Crichton Browne, who ascribes the urticaria and purpura he observed after the use of chloral to paralysis of the vasomotor nerves, and to the hyperæmia of skin thus caused. This also explains the reason that it has so slight an effect upon mania, and no influence at all upon its duration. The fact as to the drug producing decubitus was some time ago published by Dr. Erlenmeyer, sen., who stated that in general progressive paralysis the paralytic symptoms became rapidly worse after its continued use, and again improved after the administration of the drug was abandoned.

Syphilitic Mental Disease.

The second group consists of the results of a paper in the "Allgemeine Zeitschrift für Psychisch-Gerichtliche Medecin," (Bd. 18, 4 and 5, Heft.), where Dr. Wille takes up the important subject of syphilitic

mental diseases, which in this country is so little known as to warrant an extended consideration. Referring to several papers on this question, published in Germany and elsewhere, he states that the material presented by alienists is very small compared with works upon cerebral syphilis generally, and with the great number of cases in asylums in which syphilis is stated to be the cause of mental disorder. The statistics, too, upon the frequency of this disease as an etiological cause of mental malady are indefinite and contradictory, and are not collected with the necessary care and critical acumen. As an instance, he points out the statistical reports of Illenau, in which syphilis is not even separated from excesses in venery. During the last seven years, in Munsterlingen and Rheinan, in 1,097 insane patients (501 men and 596 women), he himself has observed syphilis in 16 men and 12 women, as an etiological cause, that is 2½ per cent. on the whole, or 3 per cent. of the men, and 2 per cent. of the women.

From so small a number of cases he is unwilling to admit that syphilis should be so rare a cause of insanity, and states that he is convinced that insanity is more frequently produced by it than appears in the foregoing numbers. For this opinion he gives the following reasons :—1. The statistics are taken from institutions devoted to the admission of a rural population. Others, where the population is derived from great towns, sea coasts, and manufacturing districts, will present a different result. 2. Syphilis is one of the most frequent diseases under certain local conditions, and in its constitutional states the brain with the liver is most frequently affected. Hence mental changes play a great part among the symptoms of cerebral syphilis.

3. Syphilitic patients are seldom received into lunatic asylums, but generally treated privately, or in common hospitals. 4. Confessions as to this disease are difficult to be obtained, either from the patient or from his relatives. Therefore when cicatrices or the usual symptoms of primary or constitutional disease are absent, the diagnosis is made with extreme difficulty, and so there seem fewer cases than in reality there are.

Dr. Wille then proceeds to consider the symptomatoogy. On account of their importance we give his observations essentially as a translation, with the mere change of personal names.

" Looking upon the symptomatology of this disease, the most important symptom is the mental disturbance, which we shall therefore consider first, although it does not always appear first in the series, but very often after motory and sensitive ailments have taken place.

The first abnormal mental symptoms are psychical disorders and hypochrondriacal fears, which generally show themselves specially as syphilophobiæ or have a more general hypochondriacal or melancholic character. These symptoms occur so regularly, that they may be regarded almost as the regular prodromal stage of the disease. In his essay on " Syphillis of the Brain," Albers has given syphilitic hypo-

chondria as the first stage of this form of mental disease, and states that it may pass into syphilitic typhus or into apoplexy. He does not, however, regard it as a specific brain disease. Leidesdorf also mentions it, but he observes that it may originate in a purely psychical way. He considers that possibly it may be the result of a syphilitic cachexia. Leubuscher states that it is the most frequent form of syphilitic mental disease. Engelsted describes it in more detail as a symptom of constitutional syphilis. Gros and Laucereaux also mention it, and characterise it as Syphilitic Neurosis of the Intelligence, which depends on the chlorosis attending that disease.

After a more or less lengthened continuance of this stage, other symptoms of mental disease are developed. In 77 cases, of which 11 were his own, Dr. Wille has forty times observed a gradual decrease of mental power, which in thirty-four slowly increased from their commencement, and passed into a deeper dementia without the occurrence of any other mental symptom in the interval. In many cases it was specially observed that this weakness of mind in the early stage first shewed itself in a want of memory and a certain forgetfulness. In six cases this symptom was also seen, and the chronic dementia was broken by mental disturbances in the form of mania, melancholia, or acute delirium.

In 15 cases maniacal attacks occurred first, alternated with melancholia for a more or less lengthened time, and also changed with relatively free mental diseases.

In nine cases persistent hypochrondriacal melancholic ailments and delusions were observed. Eight times the disease began with symptoms of acute delirium, and five times with monomania of grandeur.

In some cases the after course of the disease shewed symptoms which we are induced to include under the category of moral insanity.

The cases which commenced with acute mental disturbances, also gradually passed into dementia, so that in all older forms of syphilitic mental disease we have to do with primary or secondary dementia. This idea may be generally and emphatically expressed, since the cases in which mental disease ran its course as simple mania, melancholia, or as chronic mania, without being complicated with dementia, were exceedingly rare. However frequently mental syphilitic disease is observed in the form of dementia, it nevertheless runs its course, not as a simple psychical disorder, but just as often is accompanied by other motory and sensitive cerebral disturbances. In somewhat more than half of the cases the same motory symptoms occur, which we know under the name of general progressive paralysis, and which come in as the sequelæ of constitutional syphilis. In this case we have not to do with an absolute paralysis, such as follows other cerebral and spinal diseases. More frequently the symptoms are only disturbances of co-ordination and high degrees of weakness, which Jaksoh has termed paralysis of energy (Energielähmung). All these conditions may, however, pass into actual paralysis.

Hemiplegia appears somewhat less often. It occurs just as frequently on one side as on the other. More rarely one meets with a paraplegia which in general extends from the lower extremities to the bladder and rectum. The paralysis is often more expressed in the one limb than in the other. A complication with paralysis of some of the extremities is most rarely observed; on the other hand, paralysis of some of the cerebral nerves very often occurs. The oculo-motorius, abducens, trochlearis, and facialis, are frequently affected in this way. As regards the muscles of the eye, these symptoms may occur singly, but also in combination with the foregoing paralytic conditions. In the after stage of syphilitic mental disease taking the course of progressive general paralysis, the nerves of speech and of respiration become especially affected. Cases are, however, described (by Leyden) in which disturbance of speech existed without this connection.

After these paralyses come spasmodic disturbances, and occupy the most important part of the symptomatology of this disease. The convulsions are either general or hemiplegic, some attended with loss of consciousness, as developed epileptic attacks, some without these symptoms. Besides these distinct convulsions, a simple trembling has been observed, weak convulsions, local spasms, and very frequently only simple attacks of giddiness and disturbances of equilibrium, as occurred in two of Dr. Wille's cases in the most marked way. These convulsions may continue, or may pass into conditions of paralysis. After it has set in they are not observed. Not unfrequently they precede the mental disease, and may also accompany it from its beginning to its end.

Among the disturbances of sensibility and sensuality, paralysis of the optic and hyperæsthesia, which is often followed by anæsthesia of the trigeminus, take the first position. These symptoms may occur on one or both sides.

With these changes are also connected the cranial pains, which so often, with almost constant regularity, are observed in constitutional syphilis. They often occur only during night, but at this time are always most severe, being caused by the warmth of the bed; they are increased by pressure, are deeply seated in the head, or show themselves in frontal or occipital regions.

At the commencement of the disease pains are often observed in the neck and in the extremities in a rheumatic way, and are therefore called rheumatoid. They are also seen in the after course of the malady, and recognised as the signs of osseous and periosteal disease. There is often a general, hyperæsthetic condition of all the nerves, as well of the cerebral as of the skin nerves, which may be so severe in the head as to do harm to every hair. Loss of hearing was often observed, more rarely disturbances of taste and of smell, though they may occur not unfrequently.

The usual conditions of anæsthesia are not unfrequent.

Among cerebral syphilitic disturbances sleeplessness deserves the

first mention as well at the beginning as in the after course of the disease. It may in numerous ways be due to cranial pains, though it may occur as a symptom without severe pain. Besides the anæsthesia alluded to, aphasia was not seldom seen in syphilitic mental disease, sometimes with right-sided hemiplegia, sometimes without that symptom.

While in earlier times it was assumed that syphilitic cerebral disease, and therefore syphilitic mental disorder, did not occur till several years after infection, and then as a tertiary cachectic symptom, a view which was first rebutted by Leubuscher, recent observers have found a different result. We are now quite certain that syphilitic mental disease may occur two months or even two weeks after infection, and certainly with the first secondary symptoms; that is, with the appearance of the first exanthema, or with the general glandular swelling. Indeed, cases have been reported, where, some time after infection, acute mental diseases took place, and where, after their continuance for some time, other symptoms of syphilis, such as Roseola and ulceration of the throat, appeared. This condition especially affects individuals whose brain (Griesinger) is organically troubled, who have previously presented symptoms of abnormal cerebral activity, or in whose families nervous diseases have frequently occurred.

But, as has been stated, syphilitic mental disease does not always appear as the first symptom of disturbed cerebral activity. It is often preceded by apoplectiform and epileptiform attacks, and out of these the mental symptoms are first developed. It may also appear as acute delirium, acute mania, or even in the form of a peculiar precursory stage. In general, the latter shows itself in the form of mental depression with hypochondriacal symptoms more strongly developed. In most cases, however, chronic syphilitic mental disease appears to be developed as a simple dementia, or as a form of monomania, which from the very commencement bears considerable signs of psychical degeneration. The same conditions which regulate the occurrence govern also the course of the disease; it may be acute or chronic. Cases are described which within some weeks terminated one way or other, while others have dragged along for years, until they terminated by chronic marasmus, or by intercurring diseases.

The course is often marked by a certain variety, by a change in the symptoms; sometimes the most severe and threatening ones rapidly disappear and give place to a comparative quiescence, or sometimes intellectual, sometimes convulsive, and sometimes paralytic symptoms take the upper place.

The question as to how far syphilis may give rise to cerebral disturbances and mental diseases, also to what pathological processes these changes are due, has only been determined within the last ten years. For a long time it has been known that there is a mental syphilitic disease, but as to its production our knowledge was by no means certain. In these attempts at explanation the swellings of the bones

have played the greatest part. In the older books which treated on this subject very little was communicated. Even in recent books, Neumann's and Flemming's, 1859, the question of the connection between syphilis and mental disease is treated as quite open, although the possibility of constitutional syphilis giving rise to such disorders is granted. Leidesdorf, in the first edition of his book, accepts syphiletic cachexia as a definite cause for this malady, an assumption which Guislain also sets up.

Griesinger, 1861, describes Periostites with slight inflammation in the dura mater and the soft membranes, and more severe encephalitis and meningitis, as processes to which abnormal mental symptoms may be ascribed. Meanwhile Virchow's great work on the "Nature of the Constitutional Syphilitic Affections" appeared (1859), and opened the way for the investigation of this subject. Since then works on this question have been copious and fruitful. His work upon "Syphilis," in the second volume on Tumours, widened our knowledge of syphilis in all its relations in a most wonderful way.

The material now collected is very rich. From it is seen that all conceivable ailments of the contents of the skull have been found in patients with mental disease who had suffered from constitutional sores. In the great multitude of these changes it was the natural desire of an investigator to find specific alterations for syphilis. If such do not really exist, the discovery of cerebral gummata in connection with the occurrence of such tumours in other organs, corresponds most to what has been sought. The occurrence of cerebral gummata is, however, by no means so frequent as it should be to correspond with the frequency of syphilitic mental diseases. The regressive metamorphoses, with the resorption thus produced, may be of this character, and many cases of cerebral sclerosis, the formation of cicatrices and callosities, and even the softening and formation of cysts, may be regarded as old gummata. But after making the widest allowances a great majority of cases of syphilitic mental disease still remain, in which one has nothing to do with gummata either before or at the post-mortem section. All observers are, therefore, agreed that non-gummous cerebral ailments accompanying syphilis may be none the less syphilitic, just as in other organs no gummata may exist, though they be syphilitically diseased. As regards the other changes which are found in syphilitic mental diseases, amidst the multitudinous variety existing, the discovery of definite alterations which are repeated so often that they may be looked upon as characteristic, is distinctly prominent. Besides caries of the skull and its sequelæ, in the interior of the brain there are inflammatory softening, due to changes of the walls of the cerebral arteries (calcination, contraction—thrombosis), and in the membranes chronic inflammation.

In the present position of cerebral syphilis we can distinguish the following forms of mental disorder due to that disease :—

1. Irritative forms based upon a cerebral anæmia, following syphilitic infection even from its commencement.

2. Simple inflammatory forms, due to meningitis, and inflammatory softening of the cerebral substance.

3. Neoplastic forms, proceeding from cerebral and meningeal gummata.

Dr. Wille also remarks that the post-mortem section of persons who have suffered from severe cerebral symptoms of this disease shows no such alterations in the brain sufficient to explain the disturbance in the functions of the nervous system.

In the clinical diagnosis of a syphlitic mental disease the fact to which it is due will always form the basis of the examination. If it is stated that a patient has previously suffered from syphilis, the further enquiry will have to do with the discovery of any sequelæ of the primary disease, and with the presence of any constitutional symptoms still existing. In this respect the general diagnostic signs of syphilis, which it is unnecessary to give here in detail, are taken advantage of. Dr. Wille observes here that neither a resultless examination nor the absence of the secondary symptoms can gainsay the existence of this disease. We must enter all the more thoroughly into an examination of the series of symptoms when they raise even a suspicion of a syphilitic origin.

Among mental symptoms examination must first of all be directed to the syphilitic hypochondria, and then to progressive dementia, since most cases of this disease begin or run their course attended by these characteristics. As regards the first, the symptoms are those of hypochondria, of hypochondriacal delusion with special reference to the incurability of a real or supposed specific infection. This is syphilophobia. Amongst these are included doubtful cases of the latter kind, where the infection is merely supposed, and where there is really no syphilis whatever. It is, however, necessary to know, that a whole complex series of similar symptoms have been found in persons who have never suffered from that disease. There is a series of other patients who have had a primary infection, and hold to the thought that they are secondarily affected, that syphilis cannot be rooted out of their body, and that they must sooner or later fall a victim to this disease. These individuals have no symptom of secondary infection, and in no way present any mark of syphilitic cachexia. In consequence of their internal disquietude and anxiety, sleeplessness and nervous symptoms set in, but these have nothing whatever to do with syphilis, and yet are regarded by the patient as the effects of this disease. In such cases anæmia and decline of nutrition may take place; they may become chronic, and pass into mental weakness, or as the result of a highly excited feeling of anguish, terminate in suicide. A case of the latter kind, which had been subjected to the most minute observation, presented not a trace of this disease in the system. But such instances are not to be regarded as belonging to syphilitic

mental disease, but are to be looked upon and treated as simple hypochondriacal melancholics. The marasmus occurring in their course (gradual anæmia, sinking of nutrition) is only the consequence of mental disease acting upon nutrition as in othermelancholics. Lastly, there is a third form of hypochondria, which occurs in persons who have previously suffered from syphilis.

Patients of this kind present symptoms of constitutional disease, besides their mental malady, or these may be altogether absent. But in the last case they show at least symptoms of a more or less advanced disturbance of nutrition, of chlorosis, of anæmia, with the well-known pains of the head and limbs, and of gastralgia, such as occur at the beginning of secondary syphilis, or in syphilitic marasmus, when a symptom of the tertiary form. The delusions are not always exclusively fear of syphilis and its consequences, but they are often of a general hypochondriacal or melancholic character, as in other mental diseases. From the latter the mental weakness of this stage is very often to be distinguished by its consequences upon the general psychical condition.

The hypochondria may continue to run on in its own character, it may be cured, or may pass into mania, or symptoms of dementia with paralysis may be developed, so that in many cases it may be regarded as the precursory stage of a severe syphilitic cerebral disease. This form of hypochondria is the only one to be regarded as syphilitic, as it is the only form due to this disease.

The second mental symptom is progressive dementia.

The rapid decline of mental power distinguishes it from the common secondary form, which is developed out of simple physical diseases. It has always this property in common with other ailments complicated with cerebral diseases.

In the symptomatology we have designated the mental decline as dementia without monomania of grandeur, but specially with weakness of memory. Though by this test dementia is distinguished from a certain group of mental disturbances, for instance from paralytic extravagance, it has characteristics in common with a number of other mental groups. In many cases, from the character of this precursory stage, an opinion may be formed upon the nature of the dementia presented. In most instances, however, we shall come to a correct conclusion only by a consideration of the causes and symptoms of value in forming a diagnosis.

This peculiar hypochondria and progressive dementia, when they occur, may therefore raise suspicions of syphilis, but only when they are met with in combination with other symptoms of that constitutional disease, can they be looked upon as expressions of this process.

Among pathological motory cerebral symptoms, general and progressive paralysis is the most important. These motory disturbances cannot be distinguished from those observed in general paralysis of the insane. It is, therefore, evident that out of these alone the diagnosis will receive but few hints. But as soon as these conditions

become complicated with paralysis of some or several of the cerebral nerves, the diagnosis attains greater surety.

Somewhat less frequent than these paralysed conditions are the hemiplegiæ in connection with syphilitic mental disease, but these are only of importance in the diagnosis when they occur simultaneously with other symptoms, as paralysis of cerebral nerves, syphilitic cicatrices, or constitutional symptoms of lues.

Another group of motory pathological symptoms are epileptic and epileptiform attacks, which deserve special attention, when they are limited to one side of the body, and consciousness remains during the fit. With these paralysis of cerebral nerves is often observed. When this condition affects the oculo-motorius, the abducens, the trochlearis and trigeminus, they deserve special consideration.

Paralysis of the abducens and trigeminus upon one side, are generally coetaneous with intra-canial lues (Graefe). According to the same author, among 60 cases of paralysis of the oculo-motorius 28 arose from syphilis. But not only these specific cerebral affections, but the multifarious disturbances of the cerebral nerves (Lecidet), their successive development (Gros and Lancereaux) and their unexpectedly quick and temporary recurrence are of importance in forming a diagnosis.

Paralysis of some muscles and groups of muscles is given as a symptom by different authors. This condition, however, does not so frequently take place as to cause a suspicion of lues.

Among pathological symptoms cranial pains stand in the first rank; they have frequently been observed in syphilitic mental diseases, and in connection with other circumstances, when they are present, may be taken as a diagnostic aid. Cranial pains, with a nocturnal exacerbation, which show a constant position, increase upon pressure, and especially are produced by the warmth of the bed, are characteristic. Forms of mental disease with this symptom give rise to great suspicion as regards lues. But the remark of Van der Kock must never be forgotten, that such symptoms are also seen in patients who have never been suspected. But the absence of this symptom, with the presence of other supporting facts, must not exclude the diagnosis of lues, for a wide experience shows that mental disease occurs frequently in combination with neuralgic pains, and alternates with these.

Many authors have noticed a double-sided prosopalgia in the majority of cases of syphillis, so that this symptom, in combination with others, may have its true value.

Among anæsthetic conditions, loss of function in the optic appears to take place most frequently. In particular, a sudden and rapid blindness is often observed in syphilitic cerebral diseases.

Other disturbances of sensibility do not generally occur. When Remak asserts that tabes is never syphilitic, this opinion is not consistent with experience.

Of other symptoms, which may yet find consideration, I might mention the rare occurrence of sickness at the commencement of such diseases, but this takes place very frequently in other cerebral maladies. Zeine directs attention to the recurrence of albuminuria in intra-cranial lues; in syphilitic suppuration of bone albuminoid degeneration of the glomeruli may often occur.

Besides these symptoms, the character of the disease at its commencement may assist the formation of a diagnosis. We know that syphilitic mental disease occurs in an acute form, or as acute delirium. Attacks of acute mania set in, and at their very commencement, or after a short precursory stage, are attended by severe symptoms (apoplectiform or epileptiform fits), or the disease begins with a gradual, slow, progressive development of symptoms of mental weakness. Its after course is much more characteristic than the beginning. It is marked by the occurrence of the most multiform symptoms, and by the one group alternating with, or being replaced by, the other. While from observation of one day we see a most severe and critical picture of suffering, in the shortest space of time quite a harmless change may take its place, all danger having yielded to proper treatment. Yet the peculiarity of this course is also observed in paralytic monomania of grandeur, and in hysterical mental diseases, wherefore the examination must occupy itself with the exceptions which these two groups form.

In the diagnosis of the syphilitic nature of a cerebral disease, Bedel gives an especial value to the result of the treatment, but goes too far in the assertion that if specifics do not act there can be no syphilis. Behrand's view, too, that where no other cause can be found to explain a pathological cerebral symptom, syphilis, in consequence of its frequency, may be accepted, would prove a hindrance rather than an aid in coming to a correct conclusion.

The occurrence of progressive dementia with paralysis in individuals who are not, or only but a short time, beyond twenty is of great value in the diagnosis. Experience has shown that progressive paralysis of the insane but very rarely occurs at this age, so that the occurrence of these symptoms in so young persons will always cause a suspicion of constitutional syphilis.

While the clinical diagnosis in many cases is very easy, in others it presents immense difficulties which cannot be overcome, notwithstanding the value of all the foregoing facts. This is all the more important, since in an advanced case of dementia proper examination of the patient must be renounced.

As regards the pathological and anatomical diagnosis, it is only the discovery of gummata of the cerebrum or membranes that can bring about a sure conclusion as to the syphilitic nature of any disease. The other pathological facts designated as characteristic—caries of the skull with its sequelæ, inflammatory softening of the interior of the brain, with disease of its vessels, and meningitis, occur also under

other conditions. Since the examination of the brain alone allows of no opinion being formed, it becomes necessary to call to our aid the changes which have taken place in other organs.

If gummata be found in other organs, this discovery is of great service in explaining the pathological process. But when they are absent the non-gummous syphilitic diseases of the liver and kidneys are not so well known as to give anything like sure hints. In cases, however, where section shows no specific change in any organ, even in those where all organs, with the exclusion of processes immediately preceding death, are healthy, and where one has to do only with the cerebral disease, in such the diagnosis is only a diagnosis of probability. In these the most exact clinical examination must be made, and an increase of material worked up in this way will shed a flood of light upon syphilis of the brain and enrich the works of pathological anatomy.

The encephalic foci (Heerde) have recently been described by Virchow and others in young children affected with congenital lues. Virchow regards this interstitial encephalitis as the result of active inflammatory processes. Perhaps continued investigation in this line may enlighten us as to the nature and extent of this pathological process, its relation to the encephalitis of adults, and to syphilis generally. Yet it appears quite certain that this pathological fact will have no specific importance for syphilis of the brain.

As regards meningitis, Griesinger declares a partly diffuse, partly circumscribed thickening of the arachnoid to be specific, while Verdun, Meyer, and, most recently, Maudsley, regard as specific the diffuse exudation glueing the membranes to each other, to the cerebral substance on the one hand, and to the skull on the other.

Beer, taking up Virchow's statement, says that it is quite right to regard meningeal exudations as specific, when they are essentially of a small-celled character, even though there be no growth. This view may be much more certain when these foci are at a distance from the common position of the pacchionian granulations. The matter, however, is not so simple, since simple meningeal exudations, however recent they are, have essentially the character of lymphatic cells, so that their distinction from specific deposits will have its difficulties. The reply to Griesinger's assertion, respecting specific meningitis, may be that the case which gave rise to this notice may have had a specific disease. Dr. Wille has six times observed a meningitis of quite the same character as Griesinger has described, without finding in the history of the case the pathological changes in other parts of the body, and in observation during life, any supporting points to favour a specific disease. In two cases he was able absolutely to exclude such a diagnosis. In Griesinger's case other pathological changes, due to lues, are absent, so that it is doubtful whether the form of syphilitic mania described by him may be the true one. It is more certain that this form does not belong exclusively to secondary syphilis.

In many cases the meningitis of syphilis cannot be distinguished from that of other diseases, so that the pathological anatomical diagnosis cannot be made sufficiently often with certainty.

To the conclusion of this section we cannot help adding the expression of Tüngel, that in a given case it is often impossible to come to an opinion upon the connection of cerebral disease with constitutional syphilis, even when clinical observation can be enriched by a post-mortem section.

The prognosis is governed by the symptoms of individual cases. So long as the malady runs its course as a primary mental disease, without further complications, it is not unfavourable. But when convulsions, epileptiform attacks, and fits, with loss of consciousness, set in, it is much more unfavourable, although even then a cure may be effected. The same is the case on the occurrence of paralysis of individual nerves. But once hemiplegiæ and symptoms of progressive paralysis in combination with progressive dementia have set in, the prognosis is then, in the opinion of most authors, very bad. Only Erlenmeyer dissents from this very bad prognosis, while others report cures under these conditions as only exceptions. Hupe states that the prognosis is only in so far favourable when severe cerebral symptoms cause less immediate danger to life than those of other cerebral diseases. Yet there are sufficient cases to show that in spite of the most decided treatment, a rapid and fatal result has followed. But after the cure of a case one must, in consequence of the frequency of relapses, and of latent, active disease, be very careful in giving an opinion. On the other hand, it cannot be doubted, considering the dangerous symptoms one so frequently sees in such patients, that they often rapidly pass away after proper treatment. The treatment is in general that for secondary syphilis. In the primary forms of mental disease, also in the anæmic, the irritative, and in simple inflammatory conditions of the brain, patients should bathe often, should be made to perspire, take iodide of potassium internally, and, above all, good nourishment. Especially in conditions of excitement, one should beware of strong diet and depressing remedies.

Iodide of potassium in such cases has many advantages. Apart from its influence on secondary syphilis, it has a peculiarly symptomatic and favourable action on sleeplessness, cranial pains, and pains of the limbs. The same treatment is applicable to those forms which are complicated with epileptic and paralytic symptoms. Should iodide of potassium not produce an amelioration in a short time, it may be combined with the use of mercury. The physician will then follow the principle of a more powerful nourishment. If under this treatment the condition remains the same, or becomes worse, the ointment cure must then be energetically applied. There are, however, many experienced syphilologists who have had no result in such cases, and many who quite reject it. Yet from time to time observations are always coming up, where in the most desperate cases a good result

from this treatment has been seen. Others would have the ointment cure applied at the v[illegible]cement of the [illegible]oms of paralysis, but as experience has always showed that such pathological conditions become decidedly worse after this treatment, Dr. Wille would prefer that a milder form of treatment should be first applied.

If an energetic application of the foregoing remedy does no good, the patient may then be excluded from treatment, as he will not recover. Yet even at this stage it is often necessary to submit some threatening or general secondary symptoms to a specific treatment, which even now may cause a transitory amelioration. With the treatment of syphilitic mental disease, it is absolutely necessary to investigate the relation of the so-called progressive paralysis to this malady. A suggestion was thrown out by Jessen (1857), that paralytic dementia is a syphilitic process, because he had confirmed this condition in almost all the cases observed by him. While Jessen has admitted the possibility that in many cases this state of matters could only be regarded as a complication, recently some northern investigators have definitely tried to establish the identity between cerebral syphilis and general paralysis, and have upheld it to the most recent time. During the previous year Erlenmeyer has expressed his agreement with the foregoing observers to a certain extent, when he asserts that there is scarcely a case of general paralysis in which an earlier syphilitic infection has not existed. Still he does not adopt the consequences of these observers, but admits that the connection between paralysis and an earlier syphilis can rarely be demonstrated.

Ludwig Meyer, latterly Westphal, and most recently Oedmansson, who have specially studied this subject, point out the identity between cerebral syphilis and progressive paralysis, and only admit the relation of a complication between both; while the latter here and there holds a casual connection between both as possible. Griesinger has also joined himself to these. All other observers, who have treated on progressive paralysis of the insane, have not come to a conclusion like the foregoing; indeed, by none of them, with the exception of Wirze, is syphilis even mentioned as a prominent cause in the etiology of general paralysis.

If one reviews the different authors upon general paralysis, almost without exception excesses in venery alone, or in combination with Bacchus, are introduced among the principal causes. Hoffman, then in Switzerland, did not agree with this view, while Neuman regarded the sexual excesses as the only etiological cause.

But, unfortunately, a series of authors have introduced sexual excesses and syphilis under one category. Whenever the two causes come together, they form an etiological cause for not much more than half of the cases of progressive paralysis; indeed, they often do not reach this number. On the other hand, among the other half of the cases, definite etiological causes have been introduced, which have been so often repeated, as to create no doubt of their correctness. Dr

Wille mentions only direct hereditary predisposition, injuries of the head, bodily over exertions, particularly with thorough wetting, shivering, combined with heat, excesses in drinking, or, in a mental respect, excessive speculation, and all internal galling causes, which the fight for existence brings with it.

These causes always have an equal value with excesses in venery and drinking. We can, therefore, with certainty establish the principle that the statistics of the etiological conditions of lunatic asylums do not favour the identity of general paralysis and cerebral syphilis. Moreover, it is the result of experience that cerebral syphilis is often followed by mental disturbance, and that these changes are generally either primary dementia, or pass into secondary dementia by a maniacal or melancholic stage, or by an attack of delirium. It is likewise the fact that more than the half of these are attended by motory disturbances, which perfectly correspond with the same symptoms which take place in progressive paralysis of the insane.

In general, the mental disturbance and series of symptoms produced by cerebral syphilis, that is, dementia, with progressive paralysis following epileptiform and apoplectiform attacks, are similar to those which are included under the name of progressive paralysis. This similarity is, however, only apparent, and rests upon an earlier erroneous definition of dementia paralytica. Progressive paralysis is, therefore, no simple pathological process, but only a picture drawn from a description of the most different pathological conditions, which are followed by dementia and paralysis, and under which part of the syphilitic mental disturbance is included.

An almost equal number of syphilitic mental diseases are attended by convulsions and paralysis on one side, but during the progressive paralysis of the insane these disappear. In syphilitic mental disorders the symptom of monomania of grandeur is seldom observed. On the other hand, the want of this symptom in progressive paralysis is an exception, when cases of chronic hydrocephalus, of chronic alcoholism, lead paralysis and psychical disease, apoplectic and senile dementia, &c., are separated, as is proper, from it. Further, partial paralyses, such as of individual nerves, are pretty frequently found in syphilitic mental disease, while these conditions are not seen in paralytic monomania of grandeur.

Lastly, Dr. Wille, in cases of mental disease, in which syphilis could be certainly regarded as the etiological cause, and in which monomania of grandeur also showed itself, generally found no specific cerebral change, and in the other parts of the body no secondary specific alterations, so that, in spite of a previous infection, the syphilitic nature of the aftercoming disease could by no means be proved. It, therefore, results from the symptomatological contrast and comparison of progressive paralysis with syphilitic mental disorder, that the two maladies are due to different processes.

Another way of investigation has been proposed by Westphal, that

is, the pathologico-anatomical; but here, first of all, the question is to be answered, whether constitutional lues can produce those alterations of the brain and its membranes, which are commonly found in paralytic dementia?

The commonest changes in this last disease are a high degree of œdema or cloudiness and thickening of the upper surface of the brain, greyish-red foci of softening, a discoloration and superficial induration of the cortical layers, very often great atrophy of the brain, and especially of its anterior convolutions; hence a greater firmness of the cerebral substance, widening of and serous effusions into the ventricles. Not unfrequently diffuse pachymeningitis and effusions of blood between the membranes and degeneration of the arteries are met with. If one compares with these alterations in progressive paralysis of the insane the results of post-mortem sections of syphilitic mental diseases, such as caries of the skull with its sequelæ, gummata of the cerebral membranes and of the brain, inflammatory softening in connection with calcination and thrombosis of the cerebral arteries, and meningitis, the last of these changes is almost the only one common to both pathological conditions. But even the meningitis referred to is sufficiently distinguished from that of the paralytic, since the growth of the brain and the pia mater seldom occurs in syphilis, while in paralytic monomania of grandeur it regularly takes place. On the other hand, the growth between the skull, membranes, and brain is often seen in the syphilitic, but not in the paralytic. When syphilitic meningitis is limited to the arachnoid, the meningeal exudation is marked by its small-celled character, while it is of a more fibrous nature—at least, in the older cloudy changes of paralysis.

Lastly, syphilitic meningitis is often as Griesinger has described it.

Simple meningitis is also found in the syphilitic, but it is in no way distinguished from that occurring in other diseases. The position of the meningeal exudations often gives hints as to the nature of the disease, for in the syphilitic it is found most frequently and most markedly at the base around the cerebral nerves, and generally in places in which it is much more rarely seen.

The anatomico-pathological comparison has thus brought out a distinction between the two diseases, and we are quite justified in looking upon the identity as an unscientific assumption until further proofs have been brought to establish it. But as experience has shown us some cases in which observation during life detected the contemporaneous existence of paralytic dementia, with undoubted symptoms of constitutional lues, and the post-mortem section, besides different specific alterations in the brain, showed only changes of meningo-encephalitis, it is more than probable that syphilitic cerebral disease may act in this way. But if the observations are based only on the examination, if the disease is unattended by symptoms of constitutional syphilis, if at last the section shows only the alterations of simple

paralytic dementia, without any specific changes of other organs, such cases are rightly to be regarded not only as doubtful, but even as improbably connected with syphilitic mental disease.

Lastly, it appears undoubted that both diseases may occur in the same individual as complications. Dr. Wille draws this conclusion from the history of some cases, in which the section of patients who had died of paralytic monomania of grandeur, and in whom the examination, besides syphilis, also brought out other essential causes which give rise to progressive paralysis, showed also, besides encephalic meningitis, specific alteration of the brain. The subject, however, is closed, and medical men in general are recommended to work it up as no less interesting than important to practice.

3.—The third group comprises a miscellaneous variety of topics.

Bodily Weight in Mental Disease.

"An Inaugural Dissertation," by Baltiff Marburg, 1872.

As regards this subject, which has been made an object of investigation in several well-regulated asylums of this country, the author comes to results of which we direct attention only to those which have a practical value. They principally relate to the bodily weight in the first stages of insanity.

1.—If no increase of nutrition takes place in a patient who has been subjected to proper treatment his mental malady will not be recovered from.

2.—If, on the other hand, a permanent increase of bodily weight is observed, the prognosis is very favourable, especially if there is no evidence of a periodical disturbance. There remains only the apprehension that with the amelioration of the mind a weakening of intelligence may be developed.

3.—If in the first stage of the disease the bodily weight does not increase under proper treatment, but rather decreases, the prognosis need not be unfavourable during the first six weeks, and the more so the longer there is reason to expect a rise in nutrition.

4.—The more striking connection changes in mind have with the bodily condition the more certain and favourable is the prognosis, periodical disturbances excluded from consideration.

5.—A steady rise of the weight-curve, when a corresponding clearness and freshness of the mind is not exhibited, creates fears of a termination in dementia.

A case of particular interest is given in connection with these weight curves. Six times within three years periods of excitement occurred, which always gave place to symptoms of melancholy. On the development of the former the bodily weight always began to rise, and reached its maximum when the exaltation was at its highest point. On the decrease of excitement the weight of the body began to fall, till it reached its minimum at the time of the most signal depression.

Puerperal Insanity.

A lecture by M. Leidesdorf, delivered at a medical meeting, May 15th, 1872.

The author has collected 20 cases from his own experience. Of these 6 belong to pregnancy, and 14 to the puerperal period. Of the 6 occurring in pregnancy 4 had already been mentally deranged before marriage. Pregnancy and the puerperal period heightened the mental disorder, and the patients passed into chronic, incurable insanity. In the course of a year one died in a condition of well-developed dementia. Post-mortem section showed atrophy of the brain, chronic hydrocephalus, pulmonary and intestinal tuberculosis. In two cases the mental disease came in the form of melancholia, in the fourth month of pregnancy; the one case underwent another excitement in the puerperal period, but terminated in recovery. The second case was a woman, who in each pregnancy (this was the third) fell into a condition of considerable depression, with hallucinations of a horrid character, and after delivery found herself recovered. The lecturer now passes to mental diseases occurring in pregnant women, and in the puerperal state. During the delivery, at the moment of the passage of the child's head, a transitory mania sometimes occurs which is of interest, especially in a forensic point of view.

Eclampsia, when the patient comes out of it, leaves a mental stupor, which in from two to six days generally disappears, and but rarely passes into permanent mental disorder. The diseases which occur in the puerperal state, of which the author has observed 14 cases, appear from 6 to 9 days, or from 3 to 6 weeks. Of these 5 were primiparæ; in 3 hereditary disease could be detected.

Eight of these were cured, 4 uncured, 1 died, and 1 remained in treatment. Recovery took place in 3 to 6 months. The 14 cases may be divided into three groups—

1. Where the pregnancy and puerperal period occurred in persons who had already suffered from mental disease.
2. Where the mental disorder occurred in pregnancy and underwent an exacerbation in the puerperal period.
3. Where the mental disease occurred first in the course of the puerperal period.

In part of those contained in the third group it could be shown that they stood in the narrowest causal connection with the puerperal state, and these diseases could be regarded as blood intoxications, arising in consequence of pyæmic and septicœmic processes.

In proof of this view Leidesdorf gives two cases ending in recovery.

These cases of puerperal mental diseases had their origin in a slow or rapid growth of anæmia. According to Leidesdorf's experience, especially in the first case, it ran a more unfavourable course as regards the mental disturbance than those proceeding from pyæmic or septicœmic blood-intoxication.

The prognosis is relatively favourable, for 8 out of 14, more than half, recovered.

Investigations of the Embolic Processes.

By Prof. Dr. J. Cohnheim. (Berlin, 1872.)

Cohnheim's newest work is devoted to that stage of those processes which take place in a region, or in the neighbourhood of a region, traversed by an obstructed vessel and its ramifications; experiments, and observations in animals, pathological facts, anatomical and physiological arguments are presented to bring about a solution of this question.

The whole book is divided into four sections.

I.—Disturbances of the circulation caused by Emboli.

II.—Upon the Independence of the Integrity of the Vascular Wall from the Circulation.

III.—Sequelæ of the Pathology of Congestion.

IV.—Embolic Abscess.

The investigations which serve for an answer of the questions placed at the head of the first section were made on the tongue of a frog. In the animal experimented on an emulsion of dark-coloured wax globules was injected into the lingual artery, and the processes caused by this procedure were minutely studied. We are sorry we are unable to give details of the interesting cases which are described by Cohnheim. The result of these, however, compelled him to declare that the consequences of embolism are independent of the anatomical relation of the artery to the neighbouring vessels; obstruction of an artery gives rise to different consequences, as it is or not a terminal vessel.

At that point where the artery gives off no anastomoses with other vessels, Cohnheim calls it a terminal artery.

Where a vessel which is not terminal is obstructed by an embolus, an arterial anastomosis carries the passage of the blood into the capillary district traversed by the vessel obstructed, and, some inconsiderable local changes excepted, the embolism is without result.

As regards the embolism of a terminal artery, the conditions are somewhat more complicated. The blood, which at the time of obstructions was found in front of the point of embolism, is withdrawn from the influences of the propelling forces, and stagnates in the terminal expansion of the artery, and in the veins leading out of this capillary region as far as their point of junction with other veins, which carry the blood out of parts in which the supply is in no way limited, but even increased by collateral hyperæmia. After a short time the blood begins to stream out of these into the inactive veins to run backwards into the capillary vessels, and into the part of the obstructed vessel lying in front of the embolus. This passage of blood is sometimes effected by oscillary movements of the blood columns. After one to two days these changes are evident to the eye on the frog's tongue. The

part of the organ concerned in the process is seen as a dark red wedge confined by its pale surroundings. In the second section we are shown how such an interruption of the circulation entails severe results for the tissues, and directly for the vascular wall. The latter, when for some time it has contained stagnating instead of flowing blood, becomes disposed to let the solid elements pass through it. In the neighbourhood of an embolic terminal artery, this process soon comes to necrosis, and to a large discharge of blood-cells from the vessels, and consequently to hæmorrhagic congestion.

The author then asks why the occurrence of such congestions is confined to definite organs (the lungs, the kidneys, the spleen), though other organs also become embolised.

The answer is this. In all other organs no proper terminal arteries occur, and all embolisms are rendered harmless by anastomosis and the collateral circulation. In the lungs arteries of any large calibre do not anastomose with each other, nor do the smallest before their passage into capillaries. Consequently proper terminal arteries do not exist in the lungs, and the diameter of the anastomosing vessels is so small that a great many of them must always concur to bring about the reestablishment of an arterial collateral circulation. When an arterial branch in the arteries of the lungs is obstructed, this condition is rendered impossible by the anastomoses of the smallest arteries from all quarters, but when embolism affects an arterial branch near to the surface of the lung in consequence of the deficiency of so many anastomoses, the collateral circulation is insufficiently supplied by the other remaining branches, and a backward movement as to the veins takes place, and is followed by congestion. In the spleen and kidneys the conditions are simpler. In these organs the arteries are entirely terminal vessels. Their obstruction is always followed by congestion. From the character of the vascular distribution in the brain a more frequent occurrence of hemorrhagic congestion might be expected, for in the great anastomosis of the circle of Willis, and in that of some lesser arteries, every vessel appears to have a pretty well isolated district of distribution. But here other circumstances come in (such as the influence of gravity upon the backward movement into the veins, &c., &c.). which help to bring the theories of the author into harmony with the facts.

In the last chapter we are shown that embolic abscesses always proceed from such emboli, which are not located in the terminal artery, and which are the bearers of a substance—a putrid organic matter—exciting inflammation.
