PART III.—QUARTERLY REPORT ON THE PROGRESS OF PSYCHOLOGICAL MEDICINE.

1. *German Psychological Literature.*

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Allgemeine Zeitschrift für Psychiatrie, Vol. xxv.-xxvi., 1868-69. "The Theory of Hallucination," Prof. Hagen: "Grey Degeneration of the Spinal Cord in its Relation to the Psychoses, especially to Dysphrenia sexualis," L. Kirn; "Atrophy of the Optic Nerve in Insanity," H. Wendt; "Eleven Theses concerning Delirium Acutum," Schüle; "Observations on Temperature in Tetanic Spasms in Insanity, and on Elevation of Temperature after Death," E. Guntz; "Contributions to the Pathology and Pathological Histology of the Brain and Spinal Cord," Schüle; "Mechanical Restraint in the Treatment of the Insane," Stolz; "On the Prognostic Significance of Inequality of the Pupils," Nasse; "A Form of Mania with Great Depression of Temperature," Löwenhardt; "Observations on the Pulse in Insanity," Wolff; "On the Locality of Emotion, or the Functions of the Cerebellum," Prof. Jessen; "On the Specific Gravity of the Brain in Insanity," Nasse; "The Action of Papaverin in Insanity," C. Stark; "Description of a Case of Obstructed Development of the Brain," Schüle; "Contribution to the Casuistics of Enostosis of the Clivus in Insanity," Stahl; "The Prognostic Significance of Hereditary Predisposition in Insanity," v. Krafft-Ebing; "Clinical Significance of Dysphagic Affections," Zenker; "Dual Perception, and Dual Thought," Huppert.

Hallucinations.—Professor Hagen adheres to the usual definition of hallucination, excluding from consideration both illusion and delusion; and he regards it as consisting in a high degree of excitability in the nervous centre, in consequence of which stimuli which act upon it call into action the functions of the sensory nerves passing out therefrom, in a centrifugal direction and in an unusual and violent manner, generally quite independent of voluntary control. Such a condition affecting the motor nerves being termed convulsive, the author defines hallucination as convulsion in the sensory nerves. He traces the causes and modes of occurrence of different kinds of hallucination, and shows the analogy which may be made out between them and convulsive con-

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ditions. Especially he draws attention to the much more frequent occurrence of both states in anaemic than in plethoric individuals. He directs special attention to its independence of intellectual disturbance when considered in its proper and restricted sense. Out of much which he brings forward in support of this view we may extract the notice of a very interesting case reported by Professor v. Graefe. "A man past middle age had four years previously lost his sight in consequence of inflammation of both eyeballs. At the time when he came under observation the eyeballs were atrophied, and contained several calcareous deposits. He had become subject to extraordinary sensations of light, which annoyed him day and night, and interfered with his falling asleep. Half a year ago he had suffered from a severe emotional shock, since when the appearances of mere light and colour, coloured spots, red luminous balls, clear green stripes, and such like, became so far modified that at the height of a paroxysm there were presented special forms, such as heads of horses and asses. He also saw human faces resembling those with whom he was acquainted, and believed that he was surrounded by them. The operation of neurotomy was performed, and during the week following there were no appearances of light or colour, nor hallucinations, although previously he scarcely ever passed a day without them."

Among the conclusions which Hagen draws from his enquiry he insists that every hallucination is a sign of disease, but that the disease is not necessarily mental. As regards the relation between hallucinations and the forms of mental disease in which they occur, he has observed them much more frequently in melancholia than in mania. He reconciles this with his theory of the production of hallucination, by regarding the centrifugal action in the nervous system as finding its exit in the former by the sensory channels, and in the latter by the motor. The form of melancholia in which they occur is the simple form which either ends in recovery or passes into the chronic form, but they are never found in those acute forms which pass into pure mania, nor in those chronic forms in which mania and melancholia alternate. They are also absent in cases of complete dementia.

In discussing the forensic aspect of the subject the author says:— "Those who look upon hallucinations as undoubted symptoms of mental disease must of course consider those labouring under them as irresponsible. According to our investigations, however, hallucinations give only a presumption of the existence of mental disease; whether it is really present must be otherwise determined. And it is not to be admitted, as is sometimes asserted, that a hallucination may be the only symptom of an insanity, or that insanity may be indicated by it alone. Hallucination is immediately and essentially a somatic symptom, and as such reveals no mental disease. If such be present it must be shown by other signs. Where this is impossible—where a hallucination has taken possession of an uneducated and superstitious person, it would be necessary that such an unusual and perplexing condition should re-

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ceive the most careful consideration from the judge. The physician has nothing to do but to point out the existence of the hallucination, and to explain whether or not the suspected cerebral affection presents any other symptoms which are peculiar to mental disease. In how far a person may be driven by hallucinations into a sudden and blameless confusion of ideas, as through a powerful impulse, or whether they may not be made use of by an "egoistical" fanatic in furtherance of his designs, is no part of the medical, but of the purely psychological consideration which the judge can himself determine. It is also shown by cases of this sort that no sharp demarcation between freedom and restriction (in the legal sense),—responsibility and irresponsibility, can be applied in actual practice, but that degrees of responsibility must be admitted. "In regard to therapeutics," continues the author, "I have little to say. It does not follow from my view, as I formerly believed, that those drugs which are considered especially anti-spasmodic in their action should be specially indicated in the treatment of hallucinations. Indeed these have rather lost their renown even in regard to convulsions. The indications are the same as for the treatment of insanity in general."

Relation of Spinal Degeneration to Insanity.—Dr. Ludwig Kirn reports a case in which symptoms of degeneration of the posterior columns came on in a patient who had previously exhibited distinct symptoms, for some years, of dementia paralytica. The first symptoms appear to have been the result of onanism, and the delusions had reference to disturbances in the general sensibility, partaking chiefly of the character of hyperæsthesia. The case is peculiar from the mental symptoms having so long preceded the physical. Dr. Kirn considers it to be the type of a special group of psychoses, to which he applies the name of *Dysphrenia sexualis.*

Atrophy of the Optic Nerve in Insanity.—Under this title Dr. Hermann Wendt describes three cases in which these conditions were concurrent. In the first case there was a tumour (Spindelzellensarcom) as large as a goose egg in the right anterior fossa of the cranial base. The optic nerves were not altered in their naked eye appearance, but microscopically there were found atrophy of the nervous and proliferation of the connective tissue. There was also slight inequality in the corpora quadrigemina, the left side being the smaller. The mental history was one of gradually advancing weakness for three years, after which slight excitement came on with delusions, and hallucinations of hearing, followed in a few months by somnolence and death. There was slight weakness of vision observed at the commencement of the symptoms, which left internal strabismus, and towards the end sudden passage into complete amaurosis. There were also in an early stage involuntary micturition, and later, convulsions in the left arm. The optic atrophy was found in both eyes, and at no time was there any symptom of neuroretinitis. The salient points of the second case are "Considerable mental disorder in 1857, with amblyopia, optic atrophy,

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progressing blindness, and delusions of persecution. In 1862, maniacal excitement, grandiose delusions, hallucinations of sight and hearing, unsteadiness in gait, diminished sense of taste, and involuntary micturition. In August, 1864, an epileptoid seizure, transitory anæsthesia of lower extremity, carbuncle and phlegmonous inflammations. Repeated epileptoid seizures, after a series of such attacks, death in 1866. The autopsy revealed abnormal development of bone on internal table of skull, and in the falx. Firm adherence of dura mater to cranium; œdema of pia mater and adhesion to cerebral surface. Inner layer of cortical substance very red; dilatation of lateral ventricles; granulation of the ependyma. Optic nerves thin, broad, and grey. Grey degeneration of posterior columns of cord. Pulmonary œdema, and cardiac dilatation." In this case the affection of the retina was the first unmistakeable symptom of the cerebral lesion. The main features in the history of the third case were as follows. The first symptoms shewed themselves previous to 1855, and consisted of signs of cerebral congestion, delusions, excitability, and salivation. In 1858 pulmonary tuberculosis. In 1861 failure of vision in the right eye, which, owing to frequent pressing and pulling, protruded appreciably from the socket. In September, 1863, complete blindness in both eyes, atrophy of the optic, right cataract, and marasmus. In February, 1865, death. Autopsy: Bones of skull compact; atrophy of brain; atrophy of optic nerves, especially the left. Right anterior prominence of corpora quadrigemina small. Pulmonary tuberculosis. The more marked atrophy of the left optic nerve and also of the right anterior eminence of the corpora quadrigemina were probably in genetic connection. The study of the connection between diseases manifesting mental symptoms and morbid opthalmoscopic appearances possesses great interest. But nothing has been shown as yet to warrant us in supposing that the retina undergoes any changes distinctive of such diseases.

Eleven propositions regarding Delirium Acutum, by Dr. Schüle, of Illenau.—"1. Delirium acutum is the clinical summary of a group of symptoms, consisting in certain disorders of the mental and motor functions, is the sign of a grave affection of the whole organism, and is of a dangerous character. 2. The mental lesions are clinically distinguished by a high grade of alteration of consciousness, which exhibits itself on the directly mental side by a peculiar form of delirium, and on the somatico-mental side by a disturbance of the physiognomic and mimetic innervation. 3. The motor lesions consist, besides the above mentioned changes of form in the groups controlled by the will, directly in a very exalted reflex excitability, in ataxies frequently with contractions of the surrounding muscles, and general or partial convulsions. 4. The grave affection of the organism shows itself in the signs of sudden loss of strength, generally accompanied by considerable febrile disturbance; the course of the malady has a deceptively remittent, always very acute, and generally very fatal character. 5. This assemblage of morbid signs is exhibited clinically in two concrete

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groups—maniacal and melancholic, which latter also appears in an excited and a depressed form. 6. The symptoms of the maniacal form consist essentially of an acute inflammatory cerebral irritation, and thereby approach in character the meningitic processes; the melancholic form exhibits essentially the symptoms of a high degree of disorder of blood life, and approaches thereby the results of inanition and the typhoid processes. 7. The pathologico-anatomical conditions show in the maniacal group the signs of an intense involvement of the vessels of the membranes, and of the superficial cortical layer, often with adhesion to each other and softening of the latter; in the second group on the other hand the *post mortem* appearances generally indicate cerebral anæmia, though they are also often of a negative character. But there are very frequently lesions of the extra cerebral organs, such as especially pneumonia, and diphtheritic inflammations, and a greasy condition of the blood, and a strong tendency to the occurrence of ecchymoses. 8. The clinical group which is included under *Delirium acutum* consists therefore in its idiopathic cases of acute Meningo-periencephalitis, and of a definite group of typhoid affections in processes of inanition. 9. It occurs also secondarily as the result of pneumonia, pleurisy, abdominal typhus, in the course of chronic cerebral diseases, such as general paralysis, in the cerebral affections produced by alcoholism, and in the course of hysterical disorders; but the group of symptoms which constitutes a simple recent *Mania* may be altered either permanently or transitorily into the character peculiar to *Delirium acutum*. 10. Its occurrence in the course of the most diverse chronic and acute diseases of the brain and other organs, but still more the want of any specific clinical characteristics would lead us less to endeavour to refer the group of symptoms to a special genus of disease, than to regard it as the symptomatic expression of a certain gravity in the cerebral affection, whether it be occasioned by lesion of the cortex or by congestion or altered nutrition in other structures. The mental and psycho-motor symptoms specially belonging to it have in this general sense an important diagnostic character. 11. In the treatment of the meningitico-maniacal class of cases the cautious application of antiphlogistic remedies is necessary, such as tepid baths, narcotics and calomel cautiously administered, with strict avoidance of external stimulus. In the melancholico-typhoid class, on the other hand, there must be careful nourishment of the patient by forced alimentation, at a late period quinine with acids, and during convalescence opium and malaga."

Contributions to the Pathology and Pathological Histology of the Brain and Spinal Chord.—Under this title Dr. Schüle gives the details of seven of the most interesting cases which occurred in the Asylum of Illenau during the summer of 1867. Five are cases of dementia paralytica, in regard to three of which the author finds Professor Westphal's views of the connection between that affection and degeneration of the spinal chord fully corroborated. All three

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are different, not only in their histological but also in their anatomical details. They belong clinically to Westphal's second group, and in every one there was disease of the posterior and lateral columns. In one there was also disease of the grey nucleus and anterior columns, and in two there was partial spinal meningitis. Between the two first reported cases there was considerable resemblance. Both exhibited the morbid alteration chiefly in the lateral columns. In one of these cases the secondary character of the degeneration was unmistakably shown by the microscopical examination, as was also the relation observed by Türck between this condition and the affection of the corpus striatum and especially of the internal capsule.

Mechanical Restraint in the Treatment of the Insane, and its gradual Abandonment in the Asylum at Hall in the Tyrol.—In our own country we have now so little opportunity of comparing the results of non-restraint and its opposite that it is both interesting and useful to watch the progress of the battle which is still going on elsewhere between the disciples of the new creed and their opponents. One of the most effective strokes which has been dealt by the reformers is the paper by Dr. Stolz giving an account of his gradual conversion. He is fortunately temperate in his style though convincing in his argument. "Coercion and restraint of the insane have been employed," he says, "as long as there have been any insane. They have continued to be unavoidable ever since the introduction of a rational treatment, and can never be done without as long as insanity exists. The sad necessity of their application lies in the nature of the affection. We have therefore only to concern ourselves with the extent, the degree, and the mode of application of these measures; and in regard to these the views of alienists may differ and their practice be widely divergent. If the English have NON-RESTRAINT inscribed above their doors it is, if taken literally, an untruth to which the walls on which it appears amply testify. But in spite of the untruth which a strict etymology detects in the expression, and in spite of the circumstance that this phrase is said to produce a false impression on the public mind, we, as physicians, quite understand its signification. I understand thereby those modes of treating the insane in which the employment of close corporeal restraint by means of restraint chairs, strait waistcoats, fastening of the limbs, and such measures are not had recourse to, and which systematically excludes close mechanical restriction as useless and injurious. Non-restraint is a kind of confession of faith whose adherents publicly profess to devote themselves to a certain mode of treatment. So long as the treatment of the insane is rationally carried on its aim must be the advancement of humanity in the treatment of the unfortunate patients; and this has been its aim even when the practice has been led by a faulty theory into error." Every mode of treatment must, however, be subjected to rigid criticism, and this the author wishes to be applied to the system of non-restraint, though he has no doubt

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of the result. Accordingly he submits to his countrymen the details of his own experience of the system. "My endeavour has been to reduce mechanical restraint to the minimum of what is justifiable, and I have most earnestly devoted myself to it." It has not therefore been in the spirit of the doctrinaire determined to carry out his theory at all hazards that he has worked, and it is satisfactory to find that for twenty-one months previous to the writing of the paper no mechanical restraint had been used in the institution under his superintendence. He was appointed in the year 1841, as successor to Dr. Tschallener, who had been a follower of Heinroth, and who had adopted as his motto the saying of Goethe—"In der Beschränkung nur zeigt sich der Meister." The condition of matters must have been sad indeed. Dr. Stolz says "those who saw the frequent cruel proceeding of striking them on the head (Kopfbrechen) must have felt deeply for the poor patients. No wonder then if we physicians and chaplains greeted with joy the spread of non-restraint in England; and from thenceforward I was prepossessed in favour of that system." Amid many difficulties, such as only the oldest in the profession here can sympathise with, Dr. Stolz gradually disentangled his treatment from the prevalent abuses, and he now presents in tabular form the results of the old system, and of its gradual supersession by the new. The first two tables give the cases in which mechanical restraint was employed from 1st November, 1854, to 31st July, 1867. During this period 27 patients were subjected to coercion. "This steadily underwent decrease along with an *increasing* average number resident, and a proportional *decrease* in the staff of attendants, so that from 1st April, 1866, till the present time (December, 1867) no restraint has been employed. The accidents also decreased both in number and importance. The third table gives the economic results, as regards clothing, bedding, and linen, during two periods of twelve years each, the former of which was during the administration of my predecessor, when there was an extensive use of restraint; the latter corresponds with the time of my own administration, during which the market price of the articles has been on the average somewhat higher. Notwithstanding this, the average expense for each patient in the former period amounted to 19fl. 41kr. (£1. 12s. 10d.) and in the latter to 14fl. 30kr. (£1. 4s. 2d.), a result which certainly does not support the idea of the cheapness of mechanical restraint."

"The fourth table represents the admissions and removals from the asylum during my twelve years administration. It there appears that in the period from 1st November, 1854, to 31st December, 1866, there left the asylum 389 males and 280 females, total 669. Of these there were recovered 32 per cent.; decidedly improved, 25 per cent.; making together, 57 per cent.; that is, more than the half of the removals, a result which agrees with that exhibited in the majority of asylums; so that, at the least, it does not tell against the non-restraint treat-

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ment." The author discusses the supposed value of restraint in those cases in which its defenders affirm its special usefulness; and it is useful, even though it be to us a well trod path, to go occasionally along the old line; and there is always a pleasant freshness of statement in the argument of a neophyte. "The fact," says Dr. Stolz, "that many maniacs immediately before the onset of an attack themselves desire the restraint, affords no certain indication of its advantage. It is chiefly an act of use and wont, and shows merely that the patient desires to anticipate the forcible application of the restraint. Of similar significance is the behaviour of a maniac which I have observed in our asylum. Immediately before the attack he throws aside his better clothing and rushes into the seclusion-room shutting the door behind him." As regards the treatment of dangerous patients, he says, "It would take too long were I to discuss fully the active and passive dangerousness of the insane as regards themselves and surrounding objects; my demonstration would degenerate into casuistry, and after all be imperfect. It could always be said to me by an objector, 'This case of mine remains unprovided for, and in this it is necessary to apply restraint.' I can only reply that I attain my end without restraint, and every one who is truly in earnest will be equally successful." He also remarks, that "dangerous outbreaks of the graver kind are as a rule of short duration, and the apparatus of restraint do not in these cases afford a sufficient protection." And an observation which he makes, that he has "less frequent necessity to have recourse to seclusion now than during the reign of restraint," affords good evidence of his having grasped the true principles of the system. We may now take leave of the author by quoting his last sentence, which is remarkably satisfactory, especially when we remember the previous tendency of the Journal in which it appears. "I consider that I have successfully demonstrated by my asylum practice that the mechanical management of the insane without close mechanical restraint is in general possible; I am convinced that the abolition of this restraint is a beneficial and curative measure; and I confidently leave to the further development of psychiatry the settlement of the question whether the adoption of non-restraint be desirable or possible."

The Prognostic Significance of Inequality of the Pupils in Insanity.—Dr. Nasse, of Siegburg, contributes a valuable paper on this subject. "Since the treatise by Seifert," he says, "I am not aware of any publication which has been devoted to this investigation, and while I admit the general correctness of his observations, I do not think that they afford a satisfactory basis for the consideration of the prognostic value of the symptom, and particularly, I think, that they are defective in regard to what concerns the connection between insanity and disease of the brain. Having for several years devoted particular attention to this investigation in various asylums, I think it right that I should now explain my views regarding it. In the first place I must remark

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that the inequality of the pupils occurs much more frequently among the insane than seems to be generally supposed by alienists, at least in Germany. My observations agree entirely with those made by Castiglioni at the Senavra, and also with those of Austin whose investigations, however, only refer to paralytics. Among 146 insane persons Castigloni found the pupils normal only in 36. During last year the inmates of the curative asylum at Siegburg were examined; and out of 229 there were only 83 found with normal pupils. I may add that at times the proportion of patients presenting inequality of the pupils is much greater, and that often for weeks no patient is admitted without it; and this, notwithstanding that the greater number of paralytics and dements, who form a great proportion of such cases, are congregated in the institution devoted to the mere care of incurables. Since I gave greater attention to this condition of the pupils I have been met with the conviction that the lesion of the pupil is not isolated, but generally associated with disturbance of the innervation of the region of the facial and hypoglossal nerves. At first when I observed the laxity of one side of the face, the distorted mouth, the divergence of the point of the tongue, often also the lateral dragging of the uvula, associated with a difference of the pupils, I attributed these appearances to general paralysis. The want of the other motor lesions manifested by this disease, the merely unilateral occurrence of the above symptoms, and their existence without any of the accompanying psychical characteristics of the paralysis taught me, however, so much the sooner to recognise these partial paralytic symptoms in all forms of insanity without distinction. It appears to me that the attention of alienists has been but slightly directed to the observation of these phenomena; at least they have been only rarely reported, and Seifert has only observed once among his cases the dissimilarity of the two sides of the face and tongue. How very frequently, however, these lesions occur may be understood when I give the statistics of the 229 cases which I examined in August of last year. Only 56 exhibited no difference in the pupils, or sides of the face, or divergence of the tongue, 14 being males and 42 females. There was merely inequality of the pupils in 40 cases, 13 males and 27 females; simultaneous inequality of the pupils, laxity on one side of ths face, and lateral dragging of the point of the tongue in 106 cases, 66 males and 40 females; and similarity of the pupils with disimilarity of the sides of the face, and divergence of the tongue in 27 cases, 16 males and 11 females. Similar proportions have been found by me in repeated observations, and justify the conclusion that only about a fourth of the patients who have come under my observation exhibit no abnormality of the pupils, face, or tongue. From this great frequency it is of course evident that these lesions are by no means confined to general paralysis and dementia, but are found in considerable proportion also in the primary forms of mania and melancholia. Seifert had previously made a similar observation in 24 cases, and I therefore consider it

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superfluous and useless to go more into detail as to the frequency of their occurrence in the different forms of insanity. I would, however, mention that I have found these partial paralytic symptoms in general paralysis more frequently than the other observer. Seifert has among 25 paralytics observed differences in the pupils 17 times; Pelman, to whose hitherto unpublished observations I am kindly allowed to refer, has observed it 25 times among 50 paralytics: and von Linstow, in Schleswig, has observed it in a third of his cases. Among 108 cases of general paralysis which within the last four years have come under my observation in Siegburg, the proportions were exhibited in the following manner. Of the 25 female patients, only one showed no alteration of the pupil; in three others there were other affections of the eye—glaucoma, opacity of the cornea, and synechia of the iris, which excluded any opinion regarding condition of the iris; in the remaining 21 there was considerable inequality of the pupils. Of 83 paralytic males, 76 showed considerable difference in the pupils; 2 others had constant pinhead contraction of both pupils; 2 suffered from disorders of the eye—synechia of the iris, and opacity of the cornea, which permitted no opinion as to the pupils; whilst only in 3 cases was no abnormality detected. Of 103 cases therefore, only 4 were free from alteration. This agrees with the observations of Austin who only found two exceptions among 100 cases of paralysis. I cannot, however, omit to remark that the claims of this observer to reliability, in general are only slight. He has concluded from his observations that there is a certain relation between the side of the body on which the alteration of the iris occurs and the form of the delirium, that the affection of the right pupil corresponds with a melancholic character, and that of the left with a maniacal character of delirium. He also believes that the condition of the pupil alters regularly with the exaltation or depression of the mental state. Immediately after the appearance of his essay, Pelman took pains to test the accuracy of this in the private asylum of Dr. Reimer, at Görlitz, and from the investigation of 30 cases of altered pupils found that the opinion was in no way corroborated. Austin has brought forward 14 cases of mixed delirium in which the condition of the pupil altered according to the character of the mental state. Pelman had an opportunity of watching the appearance of sudden changes in the dilatation of the pupils in both eyes in a general paralytic for six months, and this case is particularly suited to show how untenable Austin's view is. The patient exhibited a most remarkable variability in the alteration of the pupils, now the right and now the left was considerably dilated, and these changes often occurred during the course of one day, and often only during several weeks. In spite of his highly developed self-consciousnesss the patient was free from the peculiar grandiose delusions, but showed the characteristic rapid and transitory changes of disposition. A continued comparison of the temperament with the condition of the pupils, revealed not merely that the pupils frequently remained

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perfectly unchanged when there was change of disposition, but the dilatation of the right pupil occurred more frequently along with a cheerful temper and that of the left more frequently with a state of depression, a result diametrically opposed to Austin's statement. It appears to be scarcely necessary to add that though I have for a long time directed my attention to this condition of paralytics, I have arrived at exactly the same conclusion; and in simple mania or mellancholia I have found Austin's view equally unsupported.

"If we enquire into the conditions of these paralytic symptoms we must not forget that they may have their origin in disease of the visual apparatus itself, that is, in the retina or optic nerve. Billod has already in regard to this published extensive researches. Among 400 cases he only found 3 in which amaurosis was found as a cause of change in the pupil, and he ascertained the frequency of the latter without the presence of the former. The alterations found by Koestl and Niemetschek in their opthalmoscopic examinations of 142 patients in the asylum at Prague, are indeed more numerous. Examinations made by experienced oculists on repeated occasions in a number of cases at Siegburg, which presented most striking inequality of the pupils, only revealed, in a few instances, atrophy of the optic nerve, while in all the rest no disease of the visual apparatus was ascertained. It therefore appears that by this means we can only in a few cases explain the so frequent inequality of the pupils among the insane. We must look for the cause in the direct influence of the motor nerves of the iris, of which the oculomotor governs the sphincter, and the sympathetic the dilatator iridis. But as to which of these nerves is affected, whether a constant dilatation depends on paralysis of the oculomotor or irritation of the sympathetic, or whether contraction depends on irritation of the oculomotor or paralysis of the sympathetic, must at present, from the impossibility of investigating by physiological experiments the share of each nerve, be an insoluble problem. We know, indeed, that according to the researches of Budge (Ueber die Bewegung der Iris, p. 184) the dilatation of the pupil by atropia results more from its action on the oculomotor; and recently Royow in his investigations believed that he must refer the action of the Calabar bean to irritation of the oculomotor, and in no way to paralysis of the sympathetic. And if we also take into account the circumstances that the pinhead contraction of the pupils, which we frequently observe in general paralytics, passes always into dilatation under the application of atropia, and, as I have seen in several cases of remarkable unilateral dilatation of the pupils in paralytics, immediate contraction is produced by the Calabar bean, one is disposed to attribute to the oculomotor a predominating share in the changes of the pupil in our patients. But we must not conceal from ourselves that this view can only be taken as a supposition so long as strong proofs are wanting of alterations in the origin or course of this nerve. It only remains to seek in the brain itself the cause of the alterations of the pupil, as Linstow has done in regard to

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paralysis. On account of the usual absence of ptosis and strabismus, and as the pupils which are unaffected by the stimulus of light are still dilatable by atropia, while the eye retains its clearness of vision, he considers that the cause is to be found in the want of the reflex communication in the brain between the optic and oculomotor nerves. Budge also draws attention to the importance of disorders of nutrition in the central nervous system, which, by means of the trigeminus, are capable, according as their form is erethic or torpid, to produce contraction or dilatation of the pupils; and he is inclined to ascribe an important share in the production of dilatation to torpor in the domain of nutrition and sensation. This, indeed, must refer more to cases of similar change in both pupils in constitutional diseases, while it scarcely contributes to the explanation of the unilateral alteration of the pupils with which we are now concerned.

"The symptom already mentioned of frequent and rapid change in the inequality of the pupils in cerebral affections, which is generally accompanied by mental derangements—of which a striking example has been given, and of whose not infrequent occurrence medical practitioners have often an opportunity of convincing themselves—is scarcely to be otherwise explained than by a participation of the nervous centre. The transitory action of pressure from sanguineous obstruction or serous accumulation on different parts of the brain may occasion such a change, and Leyden (Virchow's Archiv, 1866, 37, 4.) tries to account for the varying difference in the pupils by the imperfect equalisation of the pressure. A very interesting and striking corroboration of this is furnished by Wilks (Guy's Hospital Reports, VII.), in which by the alteration of the position of the head in bed of a hydrocephalic child corresponding dilatation of either pupil could be produced at will; and the influence of the relation of pressure was thus placed beyond doubt. We may, on the other hand, undoubtedly exclude, as regards our patients, the co-operation of the imagination in voluntary alteration of the pupils, as is observed in some instances among the healthy.

Equal difficulty is met with in attempting to explain the paralytic symptoms affecting the facial and hypoglossal nerves. There are indeed cases in which unilateral paralysis of the face and tongue is known to have resulted from disease of the nervous axis, such as tumours, rigidity of the arteries, &c. These instances are, however, on the whole rare, and do not affect the sort of patients with whom we have here to do, nor do they exhibit that group of symptoms, with simultaneous affection of the pupils, face, and tongue, which we have been considering. The existence of a central cause in the simultaneous affection of the pupils, face, and tongue, in the generally parallel course of the symptoms, and in the continual complication with mental symptoms, may thus appear probable. And this is rendered more credible since the recent researches of C. Bernard and Deiters refer the origin of the nerves of the pupil to the superior thoracic

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portion of the spinal cord. But what may be the site as well as the nature of the lesion, whether in the medulla oblongata or a lower part of the cord, must in the absence of suitable pathologico-anatomical data still remain undecided. We may infer from their long and often constant existence after the disappearance of congestion, that these paralytic symptoms cannot be produced by mere hyperæmia such as almost always occurs at a certain stage of the commencement of the mental disorder. The obstinate persistence of the symptoms is much more indicative of a pathological change in structure, which may consist either in inflammatory or serous exudation, or in small sanguineous extravasations. The sudden appearance and slow and gradual disappearance of the paralytic symptoms are rather suggestive of the latter, especially as the onesidedness of the symptoms points to it rather than to an inflammatory process which besides is seldom met with in mental disorders.

"I may be allowed further to refer to the prognostic signification of these symptoms as in accordance with this view. Inequality of the pupils has long been regarded as an extremely unfavourable symptom in insanity, and the belief in a deep and incurable affection of the brain used to follow the discovery of a constant difference between the pupils, especially if there were also other paralytic symptoms in the region of the cerebral nerves. I confess that I myself formerly shared to a considerable degree in this unfavourable view, and allowed myself to be influenced in prognosis by this symptom. Seifert has already truly remarked that the prognosis from difference in the pupils is not absolutely unfavourable; and my present belief, derived from several years' observation of the complication in cases of insanity, is that the opinion may be stated still more strongly, that constant inequality of the pupils in all forms of insanity by no means justifies an unfavourable prognosis, and indeed possesses no important significance as to the result of the disease. Of course, I exclude from this the paralytics in whom the simultaneous occurrence of general motor lesions quite alters the complexion of the case, and in whom the affection of the iris can only be regarded as one member of a whole series. In like manner we must regard the partial paralysis of the face and tongue, to which, however, I never attached the same importance as to the lesion of the iris. The usual course is that all the partial paralytic symptoms decrease and ultimately disappear altogether along with the convalescence from the mental disturbance and gradual improvement of the nutrition; whilst in stationary or progressing psychoses they generally remain unaltered. It also happens, however, that one or more paralytic symptoms remain in spite of the mental recovery, and also that they may disappear when there is no recovery otherwise. In this view I may state as a ground for the above assertion of the prognostic worthlessness of inequality of the pupils the fact that complete and lasting mental recovery may occur without the disappearance of the inequality."

Nasse gives the details of fourteen cases in support of his conclu-

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sions, but it is unnecessary to insert them here. "The objection," he says, "that these symptoms occur also among the sane without any known or discoverable disorder of vision, is certainly not to be overlooked. No observer who has directed his special attention to the condition of the pupils among a large number of sane persons can avoid seeing that several are to be met with who exhibit inequality of the pupils, independently of any other affection of the eye, and generally quite unsuspected by themselves. Regarding the frequency of this condition I am, indeed, not in a position enabling me to give definite numbers, not having made observations on a sufficient series of persons for the determination of the proportions; and I am not acquainted with any statistical data in regard to it. I believe, however, with Seifert, that it is to be doubted whether the frequency of this as an abnormality among the sane, which has been properly pointed out by Richarz as a possible source of error, exists in any such proportions as among the insane, or even contributes any considerable contingent thereto. Attention must always be directed to the important distinction furnished by simultaneous occurrence of the other partial paralytic symptoms and by their progress, which, especially amongthe insane, affixes to these symptoms the unmistakeable stamp of disease."

A Form of Mania with great Depression of Temperature.—Löwenhardt describes four cases in which the depression of temperture was greater than has previously been recorded. The lowest temperature mentioned by Wunderlich as compatible with life is 32° C. (about 90° Fahr.) In the first case the temperature ranged for several weeks between 25° and 35° C. (77° and 95° Fahr.) and during the last three days between 25° and 31·35° C. (77° and 88·43° Fahr.) In the second case the heat of the body on the evening before death was only 30·8° C. (87·44° Fahr.), and 29·5° C (85·1° Fahr.) shortly before death. In the third case the temperature during the last five days was from 23·75° to 31·5° C. (74·75° to 88·7° Fahr.) In the fourth case the patient, during the last two days, had a temperature of from 28° to 30·8° C. (82·4° to 87·44° Fahr.) Three of the patients were males and had been drunkards; all were of considerable age, one being 54, two 59, and the other 67 years of age. The mental condition in all was at first a high degree of maniacal excitement; and towards the end in all cases symptoms of a paralytic character showed themselves.

On the Locality of Emotion.—Professor Jessen discusses this subject at considerable length, and concludes that there is good reason to believe that the cerebellum is more especially the organ of the emotions.

Action of Papaverin in Insanity.—Dr. Stark corroborates by his observations most of the conclusions to which Leidesdorf and Breslauer had arrived, and recommends its use as a valuable addition to our list of narcotics.

The Pulse in Insanity.—Dr. Wolff devotes five papers to his researches on this subject, and contributes much that is valuable to our knowledge of it. He shows that by means of the sphygmograph we

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may derive important aid both in diagnosis and prognosis. The nature of the essay makes it almost impossible to give a fair idea of it without the aid of diagramatic illustration.

Enostosis of the Clivus in Insanity.—Dr. Stahl describes certain malformations which he finds to be associated, with more or less bony excrescence, from the internal surface of the clivus Blumenbachii. He describes several cases of what he calls Facies vara, or club face, in which the face is bent to left or right, chiefly through the action of the external pterygoid muscle. He also describes a case of sternutatio convulsiva associated with cartilaginous exostosis of the clivus. The last form which he describes is one of mimetic contractions of face, in which the domains of the following nerves were affected—the facial, third branch of the fifth, and also cervical and spinal nerves. In this case there was diffuse exostosis of the clivus, affecting the origins of the different nerves.

The Prognostic Significance of Hereditary Predisposition in Insanity.—This interesting subject is treated in his usual careful manner by v. Krafft-Ebing Believing that the state of our knowledge does not enable us to approach the investigation from either the pathologico-anatomical, or from the anthropological point of view, he confines his attention to the symptomological, in which each case is examined as to the previous mental development and the whole pathogenesis. He tries to determine how far hereditary influence has affected the previous history, or how far there may be discovered in the fully developed disease empirical signs of the ætiology, and facts available for prognosis. He takes, as the basis of his investigation, only such cases as present histories of direct hereditary insanity; and of these he has collected 292 cases (174 males and 118 females). For the purposes of the enquiry he divides them into three classes.

A. Cases in which the direct transmission of insanity has been established, but whose whole history as individuals exhibits no mental abnormality which could be referred to heredity—cases of latent hereditary predisposition.

B. Cases which in early life exhibited periodically or continuously neuropathic and psychopathic symptoms which might be attributed to hereditary influence. The characteristics of such cases are very various. But they may be generally indicated as being of weak nervous coustitution, highly emotional, in most cases arriving early at puberty, at the development of which they usually exhibit nervous and mental disturbance; in a word, exhibiting the nervous system as the *locus minoris resistentiæ.*

C. The third group includes such cases as do not come under the two previous definitions, but reveal "*ab ovo*, such abnormalities in their mental predisposition and development, as to suggest, and in some cases demonstrate, the existence of congenital mental disease." They come, in some cases, under the head of moral insanity, and in others under congenital and hereditary, stationary or progressive imbecility and fatuity.

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According to this classification the statistics of recovery are arranged. "As cases of cure none are taken in which there was not a complete *restitutio ad integrum* both at the time of leaving the Asylum and in after life. As cases of improvement, only those are counted in which the disorder was reduced to the previous predisposition to disease, *plus* the defect resulting from it, or in which the mental capacity has experienced a lasting improvement." The author tabulates them as follows :—

			Number.	Percentage.
Group A.	Recovered	Males	39	58.4
		Females	15	57.7
	Improved	Males	9	13.2
		Females	5	19.2
	Unimproved	Males	19	28.4
		Females	6	23.
Group B.	Recovered	Males	14	16.1
		Females	11	13.2
	Improved	Males	20	23.
		Females	15	17.8
	Unimproved	Males	53	60.9
		Females	58	69.
Group C.	Recovered	Males	0	
		Females	0	
	Improved	Males	2	10.
		Females	0	
	Unimproved	Males	18	90.
		Females	8	100.

In consideration of the comparatively small number of cases, the author does not claim an absolute, but only a relative value for the results; but so far as they go, he considers them of great significance. "The curability stands, *ceteris paribus*, in inverse ratio to the strength of the hereditary influence. In group A., in which the predisposition is latent, the percentage oversteps that of unhereditary cases; in B, it falls far below the average of curability; and in C, it amounts to none at all." The inference deduced from his statistics by Jung, and referred to in a former report in this Journal, that hereditary predisposition in itself furnishes a favourable element in prognosis, "is thus untenable, as it only applies to a certain number of hereditarily predisposed cases. Heredity is of bad omen when its influence attains to a consitutional significance, and acts upon the course of physical and mental development. The more and the earlier that this hereditary constitutional influence makes itself felt, so much the gloomier is the prognosis. And in the highest degree, a hereditary predisposition taking effect *ab ovo*, makes it as hopeless as any psychosis resulting from pathologico-anatomical changes and degenerations in the brain (hérédité morbide progressive)."

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