CLINICAL CASES.

Cases of Tabes dorsalis (grey degeneration of the posterior columns) and Paralysis universalis progressiva. By Dr. C. Westphal, Lecturer on Psychology in the University, and Physician to the "Lunatic Wards," of the Charité, Berlin.

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I have now for several years, during the careful investigation of the history of those suffering from general paralysis, noticed that either the patients themselves, if they are still moderately intelligent, or their relations, frequently mention rheumatic affections sometimes as the cause of the disease and its antecedents, sometimes as important accompanying symptoms, or they are, perhaps, merely mentioned incidentally. These so-called rheumatic affections have their situation most commonly in the lower extremities, the arms being but seldom affected. They are generally described as transient and stinging pains, irregular in their commencement and duration. By further investigation it appears that such antecedent symptoms can be discovered in only a certain number of the cases, of whose proportion to the others nothing can be positively affirmed; for, owing to the very different conditions of those admitted to the asylum of a large town, an exact history is, in a great number of the diseased, wholly wanting. The fact always appeared striking, and I believed that for the present it must be allowed to remain undecided, whether indeed these rheumatic symptoms ought to be considered as etiological (Calmeil's Douaniers with the bivouacked soldiers of the empire, may be remembered*), or accounted for as eccentric cerebral phenomena. Commonly the disease in its already developed form is presented to the alienist physician, and he has seldom himself the opportunity to investigate the causes, and to observe the early symptoms. It is, therefore, difficult to arrive at correct conclusions. A patient, admitted in January, 1858, to the lunatic wards of the Charité, offered for the first time a sure footing for the explanation of the phenomena. This patient had several years

* Calmeil, 'De la Paralysie considérée chez les Aliénés,' Paris, 1826, pp. 375.

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before an attack of manie des grandeurs, for which he was admitted into the ward. While still in perfect mental health, he complained of fleeting, stinging pains in the lower extremities, together with incontinence of urine, then occasional squinting was observed, and at last, after several faints, the delirium des grandeurs, appeared shortly before his admission. In this case I remarked, first, that the patient, whose gait, as may be learned from his subsequent history was already evidently partially paralysed (paretisch), staggered *with shut eyes*, so that he fell, while with open eyes he was able still to stand firm. I hereupon examined the paralytic insane with regard to their behaviour with shut eyes, and found that all with the usual form of paralytic disease—if they are not yet too feeble—*do not stagger* even with shut eyes. I found this last condition in only a certain number of cases, and in all these was the peculiarity that fleeting pains existed long before the appearance of the disease. The forementioned case of 1858 came to post-mortem examination in the beginning of the winter of 1861, and it presented a distinct gray *degeneration of the posterior columns of the spinal cord* in nearly its whole extent, while there was no evidence of disease in the brain substance proper. If, then, the exceptional staggering with shut eyes, and the whole particulars of the disease, had been referred to an affection of the spinal cord, and the fleeting pains in the lower extremity considered as eccentric spinal phenomena, the result of the post-mortem examination would have confirmed this opinion. After my attention was once turned to this point I found subsequently several similar cases. At present I will only give three of these in which the history is most complete. The others, although they essentially help to *confirm* the foregoing opinions, are not appropriate, partly on account of the removal of the patient from the asylum, partly because a complete history, or post-mortem examination, was wanting to serve as a proof.

Case 1. J. Z—, æt. 45, formerly a store-keeper, later superintendent of a house of correction, admitted into the lunatic wards of La Charité on the 5th of January, 1858. He has of late been much addicted to the use of alcoholic liquors, by which he is very easily affected. For several years he has suffered from hæmorrhoids, and *fleeting, stinging pains in the lower extremities*. About four and a half years ago he suddenly began to squint. This symptom soon afterwards disappeared, and he, two years ago, for the first time complained of weakness of sight. To this was added headache, uncertainty of gait, occasional feeling of giddiness, and incontinence of urine. Four weeks before his admission he was seized with a well-marked attack of giddiness, so that he fell to the ground, exclaiming, "What will become of me!" A second similar attack followed soon thereafter. Shortly before Christmas his disposition changed, he exhibited great irritability, violence, and such an abnormal elevation of the sexual passion, that he could only with difficulty be kept from his wife, who was near her confinement, and towards whom he was at other times strikingly careless and indifferent. About Christmas he was seized with a daily increasing *manie des grandeurs*,

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esteeming himself a very talented, fortunate man, occupying himself almost incessantly with the grandest arrangements for the christening of his child, to which he wished to invite all bankers, princes, and nobility, appearing remarkably serene, chattering constantly, and often declaring that he had so many thoughts, and that in consequence he felt the circumference of his head expand, and did not know how he could imagine all.

His appearance on admission was that of a tall, lank, weakly person, and, excepting a large double scrotal hernia and some prominent and occasionally bleeding piles, nothing abnormal could be discovered in the internal organs. In both inguinal regions were two large scars, resulting from incised buboes. The countenance was rather long and narrow; the expression pleasant, serene, and joyous. The right pupil was fixed, and nearly double the size of the left, which reacted pretty well; there was slight ptosis of the left eyelid. The tongue, on protrusion, did not deviate from the middle line, but vibrated slightly in single muscle-bundles. On standing, the legs trembled a little; with shut eyes the patient staggered, and finally fell. On proceeding a little distance the feet were rapidly and hastily placed before one another, and on walking towards anything he deviated from the course, and seized the nearest object. The test of sensibility was resultless, owing to the patient's exalted psychical condition.

In no way could we succeed in interrupting his cheerful chattering, even for a moment, and to induce him to give an account of himself, his relations, &c. In an extravagant, often cynical manner, he moved in a world of happy illusions; spoke of himself as the greatest statesman, the first of musicians, reckoned himself the possessor of many waggons laden with gold, and talked incoherently of the splendid feast at the baptism of his child, of adventurous journeys, of his approaching marriage with the Princess Victoria, and revelled in the prospect of the lordly enjoyment which his happy situation prepared for him. His speech was somewhat slow, slightly pathetic, the voice elevated; no particular hesitation was observable in the pronunciation of words, but he occasionally hesitated in conversation, because he frequently could only after some reflection collect and express his thoughts. An epileptiform attack was observed by the attendant some days after his admission. In other respects the symptoms of the disease remained the same during the residence of the patient in the Charité, viz., those of the most exquisite *manie des grandeurs.*

He always possessed a happy, calm disposition, was uncleanly in his habits, had weakness of the extremities, and rapidly fell off, notwithstanding his good appetite and generous diet. His sleep was always troubled and reduced to a minimum. The stools, which were frequent, and passed unconsciously, were generally thin and copious. During the most part of the time he showed a propensity to strip, to accumulate, to wilfully tearing and biting his clothes and bedclothes, which he, though his arms were bound, pulled from the bed with his teeth and slowly mangled. It was often necessary to keep him seated, or to let him lie in bed for a considerable part of the time, and thus prevent him from falling, the resulting slight bed-sores quickly disappearing on his again going about. He was put under slight restraint during the greater part of the time, as he practised all kinds of mischief, and annoyed the other patients. In this condition he was, on the 26th August, 1859, transferred to the hospital of the workhouse as incurable. There he died, from increasing imbecility, in the beginning of the winter of 1861.

The post-mortem examination gave the following results:

The skull-cap presented no other change than ossification of the sagittal and lambdoidal sutures. The dura mater on both its outer and inner surface was normal, the pia mater was œdematous, but clear, and easily

separable from the brain substance. The ventricles, which were much dilated, contained a quantity of serous fluid; the ependyma was somewhat thickened. The white substance showed a slight degree of venous hyperæmia, the gray substance was rather pale. The consistence of the brain (in the rest of which nothing abnormal was found) was good, the central part only being somewhat soft. The pia of the cord was neither adherent to it nor to the dura mater. The posterior columns of the cord had a gray, transparent, soft, markedly different condition from the surrounding parts. This continued throughout the whole length of the cord, there being no essential difference in the upper and under parts. The medulla oblongata was normal.

The heart was normal, the aorta, to a great extent, atheromatous. The lungs were efficient, in several points darker and thicker, but still the vesicles contained air. The liver, spleen, and kidneys, presented nothing worthy of note. The urinary bladder was very large.

Case 2.—L. Köppen, painter,* æt. 29, was, in July, 1853, for the first time admitted into the then existing "Wolffsche innere Klinik" of La Charité. I extract the following account of him from the case-book.

The patient, who is strongly built and well nourished, noticed the commencement of his present ailment about six weeks ago, soon after having been exposed to damp and to a draught in an empty room of an unfinished building, where he was painting window-blinds. To sexual and other excesses he had never been addicted; for nine months has been married. As a boy, he suffered from an attack of lead colic; with this exception, has always been healthy.

Six weeks ago he, for the first time, experienced a numb feeling in the toes and soles of the feet, which gradually extended upwards. The left limb was, however, earlier affected, and in a more considerable degree than the right. For three or four weeks the patient has felt the sensation as if a band were bound round the lower border of the thorax. His gait has become unsteady, the sexual passion diminished, passing of urine difficult, and bowels constipated. For perhaps two weeks he has felt a sensation of pricking and numbness, first in the ring, then in the little finger of the left hand. The *status præsens*, on admission, was as follows:—Patient not much emaciated; the sensibility of the lower extremities is everywhere partly diminished, partly "perverted." In the region of the loins a numb feeling exists; muscular action is as yet little affected. In walking, the patient steps first on his heels, and requires support to prevent him from falling; *with closed eyes the gait is much more insecure.* There is no marked pain in any single vertebra of the spinal column. The diuresis is tolerably copious; urine clear, with a mucous cloud. Bowels do not act without medicine.

The diagnosis was left doubtful between *arachnitis spinalis exsudativa rheumatica*, and *myelomacia*. An active course of treatment, by means of local bloodletting, counter-irritation, vapour bath, and mercury to salivation, did not improve his condition. A furuncular eruption on the back and upper extremities had likewise no effect upon the course of the disease. He often complained of formication in the lower extremities and inguinal and lumbar regions. He was dismissed in an unaltered state after a month's treatment.

In the year 1862—nine years later—he was again received into the Charité. He had during this time lived with his wife, who bore him no children. He was obliged to give up his business on account of his inability to walk, and employed himself in assisting his wife to prepare artificial flowers; but even in this he was able to do little. The paralysis

* The patient, except when a boy, had had nothing to do with lead.

of the lower extremities, which continued during the whole of this time, was such that the patient could only walk by dragging his limbs along. In the dark, according to the testimony of his wife, progression was still more difficult for him. A circumscribed portion of skin above the right knee was especially painful; this he often persistently rubbed. The skin of his head was, besides, very sensitive to touch. Up to this time he had not exhibited the least mental change, but had always appeared to be a prudent and reasonable man. About five weeks before his admission, he was seized one morning before awaking with what, from the description, appears to have been an epileptiform attack, consisting of convulsions, especially of the muscles of the left arm and the muscles of respiration. This attack passed over without any further marked symptoms. Since then he had, however, become more irritable and vehement, and especially on one occasion, when he fell into a violent passion about an affair of little importance. Contrary to his usual habits, he became absorbed in reading books, was changed in his disposition, fell into a gradually increasing state of excitement, and was, on the 1st of August, 1862, received into the delirium ward of the inner division. Here well-pronounced manie des grandeurs, with a high degree of maniacal excitement, showed itself, and he was accordingly transferred to the lunatic wards. The state of the patient, which rendered immediate isolation necessary, prevented for the time a thorough examination. The patient was emaciated to such an extent that the countenance assumed a truly hideous aspect. The cheeks were deeply sunken, and the contour of the bones of the face was sharply defined. The left pupil was more dilated than the right. The muscles of the face, as well as those of the arms, were in constant motion, while the patient accompanied his ceaseless jabbering with the liveliest mimicry and constant rapid gesticulation. He sat on the form in his cell, with his head and upper part of his body bent forward, or lay on the floor with his back reclining against the wall. His legs appeared, from the first, unable to bear the weight of his body in standing or walking, but he could, with the aid of his arms on the wall, raise himself up. In walking or standing, he required to be well supported from under the shoulders.

He exhibited the liveliest flow of ideas in his incoherent, nonsensical talking, and at times spoke disconnectedly of enormous riches, thereby showing symptoms of manie des grandeurs. The characteristic hesitation in the pronunciation of words was not noticed here, and the difficulty of understanding his speech arose merely from the rapidity and precipitate manner in which the words followed each other. At the same time there existed, as determined by the temperature at the rectum, great fever, diminishing in the morning, and tremors at every voluntary movement.

After three days the patient became more composed, and while lying in bed could be more minutely examined. The bladder was found so distended that it nearly reached to the epigastrium. By means of the catheter there was drawn off about one and a half quart of pale-yellow, almost clear urine, of neutral reaction, sp. gr. 1012, and containing neither albumen nor sugar. The tongue was pale and furred, appetite bad, thirst considerable. The bowels, which till now had been constipated, were loose, and the stools were passed unconsciously. A constant dribbling of the urine also ensued after the bladder had been distended to a certain extent. In the lower as well as to a certain degree in the upper extremities, sensibility and the faculty of perceiving tactile impressions, were diminished. The patient could not feel a slight touch with the finger at all; when pricked with a needle, he felt as if a blunt instrument had touched him. Still he could, with tolerable accuracy, refer the sensation to the proper spot, and what was remarkable was that he referred a slight prick with a needle on the left fore

leg and foot to the corresponding spot on the right limb, and only stronger pricks were felt in the proper point.

In bed the patient could move his legs to a certain degree. The introduction of the catheter was easy, and only sometimes painful. The sphincter ani externus and internus were so lax that the thermometer could easily be introduced six inches into the rectum. No other affection of the internal organs could be discovered.

After a prolonged sleep, the patient became so tranquil and comparatively intelligent that he could give some information regarding himself. It appeared that he had suffered for many years from rending pains in the legs, and also, at the same time, experienced an oppressive feeling of constriction about the epigastrium; he had never had headache. Details could not be obtained, as he frequently jumped from one point of inquiry to another without finishing any one. He was almost always in an extraordinary good humour. The liveliness of his mimicry and gesticulations diminished; the fever continued with almost undiminished intensity; the quantity of urine gradually became less, grew cloudy, and presented—especially that last drawn off by the catheter—a white, flocky appearance. Hæmaturia was never observed.

The patient (whose bed-sores upon the loins became gradually more discoloured and extensive) on account of renewed excitement, had again to be isolated, whereupon the symptoms observed on his admission again showed themselves. On the 15th, somewhat suddenly, the agony of death commenced, and at noon on the following day he died. The autopsy of Dr. von Rieklinghausen, made on the day after death, gave the following results:

The spinal cord is, throughout its whole extent, very soft; along it gray stripes are found running downwards corresponding to the posterior columns. On transverse section, the posterior columns are seen to be replaced by a gray, transparent, gelatinous substance; the change is most evident in the upper part of the cord, where the columns seem to be entirely composed of this tissue. In the thoracic portion they seem to be composed of a similar very transparent, but somewhat whitish tissue. This appears full of cracks when water is poured upon it, and from the cut surface a fluid, mixed with numerous white granules, is poured out. In the lower portion of the cord the part surrounding the fissura longitud. poster. possesses also a white colour. Nowhere does the affection pass beyond the posterior horns.

The skull-cap is tolerably large, broad, regular; vitreous table much thickened; grooves of the vessels very deep; spongy substance abundant. The sac of the dura mater contains reddish fluid; dura slightly congested, and adherent to the pia in many places, especially in the upper part; the pia also possesses a strong red colour. On the base the dura is unchanged; the pia is of a deep-gray hue (putridity). Otherwise the pia presents nothing abnormal, and is easily separable from the brain-substance. The middle parts of the brain are very much softened, and the consistence generally of the whole brain is much below the standard, and very pale, especially the gray substance. The fourth ventricle is much dilated; the striæ acusticæ very small; the gray degeneration of the posterior columns of the spinal cord extends, in the medulla oblongata, more towards the periphery; on the floor of the fourth ventricle, near the corpora restiformia, superficial gray laminæ are recognisable, which appear more to belong to the ependyma. On the outer surface of the medulla oblongata, especially towards the posterior parts, are several gelatinous transparent spots.

The skin of the neck, thorax, and abdomen, is of a green colour. The right pleural cavity contains dark-red fluid; the left contains about three quarters of a quart of a grayish-red, thickish fluid, and numerous fibrous

deposits. The heart is large, tolerably compact, contains a large quantity of blood; valves are normal; the inner surface is œdematous from imbibition.

The left lung is superiorly markedly œdematous, uniformly flabby and moist, its pleura congested. At one point is the commencement of gangrene, and under that flaccid gray, hepatized spots, besides individual lobules in a state of red hepatization. The lower lobes of the right lung are also covered with thick fibrinous deposits. On the surface are several deep red spots, but these present no traces of pneumonia.

There is green discoloration of the mucous membrane of the trachea and larynx. The great abdominal glands are already in a pretty advanced stage of putrefaction, in other respects normal. The bladder, which is small, contains grayish-red fluid, with a flaky sediment; the inner surface of the bladder is strongly tubercular, and presents numerous flaky spots, with pale centres; the wall is nowhere defective.

Case 3.—M—, æt. 54 years, a magistrate's clerk (formerly post-conductor), was received into the lunatic wards of the Charité on the 28th July, 1863. Is a well and powerfully built man, with a considerable amount of subcutaneous fat, and well-developed muscles. States that up to fifteen years ago, he, with the exception of the usual children's diseases, had never been seriously ill, although, while in military service, he had to undergo much fatigue, and was exposed to many pernicious influences. He has been married for twenty-five years, and is the father of healthy grown-up children.

About the year 1848, when the patient was in the postal service, and used to make long journeys in the mail trains (before this he travelled as post-conductor), he began to be occasionally troubled with peculiar rending pains in the lower extremities. The attacks came on without any visible external cause; the pain was felt always in the calf of the leg, left or right, and the one side could not be said to be more frequently affected than the other. The pain was not continuous, but fleeting and shooting; not beginning lightly, and gradually increasing in intensity, but sudden and violent. During a period of from forty-eight to seventy-two hours such attacks followed at short intervals, the one attack following close on the back of the other. The function of the extremities suffered thereby very materially; the gait of the patient was like that of a drunken man, and occasionally his legs suddenly bent under him, without, however, his falling. His wife states that he often stumbled in the dark. Walking did not increase the pain; on the contrary, the patient rather obtained relief from violent exercise; the heat in bed rendered it almost unbearable. In 1848 the patient met with a fall, causing, as it appears, subluxation of the left ankle, which, after three weeks' treatment, left considerable swelling and slowly decreasing weakness of the joint. Now there exists merely slight disturbance of function, the extension appearing somewhat limited, and the foot directed a little outwards. It would be impossible for the patient to run, without the greatest exertion.

The attacks of the above-mentioned pains returned at sometimes shorter, sometimes longer, intervals. The latter lasted, in the most favorable instances, at furthest, from fourteen to twenty days. Although the patient supposed they depended in some degree on the state of the atmosphere, yet he did not deny that such attacks were wont also to occur in the most favorable weather. In course of time the seat of pain changed, while the intensity slowly and steadily increased. The pain left the calf to attack the knee, then the thigh, and at last it was centred in the hip (patient points behind the great trochanter to the place of exit of the plexus ischiadicus), but it always appeared that one or the other limb was attacked, without marked preference to one side. Sometimes a troublesome feeling of itching was felt in the toes and heel, and always in only the one or other foot. Patient has never experienced trouble-

some sensations in the trunk—further than slight pain in the small of the back after continued exertion. With regard to the upper extremities, it may be mentioned that the patient, five or six years ago, occasionally was troubled with dragging pains in the fingers and back of the hand. These can, however, scarcely be considered as pains; they, indeed, rendered the act of writing disagreeable, but did not prevent its performance.

The remedies which the patient employed for the relief of his "rheumatism" were chiefly popular plasters and the like, but their use was, according to his own evidence, followed by no apparent results. In 1841, before the commencement of the so-called rheumatism, a functional disturbance of the bladder was first observed; since that time he has noticed that during sleep, or between sleeping and waking, involuntary passing of urine has occurred. Such occurrences, however, gradually became more frequent, as also the necessity of making water during the day, so that at last the patient, when he went abroad, had to wear a kind of portable urinal. For the last six months he has complained of headache, of the sensation of a salt taste at the back of the mouth, and sometimes of the feeling as if a hair were situated there. He often complains of "stitches" in the precordial region, and frequently has a feeling as if something held him firmly round the body.

His mental faculties have never been materially affected; he has had slight presbyopia, and a slight degree of dulness of hearing, especially of the right side. The venereal passion appeared at first, in the earlier period of the disease, to have disappeared, but at last, some weeks before his admission, it had increased to a morbid extent. The respiratory and circulatory systems have always been normal. Appetite always good; bowels generally constipated, and had frequently to be relieved by laxatives.

A month or six weeks before his admission, the patient exhibited a complete change of character. He began freely to drink spirits, and to give vent to his sexual desires. The object of his passion was his servant maid, whom he had hitherto treated with utter indifference, and had regarded as being rather repulsive than otherwise. On this subject he was deaf to all the expostulations of his wife; he made foolish and large purchases, which did not at all correspond to his means, &c. &c. While taking a ride, he galloped to various dancing saloons and beer-shops, and created the greatest excitement by these and other aimless freaks. On the day before his admission it became quite evident that he was insane.

In the hospital he exhibited a high degree of mental excitement; his disposition was extremely cheerful, and there appeared a characteristic manie des grandeurs, together with the liveliest flow of ideas. At the same time he made repeated attempts to escape, and threatened his persecutors, viz., those who had brought him here without cause, &c. This behaviour, which much resembled a certain degree of drunkenness, continued for several days after his admittance. The patient demanded, energetically, to be released, expressing himself in the most reproachful terms against the presumptuous authors of his confinement, boasted extravagantly about his doings while he was a soldier, and related willingly, and with a shamelessness quite foreign to his character, his ongoings with his servant maid. He disclosed—evidently without the slightest knowledge of disease—his projects for self-enrichment. His design was to purchase a house in some street in Berlin, to insure it in a hundred different offices, and then to set it on fire, in order to draw the premiums. This project he considered very ingenious, and expected to gain by it about two millions of thalers. With this sum he would equip a regiment of soldiers, and present it to the king, in the hope of obtaining a royal present in return. He would also establish a large wine business, and do many other similar things, by which he always brought prominently forward his own superior and pre-eminent bodily and mental capacities. His extrava-

gance often led him to strike and injure his fellow-patients, and it was quite impossible to convince him that such treatment was not quite harmless to them. On examination, his gait was seen to be unsteady, slovenly, and like that of a drunken man. *With shut eyes the patient cannot stand without violently staggering.* The irregularities in his gait increase with the rapidity of the movements, and it is especially difficult for him to turn round. States that for the last twelve months he has walked quite as unsteadily, and that he frequently stumbles. After a week's treatment in the asylum the patient became so quiet that he was removed to the convalescent ward.

The last examination, undertaken after the return of consciousness (and when the patient was in a perfectly composed state), gave as a result, in addition to the already mentioned functional disturbance, analgesia of the lower extremities to a certain extent, which decreased in a centripetal direction. When slightly pricked with a needle, he felt as if a blunt instrument had come in contact with his skin, or as if he had been touched with the finger; and it could be pretty deeply inserted without any expression of pain being called forth. The patient mentioned, and pointed at once, to the part touched. When many pricks were given in succession, he told both the number and position. When two pricks, of as far as possible like intensity, were given simultaneously on different points of the skin, he felt generally as if only one had been given, and pointed to the one nearest the rump. In the long direction of the limb the needles could be placed from 8—10″, and in the transverse 2—3″ from each other, without his having the sensation of two places being touched. The nearer the thigh, the closer could the needles be together, and the more distinctly is the pain felt. After a very deep prick pain was felt for a considerable time, and this after-feeling gave, occasionally, false indications. He said, amongst other things (with shut eyes), that he felt as if he were being pricked with a needle, sometimes here, sometimes there, while no needle was introduced; or that his toes were being held fast by the fingers, while he was not otherwise touched than with the needle. No dulness of perception was noticeable. Reflex movements could only be effected from the sole of the foot. There is scarcely any paralysis of the hands perceptible, and its movements, so far as individual fingers are concerned, are almost normal; writing is performed steadily and in straight lines. While in the asylum the patient was troubled several times a day with pseudo-rheumatic pains, which sometimes attacked both extremities at the same time; the other symptoms of the extremities and bladder continue unchanged.

With regard to the psychical condition, it may be mentioned that he soon became quiet, but still held by, and took pains to elaborate, his senseless projects. After three months' treatment, he—by desire of his relations—was obliged to leave the asylum. Although he apparently regretted the folly of his former conduct, it could be plainly seen by his manner, his confessions, and his expression of countenance, that he by no means considered his former conduct to be really the result of disease.

If we consider the array of symptoms presented to us in the foregoing cases before the outbreak of the psychical lesion, their similarity with those of the disease tabes dorsalis, first described by Romberg, is very evident. In the case of the first patient there were long-existing fleeting pains in the lower extremities, incontinence of urine, also squinting, uncertainty of gait, staggering and falling with shut eyes. The second patient (nine years before the outbreak of the psychical lesion) first experienced a numb feeling

in the toes and soles of the feet, had the feeling of a band round the thorax, uncertainty of gait, especially with shut eyes, and incontinence of urine; then he was seized with the same fleeting pains in the legs, and had for nine years other unmistakable symptoms of disease of the spinal marrow. In the third case the early symptoms, especially the incontinence, can be traced still further back; here also we have rheumatoid pains in the lower extremities, pains in the lumbar region, a feeling as if something held him firmly round the body, uncertainty of gait, and staggering with shut eyes. In the second and third cases there was also a slight affection of the upper extremities.

If we consider the whole three cases as examples of chronic disease of the spinal cord, our opinion is confirmed by the autopsy in two of them, which proves without doubt the existence of a circumscribed gray degeneration of the posterior columns of the spinal cord. From the perfectly analogous symptoms observed in the third case we can, with great probability, conclude that a similar pathological change had taken place.

After the affection of the spinal marrow had lasted for some time, tolerably acute psychical symptoms followed in all the three cases*—they were those of mental excitement and manie des grandeurs. In the first patient there was great weakness of intelligence, which for one and a half year before his death gradually increased. The second patient died of pneumonia and general debility shortly after the outbreak of the psychical lesion, and the third patient was dismissed from the asylum with still good intelligence, though not free from delusive notions.

Judging from the progress of the disease in these cases, it appears evident that there exists an intimate relation between the spinal affection and the later-appearing psychical phenomena. As is known, manie des grandeurs, with alienation, appears closely related to the so-called general progressive paralysis of the insane, so that, in fact, where the characteristic delirium has broken out, the paralytic imbecility is, almost with certainty, sooner or later to be expected, if it has not already shown itself before, or simultaneously with, the outbreak of the delirium of greatness. That stray cases of manie des grandeurs do occur, neither accompanied nor followed by paresis, proves nothing against the great generality of the fact. Besides, many errors of observation are to be taken into consideration by the critic of these cases, especially that of too short time of observation, and that often very deceiving remission of the disease. It has been attempted to refer the paralytic phenomena to various anatomical causes, amongst which chronic meningitis and its consequences (thickening of the pia, adherence of the same to the gray matter, thickening of

* Hereditary predisposition to mental disease could not be discovered in any of these cases.

the ependyma, œdema, hydrocephalus, &c.) takes the chief place. Rokitansky has lately declared his belief that in all cases of paralytic imbecility there is a change in the cellular tissue of the cortical substance of the brain. The cellular tissue becomes, in the first place, replaced by a tenacious granular fluid, then fibrous elements are to be distinguished, a gradual stoppage of nutrition and destruction of the nervous element ensues, and, at last, colloid and amyloid corpuscles are formed. This growth of the cellular tissue, according to Rokitansky, is essentially the same transformation which takes place in the later stages of the so-called tabes dorsalis. The gray degeneration of the spinal cord is, therefore, nothing more than a widely developed growth of the cellular tissue.

I have unfortunately not been able to confirm this idea of Rokitansky, of which, amongst others, Herr Demme* has convinced himself, from certain observations upon the cerebra of those who have died of general paralysis. Unfortunately, however, this gentleman does not mention the method by which to obtain certain results from fresh preparations; but whoever has made such investigations knows how many capricious interpretations, and how much that is questionable, are here presented, and the labours of Herr Demme have not tended in the least to settle these. If, therefore, physicians at the present time talk of this change being the foundation of paralytic imbecility as a settled question, they, by coming to a too hasty conclusion, do more harm to science than if they openly confessed the uncertainty of our knowledge, and were thereby urged on to new investigations. I will not anticipate Dr. Leyden, by speaking of the results obtained by a minute examination of the spinal cord in gray degeneration. He has undertaken the investigation of the cords of the first and second patient, and will shortly publish the results of his researches.†

Notwithstanding that the first patient had lived for three years in a state of imbecility, had squinting, irregularity of the pupils, attacks of loss of consciousness, sometimes with convulsions, all indicating nothing else than a deep affection of the brain, yet in the post-mortem examination there was no evident disease of its substance noticeable. The pia was neither opaque nor thickened, and was at no point adherent to the gray substance. A slight degree of hydrocephalus was all that was observable.

In the case of the second patient there was also no observable disease of the brain substance; the internal softening, along with the putrid gray colour of the pia, &c., must evidently, be

* H. Demme, 'Beitrage zur Pathologischen-Anatomie des Tetanus und einiger andern Krankheiten des Nervensystems.' Leipzig und Heidelberg, 1859.

† 'Die graue Degeneration der hintern Rückenmarks-Stränge,' von Dr. E. Leyden. Berlin, Aug. Hirschwald.

regarded as a post-mortem appearance. Evidences of gray degeneration could be traced with certainty only as far as the medulla oblongata, and the adhesions of the dura to the pia resulted from slight chronic inflammation.

If in this case a deep disease of the brain substance can hardly be expected, owing to the early death of the patient after the outbreak of the psychical disturbance, still it is remarkable that in the case of the first patient, who lived for several years in a state of imbecility, there was found neither thickening of the membranes nor adherence of the pia to the gray substance. And yet one cannot help, if he compares the course of the disease, allowing a connection between the spinal affection and that of the brain. What is the nature of the change in the brain? Do the first still invisible changes exist of an affection similar to the degeneration of the cord, and in what parts have these their seat? All this must for the present remain undecided. All that can be said is that the process is indeed a very chronic one.

From the clinical observation of the cases arises now the question, are we entitled to bring this under the category of general paralysis of the insane, or are the symptoms so different that this peculiar progressive paralysis cannot be classed with it? A whole series of symptoms decidedly correspond in every way with those of general paralysis. Attacks of giddiness and of loss of consciousness, partly with convulsions, irregularity of the pupils, and great emaciation, are presented in the first two cases. In all there is paresis of the lower extremities, showing itself particularly in defective walking (while lying, the limbs can be raised without difficulty), paralysis of the bladder, and characteristic manie des grandeurs, with maniacal excitement; one case ended in confirmed dementia. Scarcely any physician would hesitate to call these symptoms those of general paralysis, if he did not specially mark the forementioned symptoms of the spinal affection. In fact, one falls into some difficulty as to how an affection is to be classified, which on the one hand resembles the cerebral symptoms of general paralysis, and on the other deviates from it in being connected with disease of the spinal marrow; and it strikes one very forcibly how deficient our knowledge of general paralysis still is, clinically as well as pathologically. One symptom, so characteristic amongst the paralytic appearances in general paralysis, was wanting in all the three cases, viz., the affection of the tongue, which in this disease, as is known, takes the form of hindrance of articulation of words. The absence of this disturbance of the power of articulation could not of itself be regarded as sufficient to differentiate the disease from general paralysis, while there are doubtless so-called paralytics in whom there already exists a paralysis of the lower extremities without hindrance in speech being perceptible. The symptoms observed in the depart-

ment of sensibility would also be quite as valueless as a ground of decided difference, as these are also considerably modified in a great number of the cases of the common form of paralysis.

A characteristic mark of difference between general progressive paralysis and these described cases lies in this, that *these patients were unable, with shut eyes, to stand or walk without staggering.* I have also examined many paralytics with regard to this symptom—all stood or walked with their eyes shut quite as easily, or as difficultly, as with their eyes open; even those in whom standing is barely possible, and whom one must constantly watch lest they fall, show not the slightest increase of insecurity, and conduct themselves just as they do when their eyes are open. Here, therefore, is plainly the means to distinguish cases with disease of the spinal cord from others.

The course of the disease also appears to be totally different, especially in this, that in those cases with disease of the spinal cord paralytic symptoms in the bladder appear very early, years before the outbreak of the psychical symptoms, while in simple progressive paralysis it generally appears in an advanced stage of the disease. So it was, at all events, in these three cases. The paralytic appearance, also, of the lower extremities preceded the mental affection for an incomparably longer space of time than is generally the case in general paralysis, where, on the contrary, such a course especially is seldom observed.

It will yet require a series of further observations to establish more certainly the differences as to course and symptoms. The question, also, will be of special importance, whether, in simple progressive paralysis, fleeting stinging pains of the lower extremities, as in the case of disease of the spinal marrow, occasionally precede the apparent outbreak of the disease. This, on the ground of several observations, I have been induced to believe. I have certainly observed these pains in the *course* of general paralysis; they make their appearance not unfrequently as precursors of the so-called epileptiform attacks after, or simultaneously with, a comparatively sudden attack of confusion, which represents, as it were, an epileptiform attack. Moreover, all patients agree in this, that they experience an increase of the pains when warm in bed. How these pains, which make their appearance in the course of simple progressive paralysis, are to be considered—whether as eccentric, neuralgic, &c. —I must, owing to the want of confirmed facts, allow to remain undecided, and reserve myself for further communications upon the subject.

The following are the essentials of the result of my observations:

1. There is an affection (gray degeneration) of the posterior columns of the spinal cord, which is followed, in a later stage of its course, by mental disease.

2. The form of this mental disease presents, as well through the nature of the delirium as also through the accompanying paralytic symptoms and intercurrent attacks of loss of consciousness, partly with convulsions, a certain similarity to the so-called general progressive paralysis of the insane; in common with which it has also (as seen in two cases) great emaciation.

3. While, however, in the mental disease with disease of the spinal marrow the patients stagger and fall down in walking and standing with shut eyes, this does not take place in the so-called progressive paralysis. At the same time it is characterised, lastly, by the absence of disturbance in the articulatory power of the tongue.

4. The paralytic appearances in the bladder and extremities in the cases with disease of the spinal cord, deviating from the usual course in progressive paralysis, precede for a long time the mental affection. Whether the early appearing, peculiar pains of the lower extremity also occasionally precede the ordinary progressive paralysis, cannot yet with certainty be determined; but, at all events, similar appearances occur in its course, especially before the outbreak of epileptiform attacks.

5. Disease of the brain substance itself, analogous to the gray degeneration of the spinal cord, was not perceptible. The nature of the succeeding cerebral disease is unknown; it seems, however, to be accompanied by hydrocephalus internus.

Illustrations of Phthisical Insanity. By T. S. Clouston, M.D. Edin., Medical Superintendent of the Cumberland and Westmoreland Lunatic Asylum.

In a paper which appeared in this Journal for April 1868, on "Tuberculosis and Insanity," I described a form of insanity which had appeared to me to be sufficiently distinctive in its symptoms to rank as an order in any classification of insanity that was based on causes, and sufficiently often associated with tubercular deposition to warrant its being called "Phthisical." "Phthisical *Mania*," the name I ventured to give it, may have been an unfortunate one, in that it appeared to make it merely a form of the division *Mania*, whereas I meant it to describe a form of insanity as distinct as *Mania* itself. "Phthisical Insanity" would have been a more appropriate term, and by that name I shall speak of it in the remarks which follow.

As an appendix to that paper, I had proposed to give a few typical cases out of those that had come under my own observation,