

produced. From this case it would appear as if even artificial purgation were sufficient to induce the change in the condition of the urinary pigment.

This blue or purple pigment is of course no other than the uroglauin of Heller, or the indigo-blue of Carter and Schunk; but although it may be possible, as the latter authors have shown, to obtain this substance from nearly every specimen of normal urine, it would be erroneous to conclude that the almost instantaneous formation of the blue ring, when urine and nitric acid are brought into contact in the manner above mentioned, is a normal or physiological change. Up to the present time, I have never seen it produced in the urine of healthy persons. As a temporary symptom in the course of a malarial fever, I have not observed it to indicate danger to life or the reverse; but in all cases hitherto in which it has been detected day after day, where it has been persistent, in short, the disease has taken a downward course.

Judging from the nature of the cases in which this condition of the urine is found (dysentery, severe malarial fevers, excessive purgation, etc.), I think it may be concluded that it is in direct relation with the amount of destruction or loss of the colouring matter of the blood, and with the inability of the system to repair the waste at the time. Under normal conditions, it would appear that the supply of colouring matter to the blood somewhat exceeds the waste, but that, in certain diseases in which the loss of colouring matter is excessive, or in which the supply of the requisite materials cannot be duly profited by, there is an interruption in the process of pigment formation, which probably essentially consists in an insufficient amount of oxidation. Whatever may be the true explanation, it is to be hoped that those who are practising in cold or temperate climates, and who have to deal with diseases of a different kind from those usually witnessed in India, will give to the profession the result of their observations on this subject.

ARTICLE VII.—*Notes of Thirteen Cases of Delirium Tremens.* By M. THOMAS, M.D., formerly Medical Superintendent of the Barony Parochial Asylum and Poorhouse, Glasgow.

THE following cases of delirium tremens here detailed were treated principally by means of tartar emetic. I was induced to adopt the use of this medicine by having observed its almost marvellous effect in a case which came under my observation whilst house-surgeon of the Greenock Infirmary in the year 1856. The case was sent in by Dr James Wallace, who had at that time the charge of the medical and surgical wards. The patient, a gentleman from England, exhibited all the symptoms of delirium tremens; and various remedies were tried upon him fully and fairly without the

slightest benefit. Having exhausted every other remedy, Dr W. resolved to give tartar emetic in $\frac{1}{4}$ -grain doses, as advocated by Dr Peddie of Edinburgh; and the patient, who, previous to its administration, had shown no symptoms of amendment, fell asleep after the second dose, and, sleeping soundly for about eight hours, awoke perfectly recovered. The favourable impression then left on my mind has not since been eradicated by its further use; but the conviction has been strengthened that this medicine is a most potent weapon with which we are able to cut short in its career the course of this particular disease. I will now relate the cases which have come under my own observation.

CASE I.—Whilst acting for Dr Carleton at Kilsyth in the autumn of 1857, I was sent for to see a farmer in the neighbourhood, named J. P. I found him in bed complaining of anorexia and general lassitude; his tongue was loaded and moist, skin cool, and pulse calm. On reaching forth his arm for me to feel the pulse, I observed a peculiar shaking of his hand, and questioning both his sister and himself, I found he had been drinking heavily for some time previous. The symptoms not being very urgent, and his bowels being confined, he was ordered a purge, and instructions left that no stimulants be given him. Next morning he was much the same, and the tongue still being loaded, the purge was repeated. In the evening I was sent for, and found he had become restless, and was talking in an incoherent manner. The cause of this change was properly attributed to some whisky he had hid under his pillow, and of which he had partaken when alone. The remainder was immediately removed, and quarter of a grain doses of tartar emetic in solution administered. Next morning he was greatly better, and continued so during the whole of that day; but on the succeeding morning I found he had relapsed, having terrified his sister, who was his only attendant, by his threats to give him more drink. Busy delirium had now set in, as he was searching all the walls and the corners of the bed, whilst his hands were trembling very much. The medicine was continued, but its effect was neutralized by the whisky, which was also continued at the same time,—the sister who was left alone with him all day, being afraid to refuse it. Next day I handed over the patient to the care of Dr Carleton, who had now returned, and I heard no more of the case, except that after some time he recovered under the old plan of treatment by stimulants and opium, of which Dr C. was a staunch advocate.

CASE II.—The next case is that of a woman, $\text{æt. } 35$, who was admitted into the hospital of the Barony parish on the 7th May 1859. My notes of this case are imperfect; but she is represented as being on the verge of delirium tremens,—was very troublesome for two nights after admission, but was perfectly recovered on the next day after the use of the tartar emetic solution.

CASE III.—A. F., $\text{æt. } 40$, a mechanic, and a fine intelligent

looking man, was admitted into hospital on the 20th January 1860. He had been drinking hard ever since the New-Year's holidays, and on admission presented the following symptoms:—Is very suspicious, constantly looking about as if afraid he was going to be injured. Hands display the usual tremor, pulse soft and calm, tongue covered with a brownish fur, skin cool, and bowels confined. Was ordered a purge that evening. 21st.—Did not sleep well, but all night was constantly endeavouring to escape from the ward both by windows and door. Whilst I was standing at the fire speaking to him, he suddenly seized the poker, intending to clear his way to the door, but was easily subdued. Solution of tartar emetic was now ordered; but before receiving the medicine, he, eluding the nurse, suddenly ran out of the ward, and, getting to the stair, jumped over the window, and in his fall fractured the fibula of the left leg. He was immediately conveyed to a separate apartment, and fomentations applied to the leg; but these he would not allow to remain on, as he continued to get out of his bed and attempt to get away, being insensible to the pain of his leg. The medicine was now given to him every hour, and after the fourth dose he fell asleep about 1 A.M., and when he awakened in the morning he was quite recovered. The usual treatment for the fracture was then followed with a satisfactory result.

CASE IV.—On the 4th May 1860, J. S., æt. 37, was brought from the police-office and admitted into the probationary ward of the poorhouse, to see if the excitement under which he was labouring would pass off. This not occurring, he was removed to the asylum on the day after, where, owing to his extreme restlessness by day and night, disturbing the other patients in the sick ward, he had to be removed to one of the single rooms, where he speedily recovered under the use of the tartar emetic.

CASE V.—W. M'B, æt. 35, was admitted into hospital on the 23d May 1860. This man I had known for years to be an inveterate drinker, and to have had more than one attack of delirium tremens. On the present occasion, after a severe debauch, he had attempted to commit suicide by walking into the Clyde, from which he was rescued and sent here. He was very restless, and did not sleep well; and, on account of the annoyance he caused the other patients, and there being no proper accommodation for the treatment of such patients in the hospital, he was transferred to the asylum, and was there treated with solution of tartar emetic. During the night he rested well, and at the morning visit was found quite sensible and coherent. I may add that, since his dismissal, he has reformed wonderfully,—so far as drink is concerned,—dresses respectably, instead of hanging with rags as before, and is now a member of the church.

CASE VI.—Admitted into hospital, on the 30th July 1860, a female named J. D., æt. 38. Previous to admission had been drinking freely, and was, when seen, in that condition commonly

known as the "horrors." The morning after admission was reported to have slept none, but walked about the ward the most of the night, and attempted to jump out of the window. A purgative was immediately ordered, and thereafter, being put on full doses of tartar emetic, sleep was induced, and on the morning of the third day after admission she had quite recovered.

CASE VII.—D. A., æt. 43, an engineer and spirit-dealer, was admitted into the asylum on the evening of the 11th November 1861. Previous to admission he had been labouring under delirium tremens for nearly three weeks, and he has had several attacks of the same disease. On admission, there was general tremor, delusions, with great terror and anxiety. Pulse calm, tongue white and loaded, bowels confined, and great thirst. A purge of black draught was immediately given him, and lemonade allowed for drink. 12th November.—Did not sleep well, but was constantly getting out of bed, and attempting to reach the gas, and at last became so very troublesome as to require removal to a special room. 13th.—Is still very troublesome; ordered to have the usual tartar emetic solution. 14th.—To-day is quite well.

CASE VIII.—On the 22d January 1862 this patient was re-admitted into the asylum, again labouring under delirium tremens. His symptoms were much as before,—great restlessness and excitement, and running after all sorts of objects, which he fancied he saw before him. Under the date 27th January I find the following entry in my journal:—"After having slept none for three days and nights, and having become more noisy and excited, without any prospect of subsidence, he was put upon a mixture of tartar emetic and opium; slept well after three doses, and on the morning visit was found to have completely recovered.

CASE IX.—A. M'P., æt. 21, admitted to asylum 24th July 1861. Being from home, I did not see the patient until the evening of the 26th, from which day the report dates. He had been brought from the police-office, and had been six days ill previous to admission. The cause of his illness was drink. Both before and after admission he had been very violent, tearing off his clothes, and abusing his private parts so much as to cause orchitis of the left testicle. He has a wild and furious appearance, is very restless, and fancies he sees objects about him. Eyes suffused, face flushed, tongue brown, but moist, and bowels said to be open. On account of his violence he was in seclusion when I saw him, with his hands muffled to prevent him abusing himself; and he had been ordered a mixture of antimony and opium, but it was imperfectly administered on account of his obstinacy. As he was strong, and labouring under great vascular excitement, a smart purge of two drops of ol. crot. was given him. 27th.—Medicine operated freely; though still somewhat excited, is quieter, and more conversable and sensible; and accordingly the muffs were removed from his hands, and he himself placed in the sick ward, where

fomentations were ordered to the scrotum. 28th.—Inflammation of scrotum greatly subdued, and may get up to-day. Habitu ol. ricini. 29th.—Would not take the castor-oil; but ol. croc. was got in lieu of it, and operated freely. Delusions quite gone; but has a suspicious and cunning look about him. In a few days more he was quite well, and was shortly afterwards discharged.

CASE X.—J. S., already mentioned as having been admitted into the asylum, was admitted into hospital on the 10th July, 1862. On this occasion he was not very bad, with the exception of the first night of his admission, when he was slightly restless. He was just withdrawn in time from his favourite stimulus, otherwise he would soon have become delirious. On this occasion the only treatment requisite was regulating the bowels and preventing the use of alcoholic stimuli. He was soon better.

CASE XI.—W. F., æt. 41, was brought from the police-office to the asylum on the night of the 3d September 1862. This was altogether the most violent patient I ever saw in delirium tremens, and one over whom no moral control whatever could be obtained. He was reported to have been delirious for three or four days previous to admission. He had lately come from Tain, and during the passage had been drinking deeply. This was not his first attack; but his wife, who had formerly been able to manage him at home, had never seen him so violent as on this occasion. As his roars and shouts in the waiting-hall were tremendous, he was put immediately into one of the seclusion rooms, where he continued shouting and raving upon polemical subjects during the entire night. Until the 5th he continued the same, taking no food during that time; but on that evening, his bowels being confined, a smart dose of black draught was given. On the 6th, the medicine having operated freely, he was better, and in a few days afterwards was dismissed.

CASE XII.—S. O., æt. 41, a female, was admitted into the asylum on the 29th March 1862. Previous to her admission she had been in what was described as an insane condition for eight days. Her husband had but recently died, and both before and after his death she had been indulging in drink. On admission, she was restless and sleepless, had delusions of a hysterico-erotic nature, and was frequently asking for brandy. Her tongue was loaded, pulse calm, skin cool, appetite bad. Had a former attack about eighteen months ago. As her symptoms were not very urgent, it was thought advisable not to give her any medicine, except an occasional purge to act upon the stomach and liver, thinking that she would soon recover; but after waiting two days, and finding her symptoms not any better, she was, on the 1st April, put upon the solution of tartar emetic. 2d.—Slept well for the first time since admission; conversation quite rational. 3d.—Is quite recovered. She was kept in the asylum for a few days longer, and having had no relapse, was shortly afterwards discharged.

CASE XIII.—During the month of January of this year I was called to see a patient, in order to certify his fitness for the asylum. He was a tall strong man, had formerly been a soldier, but at present was in the employment of one of the railways in Glasgow. He had been drinking from the beginning of the year, and had been labouring under delirium tremens for a week before I saw him, and had been treated with digitalis. As he was getting no better, however, and as his lodging mistress was not able to restrain him during the day, it had been resolved to remove him to the asylum. When I saw him, he had decided tremors; but as his conversation and conduct were quite correct, it was impossible to certify that he was insane. I accordingly recommended him to be kept at home, and proceeded to treat him with tartar emetic. I found that during his previous treatment he had been continuing to take whisky, but this was now put a stop to. The tartar emetic was given to him every hour, but he slept none until the third day after the medicine had caused slight sickness and vomiting. During all the time of its use it had caused no purging, showing the tolerance of the drug which the system in this condition admits of. After having once slept he was quite well, and showed no desire for any stimulants after his recovery.

On reviewing the above cases, it will be found that all of them presented unmistakable symptoms of delirium tremens. In some the symptoms, though decided enough, presented nothing unusual; in others they were much more marked, as in the case of A. F., who jumped over the window and broke his leg; whilst in the case of W. F. they culminated in uncontrollable madness. All of them had this malady ascribed to drink, and all of them had the characteristic tremor more or less marked according to the severity of the other symptoms. And I would here notice that, during an experience of upwards of six years as medical superintendent of the Parochial Asylum and Workhouse at Barnhill (having under my charge never less than 150 lunatics and a thousand paupers), into which establishment are drafted all the most difficult or troublesome cases occurring amongst the labouring and poorer classes in the Barony parish of Glasgow, which has a population of over 177,000 persons, only 7 cases of delirium tremens were admitted into the asylum, and 4 into the hospital of the poorhouse; and of the whole 11 cases, 2 had been admitted twice, making therefore a total of only 9 persons, or 1 case of delirium tremens in every 20,000 of the population—showing that hard or continued drinking is not a sin of the working classes of the present day; for otherwise the parochial establishment would have felt it, from the inability of those classes to treat such cases in their houses. And I would further remark that, in an asylum, or any other place analogous to it in construction and arrangement, this disease is treated much more successfully and quickly than in the houses of the patients. In the asylum there is a control exerted over them

which I have never found exercised satisfactorily by friends; they are also deprived of every opportunity of obtaining their favourite stimulus, and instead of being confined to bed or in a dangerous room, where they might easily and unexpectedly throw themselves out of the window, which terror arising from their fancies would make them do, they are allowed to walk about in the airing courts, or, if necessity compels, they are confined in a safe and commodious room, where they can neither injure themselves nor annoy others. In the case of J. P. at Kilsyth, for instance, the recovery was considerably delayed by the want of moral courage in the nurse, his sister; and I have found the same thing occur in other cases which I have attended in private practice. The services of a private nurse might obviate this objection, but it is not every one who can afford them, and frequently they are of no use from the want of proper training.

As for the medical part of the treatment, I have usually adhered to the administration of tartar emetic, and have had no reason to be dissatisfied with its results; but it must be given in large doses, such as a quarter of a grain or upwards, for in smaller quantities it has no perceptible effect. This treatment has only varied in the case of W. F., who was so violent that it was scarcely safe to approach him; but to whom, at a seasonable opportunity, a smart purge of black draught was administered, which helped to allay his excitement. This might be called a case of acute mania, but it was brought on by drink, and he had other attacks previously, though never so bad as this one. In conclusion, my own opinion as to the best method of treating delirium tremens may be thus summed up,—removal from friends, careful nursing, and abstention from alcoholic stimuli, unless the patient is very weak indeed; and, under these conditions, there are few cases which will not yield readily under the use of tartar emetic.

Part Second.

REVIEWS.

Mental Pathology and Therapeutics. By W. GRIESINGER, M.D., Professor of Clinical Medicine and of Mental Science in the University of Berlin, etc. Translated by C. LOCKHART ROBERTSON, M.D. Cantab.; and JAMES RUTHERFORD, M.D. Edin. New Sydenham Society.

IN discussing a book like that of Professor Griesinger, it would be mere waste of space and time to endeavour to give a *resumé* of the