proper attention to temperature and sanitary requirements,—cells generally containing 700 to 900 cubic feet of air, liberal dietaries, airing and exercise, and scrupulous rules for clothing and cleanliness. There is a tendency in legislation to fly to opposite extremes, but, notwithstanding our favourable mortality reports, it is to be hoped that we may never again revert to the cruel and erroneous systems of a former age, which are more to be dreaded than the careful hygienic and sanitary amenities of the present day. Whatever punitive severities may be had recourse to, let us not neglect due regard to the bodily and mental health of the criminal; always remembering that such conditions are most advantageous to the interests of society at large, as well as to the reformation of the prisoner.

ARTICLE III.—*On the Pathological Relation between Albuminuria and Puerperal Mania.* By ARTHUR SCOTT DONKIN, M.D.Edin.; M.D.Dur., etc.; Lecturer on Medical Jurisprudence to the University of Durham, Neville Hall College, Newcastle.

MEDICAL science is indebted to Professor Simpson for having first directed attention to the co-existence of *albuminuria* and *puerperal mania*, in a contribution to the Obstetric Society of Edinburgh, in 1856.¹ In this paper Dr Simpson contented himself with demonstrating merely the frequent co-existence of the two morbid conditions, without attempting to explain the exact pathological relation between the renal and mental affections, leaving that to be accomplished by future clinical investigation. Dr Simpson's communication is, I believe, up to the present time the only contribution we possess on the subject, either in our own or any other language.

The following observations on this subject do not apply to those instances of temporary mental aberration sometimes observed during pregnancy, nor to those of brief delirium and incoherence occasionally excited by the sufferings of childbirth, nor to those of insanity manifesting itself during the period of lactation after complete convalescence from the puerperal condition. These, especially the first and last, are all instances of ordinary mental derangement in females predisposed to the affection which is excited in the *first* category by some unexplained influence exerted by gestation on the nervous system; in the *second*, by the sudden shock it receives during the agony of labour; and in the *third*, by its deficient nutrition and exhaustion, resulting from an impoverished blood, or a determination of nutrient materials to the mammary glands.

My remarks, on the contrary, will be strictly confined to *puerperal mania*—the *paraphrosyne puerperarum* of Sauvages,—an affection occurring only during the puerperal period, namely, within a few days or about a fortnight after delivery. On the importance

¹ Edin. Med. Jour., vol. ii. p. 766.

of restricting the term to such cases, Dr Prichard¹ has judiciously remarked that "the states of the constitution during pregnancy and lactation are very different from that of the puerperal period, and the characters of the mental disorder which are displayed at these times are also different. It is, therefore, improper to comprehend all the affections described under one designation and in full; such a proceeding is likely to lead to error both in treatment and prognosis."

If we carefully investigate the writings of obstetric authorities, as well as refer to personal experience, we cannot fail to recognise the correctness of the conclusion at which the celebrated Dr Gooch arrived nearly half a century ago, namely, that there are *two* distinct forms of puerperal mania, to one or other of which all cases can with propriety be referred, *if we found our classification on the presence or absence of certain grave and characteristic symptoms of constitutional disorder attended with great danger to life.* And it cannot be doubted that the too exclusive attention, on the part of observers, to the nature of the mental affection and its various shades and complexions has caused this important principle to be overlooked, and, together with the indiscriminate grouping under one common term of all cases of disordered intellect witnessed in the course of those distinct epochs of the generative process,—pregnancy, parturition, and lactation,—has exercised a most important influence in preventing the genuine affection from being reclaimed to the domain of rational pathology. For there is certainly no subject connected with obstetric science in a more crude and unsatisfactory condition than the pathology of puerperal mania. As to the literature of the subject, I may remark that, since the publication of Dr Gooch's original essay down to the recent contribution of Dr Simpson, already alluded to, nothing has been achieved towards the elucidation of the question.

Now, on a careful investigation of recorded cases, we shall find each of the two groups of the disease to present the following distinctive features:—

Class I.—The mania is essentially acute, and runs a brief course; it is always accompanied by a very rapid pulse, sthenic or asthenic, and generally a moist skin. The attack is usually ushered in and attended for some time by pain and heat of head, great intolerance of light, sound, or of any movement in the room, tinnitus aurium, and pervigilium. There is a strong tendency to a fatal issue, death taking place by way of coma or asthenia.

Class II. is characterized by complete absence of constitutional disorder; the pulse retains, or occasionally exceeds very slightly, its natural frequency. There is no danger to life, but the mental derangement is generally more or less chronic, and frequently merges into permanent hopeless insanity.

We thus perceive that these two groups or types of the disease

¹ Lib. of Med., vol. ii. p. 140.

are distinguished from each other by characters the most unmistakable and well defined. Consequently, we are led to inquire, *What constitutes the differential pathology between them?* Those cases referable to the "non-constitutional" group, which are dangerous only to reason and not to life, we can readily understand. They are neither more nor less than cases of ordinary insanity, excited, in females predisposed hereditarily or otherwise to the disease, by causes incidental to parturition, such as nervous shock, hæmorrhage, exhaustion, and a variety of other causes which it would be tedious and unnecessary to enumerate. But what are we to understand by the other acute constitutional and fatal class? There is undoubtedly something *special* in their pathology which has not been explained. They have been described by some authorities¹ as instances of cerebro-meningeal inflammation or phrenitis. But this interpretation of their nature is no longer tenable, owing to the fact that in no single fatal case have the traces of congestion or inflammatory action been detected in the brain or its membranes; so that Dr Tyler Smith² correctly observes, that "the pathological lesions found after death from puerperal mania do not throw any great light upon the essential nature of the disease. No constant morbid changes are found within the head, and most frequently the only condition found in the brain is unusual paleness and exsanguinity. Many pathologists have also remarked upon the extremely empty condition of the bloodvessels, particularly the veins." Now, this fact is the more remarkable, because the most dangerous and rapidly fatal cases are those whose symptoms simulate most closely those of inflammation of the brain and its membranes. These are the cases which Dr W. Hunter had in view when he stated in his lectures, long ago, that "when puerperal females are out of their senses with fever like paraphrenitis, they will in all probability die."³ Dr Gooch,⁴ referring to the relation between the rapidity of the pulse and the fatality of the disease, pointed out that the frequency of the pulse is the only sure guide in forming a prognosis, and illustrated his observations by showing that "his cases which terminated fatally were all attended with a rapid pulse, while none of those with a slow or moderately-excited pulse died." Subsequent experience has fully corroborated the accuracy of this opinion.

Now, the object I have in view in offering the following observations on this important pathological question, is to demonstrate *that the acute dangerous class of cases are examples of uræmic blood-poisoning, of which the mania, rapid pulse, and other constitutional symptoms are merely the phenomena; and that the affection, therefore, ought to be termed uræmic or renal puerperal mania, in contradistinction to the other form of the disease.* I will endeavour to illustrate this proposition—advanced for the first time—by giving the details of the following most interesting and instructive case,

¹ Rigby, Syst. of Mid., p. 302.

² Man. of Mid., p. 492.

³ Quoted by Dr Gooch.

⁴ Diseases of Women, 2d Ed., p. 116.

which fell under my own observation a few months ago. And I may here remark, in passing, that the real nature of the case might possibly have escaped detection had it not been for the casual and transient occurrence of facial œdema on the day after delivery.

The patient was a married woman, æt. 23, and of a short, stout, and robust build; since her marriage, had an abortion, and a miscarriage of a dead fœtus at the sixth month; the latter about twenty-nine months previous to her recent confinement. For a fortnight previous to that event, as I discovered after her delivery, she had suffered from œdema of the feet and legs, together with stiffness of the fingers and puffiness of the eyelids, on awaking in the morning; but during this period she voided daily a considerable quantity of pale urine.

On the morning of the 20th of April, after an easy and natural labour, she was delivered of twins, male and female. There was an interval of twenty minutes between the birth of each, and both were head-presentations. There was no unnatural degree of hæmorrhage after the expulsion of the placenta.

The next morning, the 21st, I was much alarmed on observing her face to be much swollen, puffy, and cedematous, even although she then felt quite well, and there were no symptoms of cerebral disturbance nor excitement of the pulse. Being firmly impressed with the belief, on account of this circumstance, that she was affected with some renal affection, and therefore most probably also with uræmia, I dreaded and predicted the invasion of *renal puerperal convulsions*. She had shortly previous to my visit voided a large quantity of pale urine, which had unfortunately been disposed of; but I requested the next specimen to be preserved for examination.

At 2 P.M. on the same day, I was suddenly sent for, and on arriving found her in a state of great agitation and alarm. She expressed a wish to be held, for, to use her own expression, she felt "swimming away;" she imagined that she had been seized with flooding, and on this account her alarmed attendants had sent for me. There was, however, no hæmorrhage, although the lochia were flowing. She complained of uneasiness and lightness in the head; the countenance was not flushed, but her pulse was fuller and much more frequent than at my morning visit. Believing that she was manifesting the earliest symptoms of uræmic blood-poisoning, and that in all probability uræmic eclampsia would soon supervene, I prescribed a cathartic of two drops of croton oil, and ten grains of colocynth and hyoscyamus pill mass, as the best means of abstracting some of the poison; I ordered the room to be kept cool, dark, and quiet; and in the evening and early part of the night, the purgative acted fully and frequently.

The next morning, the 22d, she was much relieved and quite composed, and the pulse was much quieter. The œdema had entirely disappeared from the face. She had just previously voided nearly two pints of pale straw-coloured urine, and fortunately not mixed with lochia. On examination, it was highly albuminous, and its density 1010; on standing a few hours, a pale flocculent deposit collected, which, on a careful microscopic examination, was found to consist of mucus and epithelium; *but no casts of the uriniferous tubes could be detected*, after repeated searches.

The next forenoon (23d), she was much worse; had not slept during the night, and felt great intolerance of light when the shutters were opened in the morning, and since then saw apparitions of fireballs when her eyes were closed; her pulse was full and very rapid, 130 per minute; her head was hot, with a sensation of throbbing in it; she was suffering much from a drumming noise in her ears, from intolerance of light and sound, while every movement in the room gave her pain. She also complained of what she called "lumps" rising up on her arms and head, and other delusive sensations, which showed that her reason was becoming impaired. She had passed since my last visit nearly two pints of urine of the same quality as on the previous morning. The

same dose of croton oil was again prescribed, to be followed by $\frac{1}{4}$ -gr. dose of tart. antim. every two hours, and cold applications to the head.

Two hours afterwards I was sent for, and found her much excited and quite maniacal. Here delirium was not of a violent incoherent kind, but consisted principally of delusions, and much resembled that of delirium tremens. She knew every one in the room, and was sitting on the bed compressing her abdomen violently with both hands, and persisting that there was a second "birth," to remove which it would be necessary to cut open the womb. The medicine prescribed at my previous visit had not been administered in consequence of the sudden invasion of the mania, which had rendered her uncontrollable. Under these circumstances, I had recourse to blood-letting, and after the abstraction of about twenty ounces of blood in the sitting posture, the *force* of the pulse was subdued, and, symptoms of fainting manifesting themselves, the vein was closed. In less than an hour after the bleeding, she became very much more calm, collected, and rational, and felt greatly relieved in her head. The croton oil was now administered, and followed by the antimony, as previously prescribed. In the course of the evening and night the former acted freely, and the latter, though repeated every two hours, produced neither nausea nor vomiting. About 8 P.M., the delirium and excitement greatly increased, but in a milder degree, and continued till past midnight, when she fell into a sound sleep for an hour and a half, and then awoke calm and collected, but still suffering from delusions.

Concerning the blood-letting, it is necessary to observe that I had recourse to it for the following reasons:—*First*, Because of the *fulness* and *force* of the very rapid pulse, and the *urgency of the head-symptoms*; the former condition being completely subdued by it, and the latter greatly mitigated in less than an hour. *Secondly*, Because I considered the case to be pathologically the same as one of sthenic uræmic puerperal eclampsia, in which affection experience has shown blood-letting to be of such essential service.

The condition of the blood abstracted is a most important pathological feature in the case. It formed a firm coagulum, without the buffy coat; its coloured corpuscles were not appreciably diminished in quantity nor altered in character. But the blood-serum was very remarkable, and presented the characters described by Frerichs and others, as witnessed in cases of uræmic puerperal convulsions, in which the serum is saturated with carbonate of ammonia, resulting from the decomposition of retained urea. The serum was of a *strong violet hue*, and quite unlike the colour of healthy serum; its density was 1022. It distinctly effervesced on the addition of acetic acid, and evolved fumes of ammonia on the subsequent addition of liq. potassæ in small quantity. The experiment was made and repeated in the presence of a professional neighbour, about two drachms being employed each time, within a few hours after its removal from the vein, and before decomposition had commenced.

On the 24th (the day after the blood-letting), her pulse was rapid, 125, but soft and compressible. The alarming head-symptoms already described, and the thirst, which before was troublesome, had all subsided. But although not excited, her mental condition was not improved; the same delusions were there; she answered questions with readiness. The antimony was continued.

On the 25th, I found that she had slept two hours in the middle of the previous night, but awoke quite maniacal, excited, and violent; delusions religious; in this state she continued all day; pulse as rapid as ever. Voided to-day nearly three pints of pale urine, density 1010, highly albuminous, and ammoniacal within six hours after being passed.

On the 26th, not excited nor violent, and much more rational; slept twice during the previous night, more than two hours each time. Head quite relieved; pulse not so frequent; passed to-day about two pints of urine of the same quality as yesterday. Antimony and cold applications to head to be discontinued.

From this date up to the 2d of May—a period of seven days—there was little or no alteration in the condition of the patient; her mania was occasion-

ally subject to brief periods of remission, and she had occasionally short intervals of disturbed sleep, without any improvement. She was also at times so violent that it was necessary to restrain her in bed. The pulse continued about 120 per minute, although her skin was moist and perspiring during the whole course of her illness.

From the 26th to the 29th she passed her urine unconsciously in bed, so that it could not be examined. But on the 29th she passed into a vessel about two pints of pale amber-coloured urine; its density had risen to 1020, and the quantity of albumen very considerably diminished, there being just sufficient to render the urine slightly turbid by heat and nitric acid; but it was still alkaline within four hours after being passed.

On the 30th of April and the next two days (1st and 2d May), the urine passed deposited, for the first time on cooling, an abundance of lithates, its density being increased;—there being, however, no improvement in the condition of the patient either as regarded her pulse or her reason.

But on the 3d of May, at my visit, I was informed that she had through the previous night enjoyed a profound and uninterrupted sleep, of about eight hours' duration, attended with profuse perspiration; after which, she awoke with her intellectual faculties almost completely restored, and with her pulse reduced to 96 beats in a minute. The urine passed on this day was loaded with lithates, its density being 1025, with not a trace of albumen.

On the 4th and two following days, she continued to improve, after a sound long sleep each night; so that, on the 7th of May, her pulse was reduced to 78, and her urine had ceased to deposit lithates, although its density continued at 1025, and was not albuminous. From this time she was perfectly convalescent; and, under the influence of a nutritious diet and a preparation of iron, she soon regained her natural colour and strength.

The lochial discharge ceased soon after the invasion of the mania; the milk, though suppressed during the attack, returned with convalescence, and she nursed her elder child at the breast,—the younger, not having strength to suck, soon died.

It will be seen, therefore, that the disease came to a critical termination four days after the kidneys had been restored to a healthy working condition, and the process of depuration had been actively established,—the duration of the mania and rapid pulse having been nine days.

The treatment of the case during the first four days, by blood-letting, purgatives, antimony, and cold applications, I have already detailed; these undoubtedly subdued the force of the pulse and the alarming head-symptoms, the continuance of which might have been productive of serious mischief. During the subsequent five days the treatment was confined to a light farinaceous diet and milk, when she could be induced to take food. Hyoscyamus was twice administered, without inducing sleep; while beef-tea, and the administration of wine on one occasion, produced great mental excitement and increased rapidity of the pulse.

Now, the first or earliest of the series of pathological conditions exhibited by the case just delineated was undoubtedly some renal affection. Of this we have proof in the anasarca which preceded labour several days, in the characteristic pasty-looking facial œdema observed on the day after delivery, and in the albuminous impregnation and very low density of the urine recognised on the day following. It is, therefore, important to ascertain, if possible, what the exact pathological condition of the kidneys was. That they had not undergone any structural alteration, resulting from extraneous organic deposit, as in Bright's disease, is sufficiently evident from the acute evanescent nature of the affection. Again, that it was not an inflammatory condition of the kidneys is, I think,

demonstrated by the fact that there was no fibrinous effusion, characteristic of inflammation, from the vessels of these organs; for had there been such, fibrinous casts of the uriniferous tubes, embracing epithelium, etc., and blood-corpuscles, would have existed in the urine in appreciable numbers. Yet the most careful and frequently-repeated microscopical examination of the urinary deposit could not detect them.

The only morbid condition, then, which could have possibly existed under these circumstances was *passive congestion* from mechanical compression of the renal veins, caused by the pressure of the gravid uterus. That such a condition is capable of producing all the phenomena of renal disorder observed in this case will be apparent on a little reflection. In the first place, a certain degree of passive vascular congestion would very seriously interrupt the secreting power of the kidneys, by which they separate from the blood the solid constituents of the urine. In the second place, the quantity of blood circulating through these organs, in a given period to be depurated, would be greatly diminished. In this way uræmia would be speedily induced, and the density of the urine, consequently, very greatly diminished, although there would not necessarily be any diminution in the quantity of its watery constituent, which, however, would be impregnated with albumen. It has been proved, by experiments on the lower animals, that a ligature tied round a renal vein produces albuminuria. Besides, it is an established principle of pathology, that when the vascular system of an organ suffers passive congestion from mechanical venous obstruction, a large quantity of albuminous fluid transudes from the congested vessels,—serous dropsy, in short, is established. In the case of cirrhosis, for example, in which the contraction of Glisson's capsule mechanically obstructs the portal circulation, ascites is rapidly developed; and when, from advanced heart disease, or any other cause, the flow of blood through the inferior vena cava is obstructed, excessive œdema of the lower extremities is the result. In the former instance, the effused fluid accumulates in a serous sac; in the latter, in the meshes of areolar tissue. But in the case of passive renal congestion from a similar cause, the effused fluid accumulates nowhere, but passes directly into the tubuli uriniferi, to be voided by the bladder in the shape of urine. When we recollect, therefore, that the whole of the blood circulating through the kidneys passes, after leaving the arteries of these organs, *first* into the Malpighian tufts, and that the sole function of these tufts of capillaries is to draw off water from the blood, we can have no difficulty in understanding, when they become passively congested, why, as in the present case, the albuminous urine of low density daily passed should be increased rather than diminished in quantity.

That *uræmia* was the *second* link in the chain of morbid changes in this case is evident from the low density and albuminous condition of the urine at a period anterior to the development of consti-

tutional symptoms and of cerebral and mental derangement. If further proof were requisite, it is furnished by the peculiar and distinct violet-colour of the blood-serum, together with the presence in it of a considerable quantity of carbonate of ammonia—a product of decomposed urea; these being the characters which, according to Frerichs, Litzman, Braun, Heller, Kletzinsky, Öppolzer, Gegenbauer, Lehmann, and others, are generally found in the blood-serum of puerperal females attacked with uræmic eclampsia.¹

It is necessary, next, to consider the morbid phenomena or symptoms observed in the present instance. The most characteristic of these were,—1. The local indications of cerebral disturbance, pain and heat of head, tinnitus aurium, intolerance of light, sound, and of shaking of the room, apparition of fireballs, which ushered in and accompanied the early stage of the mania; 2. The permanently rapid pulse; and 3. The mania itself. As to the first group of symptoms, they certainly resembled those of cerebro-meningeal inflammation. Yet some of the most striking features of that affection were absent, such as a flushed face, injected conjunctivæ, a hot dry skin, persistent nausea, vomiting, and the like. Besides, it is an established fact, that such a group of head-symptoms very frequently ushers in not only attacks of puerperal mania, in which no cerebral lesion can be detected after death, but also very generally attacks of puerperal convulsions, the result of uræmia. It is, therefore, I think, a logical inference to attribute these local symptoms to the previously-existing uræmia, and not to inflammatory action. The combined force and rapidity of the circulation at the commencement of the attack might have exercised an influence in exciting them, but that they were not the effect of its rapidity merely, is, I think, proved by the circumstance, that the frequency of the pulse continued unabated for several days after they had entirely subsided.

The next question to be determined is, to what cause are we to attribute the persistent rapidity of the pulse. That it was neither excited nor maintained by cerebral inflammation is clearly shown by its continuance long after the local symptoms—which in this case merely simulated such an affection—had entirely disappeared. And as neither in the uterus, its appendages and serous investment, nor in any other organ whatever, could the slightest indication of inflammation be detected, it could not possibly have been dependent on that cause. There was certainly no exhaustion nor asthenia to account for it. In the absence, then, of these and every other cause capable of powerfully exciting the heart's action, is it not a logical inference to conclude that the very rapid pulse was the effect of uræmia,—a cause which we know did exist to a very marked degree. It has been already shown that at the very outset of the attack the blood-serum was saturated with carbonate of ammonia, and as the ammoniacal and other morbid conditions of the urine for

¹ See Trans. of Braun on Puerperal Uræmic Eclampsia, *Edinburgh Medical Journal*, vol. ii. p. 1029.

several days afterwards would indicate, that it continued so saturated, is it not highly probable that this powerfully diffusible stimulant was the cause of the long-sustained vascular excitement witnessed during the course of the disease? That it was the effect of uræmia there can be little doubt; but whether the special agent producing it, as well as the other serious symptoms, mental and local, which accompanied it, was carbonate of ammonia, or some other compound intermediate between urea and its ultimate decomposition into the former substance, or to extractive matter of the urine, I will not venture to express an opinion. This is a most important question, which I trust chemical research will ere long determine, because, if the special morbid agent could be demonstrated, we might possibly be able to discover also an antidote to neutralize its action.

The history of the case shows that the intellectual derangement and the rapid pulse were coeval in their origin, duration, and disappearance. Both were suddenly developed at a time when an attack of uræmic eclampsia had been predicted, both continued so long as uræmia existed, and both suddenly subsided four days after the kidneys had resumed their healthy function, and the process of depuration by them had been actively established. These important facts demonstrate not only the correlation or intimate connexion between the mania and the vascular excitement, but also the dependence of both on the same cause, namely, uræmia. That this cause is adequate to the production of such a series of morbid phenomena there can be no reason to doubt, when we reflect on the action of other poisons, whether morbid or artificial, such as alcohol, the virus of typhus, and the like.

There is one special process inseparably connected with the puerperal condition which must exert a powerful, if not a critical, influence in exciting the toxicological action of uræmia, should that condition accompany and follow parturition, or even should it suddenly supervene after childbirth from any acute renal affection. I allude to the *involution* of the hypertrophied uterus. It has been ascertained that the weight of this muscular organ at the completion of labour is from $1\frac{1}{2}$ to $2\frac{1}{2}$ lbs., while, 14 days afterwards, from loss of substance in the interim, it weighs only 10 or 11 oz.¹ Now, this process of rapid diminution and regeneration of the uterus necessitates during its progress, especially when most active in the first two weeks after delivery, the absorption into the blood of an abundance of effete nitrogenous compounds. It follows, therefore, as an unavoidable sequence, that when any renal affection interrupts the elimination of these from the blood, the uræmia to which it had previously given rise will be seriously aggravated in degree, and its poisonous action on the nervous system most probably developed. By this greatly-increased disturbance, then, after labour, of the balance between absorption and elimination of waste materials, may

¹ *Vide* Farre on Uterus, Cyclop. of Anat. and Physiol., vol. vi. p. 658.

possibly be explained the sudden invasion of the symptoms of uræmia in whatever way manifested during the puerperal period.

But the question at once presents itself,—Why should uræmia in the puerperal female produce convulsions and coma in one instance, and mental aberration with a rapid pulse in another? To such a question the reply may with propriety be given, that we cannot expect the poisons engendered in the blood by the retention of the renal secretion to be exempt from the well-ascertained principle of toxicology,—that the action of almost every known poison is modified or entirely changed in character according to the dose, to idiosyncrasy, and the like influences. Besides, it is quite possible that in the one disorder a species of poison may be developed different from that which excites the other.

These observations will, I trust, serve to illustrate the principle which I have ventured to advance, namely,—*that the acute dangerous cases of puerperal mania with a rapid pulse ought to be termed renal or uræmic puerperal mania.*

If it should be objected that a single case is not sufficient evidence to establish the accuracy of my views, I must observe that the maxim which applies to investigations in natural history is equally applicable to those of pathology, namely, that although a single typical specimen may not be sufficient to establish a species, it is at least amply so to display its characters. But even should future investigation not corroborate the accuracy of my observations, yet I trust they will effect some good at least by directing others still more closely to the examination of one of the most important and, at the same time, neglected subjects of obstetric pathology. I say neglected, because I can only find recorded five cases of the acute dangerous variety of puerperal mania in which attention was directed to the condition of the urine. Four of these are the cases recorded by Professor Simpson.¹ In all of the four albuminuria existed at the outset of the mania. In one of them puerperal convulsions occurred before delivery, with very marked albuminuria; and after a very brief convalescence and absence of albumen, acute puerperal mania set in, and the urine was again found to be highly albuminous. In another case there were two sudden attacks of puerperal mania, with a week's interval between them, and at the commencement of each attack the urine was loaded with albumen, and free from it in the interval. In one of these cases the duration of the mania was two or three weeks, and the albuminuria observed at the outset of the disease had disappeared entirely before the restoration of the intellect.

The fifth case alluded to is recorded by the late Dr Graves, in the last edition of his Clinical Lectures.² This was the case of a

¹ Edin. Med. Jour., vol. ii. p. 761. Dr Simpson, more recently, states that he has repeatedly seen the same connexion between puerperal mania and albuminuria, as well as had other instances communicated to him. (*Lec., Med. Times and Gaz.*, Nov. 10, 1860.)

² Vol. ii. p. 301.

young woman (æ.t. 21), apparently of sound constitution. On the sixth day after giving birth to a seven-months child, she became the subject of acute puerperal mania, accompanied with a very rapid pulse (125), when admitted into the hospital, on the second day of the disease: she had been twice bled previously. She died on the eighth day of the attack, and up to her death the pulse is recorded to have kept as high as 120. Her skin was moist and perspiring, but the lochia and milk were suppressed. There was great pervigilium, she having slept twice, and on one of these occasions, after taking, in frequent small doses, three grains of acetate of morphia, the mania closely resembled delirium tremens. Death took place by way of asthenia. An investigation of the body was made six hours after death, before decomposition could have altered the most delicate tissue. Attention was specially directed to the condition of the brain and uterus. "But," observes Dr Graves, "the most careful examination could discover in the brain no phenomena in the remotest degree capable of explaining the occurrence of delirium or death." He further adds, that "the structure of the uterus was natural, and it exhibited nothing worthy of remark in its interior. The rest of the abdominal viscera were healthy." The kidneys are not separately mentioned by Dr Graves, but he directs especial attention to a symptom which he considered to be of "very considerable importance;" and very justly so, for it was no other than a great "diminution of the urinary secretion." The patient is described as having once voided urine, and that once on the third or fourth day of the attack. Unfortunately, however, her urine was not examined, otherwise the pathology of the case might not have appeared a mystery.

NEWCASTLE ON-TYNE, *Feb.* 1863.

ARTICLE IV.—*On the Nomenclature of Scapulo-Humeral Dislocations.*

By JOSEPH BELL, M.D., F.R.C.S. Ed., one of the Demonstrators of Anatomy in the University of Edinburgh.

THE nomenclature of the varieties of dislocation at the scapulo-humeral articulation, has, from the earliest ages of surgery, been one of those questions which have been very frequently brought under the notice of the profession. This has been the result, partly of the importance of the accident itself, and of the interest attaching to it; partly of the difficulties which occasionally present themselves in the diagnosis and treatment of the injury, any mistake in either being almost certain to be followed by grave and permanent bad effects.

It is, however, very remarkable that up to this day the varieties in relative position which (under varying circumstances as regards