But, then, the more each man is left to himself, the more strict should he be in his self-questionings; for every man then, being (but in no evil sense) a law to himself, becomes responsible to himself for exact compliance with its requirements, according to his own consciousness of what is right for him. And, might we not add, according to his own conscience, too? For, oftentimes, a man's intellectual self and his moral self must be mutual safeguards and fellow-labourers, if he is to work his way without mischance to the best conclusions. This is preeminently the case in practical medicine.

Original Communications.

CASES OF BARURIA.

By C. HANDFIELD JONES, M.B., Physician to St. Mary's Hospital, etc.

CASE I. J. G., aged 21, seen Aug. 3rd, 1857, was of languid, dull, venous aspect. He had had epileptic fits; and his speech and intellect had been disordered since the fits ceased. He could walk well. He died in a state of dementia, greatly emaciated, in December 1859. The *post mortem* examination showed a healthy state of the encephalon, with the exception of a granular condition of the lining membrane of the ventricles.

His urine on Jan. 26th amounted to 50 ounces in the twenty-four hours; it was of specific gravity 1028, of pretty full colour, and deposited plenty of lithates. Nitric acid caused spontaneous crystallisation of nitrate of urea. He was ordered three minims of nitric acid, seven minims of liquor opii sedativus, and an ounce of infusion of calumba three times a day. This was continued till Feb. 8th, when the urine was 25½ ounces in twenty-four hours, of specific gravity 1016, and clear. The urea at the former date, estimated by Liebig's test, amounted to 641.400 grains; the phosphoric acid amounted to 64.590 grains. At the time of the second examination, the urea had sunk to 239.062 grains; the phosphoric acid to 18.826 grains. Before he began to take the acid and opium, he was losing weight at the rate of one pound per week. On Feb. 8th, he had ceased to lose, but was otherwise unimproved. On Feb. 18th, the daily amount of urine was only 11 ounces, of specific gravity 1025, clear; and it was almost exactly the same on March 1st. The nitric acid and opium was omitted on Feb. 20th; and carbonate of ammonia, with chloric ether, was given in decoction of Iceland moss. This was continued a long time. On April 27th, the daily amount of urine was 40 ounces, of specific gravity 1015; it was clear, and of good colour. The daily amount of urea was now 358.04 grains; of phosphoric acid, 20.570 grains. On Feb. 18th, the daily amount of urea was 148.5 grains; of phosphoric acid, 11.308 grains. In a tabular form, the daily results stand as follows:—

	Quantity. Ounces.	Sp. gr.	Urea. Grains.	Phos. acid. Grains.
In state of baruria . . .	50	1028	641.4	64.50
Under nitric acid (a) . .	25.5	1016	239.062	18.126
and opium (b) . . .	11	1025	148.5	11.308
In normal state . . .	40	1015	358.04	20.576

CASE II. Mrs. —, aged 40, the mother of five children, was seen July 11th. She complained of increased frequency of micturition, with a sense of burning afterwards, referred to the umbilicus. This chiefly troubled her in the earlier part of the day; not at night, nor in the evening. She was pallid, but in fair health, better than last year, and much less nervous. She was a person of calm, sensible mind. The urine was in fair quantity, full-coloured, of specific gravity 1027; it depo-

sited a flocculent cloud, containing much oxalate of lime (octohedra); the crystals were often grouped into small quasi-calculus masses. On adding nitric acid, effervescence ensued, and some nitrate of urea laminae were gradually formed (not, however, until the lapse of three or four hours).

R. Acidi nitrici miiij; liquoris opii sedat. mv; tincturae lupuli mxx; infusi lupuli ʒi. Fiat haustus ter die sumendus.

July 6th. She was better. The urine was not perceptibly increased in quantity; it was aqueous, pale, of specific gravity 1008; there was no sediment, no oxalates, no effervescence with nitric acid; the reaction was alkaline.

July 19th. She continued much better. She had taken six doses only of the mixture.

The connexion in this instance of vesical dysæsthesia with baruria, and the remarkable effect of the remedy employed on the urine, can scarcely be questioned.

CASE III. —, clerk, aged 25, of delicate constitution, was seen July 15th, 1856. He complained of aching uneasiness in loins, which he had had since the previous winter, with great general debility and nervousness. The hyperæsthetic state was very evident. His appetite was poor. He was chiefly troubled by a nervous feeling referred to the bladder, leading him to imagine that he wanted to urinate, though he had no real call to do so. If he was at all hurried, he could not urinate at all. This vesical dysæsthesia he had had for years. The urine was highly acid, of specific gravity 1036; it contained an excess of urea, and deposited lithates and some oxalates.

R. Acidi nitro-muriat. mv; liquoris opii sedat. mxx; infusi lupuli ʒi. M. Fiat haustus ter die sumendus.

He continued this treatment till July 28th, when the urine was high coloured, of specific gravity 1027, and deposited no uric acid, nor urates, but octohedra. For the last five days he had also camphor, henbane, and lupulin, twice daily. I then gave him six grains of citrate of iron and quinine three times a day, which was replaced Aug. 1st by strychnia, with a little liquor opii sedativus.

Aug. 6th. He reported himself infinitely better. The urine was of normal colour, of specific gravity 1021; the quantity was about the same as before; it deposited no uric acid nor oxalates in twenty-four hours.

The next year he consulted me again, with a return of the same symptoms. Strychnia with citrate of iron and quinine was effectual, with an occasional opium suppository, which very decidedly calmed the vesical uneasiness, though it disordered his stomach.

In this instance, strychnia seems to have effected more than the acid and opium. Hyperæsthesia, debility, and baruria were evidently associated together.

CASE IV. Mr. V., mid-aged, tall, hollow-eyed, of restless, energetic temperament, has been in India. He had suffered long with pain in loins, and occasionally had seen blood in his urine. The lumbar pain was such that he found relief from getting a person to sit on him and press his back. His health was very fair in all respects. The urine was of natural colour, of specific gravity 1031, very acid; it contained a trace of albumen, no sugar, no excess of urea (according to the nitric acid test). Nitric acid threw down a sufficiency of lithic acid. There was a large deposit of fine oxalate of lime crystals, octohedra, and dumbbells.

June 19th. The following medicine was ordered.

R. Acid. nitro-muriat. mv; liquor. opii sedat. mvij; infusi lupuli ʒi. M. Fiat haustus ter die sumendus.

Aug. 19th. He reported that he had continued the medicine ever since, and had benefited greatly. He was in better general health than for years; he had not the wearying pain in the loins, but an occasional acute

pain, sometimes on one side, sometimes on the other. The urine was of normal colour, of specific gravity 1019; it deposited no uric acid nor oxalates.

This case illustrates the concurrence of wearying lumbar pain with oxalate of lime deposit, and the beneficial effect of nitro-muriatic acid and opium. It is by no means improbable that one or more small renal concretions also existed.

CASE V. H. W., aged 22, male, single, tailor, was seen Aug. 26th. He suffered from various symptoms of nerve-debility, among which pain in the back (probably myalgic), seminal emissions, and incontinence of urine are mentioned. On Nov. 16th, the urine was found of high colour, clear, loaded with oxalate of lime, of specific gravity 1030. He was ordered—

R Tincturæ ferri sesquichlor. $\mathfrak{m}\mathfrak{x}\mathfrak{v}$; acidi hydrochlor. $\mathfrak{m}\mathfrak{i}\mathfrak{j}$; liquoris opii sedat. $\mathfrak{m}\mathfrak{v}\mathfrak{i}\mathfrak{j}$; spiritus æther. chlor. $\mathfrak{M}\mathfrak{x}\mathfrak{v}$; infusi quassiae $\mathfrak{z}\mathfrak{i}$. M. Fiat haustus ter die sumendus.

He took this for nine days, and improved very much; but, after having been a week without medicine in the country, his symptoms returned. The urine of Dec. 2nd, however, was of lightish colour, of specific gravity 1022; it deposited no oxalates nor other sediment. On Dec. 6th, he complained of frequent micturition, passing an excess of urine.

R Acidi nitrici $\mathfrak{m}\mathfrak{i}\mathfrak{j}$; liquor opii sedat. $\mathfrak{m}\mathfrak{v}\mathfrak{i}\mathfrak{j}$; infusi quassiae $\mathfrak{z}\mathfrak{v}$. M. Fiat haustus ter die sumendus.

Dec. 10th. The urine was of ordinary colour, turbid, free from oxalates, but deposited a trifle of lithates; there was no effervescence with nitric acid. The reaction was alkaline from ammonia, the blue colour disappearing as the paper dried. This state of the urine was removed for some time by five grains of quinine three times a day, his other symptoms improving at the same time. On the alkaline condition, however, returning (Jan. 10th), he was placed on a grain of opium three times a day, under which the urine again became fully acid, and was so on Feb. 7th. On Feb. 17th, he was better and stronger. Soon after, he ceased attendance.

This record illustrates the coexistence of baruria and oxalate of lime deposit with nerve-debility; the lessening of the specific gravity, and the disappearance of the oxalates, under tincture of sesquichloride of iron, opium, and hydrochloric acid; the supervention of an alkaline condition of the urine while he was taking nine drops of strong nitric acid daily; and the correction of this symptom, together with an improvement of his general state, by quinine, and subsequently by opium.

CASE VI. Mr. R., aged 50, rather thin, had always had very weak digestion; he had been suffering with present symptoms more particularly during the last four years. He complained of great debility and a variety of dysæsthesiæ. His cerebral power was so weak that a few minutes application to reading or writing exhausted him. A walk of half a mile induced great weariness. He was extremely hyperæsthetic. He found most relief from riding in the open air. The urine was free, of ordinary colour, of specific gravity 1036; it deposited urates copiously, no oxalate. He derived some benefit from carbonate of iron and manganese.

In two other cases, both females, which have come under my observation, the urine was of high specific gravity (1027 and 1030), and crystallised spontaneously when treated with nitric acid. Both were the subjects of extreme nerve-debility; in the one, apparently the result of long continued menorrhagia, over-exertion, and mental trouble; in the other, dependent probably on an extremely frail and delicate constitution. In both, hyperæsthesia and debility were most prominent phenomena. In one, the urine deposited oxalates; in the other, it did not.

GENERAL REMARKS. The most general account that one can give of the foregoing cases is, that they all present a concurrence of more or less marked nerve-debility

or disorder with a renal flux. This latter term assumes as true that, in each case, the amount of urinary solids excreted in the twenty-four hours was excessive. In one instance this was demonstrably the case, and in the other it is nearly certain. The essential feature of the disorder I hold to be an excessive excretion of matter from the system *per urinam*, and not the presence of oxalate of lime crystals in the liquid. The presence of a few of these is, I believe, of no importance; but, on the other hand, my experience certainly leads me to think that, when they constitute a well-marked and copious sediment, their presence is connected with a peculiar disorder of the nervous system. Oxalate of lime is very often present in urine of high specific gravity, but is not constant. On the other hand, it may be present abundantly in urine of moderate specific gravity. In five of the seven cases related by Dr. Bird, it is mentioned that there was excess of urea in four, and a specific gravity of 1030 in one. Of the eight cases I have recorded or noticed, the urine showed an undue specific gravity in all; in five, it deposited oxalates at the time when it was examined; and in three it did not. I am not, however, quite certain that one of the latter set was microscopically examined. Taking the whole of the fifteen cases together, it appears that an unduly high specific gravity and deposition of oxalate of lime were coincident in ten—i.e. in two-thirds of the whole. Moreover, as several of the cases show, the same treatment which causes the disappearance of the oxalates also remarkably lowers the specific gravity. While, therefore, I by no means assert that the causal conditions of baruria and oxaluria are identical, I am much inclined to think that the two are by no means dissimilar; and particularly that, when baruria exists, it is very probable that deposition of oxalate of lime will also take place. The view of Dr. Prout, adopted by Dr. B. Jones, that the lithate and oxalate deposits are “of the same general nature”, appears to me very probable, and is very much in accordance with my experience. Lithates are frequently associated with oxalates; and, in cases of baruria, it seems to make no difference which of the two is present.

The practical conclusion which I am disposed to adopt is that, as regards the treatment and the general bearing of an individual case, it matters very little whether the urine contain simply an excess of urea, or this with lithates, or with oxalates; or whether a considerable oxalate deposit exist alone in urine of somewhat high specific gravity. I am fully alive to the extreme importance of estimating the daily amount of urine, and not drawing conclusions from a single specimen which may happen to be much concentrated. It is, however, by no means easy to induce patients to collect and measure the total amount of urine; and I believe we shall generally not err materially if we take a specimen from the mingled urine of the night and early morning, and judge of the total quantity from that which is passed in the above period. An intelligent patient can generally form a pretty correct idea whether there is any considerable difference in the amount of urine passed in the twenty-four hours. Thus I feel pretty positive that the remarkable change which took place in the urine in Case II was not merely the result of a great increase in the urinary water.

Taking up, then, again the general view of these cases, that they present as their main features more or less nerve-disorder associated with excessive renal secretion, it remains to inquire what relation there exists between the two, which is to be regarded as the cause of the other. Our best guide in this inquiry is observation of the *lædèntia* and *juvantia*. Dr. Prout mentions abuse of the sexual powers as the chief, and generally such causes as enfeeble the vital powers, and more especially the spinal nerves, as the causes of baruria. Residence in a damp and malarious district he states as the most

striking exciting cause of the oxalic acid diathesis. The above mentioned are all evidently operative in the way of debility, which therefore would appear to be primary. The nature of the *juvantia*, tonics and sedatives, points to the same conclusion. The coincidence is worth observing, and can scarcely be without significance, that the same remedy, nitric acid and opium, is very efficient in certain asthenic bronchial and intestinal catarrhs, as well as in the form of disease we are considering. Its action, as an astringent tonic, arresting and checking metamorphosis, must surely be the same in all cases. I may mention that I have often found the same combination very useful in warding off fatigue when I have had heavy work to get through. There is nothing specific about this remedy, as, in one of my cases, strychnia answered the end much better.

It is impossible to understand perfectly the pathology of baruria while we are so much in the dark as to the way in which secretion is effected in the kidney. Two views might be taken—one, that the general debility of the system involving the vaso-motor nerves sets up an excessive amount of waste in the various nutritive processes, just as occurs in low fever; and that thus a greater amount of excretory matters are formed, which simply drain off by the kidney. The other would be, that the renal plexus was the part of the nervous system specially affected; and that, being in a state of paresis, it allowed an undue quantity of blood to traverse the kidney, and so gave rise to an excess of secretion. The highly important researches of Oppler, if confirmed, will go far to render the second view the more probable; not, however, to the entire exclusion of the first. In either case, nerve-disorder is assumed as the fundamental cause of the disease, and that which is to be the special object of treatment. In obscure malarious disorder, drenching night-sweats and extreme debility are not unfrequently the only symptoms. The cutaneous flux in this case is quite analogous to the renal, according to the second view above mentioned.

ON THE PROPERTIES OF LIQUID CARBONIC ACID. Mr. Gore shows how a small quantity of liquid carbonic acid may be readily and safely prepared in glass tubes closed by stoppers of gutta percha, and be brought in a pure state into contact with any solid substance upon which it may be desired to ascertain its chemical or solvent action, or be submitted to the action of electricity by means of wires introduced through the stoppers. By immersing about fifty substances in the liquid acid for various periods of time, he has found that it is comparatively a chemically inert substance, and not deoxidised by any ordinary deoxidising agent except the alkali metals. Its solvent power is extremely limited. It dissolves camphor freely, iodine sparingly, and a few other bodies in small quantities. It does not dissolve oxygen salts, and it does not redden solid extract of litmus. It penetrates gutta percha, dissolves out the bark brown colouring matter, and leaves the gutta percha undissolved, and much more white. It also acts in a singular and somewhat similar manner upon India-rubber. The India rubber while in the liquid acid exhibits no change, but immediately on being taken out it swells to at least six or eight times its original dimensions, and then slowly contracts to its original volume, evidently from expansion and liberation of absorbed carbonic acid, and it is found to be perfectly white throughout its substance. These effects upon gutta percha and India-rubber may prove useful for practical purposes. The liquid acid is a strong insulator of electricity; sparks (from a Ruhmkorff's coil) which would pass readily through 9-32nds of an inch of cold air, would with difficulty pass through about 1-70th of an inch of the liquid acid. In its general properties it is somewhat analogous to bisulphide of carbon, but it possesses much less solvent power over fatty substances. (*Chemical News.*)

Transactions of Branches.

BATH AND BRISTOL BRANCH.

PRESIDENT'S ADDRESS.

By JOSEPH GRIFFITHS SWAYNE, M.D., Clifton, Bristol.

[Delivered July 10th, 1861.]

THE first duty devolving upon me, as President, is to thank my fellow members of the Bath and Bristol branch of the British Medical Association for the honour they have conferred on me in electing me to so distinguished an office. When I look back at the list of presidents who have gone before, and see the names of men, of whom one (Dr. Prichard) has achieved an European reputation, whilst all have occupied a high place, both socially and professionally, in our respective cities, I appreciate still more the honour you have done me to-day, for which I now tender you my hearty acknowledgments; but at the same time I cannot avoid the reflection, that there is nothing either in my age or professional status which has entitled me to such a distinction. A retrospect of this kind is not encouraging; for it tends to make one conscious of the disadvantage of following such predecessors and keenly alive to the contrast which will be afforded by one's own shortcomings. However, I trust by your kind indulgence, and by the help of the secretaries and council, to discharge my duties in such a manner that the interests of the Branch may not materially suffer during my term of office.

On occasions like the present, it is usual to glance briefly at the past and present condition of the Branch, and to mix congratulation with condolence, whilst taking account of our gains and losses during the past year. The subjects for congratulation need not occupy long; they relate chiefly to the general condition of the Association and more especially of the Branch to which we belong. In alluding to the prosperous state of the general body I do but reiterate what is said by all other presidents, and is duly chronicled in our JOURNAL, viz., that this, our Association, which has now existed for nearly thirty years and has reached a vigorous manhood, still retains the steady principle of growth and elasticity of frame so characteristic of youth; and that it must every year be an increasing source of honest pride to its eminent founder, who has just retired from hospital duties which he has performed for nearly half a century to the great advantage of his native city. Let us hope that Sir Charles Hastings may long be spared to witness the continued prosperity of an Association that has been the offspring of his brain and the cherished project of his life. As regards this Branch, our secretary's report will shew that it continues to steadily recruit its ranks and add to its numbers—to partake of the well-being of the parent tree from which it is an offshoot.

In the battle of life in which we are all engaged, the rear-rank men must always hold themselves in readiness to step up, when required, in order to fill the gaps and take the places of their comrades in the front ranks who have been laid low by the hand of death. It is, therefore, in accordance with this rule of nature, that I now step forward to take the office of president, but it is with a degree of sadness that, in doing so, I find myself about to occupy a post, which was filled not long ago by two surgeons, for many years justly distinguished in their respective cities, but who have lately been snatched from us: I allude to our late lamented associates Mr. Norman and Mr. Clark.

You have, already, at one of our former meetings heard an eloquent description of the life and medical career of Mr. Norman from the lips of one of his colleagues and fellow citizens, who enjoyed the privilege of a much more intimate acquaintance with him than I