

as many as five fits in two days. This history was given partly by the mother and partly by the patient herself, who appeared to be an intelligent, well educated girl, about medium height, of slight build, and dark complexion. In answer to my questions, she stated her appetite was bad, her bowels costive, urine clear and healthy-looking, but passed frequently in small quantities. She suffered frequently from headache, fulness after meals, flatulence, heart-beat, and a short dry cough, which was very troublesome at times. She had never menstruated, but thought it must have something to do with her present illness, as she suffered more at the beginning and end of each month than between times. I suggested that it would be necessary to make an examination of the generative organs, but she would not hear of such a thing. However, when she undid her jacket in order that I might examine her chest, I was struck by the abnormal size of her abdomen, and putting this and her dislike to a vaginal examination together, I must say I strongly suspected that I was being imposed upon, and that what really was the matter she endeavoured to conceal; in fact, I considered she was *enceinte*. I did not express my opinion, but prescribed an alkaline mixture with bromide of potassium, and asked her to call again in a few days. She did not return; but in about two or three weeks afterwards I was asked to come at once to Mrs. K——'s, as her daughter was in a fit. I went without delay, but found she had just recovered. I ordered her to bed, and spoke seriously to the mother as to the necessity of making a thorough examination. She quite agreed with me, but was compelled to use an amount of persuasion before her daughter consented, which she finally did. I accordingly examined her in the dorsal position, and on inspection found the abdomen symmetrically enlarged and very prominent. On palpation, I could detect a central firm tumour well defined, which was evidently the uterus enlarged. On proceeding to make a vaginal examination, I found the orifice obstructed by a distinct fluctuating swelling, which felt uncommonly like the unruptured membranes in labour, and which I had little doubt was an imperforate hymen distended by some fluid in the vagina. Having made a sufficient diagnosis, I had scarcely concluded my examination when the patient was seized with an epileptic fit which lasted for over a minute; her features became distorted, the eyeballs turned up, the eyelids wide open, and the pupils dilated; the thumbs were shut close in the palms of the hands, and the limbs agitated by convulsive motions. This was succeeded by a kind of stupor and general feeling of lassitude.

Having weighed the advantages and disadvantages of the several methods recommended for the evacuation of the fluid, I decided upon dividing the hymen by a free incision, and rapidly evacuating the fluid. When I explained the nature of the case to the girl and her mother, they not only consented to allow me to operate, but in fact urged me to do so, Mrs. K—— adding that on account of the uncharitable remarks of some of her daughter's companions she was willing to incur any risk in order that she might get well. Next morning, having placed the patient in the lithotomy position and cleansed the parts well with a strong solution of Condy's fluid in warm water, I divided the imperforate hymen by a free incision which immediately gave exit to a thick sanious discharge, and allowed me to wash out the uterus and vagina with a solution of permanganate of potash, after which I placed a firm pad over the hypogastrium and retained it in position with an obstetric binder. A plug of absorbent cotton saturated in a weak solution of carbolic acid in glycerine was placed in the vagina, and an opiate administered. The patient was kept in bed and ordered a low but nourishing diet. The uterus and vagina were well cleansed with Condy's fluid in an injection which was used twice a day, the plug of absorbent cotton being changed each time. She made a wonderfully quick recovery, without a single unfavourable symptom, and at the end of ten days was allowed to get up. Though fourteen months have elapsed since the operation she has had none of her old troubles, and is perfectly free from anything like fits. Seven weeks after the operation she menstruated for two days, but since that time the catamenia have been quite regular. She has gained weight, strength, colour, and spirits to a wonderful degree, and may now, I think, be considered well.

This case, I believe, is unique and interesting in many respects. It clearly demonstrates that a medical man should not make undue allowance for female modesty

at the risk of his own professional reputation and the future well-being of his patient. It is not that he ought, but it is his imperative duty, to make a thorough examination in every case where the cause of the symptoms are obscure. It also, I think, points out that dividing the imperforate hymen by a free incision is preferable to the more lengthy operation for the gradual draining away of the retained fluid by minute punctures. With ordinary antiseptic precautions the same result is attained in a quicker and equally safe method.

Holbeach.

## A SIMPLE METHOD FOR ESTIMATING UREA.

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SEVERAL years ago it was suggested to us by some of our former pupils that it would be convenient if a system could be devised by which urea could be estimated easily, rapidly, and accurately without specially constructed apparatus. The hypobromite method gives results which are quite correct enough for clinical purposes, and several forms of apparatus of great convenience and simplicity have been devised for its execution. The latest and perhaps the simplest is that of Doremus, recently advocated by Dr. Cruise of Dublin.<sup>1</sup>

There is no difficulty in using any of the instruments which have been recommended, and it is probable that physicians will prefer to employ some one of them when it is accessible. But such instruments are not always accessible, and are easily broken; and it is in any case desirable that the medical practitioner who chances to have no apparatus at his command except the ordinary weights and measures of pharmacy shall be able, without trouble or loss of time, to make satisfactory estimations of urea. In the system arranged by us in 1884, and now for the first time described in print, absolute accuracy is not aimed at, but the maximum error of calculation is so minute as to be quite lost in the greater errors due to variations of temperature and pressure, and to imperfect measurement which are incidental to any rapid process which depends on the measurement of the nitrogen and expelled by alkaline hypobromite. It is well known that this nitrogen amounts approximately to 92 per cent. of the total nitrogen of urea. The apparatus required<sup>1</sup> is of the simplest character. In addition to the ordinary pharmaceutical measures, all that is really necessary is a thistle-headed acid funnel, about one foot of glass tubing and a couple of bottles. It is well to assume that no other appliances are available. The reagents are bromine and caustic soda.

The following arrangements are made:—1. An eight-ounce bottle of any form is fitted with a thistle-funnel and bent glass delivery tube, as though for the preparation of hydrogen. The lower end of the funnel should be bent upwards, like a small hook, to prevent gas from passing up it. 2. A small basin or breakfast cup may be used as a pneumatic trough, a four-ounce, or larger, bottle of any form being filled with water and inverted in it in such a manner that the end of the gas delivery tube can readily be brought under the mouth of the bottle. 3. A 40 per cent. solution of good commercial caustic soda is prepared. For example, half a pound avoirdupois of soda may be dissolved in water and when cold diluted to one pint.

The analytical process is as follows:—1. Into the gas generator is poured by means of the funnel one fluid drachm of bromine washed in by ten fluid drachms of the soda solution. The generator may then be immersed in cold water, and the inverted bottle of water placed over the end of the delivery tube. 2. Two fluid drachms of urine, very carefully measured, are added and washed in by exactly one fluid drachm of water. The three fluid drachms so added will of course cause an equal volume of air to pass into the receiving bottle. This is allowed for in the appended table. The generator is gently shaken; brisk effervescence takes place, and gas equal in volume to the liberated nitrogen is collected in the receiver.

<sup>1</sup> THE LANCET, March 22nd, 1890.

The generator should be kept as nearly as possible at the temperature of the air. 3. When the evolution of gas ceases, the receiver is removed from the basin by means of the thumb or a glass plate and placed mouth upwards on the table. It is now only necessary to measure in minims the quantity of water required to fill it. After deducting 180 (which may be taken as 200) minims due to the air displaced by the urine, each 100 minims of water added represent 0.25 per cent. of urea in the urine examined. If the urine contains more than 3 per cent. of urea, it is best to dilute it with an equal volume of water before making the determination.

The following table gives the percentage of urea corresponding to the volume of gas liberated, as shown by the quantity of water required to fill the bottle:—

Minims of water required.	Percentage of urea.	Minims of water required.	Percentage of urea.
200 ... ..	0.00	900 ... ..	1.75
300 ... ..	0.25	1000 ... ..	2.00
400 ... ..	0.50	1100 ... ..	2.25
500 ... ..	0.75	1200 ... ..	2.50
600 ... ..	1.00	1300 ... ..	2.75
700 ... ..	1.25	1400 ... ..	3.00
800 ... ..	1.50		

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

THE INHALATION OF BROMIDE OF AMMONIUM FUMES.

BY THEODORE MAXWELL, M.D. CAMB., B.SC. LOND.

THE value of the fumes of chloride of ammonium as an inhalation in some kinds of bronchial catarrh, and in oronasal catarrh, where the orifices of the Eustachian tubes are thickened and blocked up, causing more or less impairment of hearing, is so well recognised that there is no need to refer to it at length. It occurred to me, some two or three years ago, that if I could obtain bromide of ammonium fumes they ought to prove even more valuable than those of chloride of ammonium in cases where a good deal of spasm exists, causing dyspnœa, as in winter cough and bronchial asthma. Of course the ordinary solution of hydrobromic acid used in dispensing was useless for the purpose. I then tried one of triple strength, which is sold by some houses. This was equally useless. I then had a very much stronger acid prepared for me, the specific gravity of which was 1.7. With this and the ordinary solution of ammonia I managed to produce very good fumes both in a Verreker's and in a Kerr's chloride of ammonium inhaler, but it was impossible to get them neutral, or at least to keep them so for many minutes, and the inhalation of too much hydrobromic acid is very irritating. I tried this inhalation with several patients suffering from bronchial asthma, and generally found a few whiffs relieved the wheezing in a surprising manner. Latterly I have been using an apparatus devised for chloride of ammonium by Dr. Patrick Maxwell of Dublin, constructed on a different principle, where the chloride or bromide of ammonium is simply vapourised by heat, and drawn through a kind of wash-bottle into the lungs. I have used the bromide in true asthma, and find that if inhaled just as the attack is coming on it will frequently avert it entirely. From what experience I have had I am disposed to think that the inhalation of bromide of ammonium fumes will prove of great benefit to many sufferers from various forms of asthma.

Woolwich.

A NOTE ON HYDROPHOBIA.

BY SIDNEY A. BONTOR, M.B., B.S.

AT the present time, when the interest taken in the study of hydrophobia is almost universal, the following short note, illustrating as it does some of the associations of the disease, rather than its clinical history, to which attention has been chiefly directed, may be of some interest, more

especially as Dr. Ruffer, in his lecture before the Society of Arts on Dec. 4th, 1889, drew attention to several cases, published in the "Annales de l'Institut Pasteur" and elsewhere, where two or more persons being bitten by the same dog, those who underwent inoculation remained well, and those who did not submit to the treatment died of hydrophobia.

At the end of October, 1888, two boys of about the same age were bitten each on the hand by the same dog, one being bitten the day after the other. Both wounds healed readily, and little was thought of the occurrence until about three weeks afterwards, when the boy first bitten showed symptoms of hydrophobia, and died after an illness of three days and a half. That there might be no doubt as to the accuracy of the diagnosis, a portion of the spinal cord was sent to Mr. Victor Horsley, who kindly inoculated five rabbits with it. They all developed unmistakable symptoms of rabies, while the incubation period in no case exceeded five days. Since that time I have kept the other boy who was bitten under observation, and he was seen quite well only a few days ago, nearly fourteen months having elapsed since he was bitten. How can his immunity be accounted for? For my own part I fancy that the reason lay in the fact that this boy was in robust health, while the boy who died was ill-fed and of a weakly nature, and that the vital energy of the boy last bitten was sufficient to overcome the vital energy of the hydrophobic germ, if I may so call it, or, in other words, that the germ did not find a suitable nidus; while in the case of the boy who died, the vital activity of the various functions of the body being impaired, the germ was able to thrive and multiply.

The question arises also as to how the dog became infected. It was an Irish retriever, of sulky habits, generally kept chained in a yard which was kept closed during the day, so that other dogs were hardly ever known to go into it, none having been seen there for some time before the occurrence under notice. The dog had been bitten once, but that was three years previously. It was killed the day after biting the second boy, but entirely without suspicion that it was suffering from hydrophobia, a slight increase in its sulkiness only having been noticed. When killed there was no wound upon the dog, nor had it been known to have had one for some time before. No other case of hydrophobia had been heard of in the district. How, then, had the dog become inoculated?

As a final note, I would draw attention to the fact that the wound of the boy who died was cauterised with nitrate of silver by a chemist within three minutes of its being inflicted, while that of the boy who survives was left entirely without treatment. I add this not to draw an argument for the general from the particular, but because I believe that the very common practice of using nitrate of silver is but rarely of benefit, while the slough that ensues is frequently a source of trouble, and this case points to the argument already well known, though apparently not sufficiently so, that unless nitrate of silver is applied immediately after the bite, its value is practically *nil*, and its use therefore to be avoided.

Great Berkhamsted.

ACUTE NEPHRITIS FOLLOWING INFLUENZA.

BY E. MANSEL SYMPSON, M.D., B.C. CANTAB., M.R.C.S.

VERY rarely, if I may judge from the silence kept by the text-books on this subject, is nephritis a sequela of influenza. Hence a case which has been under my care recently may be of some interest.

A. B—, a schoolboy aged eleven, had an attack of influenza at the beginning of March this year. Many of his neighbours and some of his own household were suffering from it at the time. He complained of great pain in his back and head (chiefly across and just over the eyes), sickness, and actual vomiting. He had no coryza for several days, till the attack, gradually passing off, seemed to end in a severe cold. He was left in a very weak state, the symptoms lasting about a fortnight. On March 16th he was seized with constant vomiting, great lumbar pain, fever, and headache. In the course of a day or two his ankles were noticed to be swollen, towards evening his legs and thighs swelled, and one evening his abdomen; also he passed a very small amount of urine. On March 23rd, when I first saw him, the note is as follows:—Present condition: Face puffy round the orbits, and very pale; tongue large and flabby; pulse rather