Reports of Societies.

OBSTETRICAL SOCIETY OF LONDON.

WEDNESDAY, JUNE 5TH, 1861.

W. TYLER SMITH, M.D., President, in the Chair.

ON INFLAMMATION OF THE BREAST; WITH AN ANALYSIS OF SEVENTY-TWO CASES.

BY THOMAS WILLIAM NUNN, F.R.C.S.

THE author, after stating that while, as usually recognised by surgical writers, the first months of lactation were preeminently distinguished by a proclivity to acute mammitis, there was another period of especial liability to the same disorder induced by hyperlactation. Of the total number of 72 cases which had fallen under the author's observation in his public practice at the Middlesex Hospital and elsewhere, 58 occurred during lactation, 7 during pregnancy, and 7 in women neither pregnant nor lactating. Of the 58 lactating cases, 56 or 57 per cent. occurred during the first two months of lactation, during the subsequent seven months only 14 per cent., but after the ninth month 29 per cent. There was a special cachexia brought about by over-lactation, the proneness to inflammation being an indication thereof: a cachexia marked by a peculiar dryness and chalkiness of the skin; by drowsiness, constipation, dyspepsia, loss of appetite, and tendency to incontinence of urine; and by physical and mental lethargy—remarkably by the latter; the task of weaning appearing to the patient to be one of insurmountable difficulty; the breasts themselves becoming preternaturally bulky and inelastic, and the peripheral portions of the lobes being most engorged.

It was probable that the attacks of inflammation of the early period and of the over-lactating period had an analogous if not similar etiology, and the treatment which experience had proved most successful was thus rationally confirmed.

The results of Mr. NUNN's observations as to whether the right or left breast was the most frequently attacked coincided with those of M. Velpeau—namely, that either breast was equally liable.

In 26 instances observation had been made by the author as to which portion of the gland contained the focus of inflammation; and he found that the lower lobes were twice as often thus affected as the upper lobes.

Regarding treatment, it was to be understood that on certain points, merely, permission was asked to say a few words.

1. The continuous poulticing so often practised or permitted was decidedly mischievous, and hindered recovery; although it was not denied that occasionally, where there was deep sympathetic pain and hyperæsthesia of the surface, large warm poultices were soothing and grateful.

2. The recumbent position, by preventing the undue infiltration of the lower lobes of the gland, was of the first importance.

3. In the author's hands belladonna had not given encouraging results; although he could not doubt, from the evidence of Mr. Marley and others, that in the earliest stages of congestion and as a preventative it had a beneficial influence.

4. The moment for making the incision in the abscess, when formed, should be vigilantly watched for, as the rapidity of cure much depended upon this. The extent of the incision should be such as to ensure efficient evacuation of the abscess, but nothing further.

5. The author strongly advocated the employment of galvanism of low intensity, such as is afforded by the ordinary cell-apparatus for yielding the interrupted current, in the treatment of sinus, and painful œdema remaining after the more acute symptoms have subsided; he acknowledged his indebtedness to a paper by Mr. Spencer Wells, published some years since, for the idea of so using galvanism. Whether galvanism stimulated the bloodvessels directly, or, by promoting the activity of the absorbents and the removal of the exudation products, permitted the capillary circulation, relieved of the *débris* by which it was clogged, to resume its normal condition, no hypothesis was hazarded. Of the great value of galvanism as a therapeutic agent the author had seen abundant proof.

Although the topic of the paper confined the author's remarks to a limited field, he could not refrain from urging upon the Society the importance of the whole subject of overlactation, as his almost daily experience at the Middlesex Hospital made him the witness of its deplorable effects on the children of the poorer classes.

Mr. BALLARD thought the author, in assigning a cause for mammary abscess, had laid too much stress upon the health of the mother, and had not made sufficiently prominent that which seemed to be really the exciting cause of the evil—namely, a demand made upon the breast for an amount of secretion it was at the time unable to yield. The statistics quoted were in accordance with general observation, and seemed to corroborate this view; the occurrence of the greater number of cases in the earlier periods of suckling being caused by the child sucking in search of a greater quantity of milk than the gland has as yet acquired the power of secreting. Again, in the latter periods there may be a failure of secretion in consequence of the reestablishment of menstruation or of pregnancy; the demand continuing as before, the breast is exposed to the irritation of excessive sucking. Breasts, of which the nipples are defective, are very liable to become inflamed; their secreting power is usually very imperfect, although the determination of blood to them is the same as if they could secrete freely. Vain attempts to procure milk under these circumstances are very apt to induce inflammation and abscess. In the treatment of an abscess of the upper segment of the breast, he had found the drainage-tube very useful; it enabled the pus to flow freely, when, otherwise, none could escape.

Dr. BRAXTON HICKS thought the prophylactic treatment the most important to obstetricians. He had found belladonna (equal parts of the extract and glycerine) applied externally, at the same time giving internally iodide of potassium in eight-grain doses, a most effective method of checking the secretion of milk, where, from various circumstances, it was desirable to do so. He instanced a case where the child could not suck, in consequence of imperfect nipples and of the engorgement of the breast, and where it seemed impossible to avert abscess, in which this treatment had answered admirably; he had never seen any ill effects from its use.

Dr. DRUITT supposed the present discussion was not intended to embrace the whole causes and treatment of breast abscess; otherwise the use of pressure, and particularly of plaister-straps, as preventives and as remedies, would have been mentioned. He believed that in every or almost every case of weaning, plaister-straps should be used to take off the weight of the breast, to compress it gently, and thus to aid Nature in restoring the natural size and beauty of the organ. In this case beauty was associated with health.

Dr. TYLER SMITH observed that the chief causes of mammary abscess soon after parturition were obstructed milk-ducts, and the irritation of the gland by fissures of the nipple. The latter caused suppuration of the gland, just in the way that irritation of the urethra or vagina caused suppuration in the inguinal glands. The best way to prevent the abscess was to cure the crack in the nipple; and he knew of nothing better than painting it with a strong solution of the nitrate of silver. Abs-

cess depending on obstruction of the gland could often be prevented by belladonna. He had found smearing the breast with equal parts of the extract and water, a better way of applying it than in the form of ointment. Bromide of potassium seemed to have a specific effect in diminishing the action of the mammary glands, both when given internally and used as a lotion. In the important class of cases first pointed out by Mr. Nunn as occurring at the end of lactation, and due apparently to fruitless sucking, the weaning of the child was always advisable. In chronic abscess, support and compression of the breast by strapping or belladonna plaisters, leaving the openings of sinuses free for the discharge of matter, was of the greatest possible use.

Dr. TANNER had noticed that inflammation of the mammæ was much more common in strumous, weakly subjects than in others; and that such labours as were attended with flooding seemed to predispose to it. Consequently he quite agreed with the author that, speaking generally, antiphlogistic remedies were contra-indicated. He (Dr. Tanner) had great faith in the use of belladonna in preventing the inflammation from running on to suppuration. He thought that this drug often failed to be of use, because it was not employed with sufficient freedom. The best plan was to paint the whole gland with it, and then apply a cold bread-and-water poultice, repeating the application twice or thrice in the day. As to the ill effects of over-lactation, no one who was engaged in hospital practice could fail to notice them. He never sat in the out-patient room without seeing several cases where the women were doing themselves great mischief by undue lactation, and frequently he found remonstrance useless, as the patients knew they were acting unwisely. Dr. Tanner briefly related the particulars of a case which had interested him very much in illustration of the truth of his remarks. A strong, healthy young woman, aged 23, married in 1856. Her first child was born in August, 1857, and she suckled it for more than two years, though after the first twelve months her health began to fail. The second child was born at the end of 1859; so that pregnancy commenced during the time of nursing. The child was suckled for six weeks only; but it was weak, and never appeared to thrive. The mother's health quickly became worse, and she died of phthisis in September, 1860; while the second infant wasted and perished two months afterwards. Now, here was a strong woman, marrying a healthy man, and neither party had any hereditary taint of phthisis or any other serious disease. The first child lived because the mother was strong for the first few months of nursing, and afterwards it was fed with cow's milk as well as by the mother. The second child's life was sacrificed because, when it most needed good milk, it had only the impoverished secretion afforded by the mother. Dr. Tanner could refer to other cases quite as distressing.

Mr. GERVIS remarked on the delay common amongst the poor in putting the child to the breast after delivery, as a not unfrequent cause of acute mammitis at the commencement of lactation. He had found it a still too prevalent notion that the child should not be allowed to suck until the third day; and by that time the breasts were often very considerably swollen and tender, and the nipples retracted; much painful manipulation was had recourse to to draw out the nipple, and thus inflammatory action frequently provoked in the already highly-congested breast. Respecting the frequency with which lactation was unduly prolonged, as referred to by Dr. Tanner, Mr. Gervis had found in out-patient practice that the usual incentive to it was the desire to ward off a speedy recurrence of pregnancy, and that explaining to the patient the inutility of lactation as a protection after, at all events, the first few months, was generally effectual in obtaining her acquiescence in the propriety of not continuing suckling to the injury of her own and her child's health.

Dr. MADGE said that an important point in the subject of mammary abscess was the advisability, in cases of abscess of one breast, of weaning the child, so as to prevent the irritation of lactation on the healthy side from keeping up, by sympathetic influence, the tendency to suppurative inflammation in the other. Many high authorities recommended weaning the child under such circumstances, and he had no doubt that some cases, as regards both mother and child, would not get on well unless that course was adopted; but he had several cases in which, by carefully applying strapping to the affected side, all irritation and inflammation had subsided, and the mother had been enabled to suckle the child with the unaffected breast to the full period of lactation. He had every confidence in the preventive and curative effects of strapping the breast, and thought it better in every respect than any other mode of treatment.

Dr. GIBB inquired if Mr. Nunn did not draw a wide distinction between the cause of milk-abscess at an early period of lactation and of that occurring after prolonged suckling. He thought that not unfrequently changes in the milk itself in the latter were the real cause of the abscess; the chief of these changes he believed to be a fermentation of the sugar of the milk at the moment of its secretion from constitutional causes, giving rise to the formation of vibriones and monads, producing sometimes great irritation, with a tendency to suppuration. He had elsewhere gone into this subject; but he thought it would be a matter of importance to examine the milk as taken from the breast, when the abscess occurred late in suckling. Of several hundred specimens of milk which he had examined, the milk had been found in the condition he described in a few instances, when there happened to be a co-existing abscess in advanced lactation.

Dr. RICHARDS believed that nine-tenths of the entire number of mammary abscesses, occurring within the first two or three months of childbirth, were produced by badly formed, fissured, or ulcerated nipples. He always considered the sore nipple the *avant courier* of bad breast. Lactation under these circumstances was so exquisitely painful, that very few mothers, especially primiparæ, had courage to persevere. Engorgement and inflammation of the breast resulted, aggravated by absorption from the ulcerated nipples. Any application to, or method of treatment of, such inflamed mammæ is non-effective, unless the cause, the soreness of the nipples, can be removed. Failing in this it is far better to wean the child at once rather than wait for suppuration. When suppuration does occur, the best treatment was hot fomentations and poultices; an early and free evacuation of the pus followed by well-regulated pressure on the breast and a generous diet. Local depletion and applications of belladonna, etc., are worse than useless, although such treatment might be of much service in mammary inflammation arising from cold or injury from accident, more especially at a later period of lactation. He had found the metallic nipple-shields of much service, and could refer to a great number of cases, more especially in strumous, thin-skinned women, where sore nipples, when fissured or even half ulcerated away, had healed under their use, and he had never found any ill effects from them.

Mr. OWEN had found great benefit, in the treatment of sore nipples, from the use of a lotion composed of borax, oil of almonds, and water.

Mr. NUNN, in reply, said that he had not pretended to deal with the subject of inflammation of the breast generally. He desired specially to lay before the Society the fact, that out of 72 cases nearly 30 per cent. had occurred after lactation had been prolonged beyond the tenth month, and that he had met with as many cases in women who were either pregnant, or neither pregnant nor lactating, as he had in women who were lactating between the second and ninth month after delivery. He

did not approve of the use of drainage tubes in sinuses as superficial as those of the breast. He believed galvanisation would effect more. His experience was of cases in which the inflammation was fully established; he could therefore say nothing as to the prevention of inflammation in the breast by the application of belladonna. He had extensively used pressure, as recommended by Dr. Druitt, and so well described by him in his work on *Surgery*, and had found it most serviceable. Mr. Nunn remarked, that a very convenient means of support to the breast could be made of spongio-piline, shaped into hollow cones. He quite agreed with Dr. Tyler Smith that sore nipples were a frequent cause of inflammation, and as to the treatment, he could not coincide with the President, however, that ointments were bad vehicles for medicinal substances—that they prevented absorption. On the contrary, he believed they favoured absorption. He confessed he had made no careful examinations of the milk of hyperlactating females; but he was quite prepared to hear from Dr. Gibb that such abnormal conditions of that secretion as were met with by Dr. Gibb did obtain. In respect to the special influence of the mercurial ointment, he was scarcely prepared to say that it was possessed of sedative properties in a higher degree than some other metallic preparations; he, however, occasionally found very satisfactory results from its use. He was glad to hear Dr. Tanner advocate the exhibition of tonics and the administration of support. His own experience of these remedies led him to oppose depletory measures.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

TUESDAY, JUNE 11TH, 1861.

C. J. B. WILLIAMS, M.D., F.R.S., Vice-President, in the Chair.

A CASE OF ANEURISMAL VARIX IN THE UPPER PART OF THE THIGH, FOLLOWING THE EMPLOYMENT OF PRESSURE FOR THE CURE OF AN ANEURISM OF THE POSTERIOR TIBIAL ARTERY. BY OLIVER PEMBERTON, ESQ., BIRMINGHAM.

THE patient, an old soldier, was fifty years of age, and had, about ten weeks before coming under Mr. PEMBERTON's notice, perceived the symptoms of an aneurismal swelling in the calf of the right leg. This was afterwards found to be an aneurism of the upper part of the posterior tibial artery. A month after his admission into the hospital, the aneurism was treated by pressure—applied, first, to the femoral artery on the pubic arch, for three weeks; and, secondly, to the femoral artery just below Poupart's ligament, above the origin of the profunda—for a period of nine months. At the end of ten months from the date of his admission he was discharged, the aneurism of the posterior tibial artery being quite cured, and no inconvenience having been experienced from the pressure beyond œdema of the limb from time to time. There was, however, some thickening at the spot where the pressure had been for so long a time applied. The patient resumed his employment, and for ten months continued well, when suddenly all the symptoms of a communication between artery and vein, at the seat of pressure, manifested themselves, and he was once more admitted into the hospital. On examination, there was no doubt of the existence of a permanent communication between the femoral artery and vein, corresponding in situation to the seat of pressure. The patient died, without leaving the hospital again, eighteen months from the time when the secondary disease first appeared. During the progress of the arterio-venous disease, sloughing sores formed in the leg, below the seat of communication. These, however, finally healed; and the immediate cause of his death appeared to be effusion into the pleural and peritoneal cavities consequent on disease of the heart. The duration of the case was as follows in its various stages:

1. The aneurism of the posterior tibial lasted, from its first appearance to its cure, thirteen months.
2. He remained well for ten months.
3. The arterio-venous disease, from its commencement to termination, lasted eighteen months.
4. The duration of the case, from its commencement to its termination, was forty-one months.

In the dissection, the arterio-venous disease was found to be that variety termed aneurismal varix. The right femoral artery and vein communicated by a large, distinct opening in the former vessel; whilst the vein was dilated and varicose, so as to have expanded itself into a sacculated covering for the greater portion of the artery in which the aperture had been established. There was no arterial aneurism, but the femoral artery was dilated at and above the aneurismal varix.

The author of the paper attributed the formation of the arterio-venous communication to the effects arising from the long-continued pressure on the femoral artery and vein, the disease having arisen exactly in the spot where the pressure was made use of for nine months with the view of curing the aneurism in the posterior tibial. The mode in which this was induced seemed to be, that the femoral vein became varicose from the pressure, causing obstruction to the return of its blood, and subsequently adhered intimately to the artery. Afterwards, the communication was established between the two vessels owing to the pressure of the varix on one hand, and to the action of blood on diseased arterial coats on the other.

A CASE OF AORTIC ANEURISM IN WHICH A COMMUNICATION WITH THE PULMONARY ARTERY WAS RECOGNISED DURING LIFE BY MEANS OF PHYSICAL DIAGNOSIS. BY W. F. WADE, B.A., M.R.C.P., BIRMINGHAM.

James S——, aged 35, married, a railway porter, was admitted into Queen's Hospital, Birmingham, on May 5th, 1861. For four years he had suffered from piles, and for six months had lost much blood from them, and to this he attributed the debility and wasting for which he sought assistance. Two weeks before admission he had to make a sudden and violent exertion, after which he felt faint for a little while, but thought no more of it. He never had any palpitation or cardiac difficulty; was affected with a little dyspnœa and slight cough with watery expectoration.

Physical examination. Cardiac dulness increased vertically. Apex seen and felt in the sixth intercostal space. Over the cartilage of the left fourth rib a loud murmur replaced both sounds, that with the second being of a hissing character, and so prolonged as to continue till the commencement of the next first sound. Usual second sound inaudible there. Marked thrill at this spot coincident with second murmur. First murmur a loud bruit de soufflet. Both murmurs heard in the carotids and over the upper chest. At the apex, a single murmur with first sound; normal second sound very distinct. No venous distension. Thrill in the carotids, pulsation of which was visible. Mucous râles in back of both lungs. Liver enlarged.

From this combination Dr. WADE concluded—1, that blood escaped either from the aorta of pulmonary artery during their systole; 2, that it was probably from the aorta that the blood escaped; 3, that it did not regurgitate into either ventricle; 4, that it regurgitated into one of the auricles or else into the pulmonary artery; 5, that it did not regurgitate into the left auricle; 6, that the opening was into the pulmonary artery, rather than into the right auricle; 7, that the communication was probably due to aneurismal perforation of the aorta at or near its origin.

The patient stayed in the hospital for two or three weeks, and went back to work, declaring himself well.

On the 14th of June he was seized with faintness and violent cardiac perturbation, which continued till the 28th, when he died. The *post mortem* examination showed an aneurism of the size of a small hen's egg very near the root of the aorta, with a rounded, smooth, thickened opening into the pulmonary artery at its origin, and another, fissured, ragged, evidently recent one into right ventricle. The valves were all healthy. Dr. Wade did not see the patient alive after leaving the hospital. During the fatal attack he came under the care of Mr. Pemberton.

This case, coupled with one by Professor Hughes Bennett (with which, however, Dr. Wade was not acquainted till after the death of his patient), seemed to establish the physical diagnosis of such lesions; which, the author said, was the more important since they were more common than other forms of varicose aneurism. But since the key to this diagnosis was the non-conduction of the second murmur to the heart's apex, we should be at a loss, 1, where aortic regurgitation existed; 2, where pulmonary regurgitation existed; 3, if varix produced no murmur with the second sound; 4, where there was also an opening into either ventricle, or into the left auricle or its appendix. The last lesion was very rare, Dr. Sibson recording no case of it. Purring tremor, or thrill, was useful as a diagnostic of varicose aneurism when it occurred away from the heart; but in the cardiac region it was useless, or at least unreliable, because any amount of thrill was producible by simple valvular lesions. Yet if such a thing were suddenly developed it would have significance, even if confined to the region of the heart. This was the first case in which this lesion had been physically diagnosed during life, Dr. Bennett not having deduced any diagnosis from his carefully observed and recorded case.

ROYAL SOCIETY.

MAY 30TH, 1861.

SIR HENRY HOLLAND, BART., Vice-President, in the Chair.

ON THE ELIMINATION OF UREA AND URINARY WATER, IN RELATION TO PERIOD OF THE DAY, SEASONS, FOOD, LABOUR, HEALTH, ETC.

BY EDWARD SMITH, M.D., F.R.S.

THIS paper contained the results of the author's daily researches from January 1860 to March 1861, and comprehended about 1300 analyses for urea. The investigations were of three classes—1, those showing the hourly and daily changes in the system throughout the year, and including 336 days of actual research; 2, others showing the influence of certain kinds of food; and 3, experiments on treadwheel labour and the discipline of prisons. The former two were made upon the author, and the last upon four prisoners during one month. The method of analysis for urea was that devised by Liebig. The paper was a very voluminous one, and we purpose only to mention the results of the principal subjects of inquiry.

The average elimination of urea and urinary water was almost identical with the average obtained from all the experiments hitherto recorded, and showed in a striking manner the advantage of carrying such inquiries through all the seasons of the year. The numbers were 519 grains of urea, and 52 fluidounces of urine; and the proportion of urea to body-weight was 2.75 grains per lb. The extremes were very great; viz., 298 and 748 grains of urea, and 23 and 92 fluidounces of urine. The daily variations in the amount of urine were most striking, so that large and small quantities proceeded alternately for some days, or the quantity passed in waves of increase or decrease, or there was a progressive increase or decrease of all for many days at one time, as shown in the following instances:—

Alternations, 57, 37, 62, 44, 60, and 46 fluidounces.
Waves . . 73, 50, 41, 41, 57, 52, 54, and 63 fluidounces.
Increase . 34, 38, 60, 62, and 74 fluidounces.
Decrease . 68, 49, 49, 40, 42, 37, and 26 fluidounces.

These variations were due to the influence of temperature and atmospheric pressure, but chiefly to the controlling action of the statics of the body, whereby there is a constant tendency to maintain an uniform bulk of the body, and therefore to counteract the temporary influence of any disturbing agent. Thus sudden increase must be followed by great decrease within a very few days, as 92 oz. succeeded on the next day by 26 oz., or *vice versâ*. External agencies daily and hourly tend to disturb the uniform action of the body, and the statics of the body as constantly tend to restore uniformity; and hence, with much diversity, there is uniformity established on *every long average*.

The excretion of urea and urinary water was increased in the hot season, when a long period was taken, as when the year is divided into two parts, from May to October, and from November to April. The quantities of urea and urinary water at these periods were—

Summer half-year, 55°; urea, 570 grs.; urine, 55.7 fl. oz.
Winter half-year 44°; „ 480 grs.; „ 51.9 fl. oz.

Sudden heat lessened the emission of urine, and thereby of urea; and sudden cold increased the emission; but the balance was restored in a few days. The increase of urea connected with heat occurred on the *following day*. Increased atmospheric pressure increased the elimination of urea on the *same day*. Both agents act directly, and not inversely; and, when acting together, they reinforce each other; but, when opposed, they counteract each other, and destroy the uniformity of the results. The proportion of urea to each degree of temperature was precisely the same at the two periods of the year; viz., in the summer half-year, 10.36, and in the winter half-year, 10.9 grains to each degree.

The period of production is not that of the elimination of urea, and hence the results are often confused. The elimination is influenced by causes acting quickly and suddenly, whilst production can only be determined by taking long averages. With increase of urine, from whatever cause, there will be increase of urea. The ingestion of water has the same relation to the egestion of urea that the inspiration of air has to the expiration of carbonic acid; and ingestion of water acts by causing an increased elimination of urine. The absence of a due distinction between elimination and production of urea, and the want of averages sufficiently long to obtain the latter result, are the chief causes of the difference of the statements made by various observers in reference to the action of certain agents.

In reference to period of the day, the author found, by experiments made at every hour and at every quarter of an hour, for limited periods, as well as the ordinary ones made at various hours on every day, that the largest hourly excretion occurs in the morning to about twelve or one o'clock. There is then a rapid subsidence after the early dinner until after the tea meal, when there is another considerable increase, continuing from about 6 to 9 P.M.; and afterwards the quantity rapidly falls to the night-rate of emission. The lowest rate of emission both of urea and urinary water occurs in the night and to the breakfast-hour; and the next is found in the middle hours of the day, in the interval between the morning and evening maximum. The largest hourly emission, observed at the short intervals of a quarter of an hour, was 54 grains of urea, and 21 ounces of urine; but, when observed at the longer periods of one hour, the quantities were about 35 grains and 11 ounces. During the night, the average rate was 16 grains of urea and 1 ounce of urine per hour. In all these experiments, food was taken at 9 A.M., 2, 6, and 9 P.M.; and

the average quantity of fluid taken was 56 ounces, and of solids 37 ounces daily.

The largest daily emission of urea occurred on the Sunday, with rest and increased food; and there was a daily diminution as the week advanced, ending with the Friday, which is the author's hospital day, and a day on which less food is therefore taken, and more exertion made. The heaviest weight of body occurred on the Sunday, and from Saturday to Monday morning there was an average increase of 2 lbs. The weight lessened daily during the week, with considerable and regular bodily exertion; but varied as the exertion and as circumstances temporarily increased or decreased the emission of urine. A loss of 2 lbs. in weight on a day of unusual labour sometimes occurred, and extreme variation during the week of 3 or 4 lbs. was common. The weight was taken night and morning, on retiring and rising, and after emission of urine.

Extra and unusual food, as at public dinners and evening parties, caused an increased emission of urea, which continued from one to four days, and varied from 50 to 200 grains per day. Stomach derangements and headache were usually attended by lessened excretion of urea on the day of their occurrence, followed by an increase on the day when relief was obtained.

Treadwheel labour, in which between 400 and 500 tons were lifted through one foot daily, and an amount of exertion made which was equal to walking thirty miles per day, the increase in the elimination of urea was only, on the average, 19 grains daily on treadwheel days over that of days of light labour, and 36 grains over that found on Sundays; but the proportion of urea to body-weight was so high as more than 4½ grains per pound. The prisoners were well fed, but were thin, and much below the average weight. There was the least elimination of urea on Sundays, with the same food, but with rest; but the loss of urea in the urine was exactly supplied by an increase in the nitrogen of the fæces on that day. Hence, with less labour, there was less assimilation of food. The fæces were so large in the prisoners as to be nearly 9 ounces per day, and contained upwards of 40 grains of nitrogen. The loss of food was therefore very great, and, in point of nitrogen, was as great as the quantity contained in one pint of milk.

The influence of tea and coffee, and particularly of alcohol, was to lessen the excretion of urea and urinary water for a short period; but on the third day the normal quantity of urea was restored. Tea lessened the urea the most, and alcohol lessened the urinary water the most—viz., to the great extent of an average of twenty ounces during three days. Coffee had less influence in either direction. A final analysis of the food and fæces was kindly made by Mr. Manning in all the experiments upon the prisoners.

The author discussed many other points, and concluded his paper with a consideration of the relations of urea and carbonic acid, and those of urea with nutrition, which we cannot quote. As urea is evidently a mixed product of tissue-waste and food, it cannot be accepted as a measure of either alone. It is very probable that the determination of the amount of urea evolved is of less value in health than has hitherto been supposed, and that the most inviting field for inquiry is the determination of the proportion of nitrogen in the food which obtains admission into the blood to that which remains unappropriated in the alimentary canal.

The only measure of muscular exertion is the evolution of carbonic acid by the lungs.

The observations of the author were illustrated by a large series of diagrams and tables; and, in the discussion which followed, Professors Carpenter, Williamson, Tyndall, and Frankland, Drs. Gilbert and Webster, and others, took a part.

British Medical Journal.

SATURDAY, JULY 6TH, 1861.

IS UNCONTROLLABLE DRUNKENNESS INSANITY?

THREE years ago, Dr. Christison read before the College of Surgeons of Edinburgh a lecture on the subject of the Medico-Legal Relations of the Habit of Intemperance. This lecture he now publishes—the subject treated of in it having "acquired renewed interest at the present moment, as an attempt is said to be about to be made to obtain, in an amended Lunacy Act, some power of restraining insensate drunkards." Dr. Christison, after three years reflection upon what he then delivered, finds that he has no statement in it to correct, and no opinion to retract. May all of us be ever as lucky in our original conclusions!

The object of this lecture is to prove that an ungovernable avidity for strong drinks—the frenzy of a man for drink—should be considered and treated as an act of insanity; and to point out the practical method whereby this desirable end may be legally obtained. Dr. Christison says that he never met with a member of the medical profession who doubted the propriety of considering and treating the man as insane who is possessed with an ungovernable desire for spirit-drinking. And he truly adds, that this opinion is gradually working its way even among those straight-minded members of the legal profession, who have heretofore been opposed to the idea. And he adds, for the benefit of the legal soul:—

"If any intelligent member of the legal profession still entertains doubts as to the psychology and law of the subject, let me simply say that I have not hitherto met with any of his brethren who did not surrender his doubts as soon as the insanity of drink-craving was brought home to him in the person of a relative, a ward, or a very intimate friend, so that he could observe for himself all the phenomena."

What Dr. Christison would have the law do is this. It should give the inveterate drunkard's relatives power to send him (under due forms of certificate of course), not to a lunatic asylum, but to an establishment specially designed for his reception, such as is the one in the Isle of Skye, of which Dr. Christison gives a sketch. They manage these things better in Scotland than we do here. Our readers shall judge.

"In Scotland," writes Dr. Christison, "medical men have already established a system of treatment which is applied to those who consent to submit to it, and which seems to answer every purpose well; so that all the legislation wanted is to render compulsory, at the instance of the nearest relative, what is at present only voluntary. This system consists of seclusion in some