

part of the patient, followed. She shed tears freely, and showed every mark of natural affection, and afterwards, when alone with her husband, seems to have spoken to him in a perfectly natural manner, inquired for the children, assured him of her love for them and for him, and, indeed, according to his account, behaved entirely like herself. Ever since this she has taken food naturally, and, according to Sister Sutherland, is not at all different from a healthy person, but does not speak much unless spoken to. She has also passed her evacuations quite naturally.

In comparing this remarkable case with many of the other cases of hysterical trance or religious ecstasy recorded, it seems necessary to put on record the fact that a very careful inquiry gives results absolutely negative as regards any overt manifestations of abnormal emotion, or of fixed and intense concentration of mind. It is absolutely certain that she had not spoken a single word from the day of her admission till the night of the 18th-19th, and the presumptions are very strong that previously to admission, and even at the moment of her seizure, nothing of the kind referred to had specially occupied her attention. Comparing the facts of this case, for example, with the so-called religious ecstasy of Louise Lateau, as recorded by Dr. Warlomont, it may be said that no one of the quasi-automatic expressions of rapture, still less the quasi-automatic changes of position from sitting to kneeling, from kneeling to prostration, or to rapt adoration, reported in that case, existed in the present from the moment of the first observation till that of the awakening. She has remained with the eyes nearly, if not quite, closed, unless forcibly opened; she has not even muttered, has betrayed no kind of emotion at all, except the slight frowning above-mentioned, and has been from first to last entirely passive, apparently quite devoid of ideas, and of every kind of intellectual and moral manifestation during the whole of the time, presumably from June 8th till Nov. 18th, unless the circumstances stated above as connected with the earlier weeks of the disorder are to be interpreted as to some extent qualifying, or invalidating, this statement.

[The following concise statement by Dr. Graham, of Isle Ornsay, is of considerable interest as bearing on doubtful points in regard to the state of this patient before, and shortly after, the seizure; but as, owing to an accidental misdirection, no medical communication on this subject had reached Dr. Gairdner previous to the patient's awakening, it is considered better to leave the case as previously recorded, undisturbed, and to introduce the remarks of Dr. Graham here as an appendix. Dr. Graham explains in a letter that he kept no clinical notes; but the care and judgment shown by him in watching and feeding the patient give weight to his personal observations, which will probably be considered by others (as he himself supposes) to "throw some light on the nature of the case."]

Mrs. McI—gave birth to a living child at the full period on May 14th last. She was not attended at the time either by a medical man or a midwife. Those in attendance told me that labour was natural, and that there was no flooding. On the 17th she began to complain of great oppression about the region of the heart, and of great weakness. I saw her for the first time on May 22nd. She was then extremely anæmic and nervous, and was suffering from excited action of the heart and from globus hystericus. She had at times a feeling of impending death. Her temperature was about 100° F., and her pulse about 90. There was no cardiac murmur present. The lochial discharge had scarcely disappeared, but was quite natural and healthy. About the eighteenth day after delivery she had so far improved in strength that she was able to take a short walk daily in the field in front of the house; she, however, fell into a state of gloomy despondency, and on several occasions stated to those around her that she had no hope of her own recovery. Her appetite, which was poor from the time of her confinement, failed, and it was with difficulty she was persuaded to take nourishment.

On June 8th, while sitting by the fire, she closed her eyes and fell back in her chair, and ceased to move or speak. I saw her on June 12th, and administered an enema. She showed extreme reluctance to have the enema, and resisted stoutly any attempt that was made to administer it. When I threatened to bring her husband into the room she faintly cried "No! No!" which were the last words she was known to have uttered until she spoke in the Western Infirmary. About half an hour after the administration of the enema she got out of bed with assistance to have the bowels emptied.

That was the last occasion on which she made any effort to move in the presence of others. She gradually ceased to swallow liquids, which had even to be forcibly introduced into the mouth. She kept her mouth firmly closed. She emaciated rapidly, and to prevent her dying of starvation I had her removed to my own vicinity on July 5th, and fed her regularly twice a day by means of the stomach-tube.

On July 5th she was in exactly the same state as she was when admitted into the Western Infirmary. Her muscles were quite flaccid and relaxed, with the exception of the muscles of mastication. During the first ten days in which the stomach-tube was used she kept her mouth firmly closed whenever any attempt was made to pass the tube, and she frowned at the same time. These evidences of resistance became less decided before she left here. Tickling the soles of the feet produced slight reflex movements of the toes. Passing pins through the skin or sticking them into the flesh produced no sign of pain.

Now though this woman lay apparently helpless, unconscious, and dead to all external impressions, she never passed anything into the bed while here except on one occasion after an enema. I may say that I emptied the rectum on two different occasions of hardened fæces by means of the fingers. She passed water every day while here into the chamber vessel unseen and unheard by anybody, even though she was watched, except once, when her husband caught her kneeling in bed, and reaching out her hand to seize the vessel. She, however, without speaking fell off at once into her previous apparently unconscious state. That occurred about ten days before she left here for Glasgow. She was also seen a day or two before then to open her eyes, but whenever she noticed that she was watched she closed them. It is my conviction that if she had been as well watched here as she was in the infirmary, she would have passed her evacuations in bed before she would allow herself to be seen moving a limb. She was a good moral character and never showed signs of hysteria or insanity before her present illness. A maternal aunt died in the Inverness asylum some years ago. A first cousin committed suicide eighteen months ago by drowning. Another first cousin has been twice in the asylum within the last four years.

(To be continued.)

## NOTE ON THE FEVERS WHICH SOMETIMES FOLLOW CATHETERISM IN PROSTATIC ENLARGEMENT.

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WHILST recognising the fact that suppurative pyelitis sometimes results from the extension of inflammation commencing in the bladder, I am familiar with two forms of fever which follow catheterism in old men with enlarged prostates and which are quite unconnected with this origin. First, there is that form of urethral fever which sets in within an hour or two of the passage of the instrument with rigor and sudden elevation of temperature, sometimes reaching 106° F., and which lasts from twenty-four to fifty-six or seventy-two hours, and then, happily so far as my experience goes, subsides with the recovery of the patient. This is the form which occurs occasionally in persons of any age, and when an instrument is passed for other reasons than prostatic enlargement, and also in other conditions than those in which any instrument at all is used. Thus one of the most severe cases of this form of fever which I have witnessed occurred in a man with cancer of the glans and body of the penis; the attack sets in during the act of micturition upon the sudden completion of an urethral fistula, formed by the ulceration of the cancer, through which some of the urine trickled. Second, a continued or intermittent fever which does not follow the commencement of catheterism immediately, but comes on after several or perhaps many days, and which terminates in death. In these cases chronic renal disease has long preceded the catheterism, and has been evinced by the excretion of an abnormally large quantity of pale limpid urine of low specific gravity and more or less deficient in the quantity of urea which ought to be eliminated in twenty-four hours. It is to the state of the kidney prior to surgical treatment, and not to the state of the bladder after the commence-

ment of catheterism, that we ought to look for an explanation of this form of fever, and in this manner. The granular kidney, or the kidney which has been changed by chronic interstitial nephritis, though perhaps not of the true granular type, becomes the seat of acute suppurative inflammation, perhaps throughout, but more likely in areas only, if the distension from obstruction has reached a certain point. It seems as if the two conditions are requisite: (a) a pre-existing degeneration of the secreting structure; and (b) an alteration, from obstruction, in the intra-renal pressure, whereby the ureters, pelvis, and calyces of the kidneys become dilated. When these two conditions exist, a state of active congestion of the kidney is brought about by the release of the distension by means of the catheter. This congestion is not only active in the ordinary sense, but it is much more, for it stimulates a degenerated structure into extra functional activity by bringing, within any given time, to the secreting apparatus an extra amount of material for it to work upon. This increased flow of blood to the kidney cannot be even in part controlled or checked by the natural elasticity of the solid organs and their capsules, because the pre-existing chronic changes have led to the adhesion of the over-stretched capsule, not only to the degenerate renal substance, but also to the surrounding peri-renal fatty tissue; and, further, the elasticity of the renal substance has been destroyed by the intra-renal pressure of long pent-up urine. In this way does acute pyelo-nephritis set in upon the top of chronic interstitial fibrosis.

I have noticed that cases of prostatic enlargement, in which retention of urine leads to the use of the catheter soon after the commencement of the milder troubles of micturition, and in which, consequently, dilatation of ureters, &c. (and therefore of undue intra-renal pressure) has not advanced far, are not prone to be affected by this continued or intermittent fever, even though chronic renal disease, as evinced by the density, colour, and quantity of the urine, exists; but that the cases in which the troubles of micturition come slowly and insidiously, and have extended over a period of one, two, four, or five years before the surgeon's aid is sought, and in which, therefore, dilatation has occurred, in addition to renal fibrosis—that these are the cases in which fatal fever should be looked for especially. My belief is, therefore, that the morbid changes commence in the kidney, and, when they extend, spread from the kidney to the bladder, and not in the reverse direction from bladder to kidney; and that this is so is proved in some cases most clearly by the chronological order of symptoms, and by the post-mortem appearances of the urinary organs.

The treatment indicated by this view of the danger of fever is:—(1) The recumbent position for some days after the commencement of the catheterism, so that posture may favour the gradual change in the intra-renal pressure; with this view, too, the catheter ought to be first introduced only when the patient is lying down, and in his own bed, where he should remain. (2) Bland nutritious substances, in small quantities only, ought to be given as food for some days, and fluids of all sorts should be restricted on account of their tendency to increase the activity of the kidneys. (3) Ergot of rye given in moderately large doses should be tried if the quantity of urine secreted is abnormally large. I have seen great benefit produced both on the state of congestion of the prostate, and on the excessive activity of the kidney, by the administration of a few doses of this drug, whose action on the coats of the arteries is well-known.

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## BROMIDE AND IODIDE OF SODIUM; THEIR THERAPEUTIC ADVANTAGES OVER BROMIDE AND IODIDE OF POTASSIUM.

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THE physiological actions of the salts of sodium and potassium have frequently been compared by experiment, but their relative therapeutic value has not received such careful attention. Before entering on this part of our subject it will be useful to briefly summarise their relative effects as shown by experiment, and then see if such are corroborated at the bedside. Potash is very poisonous to the lower animals.

Four drachms of the chloride have killed a dog, and fifteen grains caused instant death when injected into the jugular vein, the heart being arrested in diastole (from direct action on this viscus), and paralysis of spinal origin also occurring. Given in small doses for long periods a peculiar dyscrasia is induced, the blood becoming poorer in solids and red discs, the heart's action irregular, and the general bodily nutrition impaired (partly from disordered digestion). For shorter periods the heart's action is slowed and rendered weaker, the arterial tension being raised. The urine shows great excess of urea and sulphates from increased metamorphosis of nitrogenous tissues, and constipation results. This is independent of the acid combination. Potash is not cumulative; it is a strong depressant and has high diffusive powers. Ringer shows that it greatly lessens the faradaic excitability of the frog's heart.<sup>1</sup> Sodium hydrate, on the contrary, has little power over the lower animals, two to three times the fatal dose of potash being required to kill frogs, and slight action only is exerted on peripheral nerves, muscles, or blood. It slightly increases the urine, but not its solids. It is a non-depressant, and its diffusive power is less than that of potash. According to Guttmann large doses have no effect on heart, muscles, or nervous system, and a frog's heart immersed in a caustic soda solution pulsates much longer than in one of caustic potash. It is less purgative also. Ringer shows that it increases both the faradaic excitability and contractility of the frog's heart, and that it is only one-tenth as poisonous as potash; sodium citrate, one-fifth as poisonous as potassium citrate, and that sodium salts can hardly be made to produce fatal results.<sup>2</sup> Experiment thus shows that potassium and its salts are much more poisonous than those of sodium on the entire organism and much greater depressants, both general and local. Bromide of sodium is now very largely used in America in preference to the potash salt, and I was induced to try it fully after observing the bad effects of the latter when given in large doses for insomnia (amongst which were general depression, mental and bodily, malaise, and irritability of temper the next day), or in smaller and long-continued ones for epilepsy, &c., an almost toxic effect being often induced, showing itself in mental weakness, clouded intellect, failure of memory, with an expression of hebetude passing on to temporary imbecility, and also so-called "bromism," whether owing in part or whole to the potash remains to be seen, but doubtless due to a great extent to induced diminished elimination of carbonic acid. Its acrid taste (like salt water) is often objected to, and may cause diarrhoea and vomiting in the feeble, anorexia and sour eructations. The bromide of sodium lacks many of these disadvantages. After large doses for insomnia, &c., there is much less depression, and in smaller ones for long periods the toxic effects are slight; so far I have observed no symptoms of bromism nor any skin eruptions. Neither dyspepsia nor acidity of the primæ viæ is caused by it, but these conditions are much diminished if beforehand existing, the taste is less objectionable, it constipates rather than the reverse, and has greater tonic action than the potash combination, but is contraindicated with much phosphates in the urine. There being rather less bromine in the soda than the potash salt, the former should be given in somewhat larger doses. Roughly, fourteen grains of the soda salt compound to twelve of the potash.

The following were some of the diseases I treated exclusively by it when at the Leeds Public Dispensary. Of pertussis (uncomplicated) eighty-seven cases were treated, ranging in age from two months to twelve years, the dose varying from three grains to half a drachm, not oftener than every three or four hours night and day, the average length of treatment being four to seven weeks. Twenty-seven were entirely cured by the drug. Forty not showing any great improvement after two or three weeks' treatment had other drugs combined with it, and the remainder showed no improvement or failed to attend. The cases somewhat relieved were cured by bromide of potassium and belladonna liniment to the throat externally. The potash salt therefore has greater effect on pertussis than the soda one, owing to its greater depressant action on the cerebrum &c., and I should give it the preference unless great weakness already exists, as in rickety infants and others. In women approaching the menopause and suffering from the usual train of nervous symptoms, with abdominal and cranial pains, tinnitus aurium and flatulent dyspepsia, the

<sup>1</sup> THE LANCET, June 24th, 1882.

<sup>2</sup> Op. cit.