liver, hemorrhoids, diarrhea and dysentery, yellow fever, and cholera.

21. The *beneficial influence* of the mountain climate is especially felt in various forms of dyspepsia and dyspeptic hypochondriasis, in the atonic diarrhea, anemia, and want of tone, observed in people returning from hot climates; in the cachexia, with or without splenic tumour, caused by marsh malaria; in the various forms of anemia, chlorosis and hydremia, not dependent upon serious organic disease; in scrofulous complaints; in the tendency to tuberculosis, and in its first stage, especially on the higher regions, while in the slightly advanced forms some of the lower and more sheltered situations only ought to be resorted to; in chronic bronchial catarrh with abundant secretion. Sleeplessness, hysterical, and neuralgic affections, as also hypochondriasis are often removed by a stay on the Alps.

(*To be continued.*)

ART. III.—*Observations on the Treatment of Certain Forms of Epilepsy. Bromide of Potassium.* By ROBERT M'DONNELL, M.D., F.R.C.S.I., Surgeon to Jervis-street Hospital.

DR. MARSHALL HALL has observed that there is no royal road to the cure of epilepsy; indeed he goes so far as to say that the idea of a remedy for the disease is unphilosophical. Without going quite to this extreme I may say that I believe few persons will read the works of the most distinguished writers on the subject without soon becoming convinced that complaints widely differing from each other in many respects have been grouped together by authors under the name of epilepsy and epileptiform seizures. If one even considers the theories of epilepsy, as they are called, which have, from time to time, been propounded for the class of complaints characterized by sudden loss of consciousness and convulsion, this alone is enough to show the absurdity of supposing that any one main road can lead to the cure of affections marked, it is true, by these salient features, but otherwise differing from each other. The perusal of recorded cases of epilepsy, so various in the causes which have produced them; the study of the endless varieties of treatment, and of cures, reported by trustworthy persons, as resulting from remedies little resembling each other in their physiological action, leads also to the conviction that a multitude of affections have

been thrown together under the name of epilepsy. In truth the more one sees of what we call epilepsy the more one becomes convinced that each case of this affection is, in itself, a study; and the more one is induced to hope that the careful investigation of individual cases will eventually lead to a more precise knowledge of the circumstances which make special remedies useful in particular forms of the disease.

It is with the view of directing the attention of practitioners to the use of a remedy—bromide of potassium—which, if due discrimination is practised in the selection of the cases for which it is suited, will, I very confidently state, be found one of singular efficacy, that I make the following brief communication. I am very well aware that many medical men have already recognized the value of this remedy. I do not speak of its use as any novelty. Sir Charles Locock, in 1853, bore strong testimony in its favour; since then Dr. Brown-Séquard, Dr. C. Bland Radcliffe and others, with an experience far beyond what I can boast, have added the weight of their evidence in the same direction. Dr. Radcliffe says:—"I can testify that this remedy has proved more or less serviceable in cases the most dissimilar in character; so serviceable that the name of Sir Charles Locock ought to be remembered with gratitude by every epileptic, and by many suffering from other forms of convulsive disorder."

Sir Charles Locock, writing in 1853, says:—"About fourteen months ago I was applied to by the parents of a lady who had hysterical epilepsy for nine years, and had tried all the remedies that could be thought of by various medical men, myself among the number, without effect. This patient began to take bromide of potassium last March twelve-month, having just passed one of her menstrual periods, in which she had two attacks. She took ten grains, three times a-day, for three months; then the same dose for a fortnight previous to each menstrual period; and for the last three or four months she had taken them for only a week before menstruation. The result has been that she has not had an attack during the whole of this period. I have only tried the remedy in fourteen or fifteen cases, and it has only failed in one, and in that one the patient had fits not only at the time of menstruation but also in the intervals."

I have learned from Dr. Brown-Séquard, who has used the bromide very extensively, that he also entertains the highest opinion of its efficacy. For my own part, being full of scepticism.

with regard to the utility of many drugs much boasted of, and not, I must own, being rendered less sceptical by the large per centage of cures effected in the fourteen or fifteen mentioned by Sir C. Locock, I commenced using the bromide without being very sanguine as to success. I now confess that I have found it in some cases a drug of remarkable efficacy, although not so powerful in altogether stopping the attacks as it has been in the hands of Sir C. Locock.

E. L., aged twenty-three years, housemaid, had her first attack on the morning of July 4th, 1861. She was a robust, healthy-looking young woman, of florid complexion, never had convulsions in childhood, neither was she aware of any member of her family being epileptic. She was found, on the day above-mentioned, lying on the drawing-room floor, insensible and convulsed. Her second attack occurred on the 1st of August, 1861, before getting out of bed in the morning; she did not shriek, a gurgling sound in her throat first attracted the notice of a fellow servant; she was violently convulsed; she foamed at the mouth, but did not bite her tongue. The fit lasted for about half an hour; she was with difficulty prevented from rolling out of bed; loss of consciousness was complete; continued drowsy for the rest of the day, and oppressed with headache. The patient was ordered doses of castor oil and turpentine, repeated every third day, for a fortnight; no intestinal worms were discovered.

On August 27th another attack took place, and again on September 19th. It now appeared that the first and second attack had occurred at the menstrual period, the third at a time about which the menstrual illness was expected, but was absent, and the fourth again occurred during the illness. The patient was ordered ten grains of bromide of potassium, three times a day; and this was steadily continued, with but with short intermissions, until May, 1862. During this time there was no recurrence of the attacks. I last saw this patient before Christmas, 1862, up to which time she had continued free from attacks.

Sarah O., aged twenty-five years, a small slightly made young woman, of light complexion, has been (July, 1860) subject to "fits" for four years, not occurring only at the menstrual periods, but more frequent and severe at that time. On July 9th she had two attacks, in one of which I saw her, as I happened to be visiting a

child at the house at the time. Again, on July 10th, I saw her, from the commencement to the end of an attack which lasted six minutes, and was considered a slight one. On the 15th I again witnessed an attack of a more severe character, which lasted eleven minutes. The attacks were decidedly epileptic so far as complete loss of consciousness and convulsions were concerned; the patient did not cry out, but drew a deep sudden inspiration; she did not bite her tongue, but foamed at the mouth. She had no warning of which she was herself conscious, but besides its being known that her attacks were likely to be much aggravated at the menstrual period, her friends knew, by her peevish irritable temper, the dark areola round her eyes, and peculiar odour from her skin and excretions, when the attacks were coming on, so that she was prevented from going out at these times. The odour alluded to was indeed very peculiar; after touching her skin, as in feeling her pulse, for instance, one's hand smelt as if brass had been handled—the smell very much resembled the odour given out by metallic arsenic when sublimed. This patient's menstrual illnesses lasted for five or six days, and recurred with great regularity every fifteen or sixteen days, reckoning from the last day of one illness to the first of the succeeding; not unfrequently an interval would elapse without any attack coming on during that period. On the first or second day of the menstrual period an attack almost always came on; the following day two or three; the next five, seven, or as many as twelve; they then usually diminished in number and severity, disappearing on the last day of illness, or the first day succeeding it. She does not believe that for the last three years a single menstrual illness has passed over without several attacks accompanying it. I have seen this patient have a succession of eight attacks in the course of a night, without more than an hour interval between each. After such a series her speech became thick and almost inarticulate, and she had choreic twitchings of the limbs and muscles of the neck; but in the intervals her mind seemed little if at all affected, and in conversation I could not discover any serious defect of memory.

This patient was treated for a time with turpentine, in the hope, perhaps, of dislodging intestinal worms. She somewhat improved under this treatment, but no entozoa made their appearance.

On September 4th, 1860, she was ordered ten grains of bromide of potassium, three times a day, and cod-liver oil. Her menstrual illness came on on the 22nd, and lasted to the 27th. During this

time (on the third day of her illness) she had one attack. On the 5th of October, during the interval, she had a slight attack.

On October 15th her illness came on, and lasted till the 21st. She had an attack on the 15th and on the 20th; that is, two during the illness. On October 25th the dose of the bromide was doubled; the cod-liver oil was continued; she was advised to take much walking exercise, and as good diet as she could afford.

She continued taking twenty grains of the bromide, three times a day, for four months. She then, having no recurrence of the attacks, ceased taking the medicine, and I lost sight of her. In June last I saw her. To my surprise I found that she was married and pregnant. Up to the period of her pregnancy she assured me that she had been free from attacks. In May she had had several slight attacks, which she attributed to vexation. She has since been confined, and, although her labour was prolonged, she had no convulsions.

The following case is still under treatment; and, although by no means cured, yet it speaks strongly for the beneficial influence which the bromide of potassium exercises, even when it is not capable of arresting the attacks altogether:—

In December, 1862, I was consulted about a lady, thirty-two years of age, who had been epileptic from the time that menstruation had first become established—sixteen years before. Although not absolutely confined to the days of the periodic illness, her attacks, in general, took place either at the beginning or end of this time. The menstrual periods recurred with regularity, about every sixteen days, and lasted usually five days. She had, as a rule, twelve or fourteen epileptic attacks each month, the greater number of which took place immediately before or during the menstrual illness. According to a record which had been kept, attacks occurred as follows:—

1862.	Oct. 12th, 1 attack.
Oct. 6th, 1 attack.	„ 13th, 1 attack.
„ 7th, 4 attacks.	„ 30th, menstrual illness came
„ 8th, 2 attacks—menstrual	on.
illness came on.	„ 31st, 1 attack.
„ 9th, 1 attack.	Nov. 2nd, 1 attack.
„ 10th, 1 attack.	„ 3rd, 1 attack.
„ 11th, 1 attack.	„ 4th, 2 attacks.

Nov. 5th, 1 attack.	Nov. 28th, 1 attack.
„ 6th, 1 attack.	Dec. 9th, menstrual illness
„ 7th, 1 attack.	came on.
„ 19th, menstrual illness came	„ 1 attack.
on.	„ 10th, 2 attacks.
„ 1 attack (slight).	„ 11th, 3 attacks.
„ 24th, 1 attack.	„ 12th, 2 attacks.
„ 25th, 2 attacks.	„ 13th, 1 attack.
„ 26th, 1 attack.	„ 14th, 1 attack.

During the series of attacks, commencing December 9th, 1862, I first saw this patient; I saw her in one attack; she did not shriek, but the deep respiration was sufficient to give notice in the adjoining apartment, where I was. The fit lasted four minutes; loss of consciousness was complete; convulsion slight, and chiefly of left side; she neither frothed nor bit the tongue; was heavy and torpid for more than an hour after the attack, which I was informed was slight compared with others. In the attacks above mentioned she had lost consciousness completely in all save one, that occurring on November 19th.

Concerning this patient, I inquired whether among the remedies she had made use of had any seemed to be of real service, adding, that I believed I knew one which was likely to be beneficial. I was informed that one remedy only, from among many which had been tried, seemed to have controlled the malady. Indeed, said her mother, I, for a time, thought she had been cured by a prescription given by Sir Charles Locock three years ago. This alone seemed to be of use, and for nearly four months stopped the attacks altogether.

I asked to see the prescription, and found that it was bromide of potassium, in ten-grain doses, three times a-day.

December 18th, 1862.—I ordered an ounce of bromide of potassium in three ounces of distilled water; sixty minims to be taken three times a-day; a tea-spoonful of cod-liver oil three times a day, generous diet, and as much walking exercise as the patient could take without being absolutely fatigued.

The following has been the state of this patient during 1863:—

January, no attack.	March, 3 attacks.
February, 8 attacks—2 during	April, 2 attacks.
menstrual illness.	May, 5 attacks.

June,	4 attacks—1 during menstrual illness.	September, 3 attacks.
July,	2 attacks.	October, 5 attacks—1 during menstrual illness.
August,	5 attacks—1 during menstrual illness.	November, no attack.

In no single instance of all these attacks did the patient lose consciousness; in short they were reduced to *petit mal* fits of the most transient kind. In June I had further increased the dose of the bromide, ordering forty grains, three times a-day, but without the effect of completely stopping the attacks.

This patient's mind was, twelve months ago, showing, unmistakably, evidence of impairment; she was wanting in power of concentration; unable to control her acknowledged irritability of temper; and although, as is so usually the case, I was assured that her memory was quite good, yet she told me that she did not care for reading novels, because she could not recollect from day to day the names of the characters. As regards mind and memory a remarkable improvement has taken place.

These and other similar cases lead to the belief that we have in the bromide of potassium a remedy of considerable efficacy in epileptiform disease, when connected with uterine derangement. But in urging my professional brethren to use it in such cases, I would say that it certainly will not be found successful in every case, even of epilepsy connected distinctly with menstrual derangement. I have administered it, with the consent of my colleague, Dr. Banon, to a young woman in the Mountjoy Female Convict Prison, who had puerperal convulsions at the birth of her first child, and has since been epileptic, her attacks occurring for the most part at the menstrual period. In this case although I expected much from it, I cannot say that any substantial benefit has arisen from its use, yet it has been given perseveringly and in large doses.

With reference to the dose, from a not inconsiderable experience in the use of this medicine, I can state that it may be given with perfect confidence and safety, in much larger quantities than it is usually prescribed. I have given thirty or forty grains, and even more, three times a-day, for months without observing any bad results; and of this I am certain, that often such a dose as ten grains, three times a day is too small to develop any good result.

Although the independent testimony of several practitioners points to cases of epilepsy, with derangement of the uterine

functions, as those in which the bromide of potassium is most likely to be beneficial, yet there are others in which its effects are unquestionably good.

A lad, aged 18 years, was admitted to the Hospital of the Mountjoy Convict Prison, on April 12th, 1863. He was said to be epileptic, having three or four fits in the day. I myself never saw him in one; but at the time of my visit I found him dull, stupid, and slow of speech. I was struck by the peculiar odour exhaled from the skin of this patient; it was the same mixture of garlic and brass noticed in a former case; and it was the similarity in this respect alone that suggested to me the idea of giving him a medicine which had been so useful in the case alluded to. I commenced with ten-grain doses of the bromide three times a day, increased after one week to fifteen, and a fortnight to twenty grains. This boy apparently completely recovered, so much so that he was not recommended for removal to an associated prison, as is usual with confirmed epileptics; and indeed not having myself seen him in any attack, I was inclined to doubt the correctness of the diagnosis, and regard him as a malingerer. My friend, Dr. Mayne, however, who had one day accompanied me to visit a patient in hospital recognized the lad as having been formerly a patient under his care in the South Dublin Union Workhouse. On his assurance I gave up the notion of the boy being a malingerer, and I now think his case may fairly be regarded as benefited by the treatment.

I do not mean to say that the peculiar odour observed is a sufficient indication whereby one could venture to predict anything like successful treatment, yet the circumstance is worthy of observation; a peculiarly fetid odour from the skin and discharges is common in epileptic patients, as a forerunner or accompaniment of a series of attacks. One can fortell a coming series by the odour of the discharge from an issue or a burn; but the smell to which I have alluded seems to me something quite *sui generis*, and as I have already said is best compared to that of sublimed arsenic.

When epileptiform attacks are traceable to sexual excess in males, I have reason to state with some confidence that the bromide will be found useful; but as my observations on this subject are as yet incomplete, I must look forward to a further communication concerning it on a future occasion.