

1. *On the Efficacy of the Bromide of Potassium in Epilepsy and certain Psychological Affections.* By S. W. DUCKWORTH WILLIAMS, M.D., &c. (John Churchill and Sons, New Burlington Street. Pamphlet.)
2. *The Actions of the Bromide of Potassium upon the Nervous System.* By J. CRICHTON BROWN, M.D. Edin.
(*'Edinburgh Medical Journal,'* June, 1865.)

In the *'Journal of Mental Science'* for January 1865, we gave, in this Quarterly Report, an abstract of several papers on the use of bromide of potassium in the treatment of mental disease.* Dr. S. W. D. Williams and Dr. Crichton Browne continue these investigations.

Dr. WILLIAMS, in his pamphlet, considers the whole subject of the administration of the bromide of potassium under the following heads:

Firstly. He gives a brief description of his experiments with the bromide in epilepsy.

Secondly. He collects the results of these experiments into a series of tables, with remarks on each table.

Thirdly. He details the results of the trial of the medicine in psychical cases, not epileptic; and

Fourthly. He endeavours to describe the rationale of the action of the medicine.

Regarding the efficacy of the bromide of potassium in psychical cases, not epileptic, Dr. Williams has found it to be of use chiefly in two classes.

1. It is decidedly beneficial in those cases of insanity in which a monomania, existing for some time, has at last gained such a hold on the intellect that the affective faculties also to a certain extent become deranged, for where a monomania exists, and gradually in-

* 1. "Observations on the Treatment of certain forms of Epilepsy by Bromide of Potassium." By Robert M'Donnell, M.D., Surgeon to Jervis Street Hospital. (*'Dublin Quarterly Journal of Medical Science,'* February, 1849.) 2. "On the Action of the Bromide of Potassium." By S. W. D. Williams, M.D., L.R.C.P. Lond., House-Surgeon, General Lunatic Asylum, Northampton. (*'Medical Times and Gazette,'* July 23, 1864.) 3. "Epilepsy, and the Administration of Bromide of Potassium." By G. Goddard Rogers, M.D., Physician to the West London Hospital. (*'Lancet,'* December 10, 1864.)—*'Journal of Mental Science,'* January, 1865.

See also Dr. T. B. Belgrave's *Clinical Cases*, "On the use of the Bromides of Potassium, Cadmium, and Ammonium, in the Treatment of Insanity." (*'Journal of Mental Science,'* October, 1865.)

creases in intensity as time elapses, it at last comes to exercise such control over the intellect that those faculties which excite or give rise to emotions become also secondarily affected, and at last to such a degree that the patient is no longer a true monomaniac.

2. The second class are those cases of extreme nervous irritability, described by Mr. Henry Behrend in the 'Lancet,'* whose malady chiefly manifests itself by an utter incapacity to calm their nervousness and dread caused by some morbid idea, sufficiently to allow them to sleep. They pass night after night in restlessness and agony, and, unless some favorable change is induced, gradually relapse into a state of helpless fatuity.

The following are the conclusions drawn by Dr. Williams in this pamphlet:

"1. That the bromide of potassium possesses the power of moderating the frequency of epileptic paroxysms.

"2. That the power is confined to fits occurring during the day-time.

"3. That its virtue is due to its sedative influence on the heart's action.

"4. That it also ameliorates the violence of the paroxysmal phenomena, and that the power is due to a like cause.

"5. That it may be used with advantage in many cases of insanity, and especially in those in which the emotions are affected.

"6. That it has no special antaphrodisiac properties.

"7. That in most persons as much as half a drachm may be given at a time, but that on some constitutions a much smaller quantity has a very deleterious effect.

"8. That doses of from twenty to thirty grains given at night to patients suffering from extreme nervous irritability will often induce sleep when opiates are hurtful.

"9. That in some cases it produces hypercatharsis, and that patients with such idiosyncrasies do not easily adapt themselves to its use.

"And, finally, I must own, after twenty months' careful study and close examination of this much-vaunted medicine, that we have not yet found a specific for epilepsy. I cannot say that I am disappointed or much surprised; for, as I already have remarked, I instituted my experiments having a wholesome scepticism as to their success. That they have produced even moderate benefit is, therefore, all the more encouraging; for I am sure I in no way overestimate it when I say that our wards containing epileptics have not been like the same places since the medicine has been used; and this has been the constant remark of the nurses, attendants, and more rational of the patients, and the visiting justices. If, therefore, these pages induce others in charge of hospitals for the insane to

* See also 'Journal of Mental Science,' July, 1864, for an abstract of Mr. Behrend's paper.

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give the bromide of potassium a trial, and if the same benefit arises from its use as did in the Northampton Asylum any trouble I may have taken will indeed be amply rewarded."

DR. CRICHTON BROWNE has contributed a paper to the *Edinburgh Medical Journal* on the actions of the bromide of potassium upon the nervous system. According to Dr. Browne's observations, the actions of this drug on the nervous system may be thus classified:

1. *It mitigates those convulsive movements or spasmodic twitchings which are the result of the rapid conversion of sensory impressions into motor impulses, or of morbid reflex action through the medulla oblongata, and it exercises a peculiar influence over the phenomena which are characteristic of epilepsy.*—The two kinds of action of the bromide of potassium which are distinguished in this section—its action upon exalted reflex activity and upon epilepsy—are coupled together, because the first may be not improperly included under the second. Involuntary muscular contractions of a clonic description, the final indications of the increased reflex excitability of the medulla oblongata, when they have sudden loss of consciousness associated with them, amount to epileptic convulsions. The two conditions differ more in degree than in kind. The irritation to which both of them are due may be more intense in the latter than in the former, or may have a wider distribution and more extended dominion; but however this may be, the initial change to which they must both be traced is demonstrated by physiological clinical, and pathological observations, and by direct experiment to be resident in the medulla oblongata and upper part of the spinal axis. Purely dynamic in its earliest stages, it eventuates at length in enlargement of the capillaries, disorganization of their walls, and fatty degeneration of the nervous tissues.

Now, whether the increased excitability of the medulla oblongata is so great as to be productive of epilepsy, or so slight as to expend itself in minor spasmodic complaints, the bromide of potassium seems to exert an excellent effect upon it.

2. *It has a sedative effect upon the action of the heart in certain cases.*—The heart is obviously placed in connection with the medulla oblongata by the fibres which it derives from the sympathetic and from the pneumogastric nerves. Their functional relations (says Dr. C. Browne) are demonstrated by the phenomena of shock, of compression or injury of the brain, of joy, grief, and mental emotions, of dyspepsia, and other bodily diseases. Weber's experiments tended to prove that the stimuli conveyed by the pneumogastric retard its action, and that those conveyed by the sympathetic accelerate it; but Lister has shown that while "gentle irritation of the vagus increases the heart's action," a stronger application has the opposite effect. Whatever may be the influence of the degree of the irritation,

I feel persuaded that this condition of the medulla oblongata does occasionally increase the force and frequency of the cardiac contractions. The palpitations of hysteria, the primary effects of the inhalation of chloroform, and the unnatural frequency and fulness of the interparoxysmal pulse in epilepsy, may be referred to as illustrations of this. It is to its power over this irritation, situated in the medulla oblongata, that I have attributed the calmative effect which I have undoubtedly seen the bromide of potassium exercise upon an excited heart.

3. *It lessens and mitigates that rapid and preternatural excitement of spasm, tremor, and other outward manifestations, which in some forms of nervous disease follow upon any emotional or moral disturbance.*—In patients thus affected, liable to unreasonable outbursts of passionate action, and effusions of sentiment, Dr. C. Browne has several times seen the calmative effects of the bromide of potassium. It has seemed to place a check upon the passage of mental into motorial activity, or in some way to assist volition, in softening down any disparity between the outer life and the inner existence. He relates the case of one young woman (H. L—), labouring under peculiar sexual delusions, and believing that her body was permeated by the poison of syphilis; there was at the time of commencing the use of the drug that proneness to inexplicable agitation which has just been sketched. She took unaccountable antipathies to certain persons around her, and departed herself in their presence in such a manner as could only be supposed to indicate deep-rooted and murderous aversion. Her face was distorted by anger, now flushed, now pale, her breathing hurried and irregular, her heart's action was tumultuous, her frame trembled, her articulation was impeded; yet in her calmer moments she explained that her enmity towards them was by no means so deadly as her conduct would lead one to believe. She disliked them, without any assignable cause. When she thought about them she felt restless and uncomfortable, and when she saw them she lost all self-command. The existence of excitement of the medulla oblongata was shown by the occurrence of violent twitchings of the muscles of the face and upper extremities on the application of a sinapism to the chest and throat. After she had taken the bromide for some days there was a remission in the severity of her symptoms. She felt better able to bear the presence of the obnoxious persons without exhibitions of fury, her deportment became more tranquil and reserved, her speech more cool and collected. She begged for the continuance of the medicine when its omission was spoken of, declaring that it kept her temper within bounds, and that she should “certainly fly off” if it were withheld. In another case of impulsive insanity (E. B—), Dr. C. Browne has seen singular benefit accrue from the same remedy.

4. *It acts as an anodyne, under certain circumstances relieving*

hyperæsthetical sensations.—That the bromide of potassium does possess anodyne properties Dr. C. Browne feels assured, though its exercise of them has, in his experience, been arbitrary and uncertain.

5. *It promotes sleep.*—This action of the drug seems to have been discovered by Dr. Brown-Séguard. It has been announced by Dr. Garrod, and further set forth by Mr. Henry Behrend; and the statements of these gentlemen has been amply verified by Dr. C. Browne's experience.

6. *It exercises a sedative influence over the sexual functions.*—The lowering action of the bromide of potassium upon the sexual functions has been a matter of observation for some time. Many years ago, a German physician intimated that he had known it to produce temporary impotence. Sir Charles Locock found it useful in epilepsy connected with sexual excitement, and many physicians have found it serviceable in the treatment of nymphomania, and have thus satisfied themselves of its anaphrodisiac action.

7. *It exercises a beneficial influence over certain mental diseases.*—Without minutely considering here the uses of the bromide of potassium in the treatment of insanity, it may be mentioned that Dr. C. Browne has seen it of signal service in orectic and thymic derangements. He believes he has seen it moderate excessive manifestations of the instincts and appetites, and afford assistance in subjugating degraded and vicious impulses and propensities. He has certainly seen it efficacious in alleviating melancholia, simple, suicidal, akinetic, hypochondriacal, sexual, emotional, &c. It is in these forms of insanity enumerated that he anticipates that it will be of most utility.

1. *The Personal Responsibility of the Insane.* By JAMES F. DUNCAN, M.D., T.C.D. Dublin, 1865, pp. 98.

2. *On the Definition of Insanity considered Medico-legally.* By JAMES RORIE, M.D. Edin.

(‘Edinburgh Medical Journal,’ July, 1865.)

3. *Acquitted on the Ground of Insanity, from a “Mad Doctor’s” point of View.*

(‘The Cornhill Magazine,’ October, 1865.)

DR. DUNCAN states his well-written publication to be intended rather as a popular essay than a regular scientific treatise. “The subject (he writes) is one of great and admitted difficulty, more especially when it comes to be a matter of practical application, and although the writer, in common with others who have traversed the same path, may have failed to make that simple which is essentially