

frequency of the fits is decreased, he increases the dose. He asserts that, of 120 patients, he has cured twenty. A most important question now arises—Do we know anything of the nature of the action of belladonna beyond the empirical results obtained in treatment? If a drop of solution of belladonna or atropine be dropped on the foot of a frog properly prepared, and fixed on the field of a microscope, the blood-vessels will be seen to contract, and they will remain in this condition for a considerable time. For comparing the action of opium, a solution of the latter, similarly prepared, was applied to another part, and the vessels were immediately dilated. Now, belladonna, internally administered in medicinal doses, causes, first, dilatation of pupil, with dimness of vision; secondly, dryness of throat and difficulty of swallowing; thirdly, increased tone of involuntary muscle; fourthly, it relaxes the bowels, and cures incontinence of urine, arising from weak sphincter vesicæ.

“As dilatation of pupil is one of the earliest phenomena, let us see if we can account for it.

“We can now understand the nature of the action of belladonna in producing dilatation of the pupil; and from its effect on the iris we can deduce a strong probability of the nature of its action in epilepsy. It is a stimulant to the sympathetic, the motor nerve of the blood-vessels, and it is only on this supposition we can account for the other physiological effects of the drug.

“I would add, although experience shows belladonna is one of the most powerful contractors of the blood-vessels of the spinal cord and its membranes, it has a comparatively feeble action on those of the brain. I speak of its administration in medicine—not in poisonous or fatal doses. Hence arises its extraordinary adaptability in epilepsy, where we have dilatations of vessels or turgescence in the medulla and its neighbourhood; of its still more marked efficacy in inflammation, and congestion of the spinal cord and its membranes; as well as of its comparative inutility (administered alone) in those cases of morbid activity of brain, connected, as we think, with more or less congestion of gray matter, in some forms of incipient insanity, associated with sleeplessness and suicidal tendency, as well as in some other cerebral diseases.”

*Hydrocyanic Acid in the treatment of Insanity.* By KENNETH McLEOD, M.D. Edin., Assistant Medical Officer of the Durham Lunatic Asylum, Sedgfield.

(‘Medical Times and Gazette,’ March 14, 21, and 28, 1863.)

Dr. McLeod publishes in the ‘Medical Times’ a series of papers on the employment of hydrocyanic acid in the treatment of insanity,

with the detail of eight cases out of forty thus treated. Dr. McLeod thus states his views of this mode of treatment :

“ I. The feature or symptom which has in every case indicated the administration of the drug as a reputed calmative, is excitement—the manifested excess of cerebral activity which almost invariably accompanies, or assists in constituting, most forms of acute insanity, however caused or conditioned.

“ This increase of manifested energy may consist in an excessive activity of any or all of the representative faculties, gesture, feature, voice, or an intensified action of the brain itself, resulting in a morbid rapidity of ideation.

“ A simple increase of the evolution of nerve force, causing a more rapid rate of brain action and greater intensity of representation in the form of muscular acts, when excited by sufficient motive, and devoted to any end or a rational end, is a phenomenon of sound psychological action, and is manifested as emotion, passion, &c. ; but when it exists in excess, without an adequate motive or any motive at all, and is not, consequently, devoted to any rational end or any end at all, it constitutes a pathological fact of the same sort, as every other pathological action or phenomenon characterised by excessive activity in a particular direction. Beyond recognising this excessive and senseless cerebral vigour, or hypernoia (*ὑπερνοῖα*), as it may be appropriately termed, as a simple, ascertained pathological fact, we cannot go ; and, admitting it as such, we instinctively look for its conditions and causes, and, in the way of treatment, strive either to remove the cause or introduce new causes—the knowledge of the causes and conditions of the pathological manifestation, as well as the causes and conditions which will remove it, being matter for investigation.

“ The *hypernoia* may coexist with more or less mental derangement. It may be an utter delirium, in which reason and design are totally wanting, or may exist along with incoherence and delusions of all sorts and degrees, and with one or several active propensities, erotic, destructive, dirty, malevolent, homicidal, suicidal, &c. It forms the element of acuteness in many different forms of insanity, is the main object of the exhibition of medicines and plans of remedial treatment, morphia, antimony, warm bath, douche, emetic, purge, &c. Its degree measures alike the gravity of the disease and the success of treatment ; its abatement is a token of amelioration, and removal a triumph ; the treatment of the faculty disorganization or *paranoia* (*παράνοια*) being subsequently accomplished mainly by tonic, dietetic, and moral means.

“ The particular forms of insanity in which I have employed this remedy are—

	Cases.
1. Mania, acute . . . . .	13
2. „ chronic . . . . .	2
3. „ chronic, acute paroxysms . . . . .	2
4. „ menstrual . . . . .	2
5. „ puerperal . . . . .	2
6. „ recurrent . . . . .	1
7. „ epileptic . . . . .	2
8. „ epileptic, with menstrual excitement . . . . .	2
9. „ with hemiplegia . . . . .	2
10. „ with general paralysis . . . . .	5
11. „ with chronic hydrocephalus . . . . .	1
12. Melancholia, acute . . . . .	3
13. „ chronic, with acute paroxysms . . . . .	3
	—
	40

“II. The *effect* in every case has been very manifest. It has been almost purely psychal, consisting in a very remarkable, sudden, or gradual cessation of hypernoetic manifestations, with or without the induction of sleep. While its repeated exhibition has never failed to have some calmative effect, this has varied, according to the circumstances of the case, and has occurred in all degrees, from the gradual, slight, and temporary, to the immediate, absolute, and permanent.

“1. In cases of mania and melancholia of great severity and long duration, with organic disease of the brain and body, its calmative action has been more slowly produced, with more difficulty maintained, more evanescent and futile.

“2. In recent cases of mania and melancholia, where no grave structural change exists, and the morbid condition has not become so stereotyped by constant repetition of similar changes, its exhibition has been followed by an immediate and sustained change for the better.

“3. In the violent, paroxysmal mania of epilepsy and general paresis, in menstrual mania, and acute melancholic paroxysms, a single administration, or a few full doses at short intervals, have effectually dispelled the paroxysm.

“The effect is thus of two sorts:—1. Immediate. In a few minutes, one to five generally, a patient who has just been shouting, chattering, dancing, swearing, thumping, &c., becomes settled and quiet, sits upon a seat, and perhaps falls into a sound sleep. And 2, gradual; the patient becoming, as the hypernoia is thus, from time to time, warded off, more rational, companionable, and useful. While changes in psychal manifestation are thus very obvious and striking, observed and appreciated by attendants, and confessed to

by patients themselves, who, on being questioned, admit the calmative action, and conferred power of self-control, concomitant physical phenomena are very obscure or wanting. Only in two cases have I observed a very decided change in the character of the pulse, which became slower, weaker, and, in one, slightly irregular; but this is probably owing to the difficulty of accurately observing it in such circumstances. In two other cases, in which a slight overdose was given, a semi-comatose condition was induced, with complete adynamia, partial ptosis, the accumulation of frothy saliva, pallor; slight affection of breathing and pulse, phenomena almost exactly resembling those immediately preceding an epileptic paroxysm. In a few cases the subjective sensations were described as—1. Slight transient vertigo. 2. Slight nausea and a peculiar constrictive feeling at the back of the throat. 3. An unwillingness and almost inability to energeise in any way, and sometimes a desire to recline. These feelings were experienced in a few minutes after the dose was taken.

“The result of administration in the forty cases in which I have noted the effect may be represented as follows :

“1. Slight or well-marked temporary amelioration, without any decided effect on the cause of the disease. This result I have observed in 10 cases—1 of puerperal mania, in which the dose was probably insufficient; 1 of melancholia, in which the treatment was altered; 1 of menstrual mania; 3 of acute mania of long standing and great severity, ending in exhaustion and death, and resisting every mode and plan of treatment; 2 in recent mania, the effect being sustained and cure completed by other means; 1 in acute mania, when its administration was not sustained; and 1 in an acute paroxysm of chronic mania.

“Even in these cases the effect has been most beneficial, the patient becoming very much more manageable, giving over violence, noise, excitement, stripping, restlessness, &c., and becoming more amenable to moral and dietetic management.

“2. A more decided and permanent effect, the disease being still stationary or progressive. Of this class I have noted 19—5 general paralytics, in whom, while the morbid excitement has been vastly abated or expelled, the disease has progressed to its fatal termination; 5 chronic maniacs, in whom an intercurrent acute paroxysm was effectually dispelled; 3 melancholics, in whom acute manifestations were permanently removed; 1 case of acute dementia, in which excessive hypernoia was immediately arrested; 2 epileptics, in whom a paroxysm of excitement was summarily dismissed; 2 cases of epilepsy with menstrual excitement, in which the contrast of duration with former attack was most striking; 1 case of hysterical mania, in which the disease oscillated from an extreme of hypernoia to an extreme of hyponoia; 1 case of puerperal mania, in which rest and

sleep were induced after other measures had signally failed; 1 case of mania with hemiplegia, in which an intercurrent excitement was disposed of; and 1 case of mania with chronic hydrocephalus, where a change in conduct and demeanour was very evident.

"In all the cases the benefit conferred has been simply obtained, satisfactorily established, and duly appreciated, by the attendants and patient.

"3. Cases in which the drug has been a factor, and a very main one, in rapid restoration to reason. The cases of this class have been 8 in number—6 of acute mania, and 2 of acute melancholia. I shall append some of the most interesting cases of each class.

"III. The preparation which I have employed in every case has been Scheele's dilute acid, which I have found remarkably uniform and convenient.

"The dose has varied from  $\mathfrak{m}ij$  to  $\mathfrak{m}vj$ . Beyond that, disagreeable effects are apt to occur;  $\mathfrak{m}v$  is the most convenient dose, and if the effect is not promptly established, a repetition every quarter of an hour effectually secures it. The effect is rather evanescent, and has been observed in some cases to disappear within an hour; but if a slight degree of hypernoia recurs, a subsequent administration is apt to have a more potent effect, in consequence of a prior. The interval may vary according to the nature and exigencies of the case, and the effect produced. Short at first, until an effect is produced (5' to 15'), it may be prolonged after the excitement has disappeared (to one or two hours). It may, in many cases, be left, within limits, to the discretion of an intelligent attendant.

"The only modes of administration I have employed have been mixture and subcutaneous injection. The simplest and best menstruum is water, and  $\mathfrak{m}v$  may be easily and safely introduced beneath the skin, combined with  $\mathfrak{m}xxx$  of water, by means of Wood's syringe, when the patient resists all other means. Of its application to the extensive pulmonary mucous membrane, by means of pulverization and inhalation, I have no experience; but I should anticipate interesting and important results from such a method of administering it, and other medicines, in insanity.

"IV. The advantages of the drug, in comparison with other calmatives and hypnotics, are—1. The rapidity, certainty, and simplicity of its effects. 2. Its manageability and freedom from any cumulative property. 3. The absence of any disagreeable, concomitant, or consequent physical disturbance, which most other analogous modes of remedial treatment possess. 4. Its small bulk, want of colour, and miscibility. 5. Its want of repulsive smell and taste—a very great virtue with the insane, who are very apt to rebel against medicines. 6. Its not impairing appetite and digestion, but rather improving both.

"On the whole, I should recommend and urge the adoption of the

drug in every case of insanity with hypernoia, as an empirical antagonist to that pathological phenomenon, combining or exhibiting it simultaneously with any other remedy or plan of treatment which an ascertained pathological condition may demand. Simply as a 'quietener,' it has its merits, proving an invaluable auxiliary to the moral management of a ward generally, or the patient in particular. Very often I have heard the attendants express their sense of the great value of 'the medicine,' as completely altering the character of their gallery and the conduct of their patients—benefiting the latter, and assisting themselves in the performance of their duties. But in acute cases of mania and melancholia, and in maniacal and melancholic paroxysms, I attach a much higher value to it, and should more strongly advise its trial, as, from the experience I have had, I feel convinced of its potency and efficacy. I have no doubt that it has the power promptly of staying cases running on to chronic insanity on the one hand, or exhaustion and death on the other."

*On the Cerebro-spinal Origin and the Diagnosis of the Protrusion of the Eyeballs termed Anæmic.* By THOMAS LAYCOCK, M.D., &c., Professor of the Practice of Medicine and of Clinical Medicine, and Lecturer on Medical Psychology and Mental Diseases, in the University of Edinburgh.

(Read before the Medico-Chirurgical Society of Edinburgh, January 7th, 1863.)

(*'Edinburgh Medical Journal,'* February, 1863.)

During the last few years, says Dr. Laycock, the attention of the profession has been directed to a disease in which there is more or less of a general debility resembling anæmia, considerable and varied nervous disorder, greatly increased activity of the heart and of the arteries of the head and neck, a vascular enlargement of the thyroid gland resembling bronchocele, and staring eyes, with protrusion of the eyeballs, giving a peculiar expression to the face. This latter appearance, known as exophthalmos, exophthalmia, and proptosis, has attracted especial attention.

Dr. Laycock, after dwelling on the nervous origin of this condition, as opposed to Dr. Begbie's\* theory of its causation by anæmia, gives the following classification of the various conditions under which exophthalmos occurs:

"1. *Neuralgic and Hysterical.*—In this group there are neuralgic affections of different degrees of intensity. Sudden spasms or pains

\* "Anæmia and its consequences: Enlargement of the Thyroid and Eyeballs;" in *'Contributions to Practical Medicine,'* p. 116.