

THE  
BOSTON MEDICAL AND SURGICAL JOURNAL.

VOL. LVI.

THURSDAY, APRIL 16, 1857.

No. 11.

ON THE HASCHISCH OR CANNABIS INDICA.

BY JOHN BELL, M.D., DERRY, N. H.

[Communicated for the Boston Medical and Surgical Journal.]

THE various periodicals of this country have abounded, during the last few years, with accounts of the Haschisch; every experimenter giving the history of the effects it has had upon himself. In most cases this has been mingled with much fanciful and irrelevant matter. These notices have been confined almost exclusively to the various popular literary journals, but it has not received the attention it merits in those exclusively devoted to medicine. Under these circumstances, the following *résumé* of what has been written on the subject, seen through the medium of personal experience, may not be destitute of interest.

Among the nations professing Mahometanism, there are not a few substances used as substitutes for the alcoholic liquors interdicted by the author of that religion. They are everywhere the most inveterate users of tobacco, opium, coffee, and a variety of other narcotics less generally known. Among these latter, no one has recently attracted so much attention as the *Haschisch*, Cannabis Indica, or Indian Hemp. It is only within a few years, comparatively, that a knowledge of it has come to us, but it has been in general use for many centuries at the East, and reference is even thought to have been made to it by the ancient classic authors. The novelty of its effects and its apparent harmlessness have induced travellers in Egypt and Asia to experiment upon themselves, and a knowledge of it has thus found its way to the nations of the West. The defective pharmaceutic processes employed by the inhabitants of its native countries, render its preparations of very different strength, and admixtures of various foreign substances make its effects uncertain. A specimen obtained from Damascus contained about twenty-five per cent. of opium, a considerable quantity of camphor and spices, and nearly half was a mixture of rancid butter and extract of hemp. The substance widely known in this country

under the Arabic name of *Haschisch*, is obtained by boiling the leaves and flowers of the plant with butter, and, when pure and carefully prepared, is a very active preparation. The extracts prepared in this country from the Indian plant, contain all the properties of the *Haschisch*, and are every way preferable to it. The common hemp, though believed by botanists to be a variety of the same species as its Indian congener, is entirely destitute of the property which distinguishes the latter. This difference alone, if found to be permanent, would be sufficient to cause them to be regarded as distinct species.

The action of the drug is not confined to any single part of the system. It is an efficient but slow cathartic, an active diuretic and sudorific, and a most irresistible hypnotic in the latter stages of its action. But it is better known for its effect upon the nervous system; it is for this object that it is extensively employed in the East, and it is in this connection that it possesses its greatest interest. Abundant personal experience of it leads me to think that its peculiar effects upon the nervous system are only a secondary result of its action upon the mucous membrane throughout the whole track of the alimentary canal. The slowness of its action, not commencing in less than two hours after the dose is taken; the sensation of dryness, and afterward the abundant secretion in the throat and mouth; the heat throughout the abdomen, and the soreness which persists for several days; and, finally, the absence of any symptoms of nervous debility, when the immediate effects are gone; all point to this as its *modus operandi*. It would seem as though it were absorbed, and that in this process of being thrown off, it occasioned those phantasies which have caused it to be used as an intoxicating agent. In the dose usually recommended, of from one to three grains, it is absolutely inert: five grains is the smallest quantity from which any perceptible effects are to be expected, and generally more will be required. Few persons, perhaps, who have read the brilliant "Confessions of an English Opium Eater," have been without a fancy to experience the wonderful effects there described: all who have yielded to the desire, have been disappointed. If any one supposes the intoxication of *Haschisch* to be of the same nature, a few grains of the drug will most efficiently purge him of the idea. On the first trial, one is generally frightened at the intensity and violence of its action, and few will be disposed to carry the dose beyond ten grains. Indeed, most will be amply satisfied with having once experienced it. The following were the results of a moderately large dose of Tilden & Co.'s extract.

It was taken with coffee, which increases the effects of the hemp, and at the same time diminishes its duration, perhaps merely by promoting a more rapid absorption. For two hours no results at all were experienced. At this time a dryness seemed to

commence at a particular spot in the throat, and a feeling of warmth throughout the abdomen. These were not the results of disordered sensation, for a clammy mucus soon began to be secreted, though the huskiness of the throat still remained. Up to this time, there was not the slightest excitement or confusion of thought. Suddenly, however, an idea having no connection with the train of thought passing in the mind at the time, appeared, as though suggested by another person, and then was gone again as suddenly as it came, leaving upon the mind much the same feeling as when one escapes from a dream or a deep reverie. The same thing was repeated two or three times, at intervals rapidly diminishing in length. Even now I can hardly believe but it was the result of strained attention to my physical sensations, for the gentle warmth of the abdomen was rapidly becoming a burning heat—still, however, not by any means unpleasant—and the dryness of the throat had extended to the tongue.

I had taken the drug with great scepticism as to its reputed action, or at any rate with the opinion that it was grossly exaggerated, and I accordingly made up my mind not to be "caught napping" in this way again, and to keep a careful watch over my thoughts. But while enforcing this resolution, as I supposed, I found myself, to my own astonishment, waking from a reverie longer and more profound than any previous. From scepticism, to the fullest belief of all I had read on the subject, was but a step. Its effects so far surpassed anything which words can convey, that I began to think I was on the verge of narcotic poisoning; yet, strange to say, there was not the slightest feeling of inquietude on that account. I resolved to walk into the street. While rising from the chair, another lucid interval showed that another dream had come and gone. While passing through the door, I was aware of having wandered again, but how or when I had permitted myself to fall into the reverie I was perfectly unconscious, and knew only that it seemed to have lasted an interminable length of time.

These singular attacks of mental disturbance recurred oftener, and lasted longer, till the lucid interval between was reduced to a mere instant's conscious duration of thought. This condition came on so rapidly, that in less than fifteen minutes from the time of my being aware of the first mental disturbance, the power of controlling the thoughts was almost completely lost. All ideas of time and space were especially bewildered, and I realized completely for the first time the ideas of some metaphysicians, that time, properly speaking, has no existence except in connection with a succession of mental operations or sensations. The most trivial circumstance, the slightest noise, gave rise to trains of thought, which went bounding from subject to subject, completely emancipated from the rules which ordinarily govern the mental ope-

rations, till suddenly some other circumstance would give an entirely new direction to them, and the last series of imaginations would seem to have lasted from eternity, even while the eye was fixed upon the clock, the hand of which had not perceptibly moved.

Now, a phenomenon still more singular began to exhibit itself. I felt that, in spite of all exertions, I was beginning to receive the suggestions of disordered fancy for real objective facts. Intellectually, I knew that the spinal column could not be a barometer, in which mercury had usurped the place of the spinal cord. Yet in another sense, over which the operations of the intellect were completely powerless, I felt that it was a barometer. An unpleasant sensation in the lumbar region suggested the idea of a heavy column of mercury pressing upon it, and at the time, and under the circumstances, the transition to the idea of the barometer was easy and natural. There was no balancing of arguments in the arrival at this conclusion; there was no half-way period of doubt and uncertainty, to emerge into full credence. At the instant the idea occurred at all, it commanded the assent, with the same fulness as when in perfect mental health does the idea of our own existence. The thought certainly occurred that it was a delusion, but it made no more impression than the suggestion would, that the sense of sight was a figment of the brain, and objects seen had no existence except in the imagination. This belief was not a transient one; it was the first hallucination to appear, and continued with varying degrees of intensity, as the thoughts were more or less occupied with other subjects, till all others had disappeared. The belief in the reality of the delusion was never for an instant absent; it pervaded the whole being, and was often the point on which the thoughts turned seemingly for a long time. The painful attempt to regulate these disturbed states of consciousness, was soon given up, and, half voluntarily, half by a species of moral compulsion, the whole psychical nature surrendered itself, without further struggle, to the fullest and most complete belief in the actual existence of a thousand hallucinations. During this time the thoughts were becoming more and more disordered; ideas, between which, apparently, there was not the slightest connection, thrust themselves in, till finally their rapid recurrence, and the loss of that sense of governing the mind which we ordinarily possess, induced the belief that I was the victim of diabolical agency—that some terrible demon had taken possession of my whole intellectual being, and identified himself with every thought, in the same way that a man might direct the physical movements of a child. The feeling of utter powerlessness to check the wild current of thought was complete, and there was a sensation as though, if there had been the ability, the will could not be exercised.

The firmest intentions were forgotten in an instant. There

seemed to be no difference between the idea and the expression of it in words. A moment was long enough to forget whether it had been expressed or not. The sound of persons whispering in the room, brought with it the belief that they were laying some plot. It was not a vague suspicion that they were intending some injury, such as whispers and glances might excite in any one; but everything they had said—the particulars of the whole plot—were present, with the same vividness and overpowering conviction as they always are in true hallucinations.

The *fantasia* had now arrived at its height. It was an hour and a half since the first sensations of excitement and wandering commenced. About the same time passed before it had completely subsided. The mental phenomena in this stage were as remarkable as while the effects were coming on. One after another the delusions disappeared as rapidly as they came; not by any exercise of the gradually returning regularity of thought, but suddenly—with a bound—so that it was surprising to have believed, a moment before, what now appeared so absurd.

The whole time during which there is any perceptible difference from the normal state, is from three to five hours, according to the dose taken. The hemp resembles in its action some other medicines which are erroneously called cumulative. That is, a dose may be taken without producing any perceptible action; and on another occasion, a dose only a grain larger will act violently. Indeed, the effects of this agent seem to be of such a nature, that there is no resting place between its full action and none at all. A delusion, of the truth of which we are only half convinced, would be no delusion at all. Unlike opium, alcohol, and other narcotics of the order Solanaceæ, it leaves behind it no mental confusion, headache, or other signs of a direct and powerful action upon the nervous system. The secretions of the alimentary canal, however, remain in an unnatural state for several days, and there is a slight oppression felt in the abdomen, if the dose has been at all large. During all the time of its action, there is a tendency to laugh, in spite of the delusions, which are almost uniformly of an unpleasant character. The feeling of buoyancy of spirits is somewhat the same as is caused by a slight dose of alcoholic stimulant.

Amid all the strange vagaries of the *Haschisch*, the mind preserves the power of taking cognizance of its condition, and to a certain extent of analyzing its operations. The memory of everything said and done is nearly perfect; but of the multitude of thoughts, only those making a more than commonly distinct impression are preserved.

Can this singular substance be put to any useful purpose, to illustrate any of the varied mental phenomena of health and disease? Is it worthy a place in the medical *armamentum*, from its action alone upon the mind?

The great advances made in the philosophy of medicine during the last half century, have been due almost entirely to the devotion with which pathology has been pursued. Instead of the ill-arranged and ill-understood assemblage of symptoms observed with scrupulous care, which went to make up the idea of a disease, we now direct our aim to strip it of everything fortuitous and to fix in the mind the type of the malady—those essential features which are uniformly the same under every variety of circumstances, and about which the more obvious symptoms cluster, like the drapery about a statue. In diseases of the mind, this has not been done: their seat and nature are too deep to be reached by the knife of the morbid anatomist. Esquirol, after a whole life devoted to the study of this subject, and after the most ample opportunities that have ever fallen to the lot of any individual, says, that "pathological anatomy is yet silent as to the seat of madness; it has not yet demonstrated what is the precise alteration in the encephalon which gives rise to this disease." Nor has greater success obtained in the attempt to explain the relations and analogies of the various forms of insanity. The cause of the latter failure is sufficiently obvious. Theory has taken the place of fact. No competent individual who has experienced insanity in his own person, has written upon the disease. The insane themselves can rarely give a consistent account of their disease, even if they were qualified, by previous study and observation, to take the best advantage of their own mental state. Even our own observation of the disease is rarely complete: the minor degrees do not come under the care of the physician, and it is only when the more severe cases are evident to all, that friends will acknowledge its existence and submit the unfortunate patient to examination. How imperfect would be our ideas of grief, anger, or pain, if we could only observe their outward manifestations, or listen to a description of them by one who had suffered them! And yet this is all, and more than all that we can know of the intimate nature of insanity, of its connections and analogies, unless we have suffered it in our own persons. If we had never felt any of the passions, our diagnosis of them might perhaps be as perfect, and the empirical treatment as successful, as now; but a vagueness would necessarily pervade our mind as to their nature, and we should be liable to continual error in reasoning upon them. Southwood Smith well observes, that the symptom of fever termed *febrile restlessness* cannot be understood by any one who has not experienced it in person.

The most superficial observation of a case of mania, will not fail to show many and strong points of resemblance to that of a person under the influence of a powerful dose of *Cannabis Indica*. In both there is the same excitement and abruptness of manner, the same rapidity and incoherence of thought, the same false convictions and lesions of the affective faculties. The following de-

scription, by Prichard, of an ordinary case of chronic mania, such as composes the greater number in the wards of every hospital, might apply, without the change of a word, to the condition of a person under the influence of the *Haschisch*. "It is, however, a state of great intellectual weakness, in which none of the operations of the mind are performed with energy or effect. The memory, the judgment, the powers of attention and combination, are so much impaired, that the individual is wholly inadequate to the duties of society, and incapable of any continued conversation; his actions and conduct are without steadiness and consistency, his thoughts are deficient in concentration and coherence."

There is no really important point in which these manifestations differ from the condition produced by the *Haschisch*. There is no error of judgment, no delusion or lesion of the will or moral faculties, which is seen in the former state, but what might take its rise in the latter. In this question, the difference of cause of the mental disturbance might at first sight appear an insuperable objection to reasoning from one condition to the other. But is insanity always produced by the same cause? On the contrary, there is no disease to which the human frame is subject, that acknowledges such a variety. There is hardly a physical or functional lesion of any tissue or organ, but may produce it by its reaction on the nervous system, and it is difficult to say whether the best or worst proclivities of our nature are oftenest regarded as the productive agents of the same mental disease. If opium and tobacco and alcohol may produce, by long use, without any apparent disease, a mental state which deserves the name of insanity, why may not the *fantasia* of hemp receive the same name? What reason, then, is there why we may not rely upon its revelations as so many views of the hidden workings of the spirit, in that gravest of all diseases? If this be allowed, the *Haschisch* may in a degree serve as a key to unlock some at least of the mysteries of mental pathology. Why may we not thus possess a means of studying the disease in question, better than we have of most others? We can apply to it the principles of experimental philosophy, and test it by the best of means upon the best of subjects. The idea of this application of the medicine originated with Dr. Moreau (de Tours), of Paris, a physician of large experience in his specialty, and whose work\* on the subject possesses the highest interest, as presenting many views of insanity and kindred subjects, different from those commonly received.

In the study of insanity by this means, if there is any one fact impressed upon the mind more strongly than another, it is that of the essential unity of the whole psychical nature. It is impossible not to recognize the truth that the ordinary language of meta-

---

\* Du Haschisch, et de l'aliénation mentale.

physics is applicable to the explanation of morbid mental phenomena. The popular division into the intellect, the will, the instincts and the moral faculties, though having a show of precision, and absolutely necessary in common language, conveys too much. Such divisions are too distinct and disconnected to be true to nature. The minute organillogical divisions and hasty generalizations of the phrenologists are only the results of the same principle carried to a greater extent.

[To be concluded next week.]

DR. EDWARD BROWN-SEQUARD'S EXPERIMENTAL AND CLINICAL RESEARCHES APPLIED TO PHYSIOLOGY AND PATHOLOGY.

[Continued from page 188.]

§ XIII. My experiments upon animals, compared with cases of epilepsy observed in man, throw a great deal of light on what we might call the physiology of epilepsy, that is, upon what concerns the etiology, the seat, and what is vaguely called the nature of this disease. It is easy to show that one or the other of the two series of facts we have to compare, if not both, are in opposition with the various doctrines concerning the production and the seat of epilepsy. A short critical examination of these doctrines will prove the correctness of this assertion.

The time has passed away when men of talent were tempted to place the seat of epilepsy in the pituitary body (Joseph Wenzel), in the pineal gland (Greding), or in the spinal cord (Esquirol, Reid). The injuries or organic alterations of these parts, as well as of other parts of the nervous system, may be either the cause or an effect of epilepsy, but none of these parts can be considered as the *essential seat* of this affection. The numerous cases of co-existence of epilepsy and of a disease of the pituitary body, related by Joseph Wenzel (*Beobachtungen ueber den Hirnanhang fallsüchtiger Personen*. Edited by Carl Wenzel, Mainz, 1810), have lost their apparent importance since it has been shown by Romberg (*loco cit.*, p. 685) and others (Rokitansky, Engel and Sieveking, in Handfield Jones's and Sieveking's *Manual of Pathological Anatomy*, 1854, p. 267, *Amer. Ed.*) that the pituitary body may be altered although epilepsy does not exist, and that this neurosis may exist without any apparent alteration in this small organ. There is no part of the nervous centres about which the same argument could not be used.

Many writers have asserted that epilepsy must depend upon a disease of the brain (organic or not), on account of the existence of the cerebral symptoms. It is useless to speak of the authors who have been or who still are unacquainted with the phenomena of reflex actions; I will merely refer for their views to the works of Portal (*loco cit.*, p. 143-155) and Delasiauve (*loco cit.*, p. 27-