

RECENT PROGRESS IN PSYCHOLOGY.

BY THEODORE W. FISHER, M. D.

LOCALIZATION OF THE CEREBRAL FUNCTIONS.

IN spite of the apparently contradictory nature of the evidence, and of Brown-Séquard's opinion, based on this contradiction, in opposition to special centres for the mental faculties, the belief is gaining ground that there are distinct centres for all the cerebral functions. It is also the opinion of most recent writers, that all the mental faculties are functions of the brain. Dr. Carpenter, it is true, places the will outside and independent of the cerebrum;¹ but it is only by a confusion of scientific and metaphysical reasoning that he arrives at this conclusion.²

In the symptom aphasia, for instance, the connection between lesions of the third left frontal convolution and loss of memory for words is too much the rule to be disregarded. In a case reported by T. Clave Shawe, M. D.,³ degeneracy began in this convolution coincidentally with loss of will-power over the word-groups, supposed to be located here. The disease subsequently invaded the corpus striatum, producing right hemiplegia. It is now quite generally admitted that aphasia follows left-sided lesions because most people are left-brained, so that a person is at first embarrassed in trying to speak from his right brain, as he would be in trying to write with the left hand, and for the same reason.

This location for the memory of words is still further confirmed by the experiments of Ferrier, who finds that the centre for movements of the mouth and tongue in cats and dogs corresponds to this region in man. The researches of Hitzig and Fritzsche in 1870, of Ferrier and Nothnagel, have been repeated with similar results by Dr. James J. Putnam of Boston, by a committee of the New York Society of Neurology and Electrology, and still more recently by MM. Carville and Duret, of Paris.⁴ These observers all find motor centres for the various movements of the head, body, and limbs, apparently located in the gray matter of the anterior lobes. They also find a non-motor region in cats and dogs, which does not respond to the electric stimulus. It is situated posteriorly to the centre for the facial muscles, including the convexity and hinder parts of the brain.

This division, if it exists in man, corresponds to that of Van der Kolk and many others, who believe the anterior lobes to be concerned in ideation and the posterior in sensation or feeling. The relations of the convolutions to each other, to the basal ganglia, and to the columns of the cord, are well described by Dr. Callender in his Lectures on the

¹ Principles of Mental Physiology (London, 1874), page 25.

² British Medico-Chirurgical Review, October, 1874. Recent Psychological Doctrines.

³ British Medical Journal, May 2, 1874.

⁴ Lancet, January 16, 1875.

Formation and Early Growth of the Brain in Man.¹ Also by M. Paul Berger, in a paper entitled *Distribution et Parcours des différent Ordres des Fibres qui entrent dans la Composition de l'Axe cérébro-spinal, d'après quelques Travaux modernes.*²

How can the anterior lobes be centres of motion and of intellect at the same time? Mind is the result of education, which depends on memory. The memory, so called, is a storehouse of organized, coördinated sensations and motions, with, in man, a limited region of abstract ideas and intellectual operations, intimately related to corresponding words. The ideas of words, *i. e.*, the organized memory of the acts necessary to pronounce words, as well as the ideas of all other associated movements, are probably located in the convolutions of the anterior lobes. There seem to be two kinds of motor centres, automatic and voluntary, located respectively in the corpus striatum and in the convolutions. Lesions of the former produce ataxic, and of the latter amnesic defects of speech, and of other movements.

The distinction between these two centres is made evident, as Dr. Laycock suggests, in a paper on *Certain Disorders and Defects of Organic Memory*,³ by singing some familiar song, mentally and then vocally. The voluntary impulse is in the first instance confined to the ideational centres, in the latter case it is transmitted to the secondary or motor centre. Under certain conditions of mental abstraction or of somnambulism, for instance, this centre might perform the same act automatically and unconsciously. Dr. Laycock's application of the theory of reflex action to the highest cerebral functions is especially important and interesting.

DIPSOMANIA.

It is quite time this most prevalent form of insanity was practically recognized, not only by the medical profession, but by the public, through its courts and legislatures. No other form is capable of such adequate proof and abundant illustration. Leaving out all cases of accidental and deliberate drunkenness, morbid inebriety outnumbers all other forms of mental disease. Dipsomania was recognized by Salvatori, of Moscow, in 1817, as a "*furor bibendi*," and was minutely described by him, in its symptoms, pathology, and treatment, in a treatise entitled *De Ebriositate Continuâ, Remittente, et Intermittente*. He considered it a disorder of the ganglionic system. Dr. Druitt also regarded it as due to, or at least often accompanied by, neuralgia of the abdominal ganglia.⁴ Sir R. Christison addressed the Royal College of Surgeons of Edinburgh sixteen years ago on this disease.

¹ *British Medical Journal*, June 6, *et seq.*, 1874.

² *Archives de Physiologie*, Mars et Mai, 1874.

³ *Edinburgh Medical Journal*, April, 1874.

⁴ *Medical Times and Gazette*, 1862.

Of late, renewed interest has been awakened in the subject, in Great Britain especially, and much valuable testimony has accumulated. The following papers contain many useful opinions and statements of fact, namely, an address by Wm. C. Garman, Esq., President of the Midland Counties Branch of the British Medical Association;¹ a paper by Dr. James Russell, of Birmingham, on Alcoholism from a Clinical Point of View;² and an article on Alcoholism in the *Medico-Chirurgical Review* for April, 1874. A bill was introduced by the late Mr. Dalrymple, in the House of Commons, in 1870, for "restraining habitual drunkards."³ The medical witnesses were Drs. Boyd, Crichton, Peddie, Nugent, Mitchel, Forbes Winslow, Dalrymple, McGill, Christie, and Druitt, all of whom believed habitual intemperance to be in many cases a form of insanity, demanding state interference. "An act to provide for the interdiction and cure of habitual drunkards" is now in force in Canada.⁴ It simply applies to inebriates methods of commitment and forms of restraint similar to those in use for other insane persons.

The relations between alcoholism and insanity are complex, and evidently deep-seated in the nervous organization. In the first place, dipsomania, like insanity, may be inherited or acquired. At the New York State Inebriate Asylum, one hundred and twenty-five out of three hundred and fifteen patients, in 1871, had intemperate ancestors. Dr. Kirkbride, of the Pennsylvania Hospital for the Insane, considers the causes of insanity and inebriety as identical. Dr. Brown testified before the committee of parliament that in his experience, in the cases of insanity ascribed to drinking, there was hereditary tendency to insanity in one third. Thus we see inebriety may descend from an insane or intemperate stock. It may produce insanity, idiocy, or inebriety. Dr. Howe finds intemperate parents in one hundred and forty-five out of three hundred idiots, and Dr. Dodge in fifty out of one hundred. Dr. Russell in half his cases of epilepsy and hypochondriasis finds alcoholism in the ancestry.

Acquired dipsomania is very often due to the same causes which tend to induce insanity, and this is especially the case in females. Sunstroke, blows on the head, nervous shock, hæmorrhages, loss of sleep, excessive pain, abuse of opiates for relief of pain, disordered menstruation, uterine irritation, puberty and the climacteric, the exhaustion from lactation, together with a long list of moral causes, are prolific sources of inebriety, as well as of insanity. Insanity itself is also a cause of inebriety. That inebriety produces insanity in many forms is well known. Dr.

¹ British Medical Journal, July 25, 1874.

² British Medical Journal, November 14, 1874.

³ See Blue Book, 1872, containing voluminous evidence taken by the committee.

⁴ Edinburgh Medical Journal, September, 1870.

Kirkbride found, in six thousand eight hundred and ninety-nine cases, twelve hundred and forty-nine due to ill health, and six hundred and ten to intemperance.

Periodicity is also a feature in which dipsomania resembles recurrent insanity. All writers lay great stress on this peculiarity, and many insist that it is necessary to restrain a patient through a whole interval and treat him during the succeeding period of desire for drink, if a cure is expected. Mr. Mould reported to the committee the case of a lady sent to his asylum thirty times in ten years for morbid inebriety. A case of paroxysmal mania, occurring every month, is on record, and it is said the superintendent bewailed this patient's death, as it diminished his annual list of "recoveries," by twelve. It is to be feared the so-called recoveries in voluntary asylums for inebriates, where the average duration of treatment is but three or four weeks, are of this character.

In most cases treatment must be compulsory. Long abuse of stimulants implies an organic change in the nervous system, for the eradication of which a long time is required, with complete disuse of stimulants. Self-control must be slowly cultivated, and the brain reorganized without risk of relapse. It is true, dipsomania is a most intractable disease, but it may be cured by persistent restraint, and by that alone in most cases. The paper of Dr. Bowditch in the Report of the State Board of Health for 1874 reflects the general opinion of the profession on this subject. The inaction of our legislature in the past must, I think, be attributed to false theories in regard to intemperance, and to a reliance on prohibitory legislation. The alienists of this State, with others, have repeatedly petitioned for an inebriate asylum, without avail. The writer presented almost precisely the same views as Dr. Bowditch advances, before a committee of the legislature this winter, in advocacy of a petition signed by fifteen hundred physicians and other intelligent citizens for compulsory treatment of inebriates by the State. It was opposed by the representative of one voluntary asylum receiving State aid, and defeated by the selfish and unfair management of the superintendent of another, who wanted State aid. Aid to such institutions, useful in a limited way, does not relieve the public from responsibility for those startling crimes done by habitual inebriates. Neither is it economy to assist in providing a hospital for the convenience of the drunkard after his debauch. Both classes of drunkards should be restrained for long periods in work-house or asylum, and their labor made remunerative while a possible cure is in progress.

CRIME AND INSANITY.

The relations of crime to insanity have received careful consideration of late from writers of eminence. In 1868 appeared Dr. Despine's *Psychologie naturelle*, devoted almost entirely to analysis of the mental status of the criminal classes. Dr. Holmes's article on Crime and

Automatism, in the *Atlantic* for April, will give the reader a good idea of the book. Dr. Despine, attracted by the singular want of emotion displayed by most criminals, was led to a thorough examination of court records and other sources of information. He arrives at a belief in the entire absence of moral sense in this class. He says that free-will, which in the normal man is only controlled by the sense of duty, in the criminal has no such counter-balance, this sense being wanting. His acts are therefore mentally automatic, the result of the strongest instinct, appetite, or passion prevailing at the time. Most criminals are therefore morally irresponsible, no matter how great the crime as against society. Like brutes, savages, and idiots, they yield to natural appetites and passions, unrestrained and unreprieved by any feeling of impropriety, although intellectually cognizant of the moral standards of society. Hence their remarkable *sang froid*, and the superficial character of any apparent reformation or conversion.

Dr. Thompson, Resident Surgeon to the General Prison for Scotland, at Perth, finds his experience confirmatory of the views of Despine. He recognizes various degrees of "moral insensibility."¹ In a previous paper on the Hereditary Nature of Crime² he adduces evidence of a criminal class with marked mental and physical traits of hereditary origin. The transformations of crime with epilepsy, dipsomania, and various forms of insanity, as well as its incurable nature, tend, he says, to prove its heredity. In his second paper, Dr. Thompson examines carefully the physical, intellectual, and moral characteristics of criminals, and their liability to insanity. He believes the majority of them are mentally deficient. Of juvenile offenders, one third are weak in mind. Of six thousand adults twelve per cent. were distinctly imbecile, epileptic, or suicidal, by the records. At Millbank, of nine hundred and forty-three there were two hundred and eighteen weak-minded, and thirty-four insane, besides the epileptics. This is one in twenty-eight insane, an astonishing proportion compared with the ratio of one to four hundred and thirty-two for England and Wales. Epileptics averaged one in one hundred. The frequency of recommitments is also a striking fact, showing the really small numbers of the criminal class, as well as the incurable nature of crime. Female thieves averaged from six to seven committals each, in seven years. On the records four hundred and fifty-eight persons counted as two thousand eight hundred and seventy-four prisoners. Of four hundred and thirty murderers, but one showed any remorse. They sleep soundly, as a rule, unvisited by nocturnal terrors or qualms of conscience. The frequent and motiveless emotional outbreaks, assaults, and disturbances of prisoners resemble similar attacks with the insane.

¹ *Journal of Mental Science*, October, 1870.

² *Ibid*, January, 1870.

Dr. Nicholson, Surgeon in Convict Prisons Department of Her Majesty's Civil Service, has an elaborate article on the Morbid Psychology of Criminals.¹ He divides convicts, as we have divided drunkards, into two classes, the accidental and the habitual. In reference to the latter he says, "There is an appearance of motive and self-interest, just sufficient to prevent them from falling within the range of insanity." Disease of the brain stands next to consumption as a cause of death. Instances of simple perverted ideation are extremely common; such as a belief in the hostility of certain officers, suspicions that their food has been poisoned, that their time is up, or that letters due are withheld. Belief in the injustice of their sentence is a universal delusion. Hallucinations of hearing are very frequent, with occasional stories of mysterious visitations or visions.

Space forbids further detail. The writer, as the result of five or six years' experience in connection with the city institutions, can fully confirm the above statements. In view of these facts, what treatment should be adopted? The general opinion is in favor of long sentences for habitual criminals. This is just to the individual, protects society, and is economical. Prisons should be improved hygienically, and in their moral atmosphere as well. The fullest opportunities for labor should be afforded, with a percentage of wages reserved for the prisoner or his family. Sentences should be gradually abridged in proportion to good behavior. Pardons should be rare. Hospitals for the criminal insane should be established, and capital punishment never inflicted, when there is suspicion of mental unsoundness. The criminal should have the benefit of this doubt in all cases.



PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. W. SWAN, M. D., SECRETARY.

JANUARY 9, 1875. DR. HODGDON, Junior Vice-President, in the chair.

Nævus. — DR. HOSMER related the case of a child five months old, which had had a small papule at the upper part of the sternum. When the child was two months old, this was evidently a *nævus*. During the third month there was no increase, but it afterwards grew rapidly, and became an inch and a quarter long by three quarters of an inch wide, and occupied the upper part of the sternum and base of the neck. Dr. Hosmer exhibited the ligature, which still preserved the exact form in which it had been placed about the tumor, and said: "By a mode of action herewith described, a single ligature may be made to effect what has hitherto been accomplished only by the use of two or more ligatures, in those cases in which the size or shape of a vascular mass

¹ *Journal of Mental Science*, July and October, 1873, and April, July, *et seq.*, 1874.