

**ON THE NATURE AND  
TREATMENT OF  
SOFTENING OF THE BRAIN**

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## P R E F A C E.

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IN publishing the following Treatise, I gladly take the opportunity of acknowledging the kind assistance afforded to me, in the microscopical investigations, by MR. WHARTON JONES, DR. GEORGE JOHNSON, MR. TAUNTON, and DR. T. W. JONES. I am, likewise, under great obligations to several gentlemen who supplied me with specimens of diseased structure. To DR. DIAMOND, of the Surrey County Asylum, I am especially indebted in this respect, and also for the opportunity of witnessing the various forms of Cerebral Disease in the extensive establishment which he so ably conducts; and which affords a happy example of the complete efficacy of the non-restraint system in Insanity, when under the guidance of skill, science, and humanity.

R. R.

9, WOBURN PLACE, RUSSELL SQUARE,  
20th September, 1851.

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THERE are several circumstances in the history of cerebral affections that render their study one of peculiar difficulty. The means of discovering their character and seat are less perfect than in many other disorders; for the brain is but little within the reach of physical examination, and there is such a general resemblance in the symptoms of its different lesions, that it is often no easy task to mark their distinguishing features. So closely connected, too, are the organs subservient to the various cerebral functions, that even when the disease is strictly limited, the sympathies of other parts are almost necessarily awakened. Hence arises that endless variety of disturbance which at once astonishes and confuses, and gives to this class of affections that Protean character which so generally belongs to them.

The researches of modern physiologists have, it is true, greatly diminished these perplexities, and many

morbid manifestations formerly regarded as hopelessly obscure, and apparently contradictory, are now capable of a satisfactory explanation. Our country has contributed its full share of that physiological knowledge, which is capable of lending essential aid to the practical physician. The discoveries of Sir C. Bell and Dr. Marshall Hall are pre-eminent in this respect. The latter author in particular has brought to view a series of nervous actions of surpassing interest and importance, and which are capable of the most varied and extended application in the diagnosis and treatment of disease.

Among nervous affections, there is perhaps none whose symptoms and nature are less distinctly defined, than softening of the brain. The term ramollissement is often employed very vaguely, and seems to be appropriated to any combination of cerebral symptoms that is hard to interpret. Even those who have paid most attention to the malady hold different opinions of its nature, especially in regard to its alliance with inflammation. The symptomatology of the affection, too, remains in considerable obscurity, and is sometimes confounded with that of other cerebral lesions. I propose in the following pages to make a careful analysis of the facts bearing upon this important disease, and, if possible, to arrive at its separate and individual history.

The merit of bringing this complaint into general notice is undoubtedly due to Rostan. As physician to the Salpêtrière at Paris, an hospital chiefly devoted to aged females, he had constant opportunities of observing this condition of the brain, at least in that

phase which it presents in advanced life. Some allusions to cerebral softening had however been previously made by contemporary writers. Recamier had noticed it as occurring in certain fevers; Rochoux had described a form of softening that he imagined preceded apoplectic effusions; Abercrombie had observed the lesion in connexion with meningitis. Pinel, Portal, and others had also noticed it incidentally.

Nor indeed had this morbid appearance entirely escaped the observation of the older pathologists. Some faint traces of its description are apparent in the earliest medical works. Bayle\* notices it more distinctly. He says,—“*Opinantur aliqui apoplexiæ causam esse mollitiem cerebri cum ejus substantia, partium insensilium unione soluta aut imminuta, flaccida est et adeo parum sibi coheret ut fere diffluet.*” He cites a case which is a complete history of the disease, in regard both to its symptoms and pathology. Morgagni† also found central softening of the brain in one of his patients.

These scattered, and for the most part uncertain allusions do not in the least detract from the excellence of Rostan; on the contrary, they rather serve to shew the slight importance which the old physicians attached to this lesion, and how far they were from forming an adequate notion of its frequency and importance. Several writers of eminence have

\* Bayle, F., *De Apoplexia*, 1677.

† Morgagni, T. B., *De Sedibus et causis Morborum*, 1761. Epist. v. sec. 6.



subsequently investigated the subject, among whom are Lallemand, Abercrombie, Cruveilhier, Copland, Durand-Fardel, and many others.\*

In this country the French term ramollissement (*softening*) is in general use to designate this condition of the brain, which, however, has no pretensions beyond the analogous expression in our own language.

\* The following works form the principal Bibliography of the disease.

*Rostan, L.*, Recherches sur une Maladie encore peu connue, qui a reçu le nom de Ramollissement du Cerveau.—Paris, 1820.

*Lallemand, F.*, Recherches Anatomico-Pathologiques, sur l'Encéphale et ses Dépendances.—Paris, 1820.

*Rochoux*, Dict. de Médecine, Art. Apoplexie, Vol. 2, 1820.

*Cruveilhier, J.*, Médecine Pratique éclairée par l'Anatomie et le Physiologie Pathologiques.—Paris, 1821.

*Bouillaud, M. J.*, Traité de l'Encephalite et de ses Suites.—Paris, 1825.

*Herbst, A. G.*, De Encephalomacia.—Hal. 1825.

*Gendrin, A. N.*, Histoire Anatomiques des Inflammations.—Paris, 1826.

*Hooper, R.*, Morbid Anatomy of the Human Brain.—Lond. 1826.

*Abercrombie, J.*, Pathological and Practical Researches on the Diseases of the Brain and Spinal Cord.—Edin. 1828.

*Cruveilhier, J.*, Anatomie Pathologique du Corps Humaine.—Paris, 1829.

*Bright, R.*, Reports of Medical Cases, Vol. 2, 1831.

*Foville*, Dict. de Med. et Chirurg.-Pratique, Art. Encephale; Ramollissement.—Paris, 1831.

*Copland, J.*, Dict. of Practical Medicine, Art. Brain, Vol. 1.—Lond. 1832.

*Carnwell, R.*, Cyclo. of Practical Medicine, Art. Softening.—Lond. 1832.

*Andral, G.*, Clinique Medicale, Vol. 5.—Paris, 1833.

*Hall, M.*, Lectures on the Nervous System and its Diseases.—Lond. 1833.

It is also called encephalomacia; mollities cerebri; cephalitis; inflammatory softening of the brain; gangrene of the brain. Some of these titles implying a doubtful or at least an incomplete pathology are on that account objectionable.

*Sims, J.*, On the cure of Ramollissement of the Brain, Med.-Chirurg. Transact.—Lond. 1835.

*Bricheteau, T.*, Clinique Medicale.—Paris, 1835.

*Fuchs, C. H.*, Beobachtungen und Bemerkungen über Gehirnerweichung.—Leip. 1838.

*Carwell, R.*, Illustrations of the Elementary Forms of Disease.—Lond. 1838.

*Gendrin, A. N.*, Traité Philosophie du Medicine Pratique, Vol. 1.—Paris, 1828.

*Dechambre, A.*, Sur la curabilité du Ramollissement Cerebral, Gazette Med. Vol. 6.—Paris, 1838.

*Gluge*, Recherches Microscopique et Experimentale sur le Ramollissement du Cerveau, Archiv. de Med.—Belg. 1840.

*Bennet, H.*, Pathological and Histological Observations on Inflammation of the Nervous Centres, Ed. Med.-Chir. Journ.—Edin. 1842.

*Durand-Fardel*, Traité du Ramollissement du Cerveau.—Paris, 1842.

*Rokitanski, C.*, Handbuch der Pathologischen Anatomie.—Vien. 1843.

Ditto, Translated by C. H. Moore, Vol. 3.

*Williams, C. B.*, Principles of Medicine.—Lond. 1843.

*Solly, S.*, The Human Brain, 2d Edit.—Lond. 1847.

*Winslow, F.*, On Softening of the Brain, Journ. of Psych. Med.—Lond. 1849.

*Copland, J.*, On the Causes, Nature, and Treatment of Palsy and Apoplexy.—Lond. 1850.

*Simple, R.*, On Softening of the Nervous Centres, Lond. Journ. of Medicine.—Lond. 1850.

*Barlow, W. S.*, Case of Softening of the Brain, Med. Gaz.—Lond. 1851.

*Varieties of Cerebral Softening.*—Several varieties of this affection have been proposed, founded either upon some theory of its origin, its symptoms, or duration. The principal of these are the idiopathic—symptomatic—inflammatory—non-inflammatory (which includes several sub-divisions)—apoplectic—ataxic—acute—chronic and latent softening.

*Primary or Idiopathic Softening* is seldom observed. In general the diminished cohesion of the cerebral substance is consequent on prior disease, either within the cranium or elsewhere. But although this is its prevailing character, I see no reason to deny its occasional occurrence as an idiopathic disease.

*Sympathetic or Secondary Softening.*—The conditions of which this affection is symptomatic will be named when its aetiology is considered.

*Acute Softening.*—It must be premised that acute softening is not necessarily inflammatory, but the term refers to the abruptness of the invasion and rapidity of progress of the disease, circumstances which might be independent of inflammation. The complaint may even take the acute form, although no active process of any kind is going on in the brain, in consequence of mental or bodily shock, or of the feebleness of advancing age; the diseased organ, being unable to sustain such additional burden, sinks under the pressure.

*Inflammatory Softening. (Acute).*—The signs of this variety are not always so clearly defined as might be expected, when an organ of such primary importance as the brain is threatened with destruction.