## LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM: DELIVERED AT SALPETRIÈRE

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J. M. CHARCOT

# LECTURES ON THE DISEASES OF THE NERVOUS SYSTEM: DELIVERED AT SALPETRIÈRE

Trieste



## LECTURES

ON

## THE DISEASES OF

## THE NERVOUS SYSTEM.

#### DELIVERED AT LA SALPÈTRIÈRE

BY .

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WITH ILLUSTRATIONS.





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### TRANSLATOR'S PREFACE.

ALTHOUGH but recently published in Paris, the Lectures of Professor Charcot on Diseases of the Nervous System have already taken a place amongst the classic works of medical literature, and been translated into several Continental languages. When preparing for the following version, it was judged best to await the appearance of the second French edition; thus the reader, in exchange for some delay, has been enabled to obtain the work in its most correct form, enlarged by about one-sixth. It was found inconvenient to reproduce the ten plates appended to the French volume.

It is proper to mention that these lectures were reported and edited in French by Dr. Bourneville, editor of 'Le Progrès Médical,' whose name or initial will be found attached to several notes.

G. S.

DUBLIN.

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#### PART I.

#### DISORDERS OF NUTRITION CONSEQUENT ON LESIONS OF THE BRAIN AND SPINAL CORD.

#### LECTURE I.

DISORDERS OF NUTRITION CONSEQUENT ON LESIONS OF THE NERVES.

SUMMARY .- Preliminary observations. Object of these lectures : they shall be devoted to those diseases of the nervous system, and of the spinal cord especially, which are most usually met with in the Salpetrière Bospital. Nutritive disorders consequent on lesions of the cerebrospinal axis and of the nerves. These morbid alterations may affect the skin, the connective tissue, the muscles, the articulations, the viscera. Their importance in relation to diagnosis and prognosis. Nutritive derangements consequent on lesions of the peripheral nerves. Slight influence (in the normal state) of the nervous system upon nutritive action. Passive lesions of the nerves and spinal cord do not directly produce disorders of nutrition in the peripheral parts. Demonstrative experiments. Influence of the irritation and inflammation of nerves or of nervous centres on the production of nutritive disturbances. Nutritive disorders consequent on traumatic lesion of nerves, considered specially. They arise not from complete but from imperfect sections or from contusions, etc., of the nerve. Cutaneous eruptions : erythema, zona traumatica, pemphigus, "glossy skin." Muscular lesions, atrophy. Articular lesions. Lesions of the osseons system : periostitis, necrosis. Disorders of nutrition consequent on non-tranmatic lesions of the nerves; their analogy with those which result from traumatic lesions. Nutritive disorders affecting the eyes in cases of compression of the trifacial by tumour. Inflammation of the spinal nerves, consequent on vertebral cancer, on spinal pachymeningitis, on asphyxia by charcoal fumes, etc. Cutaneous eruptions (zona, pemphigus, etc.), muscular atrophy, and articular affections, which, in such cases, are developed in consequence of the neuritis. Anæsthetic lepra, leprous perineuritis, lepra mutilaus . . . . . . . . . . . .

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#### LECTURE II.

AFTRITIVE DISORDERS CONSECUTIVE ON NERVE LESIONS (CONTINUED). AFFECTIONS OF THE MUSCLES. NUTRITIVE DISORDERS CONSECU-TIVE ON LESIONS OF THE SPINAL CORD.

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SCHMARY .- Anatomical and functional modifications occurring in muscles under the infinence of lesions of the nerves supplying them. Importance of electrization as a means of disgnosis and prognosis. Researches of Dr. Duchsune (de Boulogue). Experiments : Long persistence of the electrical contractility and of normal nutrition of muscles, after the section or excision of motor or mixed nerves in the case of animals. Pathological cases: Diminution or speedy abolition of the electrical contractility, followed by rapid atrophy of the muscles in cases of rheumatic paralysis of the facial nerve, and of irritative lesions of mixed nerves, whether of traumatic or spontaneous origin. Causes of apparent contradiction between the results of experiment and the facts of pathology. Application of the researches of M. Brown-Sequard : Irritative nervo-lesions alone determine the speedy abolition of electrical contractility, followed by rapid atrophy of the muscles. Experiments of MM. Erb, Ziemssen, O. Weiss. Contusion and ligation of nerves are irritative lesions. Difference of the results obtained in the exploration of muscles when faradization and galvanization are employed. The results of these new researches are comparable with the facts of human pathology; they do not weaken the proposition of M. Brown-Sequard.

Trophic disorders consecutive on lesions of the spinal cord. Considered with regard to their influence on the nutrition of the muscles, these lesions constitute two well-defined groups.

First group: lesions of the cord having no direct influence on muscular matrition: a, lesions in circumscribed spots affecting the gray substance to but a sight extent vertically, a, g, partial myelitis, tumours, Pott's disease ; b, extensive fasciculated lesions of the posterior white or the antero-lateral columns, without the gray matter participating ; e, g, primitive or. secondary solerosis of the posterior, antero-lateral columns, etc.

Second group: Lesions of the spinal cord which influence, more or less rapidly, the nutrition of the muscles: a, fasciculated or circumscribed lesions which affect the anterior cornua of the gray matter to a certain extent, in height; central myelitis, hematomyelia, etc.; b, irritative leaions of the large nerve-cells of the anterior cornus with or without participation on the part of the white fasciculi: infantile spinal paralysis, spinal paralysis of adults, general spinal paralysis (Duchenne de Boulogue), progressive muscular atrophy, etc. Predominant influence of lesions of the gray matter in the production of trophical troubles of the muscles. These facts can be interpreted by means of Brown-Séquard's proposition

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#### LECTURE III.

#### DISORDERS OF NUTBITION CONSECUTIVE ON LESIONS OF THE SPINAL CORD AND BRAIN.

SOMMARY. — Cutaneous affections in sclerosis of the posterior columns: papular or liohenoid eruptions, nuclearia, sona, pustular eruptions; their relations with the fulgurant pains; the former appear to arise from the same organic scause as the latter.

- Eschars of rapid development (acute bed-sores) in diseases of the brain aud spinal cord. Mode of evolution of this skin affection: erythems, bulles, mortification of the derms, accidents consecutive on the formation of eschars: a, putrid infection, purulent infection, gangemons emboli; b, simple purulent ascending meningitis, ishorous excending meningitis. Acute bed-sore in apoplexy symptomatic of circumscribed cerebral lesions. It appears principally in the gluteal region of paralyzed extremities; its importance in prognesis. Acute bed-sore in diseases of the spinal cord; it generally occupies the sacral region.
- Arthropathies depending on a lesion of the brain or spinal cord. A. Acute or subscute forms; they appear in cases of tranmatic lesion of the spinal cord; in myelitis occasioned by compression (tumours, Pott's disease), in primary myelitis, in recent hemiplegia, connected with cerebral softening. These arthropathies occupy the joints of paralyzed limbs. B. Chronic forms; they seem to depend, like amyotrophies of spinal origin, on a lesion of the anterior coruna of the gray axis; observed in posterior sclerosis (locomotor staxla) and in certain cases of progressive muscular atrophy . 1 12 51 . . . 1.1

#### LECTURE IV.

- NUTRITIVE DISORDERS CONSECUTIVE ON LESIONS OF THE BRAIN AND SPINAL CORD. (CONCLUSION.) AFFECTIONS OF THE VISCERA. THEORETICAL OBSERVATIONS.
- SOMMART.—Visceral hyperæmia and ecohymoses consecutive on experimental lesions of different portions of the enceptation, and on intraencephalic hemorrhage. Experiments of Schiff and Brown-Séquard : personal observations. These lesions seem to depend on vaso-motor paralysis : they should form a separate category. Opinion of Schroeder van der Kolk, relative to the relations alleged to exist between certain lesions of the encephalon and different forms of pneumonia, and pnimonary tuberculization. Hemorrhage of the supra-renal capsules in myelitis. Nephritis and cystilis consecutive on irritative spinal affections of audden invasion, whether traumatic or spontaneous. Rapid alteration of the uning under these circomstances; often remarked contemporaneously with the development of eschars in the sacral region; its connection with lesions of the minary passages which are due to direct influence of the nervoza system.

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Theory of the production of nutritive disorders consecutive on lesions of the nervous system. Insufficiency of our present kn-wledge, with respect to this question. Paralysis of the vaso-motor nerves: consecutive hypermain; trophic disorders not produced. Exceptions to the rule. Irritation of the vaso-motor nerves: the consequent ischemia seems to have no marked influence on local nutrition. Dilator and secretor nerves: researches of Ludwig and Claude Bernard; analogies between these two orders of nerves. Theoretical application of trophic nerves. Samnel's hypothesis. Exposition. Criticisms. Conclusion . .

#### PART II.

#### PARALYSIS AGITANS AND DISSEMINATED SCLEROSIS.

#### LECTURE V.

#### ON PARALYSIS AGITANS.

- SCHMART. Of tremor in general. Its varieties. Intermittent tremor. Continuous tremor. Influence of sleep, rest, and voluntary motion. Distinction established by Yan Swieten. Option of M. Gubler. Tremor, according to Galen. Paralysis agitans, and disseminated sclerosis, independent diseases. Parkinson's researchen. French works: MM. Sée, Trousseau, Charoot, and Vulpian. Paralysis agitans admitted to the right of domicile in classic treatises.
  - Fundamental characters of paralysis agitans. A disease of adult life. Its symptoms. Modifications observed in the gait. Tendency to propulsion and retropulsion Invasion; its modes, slow or abrupt. Period of stationary intensity. Head and neck not affected by tremor. Alterations of speech. Rigidity of the muscles. Attitude of the body and limbs. Deformation of the hands and feet. Delay in the execution of movements. Perversions of sensibility. Gramps; general sensation of tension and fatigue: need of frequent change of position. Habitual feeling of excessive heat. Temperature in paralysis agitans. Influence of the kind of convulsions—static or dynamic.
  - Terminal period. Confinement to bed. Disorders of nutrition. Enfeeblement of the intellect. Sacral eschars. Terminal complaints: they differ from those of disseminated sclerosis. Duration of paralysis agitans.
  - Necroscopical results. Inconstant lesions in paralysis agitans; fixed lesions in disseminated scierosis. Lesions of the pons Varelii and of the medulla oblongata (Parkinson, Oppolzer). Pathological physiology.
  - Etiology. External causes; violent moral emotions; influence of damp cold, when much prolonged; irritation of certain peripheral nerves. Predisposing causes. Influence of age. Paralysis agitans appears at a more advanced period of life than dissominated selerosis. Sex. Hereditary predisposition. Influence of race.

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