

**LECTURES ON THE
DISEASES OF
THE SPINAL CORD**

Published @ 2017 Trieste Publishing Pty Ltd

ISBN 9780649495030

Lectures on the Diseases of the Spinal Cord by J. M. Charcot

Except for use in any review, the reproduction or utilisation of this work in whole or in part in any form by any electronic, mechanical or other means, now known or hereafter invented, including xerography, photocopying and recording, or in any information storage or retrieval system, is forbidden without the permission of the publisher, Trieste Publishing Pty Ltd, PO Box 1576 Collingwood, Victoria 3066 Australia.

All rights reserved.

Edited by Trieste Publishing Pty Ltd.
Cover @ 2017

This book is sold subject to the condition that it shall not, by way of trade or otherwise, be lent, re-sold, hired out, or otherwise circulated without the publisher's prior consent in any form or binding or cover other than that in which it is published and without a similar condition including this condition being imposed on the subsequent purchaser.

www.triestepublishing.com

J. M. CHARCOT

**LECTURES ON THE
DISEASES OF
THE SPINAL CORD**

LECTURES
ON THE
DISEASES OF THE SPINAL CORD.

BY

J. M. CHARCOT,

*Professor to the Faculty of Medicine of Paris; Physician to La Salpêtrière;
Member of the Academy of Medicine, &c. &c.*

TRANSLATED FROM THE FRENCH BY

CORNELIUS G. COMEGYS, M.D.,

*Lecturer on Clinical Medicine to the Cincinnati Hospital; Honorary Member of the
College of Physicians of Philadelphia, &c.*

WITH ILLUSTRATIONS.



EDINBURGH:
YOUNG J. PENTLAND.

1881.

PREFACE.

JUST thirty years ago Professor J. M. Charcot was kind enough to receive me as a private pupil in his service in La Charité Hospital, where he was a *chef de clinique*, and therefore able to offer very large facilities to foreign students who went to Paris for clinical study.

He held a high position at that early period of his career, as a clinician, and his instruction was very much sought for. His deliberate and thorough manner of procedure at the bedside aroused the attention of his pupils, who soon were made feel that the methodic investigation of disease requires the highest intellectual effort. It was not difficult at that time, even, to foresee for the young teacher a distinguished future. What he has done to develop the advance in the medical sciences during the last twenty years, I shall not attempt to detail. That he has enriched and enlarged the pathological and clinical field equal to any man of the age is generally conceded. More especially has he done his full share of the work that has brought again French medicine to the front line of modern progress. I believe that his genius, culture and special researches entitle him to be ranked with the celebrated men of modern times.

The translation of his lectures which I now present formed his course for 1879-80, and were reported in the *Progrès Médicale* by Doctor E. Brissaud. They have been published in the *Lancet and Clinic* of this city, beginning in September last. It has been desired that they should be republished in the present form.

I am sure that others might have made the translation better than myself, but no one could have done so with more reverence and grateful recollection for the eminent author.

C. G. COMEGYS.

Cincinnati, July, 1881.

AUTHORS REFERRED TO.

- | | | |
|----------------------------------|-----------------------|--|
| ALBERTONI, 81. | FOUQUIER, 113. | NAWROCKI, 89. |
| BERGER, 100, 104. | FRANK, 80, 106. | NOTHNAGEL, 105. |
| BETZ, 46. | FRICK, 87. | OLIVIER, 145. |
| BILLARD, 14. | FURBINGER, 106. | ONIMUS, 110. |
| BOUDET, 118. | GENDRIN, 96. | PARROT, 12, 13, 29. |
| BOURDON, 4. | GERLACH, 133. | PIERRET, 7, 16, 67. |
| BOUCHARD, 50, 75, 85,
93. | GOLTZ, 138. | PITRES, 27, 28, 50, 55,
56, 57, 58, 80. |
| BRISAUD, 106, 118. | HALLOPEAU, 58. | RANVIER, 159. |
| BRODIE, 114. | HALL, 110. | REYNAUD, 19. |
| BROWN-SEQUARD, 19. | HEINE, 123. | ROLANDO, 43. |
| CALLENDER, 19. | HEITZ, 50. | ROUGET, 14, 15, 159. |
| CORNIL, 73. | HITZIG, 47, 124, 125. | ROSSENBACH, 134. |
| COTARD, 123. | ISARTIER, 50, 80. | TARCHANOFF, 14. |
| CRUVEILHIER, 4. | JACKSON, 19. | TERRIER, 113. |
| DALLEY, 116. | JASTROWITZ, 13. | TIRSCHJEW, 106. |
| DEJERINE, 103. | KRAUSE, 106, 159. | TÖRCK, 7, 39, 44. |
| DIETERS, 89. | KÜHNE, 159. | VALENTINE, 159. |
| DITTMAN, 89. | LEWES, 47. | VICQ d'AZYR, 43. |
| DUCHENNE, 4. | LEYDEN, 55. | VIRCHOW, 14, 78. |
| DURET, 96. | LONGET, 20. | VULPIAN, 87, 99, 110,
115, 118. |
| EICHHORST, 87. | LUDWIG, 89. | WALLER, 76. |
| ENGLEKEN, 87. | LUVS, 4, 41. | WEISBACH, 13. |
| ERB, 105, 139, 140,
145, 149. | MEYNERT, 42. | WESTPHAL, 110, 118. |
| EULENBERG, 104. | MEZIERJEWSKY, 46. | WOROSCHOLOFF, 80. |
| FERRIER, 47. | MICHAUD, 138. | |
| | MICHELLI, 81. | |
| | NAUNYV, 138. | |

CONTENTS.

LECTURE ONE.

CONSTRUCTION AND SYSTEMATIC LESIONS OF THE SPINAL CORD.

SUMMARY:—Retrospect and present course.—The pathological anatomy of the nervous system is quite incomplete.—A decided advance was made by the discovery of the lesion in locomotor ataxia; also in our knowledge of the disease known as multilocular induration.—Sclerose en plaques.—The practical character of pathological anatomy is shown in the better knowledge we have of the pathology of the nervous centres in the cerebro-spinal axis, and has greatly amplified our knowledge of the construction of the spinal cord.—A new description of the different fasciculi of the cord.—Lesions in the gray substance.—The study of the anatomy of development, of pathological anatomy and of symptomatology, has led to the discovery of the existence of the new anatomical regions.—Revelations of the cord at birth.—The "systematic" tracts are possessed of a pathological autonomy.—The altered functions of the cord as shown by disease, could not be demonstrated by experimental researches.—Symptoms differ accordingly as different tracts are diseased.—Localization is the dominant idea in these pathological researches.—What is meant by localization? 1-14

LECTURE TWO.

ON THE PYRAMIDAL FASCICULI.

SUMMARY:—Principal fact of last lecture is the demonstration of systematic lesions of the cord.—The anatomy of development at birth a field of research.—Brain at birth less developed than bulb or spinal cord.—Outline of the physical, anatomical and chemical construction of the brain in the new-born.—Physiology of the brain corresponds to a rudimentary state.—No voluntary power; all action is automatic.—Electrical examination of brain.—Difference in development in animals born blind and those with perfect eyes.—The anatomical and physiological facts have their counterpart in pathological states.—Absence of symp-

toms.—Methods employed to bring into view developed and undeveloped parts of nerves.—Course of the pyramidal fasciculi.—Position of the direct cerebellar fasciculi.—Columns of Türck.—Termination of pyramidal fasciculi in great cells of anterior cornua.—Pyramidal fasciculi in medulla.—Decussation described.—Varieties.—Three types of asymmetries.—Relation of hemiplegic paralysis to (asymmetrical) decussation. 12-20

LECTURE THREE.

ON THE PYRAMIDAL FASCICULUS IN THE CEREBRAL PEDUNCLES, INTERNAL CAPSULE AND CENTRUM OVALE.

SUMMARY:—Section of peduncles above the pons.—Construction of the peduncles.—Crusta, tegmentum, locus niger and red nucleus of Stilling.—Division of crusta into three segments.—The pyramidal segment at the period of birth.—Pyramidal tract in the internal capsule; also in the centrum ovale.—Its termination in the Rolandic region of the cortex.—Hypothesis of Flechsig in regard to its embryonic development.—Chromotological demonstrations by Parrot in the anatomy of development.—Comparison of the views on that subject of Flechsig and Parrot. 12-31

LECTURE FOUR.

SECONDARY DEGENERATIONS.

SUMMARY:—Systematic lesions of the spinal cord.—Secondary degenerations in the pyramidal fasciculi are, usually, consecutive to focal lesions in the brain, or spinal cord; they are called descending degenerations.—All lesions in the cerebral cortex do not produce descending degenerations.—Localization dominates the whole question.—The cerebral foci that produce descending degeneration in the pyramidal fasciculi must be localized in the Rolandic area.—The lesion must also be destructive in character.—Description of the degeneration of the pyramidal fasciculi, as seen in the peduncles, pons, medulla oblongata and lateral columns of the cord.—Description of the internal capsule and localization of the pyramidal and other regions therein. 32-43

LECTURE FIVE.

SECONDARY DEGENERATIONS OF CEREBRAL ORIGIN.—LIMITS OF THE PYRAMIDAL FASCICULUS IN THE CEREBRAL CORTEX.

SUMMARY:—Secondary degenerations following lesions of the cortex.—Median ascending frontal and parietal convolutions.—Pyramidal giant cells of the cortex, and of the spinal gray substance.—Pyramidal giant cells found in lower animals in same regions.—Schematic view of the

Rolandic or motor region of the brain.—In the cortex of this region destructive focal lesions produce secondary degenerations of pyramidal tract.—Secondary degenerations connected with white tract beneath the cortex, and in the protuberance and bulb. 44-51

LECTURE SIX.

SECONDARY DEGENERATIONS OF CEREBRAL ORIGIN.—CONSECUTIVE AMYOTROPHY.

SUMMARY:—Mode of termination of the fibres of the pyramidal fasciculi in the spinal cord.—Descending degeneration of pyramidal tract arrested by the motor cells in the anterior horn of the cord.—Muscular atrophy in relation to functional inertia of muscles, and to destruction of motor cells in anterior cornua; examples furnished.—Protection afforded by anterior cornua to corresponding anterior root.—Exceptional instances. 52-58

LECTURE SEVEN.

SECONDARY DEGENERATIONS OF SPINAL ORIGIN.—ASCENDING DEGENERATION OF THE CEREBELLAR FASCICULUS, AND DESCENDING OF THE PYRAMIDAL FASCICULUS.

SUMMARY:—Systematic lesions from a focal destructive lesion.—Compression of spinal marrow from a pachymeningitis is external Potts' disease.—Compression from external tumors.—Internal tumors.—Total transverse lesion.—Ascending and descending degenerations which follow it.—The pyramidal fasciculi are incapable of an ascending, and the posterior fasciculi of a descending degeneration.—Ascending and descending degenerations only follow a destructive lesion in white substance.—Limitations in destructive lesions of gray substance.—Effects following lesions in different fasciculi of the cord.—Examples given. 59-65

LECTURE EIGHT.

ASCENDING DEGENERATIONS OF SPINAL ORIGIN.—LESIONS OF THE FASCICULI OF GOLL, AND FASCICULI OF BURDACH. SPINAL DEGENERATIONS OF PERIPHERAL ORIGIN.

SUMMARY:—Two constituent systems in the posterior fasciculi of spinal cord.—They are perfectly distinct anatomically and functionally.—Development of posterior fasciculi of Goll and Burdach as seen in the embryo; these two fasciculi may suffer distinct degeneration.—Effects of destruction of these fasciculi from compression.—Lesions in Locomotor ataxia.—Secondary degenerations of peripheric origin.—Lesion in the cauda equina.—Results in cases that are recorded. 66-74