Diseases of the Nervous System.

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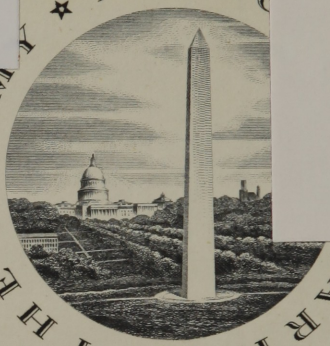

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F-3

CLINICAL LECTURES

ON

CERTAIN DISEASES

OF THE

NERVOUS SYSTEM

BY

PROF. J. M. CHARCOT,

Professor to the Faculty of Medicine Paris, France, Physician to the Salpetriere, Member of the Institute and the Academy of Medicine, Honorary President of the Anatomical Society, etc.

TRANSLATED BY

E. P. HURD, M. D.,

Member of the Massachusetts Medical Society and of the Climatological Society, Newburyport, Mass.

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GEORGE S. DAVIS.
DETROIT, MICH.

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AUTHOR'S PREFACE.

The lectures which Dr. E. P. Hurd has decided to reproduce in this volume pertain for the most part to hysteria, and especially to hysteria in the male sex. This is a subject which for a number of years has attracted my attention and been made by me a theme of study, and I am surprised that it has been so long ignored, or at least so far neglected, for it is one of the most interesting subjects of nervous pathology. Male hysteria belongs truly to every-day medical practice, and not to know it, not to be aware that it exists both in the man of culture and in the working man devoted to manual labor, is to render one's self liable to frequent mistakes, and mistakes which may be quite serious from a professional point of view.

I recognize, moreover, the fact that if, more fortunate than most of my contemporaries, I have been able to study this affection under its divers aspects, this task has certainly been facilitated by the great number of patients who present themselves every day at the clinic of the Salpêtrière. I have also been struck by the fact that male hysteria is found with the same characters in men belonging to all races, all nationalities. So, when my views were first made known, I did not hesitate to affirm that those of my confreres in foreign countries who made a point of disputing (at least as far as their own country was concerned) the existence of the facts which I had pointed out, would in time acknowledge the justness of my positions. The event has proved that I was right. From all quarters of the world, at the present time, observations similar to my own are multiplying. I take pleasure in thinking that through the publication of works like this which Dr. Hurd now presents to the medical profession of the United States, the question of hysteria in the male sex will receive from physicians in that great republic the attention that it deserves, and that thereby science will be enriched by new facts and make still further advances.

CHARCOT.

PARIS, August 1st, 1888.

TRANSLATOR'S PREFACE.

Jean Martin Charcot was born in Paris, Sept. 29, 1829, so that now he is in his 60th year. Appointed interne of the hospitals in 1848, physician of the Central Board of Hospitals in 1856, physician to the Salpêtrière in 1862, Dr. Charcot began in that hospital in 1866 a course of theoretical and clinical teaching on Chronic Diseases, Diseases of Old Age, and Diseases of the Nervous System, a course that was kept up by a series of lectures given every year till 1878. Chief of the Department of Clinical Medicine from 1853 to 1855, "agrégé" in 1860, he was elected to the chair of Pathological Anatomy of the Faculty of Medicine of Paris in 1872. From this time till 1881 he gave every year, regularly, the official course (theoretical and practical) of pathological anatomy. Since Jan. 2st, 1882 Dr. Charcot has held the Chair of Clinical Instruction in Diseases of the Nervous System at the Salpêtrière. An enumeration of all the titles and honorary offices which have been bestowed upon Prof. Charcot would take up too much space in this preface, for he is "honorary member" or "corresponding member" of the principal scientific and medical societies of Europe, besides being connected with several in this country. A few only of these titles will be here given:

Member of the Academy of Medicine, Paris, 1872.

Corresponding Member of the Royal Society of Natural Sciences of Brussels, 1874.

Corresponding Member of the New York Society of Neurology and Electricity, 1874.

Honorary Member of the Clinical Society of London, 1874.

Honorable Member of the Harveian Society of London, 1878.

Member of the Institute of France (Academy of Sciences), 1883.

Honorary Member of the King's and Queen's College of Physicians in Ireland, 1887.

Doctor of Laws of the University of Edinburgh.

Honorary doctor of the University of Boulogne.

Honorary Member of the Society of Physicians and Surgeons of St. Petersburg.

Honorable doctor of the Faculty of Würzburg, etc., etc.

Dr. Charcot has been connected with the founding and management of three medical reviews; the "Archives of Normal and Pathological Physiology," published by Brown-Sequard, Charcot and Vulpian (Vol. I appeared in 1868); the "Revue Mensuelle de Médecine et de Chirurgie," published by Charcot, Chauveau, Oilier, Parrot, and Verneuil (this journal first appeared in 1877); the "Archives de Neurologie," a Quarterly Review of Nervous and Mental Diseases, published under the direction of J. M. Charcot—Editor in Chief, Dr. Bourneville; this journal was founded in 1880.

I shall enumerate as rapidly as possible Professor Charcot's leading contributions to medicine.

1. A study of the affection described under the names of primary asthenic gout, nodosities of the joints, chronic articular rheumatism (primitive form), (Thesis for the doctorate, Paris, 1853).

Charcot's researches on this disease comprehend a vast number of clinical and necroscopic observations made at the Salpêtrière. One of the most important facts brought to light by these researches is that affections of the heart such as endocarditis and pericarditis belong to the generalized form of chronic articular rheumatism, as well as to acute articular rheumatism. Another result of these researches is to establish an identity between the affection known in surgery under the names of *dry arthritis, arthritis deformans, morbus coxæ senilis*, etc., and nodular rheumatism. In other words, we have not here two distinct diseases, but two forms of one and the same disease. One of these forms is *chronic primitive articular rheumatism, fixed or partial*, the other is *chronic primitive articular rheumatism, generalized or progressive*. The separation of gout and chronic articular rheumatism is maintained in all its rigorousness. In this study, Dr. Charcot describes the symptomatology in a strikingly original manner. Among the etiological circumstances, he insists especially on the prolonged action of cold and moisture combined, a condition often realized by habitual sojourn in badly lighted, damp, habitations.

2. *Of the non-existence of an excess of uric acid in the blood in subjects affected with nodular rheumatism.*

In this treatise, Charcot shows, as the result of his researches, that the presence of uric acid cannot be detected in the serum of the blood in chronic articular rheumatism, while in acute and chronic gout the existence of crystals of uric acid has always been clearly recognized. This fact separates gout from all forms of rheumatism, whether acute or chronic.

3. *Alterations of the cartilages in gout.* (1857).

The author of this treatise, having had the occasion to examine fragments of cartilage from a gouty patient, found them infiltrated with urate of soda under both the amorphous and crystalline form.

4. *Contributions to the study of the anatomical alterations of gout, and especially of the kidneys and joints in gouty patients.* (In collaboration with M. Cornil).

In this memoir Charcot considers the alterations of the kidney observed in the gouty, and gives some new researches on the alterations of the joints. Gouty nephritis is by no means rare; it is attended with deposits of urates in various parts of the kidney, and frequently with the symptoms of renal colic. The lesions may be those of parenchymatous or interstitial nephritis, and the general symptomatology is that of chronic Bright's disease.

5. *On the structure and mode of development of the giant cells in tubercle.* (1878).

In this paper the author endeavors to show: (1) that the giant cell is constituted in principle by a mass of cellular elements heaped together (endothelial mass).

(2) That the elements constituting this little mass undergo a particular modification which may be called *vitreous transformation*, having for effect to bring about the agglutination and fusion of the different cells which are affected, while the nuclei enter into active proliferation.

(3) That this vitreous transformation, ending in caseifi-

cation, proceeds from the centre to the periphery of the cellular mass, which explains the different aspects which the giant cell presents in sections.

6. *On painful paraplegia supervening in certain cases of cancer.*

In this communication, Charcot shows that the frequent coincidence of cancer of the breast with an aggregate of symptoms which he proposes to designate as *painful paraplegia*, is due to secondary deposits of cancerous matter in the bodies of the vertebræ, especially in the lumbar region.

7. *On acute miliary carcinoma.*

An interesting treatise embodying some observations exemplifying the close similarity which exists between acute miliary carcinoma and acute miliary tuberculosis.

8. *Typhoid Pyrexias.—Eruptive Fevers.—Cholera.*

Under the above head we have several valuable articles on fevers, and on cholera.

9. *Laryngeal affections in typhoid fever.*

(In collaboration with M. Dechambre.)

10. *Anatomical and nosological characters of yellow fever and grave icterus.*

11. *On the epidemic which prevailed in St. Petersburg in 1865.*

12. *Note on the temperature of the rectum in Asiatic Cholera.*

13. *Alterations of the Blood.—Leucocythæmia.—Melanæmia.*

The above papers, whose names only are mentioned, were founded on original observations and have materially advanced science in reference to the subjects to which they pertain.

Charcot's contributions to diseases of the vascular system have been considerable. The following are especially worthy of mention:

14. *On sudden death from obstruction of the pulmonary artery by blood clots in cases of phlegmasia alba dolens and phlebitis obliterans.* 1858.

This work, which contains the first observation of death by pulmonary embolism published in France, contains a very extensive analysis of the German works on the subject. The author describes fully the symptoms which characterize accidents of this kind, gives precise indications as to diagnosis and prognosis, and a careful study of clots in the mechanism which presides over the displacement of clots in the venous system.

15. *Case of acute rheumatism with comatose symptoms, then hemiplegia; softening of the cerebrum; multiple fibrinous deposits in several of the viscera, and in particular in the spleen.—Dysenteric Lesions of the colon.—Endocarditis with fibrinous vegetations.*

The above memoir contains much that was new at the time of its appearance in 1852. The labors of Virchow and Kirkes in the same direction were not then known in France.

16. *Gangrene of the foot and of the leg; multiple fibrinous deposits in the kidneys, spleen, liver, etc.* 1856.

This observation pertaining to a subject affected with calcareous incrustations of the sigmoid valves is a striking example of those arterial and capillary embolisms which have since that epoch been made the subject of so much study. In this memoir Charcot sets forth and criticizes Virchow's theory of embolisms, then scarcely known in France.

17. *Notes on a case of multiple fibrinous tumors containing a puriform matter, situated in the right ventricle of the heart, etc.* 1852.

18. *Remarks on some fibrinous cysts containing a puriform matter, observed in two cases of partial aneurism of the heart.* 1854.

19. *On acute ulcerative endocarditis of typhoid form, based on a case of ulcerous affection of the tricuspid valve with typhoid state, and the formation of multiple abscesses in both lungs.* (In common with M. Vulpian. 1861–1862).

The three memoirs given above contain the first observations of the kind published in France, and have been the point

of departure of quite an extensive medical literature. The paper on ulcerous endocarditis of itself marks an era in modern medicine.

20. *On arterial thrombosis supervening in certain cases of cancer.* 1865.

In this paper Charcot shows that in subjects affected with cancerous disease of long standing, arterial thrrombosis, without previous alteration of the wall of the vessel, may take place as well as venous thrombosis, although the latter is far the most frequent.

The five following papers pertain to diseases of the respiratory organs:

21. *Pathological anatomy of acute broncho-pneumonia.* 1857.

22. *On chronic pneumonia.* 1860.

23. *New anatomo-pathological and clinical researches on the chronic pneumonias* (*Cirrhoses of the lung.*) 1878.

24. *Studies in experimental pathology relative to pneumonokoniosis.* 1877.

25. *Anatomo pathological researches on phthisis; tuberculosis of the lungs.* 1877.

The treatise on broncho-pneumonia contains a more precise description than medical science had heretofore possessed of the microscopic lesions of the pulmonary parenchyma in acute broncho-pneumonia considered at its highest degrees of development: 1, the splenized portions, occupying the greater part of the extent of the pulmonary lobule; 2, nodules of peribronchial hepatization, disseminated, like the islands of an archipelago, among the parts affected with splenization. The histological examination shows that in these latter parts the alveolar cavities are filled with swollen, globular epithelial cells and a few leucocytes. The constitution of the peri-bronchial nodules is as follows: around a lobular or acinous bronchiole, blocked (as is generally the case) by a muco-purulent concretion, the pulmonary alveoli, in two or three concentric rows,

have their cavity distended, either by an accumulation of leucocytes, or, (as oftener happens), by leucocytes embedded *in a fibrinous exudation*, which besides contains a few epithelial cells. The existence of this fibrino-purulent exudation in the peri-bronchial nodules shows that the presence of fibrine and leucocytes in the pulmonary alveoli can no longer be considered as a peculiar characteristic of the hepatization of lobar pneumonia.

There is much that is new in the treatises on chronic pneumonia, and especially under the head of pathological anatomy, in which study Charcot has introduced system and definiteness where there was before vagueness and confusion.

In the study of *pneumonokoniosis*, Charcot records a series of interesting experiments on guinea pigs which were made to inhale in bags two hours every day certain kinds of mineral or coal dust. It was found, on killing the animals, that these powders had penetrated the air cells, and were followed by certain lesions, such as swelling of the pulmonary endothelium, and proliferation of these cells, and consecutive sub-acute inflammation of the alveolar wall itself and thickening of this wall, leading to concentric contraction of the alveolar cavity.

Charcot shows that the facts of experimentation—symptoms and lesions—exactly correspond with the facts of pneumonokoniosis, anthracosic, silicic, siderotic, observed in man as a result of an occupation exposing him to the action of solid particles diffused in the air.

A resumé of Charcot's lessons on tubercle (conferences delivered before the Faculty, 1877 and 1878) would be of great interest, but such abstract would take up all the space allotted to this preface.

26. Dr. Charcot's contributions to medicine under the head of Diseases of the Liver, Biliary Passages and Kidneys, have been summarized in a work entitled "Lessons on Diseases of the Liver, etc.," and published in 1877, second edition

(enlarged), 1882. The "Lectures on Diseases of the Kidneys" was translated into English by Dr. H. B. Millard, New York, in 1878.

When the history of medicine shall be properly written (a task which will require more than one Aristotle) the additions which each individual shall have made to the existing fund of knowledge will be properly recorded. Such a work does not yet exist, and it is necessary to search through countless memoirs, which are often buried in the "Archives" and "Comptes Rendus" of learned Societies, to find what one is looking for, in order to render to the indefatigable worker the credit that to him is due.

Several of Charcot's memoirs on the pathology of the liver have been invaluable additions to our knowledge of the subjects of which they treat. He first experimentally determined, in guinea pigs, hypertrophic cirrhosis of the liver of biliary origin, and showed its identity with the disease which develops in man as the result of obstruction of the common bile duct.

The different phases of the morbid process may, according to Charcot, be thus summed up: angiocholitis, periangiocholitis, cirrhosis. The disease in man, as is now well known, is often produced by the arrest of a gall stone in the ductus choledochus, or by compression of the latter by a tumor (cancer of the head of the pancreas, for instance). In these cases, the connective tissue frame-work of the hepatic gland undergoes hyperplasia, and the whole organ enlarges.

Charcot's researches on the common or atrophic form of cirrhosis of the liver (gin drinker's liver), have hardly been less fruitful. He has, more than any of his predecessors, insisted on *periphlebitis* as the cause of this affection, and shown the extension of the inflammation from the veins to the connective tissue, which forms bands or rings around the lobules (annular cirrhosis), compressing them and causing that granular (atrophic) condition first described by Laënnec. His observa-

tions clearly differentiate this form from the other types of interstitial hepatitis. Charcot's researches on *grave icterus*, on *interstitial nephritis* (which he was the first experimentally to produce in animals by ligature of one of the ureters, an experiment which brought out this striking fact that the alteration of the epitheliums precedes the connective-tissue-proliferation), and on *the various forms of Bright's disease*, have been equally original, and are monuments of pains-taking industry.

Charcot has made many contributions to the literature of skin diseases; the following are here mentioned only by title:

27. *On erythema, produced by the action of electric light*, 1859.

28. *Bronzed coloration of the skin with fatty alteration of the supra-renal capsules* (*Addison's disease*). (In collaboration with Vulpian) 1858.

29. *Note on several cases of skin disease dependent on the influence of the nervous system over nutrition*, 1859.

30. *On a case of zona of the neck with alteration of the nerves of the cervical plexus and corresponding ganglia of the posterior spinal roots*, 1866.

31. *On scleroderma*, 1872.

32. *On rapid or sudden blanching of the hair*, 1861.

33. *Clinical lectures on the diseases of old age*. Paris, 1878. American translation by L. H. Hunt, 1881.

In the preparation of this, in many respects the most important work heretofore published on the subject, Charcot was aided by the researches and studies which he has previously made on gout and rheumatism. Seven chapters are taken up with a consideration of gout in its various forms in the aged, and nine with rheumatism, the chronic articular forms being especially dwelt upon. There are several original chapters on "The Febrile State in the Aged," and on the "Clinical Importance of Thermometry in Old Age." Dr. Charcot has also made some observations "on the Pneumonia of Old Age," which are recorded in the inaugural thesis of Dr. Bergeron.

34. *Atheromatous alterations of the arteries, and endarteritis deformans.*

The above treatise comprises the second fasicule of the "Lessons on the Diseases of Old Age," second series. We here find an exposition of the epoch-making discovery of Charcot and Bouchard of the miliary aneurisms, consequence of endarteritis and cause of the cerebral hemorrhages which characterize especially the apoplexies of old age.

The following papers pertain to the pathology of old age:

35. *Observations relative to spontaneous gangrene in aged patients.*

36. *On Senile osteomalacia.*

37. *On the trembling called senile, senile chorea of some writers.*

38. *On common chorea in old people.*

In the enumeration of Charcot's works, there should follow here three memoirs on Basedow's Disease, whose obscure pathology Charcot has done much to clear up by his careful observations. His first treatise on the subject was read before the Biological Society in 1856. Exophthalmic Cachexia, heretofore almost unknown in France, is described in this paper on the basis of a remarkable case observed in Charity Hospital. The writer attributes the symptoms of this disease to a *vascular neurosis*, finding expression in palpitations of the heart and arteries, tumefaction of the thyroid gland, and double exophthalmia.

Charcot's contributions to the study of the diseases of the nervous system—memoirs and treatises more than a hundred in number—are altogether too numerous to obtain mention in the limited space allotted me by the publisher for this preface. Nervous pathology is the most difficult part of human pathology, requiring the nicest pains in dissection and preparation, the highest powers of discrimination. Every department of morbid innervation has been enriched by Charcot's discoveries. I shall only allude to his principal contributions:

42. *Clinical and anatomo-pathological researches on cerebral ramollissement and encephalitis.*

This work, made with the assistance of Vulpian, first brings out the fundamental distinction between cerebral ramollissement and encephalitis, the former being due to ischæmia rather than to congestion. The precursory symptoms are different; dizziness and mental enfeeblement characterize ramollissement, delirium, convulsions, contractures, belong more particularly to encephalitis. The tardy contracture so frequent in the paralyzed limbs of patients suffering from old ramollissement is to be referred to consecutive lesion of the spinal cord (secondary descending sclerosis.) According to Charcot, conservation of consciousness with sudden invasion of paralysis belongs rather to ramollissement; variable hemiplegia belongs to it exclusively, and aphasia almost exclusively.

43. *New Researches on the Pathogeny of Cerebral Hemorrhage.*—In collaboration with M. Bouchard. English translation by T. S. Maclagan, 1872.

In this work, founded on a multitude of observations, cerebral hemorrhage, particularly in the aged, is referred to rupture of aneurisms of the small arteries of the cerebral substance. These aneurisms are a millimetre or more in size, and have never been wanting in any case of cerebral hemorrhage observed by Professor Charcot.

44. *On secondary degenerations of the spinal cord*, 1859. (In common with M. Vulpian.) Cruveilhier and Turck had already called attention to these degenerations as consecutive to lesions of the hemispheres, and Charcot and Vulpian in this memoir add a number of facts confirmatory of the observations of the German pathologists. The subject is presented by them in a new and clearer light, with considerable additions to our knowledge; they also record similar degenerations following lesions *en foyer* of the spinal cord.

45. (*a*) *Localization in Diseases of the Cerebrum.* (*b*) *Study of motor localizations in the cortex.*

The above titles comprehend two works published by Charcot, in 1876. The first has been translated into English by Dr. Millard.

Charcot, in the main, accepts the new views of cerebral localization set forth by Ferrier, Hitzig, Franck and Pitres, Nothnagel, etc. His views, based on a vast number of observations made in the Salpêtrière, are treated at length in the above works; they have recently been popularized by him in an article in the Forum for August, 1888, entitled: "The Topography of the Brain."

This publication embodies a course of lectures delivered before the Faculty in 1875.

46. *Localizations in the cerebral ganglionic masses of the hemispheres of the cerebrum—lesions of the internal capsule in particular.*

The symptoms which accompany lesions limited to the central gray nuclei (lenticular nucleus, caudate nucleus, optic thalamus) are those of common cerebral hemiplegia, which is generally little pronounced, temporary, and consequently benign.

On the other hand, lesions of the internal capsule produce a very pronounced and relatively persistent hemiplegia. Tardy and permanent contracture of the paralyzed limbs is the habitual consequence. If the lesion occupies the anterior two-thirds of the capsule, the paralysis will pertain exclusively to movement, if, on the contrary, it affects the posterior third of the capsule cerebral hemianæsthesia necessarily follows.

47. *Clinical characters of cerebral hemianæsthesia by organic lesson.*

48. *The focal lesions of the cerebral hemispheres which produce hemianæsthesia determine crossed amblyopia, and not lateral hemiopia.*

The two above memoirs, which are among the most original productions of our author, are further contributions to the study of cerebral localizations.

49. *Secondary degenerations of the spinal cord in cortical lesions of the hemispheres.*

In this memoir Charcot shows that lesions of the so-called motor zone, even without participation of the internal capsule, determine secondary spinal degenerations. It is another powerful argument in support of the modern doctrine of motor localizations in the cortex.

I shall be obliged to pass over Charcot's valuable contributions to the "study of localizations in diseases of the spinal cord." A work with the above title comprises the lectures delivered before the faculty in 1880, and has been translated into English and German, and there is an American translation by Prof. Comegys, of Cincinnati.

It is well known that the histological labors of the past fifty years, besides differentiating the spinal cord into its nervous and connective-tissue-elements, have brought to light the fact that it is composed of numerous centres and "systems" having special functions; to elucidate the properties of these several parts, physicians and physiologists have wrought earnestly, and what was once a *terra incognita* is now becoming tolerably well understood. Few, if any, have contributed more to our knowledge of the spinal cord in its physiology and in its pathology than Prof. Charcot. His discoveries in the department of the *scleroses* alone—locomotor ataxia, multilocular sclerosis, fasciculated sclerosis of the lateral columns, also in the department of infantile paralysis, amyotrophic paralysis of the adult, labio-glosso-laryngeal paralysis, would have given him a lasting name, besides rendering him a benefactor of mankind.

Dr. Charcot's contributions to nervous diseases are for the most part embodied in the following works:

"Leçons sur les Maladies du Système Nerveux. Vol. I. 1877.

"Leçons sur les Maladies du Systeme Nerveux." Vol. II. 1877.

These two volumes have been translated and published by the Sydenham Society.

"Leçons sur les Maladies du Système Nerveux." Vol. III. 1887.

These volumes comprise each about 500 pages, and are profusely illustrated.

I have but one observation to make relative to style: Charcot seems to me to add to the merit of original investigation and independent, fruitful thought, the possession of a clear and picturesque style. His ideas come clothed in just the right words, and this is eloquence in a scientific sense. He is one of the most *translatable* of writers, for seldom can any other form of words so well express his meaning as those which he has chosen; his mind is, in fact essentially cosmopolitan.

In the above enumeration of writings, I have simply culled from more than two hundred treatises, all emanating from the same fertile hand and brain. Possibly many of those which I have omitted are more important than those which I have mentioned.

The discoverer of scientific truth is to be envied. I can imagine no task more worthy of the human mind than the search for and the unfolding of new facts in nature. I believe that when the discovery pertains to the laws and processes of the human economy, physiological and pathological, the subject becomes one of transcendent importance, for here is something that immediately concerns our welfare, and that of all our fellow-men. Therefore I would rather have been the author of those three works of Charcot last enumerated, than have written Paradise Lost, the Inferno, or Don Quixote, and this because above the *literary* I value the *scientific*, and above the æsthetic, the practical and useful. The literary man may evolve "out of his inner consciousness" a work of genius which shall captivate the masses, and yet shall afford nothing but pleasure and entertainment; the scientific

man, on the contrary, who would find out the nature of *hypertrophic cirrhosis of the liver* must make many careful autopsies and dissections, under circumstances that would be repulsive to most persons, and must spend wearisome hours over the microscope, he must, moreover, perform numerous vivisection experiments on animals in order to determine the conditions of the disease, and must patiently watch the results, and this involves a long and toilsome work. Nor can he hope as his reward that "the masses" will be interested in his work, but his recompense must ever be the satisfaction which he feels in his chosen pursuit, the consciousness of being useful, and the appreciation of the few whose approbation he prizes. A Zola or a Dumas may publish works which shall run through ninety-five editions. But Zola and Dumas will soon be forgotten, while Charcot will ever rank among the immortals of this earth.

Charcot's life, if it has not been a very eventful, has been a very busy one, and he is still in the flower of his manhood, just as able to do effectual work as ever. It is hoped that the cares of an ever increasing practice will still leave him time for original investigation.

The present volume was culled from Vol. III of the "Lessons on Diseases of the Nervous System," which has not heretofore been translated into English. Charcot's studies of late have been rather in the department of the so-called *functional* diseases of the nervous system than of the *organic*.

I have to thank Professor Charcot and his obliging pupil, Dr. Marie, of the Salpêtrière, for assistance in the preparation of this volume.

E. P. Hurd, M. D.

Newburyport, Sept 20th, 1888.

LECTURE I.

SPIRITISM AND HYSTERIA.

SUMMARY.—Influence of intellectual excitations on the development of hysteria; belief in the supernatural, of the marvellous; practice of spiritism.

Account of an epidemic of hysteria in a family of three children inhabiting a military penitentiary, and addicted to spiritism.

Antecedent nervous and rheumatic attacks—Descrip- of the attacks—Hallucinations of fright; permanent and variable stigmata—Conclusions.

GENTLEMEN:—It is incontestable that everything which vividly affects the mind, everything which powerfully stimulates the imagination, favors the development of hysteria in persons predisposed thereto. Of all causes productive of these traumatisms of the cerebral functions, there is perhaps none more efficacious, and whose influence has been oftener acknowledged, than inordinate belief in the marvelous, in the supernatural, a belief which is fostered and exaggerated by excessive religious observances, or—to descend to a kindred order of ideas—by spiritualism and its practices. It is sufficient to recall to mind certain facts which are matters of history, such as that of the "Possessed Maiden of Louvres" in the sixteenth century, whose imagination had been kept in constant tension, before her "possession," by the lost spirit which reappeared every night in the house where she

lived;* and there is a recent interesting instance of an epidemic of hysteria affecting six children of one family in Brétagne whose minds had been fed with fantastic stories in which witches and ghosts played the principal part.

It has been my lot to observe one of these little family epidemics, the principal actors in which I am going to present to you to-day. The epidemic merits a particular description, as much with reference to its mode of development as for the light which it sheds on the study of hysteria in children, and particularly in young boys. It is in a military penitentiary that the facts occurred which I am going to relate.

Life in a penitentiary must be dreary enough at the best; moreover, by reason of the discipline which must necessarily prevail in such institutions, even the apartments of the military keepers cannot but partake of the gloom and severity of the place. The lodgings occupied by Monsieur X., adjunct lieutenant, are situated on the third floor; access thereto is obtained by a dark stairway; the apartment itself is insufficiently lighted, for all the windows, which look upon the prison yard—which, it is true, is a spacious one—are situated high up, near the ceiling, and admit but little light. Monsieur X., who has lived in the penitentiary three years and a half, is forty-three years of age; he

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* Procès verbal fait pour delivrer une fille possédée par le malin esprit à Louviers, 1591. Bibliotheque diabolique, 1883.

seems to be quite intelligent, although his military career has been one of slow and moderate advancement; I shall say more about his mental state presently. His general health is good, and there are few pathological antecedents on his side. At the age of thirteen, he suffered from an affection which was febrile at its commencement, but was followed by a delirious state which lasted six months.

Madam X., aged thirty-six years, and married since 1879, is a very nervous woman; she is quick-tempered, emotional, and fretful; has, however, never had convulsive attacks of any sort. It is not so, however, with her mother, who died in March, 1884, at the age of seventy-two years, of a cerebro-spinal affection, and who every year had two or three returns of well-marked hysterical fits. We may note, finally, that her father was a constant sufferer from rheumatism.

Monsieur and Madam X. have had four children; three are still living; the fourth died, probably of athrepsia, at the age of two and one-half years.

You see before you the oldest of the three living children—Julie, aged thirteen and one-half years; she was born before full term—at seven and one-half months—and she remained a long time weak and puny, having been brought up on a bottle. For the last three years she has been boarding at a convent in the neighborhood of the penitentiary. From her infancy she has been very nervous. At the convent, as

at home, she has been unruly and difficult of management, laughing and crying for the most trifling cause. In 1883, she menstruated for the first time; these first monthly periods were accompanied by violent cramps; menstruation then ceased, and has not since returned. Every year she comes home to spend her vacations with her parents at the penitentiary. It is proper to state that, prior to the events I am about to relate, she had never witnessed any convulsive crises.

I also bring before you the younger of the boys, Francois, aged eleven years, who is pale and anæmic like his sister. At the age of four months, he had convulsions, and from the time that he was two years old he suffered from pains in the joints of the lower extremities, knees and feet. These pains, which have lately returned on various occasions, are sufficiently severe to keep him in bed. He takes his meals at a boarding-house near the penitentiary, and comes home at night to sleep.

Jacques, the elder of the boys, aged 12 years, also anæmic, shares his brother's mode of life. For several years he has had convulsive tics, affecting chiefly the mouth, as you can yourselves see. During the month of August last, the entire family were home passing the holidays together—the father and mother busy with their usual occupations, the children playing together in the yard of the penitentiary, almost always alone, for belonging to the families of the other officers there was only one child, four years of age. Life in a

house of correction must, as I have before said, be very tiresome: apart from the regular routine, there is little in the way of diversion; hence, in order to break this monotony, the wives of the prison officers had been in the habit now for more than a year of devoting themselves with passionate interest to spiritualistic practices, holding séances which were conducted every other day by a female friend of one of them. This diversion was very much to their taste; in fact, they all became pronounced spiritualists, and none more so than Monsieur and Madam X. The latter, moreover, applied herself eagerly to the reading of books treating of "occult sciences," books which she did not hesitate to allow her daughter to read. As for Monsieur X.—who had at first been quite indifferent to spiritualism—since the month of March, 1883, he never missed taking part in table-tipping on Fridays, it having been revealed to him by raps one day that on some Friday he would become a medium and have the power to call up the spirit of his mother. So it happened that Julie was present at a spiritualistic séance during the Easter holidays; this did not, however, much affect her. Coming home during the August vacation, she had already participated in several "circles," in which, however, she had had no part except to lay her hands on the table; but on Friday, the 29th, her father made another attempt to find if his turn for being medium had not come. He interrogated the table, and the latter, instead of designating

him, as he hoped it would, replied by raps: "Julie shall be medium." The whole of Friday was devoted to a séance which was almost uninterrupted. The next day, at nine o'clock in the morning, the family and two or three neighbors again formed a circle. They called up the spirits of various persons, and, about three o'clock in the afternoon, the table rapped an order for Julie to write. She thereupon seized a pencil, but the same moment her arms became stiff and her eyes fixed. The father, in his fright, threw a glass of water in her face. She came to herself, but her mother, having a presentiment of the danger, forbade her to have anything more to do with table-tipping. She did not, however, realize the influence of her neighbor whose friend was a medium, and attended the séance in her company. This neighbor, desirous of communicating with the spirit of her sister, took Julie home with her, and the séance recommenced. About seven o'clock the table tipped, the spirit was declared present, and Julie said to it: "Please sign your name." Immediately, she herself, in her quality of medium and "under the inspiration of the spirit," seized a pencil with trembling hand and wrote "Paul Denis" with a flourish. The handwriting was that of a man; the P and D, moreover, were written in such odd characters that the young girl has never since then been able to trace letters like them. The signature was no sooner terminated than the hand that had written them was convulsed. Then

Julie, with a shrill laugh, rose immediately, and, like one mad, in wild delirium ran back and forth through the house, uttering inarticulate cries, then rolled over and over on the floor, presenting a series of hysterical paroxysms characterized chiefly by contortions (clownism). The next day and the following days, the fits reappeared very often—twenty to thirty a day. So affairs went on till the fifteenth of November, Julie continuing to have convulsive crises and being little benefited by the application of divers means, and, in particular, of hydrotherapy.

Several days previously, François, the younger of the boys, who, like his brother, always took a great interest in spiritualistic performances, was attacked with pains in the joints, which, at that time, kept him in bed. All at once, on the 15th of October, he rose in bed, and exclaimed that he saw lions and wolves; then he leaped out of bed pounded the doors, declared that he saw his father a corpse, that he saw robbers, whom he attacked with a short sword; then he lay down and rolled on the floor, crept on his belly, and assumed certain well characterized passional attitudes. Two days later, Jacques had an aggravation of his facial tics; then seeing his mother weeping, he exclaimed: "I will kill myself if you weep!" Then attacks of temporary delirium came on, during which he muttered incoherent phrases and saw robbers and assassins, whom he tried to strike.

It was on the 9th of December that the father

and mother, in their affliction—all treatment having been without avail—brought their children to the Salpêtrière. Separation and isolation were becoming more and more necessary, for when one of the children had a fit, the others speedily followed the example.

Julie, whose pathological antecedents you now know, and whose age is thirteen and a half years, is tall and stout for her age, quite well developed, although, as I told you, her courses, which came on once or twice in 1883, have not yet been permanently established. Despite of what her mother has informed us, she seems to be of a mild and quiet disposition. On the first day of her entrance, as well as on the subsequent days, she had several fits which were in general characterized as follows: All at once, sometimes after a brief and variable *aura*, she fell backward, the arms were separated from the trunk, the hands being in pronation, the fingers clinched. Then quite frequently supervened one or more attacks characterized by a unilateral arching of the body; and lastly the clonic phase presented itself, in which the body was jerked back and forth, the head at times was almost brought in contact with the pelvis, or the arms were projected violently into the air, the head still resting on the pillow. During the attack, Julie uttered moans, had fits of laughter, but did not speak. The fit, which was composed of a series of seizures similar to what I have described, lasted quite a long time—three-quarters of an hour, an hour,

or an hour and a half. It was easy to stop or provoke a fit at will by pressing one of the hysterogenous points which the patient presented. Julie, in fact, possesses certain permanent hysterical stigmata; although she has neither cutaneous anæsthesia nor ovaria [ovarialgia], she has numerous hysterical zones, situated opposite each other, on the two breasts, on both flanks (externally), on both calves, and the two external malleoli, and on the internal aspect of the right elbow joint. The examination of the eyes, made by M. Parinaud gives results which are characteristic. There exists, in fact, on the right, a very marked contraction of the visual field; moreover, not only is the circle of red situated outside of the circle of blue, but it even plainly extends outside of that of the white light. The same phenomena exist on the left side, though less pronounced. The other special senses are intact.

François, the youngest of the boys, aged eleven years, has also certain permanent stigmata apart from the seizures which I have just described. Thus, on the morning of his admission, we noted an area of anæsthesia embracing the whole face; this patch was, however, variable, for the following days the insensibility was limited to the median region of the forehead and nose. The rest of the external integument is notably hyperæsthetic. All the special senses are affected; the taste is totally abolished, the insensibility of the tongue is complete, the pharyngeal reflex no

longer exists, the pituitary membrane and the smell are in similar condition, the external auditory meatus is insensible, and hearing is very obtuse. The examination of the visual field is also very demonstrative; the contraction is quite marked on the left, and not only is the circle of the red outside of the blue, but it also extends beyond the circle of white light. On the right, the contraction is less marked, and there is no transposition of colors. François has from one to five fits every day; some of them last two hours. He presents clearly the phenomena of minor and major hysteria (*petit* and *grand mal hysterique*). The first, or minor hysteria, is characterized by a contracture of the orbiculares of both eyes, which may last from three to five minutes without loss of consciousness; or another symptom referable to the *petit mal* may present itself; the boy smites with his fists or stamps with his foot, and pronounces certain incoherent words, and all is over. But generally the preceding phenomena are followed by a series of characteristic paroxysms constituting a fit. The upper and lower limbs become rigid, the eyes are closed, the body is stiffly bent into a bow. Then the boy throws himself upon the floor, creeps on his belly, smites the floor, crying out at the assassin of his hallucination; he struggles and kicks and endeavors to defend himself against his imaginary foes. The tonic phase is now repeated, and the fit is thus constituted by a series of accessions, one set of phenomena running into another or predominating over the others.

It is a remarkable circumstance that, when you compress the left hand, the fingers of which are extended, you arrest the paroxysm instantly. You cannot, however, provoke an attack in this way. The skin over this region does not present any disorder of the sensibility.

Jacques, aged twelve years, pale and anæmic like his brother and sister, is the least sick of the three, though he has one, two, and sometimes three or four attacks every day. While there are not, in his case, any permanent stigmata, there is a marked preponderance of the *petit mal* over the *grand mal.* We know that, before these fits came on, he had convulsive tics of the face; these are now exaggerated, especially at the beginning of the seizure. He makes wry faces, the labial commissures are drawn outwardly; he mumbles, closes his eyes, utters certain incoherent words, and all may be over. But sometimes, as a sequel of these phenomena, or even at the outset, the eyes close, the body stiffens, is arched like a bow, then the child starts and runs or walks to and fro, speaks in a loud tone of voice, cries out at some imaginary thief, and finally throws himself on his bed, when the fit ends, or another one begins, lasting rarely longer than a quarter of an hour.

These facts have seemed to me to merit a particular attention. These are not, in truth, fugacious symptoms of hysteria which these children present. Julie has been sick for four months, and, if the isolation seems

to have somewhat calmed her crises, as well as those of her brothers, it is no less true that the fits threaten to continue yet a long time, for you cannot bring together those children without all three of them immediately having a convulsion. The whole history of this little family epidemic is, moreover, very instructive. It makes you a witness of the genesis and evolution of the disease in a family of nervous and arthritic persons under the domination of two diatheses whose alliance is a most fruitful source of neuropathy. It gives you an idea of the influence exercised by the kind of life one leads and the conditions of habitation. Lastly, it indicates clearly the danger there is, especially to persons nervously predisposed, in superstitious practices, which unfortunately have for them so great an attraction, and in that constant tension of mind and imagination to which those are brought who apply themselves to spiritistic performances and the search of the marvelous, an occupation in which children take so much delight.

LECTURE II.

ON ISOLATION IN THE TREATMENT OF HYSTERIA.

SUMMARY.—Retrospective details respecting a little epidemic of hysteria. The treatment ought to comprehend three points; *A*. Psychical or moral treatment, including: 1. Separation from the place where the hysteria developed; 2. Separation from each other of the persons affected; 3. Suppression of all visits on the part of parents or friends. *B*. Medical treatment: 1. To modify the diathesis, if any exist (rheumatism, for instance); 2. Static electrization; 3. Methodical hydrotherapy.

Preponderant influence of isolation. Example—The treatment has been adopted (not first proposed) in Germany and in England.

GENTLEMEN:—Before returning to the principal subject of our present studies, I thought it would be of use to tell you something about those three children belonging to one family, whom I brought before you on the 19th of last December. I have no intention of repeating the history of this little epidemic of hysteria, developed under the influence of the practice of spiritualism; all the details I have given you in my previous lecture. I shall call to your mind only certain particulars needful to refresh your memory as to the condition of these children at the time they were presented to the clinic, in order that you may be enabled to-day the better to judge of the modifications

which have been effected in them under the influence of the measures we have adopted and of the treatment which we have instituted.

The family, I may remind you, consists of three children—two boys and a girl. It is with the latter, aged 13½ years, that the affection began, August 28, 1884, as a sequel of a séance of spiritualism which was prolonged from 9 o'clock in the morning till 7 p. m., and in which Julie played the rôle of medium. At the end of the séance, she was taken with convulsive paroxysms, which were repeated from fifteen to twenty times a day, till the admission of the whole family to the Salpêtrière, December 9, 1884. You remember that the two brothers had followed the deplorable example set by their sister, and November 15 the younger of the two, François, aged 11 years, about six weeks after the famous séance of spiritualism (which, by the way, had made no impression on him), was taken with a fit of hysterical delirium while still confined to his bed by an attack of rheumatism. Two days later, November 17, Jacques, the older of the boys, in his turn, had fits and delirium with hallucinations.

From this time forth the three children could never come together in the house without having fits. The girl would begin, her brothers would follow her example, and this would happen several times a day; this unfortunate state of things, of course, could not be allowed to continue. Then it was that the parents

besought us to interfere, and that we proposed to take their children into our service, to which they consented,

I. The proposition which I made to the parents, itself, contained a series of therapeutic considerations which I must now set forth. Admission to the hospital enabled me to effect:

The removal of the patients from the place where their disease first declared itself;

The absence of the father and mother, who had themselves become very nervous, and whose presence would, necessarily, according to my long and invariable experience on this point, prevent any effective treatment;

The respective separation of the three children.

The girl, in fact, was placed in one of the female wards of our clinical department. The two boys were put in the only male ward which we possessed at that time. The respective isolation of the three patients was not, then, altogether complete; we had, however, done the best we could to keep them apart. Such, in my mind, should be the fundamental conditions of treatment: the parents consented no longer to see the children but with my permission, and I deemed myself warranted in assuring them that, in all probability, in a few months we should be able to send home their children completely restored to health.

Such was the moral or psychical side of the treatment proposed; we reckoned, of course, on carrying

out at the same time the medical treatment, properly so-called. The children confided to our care were, all three,pale and anæmic, and needed reconstituents, among which bitters and ferruginous tonics hold the first place. There was an indication, also, to endeavor to modify the rheumatic diathesis, which was so well marked, at least in one of them.

As for those agents which are addressed particularly to the hysterical state, we counted much on putting in practice the treatment by static electrization which renders us every day, in these cases, so great service, and this especially in default of a methodical hydrotherapic treatment, our hydrotherapic establishment of the Salpêtrière not being yet in good working order. We did not form any expectation on the employment of the bromides, experience having long taught us that this class of medicaments, which almost always acts well (at least to a certain extent) in epilepsy, remains completely inefficacious, not only in ordinary hysteria, but also in that form of hysteria which seems most to resemble epilepsy, namely, hysteria with epileptic form, or hystero-epilepsy. I say nothing of opium in large doses, or of any other antispasmodics, the employment of which I do not condemn altogether, but which seem to me totally to have failed in such cases.

II. But I must confess, gentlemen, that if I had a mind to put in practice all the therapeutic agents, so-called, I should rely most on isolation, that is to

say, on moral treatment, although, in the particular instance of these children, it was necessarily incomplete. It fact, it was possible for all three of the children to meet in the hospital even—a thing which has often happened; moreover, the two brothers occupied the same ward, and, like their sister, could have before their eyes, and on different occasions, in the common sleeping-rooms, various manifestations of convulsive hysteria. But we could not help this, and, in my judgment, it was better for them to live in these conditions than to remain under the paternal roof, in perpetual contact with the father and mother, and in close relations with them all the time.

I cannot too much insist upon the capital importance which I attach to isolation in the treatment of hysteria, where, indisputably, the psychical element in the majority of cases plays a considerable, if not a predominant, part. It is now nearly fifteen years that I have firmly held to the necessity of isolation in this disease, and all that I have seen during this time only tends to confirm me more and more in my opinion. Yes, it is necessary to separate growing and adult children from their father and mother whose influence, as experience shows, is especially pernicious. Experience, I repeat, proves this absolutely, although it may not always be easy to assign a reason for this, especially to mothers, who are apt to give a deaf ear to such considerations, and generally yield only at the last extremity.

In city practice, isolation, such as I have urged, is, in fact, of every day occurrence in cases of this kind, and the conditions for such isolation in a city like ours are ample and excellent. In Paris, for the last fifteen years, hydrotherapic health-institutes (*maisons de santé*) treat such patients with complete success, possessing admirable arrangements for this end. In the provinces, isolation is more difficult to effect, for establishments suitably furnished and managed are generally wanting: it is quite possible to organize private health-resorts on a small scale, but you readily understand that they would necessarily be poorly equipped for doing thorough and systematic work.

In the hydrotherapic *maisons de santé*, the patients are placed under the direction of competent and experienced nurses who are generally Sisters of Charity, who have become by long practice, very expert in the management of this kind of patients. A kind but firm control, much calmness and patience, are here indispensable conditions. The parents are systematically kept away till the day when, by reason of a notable improvement in the condition of their children, the latter are permitted, *as a recompense*, to see them; first, at long intervals, then oftener, as recovery becomes more pronounced. Time and hydrotherapy, to say nothing of the internal treatment, accomplishes the rest. For my part, I have the firm conviction that incipient hysteria, especially in young subjects and particularly in males, may often be nipped in the bud, if

it is possible to persuade the parents to take energetic measures from the very start, and not to wait till the disease takes root and developes in consequence of having been too long left to itself.

III. In order to make plain this remarkable influence of isolation in the treatment of hysteria in young subjects (in this category marriageable girls being included), I might cite numerous instances in which it has proved to be singularly efficacious. But, not being able to enter into long details, I will give you the particulars of one case which seems to me to be a typical one, and very appropriate to my purpose.

My narration concerns a young girl of Angoulême, thirteen or fourteen years of age, who, for five or six months, had grown very rapidly, and who, all at once, utterly refused all nourishment, although there was no trouble with deglutition, or any disorder on the part of the stomach. It was one of those cases that border on hysteria, but which do not always properly belong to it, but which have been described by Lasègue in France, and by Sir William Gull in England, under the name of *nervous anorexia*, or *hysterical anorexia*. The patients do not eat, they are not willing or able to take food, although there is no mechanical obstacle to the passage of the food or to its sojourn in the stomach when once ingested. Sometimes they eat on the sly, but not always, as has been supposed; and, although the parents themselves favor this deceit by placing articles of food in places where they may

easily find them and devour them unobserved, yet alimentation remains always insufficient. The family waits weeks, months, always hoping that the desire for food will return. The repugnance of these patients for eating cannot be overcome by entreaties, supplications, or violence. Then emaciation ensues, and may attain extravagant proportions; it is no exaggeration to say that these patients become living skeletons. And what a life ! Cerebral torpor succeeds the unnatural agitation of the first period; for a long time walking and standing have become impossible; the patients are confined to their beds, where they can scarcely move; the muscles of the neck are paralyzed, the head rolls as an inert mass on the pillow; the extremities are cold and cyanosed, and the wonder is expressed how life can continue in such a physical wreck.

The parents have long been alarmed, but this alarm has reached its climax when affairs have come to this point; nor are such fears without good foundation, for a fatal termination threatens, and I know at least four instances in which death ended the scene.

Such was almost the situation of the little patient of Angoulême, when I received a letter from her father, setting forth the lamentable condition of his child and entreating me to come and see her. Such a journey on my part, I replied, was unnecessary; I could, without seeing the patient, give the proper advice. "Bring the child to Paris," I said, "place her in one of our hydrotherapic establishments, leave her

there, or at least impress it upon her mind that you have quit the Capital, then let me know, and I will take charge of the rest. To this letter, no reply was made.

Six weeks later, one morning a practicing physician of Angoulême came to my office in an anxious state of mind, and told me that the little patient, whom he had been treating, was in Paris, in one of the establishments that I had designated; that she had been going on from bad to worse, and in all probability had but a few days to live. I asked why I had not been informed of the arrival of the young girl. He replied that the parents had refrained from notifying me because they had resolved not be separated from their child. To this I responded that the principal element, the condition *sine quâ non* of my directions, had been neglected, and I declined any further responsibility in this unhappy case. Nevertheless, yielding to his entreaties, I went to the hydrotherapic establishment in question, and there I saw a lamentable spectacle: that of a grown-up girl, fourteen years of age, who had reached the last stage of emaciation and marasmus, prostrate in bed, extremities cold and purplish, voice extinct, head drooping, and presenting, in all the leading features, the picture which I have just given you. There was really occasion for being anxious, very anxious.

I took the parents one side, and, after severely remonstrating with them, I told them that there re-

mained, in my opinion, only one chance of success, namely, that they should go away, or seem to go away, immediately, and leave their child to the care of strangers. They might say that they were obliged, for some cause, to depart immediately for Angoulême, and put upon me the responsibility for this procedure. At all events the child must be made to believe that they had taken their departure, and the sooner the better. Their consent was difficult to obtain, notwithstanding all my remonstrances. The father, in particular, could not understand why a physician should insist that a parent should separate himself from his child in time of danger; but I was firm in my conviction, and urged it upon them with all my powers of persuasion; the mother yielded first, and the father finally consented under protest, having little faith in the success of this experiment.

The isolation was effected; its results were rapid and marvelous. The child, remaining alone with the Sister of Charity who had care of her, and the resident physician, cried for an hour or two, but mourned much less on account of the separation than one would have expected. That very evening, in spite of her repugnance, she consented to take half of a little biscuit soaked in wine. The days following, she took a little milk, wine, broth, and a small quantity of meat. Alimentation was established, and went on progressively but slowly.

At the end of a fortnight, there was considerable

improvement in her condition. She was taking a fair amount of food; her strength returned with plumpness, and, at the end of a month, I saw the young girl sitting in an arm-chair and capable of holding her head erect. She could walk a little; then hydrotherapy was resorted to, and, after two months, dating from the outset of the treatment, she might have been considered as almost well; as far as strength, appetite, and flesh were concerned, there was little left to desire.

Then it was that the young patient, on being questioned by me, made this confession: "Till papa and mamma had left me, and till I saw that you were master (for I well knew that you wanted to make a prisoner of me), I could not be convinced that my case was serious, and, as I had a horror of eating, I refused to eat. *When I saw that you were master*, I was afraid, and spite of my repugnance, I endeavored to eat, and my appetite by degrees came back." I thanked her for confiding to me this statement, which is itself a lesson.

IV. I might easily multiply instances illustrative of the favorable influence of isolation, judiciously carried out, in the treatment of certain nervous diseases which do not, strictly speaking, belong to the category of mental alienation, and of hysteria, or even of neurasthenia in particular. What I have just said, in fact, respecting hysterical anorexia, I may also say respecting most forms of the hysterical neurosis. But

it suffices me, for the present, to have called your attention to the curative influence of isolation; it is a subject to which I shall have occasion many times to return, without doubt, in this course of lectures, being one on which I have spoken every year for fifteen years, and many of the lectures which I have devoted to it have been published. This method has, moreover, won general acceptance, for I see that in Germany, in particular, as well as in England and America, its efficacy has begun to be authoritatively proclaimed. Therefore I make bold to claim for ourselves and our institution the priority in this matter, for, if I mistake not, the method legitimately belongs to us, at least as far as the treatment of hysteria and allied affections is concerned. Isolation, in fact, is the capital element in the method of treating neurasthenia and certain forms of hysteria, advocated the last few years by Weir Mitchell in the United States, Playfair in England, and Burkhart in Germany.*

V. But I see that it is time to return to our

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* R. Burkhart.—Zur Behandlung schwerer Formen von Hysterie und Neurasthenie. (Volkmann's Sammlung, 8 Oct., 1884.)

[In a foot-note, Charcot shows that, while to the school of Salpêtrière belongs the credit, in these modern times, of most effectively systematizing isolation in the treatment of hysteria, yet such treatment is really of ancient date, the necessity of which was recognized by physicians hundreds of years

young patients. You will be interested in knowing how they have been faring the last six weeks, since we instituted the treatment in which, in my judgment, isolation has played the principal part. In a general way, amelioration has been observed simultaneously in all three, beginning with the boys, as I have before told you.

The youngest, François, may be considered as well. He has had no convulsive attack for a fortnight, and yesterday he went home to spend the holiday with his father; I understand that he has stood this test well and triumphantly. I have not quite as good news to tell you of Jacques, the older brother, who, moreover, was the last taken. The *grand crises* have completely left him; nevertheless, they have been replaced by slight attacks of vertigo, quite like those of epileptic vertigo, which, however, have become very infrequent the past fortnight. He did, however, at his father's house, where he accompanied his younger brother one day, have one of those slight vertiginous crises which I am in the habit of designating *petit-mal-hysterique*.

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ago. He cites Jean Wier (1564), who, in a book entitled "Histories, Disputes, and Discourses on Illusions and Impostures of Devils," urges the necessity of removing these "possessed" girls (hysterics) from their parents and friends to suitable religious asylums, where suitable moral instruction and discipline might be imparted, and where they might be dispossessed of the demoniacal influence.]

The young girl did not accompany her brothers home, but has remained at the Salpêtrière, for we were far less sure of her than of her brothers. She is, moreover, not yet cured, although from day to day her crises diminish in intensity, in length, and in frequency. She would certainly have got along a great deal faster if, in the ward which she occupies, she had not been in constant communication with patients afflicted with hysteria major, attacks of which she sees every day. But we have not been able to do better by her, not having any separate ward at our disposal. However, her condition has much improved; for, what is pretty decisive evidence, the children have all three of them been several times together in the electro-therapic room without any attack supervening.

I am going to present to you first the boys, then the girl, for, as I have said, I am not so confident of her, and I fear lest the sight of this assembly may disturb her to such a degree as to provoke some sort of hysterical attack. I will also show you, in connection with all three, that the hysterical stigmata have undergone modification, as well as the spasmodic or delirious crises; this is an important fact, for I do not think that we can consider an hysterical patient as cured while the stigmata still persist. Here is little François, aged eleven years; he has advanced the farthest toward recovery. You observe that he has a better appearance than formerly; the tonic treatment and the hospital fare (which is, however, not yet what it

should be) have improved his general health. As for the stigmata, I will recall to your mind that these consisted, in his case, in a general anæsthesia limited to the face, and especially to the forehead. He did not perceive odors, and his pituitary membrane was not influenced any more by perfumes than by ammonia or acetic acid; hearing was obtunded, and we could introduce little horns of paper into the external auditory meatus without the sensibility being affected thereby. The general sensibility of the tongue, as well as the taste, was completely abolished; we could put aloes or sulphate of quinine on the tongue without eliciting the least perception of its presence.

In this connection, I may mention that a fortnight ago I showed this little patient to my eminent confrère of London, Dr. J. Russell Reynolds, who was making a brief stay in Paris, intending to call his attention to these troubles of gustation. I own that I was agreeably surprised to see our little man draw back his tongue with a hideous grimace; this indicated to me that our method of treatment had borne its fruits, and that the patient was on the road to recovery. His condition, moreover, has not ceased to improve, as far as the taste is concerned, as you yourselves can judge.

Vision, as you know, presented also quite special disturbances, which, if it is true that they do not properly belong to hysteria, are met so frequently in this affection that we can ascribe to them a great

diagnostic importance. The contraction of the visual field was very pronounced on both sides, but, while on the right there was no transposition of colors, on the left side not only was the circle of red outside of the circle of blue, but it also passed beyond that of the white light. A new campimetric examination, made ten days ago by M. Parinaud, showed us that all these troubles had vanished, and that vision had become normal.

I have already told you that the crises had completely disappeared; let me remind you how numerous they were, for they averaged three a day for a long time, giving a total of twenty to twenty-five attacks per week.

I now present to you little Jacques, oldest of the boys, twelve years of age, who was taken last, though less seriously than his brother, and did not have any permanent hysterical stigmata. In him the minor form (*petit-mal-hysterique*) greatly predominated over the major (*grand-mal-hysterique*); nevertheless, there was one time when he was having fifteen fits a week. For the last fortnight, he has had but two attacks of vertigo; one of these happened yesterday under circumstances which I have mentioned. In this connection, I may say, once for all, that cases of this kind are an imitation of epileptic vertigo, or petit mal, nothing more. The epilepsy is only in the form, not in the substance; and, in reality, *petit-mal-epileptic* and *petit-mal-hysterique* are two things radically dif-

ferent.* You will remark, furthermore, that, if the general condition of this child has improved, he is still, in many respects, far from being well.

Here is little Julie, the oldest of the three. It seems to me that she has grown taller and stouter within a month; at any rate, her condition is much more satisfactory. As to her hysteria, you remember that she was having on an average, every day four or five attacks or series of attacks which lasted from half an hour to an hour and a half. For the last fortnight, she has not had these fits oftener than twice or three times a week; they are less violent, and hardly last a quarter of an hour. You know that she had certain well-characterized hysterogenous points, situated on both breasts, the external part of both flanks, the calves, the two external malleoli, and the internal part of the right elbow-joint. The zones on the two breasts, the calves, and the right elbow have disappeared; there is no longer ovarian sensitiveness (*ovarie*), but there are a few patches of anæsthesia irregularly distributed on the left side. The hysterical amblyopia, which in her case was very pronounced, has not now existed for ten days; lastly, as I have told

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* See in this connection, 1, Bourneville and Regnard, Iconogr. photogr. de la Salpêtrière, t. i, p 49, and t. ii, p. 202. Bourneville, *Clinical and Therapeutical Researches on Hysteria*. etc. (Compte rendu du service des enfants de Bicêtre pour 1883, p. 100.)

you, she can with safety meet her brothers, no attack being provoked thereby.

Such is the situation, and there is every reason to expect that we shall soon see the end of this little family drama, or, if you please, *comedy*, for there is nothing of a very serious or gloomy character in all these events. In about ten days, we shall send the oldest boy home; the youngest goes to-day, and the girl will leave us a little latter.*

I present for your meditation the lesson which the story of these children brings with it. I believe that by means of the measures which I have set forth we may sometimes succeed in nipping in the bud, especially in males, nascent hysteria, hysteria of childhood. I am now speaking of this latter only, for, when this neurosis has become inveterate in adults, the chances of success, though still great, are much more doubtful. As far as these children are concerned, I believe that, despite the nervous predisposition which seems so pronounced in all of them, they will henceforth, for a long time, if not forever, be free from hysterical manifestations. The parents, taught by sad experience, will certainly henceforth keep them from the practices of spiritualism. Knowing the weak points in their children, they will endeavor, I hope, by

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* The youngest of the boys is to-day completely cured; for more than a fortnight, the girl has had only one slight attack during a visit of her parents at the Salpêtrière.

the help of a hygienic discipline, which shall comprehend as well physical as intellectual and moral culture, to avert any further occurrence of like untoward incidents.

LECTURE III.

CHOREIFORM MOVEMENTS AND TREMBLINGS, RHYTHMICAL CHOREA.

SUMMARY.—The Trembling of Multilocular Sclerosis—Of Paralysis Agitans—Senile Tremor—Tremor with Slow Oscillations—With Rapid Oscillations—Vibratory Tremblings—Hysterical Tremor—Alcoholic, Mercurial Tremor—The Tremor of General Paralysis—Of Basedow's Disease—Chorea—Characters of the Involuntary Movements of Sydenham's Chorea—Chorea and Hemichorea, Pre- and Post-hemiplegic—Athetosis and Hemiathetosis—Rhythmical Chorea—Characters of the Movements—They Manifest Themselves Under the Form of Crises—They are Cadenced, Systematic, and Reproduce, more or less Faithfully, Certain Movements of Ordinary Life (Chorea Saltatoria, Malleatoria)—The Disease is Generally Linked to Hysteria—Prognosis Varying According to Cases.

GENTLEMEN:—I desire to speak to you to-day, in connection with certain cases of multilocular sclerosis which I have shown you in former lectures, of divers tremblings and other involuntary movements with which the peculiar and almost characteristic trembling of this affection might be confounded. I have laid stress on the particular characters of the trembling of multilocular sclerosis, and already I have pointed out to you that it only manifests itself on the occasion of intentional movements of some extent (intentional

tremor, intentionzittern of German writers); that it ceases to exist when the patients are left to complete repose—when they are lying in their beds, for instance. If, on the other hand, the patient assumes a sitting posture, the muscles of the neck and trunk are brought into exercise to maintain the erect position of the body, and there supervene oscillations of the head and trunk, while the limbs are at rest. If you wish to cause the rhythmical agitation to reappear in a partial manner, in one of the members for instance, you will ask the patient to lift a glass of water or a spoon to his mouth. This act requires a voluntary movement of considerable extent, which is the necessary condition for bringing on the tremor, which does not ordinarily manifest itself in petty movements, such as threading a needle, sewing, etc. The oscillations are scarcely noticeable at the moment of taking hold of the tumbler, but they became more and more exaggerated to reach their maximum as the glass is brought to the mouth. This special character of the tremor of disseminated sclerosis is readily indicated by a tracing made by the enregistering apparatus. Part 1, Fig. 1, represents the intentional trembling of disseminated sclerosis.

The horizontal line *A B* indicates the state of repose. The point *B* represents the moment when the voluntary movement begins; *B C* marks the direction of that movement, during which the trembling is denoted by the broken line *x y z*, each segment of which is the longer the farther it is removed from the point *B*.

Such is the trembling of multilocular sclerosis. In order the better to set forth the particular characters which distinguish it, I propose to employ the method of contrast; in other words I shall compare this kind of tremor with other tremors belonging to quite different diseases, although several have been confounded with it till a very recent period.

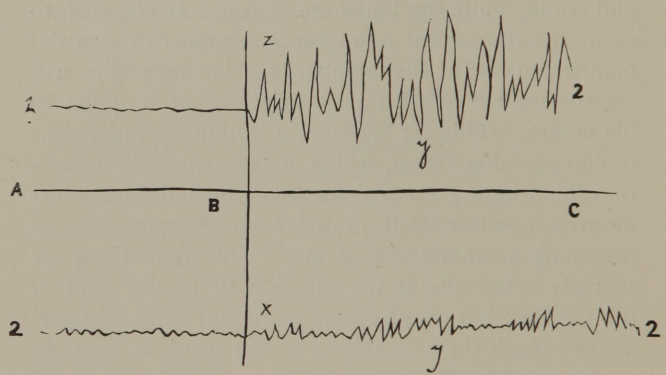

FIG. 1.

This figure is the schematic representation (in part) of the tracing obtained by the graphic method in two hospital patients.

Let us begin with paralysis agitans. Like the tremor of multilocular sclerosis, that of Parkinson's disease is composed of rhythmical oscillations, but of little extent and short duration. You can observe these characters in the patient whom I now bring before you. You will notice that the hand and the fingers tremble individually, but you should mark well

the quite particular attitude of the hand. The phalanges are extended, the one upon the other, while the fingers are flexed upon the metacarpus. The thumb is adducted, and its pulp rests on the index-finger, as if about to hold a pen; and the movements which keep all these parts in agitation resemble sometimes the act of rolling a paper ball or crumbing bread. This tremor is continuous, and (what is an important fact) manifests itself apart from all voluntary movement. If you command the patient to raise a glass of water to his mouth, you will notice, perhaps, the tremors augment in amplitude, but you will never witness those oscillations with large curve which are characteristic of multiple sclerosis. Their character is well shown in the tracings made with the enregistering apparatus. Part 2 of our figure represents the trembling of paralysis agitans. You see, at a glance how the two tracings differ in the portion *B C*. Take the part *A B*, the line of the rest: you see that it is cut by little broken lines corresponding to the continuous trembling. At the point *B* the voluntary movement begins; from this point the components of the broken line *x y z* are a little longer and more irregular than in period of repose, but they are never so much so as in multiple sclerosis.

Remember, also, that in Parkinson's disease the tremor does not in general affect the head, and if the latter seems to participate in the involuntary movements, it is in reality only the seat of communicated movements.

The tremblings of multiple sclerosis and of paralysis agitans are slow oscillations—four or five per second on an average. This same slowness of the oscillations is observed in senile trembling. Here are two women affected with this kind of tremor. In one of them, by name La., aged seventy-three years, the disease began at the age of sixty years in the index of the left hand, after receiving an injury. In the other patient, Les. by name, aged eighty years, the tremor first showed itself more than fourteen years ago—during the siege of Paris, after a violent emotion. In these women, the hands and the fingers tremble individually, as in Parkinson's disease. The head participates in the shakes, and its movements in the horizontal and vertical direction, succeeding each other without regularity, during which the patient seems to be gesticulating yes and no, are quite characteristic of the oscillations of the head in the trembling called senile.

Before passing to the category of rapid oscillations, I wish to mention a species of trembling which holds the mid-place between the two—hysterical trembling. We have at present in our wards two men who are affected with this kind of trembling. In one of them the oscillations are five, in the other seven per second. I can only mention, on passing, this kind of trembling, proposing to return to it later and consider it more in detail, and make of it, though only provisionally, from the point of view of the rapidity of the jerks, a category intermediate between the first

and second groups. To a second class I shall assign the tremblings with rapid oscillations, which I shall call *vibratory tremblings*. The number of jerks here reaches eight or nine per second, and this is the only apparent difference which separates this group from the first. We include in this group: 1. Alcoholic trembling. 2. Mercurial trembling. 3. The trembling of general paralysis. 4. That of Basedow's disease. A distinction may still be made between the three first and the last in taking into consideration this fact, that in the former the fingers tremble by themselves, while in Basedow's disease the individual trembling of the fingers does not exist. This character may be readily shown by the graphic method, as Dr. Marie has done. If you place in the hand of the patient an elastic ball communicating by a tube with the sensitive drum of an enregistering apparatus, you will see that in the cases where the fingers tremble by themselves the tracing is strongly undulated, while in Basedow's disease it is reduced to a straight line, or one broken by very slight undulations.

By the side of these tremors—*i. e.*, these jerkings with rhythmical oscillations,—there is another class of involuntary movements which might be, and which in fact has been, confounded with the trembling of disseminated sclerosis—I refer to chorea and choreiform movements in general. Here we have no longer to do with rhythmical oscillations, but with gesticulations

with large sweep, disorderly and purposeless. These gesticulations do not present any kind of rhythm, and they are meaningless—*i. e.*, they do not imitate any movement of expression or profession. They exist, like the preceding, during times of rest, and are exaggerated during intentional actions, when, also, contradictory gesticulations disturb the general direction of the movement, and cause it to miss its goal; while in multiple sclerosis, and in the other forms of trembling of which I have spoken, the general direction of the movement, if it be interrupted by the jerks which agitate the member, is, nevertheless, always preserved as a whole. However, despite these capital differences, there are certain outward similarities between choreic movements and those of multiple sclerosis which long led certain distinguished authorities to regard multiple sclerosis as a sort of chorea. Duchenne, of Boulogne, who well recognized the congeries of signs of multiple sclerosis, but who knew nothing of it from an anatomo-pathological point of view, called it *choreiform paralysis*. I desire, then, to speak briefly on the general subject of chorea.

We have, first, *common chorea*, called *rheumatic chorea*, *chorea minor*, which has also been called *Sydenham's chorea*, and which must be differentiated from the true *dance of St. Guy*, the great epidemic chorea, *chorea major*. It affects principally, as you know, children of from five to fourteen years of age; more rarely, adults and old men. You remember, doubt-

less, the patient Flor., whom I presented to you as an example of common chorea. In this young girl the disease is on the decline, and the intervals of rest which separate the involuntary movements are to-day of considerable length. But under the influence of an emotion, as during the medical examination, or even without any apparent cause, there are often seen little jerks or twitchings in the left upper extremity. The patient brings her hand suddenly against her body, or rubs it several times against her thigh in alternate movements of pronation and supination. In this patient (and this is an exception to the general rule) the intentional act does not exaggerate the convulsive movement; and if you ask her to lift a glass of water or a spoon to her mouth the direction of the movement is not always disturbed, and the end is attained with sufficient certainty, which is far from being always the case in chorea. The face is likewise, in its left half, the seat of involuntary twitchings and grimaces.

In the same group of incoördinate choreiform movements we shall also place *prehemiplegic* and *post-hemiplegic chorea.* The movements are, in fact, here of the same nature; the only essential difference is in the pathogeny, the disease being, in these latter affections, associated with definite cerebral lesions, localized after a certain fashion.

The same may be said of *athetosis*, which, in a natural classification, ought to be placed alongside of

chorea and posthemiplegic hemichorea. In athetosis there is no rest, and the movements are in no sense coördinated. I shall not stop to describe the contortions of the fingers, their alternate flexion and extension; I have already shown you examples of athetosis. I will only remark that it differs notably from chorea in this respect, that the movements are less sudden, more slow than in this latter disease (one might liken them to the agitation of the tentacles of a polyp), and they also differ in being limited to the fingers and wrists, to the feet, and to the toes, although sometimes there are twitchings of the face and of the platysma. The patient cannot hold anything in his hand, or lift anything to his mouth; if you put any object in his hands, he immediately lets it fall to the ground. In cases of double athetosis, these phenomena sometimes present a gross similarity to the trembling of disseminated sclerosis.

Thus are constituted the two first groups of tremors, and I am going now to speak of an affection which forms our third group. It also bears the name of chorea, although it differs considerably, as you will see, from Sydenham's chorea and its kindred affections. This takes us away somewhat from the subject of multilocular sclerosis, but I do not wish to miss the opportunity of bringing before you a certain number of typical cases which we are rarely fortunate in finding together, for the disease in question is relatively infrequent.

In rhythmical chorea we find neither oscillations nor vibrations, as in tremor, nor the aimless bizärre gesticulations of common chorea; but if the affection is itself also characterized by involuntary, impulsive movements, these movements are complex; and besides (what is an important fact), they occur according to a regular rhythm: they are *cadenced.* They have not then, as you see, the character of irregularity of the choreiform movements which I have just described. We might almost call them *systematic*, because they seem to be coördinated according to a certain plan, imitating, for example: 1, certain *movements of expression*, such as dancing (*chorea saltatoria*); 2, certain *professional acts*, as the movements of rowers or blacksmiths (*chorea malleatoria*). In a word, there is a more or less faithful reproduction of voluntary, logical, purposive acts.

The disease under consideration seems generally allied to hysteria, or to be of hysterical origin, although it may, in some cases, exist by itself, apart from every phenomenon ordinarily characterizing hysteria. You shall, moreover, yourselves see how the transition between these two states may be effected, for, without longer dwelling on these generalities, I am going to bring before you three patients, who present in different degrees the symptoms of rhythmical chorea. One of them, Flor. by name, is already known to you. But you have only seen her when passing through the wards, and she merits a more thorough study. She

has been in our service more than six months, and I made her the subject of a lecture more than a year ago. From this you infer that we have here a stubborn affection, from which patients are with difficulty delivered. This woman is twenty-six years old. She has been twice married; first at eighteen, then at twenty years of age. She has had three children. She is of an irritable temper; is married to a workingman, called a "smart" man, by the way, but whose frequent "sprees" are the subject of lively quarrels in the family.

You will find nothing in the hereditary or personal antecedents deserving of special mention. Three years ago, after her last confinement, she began to experience the folloging symptoms: Often after dinner she felt a fullness in the region of the stomach, with pulsation; then there was the sensation of a ball in the throat. She then fell into a sort of a swoon, with numbness over the whole body; this ended in a fit of crying. She had also, at this time, attacks of spitting and vomiting blood (neuropathic hemorrhages of Parrot). Lastly, I may add that she had a right-sided hemianesthesia, which, however, was quite slight; this has to-day passed over to the left, without modifications of the visual field, or other sensorial troubles. She has never had ovarian irritation (ovarie). These, gentlemen, are the stigmata of the great neurosis; they have to-day almost completely disappeared, but their former existence is sufficiently proved to enable

us to confirm the hysterical nature, or at least *origin*, of the affection from which she is suffering now.

The onset of the accessions of rhythmical movements dates from May 15, 1884—*i. e.*, a year ago. They came on for the first time on the occasion of a family wrangle, which took place during the menstrual period, and after one of those hysterical crises which she was in the habit of having after dinner. Then was constituted the chorea in its permanent form, the accessions supervening at all hours, except during sleep. The attacks lasted from an hour to an hour and a half, being separated by intervals which were at first short, but at the end of several weeks became much longer, and to-day spontaneous crises are rare. We have found that we can provoke them readily by certain manœuvres. Static electricity seems to have produced the amendment which has of late been observed; it is under its influence, without doubt, that the hemianesthesia first went over to the other side, then disappeared. But the disease is, I think, far from being completely cured. I remember a young Polish woman whose malleatory paroxysms of the arm, coming on by crises of one or two hours' duration several times a day, continued for seven years. I do not know whether she is actually cured yet; and, moreover, I am going presently to show you a patient whose attacks have lasted more than thirty years.

The present condition of Flor. is the following: I have told you that there are spontaneous crises and

provoked crises. The first generally come on after meals; they are, in some sort, relics of the former postprandium hysterical attacks. The patient then feels a pain and beatings in the epigastrium, and a numbness "all over." The right arm then begins to jerk, and is soon followed by the left, and by the lower extremities. You witness, then, a succession of varied acts of a very complex kind, in which you can recognize the characters of rhythm, of cadence, and a perfect imitation of certain intentional and well-directed movements, such as I spoke of in my general description. When the onset is spontaneous, the crisis appears without any aura, other than a beating or twitching of the right eyelid.

The provoked crises are brought about by pulling the right arm, or by striking with a hammer over the patellar tendon, as you see me now doing. When the fit is excited by pulling the arm, immediately this member begins a series of rapid rhythmical movements, in which the patient seems to be beating eggs; then she flexes her fingers, apposes the pulp to the thumb, and, elevating the arm, makes the gesture of a public speaker who is making a demonstration. From time to time the whole right upper extremity is exercised in wide movements of circumduction. The lower extremities are likewise agitated in their turn, and if the patient is standing and supported, she dances alternately on each foot, imitating quite accurately the *Bourrie*, or the dance of the Tsiganes, or

of the Zingari of Andalusia. During the entire attack the patient is completely conscious, and what is quite remarkable, when any one happens to be standing near her, and she is on the point of executing one of those great movements, which might result in hitting violently her neighbor, she calls out to this person to keep out of her way. It seems, then (and this is an important fact from a psychological point of view), that the act is preceded by a mental representation which warns the patient of what is coming. You may question her during the paroxysm, and she will tell you that she does not suffer, that she is only very much fatigued and incommoded by violent palpitatations. At times she stops and rests a moment; you would think that the attack was over; but no, it commences again, and the same phases are reproduced. The entire duration of the attack varies from one to two hours. She is then put to bed, and all is over; when she rises, she complains of being a little fatigued.

You are now about to witness a similar crisis in another patient, as a sequel of similar movements. This is the woman, Deb. by name, in whom the chorea has now lasted more than thirty years; only, the patient has been somewhat better lately, in this respect, that the spontaneous crises have been exceedingly rare; they now appear only when provoked. She is to-day sixty-seven years old. The menopause passed a long time ago, so that we can no longer count on that to bring about a favorable

change in her condition. I shall, moreover, show you several instances of the same sort in the description of hystero-epilepsy which I am going to give in another lecture. Actually, no permanent sign of hysteria remains in our patient, and you find none of the residua of this neurosis, except a tendency to violent emotional outbursts and the accessions of rhythmical chorea. The attacks are easily provoked by pulling at the arm, or by percussing the patellar tendon, as in our other patient. But before bringing on one of these attacks I will give you the main points of the history of the disease. The commencement dates back to the age of thirty-six years. At this time, being out riding with her husband, she met with a severe accident—the carriage was upset and she was precipitated over a steep embankment. Following the great fright which she experienced, she lost consciousness, remaining in this state three hours; then she had a convulsive crisis, a severe hysterical fit, followed by contracture of the limbs of the right side, then by barking. It was at the end of several months only that the rhythmical crises appeared just as we see them to-day; they were then, moreover, more intense and more prolonged.

Look at this patient at this moment. We have no need to do anything to provoke an attack, for the emotion which she experiences before such an assembly in the amphitheatre has brought one on. In the first phase we see the rhythmical shocks of the

arm, the malleatory movements; the patient has her eyes shut. Then to this period succeeds a period of tonic spasms and of torsion of the arms and head, resembling partial epilepsy. This is truly a relic of her old convulsive hysteria. Lastly, there are cadenced movements of the head to the right and left, rapid movements, and not easily explained, for I ask myself, to what do they respond in the series of physiological actions? At the same time the patient utters a sort of cry in a singing tone, a modulated plaint, which never varies. And here we find the character of coördination, of apparent adaptation, which is peculiar to rhythmical chorea. The crisis ceases under our eyes spontaneously. During its entire duration the patient has never once lost consciousness.

You see by this example that rhythmical chorea may be in some cases a grave affection; not that it directly menaces life, but because it may persist a very long time, and become a horribly oppressive infirmity, preventing the patients from pursuing any occupation, and obliging them to estrange themselves from society by reason of the terror which their fits cause, and the sentiment of repulsion of which these unfortunate beings feel themselves the object.

Happily, matters are not always so gloomy in the history of rhythmical chorea, and I am able, in contrast with the two cases to which I have just called your attention, to present to you a third patient, in whom the rhythmical choreic movements exist only in the

rudimentary state, supervening by spontaneous or provoked crises, as in our first two cases, but here always mingled with the symptoms of ordinary convulsive hysteria. In a word, the rhythmical chorea, which in this third patient takes on the malleatory form, is an accompaniment of the hysterical paroxysm, not detaching itself therefrom to individualize itself.

This patient, Bac. by name, aged twenty-nine years, a seamstress, has been in our service since January 6, 1885. In her hereditary and personal antecedents we find no trace of neuropathy. At the age of twenty-two years, as a consequence of intense grief at the death of a relative, she had veritable fits of hysteria, in which were already manifest the choreic movements of to-day. From 1878 to 1884, she had only four or five convulsive crises as a result of being crossed in her wishes. I note, on passing, that she has had several attacks of blennorrhagic arthritis in the right wrist, left knee, which have doubtless co-operated, to some degree, in bringing about her actual neuropathic condition. There are no sensorial troubles, no modifications of the sensibility, other than a slight anæsthesia to cold on the left side; there is a sensitive ovarian point on the right; so that in this instance (as is sometimes seen) the ovaria and the hemianesthesia are crossed.

When the attacks come on spontaneously, they begin by a feeling of discomfort in the epigastric

region, and by palpitations; sometimes the sensation of a ball in the throat exists. There has never been any cephalic aura. You can, moreover, provoke an attack by pulling on the left arm and by shaking it at the same time, so as to imitate the malleatory choreic gesticulations. At first the left arm begins to present malleatory movements, which the right arm executes shortly after. But at the same time the whole body stiffens, the head and inferior extremities remaining unmovable. From time to time the latter take on a trembl.ng movement, the eyes remain closed, or the eyelids quiver. Occasionally, the body arches itself into the form of a bow, and this interrupts the monotony of the attack. Pressure over the right ovarian region stops the convulsion, and then for a moment the patient remains without speaking or moving.

Here the hysterical origin of the affection is still more pronounced than in the first two patients. The rhythmical disease is not detached from the hysterical, as an autonomous affection. The case is also, I hope, less grave in consequence. In short, in this patient, apart from the malleatory phenomena, we have to do with fits of quite an ordinary character, belonging rather to the minor hysteria than to hysteria major, the attacks rarely occurring, and then on the occasion of an emotion. We may hope that under the influence of an appropriate treatment the attacks will disappear along with the rhythmical choreiform movements which accompany them.

LECTURE IV.

MUSCULAR ATROPHY CONSEQUENT ON CERTAIN ARTICULAR LESIONS.

SUMMARY:—Articular Traumatism—Consecutive Paralysis and Muscular Atrophy—Modification of the Galvanic and Faradic Contractility—Contractions Provoked by the Electric Spark—Exaggeration of the Tendinous Reflexes—Simple Muscular Atrophy—There is no Necessary Relation Between the Intensity of the Joint Affection and that of the Paralytic and Atrophic Phenomena—The Extensors of the Joint are Affected in a Predominant Manner—The Muscular Lesions are Under the Dependence of a Deuteropathic Spinal Affection.

GENTLEMEN:—By its origin, the affection from which the patient whom I am about to present to you suffers may be called surgical; it was, in fact, in a traumatism that it originated. But, by the fact of the traumatism there is produced a spinal affection, of a particular kind, which still persists to day, although now for a long time the arthritis, the immediate consequence of the traumatism, has ceased to exist, and it is in this condition that the patient claims our attention and our help.

This young man, B—— by name, aged twenty-three years, employée in a telegraph office, has always been healthy heretofore, and has presented nothing worthy of note in his antecedents except that a

maternal uncle had some mental disorder for which he was consigned to an asylum.

This patient is brought to you on a litter, although he is capable of rising and walking; this is because I wish to point out to you certain peculiarities which cannot well be observed except when the patient is in bed.

I shall first call your attention to the fact that the general condition is excellent; good vigorous appearance, good appetite, all the organic functions are well performed.

The affection from which he suffers consists exclusively in a difficulty in walking, and it is, as you will see, the usage of the right leg, or rather of certain muscles that move that member, which is at fault. It is about a year since the patient began to be troubled in his power of locomotion.

A methodical examination shows us that when the patient is in bed, the right inferior member executes normally all its movements except one, the extension of the leg upon the thigh. The movements of abduction and adduction of the thigh, the flexion of the thigh on the pelvis and of the leg on the thigh, the isolated movements of the foot, the movements of flexion and extension of the foot on the leg, are free; but the extension of the leg is wanting. So, when he wishes to extend the leg placed in semiflexion, he contracts the extensors of the thighs by sliding his heel along the plane of the bed, or he helps elongate

the member with his hands or with his other foot. It is, then, you see, the extensors of the leg which are at fault. It is the muscles innervated by the crural nerve, and more especially the triceps, which are affected.

The patient can oppose, although with less force than with the sound limb, the attempts of extension or of flexion which you make upon the joints of the hip and foot; he resists also very well when you try to straighten the flexed knee, but he opposes only a feeble resistance to forced flexion of the leg on the thigh.

In short, although there is but little relative enfeeblement of the muscles of this limb, it is principally the action of the triceps which remains to-day at fault.

This paralysis, limited to the extensors of the knee, also makes itself manifest when the patient wishes to get out of bed on the left side and undertake to walk. You see how, in order to get out of bed, he raises the right leg by the aid of the left foot, in order to make up for the impossibility of extension of the right knee. He walks without a cane, but you will remark something strange in his mode of progression; note, moreover, that his condition has much improved during the past few days; when this patient was admitted, the characters of the gait, which was then greatly impeded, were much more pronounced. You can, however, remark that while at each step in advance the left knee bends, then extends, there is

hardly any attempt at flexion or extension of the right knee; it is in the hip that the movement takes place; the right lower extremity, too long as it were, performs a movement of circumduction as if it were all of one piece, and as if the knee joint did not exist. Formerly there was a tendency in the point of the foot to drop, and this rendered walking still more difficult; this paresis of the muscles which flex the foot on the leg has since disappeared.

It is important to remark that there is no pain on the occasion of movements, so that the difficulty in walking cannot in this way be explained; the joint is also perfectly free; it is then in the nervous system or in the muscles that we are to look for the cause of the motor impotence.

A more attentive examination of the affected limb, moreover, enables us to detect a number of important particulars. You notice, first, a diminution of the entire member; this was formerly still more pronounced.

Mensuration gives:

	ON THE RIGHT.	ON THE LEFT.
At the upper part of the thigh,	48 cent.	52 cent.
Above the knee.....	37 "	38 "
Around the calf of the leg...	33 "	35 "

But even without having recourse to mensuration, it is easy to see that the anterior aspect of the right thigh is considerably flattened, as if excavated, besides the muscles of this region are

flabby, and lack their usual plumpness even at the moment of contraction.

There exists, then, not only a paresis, but also a modification of the nutrition, an atrophy of the triceps muscle. The thigh and knee of that side seem also to be colder than on the other side, but without any marked trouble of the cutaneous sensibility.

Add, to complete the description, the results of the electric exploration, which show us the state of nutrition of the muscles. At the time of the admission of this patient, eight days ago; (a) the galvanic and faradic excitation of the crural nerve at the fold of the groin gave scarcely any contraction; (b) over the points of election, faradization with a strong current by the apparatus of Du Bois-Raymond (the bundle of iron wires being shoved fully into the cylinder) produced scarcely any reaction; you would have said that the muscles were absent. From this last character, you would have expected to see galvanization provoke the reaction which is observed when the nutrition of the muscles is profoundly affected, as takes place after experimental section of the nerves, or in infantile paralysis when there is destruction of the motor cells, or as in grave cases of facial paralysis. In such cases, and we have here one of the characters of what is called in electro-diagnosis the reaction of degeneration, the galvanic excitability is exalted, at the same time that there is weakening or absence of the

faradic excitability; in the case before us, however, there was nothing of the kind, the galvanic current, even with fifty elements, whatever might be the disposition of the poles, gave no more contraction than the faradic current. There was, then, a quantitative, and not a qualitative modification of the reaction; one might from that conclude that we had before us a case of simple atrophy, and not an atrophy of degeneration.*

What is moreover remarkable, this muscle, which remains almost inert, whether under the influence of the will, or that of electric excitations (direct or indirect by faradic or galvanic excitation of the nerve), contracts quite energetically when, on the patient being placed on the stool of the static electric-machine, a spark is generated over the right rectus cruris or vastus internus, (the vastus externus makes an exception in this respect that it has preserved a certain degree of faradic and galvanic excitability). Add that the mechanical shock imparted to the right rectus femoris provokes an evident contraction, and that the

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* Rumpf has studied in the service of Prof. Erb the electric reactions of the muscles in cases of joint affections (shoulder, knee, etc.) He has found, and his results have since been a number of times confirmed by those of Erb, that in these cases there is a simple diminution of the electric excitability, and never any qualitative modification, and this absolutely distinguishes these muscular alterations from degenerative atrophy.

percussion of the patellar tendon determines very pronounced convulsive starts, not only in the member percussed, but which also become general, and are very manifest in the two upper members, and especially in the left. It is true that percussion of the patellar tendon on the left side provokes shocks almost as intense. By sudden straigtening of the point of the foot, no trembling is produced either in the left inferior member or in the right.

All the other muscles of the limb present the normal electric reactions. It has not always been so, according to the statement of the patient; thus, there was a time when the gastrocnemii and the muscles of the front aspect of the leg did not contract equally on both sides; since then, however, there has been an improvement. Note, in passing, that there have never been any troubles of micturition or defecation.

It now remains for us to search for the reason and the signification of the phenomena which we have so attentively studied. In brief, this patient is affected with a paralysis with simple atrophy, almost exclusively localized in the extensors of the leg, with profound modifications, quantitative only, and not qualitative, of the electric contractility.

The localization of the disorders already suffices to guide us to a diagnosis. We know to-day, in accordance with numerous studies,* that atrophic paralysis

* John Hunter's Complete Works, vol. i, p. 581 (French Ed.). A. Ollivier, *Des Atrophies Masculaires*. Thèse agreg.,

of the extensor muscles, or at least predominating in the extensors, is a frequent complication of different spontaneous or traumatic lesions affecting the corresponding joints; thus, as the result of divers lesions of the scapulo-humeral articulation we often see the deltoid atrophy; as a sequel of arthritis, of sprains, etc. of the hip, the glutei muscles are sometimes affected in the same way; if it is the knee which is injured, the triceps femoris is affected in its nutrition and its motility. These facts, which were known to Hunter and Paget, have been more explicitly signalized the last few years by Ollivier, and lastly by LeFort, and in the valuable thesis of Valtat, where it is shown experimentally in animals (guinea pigs and dogs) that when arthritis has been determined by irritant injections, it is the muscles of the whole limb, but more particularly the extensors of the joints, which are affected. And in these cases the atrophy which has all the features of simple atrophy without any irritative character, supervenes very rapidly; it may be estimated at twenty per cent. at the end of eight days, and forty-four per cent. at the end of fifteen days.

1869. Le Fort, Soc. de Chir., 1872. Sabourin, De l' atrophec musculaire rheumatismale. Thèse de 1873. Paget, Lessons on Clinical Surgery, 1877. Vallet, Muscular Atrophy Consecutive to Joint Diseases. Thèse, 1877. Darde, Atrophies Consecutive to Joint Affections. Thèse de 1877. Guyon et Féré, *Notes on Muscular Atrophy Consecutive to Certain Traumatisms of the H'p*, Progrès Med., 1881.

Well then, can this order of causes and this relation between the muscular affection and the affection of the joint be invoked in explanation of the phenomena before us? Most assuredly. You will meet with such a traumatism in the history of our patient, and it will not be necessary to go farther to find the cause of the disorders observed; at the origin of all this train of morbid accidents there was an injury affecting the knee and confined to that joint.

It was about a year ago, May 5, 1881, that B., in leaping over a fallen tree, hit and hurt his right knee; he did not fall, and there was no very severe pain, nevertheless the contusion was sufficient to tear his pants. He was able to walk, and performed a march of three kilometres without difficulty, but being obliged to descend a hill, he experienced some amount of stiffness in the knee, and was obliged to stop. Then, for the first time, he noticed a drop of blood on the front of the knee, which was not the seat of any swelling. When he got up he could not walk except with the help of a cane.

During the eight days which followed, there was a little swelling of the joint; the patient remained in bed, but without fever. The physicians who attended him appeared astonished at the contrast which existed between the arthritis which seemed very slight, relatively but little painful, and the motor impotence, which was considerable. A silicate bandage, kept on for three weeks, did not improve matters, and when the reten-

tive apparatus was removed, there was the same contrast, the same surprise of the physician in attendance, who could not understand how, coincident with a painless arthritis, such pronounced motor impotence could exist. It was not till four months after the injury that a treatment appropriate to the situation was employed, viz., faradization; it was then only that an amendment took place, and that walking became less difficult.

The relations which exist between this paralysis which still persists at the end of a year, and a slight traumatism which has produced only a trifling degree of arthritis, has nothing about it which should surprise you, if you consult the natural history, to-day sufficiently well known from recent labors, of *atrophic paralyses, which may be called articular, or which have an articular cause.*

If, in fact, in a great number of cases, the protopathic arthrites, spontaneous or traumatic, which determine the atrophic paralyses, are painful affections of great intensity, this is far from being always the case. Thus, a simple sprain, soon to all appearances well, a simple hydrarthrosis, an affection which is not inflammatory, and not painful, and (as in our case) a slight arthritis, may determine the same troubles. *There is no necessary relation between the intensity of the joint affection and that of the paralytic and atrophic phenomena.*

As far as concerns the permanence of the deutero-

pathic accidents (paralysis and atrophy) after the cessation of the protopathic affection (arthritis), persistence is to a certain extent the rule; we have here in the history of paralysis of articular cause a fact which is of the greatest interest both from a pathological and clinical point of view.

The clinician ought, in fact, to be aware of this remarkable circumstance. He ought not in presence of a slight arthritis, when the phenomena of motor impotence or atrophy are well marked, to risk his reputation by a favorable prognosis, or promise a fortunate issue in a brief space of time; the prognosis will be very likely to be erroneous. You will see, it may be, months roll by, leaving the member still useless, although now for a long time the arthritis is only represented by a little puffiness of the periarticular tissues, or it may have no longer left any trace of its existence.

These particularities lead us to inquire what may be the physiological reason of this singular complication of articular affections; a knowledge of this may guide us in the direction of the treatment.

Most contemporaneous authorities seem to be settled with regard to this point of theory; the joint affection has by the medium of the irritated articular nerves reverberated upon the spinal center, and there it has modified the centers from which emanate the motor nerves and the nerves which preside over the nutrition of the muscles.

There exists, it is believed, in the spinal cord a relation more or less direct between the cells of origin of the articular centripetal nerves and the cells of origin of the the motor and trophic nerves of the extensor muscles (the cruralis in the case which now concerns us), since the result when it is produced is constant, that is to say, that always in the case of irritation of the nerves of the knee, it is upon the extensor muscles (triceps), or at least more especially on these muscles, that the atrophy falls. I say more especially, for the irritation, starting from the articular nerves, may spread by diffusion away from the distribution of the crural nerve to the muscles of the leg and foot. In the articular affections of the shoulder, the elbow, and hip, it is always in the extensors that the atrophy predominates, although it may comprehend several other muscular groups of the member.

Remark that no other of the theories proposed can be accepted. Thus, some have spoken of a propagation of the articular inflammation by contiguity and continuity to the muscles in the neighborhood; but the atrophy exists at the same degree throughout the entire extent of the muscle, and, moreover, experiments show that it is a simple atrophy, without trace of inflammation, without myositis. The hypothesis of atrophy by prolonged repose is not admissible; the joint affection is often so slight as to necessitate rest of but very short duration; and, moreover, according

to this theory, how are we going to explain the almost exclusive localization of the atrophy in the extensors?

We are then reduced to the admission of a deuteropathic spinal affection, and it is in consequence of this affection that the paralysis and atrophy are produced. But in what consists the modification of the medullary center? It is not a profound modification of the cells of the anterior horns; for we know the effects of profound alterations of these elements in infantile paralysis, where there is reaction of degeneration, to wit, exaltation of galvanic excitability and depression of faradic excitability; unless, in consequence of the affection being far advanced, the muscle is quite destroyed—then there is abolition of both modes of excitability, but with hardly any possible return. Here, on the contrary, we see that by an appropriate treatment, already the electric reactions reappear. We have then to do with a sort of inertia, or torpor of the cellular element.

Must we therefore conclude that if, in a case of this kind, you have recourse at the onset to an appropriate treatment you will obtain a rapid cure? This is very probable, and this leads me to speak of the treatment.

Before we proceed, however, to this subject, I must again call your attention to the exaltation of the tendon-reflexes of the lower extremities. Is this a peculiarity of the subject, or is there a morbid state of exaggerated reflex excitability throughout the whole

extent of cord outside of the region where, on the other hand, the motor cells are in the state of torpor which we were just supposing to exist? This seems very likely, in accordance with some other facts similar to that which now concerns us, and of which I shall have occasion shortly to speak to you.

But I come now to the treatment. We have here a dynamic spinal lesion, without profound modification, as far as we know, and we may, without fear, insist upon the electric treatment; the results obtained hitherto are an encouragement for the future. Static electricity appears thus far to have been attended with remarkable results in restoring excitability where faradization and galvanization have remained without effect. We have then to make a choice (and this is sometimes a matter of some difficulty) between static, galvanic, and faradic electricity; we may employ each in turn. I shall reserve for a future occasion the exposition of how the treatment shall be managed.

In this case, the spinal affection, taking its origin in the joint, presents itself in a benign form, the issue will be favorable, and this is habitually the case. It is possible that in certain cases the spinal affection and the consecutive muscular affection are more profound.

You must not forget, moreover, that the paresis and atrophy are not the only deuteropathic troubles which may result from an articular lesion. This group of facts is more complicated. Thus, certain

arthrites or articular traumatisms have been known to produce, by reflex action, a contracture limited to the muscles of the joint or extending to the entire member. Cases of this kind are, indeed, very frequent, and we know that in these conditions, the joints take a position in flexion, the flexors prevailing over the extensors. In other cases the atrophy and contracture are combined.

These varieties of spinal affections, produced under the influence of a cause always the same in appearance, particularly interest us, and we shall have occasion to return to them in connection with several patients who are now present in this hospital.

Note by Dr. Romain Vigoureaux.

As has been stated above, in certain cases, a muscle absolutely inexcitable by faradic and galvanic currents contracts very well under the electric spark. This fact, already alluded to by Prof. Charcot in a lecture on Static Electricity (Revue de Med. 1881, No. 2) shows how relative and contingent are the actual data of electro-diagnosis. It is one of the striking phenomena connected with this method of diagnosis that one may, by relying exclusively on the usual modes of testing galvanization and faradization—declare to be electrically inexcitable a muscle which contracts normally as soon as you have recourse to another mode of electric excitation.

It will not do, however, to assume that this superiority of action of the electric spark is the rule. Static electricity may not show itself any more efficacious than faradic or galvanic in provoking the contraction of an affected muscle. This is what we have observed this very week in a female suffering from incomplete atrophy of the muscles of the neck and upper limbs,

with diminution (not absence) of the faradic and galvanic reactions.

However this may be, facts like that which has just been studied by Prof. Charcot prove the importance of static electricity in electro-diagnosis. Henceforth to the faradic and galvanic reactions we must add the Franklinic reaction.

It remains for the future to determine the clinical significance of this reaction.

Let us come now to the treatment of the patient. Since the lecture, he has been treated to three séances of Franklinism which make the whole number of séances eight. There has been a sensible improvement, which contrasts well with the previous state, which continued stationary for many months, despite the different treatments resorted to. Walking is easier, the faradic and galvanic reactions are becoming more and more apparent. Nil at the commencement with the maximum current of the faradic machine, and a current of more than 20 milliampéres of the galvanic, we now obtain considerable contraction in the affected muscles with a moderate faradic current (the rod of iron wires being drawn out four or five centimeters), and a galvanic current of nine or ten milliampéres.

This is an important point—these two reactions have reappeared simultaneously; for both there has so far existed only the kathodal contraction of the closed circuit. In other words, the faradic current causes contraction only when the muscle is excited with the negative pole.

As for the galvanic current, we only obtain contraction by making the excitation with the negative pole, and this contraction is produced only at the moment of making the current. * * * There is, then, a simple diminution of excitability, without qualitative alteration. These details confirm the judgment expressed by Prof. Charcot in his lecture, that we have here nothing but a case of simple atrophy.

As for the manner of conducting the electrical treatment,

we have, as the Professor says, our choice between faradization, galvanization, and Franklinization. In the actual state of things, it will be difficult to give a peremptory reason for the preference of one over the other of these means. The simplest course will be to continue the static electrization. Its good effects have been evident thus far, and it is of easy application. This will not prevent us, moreover, from resorting now and then to other forms of electricity.

It remains to indicate with more precision how the treatment is to be carried out. We know by experience that the electric spark acts most favorably on the nutrition of the muscles; we have notably treated with success by this means an old facial paralysis, of peripheral origin, and in which the electric reactions were completely abolished.

But (and this is a point on which we insist), in order to obtain therapeutic results, strong sparks, obtained by means of a metallic rod or ball, are not indispensable. In the case of our patient, they have been chiefly a means of exploration; for purposes of treatment, it is sufficient to produce by means of a wooden rod tufty jet discharges (*en aigrette*), much less strong, *and incapable of giving rise to any contraction.* This is the procedure which has already given us success in certain atrophies (considerable in extent) of rheumatic origin. * * *

Practically, it is well to know this, for it is often a difficult matter to provoke at will the contraction of a diseased muscle.

Theoretically, we see the most evident trophic action obtained by an electric discharge whose *quantity*, as compared with that of ordinary galvanic currents (in electrotherapy), is absolutely a matter of no account. It will not do, then, to accept without reserve the views of writers who attribute to *quantity* the trophic effects of the current, reasoning, without doubt, from the analogy of the chemical effects. It is highly probable that the question is not as simple as all this.

In fine, the patient who was the subject of the foregoing lecture, has given us occasion for again justifying the usage which we make at the Salpetrière of the static machine.

In the present state of electro-therapy no reason exists *à priori* for either accepting or condeming a method; it is then to experience alone that we are to look for arguments for or against static electricity.

LECTURE V.

CONTRACTURES OF TRAUMATIC ORIGIN—PAINLESS TIC OF THE FACE IN AN HYSTERICAL PATIENT.

SUMMARY.—I. Influence of Traumatism on the Localization of Certain Diathetic Determinations—Contracture of Traumatic Origin in Subjects who Present Spasmodic Rigidity in the Latent State.—Exaggeration of the Tendon Reflexes in Hysterics.—II. Typical *Tic non Douloureux* of the Face—Contracture of the Muscles of the Face in an Hysterical Patient—Simulation.

The service of the clinic contains at this moment several cases which in my judgment are very interesting and quite worthy of being made the subject of your special attention. Now, several of them may leave us in a few days; in others the morbid accidents which I am desirious of bringing to your notice are among those which sometimes disappear all at once and unexpectedly. I thought, then, that it would be prudent to improve the occasion and to make these facts the subject of the present lecture.

I.

The first case which I am going to present to you will enable you to recognize the influence which the most common traumatic lesions sometimes have on the development of the phenomena of local hysteria, and on that of the contracture in particular.

It has long been known that certain affections subordinated to a diathetic disease sometimes develop on the occasion of a traumatic lesion. It is the usual habit for these affections to localize themselves at once in the very parts where the prick, the contusion, the sprain were produced. This is the case, for instance, with regard to acute articular rheumatism or gout, as I have long remarked; so, in a gouty subject, nothing is more common than to see, apart from the regular attacks of spring or fall, a supplementary attack supervene as the result of a fall, for instance. And what is very remarkable, while the spontaneous attacks localize themselves in the usual place of election, the supplementary attack will have for its seat the shoulder or the knee, or whatever one of the joints has been the subject of the contusion or sprain. This is a fact which is to-day well understood, and the last few years Prof. Verneuil and his pupils have shown the interest and importance belonging to the study of phenomena of this kind from a surgical point of view.

But what is less known, perhaps, is that certain local phenomena of hysteria, and in particular the contracture of a limb, sometimes manifest themselves in the same way and under the same influences.

I come now to the clinical exposition, after which I will call your attention to the lessons which we may derive from the case.

This great girl, aged thirty-four years, is one of

the oldest occupants of the division for simple epileptics; she has, in fact, been here for more than twelve years. She belongs to that category of patients which is designated in our hospital under the name of *hystero-epilepsy with distinct crises.*

I owe you a short explanation relative to the signification of this word; it means that this girl is affected with two diseases, whose attacks present themselves separately; sometimes it is the hysterical crises which manifest themselves (the *seizures* as they call them here), sometimes the crises of epilepsy (the *fits*). We designate, on the contrary, under the name of *hystero-epilepsy with mixed crises*, the cases in which the hysteria exists alone, but in which the disease also is characterized in the regular attacks by four periods, of which the first has the appearance of epilepsy (*epileptoid phase*, *epileptiform hysteria*). We have proposed the denomination of *great hysteria* to characterize this form, and take the place of this word *hystero-epilepsy with mixed crises*, which only leads to confusion.

Our patient is affected at the same time with hysteria major (*grande hysterie*) and with true epilepsy, the fits of epilepsy coming on in the night time with biting of the tongue, involuntary emissions of urine, etc. Formerly, that is to say, prior to the last five years, the hysteria predominated over the epilepsy; thus in 1874 we reckoned in one month 244 attacks of hysteria, and 62 epileptic seizures; but since 1876 the hysterical attacks have shown a tendency to disappear

and the epileptic fits, although less numerous now, and presenting themselves at the period of the menses only hold decidedly the first place.

One of the peculiarities of the attacks of hysteria at the time when they manifested themselves simultaneously with the epileptic crises, is, that they were frequently followed by contractures of the right lower extremity, lasting a fortnight, a month, etc. It was on the right side that the hemianæsthesia and ovaria existed; it was on the right also that the prodromic phenomena of the attack manifested themselves (tinnitus aurium, beatings in the temples, etc.).

The hysterical phenomena had almost completely vanished during the last few years, and the patient was considered by us for five or six years as no longer hysterical, but as an epileptic, whose crises, moreover, tended to diminish if not in intensity at least in number.

But the 16th of May, that is to say five days ago, an accident happened which has shown us that the hysteria is far from being extinct in this woman, and that the diathesis still remains menacing, though heretofore in a latent state. B—— was going as usual to the shop where she works, feeling as well as she had felt the previous days; by maladroitness, and without having experienced any faintness, any dizziness (she is very explicit on this point), she made a mistep on the stair-way, fell heavily on her left side, and slipped down a dozen steps like an inert mass. Two of her

companions lifted her up; she was not much hurt, and to-day the only trace of the contusion consists in an ecchymosis which covers the external malleolus of the left side. But, immediately after the fall, walking became very difficult, and the reason of this lay in the existence of a rigidity which affected the joints—hip, knee, and ankle, of the left inferior member which had sustained the shock. We saw the patient the next morning, and found her in the condition in which you see her to-day, as we shall show you presently.

The patient is presented to you lying on her right side. The left inferior member is very rigid about the knee and ankle. Extension and flexion are equally impossible; the resistance is the same in whatever way you desire to move the limb. The flexor and extensor muscles are both in a state of contraction as you see; only, as is habitual in this kind of contracture, in what concerns the inferior member, it is extension which predominates; the thigh and the leg are extended, the foot is flexed upon the sole by reason of the predominant action of the calf muscles; in other words the three segments of the member are in a straight line, the foot taking the position of direct talipes-equinus. I may add that the inferior member, which might be compared to a rigid bar, is in adduction; if you succeed in turning it from the middle line and then leave it to itself, it returns to its first position, as if by the movement of a spring. Besides, this member has taken a

twist at the hip joint by reason of which the patella and the points of the foot look almost directly inwards. Moreover, there is no swelling, no pain in the joint, nothing which you would be likely to refer to the fall, unless it be the ecchymosis in the neighborhood of the external malleolus, of which I have spoken above.

I must here remark that this forced attitude of the limb came on rather suddenly. We have here, as I have previously made clear to you, one of the characteristics of the spasmodic contracture of hysterics, in contradistinction to the contractures of organic cause. Thus, in the spasmodic paraplegia of transverse myelitis, of multilocular sclerosis, etc, it is not all at once that things come to this; this change comes about slowly; in a first period you have paraplegia with flaccidity of the limbs, there is only exaggeration of the tendinous reflexes; in a second period, you see accessions of rigidity; in a third, the rigidity establishes itself in extension or semiflexion, and lastly in a fourth period, which is almost never observed, or at least exceptionally, there is an invincible rigidity, which makes the limbs seem like stiff bars.

One of the most interesting characters of hysterical contracture, is as you see, that it may attain its maximum all at once.

The appearance of the contracture, under circumstances like those I have just mentioned, in a subject known to have been affected with hysteria in a high

degree, and to have been before a sufferer from contracture, ought naturally to lead us to suspect that an hysterical storm is approaching. We ought, then, to inquire if there were not other of the stigmata of hysteria manifest in this patient as a sequel of the traumatic shock, at the same time as the contracture. This is in fact what we do find; the hemianæsthesia, which formerly occupied the right side, latterly ceased to exist for several years; it has reappeared, but now it occupies the left side, the side on which the shock took place, and which is the seat of the contracture. The anæsthesia occupies the whole of the left side, the limbs, the trunk, the face, with the exception of the parts bordering on the organs of sense, as sometimes happens in such cases. There is no ovaria.

Aside from these particulars, there is nothing worthy of mention, unless it be the insomnia which has now lasted for five days, and the appearance of the menses which came on at their proper time, two days ago. Now it is at the menstrual period that the crises of epilepsy from which this patient suffers, habitually make their appearance, and it was then that formerly her hysterical paroxysms came on. It is at least very probable that in a few days we shall witness another outbreak of this kind, following which the contracture will disappear as suddenly or almost as suddenly as it came. It is for this reason that I have insisted on bringing this woman before you today; for an opportunity to show you an hysterical

contracture of traumatic origin may not again occur for a long time But, you will ask me, are you quite certain that the traumatism has had on this spasmodic rigidity of the member the influence which you suppose? May it not be simply an instance of fortuitous coincidence? In support of the proposition which I affirm, valid reasons are not lacking.

Let us take, first, the argument derived from considerations outside of hysteria itself. I have already had occasion to call your attention to the similarity which exists between spasmodic paralysis of the limbs in the hysterical, which is unconnected with any material spinal affection, and spasmodic hemiplegic or paraplegic paralysis due to a medullary lesion. Thus, in hemiplegia consecutive to a lesion of the brain, occupying the internal capsule, and affecting the tract of the pyramidal fasiculus, the members may remain flaccid, but the contracture exists there, in a latent state, if I may so speak, as is shown by the exaggeration of the tendon reflexes (ankle clonus, knee jerk); and sometimes in repeating for some time the shocks on the patellar tendon, you produce a temporary contracture which lasts several minutes. In such conditions, then, there is always the liability to contracture, and this may develop if a traumatic lesion supervenes, and it will manifest itself in the very part which has been the seat of the contusion, of the sprain, etc. Thus in a hemiplegic woman whose case has been reported by Terrier, there ensued a con-

tracture which lasted several months. I might cite numerous examples of the same kind relative, not only to hemiplegia, but to paraplegia, which took on the spasmodic character under the influence of a traumatism. Moreover, to determine the contracture in a member affected with a flaccid paralysis, a violent traumatism is not necessary, too rude a faradization, the application of a vesicatory, of a stibian plaster, may produce the same effects as the shock.

The theory which enables you to fix these facts in your mind, is the following. There exists in these cases of paralysis which have for cause a material lesion, a hyper-excitability of the gray substance, and in particular of the motor cells of the anterior cornua, a particular state which I have proposed, for want of a better word, to designate under the name of *strychnism*; now, cutaneous irritations, the irritation of centripetal nerves in general augment the already exaggerated excitation of the motor cells, which overflows its bounds, and the centrifugal nerve transports the excitation to the muscles which it innervates.

But it is time to return to hysteria. In many hysterical patients, on the side of the anæsthesia principally, but sometimes to some extent over the whole body, there exists an exaggerated reflex excitability, although you may find a paresis, a well-marked dynamometric feebleness. It is not astonishing, then, that an excitation of the centripetal nerves, tendinous or otherwise, should determine the same effects as in

cases where there exists a lesion of the nerve centers; the spasmodic paralysis of the members without rigidity, may, in the same conditions transform itself to a paralysis with contracture and rigidity of the joints.

I might refer to numerous instances of the same kind, some of which are reported in the first volume of my lectures delivered in the Salpêtrière. In one case, as the result of a fall upon the back of the head, we saw supervene a contracture of the wrist, which lasted several months; I have also observed the same phenomenon as the sequel of bruising the hand in the gearing of a machine; another hysterical subject who had had the dorsum of the foot jambed against the arm of a chair was affected with contracture of the foot, etc. Brodie, who was well-acquainted with such facts and who was the first to point them out in 1837, in his book "On Certain Local Nervous Affections," gives cases of contracture of the upper limb after pricks of the finger.

Such facts are of the greater interest that the contracture determined by the traumatism is often the first manifestation of the hysterical diathesis. Thus, a common traumatism produces a contracture in a young subject that up to that day never had presented any nervous ailment; examine closely, and in all likelihood you will see some accompaniment which will convince you that hysteria is concerned in the case; it will be very strange if you do not find under such circumstances some trace of hyperæsthesia, of anæsthesia, an ovarian pain, or some other indication of the same kind.

I can, moreover, enable you to witness this tendency to contracture which often exists to a very high degree in some hysterical patients, and it is not necessary even that such patients shall be afflicted with the great hysteria, the hysteria of convulsive paroxysms, but simply with common hysteria.

I present to you two young hysterical females, the cheery expression of whose countenance, and the passion for finery rendered manifest by the ribbons and flowers with which they are adorned, offer a striking contrast with the mien of our first patient, whose physiognomy betrays an intellectual state considerably affected by his frequent epileptic fits. One of these patients presents an anæsthesia in patches, and a left ovaria; she has spontaneous contractures following her attacks. The other has hemianæsthesia on the left side, her right side is analgesic, and she has double ovaria. You see that by repeated percussion of the patellar tendon and the tendo Achillis, the leg places itself in extension, while the foot flexes itself in the positiou of talipes equinus; this attitude is fixed, the rigidity of the member is absolute; you cannot communicate to it any movement of extension or of flexion; we have here, in fact, a contracture of the most characteristic kind which may last for several hours if we do not arrest it by exciting the antagonist muscles by the same process which we have just employed to provoke the contracture. What we have just done with the lower extremity, we can do with the

upper. If with a percussion hammer I make a series of taps upon the flexors of the fingers about the wrist, you see the hands and fingers take a position of exaggerated flexion, and remain fixed in contracture.

I think that I have said enough to put in clear light the influence of traumatic lesions on the development of contracture in hysterical patients, and, aside from hysteria, in subjects predisposed by certain organic lesions. We shall many times have the opportunity in the course of our studies of applying this interesting notion to the explanation of certain phenomena otherwise inexplicable.

But I come back to the contracture of our patient B. What can we do for it? Wait the natural, easily predicted constitutional revolution, which will soon put an end to it. But supposing that it should persist? As it is a unilateral contracture, we have a simple device which may be efficacious—we may, by means of a magnet, or by the action of other agents of the same order, provoke a transfer of the contracture to the opposite side, and it may happen that after a large number of these transfers the contracture will exhaust itself.

II.

There has lately come to our out-door clinic, a little patient whose case borders on, if it does not actually belong to the domain of hysteria. This patient is a young Jewess, of St. Petersburg, aged fifteen

years, who has never yet menstruated; she has now been an out-door patient for about six weeks. She has come to Paris to be cured, not being able to be cured elsewhere. I do not know whether we shall be able to give her the relief which she demands, or rather, which her father demands for her. You will understand presently why I make this reservation. We have here, or we seem to have, a case of *painless tic of the face;* but the affection presents itself with special characters which differentiate it considerably from the normal type.

Here is another patient, gentlemen, whom I shall have occasion to show you on another occasion, and who is a fair example of the painless tic of the face under its common form. It is an old hysterical patient, or rather, it is a woman still hysterical although she is more than fifty years old, and in whom the attacks af hystero-epilepsy have long since disappeared; but there remains a left hemi-anæsthesia, and on the same side, she has a facial tic which dates from four or five years ago. This tic manifests itself by paroxysms, which repeat themselves frequently during the day, and it is characterized by a very rapid winking of the eyelids, and a trembling—amounting to two hundred times a minute—of the left labial commissure; the platysma participates to some degree in the convulsion. This is the common type.

Consider now our young patient; here the spasm comes on when we desire it. You see her with a com-

press over her right eye which is kept at rest; there is nothing particular to notice about the face. But we will now take away the compress; if we remove it gently, without disturbing the ball of the eye, which is protected by the contractured lids, there is at once produced a contraction of the muscles of the right side of the face. If we uncover the eye, the spasm is produced still more energetically, and we bring about a frightful and fixed distortion of the features. The result never fails; repose as soon as the compress is in place, contracture as soon as it is removed.

Thus, there exists a remarkable difference between this case and the preceding, and so great is it, that we are led to ask if we have not before us one of those singular cases of simulation, of which the history of hysteria is full.

It should be stated in this connection that the affection from which this girl suffers was preceded, a year ago, by a spasm of the right orbicularis muscle, which came on without known cause, without pain. A little while afterwards, she had nervous crises with laughing, weeping, outcries. Last August, after a local electrization, the spasm of the face declared itself just as you see it to-day.

Let us examine matters a litte more closely. The existence of a blepharospasm in nervous, hysterical subjects is nothing rare which should cause surprise. Let even this spasm extend to the face, there is noth-

ing strange about this; it is seen in a multitude of cases. Lastly, nothing is more natural than that the spasm should be kept in check by pressure exercised on certain points. De Græfe long time ago called attention to the existence of these points of arrest, which the physician ought to search for, and which the patients often find of themselves accidentally. In the case before us the point of arrest is the eyelid itself, or the supra-orbital arch.

But here is where the series of strange phenomena begins. The pressure exercised by the little pad is a very slight affair; and, on the other hand, if it were only a matter of pressure, this ought to be efficacious as well when we practice it ourselves by applying the pad and in tightening it by the aid of a bandage, as when this operation is performed by the patient herself. Now in reality this is not the case. There is, then, a personal influence at work here which demands our earnest attention. I will go farther, and declare not merely my suspicion, but my firm conviction. Yes, this young patient is guilty of simulation, or, at least, of exaggeration. I fully admit the reality of the blepharospasm, but, as far as the spasm of the muscles innervated by the inferior facial is concerned and of the platysma, I believe it to be superadded, invented, simulated. It is probable that the physicians in St. Petersburg who saw this young girl had come to the same opinion, in fact, they had got ready for the operation of resection of a nerve and the

patient was chloroformed, when for some reason they desisted from proceeding any farther. The spasm has continued, nevertheless, just as you have seen it to day.

But, you will ask, what interest has this young girl in *feigning* a part? I have already had occasion to tell you that the hysterical often dissimulate without any well-defined end, for the mere love of the thing. The passion for notoriety—what various shapes does it assume? To deceive, or seem to deceive, the physicians of St. Petersburg, then those of Paris, afterward to baffle the faculty of Vienna, and thus to make the tour of all Europe, would not this have a sufficient interest?

I will add, that placed on the electric platform, the eyelids uncovered, the young patient seems perceptibly fatigued; at the end of a quarter of an hour she appears to be out of breath; her body is covered with a cold sweat, and an attack of convulsions is imminent. We have not been willing to carry the experiment any farther.

Under such circumstances, what is to be done? We must wait, and say nothing. We do not wish, at present, to disclose our opinion to the father any more than to the child, for fear of losing their confidence We shall only carry out a treatment which shall serve as a placebo. I hope that our young patient may remain some time in our service, and that I shall have occasion to present her to you again.

NOTE BY DR. FÉRE.

Since the lecture, Mlle. A. has been isolated from her family. She entered the hospital May 27th, and had no other treatment but the application at a distance of magnets to the side of the spasm, and several séances of static electrization. April 1st, under the influence of electrization, the spasm diminished momentarily, and the sensibility increased. Till the 18th June, nothing particular happened; but on that day she had an attack of spasms with piercing cries and contortions, predominating always on the right, the side of the spasm. During the month of July we made use almost every day of the magnet at a distance; the contracture of the lower part of the face insensibly disappeared. July 26th there remained nothing but the blepharospasm. The next day, after being crossed in her wishes, she had quite a violent fit; the eye has remained normally open ever since, and the fits have been since then several times repeated.

LECTURE VI.

MUSCULAR ATROPHY CONSECUTIVE TO ARTICULAR RHEUMATISM.

SUMMARY.—Muscular Atrophy in the acute, subacute, or chronic Athropathies. Relation between the Localization of the Atrophy and the Seat of the arthropathy. Types of primary chronic articular rheumatism: 1. Primary generalized or progressive chronic Rheumatism; 2. Chronic articular rheumatism, fixed or partial; 3. Nodosities of Heberden.

Generalized chronic Rheumatism causes Amyotrophies predominating in the extensor muscles of the diseased joints. Exaggeration of the tendon reflexes. With the amyotrophy there exists a Contracture in a latent state. Reflex Spasmodic Contracture of joint-origin.

GENTLEMEN:—I am about to present to you a patient who will bring us back to the study of those amyotrophic paralyses which have recently occupied our attention.

You have, in fact, not forgotten that young employé of the telegraph department, who, as the result of a shock affecting the right knee, and causing in this joint an arthritis which was, however, very slight, has been suffering, for almost a year, from an atrophic paresis localized chiefly in the triceps cruralis of the right side, and which has since then rendered walking very difficult.

Traumatic lesions are far from being the only

causes which can produce such untoward events. It is, indeed, well established that the most diverse lesions may conduce to the same results.

The fact is well demonstrated in reference to acute articular rheumatism, acute gout (Bouchard, Debove), and blennorrhagic rheumatism. What has just been said of the acute or sub-acute arthropathies, may be repeated with respect to chronic articular rheumatism. In all these joint affections, acute or chronic, the amyotrophy comes on according to the laws indicated in a previous lecture, *i. e.*, it localizes itself predominantly in the extensor muscles of the affected joint; thus it is the gluteal muscles which are, for the most part, affected when there is an arthritis of the hip: it is the triceps cruralis if the knee is affected; it is the triceps brachialis if the lesion is seated in the elbow, etc.

This relation between the seat of the joint affection and the localization of the muscular atrophy is even sufficiently regular and constant to be utilized in certain cases of difficult diagnosis. Thus, in certain arthrites, in certain cases of *morbus coxæ senilis* not far advanced, when the physical signs are with difficulty appreciable by reason of the deep situation of the joint, the very marked flattening of the hip of the corresponding side resulting from atrophy of the lower fasciculi of the great gluteus muscle may also be considered as a very significant indication. Long before the muscular atrophies of joint origin were known,

Adams called attention to this flattening of the gluteal region in certain chronic affections of the hip.* The case which I am going to present to you belongs to the category of chronic articular rheumatism.

I must first premise that I have proposed to refer to three fundamental types, the quite varied forms under which this affection presents itself.†

1. *Primary Chronic Articular Rheumatism, Generalized or Progressive.*—This is the nodular rheumatism of medical writers; it has a chronic course from the onset, and presents an almost invincible tendency to become generalized. The small joints of the extremities, those of the hands in particular, generally the metacarpo- phalangeal are the ones which are first affected, and they are taken symmetrically. Then, after a time, most of the other joints are slowly but surely invaded. During all the long course of the disease, the patient has often to endure severe pains which are frequently accompanied with febrile reaction.

2. *Primary Chronic Articular Rheumatism, Fixed or Partial.*—This disease, which presents the same characters of chronicity at first as the previous form, remains, in general, localized in one or two of the large joints, and there produces profound altera-

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* Adams, A Treatise on Rheumatic Gout, London, 1857.

† Charcot, Traité de la Goutte de Garrod, note p. 602. Maladies des Viellards, Second Edition, 1874 p. 197, et seq.

tions. It has ofter been described in surgery under the names of *dry arthritis*, *of morbus coxæ senilis*, when it affects the hip. It is accompanied with pains of slight intensity, and all febrile reaction is wanting.

3. *Nodosities of Heberden.*—This is the affection described by Heberden under the name of *digitorum nodi.* Very generally, though wrongly, referred to gout, it occupies almost exclusively the articulations of the phalangines with the phalangettes, and sometimes of the phalangines with the phalanges; it spares, on the contrary, the metacarpo-phalangeal, which are predominantly affected in nodular rheumatism proper.

It hardly need be said that dry arthritis is the anatomical substratum of all these clinical forms, but to each one of them corresponds a certain modification of the anatomo-pathological type. These three forms, in fact, are not absolutely separated; they are connected by insensible transitions. There are cases which are in some sort intermediate, and the case which we are now about to study belongs at the same time to chronic partial articular rheumatism, and, if you please, to chronic generalized articular rheumatism; it is chronic partial rheumatism extending to a great number of joints.

The patient, L. by name, aged 51 years, hair-dresser, had enjoyed good health up to the age of 44 years. During the last nine years, he has unfortunately occupied a dark and damp basement room back of a shop, and there, during the night, he has often suffered from

cold. This influence of a damp habitation in the etiology of chronic rheumatism is one of the determining causes the most often alleged and the least contested, and it is very remarkable that the joint pains do not generally appear till several years after the period when the noxious influence has begun to exert itself; there is here, then, a sort of incubation. So, in our patient, it was not till the end of five years' sojourn in this damp, dark room that the first arthropathies manifested themselves. The joints have been affected in the following order: the wrists first, then the shoulders, then the ankles, knees, hips, elbows; lastly the fingers in a slight degree, and the cervical joints. This successive invasion has taken place during a period of four years. The pains have been of little intensity; the swelling slightly pronounced; there has never been either redness or fever; the patient has never been obliged to keep his bed, but he has been hampered and impeded in certain movements of the wrist necessary to his occupation; then a rapid emaciation supervened, and a great muscular enfeeblement, making walking extremely difficult, and obliging him to give up his occupation.

Actually, it is an easy matter to recognize the diseased joints, and the alterations with which they are affected are quite perceptible. These joints are for the most part the seat of cracklings, the left shoulder especially, and the knees. The knee joints contain a certain quantity of liquid, and the soft parts which

surround them are evidently tumefied. Cracklings also exist in the wrists, elbows and several of the finger joints of both hands. In short, without more words, we find in a great number of joints the classical characters of dry arthritis.

But the point to which our attention ought especially to be directed is the wasting of the muscular masses. We have not to do here with a general emaciation in the rigorous acceptation of the word, but with an amyotrophy localized chiefly in certain muscles or in certain groups of muscles, and we find it predominating in the extensors, as we might have expected. Thus, at the shoulders we note a flattening of the deltoids; the triceps brachii is markedly wasted, while the biceps has still preserved a certain fullness and rotundity. The glutei are considerably flattened, and this is in relation with the affection of the coxofemoral joints. In the thigh, the femoralis is much more atrophied than the mass of the flexors, and the same law holds with regard to all the diseased joints.

The modifications of electric reactions which the muscles present are here, also, purely quantitative, and not qualitative modifications. Only one muscle is excepted, namely, the vastus externus of the right side which offers the reaction of degeneration, consisting in this, that the faradic excitability is enfeebled while the galvanic is exalted. This is the sole exception; everywhere else the electric reactions indicate a simple atrophy, without profound alteration of

nutrition. Certain of these atrophied muscles are the seat of very appreciable fibrillary contractions, the deltoid, for instance, the triceps femoris, the glutei; and some of these muscles are manifestly excitable by simple direct percussion, as you see is the case with left deltoid in particular.

To these trophic lesions of the muscles corresponds a motor impotence which is the more pronounced the greater the amyotrophy happens to be. Walking is difficult, rather by reason of the amyotrophic paresis, than by reason of the pain. As for the hands, the dynamometric force is very limited: thus it is represented by 10 for the right hand, and 12 for the left, the normal mean being about 80.

A more attentive examination enables us to see that in the upper members it is the extensors which are at fault, as might have been expected; thus, for example, it is very easy to overcome the extension of the elbow, while the limb placed in flexion resists quite well the efforts made to extend it. We remark the same thing in relation to the wrist joint and to the knee.

You see, then, that every thing in respect to this patient harmonizes well, in all essential particulars, with what we have seen in the telegraph operator whose atrophic paralysis came on in consequence of an injury. We may then conclude that the arthropathies of generalized chronic articular rheumatism determine just as do the traumatic arthrites, that re-

verberation to the spinal center whose consequence is amyotrophic paralysis predominating in the extensors.*

But between the two cases, there is, on another point, a resemblance to establish. When showing you the telegraph operator, I called your attention, as a matter of interest, to the exaltation of the tendinous reflexes, marked not only in the diseased member, but also in the member that apparently is not diseased, and concluded therefrom that the spinal affection, whatever it might be, which is developed in consequence of the arthritis, is much more extensive than one would at first have supposed. Well, then, this same phenomenon, revealing the exaltation of the reflex excitability, is seen in the patient whom I show you to day, and in a yet much more pronounced degree. Thus, in the two inferior extremities, lifting the point of the foot determines a very manifest trepidation, especially if the patient makes an effort to resist this extension. In order that you may now well appreciate the exaltation of the patellar reflexes, I

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* Debove (Progres Medical 1880, p. 1011) has had occasion to study under the microscope the muscles of a chronic rheumatic patient affected with muscular atrophy, and he has noted certain characters which justify classing these amyotrophies along with myopathies of nervous origin: to wit, an irregularity of the atrophy, which attacks, in different degrees, not only the fasciculi of the same muscles, but even the fibres of the same fasciculus; and a considerable degree of sclerosis of the interstitial connective tissue.

place the patient sitting on the edge of the bed, the extremity of the feet resting on the side of a chair. You see that on both right and left, the percussion of the patellar tendons has for an effect to determine, at each stroke, a movement in the shoulders, especially the left. Thus, I repeat, every time that you strike the patellar tendon, whether on the right side or on the left, there is a contraction of the deltoid, of the trapezius, of the pectorals major, and the shoulder is manifestly raised, and engages in its movement the entire upper limb.

We find, then, here in the lower limbs the elements which constitute spasmodic paraplegia at the period when the permanent contracture, though not yet developed, is at the same time imminent.

Now, these phenomena are so pronounced that an astute practitioner has been led to think that in this case the spinal lesion was primary, the arthropathies and the amyotrophy being secondary. But the evolution of the morbid phenomena protests against this view; the arthropathies are in reality the primary fact, the spinal affection which gives origin to the amyotrophy is but secondary.

It is not without interest to add that apart from this exaggerated reflex excitability, marked by the exaltation of the tendinous reflexes, a characteristic which shows itself as well in the upper extremities as in the lower, we find no other symptom which can be referred to a spinal affection. Thus, there is no dis-

turbance of the cutaneous sensibility, no girdling pains, no trouble in the emission of urine, etc.

Thus, as you see from what goes before, in cases where the amyotrophic paresis predominates, the contracture exists, so to speak, potentially, in the latent state.

This leads me to remark that if in certain arthropathies the amyotrophic paralysis is, as in the foregoing case, the capital fact, it is not so in other articular affections where the spasmodic contracture is the predominating symptom.

It has long been taught in surgery that in certain arthrites, in the painful forms in particular, the affected joints become rigid; they are then ordinarily fixed in a state of flexion. Thus, in coxalgia, the thigh is bent on the pelvis; in the fungous arthritis of the knee, the leg is flexed on the thigh, etc.

Pathologists have long discussed the causes of this rigidity of the joints and the deformity therefrom resulting. You are not ignorant that in the school of Bonnet, at Lyons, it is taught that this rigidity is due chiefly to the instinct of the patient, who endeavors to give the joint a fixed position in order to avoid the pain as much as possible. Some have spoken of the weight of the parts as being an element in the case, the liquid accumulation in the joint, etc., but in all these explanations the spasmodic, involuntary contraction is relegated to the second place. To-day, on the contrary, if I mistake not, this spasmodic, invol-

untary reflex contraction is regarded by most surgeons as the primary fact, and we have, consquently, come back to the doctrine of Hunter.

In a book, little known in France, entitled "Rest and Pain," Hilton, Surgeon of Guy's Hospital, has neatly expressed what may now be regarded as the prevalent notion: "When the joint cavity is inflamed, or in any way irritated, the influence of this condition is transmitted to the spinal cord, and thence reflected by the intermediation of the corresponding motor nerves on the various muscles which move the joints."

Prof. Duplay, in several passages in his book, as well as Pitha, has given his adherence to this theory.

Now we have, in the case under consideration, a spasmodic contraction affecting at once the extensors and the flexors, but that of the latter predominates, so as to determine the direction of the deviation. We do not appear to have to do here with a contraction which is intentional or instinctive, designed to attenuate the pain; for in many cases, and in particular, in what concerns the hip, we know that we are obliged, in order to attenuate the pain, to oppose this very contraction by producing forced extension. M. Masse * has, moreover, made this interesting remark, that during sleep these contractures are often enormously

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* Influence of Attitude of the Limbs on Their Joints; Montpellier, 1878.

exaggerated, while they are perceptibly lessened during the waking hours, when the patient is in condition to struggle against them.

Without denying the influence of the accessory causes, we are then forced to admit that the reflex, spasmodic contracture is in these cases the principal agent of the articular deviation. This view, in my opinion, finds full confirmation in the study of the remarkable deviations which so habitually take place in chronic, generalized, and progressive articular rheumatism (nodular rheumatism). This is a point which I endeavored to establish in my inaugural dissertation thirty years ago, and to which I wish to refer in a future lecture.

It cannot be without interest, moreover, to bring clearly into view the fact that by the side of the amyotrophic paralyses of articular origin, there exist spasmodic contractures also connected with an alteration of the joints, that the amyotrophies, as well as the contractures, are due to a spinal affection determined by reflex action, and lastly, to elucidate the relationship which seems to exist between these two orders of facts, in appearance so wide apart.

LECTURE VII.

ON SIX CASES OF HYSTERIA IN THE MALE SUBJECT.

SUMMARY.—Hysteria in the male is not so rare as one might suppose. Rôle of traumatism in the development of this affection; railway spine. Tenacity of hysterical stigmata in typical cases in both sexes

Account of three typical and complete cases of hystero-epilepsy in the male. Striking resemblance which these cases bear to each other, and to corresponding cases observed in the female sex.

GENTLEMEN: We shall study to-day hysteria in the male sex, and in order the better to compass the subject, we shall consider male hysteria more particularly in adolescent subjects, or such as are in the vigor of age and in full maturity, that is to say, in men of from twenty to forty years, and we shall give attention more especially to that intense, very pronounced form which corresponds to what is called in the female great hysteria, or hystero-epilepsy with mixed crises. If I have decided to take up this subject which I have touched upon many times already, it is because we have actually in our clinical service at the present time a truly remarkable collection of patients whom I shall cause to appear before you, and whom I shall study with you. I have for my object especially to make you recognize and prove by your senses the identity of the great neurosis in both sexes,

for in the comparison which we shall make as we go on of the symptoms of hysteria major in the female and in the male, every where we shall have occasion to remark the most striking similarities, and here and there only, certain differences which, as you will see, are of but secondary importance.

Moreover, this question of hysteria in the male subject is one of the questions regarded as of special interest at the present day. In France, during the last few years it has much occupied the attention of physicians. From 1875 to 1880 five inaugural dissertations on hysteria in the male were defended before the Faculty of Paris, and Klein, author of one of these theses written under the direction of Dr. Olivier, succeeded in compiling eighty cases of this affection. Since then the important publications of Bourneville and his pupils have appeared; of Debove, Raymond, Dreyfus and some others; and all these works tend to prove, among other things, that cases of male hysteria may be met with quite frequently in ordinary practice. Quite recently, male hysteria has been studied in America by Putnam and Walton,* principally in connection with and as a sequel of traumatisms, and more especially of railroad accidents. They have recognized, along with Page, who has also interested himself in

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* I. Putnam, Am. Journal of Neurology, 1884, p. 507; Walton, Arch. of Med., 1883, t. x.

this question in England,* that many of those nervous accidents designated under the name of *railway spine*, and which, in his opinion, might better be called *railway brain*, are in reality, whether appearing in man or in woman, simply hysterical manifestations. It is easy, then, to understand the interest which such a question has to the practical mind of our confrères of the United States. The victims of railroad accidents quite naturally claim damages of the companies. The case goes into court; thousands of dollars are at stake. Now, I repeat, often it is hysteria which is at the bottom of all these nervous lesions. Those neuropathic states, so grave and so tenacious, which present themselves as the sequel of "collisions" of that kind, and which render their victims unable to work or pursue any regular occupation for months and for even years, are often only hysteria, nothing but hysteria. Male hysteria is then worthy of being studied and known by the medico-legalist, for he is often called upon to give his opinion, in matters concerning which great pecuniary interests are at stake, before a tribunal which would be likely to be influenced (and this circumstance renders his task the more difficult) by the disfavor which is still attached to the word hysteria on account of prejudices profoundly rooted. A thorough

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* Page, Injuries of the Spine and Spinal Cord without Apparent Mechanical Lesion, and Nervous Shock. London, 1885.

acquaintance not only with the disease, but also with the conditions under which it is produced, will be on such occasions the more useful from the fact that the nervous disorders often ensue without any traumatic lesion, and simply as a consequence of the psychical nervous shock resulting from the accident; frequently, moreover, they do not come on immediately after the accident, but some time afterwards, when, for instance, one of the victims of the collision, who may have been disabled by fracture of the leg, will have got well after being incapacitated for work for three or four months; another, perhaps, may have been suffering from nervous troubles which are destined to prevent him from working for six months or a year, but which have not reached their full intensity. You see how delicate in such cases is the mission of the medical jurist, and it is this medico-legal side of the question which seems among our American confrères to have awakened a new interest in the study of hysterical neuroses heretofore a little neglected.

In proportion as the disease has been better studied and better known (as habitually happens in similar circumstances), cases become apparently more and more frequent, and at the same time, more easy of analysis. I just told you that four or five years ago, Klein, in his thesis, had collected eighty cases of hysteria in men; to-day, Batault who is preparing in our hospital service a special work on the subject, has been able to gather together 218 cases of the same kind, none of which belong to our clinic.

Male hysteria is, then, far from being rare. Indeed, gentlemen, if I were to judge from what I see every day among us, these cases are very often misunderstood, even by very distinguished physicians. It is granted that an effeminate young man may, after certain excesses, disappointments, deep emotions, present various phenomena of an hysterical nature, but that a vigorous mechanic, well developed, not enervated by an indolent or too studious mode of life, a fireman of a locomotive, for instance, never before emotional, at least in appearance, may, as the result of a railroad accident, a collision, a car running off from the track, become hysterical just like a woman—all this has never entered into the imagination of some people. Nothing, however, is better proved, and pathology must adjust itself to this new conception, which will hereafter take its place along with other propositions which are to-day received as demonstrated truths, after having long fought their way through scepticism, and often through ridicule.

There is a prejudice which doubtless contributes much to oppose the diffusion of right knowledge relative to hysteria in the male sex; I refer to the relatively false notion generally entertained of the clinical tableau of this neurosis in the female. In the male, in fact, the disease often presents itself as an affection remarkable by the permanence and tenacity of the symptoms which characterize it. In the female, on the contrary—and this is without doubt that which

seems to constitute the capital difference between the two sexes in the estimation of anyone who does not thoroughly and radically know the disease in the female—what is generally believed to be the characteristic feature of hysteria is the instability, the mobility of the symptoms. In hysteria, it is said, observations of the disease in the female being naturally taken as the basis of this opinion, the phenomena are mobile, fugacious, and the capricious march of the affection is often interrupted by scenes of the most unexpected nature. Very well, but, gentlemen, this mobility, this fugaciousness is far from being a universal characteristic of hysteria, even in the female, as I have shown you by numerous examples.

Yes, even in females there are cases of hysteria with durable, permanent phenomena, extremely difficult to modify, and which sometimes resist all medical interference. Cases of this kind are numerous, very numerous, if, indeed, they do not constitute the majority. This is a point to which I shall return shortly. But for the moment I content myself by remarking, only, that the permanence of the hysterical symptoms in the male, and their tenacity often prevent the medical attendants from recognizing their true character. Some, in presence of phenomena which resist all therapeutic modifiers, will believe, I imagine, if there exist sensorial troubles with nervous crises simulating more or less the epileptic fit, that they have to do with an organic localized lesion (lesion en foyer), an intra-

cranial neoplasm, or if it is a case of paraplegia, with an organic spinal lesion. Others will willingly admit, or will even affirm, that there can be no question in these cases of an organic alteration, but simply of a dynamic lesion; but in view of symptoms whose tenacity does not comport with the scheme which they have in mind of hysteria, they will think that they have before them a special disease, not yet described, and which merits a place by itself.

A mistake of this kind seems to me to have been committed by M. M. Oppenheim and Thomsen, of Berlin, in a memoir * which contains, however, a great number of interesting facts, carefully observed, if not always well interpreted, at least according to my way of thinking. These gentlemen have observed hemianæsthesia, sensitive and sensorial, like in all points to that of hysterical patients, in seven observations similar to those of Putnam and Walton. These cases had to do with firemen, conductors, workingmen, victims of rail-road or other accidents, all of whom had sustained a blow on the head, a concussion, or a general shock. Alcoholism, lead-poisoning, etc., were not factors in these cases, and the fact was recognized that, according to every probability, there existed no organic lesion in these subjects.

We have here, then, a set of cases quite like those of Putnam and Walton, but differing from the latter

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* Arch. de Westphal, Bd. XV. Heft 2 and 3.

in this respect that the German authorities are not willing to concede that these are cases of hysteria, which to their minds constitute something peculiar, some undefined, undescribed pathological state, demanding a new place in the nosological category. The principal arguments which Oppenheim and Thomsen adduce to the support of their thesis are the following: 1. The anæsthesia is obstinate; we do not see there those capricious changes which are characteristic (?) of hysteria. It lasts just as it is for months and for years. 2. Another reason is that the psychical state of the patient is not that of the hysterical. The troubles of this order in these patients have not the changing, mobile traits of hysterical manifestations. The patients are conspicuously depressed, melancholic after a permanent sort, and without great fluctuations in the degree of their melancholy,

It is impossible for me to agree with the conclusions of MM. Oppenheim and Thomsen, and I hope to show you, gentlemen, 1, that the sensorial hysterical troubles may in the female, even, present a remarkable tenacity, and that in the male it is often so; 2, that in the male in particular, the depression and the melancholic tendency are most commonly observed in the most marked, the least contestable cases of hysteria. We do not indeed ordinarily observe in the male subject, although this is assuredly not a distinctive characteristic of the first order, those caprices, those changes of character and humor, which belong more

commonly, but not necessarily, to the hysteria of the female.

But it is time, gentlemen, to bring to an end these preliminary remarks, in order to come to the principal object of our lesson to-day. We shall proceed by clinical demonstration to study together in detail a certain number of perfectly characteristic cases of male hysteria. While thus engaged we shall bring to view the likenesses and the differences that exist between the symptoms of hysteria observed in men and those with which we are familiar every day in the corresponding form of the disease in women. Lastly, I intend to present after the manner of a summary, certain general considerations on the great hysteria (hysteria major) as seen in the male sex.

But before coming to my subject proper, I desire briefly to remind you by two examples to what extent in the female the permanent symptoms of hysteria, the hysterical stigmata, as we are wont to call them for convenience, may show themselves fixed, tenacious, and consequently exempt from that proverbial mobility which has been attributed to them, and which some writers regard as characteristic of the disease. I shall not refer now to the six or eight subjects of great hysteria actually assembled in our wards. Certain of them have presented for months and even for years a simple or double anæsthesia which our best and most appropriate therapeutic modifiers can influence only for a few hours. I will limit myself to presenting to

you two women who are veritable veterans of hystero-epilepsy, and who now, being rid for several years of their great attacks, and discharged from the medical service, exercise in the hospital the functions of domestics. The first, L. by name, well known in the history of hystero epilepsy, and noted for the "demoniacal" character which her convulsive crises presented, is to-day 63 years of age. She entered the Salpêtrière in 1846, and I have not ceased to have her under observation since 1871. At this time she was affected, as she is still to-day, with a right hemianæsthesia, complete, absolute, sensorial and sensitive, with ovaria on the same side, which, during this long period of fifteen years, has never been modified, *even temporarily*, whether by the action many times tried of æsthesiogenous agents, whether by the progress of age and the menopause. Six years ago, at the time when our attention was more particularly directed to the modifications which the visual field undergoes in the hysterical, we detected in this patient the existence in a marked degree of the classic contraction of the visual field, which was pronounced on both sides, but much more so on the right. The repeated examination once or twice every year since then has never failed to reveal the permanence of this contraction.

The other patient, Aurel by name, aged 62 years, and in whom the great seizures, replaced sometimes by certain symptoms of angina pectoris, have only

ceased within a dozen of years, presented as far back as 1851, according to a precious note dated that very year, a left hemianæsthesia, complete and absolute, sensorial and sensitive, which, as you can observe for yourselves, exists this very day, after a lapse of 34 years. This patient has been under our observation for fifteen years, and never has the hemianæsthesia in question ceased to present itself during our often-repeated examinations. The double contraction of the visual field, very plain on both sides, but more pronounced on the left, which the campimetric examination has enabled us at the present time to find, already existed with her five years ago.

This is enough; I think, to show you how stable and permanent in these women are the stigmata of which no one would think of disputing the hysterical nature, and how little this corresponds to the notion, erroneous by reason of being carried too far, which is generally entertained of the evolution of the symptoms of the disease.

I come now to the study of our male hysterics.

Case 1.—Rig * * *, aged 44 years, clerk in an oil factory, entered the Salpêtrière May 12, 1884, or about a year ago. He is a large, strong man, of firm muscles; was formerly a cooper, and endured without fatigue arduous toil. The hereditary antecdents in this patient are very remarkable. His father is still living, aged 76 years. From the age of 38 to 44 the the latter, by reason of disappointments and pecuniary

losses, suffered *nervous attacks*, as to the nature of which the patient can give us but little information. His mother died at the age of 63, of asthma. His mother's *great uncle* was *epileptic*, and died in consequence of a fall into the fire during one of his fits. The *two daughters of this uncle* were also *epileptic*. Rig * * * has had seven brothers and sisters who have never had any nervous diseases. Four are dead; among the three living, one sister is asthmatic. He himself has had nine children, four of whom died young. Of the five who are still living, *one daughter fifteen years old has nervous crises; another, aged ten years, has attacks of hystero-epelepsy* which Dr. Marie has witnessed in this very place; *another daughter is feeble in intelligence;* lastly, two boys present nothing in particular to note.

In the personal antecedents we find the following facts: At the age of 19 or 20 years, the patient was attacked with acute articular rheumatism, without lesions of the heart. The last attack lasted six months, and it is, perhaps, to the rheumatism that we are to attribute the deformation of the hands, which we note in this patient. While a child, he was very timid, his sleep was troubled by dreams and nightmares, and besides he was addicted to somnambulism. He would often rise in the night-time and go to work, and the next morning he would be much surprised to find his job done. This state continued from 12 to 15 years. He married at 28 years of age. We do not find in his

antecedents either syphilis or alcoholism, vices from which coopers are not always exempt. He came to Paris when 32 years old, working at first with his father, then employed as shop clerk in an oil refinery.

In 1876, when 32 years of age, he met with his first accident. He cut himself quite deeply with a razor which he was sharpening, as some people are in the habit of doing, by strapping it back and forth on the front aspect of the fore arm. A vein was cut, and the blood spurted; under the influence of the hemorrhage and the fright, the patient lost consciousness and fell to the ground. He was a long time in recovering, remaining two months profoundly anæmiated, pale and without power to work.

In 1882, consequently about three years ago, he was lowering a barrel of wine into the cellar, when the cord which held it gave way; the barrel rolled down the stairway and would certainly have crushed him if he had not jumped to one side, he did not, however, save himself sufficiently to avoid a slight wound of the left hand. Despite the fright which he experienced, he was able to get up and help raise the cask. But five minutes afterward, he had an attack of loss of consciousness which lasted twenty minutes. Coming to himself, he was unable to walk, so weak had his limbs become, and he was taken home in a carriage. For two days, it was absolutely impossible for him to work; during the night his sleep was disturbed by frightful visions and interrupted by cries of:

help! I am killed! He went over again in dreams the scene in the cellar. He had nevertheless resumed his work, when ten days after the accident, in the middle of the night, he had his first attack of hystero-epilepsy. Since this time, the attacks returned almost regularly every two months; and often in the interval, during the night, whether at the moment of the first sleep or about the time of waking, he would be profoundly disturbed by visions of ferocious animals.

Formerly as he came out of these fits, he remembered that he had been dreaming during the attack, a phenomenon which no longer exists. He imagined that he was in a dark forest pursued by robbers or frightful animals, or the scene of the cellar was acted over again, and he saw wine casks rolling upon him and threatening to crush him. He affirms that never, during these seizures, or in the interval, has he had dreams or hallucinations of a gay or agreeable character.

About this time, he went to St. Anne Hospital for advice and treatment. The physicians there prescribed for him bromide of potassium, and this medicine (a fact to be noticed) has never had the least influence on the attacks, although administered for a long time till the organism was saturated with it. It was under these conditions that Rig——, was admitted to the Salpêtrière, and at his entrance we made note of the following state.

The patient is pale, anæmic, has but little appe-

tite, especially for meat, to which he prefers acid foods; in short, the general condition is far from satisfactory. The *hysterical stigmata* in this patient are very well marked. They consist in *a double anæsthesia in patches* of great extent, for pain (pinching, pricking) and for cold. Sensorial anæsthesia in general does not exist, except to a very mild degree; taste and smell are normal; hearing is nevertheless quite perceptibly blunted, especially in the left ear; the patient hears no better when the sonorous object is applied to the cranium. As far as vision is concerned, the symptoms are much plainer, and alone suffice, in a measure, to enable us to affirm the hysterical nature of the affection. He presents, in fact, on both sides *a notable contraction of the visual field*, more marked, however, on the right. He distinguishes all the colors, but the visual field of the blue is more contracted than that of the red, and passes within the latter, a phenomenon when it is met with, which is quite characteristic, as far as I know, of the visual field of hysterical patients; of this I have many times shown you examples. Lastly, to finish what I have to say of the permanent stigmata, there exist in Rig * * *two hysterogenous* points, the one cutaneous, seated below the last right false ribs, the other deeper, in the popliteal space of the right side, at a point where the patient has a cyst, which is the seat of extreme pain of spontaneous origin. There does not exist in this patient any testicular point. Pressure exercised over the spasmogenous

points, whether accidentally or voluntarily, produces all the phenomena of the hysterical aura; precordial pain, constriction of the neck, with the sensation of a ball, hissings in the ears, and beatings in the temples, these two last phenomena constituting, as you know, the cephalic aura. Those points whose excitation may provoke the attack with singular facility are, on the other hand, but feebly *spasm-checkers* (*spasmo-frenateurs*), that is to say, their excitation, even when intense and prolonged, arrests but imperfectly the attack in the process of evolution.

In the mental state of Rig——, to-day as in the past, it is always anxiety, fear, distress, that predominate. He cannot sleep in the dark; in full day he does not like to be alone; he is of excessive sensitiveness, and he experiences great fright at the sight or remembrance of certain animals, such as rats, mice, toads, which he often sees, moreover, in terrifying nightmares, or in hallucinations occurring when half asleep. He is always sad; "I am weary of myself," he says. He manifests a certain mobility of mind characterized by the fact that he can apply himself to nothing, and that he undertakes and abandons with the same facility five or six tasks at a time. He is intelligent and has a fair amount of education. He is, moreover, of a mild disposition, and totally devoid of vicious propensities.

The attacks are spontaneous or provoked. Whatever may be the manner of their origin, they

always begin by a keen sensation of smarting or burning in the region of the spasmogenous points, to which succeed first a pain in the epigastrium, then the sensation of constriction of the neck and of a ball, finally the cephalic aura consisting of sibilant noises in the ears, and beatings in the temples. At this moment the patient loses consciousness, and the *paroxysm* proper begins. It is divided into *four periods* which are quite clear and distinct. In the first, the patient executes certain epileptiform convulsive movements. Then comes the period of great gesticulations of salutation, which are of extreme violence, interrupted from time to time by an arching of the body which is absolutely characteristic, the trunk being bent bow-fashion, sometimes in front (emprosthotonos), sometimes backward (opisthotonos), the feet and head alone touching the bed, the body constituting the arch. During this time the patient utters wild cries. Then comes the third period, called period of passional attitudes, during which he utters words and cries in relation with the sad delirium and terrifying visions which pursue him. Sometimes it is the woods, the wolves, or other frightful animals, sometimes it is the cellar, the stairway, the rolling cask. Finally he regains consciousness, recognizes the persons around him and calls them by name, but the delirium and hallucinations still continue for some time. He looks all around and under the bed for the black beasts which threaten him; he examines his arms, thinking to

find there the bites of the animals which he thinks he has felt. Then he comes to himself, and the attack is over, although it is generally sure to be repeated a few minutes later, and so on, till after three or four successive paroxysms, the patient at last completely regains the normal state. Never during the course of these crises has he bitten his tongue or wet his bed.

For more than a year, R. has been subjected to treatment by static electrization, which, in cases of this kind, as you know, often gives us good results; we have prescribed at the same time all the tonics and reconstituents imaginable. Nevertheless, the phenomena which we have just described, the permanent stigmata and fits, persist just as they were, without appreciable changes; they seem, in short, having already existed almost three years, to be of the kind that undergo very slow modification. We have, however, certainly here, as you will all agree, a case of hysteroepilepsy with mixed crises (epileptiform hysteria) as clearly characterized as possible, and it is plain that the stability of the stigmata, on which we have sufficiently insisted, should not an instant stay our diagnosis.

To conclude this case, so perfectly typical, I will still further call your attention to certain particulars which the clinical analysis has disclosed. In the first place, I will mention particularly the nervous heredity, so strongly pronounced in his family: hysteria in the

father (very probable at least); great uncle and cousins-german of the mother epileptic; two daughters, one of whom is hysterical, the other hystero-epileptic. You will frequently, gentlemen, meet with these conditions of heredity in the hysterical male patient, and find them, perhaps, more marked even than in the female.

I must remind you, moreover, how in our patient the hysterical manifestations were developed on the occasion and as the result of an accident which threatened his life. Could the traumatism which was the consequence of the accident (and it was nothing but a trifling wound of the finger) have sufficed of itself to cause the development of the nervous symptoms? This is possible, but I would not affirm it. It is always necessary, alongside of the traumatism, to take account of a factor which very probably has played a more important part in the genesis of these accidents than the wound itself. I refer to the terror experienced by the patient at the moment of the accident, and which found expression shortly afterwards in loss of consciousness followed by temporary paresis of the inferior extremities. This same psychical element is found, apart from the traumatism, in some of the cases described by Putnam, Walton, Page, Oppenheim and Thomsen, where its influence, often predominant, cannot be misunderstood.

This fact of the development of the hysterical phenomena on the occasion and as the result of a

shock with or without traumatism, where emotion has played a great part, you will also find, gentlemen, in most of the other patients who will presently be shown to you.

The cases which are now to be presented for your study are in many respects patterned after the preceding, and this will be my excuse for not entering into lengthy details respecting them.

Case 2.—Gil * * *, aged 32 years, a gilder of metals, entered the Salpêtrière in Jan., 1885. There is nothing peculiar to note in his *hereditary antecedents*. His father, who was a very passionate man, died at the age of 60 years from paralysis, which did not, however, follow a fit of any kind. His mother, who died of tuberculosis, was a nervous woman, but never had any fits.

The *personal antecedents* are much more interesting to study. When 10 years old, he was addicted to somnambulism. Since his childhood, he has been afraid of the dark, and during the night has been subject to hypnagogic-hallucinations and to nightmares. In early life, he made an abuse of coitus; he feels from time to time a sort of irresistible impulsion towards women. He would often leave his work to run after some woman of the town, and after obtaining his desire, would return immediately to resume his occupation. He is, moreover, an insatiable masturbator. He is, nevertheless, intelligent, is a clever workman, and learns easily. On occcasions he is

given to music; he plays the violin and accordion. He is very fond of going to the theatre; nevertheless is of a rather gloomy and taciturn disposition, and habitually seeks solitude.

His occupation, in which large use is made of mercury, has never produced in him any accidents which may be referred to mercurial poisoning. There are no signs of alcoholism; none of syphilis.

His first fit took place at the age of twenty, without known cause. He was seated on the imperial of an omnibus, when he felt the first warnings of the coming seizure. He had just time to get down, when the convulsive attack took him in the street. The fits thereafter returned quite frequently. He reckoned at one time as many as four or five a month. It seems that at this time in some of the paroxysms he would make urine. The convulsive crises were for several years becoming less and less frequent, and he was having considerable exemption from his malady, when in 1880 he was the victim of an assault in the night-time. He received a blow from a hammer *on the head*, in the right parietal region, fell without consciousness, was robbed, and left for dead on the spot. He was picked up and carried to the Charity, to M. Gosselin's ward, where he remained for three or four days without consciousness. An erysipelas developed several days later around the wound on the head produced by the blow, and at the moment of recovery there began an intense headache of a peculiar character which still continues to-day.

For a long time after this accident he remained plunged in a sort of hebetude from which he came out by degrees, although incompletely, for since this time, even in his best days, it is impossible for him to apply himself to work or to any occupation whatever, even to reading for any length of time. So he fell into a state of utter wretchedness. Moreover, the convulsive seizures, from which for a while he had obtained respite, returned and became more intense and more frequent than ever, and for this reason, in February, 1883, he presented himself at the Hotel Dieu, where he was admitted. He remained there till March, 1884.

It was there that the left hemianæsthesia, complete and absolute, just as we find it to-day, was for the first time noted. The fits which were then frequent, and were regarded, it would seem, by the hospital staff as due to epilepsy, were for almost thirteen months treated by bromide of potassium in large doses, but without the least result.

When the patient was admitted to the Salpêtrière in January, 1885, this is what we found: The general state, as far as the functions of nutrition are concerned, appears to be quite satisfactory. He eats well, and is not anæmic. On the other hand, one would not fail to note in him a psychical depression which is very marked. He is gloomy, taciturn, distrustful, avoids the gaze of people, and has very little intercourse with the other patients in the wards. He does not interest himself during the day in any occu-

pation, in any diversion. The left hemianæthesia, already noticed at the Hôtel Dieu, is complete and absolute as far as common sensibility is concerned. The sensorial troubles on this same left side are also very pronounced. There is notable dullness of hearing; complete loss of smell and of taste; in the left eye, complete achromatopsia regularly noted by M. Parinaud, and contraction of the visual field extremely pronounced for white light. Contrarily to what usually happens in cases of this kind, the extent of the visual field, and the notion of colors, are absolutely normal on the right side. There does not, moreover, exist any trace of lesion of the fundus of the eye on either side.

He constantly complains of an intense headache, which is gravitative, or rather constrictive, general, occupying the occiput, the top of the head, the forehead, the temples especially, and more pronounced on the left side than on the right. He seems to himself to be wearing a heavy and tight helmet, which compresses and constricts his head. This cephalalgia, which, as I have said, is permanent, is somewhat exaggerted just before and after the fits. It is especially violent when the patient undertakes any occupation, when he attemps, for instance, to read, or to write a letter.

The attacks of which we have been many times witness in our wards, present the following characters: They may be spontaneous or provoked, in both cases

differing by no essential character. Three hysterogenous zones have been discovered: two of these occupy on the right and on the left the infra-mammary regions; the third is in the right iliac region; on this side, however, pressure of the cord and testicle do not produce any abnormal sensation. When you press lightly on the hysterogenous patches whose seat has just been indicated, the patient immediately experiences all the symptoms of the cephalic aura, to wit, beatings in the temples, sibilant noises in the ears, vertigo, etc. But, if you persist ever so little in your compression, the attack inevitably comes on rapidly. A few epileptoid spasms, of but short duration, open the scene. They are soon followed by divers contortions and great movements of salutation, interrupted from time to time by the *arching* attitude (*arc de cercle*); during this time the patient does not cease to utter wild cries. A convulsive laugh, tears, and sobs terminate the attack. On waking, G—— retains no recollection of what has happened. The hysterogenous points are in this patient but incompletely spasm-restraining; when they are compressed during the attack, the fit is suspended for an instant, but speedily resumes its customary course. Whether provoked or spontaneous, the attacks generally repeat themselves successively a certain number of times so as to constitute a series; never, in such cases, is the rectal temperature higher than 37.8° C.

According to the brief description above given,

you will notice that the case of G. resembles in many particulars that of Rig. (Case 1), from which it differs in only a few particulars, In both cases, there are the same hysterical stigmata, the same melancholic tendencies; the same kind of attacks, with this peculiarity relative to G., that in him the aura is evolved with great rapidity, and that in the crisis the passional attitudes are wanting. Let us note the few differences to which it is worth the while to call the attention relatively to the second case.

We have said that in some of the attacks, G. bites his tongue and urinates in his clothes. This fact has been sufficiently noticed by us. We were for a short time lead to believe from this that we had here a case of hystero-epilepsy with distinct crises, to wit: true epilepsy on one side, hysteria major on the other, manifesting themselves under this form of separate attacks. A more attentive examination has convinced us that it is not so. All the attacks in G. have the character of hysteria major, and it is during the course of these attacks that sometimes he bites his tongue, and that sometimes he urinates in his clothes. But biting the tongue and the involuntary emission of urine are far from being univocal characters of the falling sickness. These accidents may be observed in hystero-epilepsy apart from all complication of true epilepsy. This fact is of rare occurrence, it is true; I have, nevertheless, observed and published a certain

number of cases which were perfectly demonstrative thereof.*

In finishing what concerns this case, I will call your attention to the headache from which G. suffers continually, and which is exasperated by application to the least occupation. With all the particularities which I have mentioned above, cephalgia of this kind does not belong to the tableau of hysteria; it is met with, on the contrary, almost as a necessary element in neurasthenia, of which it constitutes one of the predominant characters, and in which we equally observe the physical and mental depression which exist at so high a degree in our patient. I have endeavored to impress upon you the fact that in him these divers symptoms came on as the result of a blow which he received on his head. Now, gentlemen, the neurasthenic state with the entire congeries of phenomena which Beard† assigns to it in his remarkable monograph, is one of the nervous affections which are developed most frequently in consequence of shocks, particularly in railroad accidents. To this fact testify many of the observations reported by Page in his monograph on "Injuries of the Spinal Cord and

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*Some months later this patient died suddenly after taking surreptitiously an enormous dose of chloral. The autopsy, absolutely negative as far as the nervous centres were concerned, completely confirmed the diagnosis.

†G. M. Beard, Neurasthenia. New York, 1879.

Nervous Shock."* I have myself met with two instances absolutely like those published by this writer, one of which concerns one of our confrères in Paris. From this there is reason to believe that two quite distinct elements coexist in our patient G. In the first place, the neurasthenic state, the immediate and direct consequence of the shock of which he was a victim three years ago; in the second place, the hystero-epilepsy with all the train of symptoms which characterize it. The latter existed before the accident; it has been, however, considerably aggravated since then, as you can judge by referring to the details of the case.

I come now to the examination of the third patient, who belongs absolutely to the same group as the two preceding.

Case 3.—The patient whom you see before you, Gui. by name, is twenty-seven years of age, by occupation a lock-smith. He entered February 20, 1884, in the service of my colleague, Luys. Of his parentage he knows only that his father died at the age of forty-eight years, a confirmed drunkard; his mother is still living, and never seems to have suffered from nervous affections. He has had seven brothers and sisters; only one of his brothers is living; this one has never been sick and is not nervous.

At about the age of twelve or thirteen years, Gui.

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*See also C. L. Dana, Medical Record, Dec. 6th, 1884.

became very cowardly, and could not remain alone in a room without a feeling of fear and anxiety. He was not, however, irritable or petulant. At school, he learned easily, and later, at about the age of seventeen or eighteen, he showed himself adroit and intelligent in his occupation. Several times, even, in the competition for prizes offered for excellence in his special branch of work, he obtained medals. Unhappily, about this time an immoderate passion for women and for strong drink was developed in him. He worked all day long, like his comrades, but when the day was done, he was often in the habit of going to balls, or passing the night in some groggery, or house of ill-fame. These excesses were repeated on occasions several times a week, and naturally deprived him of the necessary sleep. They did not, however, seem to fatigue him, for the next day he would go back to his work as ordinarily and acquit himself of his tasks satisfactorily.

In 1879, when he was twenty-one years of age, during one of his nocturnal expeditions, he received a blow from a knife which penetrated the left eye. He was immediately carried to the Hotel Dieu, to the service of M. Panas, who shortly afterward practiced enucleation of this eye. On leaving the hospital G. speedily renewed his disorderly life.

About the beginning of 1882, it frequently happened that at the moment when he closed his eyes to to sleep, he seemed to see a monster in human form

advancing towards him. In alarm he would utter a cry, open his eyes, and the vision would disappear, to return, however, as soon as he would again attempt to go to sleep. He then fell into an extremely painful state of anxiety, and often remained thus a part of the night without being able to obtain any sleep.

These hypnagogic hallucinations had already lasted about six months, when, in July, 1882, he was the victim of a new accident, more terrible than the first. He was occupied in propping a balcony at the third story of a house, at a time when he was, perhaps, under liquor, and fell down upon the street, alighting upon his feet, as he affirms. For more than an hour he remained unconscious. On waking, he was again carried to the Hôtel Dieu, to the ward of Prof. Panas. It seems that the surgeons at that time feared the existence of a fracture of the cranium. Recovery, nevertheless, was not long delayed, and at the end of two months, the patient was able to return home. Shortly afterwards, the terrifying nocturnal hallucinations reappeared, and the spasmodic seizures began to manifest themselves for the first time. These were not at first as characteristic as they subsequently became. They consisted, chiefly, in attacks of vertigo coming on all at once, and followed by rigidity, then by trembling of the limbs. There was no loss of consciousness. These attacks were, however, not very frequent.

Things remained in the same condition for almost

eighteen months. At the end of this time, the remedial measures adopted by the various physicians to whom the responsibility of the case had been committed having remained without effect, Gui. made up his mind to enter the Salpêtrière (service of Luys).

Shortly after his admission, Gui. became subject to frequent attacks of abdominal and gastric colic, followed by a feeling of constriction of the pharynx, and subsequently by spells of vomiting which supervened without effort. These symptoms, which would yield to no treatment, ceased suddenly at the end of about six weeks. About this time, there was first noticed the existence of the right hemianæsthesia, and also of the peculiar trembling of the right hand, to be presently considered.

In January, 1885, by reason of a change in the hospital staff, the patients of Dr. Luys passed over to our wards, and it was then that I saw Gui, for the first time. He is, as you know, a man of good muscular development, and vigorous; his general health seems good. The mental condition has not presented any great deviation from the normal. The hypnagogic hallucinations have for more than a year completely disappeared. Gui. is not melancholy. He converses freely with the other patients and makes himself useful in the hospital.

The hemianæsthesia is complete and absolute on the right side; neither touching nor pricking is perceived on this side of the body. The organs of sense

are also profoundly affected on this same side, hearing, smell and taste in particular. As far as the organ of vision is concerned, a methodical examination discloses very characteristic modifications. On the right side—you have not forgotten that the left eye is gone—the visual field is extremely contracted. The red only is perceived by this eye, and the circle of this color is reduced almost to a point.

The trembling, of which mention was made above, and which occupies the right hand, is remarkable by the perfect regularity of its rhythm as noted by the aid of the enregistering apparatus. It consists in oscillations, of which the number is five per second on an average. In this respect, it holds consequently the medium between the trembling with slow oscillations, such as characterizes paralysis agitans, for instance, and the vibratory tremblings—with rapid oscillations—of general paralysis, and of Basedow's disease. It is not exaggerated under the influence of voluntary movements. The patient can use his hand in eating and drinking, and can even write passibly well, provided that he supports with his left hand his right wrist, a maneuvre which causes the trembling to cease for an instant. The muscular sense is wholly intact in the entire extent of the right superior member.

The only hysterogenous zone noted in Gui. occupies the testicle and the tract of the spermatic cord almost as far as the groin of the right side. The

skin of the scrotum on this side is very sensitive, and when you pinch it rather strongly you produce exactly the same effects as if you compress the testicle itself, or the cord, *i. e.*, the development or the arrest of the attack, as the case may be.

These attacks, whether they are spontaneous or provoked by the artificial excitation of this hysterogenous zone, are always preceded by a sensation of painful aura perfectly characteristic, which takes its origin in the right testicle, mounts up toward the epigastric and cardiac regions, then to the throat, where it determines a strong constriction, and finally attains the head where sibilant noises are produced, especially in the right ear, and beatings, principally in the temple of the same side. The patient then loses consciousness completely; the epileptoid period is begun; at first the trembling of the right hand is augmented and precipitated, the eyes are convulsed upwards, the limbs are extended, the fists clenched, then writhed in exaggerated pronation. Presently the arms approach each other in front of the abdomen by reason of convulsive contraction of the pectoral muscles. After this supervenes the period of contortions, characterized chiefly by extremely violent movements of salutation which are intermingled with disorderly gesticulations. The patient breaks or tears everything which is in reach of his hands. He takes postures and attitudes the oddest imaginable, so as fully to legitimize the denomination of *clownism* which I have proposed,

to designate this part of the second period of the fit. From time to time the contortions above described stop for an instant to give place to the attitude so characteristic called "*arc de cercle*" (a bowing or arching of the body). Sometimes it is a veritable opisthotonos in which the loins are separated from the plane of the bed by a distance of more than fifty centimetres, the body resting on the head and heels. At other times, the arching is made in front, the arms being crossed upon the chest, the legs in the air, the head and trunk bent upwards, the hips and loins alone resting on the bed. Lastly, at other times, in the attitude of *arc de cercle* the patient rests upon one side or the other. All this part of the seizure is very fine, if I may so express myself, and every one of these details deserves to be fixed by the process of instantaneous photography. I pass before you the figures which have thus been obtained by M. Londe. You see that from the point of view of art they leave nothing to be desired, and moreover they are very instructive. They show, in fact, that in what concerns the regularity of the periods and the typical character of the divers attitudes, the attacks in Gui. yield in nothing to those which we observe every day in our hysteroepileptics of the female sex, and this perfect resemblance is the more worthy of note from the fact that Gui. has never entered the dormitories where the females are placed during their seizures, so that we cannot assume in his case the influence of contagious imitation.

Only the period of hallucinations and of passional attitudes is wanting in this patient. Sometimes, however, we have seen towards the end of the crisis his physiognomy express alternately fright or joy, while with his hands extended in vacancy he would clutch at some imaginary object.

The end of the attack in our patient is often marked by a sort of motor aphasia which in general does not last more than eight or ten minutes, but which on one occasion continued almost six days. Then, when the patient wishes to speak, certain hoarse, inarticulate sounds are all that he can utter; he becomes impatient and excited, but nevertheless succeeds in making himself understood by very expressive gestures. It sometimes has happened to him on such occasions to take his pen and write very legibly a few quite correct sentences.

I have said enough respecting these cases, which from every point of view are quite typical. But I have not yet finished with hysteria in the male subject. We shall find it, in the next lecture, quite as characteristic in three other patients belonging to our clinical service as in the cases which I have just presented.

LECTURE VIII.

CONCERNING SIX CASES OF HYSTERIA IN THE MALE SEX.

(*Continued.*)

SUMMARY.—Abdominal forms of the hysterical attack in man.—Detail of a case in which the seizures took the aspect of partial epilepsy.—Diagnosis of this case; importance of the hysterical stigmata.

The convulsive seizure may be wanting in hysteria of the male.—Description of a case of brachial monoplegia in a man aged nineteen years, hysterical.—Difficulties of diagnosis in these cases.

GENTLEMEN:—I am intending to finish to-day the study which we began in the last lecture. I shall proceed as I did on the previous occasion, mainly by the method of clinical demonstration. Our material of male hysterics is far from being exhausted. Three new patients are going to be presented to you; in connection with them the principal details of the observations which concern them will be communicated to you; I shall let the facts speak for themselves, and I shall only set forth by a few short commentaries the more important lessons which these cases furnish.

Case 4.—The subject who is about to be presented to you does not quite belong to the class of cases with which we have thus far been occupied, in this respect that he is still quite a boy, and yet nearly a full grown man. But the disease, as you will see, seems

in him endowed with that character of permanence and tenacity which we have already met in the previous cases.

The patient Mar. aged sixteen years, entered our clinical service April 29th 1884, *i. e.* a year ago. He was born and lived till the age of fourteen years in the country. His mother is said to have had in 1872 several attacks of hysteria. His paternal grandfather was intemperate and of a very violent character. This is all we can elicit relative to his hereditary antecedents. As for the patient himself, he is a large boy, well developed, although he had in his childhood certain strumous manifestations, to wit: runnings from the ears, glandular swellings in the mastoid region. He is intelligent, of a rather gay character, and has never been timid; but he has been subject to very violent fits of anger, going so far in these paroxysms as to break everything in his reach. Two years ago he became apprentice in Paris to a baker. Shortly after he had an attack of congestion of the lungs and the enfeeblement which this sickness produced was certainly not without influence in the development of the nervous symptoms which shortly followed. Some time afterward, while still convalescent, he had a severe fright. He was, he says, attacked by two young men one night in the street; he fell almost immediately without consciousness, and was carried in this state to his employer's house. He did not show any mark of injury.

From this moment he remained for several days plunged in a sort of hebetude. He began to be subject nights to very painful nightmares, which still torment him to-day. He believed that he was a party in a fight, and he awoke often with loud outcries. Lastly, at the end of a fortnight the attacks of hysteria commenced. They took place at first every day, presenting themselves in series of eight or ten; sometimes the attendants counted two series in the same day; then the fits diminished little by little in number and intensity.

At the moment when the patient entered the Salpêtrière we noted the following state: "The hysterical stigmata are very plain; they consist in an *anæsthesia in patches*, scattered irregularly over the whole body, and in which the insensibility is complete to touch, to cold, and to pain. Hearing, smell, and taste are obnubilated on the left side, and, as concerns vision, we notice the existence of a *double contraction of the visual field*, more pronounced on the right side. On this side the patient does not distinguish violet, while on the left side he recognizes all the colors; but on both sides (a remarkable phenomena to which I have many times called your attention, and which we have already met with in the first of our subjects) the visual field of the red is more extended than that of the blue—the opposite of what takes place, you know, in the normal conditions. There exists but one *hysterogenous point*, which occu-

pies the left iliac region. To-day, moreover, although the disease began two years ago, the attacks come on spontaneously, at quite short intervals, about every ten or twelve days. They may be very easily provoked by a certain amount of even moderate pressure over the hysterogenous point. A more energetic pressure exercised over the same point arrests the attack.

The fit, whether spontaneous or provoked, is always preceded by an aura; an iliac pain on the level of the hysterogenous point, a sensation of a ball which rises from the epigastrium to the throat, buzzings in the ears and beatings in the temples. Then the fit begins; the eyeballs roll upward in their sockets, the arms stiffen in extension, and the patient, if he is standing, loses consciousness and falls. The epileptoid phase is in general little pronounced and very short, but the period of great movements and of contortions which follows is excessively violent and of long duration. The patient utters cries, bites every thing in his reach, tears his clothes, makes the great classic movements of salutation, which he interrupts from time to time by taking the attitude so characteristic of arching of the body (*arc de cercle*). The scene terminates by the phase of passional attitudes, which is very well pronounced in him, and differs a little according to the occasion. Thus, when the fit has been spontaneous, it may happen that the hallucinations accompanying the attack may have a gay char-

acter, while, if the crisis has been provoked by excitation of the hysterogenous zone, the delirium is always sad, furious, accompanied with abusive words: "wretches, villians, devils!"

Generally several attacks follow in succession, so as to constitute a series.

In regard to this patient, I will limit myself to signalizing the permanence and fixedness of the constituent elements of the hysteria, and in this respect this case is an instance of what is often observed in the male subject. Thus, as you have already remarked in our young patient, although two years have elapsed since the onset of the disease, the convulsive crises are still frequent to-day, despite all we have been able to do, and the hysterical stigmata, the sensorial and sensitive anæsthesia, have not sensibly varied since the day when we studied these signs for the first time. There is nothing to indicate that there is likely now to be any change.

It is not ordinarily so with young boys, particularly when the disease is developed in them before the age of puberty. At this age (at least this appears to be the result of the numerous observations which I have been able to make) the hysterical symptoms are generally much more fugacious, much more mobile, however well marked they may have been, and generally yield readily to an appropriate treatment.

The case which I am now about to bring before you, and which concerns a young man of 22 years,

belongs, like the preceding, despite an anomaly in the form of the attacks to which I shall presently return, to the type of hystero-epilepsy.

Case 5.—The patient, Ly., mason, aged 22 years, entered the clinical service of the Salpêtrière March 24, 1885. He was born in the country in the suburbs of Paris; is a young man of medium height, poorly developed, and of rather debilitated appearance. His father, who is a carter, is a drunkard. His mother, who died of tuberculosis, formerly had attacks of hysteria. Lastly, we find in the family a maternal grandmother still hysterical, although she has attained the age of 82 years, and two maternal aunts, both affected with hysteria. Here are antecedents of capital importance; four hysterical persons and one drunkard in the same family! The personal antecedents are no less interesting to recount. Our patient has always been of little intelligence, feeble minded; he never could learn anything at school, but apart from this mental weakness, he does not present any very characteristic psychical troubles. He confesses to having been in the habit for a long time of drinking five or six glasses of brandy a day, and a considerable quantity of wine, but he assures us that he has given up this habit since he has been sick. Three years ago, he had an attack of erysipelas of the face, followed shortly by an attack of acute rheumatism, which was, however, quite light, as it did not keep him in bed but a fortnight. The same year he was

under treatment for a tape-worm, and took pomegranate bark. The remedy produced the desired effect; the patient first voided fragments of the worm, then the entire worm. But the sight of the tænia which he found in his stools affected him very unpleasantly, and the emotion which he experienced was so vehement that for several days he suffered from slight nervous disorders, such as cramps, pains, and convulsive shocks of his limbs.

A year ago, while working at his trade in Sceaux, the son of one of his comrades was rudely struck by his father; L., who was a witness of the scene, attempted to interpose, but evil happened to him in consequence, for his infuriated comrade turned his blows upon him; and when he took to flight, threw a large stone at him, which fortunately did not hit him. The fright, however, which L. experienced was very severe; immediately he was taken with trembling in his limbs, and on the night which followed it was impossible for him to sleep. The insomnia persisted on the following day; moreover, night and day he was troubled with distressing notions. He fancied himself suffering again from the assaults of his tænia, and going through the treatment which he had endured in its removal; moreover, he had pricking sensations in his tongue, could not eat, felt weak, and worked in pain. This state had lasted a fortnight, when one evening about six o'clock his first convulsive seizure came on. Since the morning of that day, he

had been suffering from pain in the epigastrium with the sensation of a ball rising, of choking, and of buzzings in the ears. At the moment when the attack began, he felt (so he says) his tongue drawn to the left side by a sort of involuntary, irresistible traction. Then he lost consciousness, and when he came to himself, we were told that his frame was contorted toward the left, his limbs agitated with trembling; and when once the convulsions had stopped, he began talking in a loud tone of voice without waking. During the months which followed, he continued to have fits just like this every eight or ten days, and he was obliged during this long period to refrain from all work by reason of the state of weakness in which he found himself. These crises were considered as epileptiform attacks of alcoholic origin, and for almost a year he was subjected to treatment by bromide of potassium in large doses, but without any benefit whatever being derived therefrom. On the day which followed his admission to the Salpêtrière, there was a succession of five fits which came on without provocation, and at which I was not present.

The next day, a methodical examination of the patient revealed the following condition; generalized anæsthesia in disseminated patches; considerable contraction of the visual field on both sides; the field of red is more extended than that of blue; monocular diplopia. There exist two spasmogenous points, the one over the right clavicle, the other below the last

false ribs of the same side. Rather hard pressure made over this latter spot caused immediately, on our first examination, a fit which we were able to study in all its details. It is preceded by the classic aura; epigastric constriction, a feeling of a ball in the neck, etc. At that very moment, and before the patient has lost consciousness, the tongue becomes stiff, and is drawn in the mouth towards the left side; we can tell by means of the finger that its point is carried behind the molars of that side. The mouth, half open, is also drawn to one side, the left labial commissure is deviated to the left, and all the left side of the face takes part in this deformation; even the head is strongly twisted toward the left. The patient at that period, and for some time previous, has lost consciousness. Then the upper limbs become rigid in extension, the right first, then the left. The inferior members, however, remain flaccid, or, at least, are but slightly rigid. The movement of torsion toward the left, at first so well marked in the face, rapidly becomes generalized, and the patient rolls upon his left side; then clonic convulsions replace the tetanic. The limbs are agitated with frequent, short, vibratory movements. The face is the seat of sudden starts, then supervenes a complete relaxation without stertor. But at this moment the patient seems tormented with fearful dreams. He doubtless goes over again mentally, the scene of the struggle with his comrade. "Wretch! Prussian! he would kill me, the villain!" Such

are the words which he utters with perfect distinctness. Then, all at once, he changes his attitude; you see him, seated on his bed, by turns passing his hand down his leg as if he were endeavoring to rid himself of some reptile which, winding itself about the leg, was trying to creep up his thigh; he speaks of the "tape worm" which was so long a terror to him. The scene of Sceaux again comes back: "I will kill him, I will shoot him!" After this period, marked by delirium and the corresponding passional attitudes, the epileptic period reproduces itself, thus ushering in a new fit, which is distinguished in nothing from the first, and which may be followed by several others. Pressure over the hysterogenous points may however interrupt the paroxysm in the divers phases of its evolution. On awaking L. seems astounded, stupefied, and he assures us that he remembers nothing that has taken place.

All the attacks which we have witnessed (and these have been quite numerous), whether spontaneous or provoked, have presented exactly the same character. Always we have seen reproduced in the same order, systematically, and even in respect to the least details, the divers incidents of the epileptoid phase, beginning by the tongue and face, just as I have described them, then the various scenes of the delirious phase.

You have here, gentlemen, an attack of hystero-epilepsy, which, by one side, differs notably from the

classic type. In the first period, in fact, we see the convulsive accidents reproduce, even to an almost perfect imitation, the symptoms of partial epilepsy, while the contortions, the great movements, the arching of the body are absolutely wanting. But we are acquainted with this variety of the hystero-epileptic fit in the female; although it is quite rare, I have nevertheless had occasion to show you latterly several typical examples of it. It was, moreover, last year the subject of an attentive study by my former clinical chief, Dr. Ballet, physician to the hospitals.* In comparing the case which has just been before us with the cases which are the subject of this memoir, you will be led to recognize once more the truly striking features of resemblance which affiliate the hystero-epilepsy of the male with that of the female, even when, ceasing to consider exclusively the fundamental type, you open the chapter of anomalies.

Another anomaly, less rare indeed and less unexpected, in the hysteria of the female is the absence of convulsive crises. You know, in fact, that according to the teachings of Briquet, about one-quarter part of hysterical women do not have fits. The disease in such a case, without losing any of its autonomy, is only represented symptomatically by the permanent stigmata, to which are sometimes added several morbid

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* Ballet et Crespin, Attacks of Hysteria in the Form of partial epilepsy (Arch. de Neurol. 1884, Nos. 23 and 24).

accidents, spasmodic or otherwise, such as a nervous cough, permanent contractures, certain arthralgias, certain paralyses, hemorrhages taking place by divers passages etc.; now the convulsive attacks may equally be wanting in the hysteria of the male. The case which I am going to bring before you now, when it was first presented to us, was a good example of this kind. The disease has in a certain sense undergone completion since then, for the patient now has fits. But for a long period of eleven months this was one of those masked cases which are not very easy of interpretation, at least in certain respects, as you will be able to judge.

It was, then, the 10th of last March that the boy whom you now see, first appeared at our clinic, suffering from a left brachial monoplegia, without any trace of rigidity, the limb being flaccid and flexible to a perfectly normal degree. This paralysis had now lasted ten months, and came on several days after a traumatism affecting the anterior part of the left shoulder. There was no trace of paralysis or even of paresis in the corresponding inferior extremity or in the face; there were, moreover, despite the already remote date of the onset, no traces of atrophy of the paralyzed muscles, a circumstance which, joined to the absence of any modification in the electric reaction of the muscles, led us immediately to eliminate the influence (at least the local, direct influence) of traumatism. We were struck, moreover, at seeing the

skin of the carotid regions lifted by violent arterial throbbings. The Corrigan pulse was well marked. Auscultation of the heart revealed the existence of a murmur with the second sound and at the base, and, moreover, we found in the antecedents of the patient the history of an attack of acute articular rheumatism, which had kept him in bed five or six weeks. The idea came to us, in consequence, quite naturally, that this monoplegia depended on a localized cerebral lesion in the cortex, strictly limited to the motor zone, in the brachial centre, and itself consecutive to the valvular affection of the heart. But a more attentive study of the case soon undeceived us. Without doubt, the monoplegia in question takes its origin in a cerebral cortical lesion for the most part localized in the motor zone of the arm; but we have not to do here with a gross material alteration—the lesion is purely "dynamic," "*sine materia*," of the kind of those, in fact, whose existence we are obliged to assume in order to explain the development and persistence of divers permanent symptoms of hysteria. This is, at least, what results very clearly from the detailed examination which we are about to make of our patient.

Case 6.—The patient, named Pin., aged 18 years, mason by occupation, entered the Salpêtrière March 11, 1885. His mother died at the age of 46 years from the effect of "rheumatism"; his father is a drunkard. One of his sisters, aged 16 years, is subject to frequent nervous attacks. The patient is a

young man of robust appearance and vigorous muscles, but the functionment of the nervous system has always left much to be desired. From the age of five to seven years he suffered incontinence of urine. He has always been deficient in intelligence; his memory is weak; and he never learned much at school. Moreover he was timid, and suffered from nightly terrors. From a moral point of view he is ill balanced. From the time that he was nine years old he often left his home and slept under bridges, or in the waiting rooms of railway stations. His father apprenticed him to a fruit dealer, then to a confectioner, and to other tradespeople, but he was always getting into scrapes. One night he was arrested, in company with a band of young vagabonds, and sentenced to the Reformatory of Roquette, where his father left him for a year.

Two years ago, when he was 16 years old, he was taken with an attack of acute articular rheumatism, preceded by an attack of erysipelas of the face, and it is quite probable that from this period we must date the organic alteration of the heart which we note in him to-day.

May 24, 1884, or eighteen months afterward, P., then a mason's apprentice, fell from a height of about two metres, and remained for several minutes without consciousness upon the place where he fell. He was carried to his home, and there several contusions were found on the anterior aspect of the left shoulder, knee, and ankle; these contusions were slight, and did

not seriously interfere with the use of the affected parts.

For several days, it was thought that things would remain where they were; but on the 27th of May, *i.e.*, three days after the accident, P. perceived that his left upper limb was becoming feeble. He then went to see a physician, who detected, it would seem, a paresis of all the movements of the left arm, with anæsthesia of this member. On the 8th of June, that is, 15 days after his fall, and 11 days after the commencement of the paresis, he entered the Hôtel Dieu. There he was examined with care, and the physicians recognized the well characterized signs of aortic insufficiency. The parts which were bruised were not the seat of any pain, whether spontaneous or provoked by active or passive movements. Incomplete paralysis of the left superior member. The patient could still, though incompletely, flex the hand on the forearm, and the latter on the arm, but all movements of the shoulder were impossible. The paralyzed limb was quite flexible in all its joints; there were no traces of rigidity.* The face and the left inferior extremity were absolutely normal; as far as motility was concerned, it was a clear case of monoplegia in the true sense of the word. The study of the sensibility gave

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* The notes of this case while under observation at the Hôtel Dieu were taken by Mlle. Klumpke, interne, and kindly furnished us by this lady.

the following results: There existed already at this period a generalized left-sided hemi-analgesia; the anæsthesia was complete and confined to the paralyzed limb. At this time there was noted the binocular contraction of the visual field, much more marked, however, on the left side, and which we shall find so existing to-day. In fine, the 25th of June, *i. e.*, 22 days after the onset of the paralysis, the latter had become absolutely complete. The diagnosis remained uncertain, the treatment inefficacious. Faradization, several times applied to the left side, had for its effect only to render the sensibility less obtuse on the trunk, face, and inferior extremity. The anæsthesia and paralysis remained as they were in the left upper limb. The contraction of the visual field had undergone no modification at the time that P. quit the Hôtel Dieu.

It was on the eleventh of March of this year, ten months after the fall, and nine months after the complete establishment of the monoplegia, that P. entered the service of the clinic of the Salpêtrière. We then verified the antecedents as I have just stated them, and, moreover, a minute clinical examination disclosed a pronounced aortic insufficiency. There exists a murmur with the second sound and at the base; the arteries of the neck are lifted by beatings which are apparent to the sight; Corrigan pulse; capillary pulse perceptible on forehead.

The motor paralysis of the left upper limb, which is seen to be inert, hangs along the side of the body,

and falls heavily when, on being raised, it is abandoned to itself, is complete, absolute. There is no trace of voluntary movement, or of contracture. The muscular masses have preserved their volume; their normal relief and electric reactions, faradic as well as galvanic, are in no respect modified. Very slight relative augmentation of the tendinous reflexes of the elbow and forearm. Cutaneous anæsthesia absolute to contact, to cold, to pricking, to the most intense faradization, along the whole extent of the limb, hand, forearm, arm and shoulder. In its relation to the trunk, this anæsthesia is limited by a circular line producing an almost vertical plane, which, passing by the hollow of the arm-pit, trenches a little on the sub-clavicular hollow in front, the external two-thirds of the shoulder blade behind. The insensibility extends in the same degree to the deep parts; you may, in fact, faradize powerfully the muscles, the nerve trunks themselves, make energetic traction on the articular ligaments, subject the different joints to movements of violent torsion, without the patient having the least consciousness of it. The loss of the different notions attached to the muscular sense is equally complete; the patient is unable to determine, even approximatively, the attitude which has been impressed on divers segments of his limb, the place which they occupy in space, the direction and nature of the movements to which they are subjected, etc.

Aside from the left upper member, there does not

exist on that half the body any modification of motility, whether of the face, trunk or inferior extremity, but all over this side we find the analgesia already noticed during the sojourn of the patient at the Hôtel Dieu. The examination of the visual field gives us on the right side the normal state, while on the left there is an enormous contraction; moreover, the circle of red is transferred outside of that of blue. There has then been produced in the visual field since the sojourn in the Hôtel Dieu a modification which it is interesting to note. Moreover, we find that hearing, smell, taste, tested by the ordinary methods, present a very marked diminution of their acuteness on the left side.

It now became our task to determine as far as possible the nature of this singular monoplegia, supervening after a traumatism. The absence of atrophy and of all modification of the electric reactions of the muscles in a case where the paralysis goes back ten months, ought to cause us to reject at once the hypothesis of a lesion of the brachial plexus; while the absence of amyotrophy of itself, as well as the intensity of the troubles of sensibility, compel us to set aside the notion that this may be one of those paralyses so well studied by Lefort and Valtat, which come on in consequence of traumatisms affecting a joint.

A brachial monoplegia may supervene, though very exceptionally, it is true, as the result of certain lesions of the internal capsule, as is shown by a fact

recently published by Drs. Bennett and Campbell in Brain;* but in such cases we do not certainly meet with the sensorial and sensitive hemianæsthesia which is sometimes superadded to total hemiplegia of the ordinary kind following lesion of the capsule.

The production in the right hemisphere of a small *foyer* (local lesion), whether from hemorrhage or from softening determined by embolism in consequence of the organic affection of the heart, a disease-focus which we might suppose limited strictly to the motor zone of the arm—such a lesion, I say, might account for the existence of a left brachial monoplegia. But on this supposition, the paralysis would have come on all at once, after a shock, however slight, and not progressively; it would almost certainly, several months after the onset, have been characterized by a certain degree of contracture, and by a well marked exaggeration of the tendon-reflexes; lastly, it would not surely have been accompanied with trouble of the cutaneous and deep sensibility so pronounced as those which we observe in our patient.

We are compelled then to eliminate in our diagnosis this last hypothesis, and that of a spinal lesion will not bear discussion for an instant. On the other hand, our attention has been drawn from the very first to the very significant hereditary antecedents of the subject, to his psychical state and to his habits, to the

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* Brain, April, 1885, p. 78.

troubles of sensibility, diffused, though unequally, over all of one side of the body, to the contraction of the visual field so pronounced on the left side, and marked by the transposition of the circle of the red; in fine, to the modifications of activity of the other sensorial apparatuses on the same side; all this has led us almost irresistibly, in the absence of any other hypothesis equally probable, to interpret this case as an example of hysteria. Moreover, the clinical characters of the monoplegia, its traumatic origin even—and in reference to this latter point I must refer you to what I have said before—were not at all at variance with this view. In fact, the limitation of the motor paralysis to one member, without participation at any time of the corresponding side of the face; the absence of marked exaltation of the tendinous reflexes, of muscular atrophy, and of all modification of the electric reactions, the absolute resolution of the limb remaining several months after the onset of the paralysis; the anæsthesia cutaneous and profound, so complete in the paralyzed member, and the utter loss of all notions relative to the muscular sense; all these phenomena, when we find them united and clearly marked as they are in our patient, suffice largely to reveal the hysterical nature of a paralysis.

In consequence, the diagnosis "hysteria" was frankly, resolutely adopted. It was true that the convulsive seizure was wanting; but you well know that this is not at all necessary to the constitution of the disease,

and this circumstance ought not, we felt, to stand in the way of a diagnosis. As a result of this view of the case, the prognosis changed completely its character; we were no longer in the presence of an affection of organic cause, perhaps incurable; we could then hope, despite the long duration of the malady, to see supervene spontaneously, or under the influence of certain practices, some one of those sudden modifications which are not rare in the history of hysterical paralyses, and of those in particular which are attended with resolution. At all events we could foresee that sooner or later the patient would get well. A subsequent event was destined soon to justify our previsions and at the same time fully confirm our diagnosis.

The fifteenth of March, four days after the entrance of the patient, we made careful search—a thing which had not been done before—to see if we could find any hysterogenous zones. We found one situated under the left mamma, another over each of the iliac regions; still another over the right testicle. We remarked that even a slight excitation of the inframammary zone readily determined the phenomena of the aura: sensation of constriction of the thorax, then of the neck; beatings in the temples, sibilant sounds in the ears, especially in the left ear. On pressing a little harder we saw P. all at once lose consciousness and fall over backwards with stiffening of his members; and we witnessed the first attack of hystero-epilepsy which the patient had ever had. This attack

was, moreover, quite typical; to the epileptoid phase soon succeeded that of the great movements. These were of extreme violence, the patient in his movements of salutation went so far as to smite his face against his knees. A little after, he tore his clothes, his bed curtains, and turning his fury upon himself, he bit his left arm. The phase of passional attitudes then set in; P. seemed a prey to a furious delirium; he reproaches, provokes and excites to violence some imaginary personages: "Hold! take your knife; come, strike!" Lastly he recovers consciousness and affirms that he has no remembrance of anything that has happened.

It is to be remarked that during the entire continuance of the first attack, *the left superior member took no part in the convulsions;* it remained flaccid and completely inert. From this time onward, the fits were repeated every day, spontaneously, several times during the day with precisely the same characters as the provoked attack. During one of these, which took place on the night of the 17th of March, the patient wet his bed. There were two fits on the 19th. On the 21st there was a new crisis *during which the left arm trembled.* On waking, the patient, to his great astonishment found that he could move the divers segments of this member, of the use of which he had been totally deprived during the long period of almost 10 months. The motor paralysis was not completely cured, however, for there remained a certain

degree of paresis, but there was a considerable improvement. Only, the troubles of sensibility persisted to the same degree as in the past.

This cure, gentlemen, or more properly speaking, this attempt at a cure, after the diagnosis which we were led to make, did not surprise us. But in our judgement it supervened prematurely, unseasonably. In fact, it was no longer possible to enable you to witness *de visu*, in all their plentitude (as we had hoped to do), the character of this monoplegia, so excellent a subject for study. The idea then occurred to me that perhaps by acting on the mind of the patient *by way of suggestion in the waking state* (I had previously found that the subject was not hypnotizable) we might reproduce the paralysis, at least for a while. Therefore the next morning, finding P. just coming out of a fit which had in no way modified the state of things, I endeavored to persuade him that he was again paralyzed. "You believe yourself cured," I said to him with assurance, "it is a mistake; you can not raise your arm or bend it; see, you can not move your fingers, you are unable to grasp my hand." The experiment succeeded wonderfully, for after a few minutes, while I was talking, the monoplegia returned just as it was the day before. I was not at all disturbed, I may here say, as to the result of this paralysis artificially reproduced, for I knew by long experience that in a matter of hypnotic suggestion, *what one has made one can unmake.* The

paralysis, however, did not last longer than 24 hours. The next day a new attack came on, following which, the voluntary movements were definitely reestablished. This time, all the new attempts of suggestion which we made were absolutely powerless. It now remains for me to inform you of the modifications which, as far as voluntary movement is concerned, have been effected in the limb formerly completely paralyzed.

The patient as you see, can move at will all the parts of this member. But these movements have but little energy, they yield to the least resistance opposed to them, and while on the right, the dynamometric force expresses itself in the hand by the figure 70, on the left it gives only the figure 10. If then, the motor impotence is not as absolute as formerly, it still persists to a sufficiently high degree. Moreover, the troubles of sensibility are just as they were, not only in the limb which is the subject of paresis, but also on all the left side of the body including the organs of sense; the fits, besides, remain frequent. Truly, as you see, we have here only an improvement in the condition of the arm, and we are far from having attained a cure.

I propose in connection with this study of hysterical paralysis by traumatism, which I intend soon to bring before you at length, to take up again certain of the facts contained in this interesting case, in order to give them their full value. For the present, leaving one side the monoplegia, which really constitutes but

an episode in the history of the disease, I shall dismiss the subject by expressing the hope that I have made it plain to you that in this man, as in the other five cases, before presented, the great hysteria (hysteria major) exists, endowed with its characteristic attributes.

Gentlemen, in studying with you, in these two lectures, these six cases, so significant and instructive, which chance has placed in our way, I have desired especially to convince you that hysteria, even grave hysteria, is not a rare disease in the male, and that it is likely to appear now and then in private and hospital practice, where only the prejudices of another age could cause a failure to recognize it. I have dared to hope that after so many proofs which have been accumulating these last five years, this notion is destined hereafter to keep in your minds the place which it deserves to hold.

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