

European Influence on Russian Neurology in the Eighteenth and Nineteenth Centuries

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In this study we consider the development of clinical neurology in the eighteenth and the nineteenth centuries focusing on European influence on Russian medicine. Russian physicians readily accepted newly described clinical signs, theories, and classification of nervous diseases designed in Europe. This influence initiated neurology's separation from general medicine and its transformation into a new clinical discipline. In Russia this happened already in the 1860s, decades before the similar trend in Europe. The Russian example is nearly unknown in the general history of neurology. It illustrates the relationships between physiology and practical neurology at the moment of establishment of the new discipline. It also shows that the Russian physicians of the time readily accepted European medical knowledge putting it immediately into medical practice and education.

Keywords History of neurology, Russia, eighteenth century, nineteenth century, European influence

The second half of the nineteenth and the first third of the twentieth centuries was the period in which clinical neurology developed. It began even before the separation of nervous diseases from internal diseases and gradually turned into the period in which ancillary investigations were introduced in neurological practice. The initial impetus to this process appeared, however, at the end of eighteenth and the beginning of the nineteenth centuries. This was the time when European neurological ideas reached Russia and were accepted there even more readily than in Europe itself.

Classical clinical neurology, based on bedside observations and manual tests, has served as a solid basis for the modern one. The history of this basis has not been written yet or, at least, only with respect to several disorganized details. The Russian example, nearly unknown in the general history of neurology, appears particularly illustrative as regards to the relationships between physiology and practical neurology, and political influences on the establishment of the new discipline.

In this article, we consider “clinical neurology” as a part of practical bedside medicine and “general neurology” as a composition that includes neuroanatomy, neurophysiology,

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neuropharmacology, clinical neurology, and other branches of science dealing with the nervous system. Clinical neurology developed rather late in comparison to general medicine because nervous diseases were practically incurable for a long time. The history of approach to nervous diseases during the eighteenth and the nineteenth centuries has not been intensively studied and there is no specific work on the subject. It is scattered in several general monographs on the history of neurology, such as, for example, Garrison's *History of Neurology* (McHenry, 1969), *A History of Neurology* (Riese, 1959), *History of Neurology from Ancient Times up to the XX Century*, (Arkhangelsky, 1965). It should be mentioned here that since 1969 no special monograph on the history of general neurology was published either.

The Russian sources are less known in modern medical historical literature. M. Brazier's book *A History of the Electrical Activity of the Brain*, published in London (Brazier, 1961), has one half of the volume dedicated to Russian scholars and the other half to all the others. But this is a very rare example. This is mainly due to a language problem, which is comparable to the situation in Italy, Spain, and other countries of the non-English-German-French-speaking world.

Before the communist regime came to power, however, Russia was an integral part of scientific Europe, and Russian medical science was in general at the same level as other major European countries. Unfortunately Russian scholars and practitioners were known only if they published their articles in French or German journals. Actually some of them did, including V. Bekhterev, G. Rossolimo, and L. Minor, but because of the language problem only a small part of all the valuable works of Russian origin passed through. The same problem can be seen with respect to the well-known example of the brilliant Spanish scholar S. Ramon y Cajal. His works on the histology of the central nervous system remained unknown until he published in a French medical journal.

European Medical Knowledge Reaches Russia

Since the Peter the Great's imperial activities during the first quarter of the eighteenth century, European medical knowledge reached Russia in large quantities. During the eighteenth century, 517 physicians obtained licenses to practice in Russia. The complete alphabetic list of the physicians practicing in Russia during the eighteenth century and up to the 1830s is available in Russian sources (Chistovich, 1883). Among them 455 were physicians from all the European countries working or consulting in Russia, including Greeks, Jews, and Poles. Some defended dissertations on nervous diseases (Debout, 1780; Dohnell, 1695; Lohmann, 1736; Matthei, 1758). The remaining 62 physicians were Russians and Ukrainians. About half of them were admitted to European medical schools and were able to defend dissertations on nervous diseases (Yagelski, 1765). At that time however, clinical neurology did not exist as an independent specialty and was embedded in general medicine. Once a clinical discipline has its clinics, its departments in hospitals and divisions in medical schools, its manuals and textbooks, its journals, congresses and associations, one can call it an independent clinical discipline. We know that the first neurological hospital division was established in France (Paris, Salpêtrière) in 1860 and that the first neurological medical faculty department was formed in Russia (Moscow University, Medical Faculty) in 1869. We can study in detail how it had happened, who was in charge, and what governmental body authorized this. But such facts only show us the external signs of this independence. Internal signs of clinical autonomy, including diagnostic procedures and treatments specific for a particular clinical discipline are much more important. In the eighteenth century there was a feeling among physicians that 90% of all drugs were useless. This feeling was

expressed by the idea of the “healing power of Nature.” Thus, W. Heberden (1710–1801) in his *Commentaries on the History and Cure of Diseases* put apoplexy and paralysis in the same chapter. He wrote: “It is probable that far the greater part of paralytic and apoplectic patients would recover some degree of life and strength by the unassisted efforts of nature” (Heberden, 1803).

Russia was in the same unfavorable position in medical therapeutics. In the eighteenth century it was readily accepting medical knowledge (and medical doctors as well) from the Western European countries. At that time, this practice slowed down medical progress in Russia even more than in Western Europe. One typical example is the book *A Description of the Curative Decoction of the Famous English Physician Richard Lower*, which was published in Russian in Moscow (Anonymous, 1792). (Fig. 1) Richard Lower (1631–1691) was known mainly as a good surgeon, performing blood transfusion experiments in 1665. This Russian book was published 100 years after Lower’s death. The main ingredients of this decoction were oats, red sandalwood, saltpeter, and water. The anonymous Russian author listed 38 diseases including nephritis, tooth ache, cholera, and mania that could be cured by this remedy. Among nervous disorders he listed hysteria, melancholia, chronic headache (*Cephalea chronica*), and several kinds of convulsions. In case of convulsions opium should be added to the decoction (“wild poppy syrup”).

Speculative European Medical Theories Reach Russia

Treatment was not the only problem. Speculative European medical theories of the time were accepted in Russia without any critical approach. For the purpose of this study four theories are important, including Cullen’s (1712–1790) “neuropathology,” Mesmer’s (1734–1815) “animal magnetism” at the end of the eighteenth century, Gall’s (1758–1828) phrenology, and Broussais’s (1772–1838) physiological theory at the beginning of the nineteenth century. Numerous other eighteenth century theories have no direct connection with the nervous diseases but these four were well known in Russia. Cullen operated with a concept of nervous energy. His main idea was that all diseases are mainly nervous. This was not original, but he was very enthusiastic in promoting the role of nervous pathology in human diseases and introduced a class of neuroses in his nosological classification of 1769. This classification became famous all over Europe as did his general comprehensive work *First Lines of the Practice of Physician* (1776–1794) translated into the leading European languages, including Russian (Cullen, 1836).

Mesmerism was readily accepted in Russia as early as in the 1780s, (Derzhavin, 1834) subsequently it was partly suspended due to the French Academy of Sciences’s negative opinion, but it revived immediately after Mesmer’s death in 1815 and came into real fashion. When K.A.F. Kluge published his book on the medical use of “animal magnetism” in Berlin (Kluge, 1818a), it was immediately translated into Russian that same year (Kluge, 1818b). This became possible after the special regulation issued by the Russian Imperial Ministers’ Committee in April 1816 that permitted treatment by animal magnetism. According to this decision only Medical Doctors by degree had a right to practice animal magnetism, which should be controlled by the Russian Medical Board (Code of Decrees, 1875).

After the French physiologist J.P. Flourens (1794–1867) tested Gall’s doctrine in 1822 and proved it to be scientifically unsatisfactory, phrenology did not die. It was rejected in France and Italy but not in England, the German states, and Russia. The first Russian translation of Gall and Spurzheim’s work appeared in 1816 (Gall & Spurzheim, 1816). Gall’s original work is a very comprehensive four volume manual. The price was 1000 francs per copy, so only libraries could afford to buy it. As early as in 1817 *A Short*



Figure 1. Anonymous Russian translation of *A Description of the Curative Decoction of the Famous English Physician Richard Lower*. Moscow, A. Reshetnikov, 1792.

Sketch of Gall's System appeared in Russia and the doctrine became widely known (Pusino, 1817). At that time, there was no strong physiological school in Russia so nobody made any attempt to prove or to reject the doctrine.

The last theory of interest is the physiological theory of medicine originated by the French physician F.J.V. Broussais (1772–1838). The previous three theories pertain to the eighteenth

century by their spirit. Gall introduced his ideas in 1809 but they go back to the time of J.C. Lavater's *Physiognomie* and could have been introduced in 1770s with the same success. But Broussais's theory was a theory of the nineteenth century. His *phlogiston* and "irritation" theories became well known not only in France. It was discussed in Germany and England, and it was introduced into Russian medical education (Pirogov, 1887; Kolosov, 1914).

Neurological Clinical Facts in Practical Use

It is hard to know, however, how many clinical facts were in practical use because the Russian physicians of the time were free and independent in their way of choosing theories and methods in their everyday work. Each of them had his own number of useful medical facts — signs, symptoms, well-known observations, established modes of treatment, generally accepted drugs — to use, but there was one exception — military medical personnel. These physicians had orders on the subject.

A valuable example can be taken from the Russian experience. The general situation of Russian medicine at the beginning of the nineteenth century was as follows: most physicians practicing in the Russian Empire, with very few exceptions, were of foreign origin, mainly from German-speaking countries and less from Holland, Britain, and France. Medical devices and drugs were mainly imported. This situation was described in detail in a number of comprehensive works (Chistovich, 1883).

In 1806, among other decrees of the Emperor Alexander I *An Instruction to Serve Physicians on Recruits' Conscriptio*n was published (Petrov, 1826, pp. 350–360) (Fig. 2). This ordinance was quite unique. During the whole period between 1640 and 1826 this was the only Russian Emperor's decree that refers to diseases other than contagious. These instructions were in use as a medical regulation to conscript healthy recruits and to decrease the number of draft evasion cases. There are no direct indications as to who was the author of this document. The general procedure for such decrees was the following: a document was prepared by the State Medical Collegium, then it was presented to the Governing Senate, after which the Emperor signed it. Peter the Great established the State Medical Collegium in 1721. Its President and its Director were not physicians but state officials chosen among noblemen. There is no doubt, however, that it was prepared by physicians of the Collegium and not by the government officials.

This document enumerates the clinical symptoms a military doctor must consider. The decree is completely free from hypothetical ideas, above-mentioned theories, discussions on different viewpoints, and other similar reasoning common for scientific or educational contemporary medical literature. It only gives pure clinical facts to evaluate the real practical knowledge of the time.

Only two neurological disorders are mentioned — epilepsy and paralysis. In the section on "Fraud Diseases" [Malingering], directions are given in order to investigate malingering:

Epilepsy. Negative signs: a) sudden paroxysm of the disease, i.e. without previous attacks; b) sensitivity to irritations during paroxysm, especially pupil contraction if a candle gets close; c) the thumb is not pressed to the palm, or if pressed, could be separated from the palm easily; d) the malingerer cannot stand tickling; e) there is information that he had not this disease before; f) nostrils irritation by Helleborus makes him sneeze.

Paralysis. Negative signs: a) unsure answers to the question: is there sensibility and motion in the paralyzed organ? b) the organ's fully healthy appearance, freshness, natural color and warmth; c) sensitivity to mechanical



Figure 2. Petrov E. Collection of Russian Laws on Medical Management from 1640 till 1826 inclusive. St. Petersburg, the Senate Press, 1826. *An Instruction to Serve Physicians for the Conscription of Recruits* can be found at pp. 350–360.

and chemical irritations; d) moving of the organ detected during sleep. (Petrov, 1826, pp. 358–359)

These notes are quite remarkable. Several neurological tests are described. Signs b), c), d), and f) on epilepsy and sign c) on paralysis are not observations but tests. We need to recall here that medicine of the eighteenth century was primarily the medicine of bedside observations rather than the medicine of clinical investigations. For example, the contraction of the pupil to light was known since R. Whytt's work (Whytt, 1751). The special work on this sign in epilepsy was written by Schlegel only in 1800 (Schlegel, 1800). This work was known in Russia, and this knowledge was in practical use despite the fact that there was no complete understanding of the reflex action yet (Richter, 1830).

“What diseases should we treat and what should we not?” – classification

Thus established clinical facts rather than speculative medical theories contributed to further independence of neurology as a clinical discipline. In the mid-nineteenth century the amount of clinical knowledge on nervous diseases became significant. Nervous diseases, however, still were a part of general medicine both in Europe and in Russia. Professors of Medicine, such as W. Stokes (1804–1878) in Ireland, A. Trousseau (1801–1867) in France, S. Botkin (1832–1889) in Russia, were actually obliged to lecture on the nervous diseases just because it was a part of internal diseases. Being compelled as professors to deliver lectures on the internal diseases, they all included material on the nervous diseases in their courses. The amount of material given was slightly varying from country to country, but in general all major nervous diseases such as apoplexy, epilepsy, hysteria, encephalitis, meningitis, various paralyses, and neuralgias were described.

“What diseases should we treat and what should we not?” is one of the first questions discussed in a process of clinical specialization. In the case of clinical neurology, however, the first question is “What diseases have to be called nervous diseases?” It is easy to answer a similar question regarding ophthalmology, ear, and throat diseases, gynecology or podiatry but it is less easy in the case of nervous diseases. A correct classification, therefore, is of high importance for neurology.

Russian physicians of the time used European classifications of diseases. While many Russian doctors were of German origin, they preferred the classification of J.P. Frank (1745–1821), professor in Vienna and then in several other European countries, well known for his works on public health (medical police), general medicine, and spinal cord diseases. His widely known *Epitome de curandis hominum morbis*, a comprehensive work, was never completed but was translated into German, French, and Russian (Frank, 1830). Frank, however, followed the old head-to-foot classification of diseases, which he applied to the class of Neuroses as well: Neuroses of the head; neuroses of the neck; neuroses of the chest, etc.

In contrast, J. Abercrombie, writing a specific work on the nervous diseases, was able to present the following simple classification (Abercrombie, 1827):

- I. Inflammatory affections of the brain.
- II. Apoplectic affections. (Stroke and paralysis.)
- III. The organic diseases of the brain. (Tumors, ossifications, headaches, etc.)
- IV. The diseases of the spinal cord and its membranes.

The anatomopathological approach did not permit Abercrombie to describe epilepsy, hysteria, hypochondria, chorea, and shaking palsy. He entitled his book *Diseases of the Brain and the Spinal Cord* but not “nervous diseases” or “the diseases of the nervous system” and he only described the diseases with known pathological lesions. Abercrombie wasted no time in current medical theories. His classification was just practical. This book was translated into Russian (Abercrombie, 1836). It was a valuable beginning toward a real classification of nervous diseases for clinical purposes.

Marshall Hall’s classification of 1841 was not known in Russia. Being preoccupied with German medical ideas, the practitioners in Russia adopted the disorganized and mixed classification of C.W. Hufeland (1762–1836) introduced in his book *Enchiridion Medicum* (Hufeland, 1839). Hufeland’s book went through five editions in Germany and was translated into Russian (Hufeland, 1845). The fifth German edition appeared in 1839, just one year before M.H. Romberg’s manual that provided a brilliant physiological classification of the nervous diseases.

Romberg’s *Lehrbuch der Nervenkrankheiten des Menschen* was highly credited by all the medical historians who wrote on the history of neurology. Actually it was the first textbook dealing with nervous diseases as a clinical discipline. From 1840 till 1867 the manual went through three German editions, was translated into English in 1853 and into Russian in 1860–1863 (Romberg, 1860–1863).

In Russia the first classification of diseases appeared in 1831–1835. It was created by I.E. Dyadkovsky (1784–1841) who was the head of the department of pathology, therapy, and clinical medicine at Moscow University. He divided all diseases in diseases with and without fever. Nervous diseases were the class of the diseases without fever. This class consisted of five divisions: diseases of the senses, diseases of motives (motivations), diseases of the mind, diseases of motion, and diseases of powers (strength). There are more than 30 nosologies in the class but of the mixture of nervous, psychiatric, and internal disorders.

Professor *Ordinarius* V.E. Ekk (1799–1864) was delivering lectures on nervous diseases as a part of special pathology at the Russian Medico-Surgical Academy of St. Petersburg from 1850 till 1860. In his lectures of 1853 he expressed his views on the classification of nervous diseases: “In the nervous system, as in any other, we differentiate a) plastic (sic!) diseases with material changes in the tissues, and b) neuroses — diseases without any anatomic changes of the organs” (Ekk, 1853). (At the beginning of the nineteenth century neurosis was a synonym for the nervous diseases. In the middle of the nineteenth century neurosis became just a disease “without anatomic changes of the organ”.) Ekk used Romberg’s approach only for neuroses. He divided this subdivision into *Neuroses motilitatis* (mainly paralyses, cramps, and akineses including epilepsy and chorea) and *Neuroses sensibilitatis* (mainly neuralgias). “Plastic diseases” were divided anatomically into diseases of the brain and diseases of the spinal cord. Ekk was very accurate in the choice of nervous nosologies. All his nervous diseases are really nonpsychiatric organic diseases of the nervous system with the only exception of tetanus, which is counted now as an infectious disorder. There were no psychiatric or ophthalmic disorders in his classification. This approach was very beneficial for clinical neurology because it clearly separated nervous diseases from all the others. Ekk’s work was well known in Russia but not in other countries. In the subsequent 15 years this approach proved its usefulness and the first neurological department was organized at Moscow University in 1869.

Russian Neurology between Internal Medicine and Psychiatry

Proper classification and definite distinction between nervous and psychiatric disorders was very timely because in the mid-nineteenth century in Russia neurology found itself in a shaky position between internal medicine and psychiatry. The history of Russian psychiatry as concerns administrative measures is divided into several periods. Up to 1762 the insane were admitted in monasteries; between 1762 and 1814 the insane were kept in madhouses. The Russian Empress Catherine II signed a special *ukaz* (ordinance) “For the insane there should be madhouses” on August 8, 1762 (Petrov, 1826, p. 8). In 1814 madhouses were placed under the administration of the Ministry of Interior (they were under control of the Ministry of Police before). The latter regulation of 1814 improved the system and the number of asylums was enlarged. Further improvements occurred only in the 1860s. In Russia the first course of psychiatry was established in 1835 simultaneously at St. Petersburg Medical Surgical Academy and at Moscow University. The course was incorporated into the clinics of internal diseases. In 1860 the first independent department of psychiatry was established in St. Petersburg nine years before the first neurological department was established at Moscow University Medical School.

Nervous diseases, being a part of general medicine, were equal to any other branch of medicine but they were not independent. Psychiatry was more independent as a clinical discipline but it was not equal to general medicine as it was mixed with social services. In France Esquirol lectured on psychiatry already in 1817 whereas the first neurological department was created for Charcot only in 1882. In some European countries, even in the mid-nineteenth century, psychiatrists were not counted as Medical Doctors. Neurology’s movement towards independence and psychiatry’s movement towards equality occurred at the same time and reinforced each other. The main arena of this concordance was Germany and the main figure happened to be W. Griesinger (1817–1868), a brilliant physician and scientist, whose well-known motto was “Geisteskrankheiten sind” (“Psychiatric disorders are brain disorders”). Griesinger’s views were readily accepted in Russia, mainly in V. Bekhterev’s St. Petersburg Medical School. Thus, at St. Petersburg Medical School the course of the nervous diseases was incorporated into the Department of psychiatry and at Moscow Medical School nervous diseases were taught as a part of internal medicine.

This dual position of neurology can be seen clearly in the way neurology was treated in medical congresses. In 1881 at the International Medical Congress in London neurological contributions on Jacksonian epilepsy, *tabes dorsalis*, tendon reflexes, and nerve stretching in locomotor ataxia were presented in the “section of medicine.” But a special “section of mental diseases” was created for psychiatry. Such was the view of the British. In 1890 the International Medical Congress was held in Berlin. The Germans, according to their views on the problem, had a section for “Neurologie und Psychiatrie.” In fact even neurosurgical topics, such as the presentation of Horsley on the surgery of the central nervous system, were included in this section. At the next congress in Rome in 1894, the Italians presented a section of “Psichiatria, Neuropatologia ed Antropologia criminale.” Not unexpectedly, C. Lombroso (1836–1909) was its chairman. In 1897 the International Medical Congress took place in Moscow and the Russians repeated the German idea of a section for “nervous and mental diseases” (Congress Papers, 1899). The first independent section of neurology appeared only at the International Congress of Medicine in Paris, in 1900 (Congress

Papers, 1900). In 1903 the Spaniards made a replica of the Italian section of neurology, psychiatry, and criminal anthropology. Afterwards neurology became more independent and in 1913 the English recognized it by creating a section on neuropathology (Congress Papers, 1913).

In Russia, there were two different approaches to the question of the position of nervous diseases. At St. Petersburg Medical Academy the teaching of nervous diseases was attached to the course of psychiatry, whereas at Moscow University nervous diseases were part of internal medicine. The “psychiatrization of neurology” could be relevant to the history of neurology but there was no such phenomenon except, perhaps, a short period of Charcot’s work on hysteria and hypnosis, although he expected to find pathological changes in the brain (Raymond, 1896, 1900–1903). There is no evidence that the development of psychiatry helped to speed up the independence of clinical neurology in Russia.

Conclusion

Concepts of neurology from Europe reached Russia at the very end of the eighteenth and the beginning of the nineteenth centuries. The development of theoretical and practical knowledge on nervous diseases in the first half of the nineteenth century was a slow-moving process. Europe was confronted with a lack of real neurological clinical and scientific objective knowledge, unpractical medical theories, a long “latent period” for each valuable innovation, a lack of physicians willing to specialize in nervous diseases, problematic relations with psychiatry and internal diseases, and a lack of effective treatment of the nervous diseases. All these factors played their role in the delay towards the development of clinical neurology in Russia as well.

On the other hand, the European theories of “animal magnetism” and phrenology, although speculative, nevertheless drew the attention of the Russian public to the nervous system and its disorders. The class of patients who counted themselves as nervously sick first appeared in Russia at that time. Slowly, but steadily, classifications focused on real nervous diseases. The first textbook of neurology, written by Romberg, appeared in 1840–1846. These positive factors were preconditions to the further movement towards the clinical and scientific independence of neurology. During this period the Russians extensively translated and published all the major medical books originally written in French, German, and English. In addition to those mentioned in the references, all the major works of J.M. Charcot (Fig. 3), W. Erb, W.R. Gowers, F. Raymond, F. Valleix, A. Eulenburg, H. Oppenheim, G. Nothnagel, P. Richet, J. Ross, A. Strümpell, J. Dejerine as well as a few manuals of less prominent neurologists including G. André, F. Kunze, or G. Lyon were translated and published in Russia.

Ranging positive influential factors by their importance we have to give the first place to proper classification of the nervous diseases readily adopted by the Russians. Proper classification reflects proper understanding of the subject of nervous diseases and their differentiation from all the other human disorders. Common interest of Russian physicians and laymen in the nervous system, the brain, the soul, and the mind, which developed in the nineteenth century and created favorable social preconditions for the early development of the independent Department of Nervous Diseases in Russia.

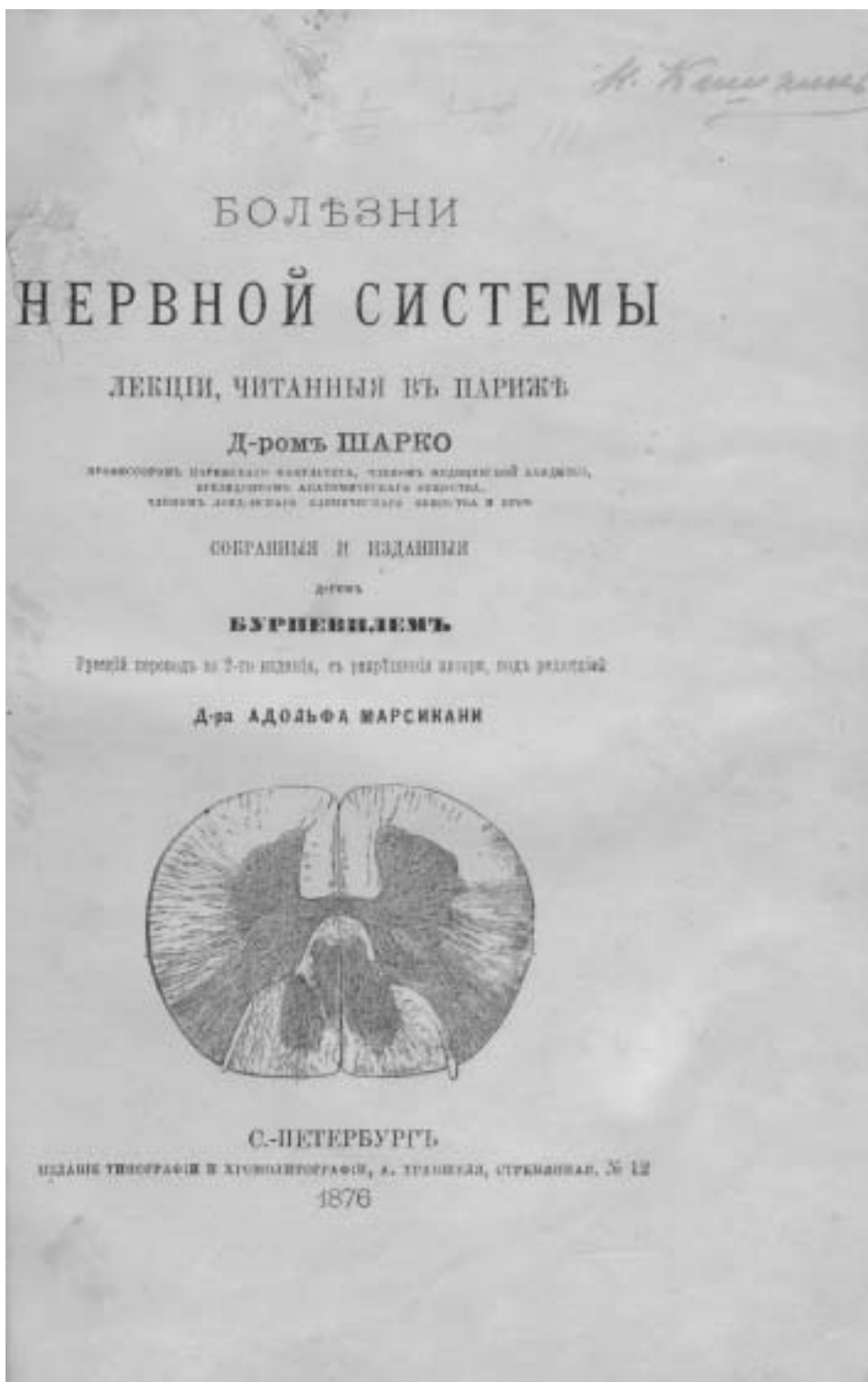


Figure 3. The Russian translation of the J.-M. Charcot's Lectures on the Diseases of the Nervous System. This translation was published in St. Petersburg in 1876.

On the contrary, we argue that the well-known unification of psychiatry and neurology in Germany, sometimes considered as a positive step in the history of both disciplines, is to be considered positive for psychiatry but negative for neurology.

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