

Introduction

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Respect for the past is that very feature which distinguishes civilization from barbarism

A.S. Pushkin

I am thrilled and honored to be invited to take part in the compilation of this Special Issue devoted to the history of Russian neuroscience. Having been brought up in a scientific environment in Moscow that especially focused on neuroscience and being fortunate enough to have personally known some leading Russian scientists in this field, I felt a sort of obligation to accept the offer to work on this Special Issue in their honor.

In the Soviet times there was a bitter and profound saying among intellectuals — that Russia is a country with an unpredictable past. They knew that the past was being manipulated to support current policy, as a kind of control over the present. With the Special Issue we tried to establish the course of the development of neuroscience in Russia in a way that will allow our readers to learn what happened in the past and so to better understand the recent development.

The political situation in Russia in the twentieth century and the language barrier are two simple reasons why the history of Russian neuroscience has not yet been given its proper place in the non-Russian literature, although a few excellent papers and books have been published in English.¹ That is why, when presenting the history of Russian neuroscience, we had to make choices on how to compile the overview.

First, we did not want to restrict the subject of this issue to only clinical neurology and we have thus included papers on the history of neurophysiology, psychiatry, neuropsychology, and neurosurgery.

Second, in order to avoid any incomplete, one-sided viewpoints that might result from the issue being compiled from Russian authors only, we decided to apply a balanced approach and to invite both Russian and Western authors — scholars in different areas of neuroscience as well as medical historians. Because of this variety the reader cannot help but notice differences in style and approach.

¹As for clinical neurology limited information is found in *History of Neurology* (McHenry, 1969), *Founders of Neurology* (Haymaker & Schiller, 1970), in which short biographies of Bekhterev, Pavlov, Sechenov, Korsakov, and Kozhevnikov are provided. Furthermore Mary Brazier dedicated the chapter “The Great Russian Schools Explore the Field of Neurophysiology. in her book (Brazier, 1988). Paul Bucy edited a book on the history of neurosurgery in which chapters were included on Puusepp, Burdenko, and Arutyunov (Bucy, 1985). With respect to the history of psychiatry I refer to Sirotkina’s book (Sirotkina, 2002). The relationship of Soviet science to its social setting is discussed by Medvedev in his book *Soviet Science* (Medvedev, 1978) and in the volume *The Social Context of Soviet Science*, edited by L.L. Lubrano and S. Gross Solomon (1980).

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Third, we had to make choices when setting priorities because even the double format of the issue would not be sufficient to mention all the characters, schools, institutions, and scientific directions that played a role in the history of Russian neuroscience.

The national development of any scientific discipline always has two aspects. One involves the particular national background and the circumstances that make it unique. The other aspect is that any national development always follows the common features and discoveries of the international mainstream. However, what is most important is how the two aspects interact within certain historical periods. The history of neuroscience in Russia is no exception. More so than in any other country, science in Russia was always related to the current political situation and events. Starting from the tsarist time, the dramatic time of the revolution, the civil war, the two World Wars, Stalin's regime, up to the times of the post-Stalinist Soviet Union, all these periods have caused drastic turns in the development of science in Russia and particularly in that of neuroscience.

The history of Russian neuroscience can be divided into three periods.

The first period —from the middle of the nineteenth century until the beginning of the twentieth century — is when Russia slowly started political, economical, and scientific reforms oriented to the new trends established in Western Europe. That was the time when Russian scholars became a part of the Western European scientific community working in close contact with Western European scientific schools in many areas including medicine. Even in present-day Russia, it is difficult to imagine how closely Russian intellectual and scientific life was linked to Western Europe and how accessible European universities and clinics were for Russian students.

In the second half of the nineteenth century, clinical neurology became an independent medical discipline in Russia. Astonishingly, Russia happened to be the first to open a clinic for nervous diseases. It was established at the University of Moscow in 1890 and is associated with the name of A.Ya. Kozhevnikov, who is rightly considered the father of Russian neurology. Russian neurologists have contributed to the development of clinical neurology as an independent discipline. There is ample proof of this in the eponymous list of classical neurological symptoms, syndromes, and diseases where you meet the names of great Russian scientists: Kozhevnikov's epilepsy, Korsakov's syndrome, Rossolimo's sign, Bekhterev's sign, Minor's tremor, Betz's cells, Kernig's symptom, and many others.

In the beginning of the twentieth century, there were already three independent departments of neurology in Russia — in Moscow, St. Petersburg, and Kazan; moreover, the first ever course on surgical neurology to be given anywhere in the world was taught in St. Petersburg and the first child neurology clinic in Europe was opened in Moscow. Later on neurological departments were established in many other places, including Kiev, Kharkov, Odessa, Tomsk, and some others. The substantial interest in neurology and psychiatry is revealed through the number of specialist scientific journals at that time in Russia. From 1880 to 1918 there were 18 periodicals devoted to neurology and psychiatry. For the present Special Issue we chose to invite only papers on the first neurological schools in Russia.

It is impossible to write the history of Russian neuroscience without mentioning the great neurophysiologists I.M. Sechenov and I.P. Pavlov (the first Russian Nobel Prize winner), who worked at the turn of the nineteenth and twentieth century. Although not all their postulates have been proven true, they were among those pioneers of brain research who laid the foundation for neuroscience and determined its future development. Regrettably the reader will only come across the names of two eminent Russian physiologists N.E. Vvedensky (1852–1922) and his pupil and follower A.A. Ukhtomsky (1875–1942), but for obvious reasons it was not possible to publish papers on all scholars we would like to.

When speaking about neuroscience in Russia in the beginning of the twentieth century one name inevitably comes to mind — V.M. Bekhterev. By his attempts to combine research in neurology, psychiatry, neurophysiology, neuroanatomy, neuropsychology, neurosurgery, etc., he may be considered the founder of the multidisciplinary approach in brain exploration. In fact, Bekhterev is a symbol of neuroscience and represents a unique and incomparable example in the history of neuroscience.

The affiliation between the Russian scientists and the governmental authorities was by no means very harmonious. The reader of this issue will find several episodes illustrating this fact. These include the instance when tsarist censors refused to publish Sechenov's work on physiological reflexes on the grounds that it supported atheism; also, there is the resignation in 1911 of V.K. Rot and G.I. Rossolimo from Moscow University (among many other professors) in protest against the antiliberal politics of the tsarist minister L.A. Kasso; or there is V.M. Bekhterev's involvement in the "Beiliss trial" of 1913, which cost him his appointment as the president of the institute.

Even so, the governmental ideological dictatorship of science had its greatest effect during **the second period**, or, the postrevolutionary epoch.

One of the slogans of the Soviet government was "equal and free access to medicine" for all citizens, which undoubtedly was an improvement in comparison with the tsarist regime. This approach stimulated a huge increase in the numbers of all medical specialties, including neurology and psychiatry. For example, in the early 1990s, the total number of neurologists was an estimated 20,000 in comparison with 400 before the revolution. The Soviet Union had the world's largest community of physicians and scientists.

The Soviet government demonstrated a positive attitude towards science. In the 1920s, the Soviet government supported and funded the organization of scientific research through the institute system (*nauchno-issledovatel'skii institut*). Neuroscience was no exception — numerous institutes mainly affiliated either to the Academy of Science or to the Academy of Medicine were set up all over the country. Obviously, most of these were located in Moscow and Leningrad (St. Petersburg) but it was also almost obligatory for every Soviet republic to have such an institute. Academies were set up in all 15 Soviet republics from the Baltic republics to the central Asian republics (Kazakhstan, Kirghizia, Tajikistan, Turkmenistan, Uzbekistan). In this Special Issue we included papers on various, but very representative, scientific institutes: the Psychoneurological Institute in St. Petersburg and two Moscow institutes — the Institute of Brain Research and the Institute of Neurology.

The government may have sponsored science, but science (and scientists) had to function entirely under the state ideology. Particularly during the period of the 1930s through the 1950s, the development of scientific research was constantly disrupted by the dictates of the Communist authority. The dominant pattern was that of only one correct opinion to be held by an officially accepted scientific leading scholar, imposed on all others. The possibilities of other points of view, differences in approaches, or, almost impossible to imagine, differences as to conclusions were completely out of the question. Under the pretext of waging an active war against what the slogans called "cosmopolitanism," "idealistic bourgeois quasi-science," and the "idolization" of foreign science, Soviet scientists were prosecuted and isolated from the international scientific community. In the many campaigns that were directly authorized and organized through the rule of the party, biology, genetics, and (neuro)physiology unfortunately fell victim to condemnation. That is why our reader will inevitably find those campaigns mentioned in several papers in this issue. Particularly in the papers on such outstanding neurophysiologists as L.A. Orbeli, N.A. Bernstein, and P.K. Anokhin, the reader will come upon the drastic turns in their professional careers and private lives.

This Special Issue is not in a position to make judgements, nor is this the place to do so — let alone to accuse. Having said that, we would like to pay tribute to those scientists who showed courage and dignity. For the Western colleagues it is hard to imagine that scientific disagreement can lead to restriction, and that it even can become a matter of survival, and not just your own but also that of your family. So let us hold in high regard those numerous great and not so great scientists and people of dignity and professionalism, who in spite of the ideological pressure and scientific isolation imposed on them continued to work in the institutes, scientific departments, and hospitals on a daily basis; those who kept the real tradition of Russian science alive and steered clear of the loud voices and extravagant announcements.

Recently, Russian neuroscience has entered **the third**, post-Cold War period. This period can be described as the time of free information, radically improved availability of sources, freedom of travelling, though there are fewer state funds to support science and medicine. However, this is beyond the subject of an historical journal.

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