Exchange of Scientific Ideas: Recent Research on Russian-French Relations

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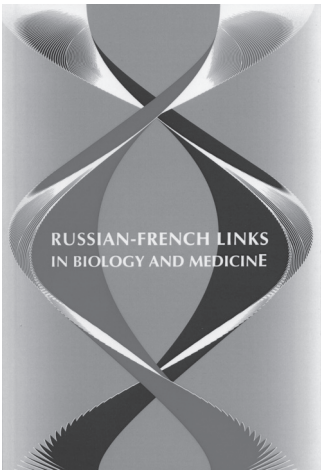

In this slender, but contentful volume[1], the experienced editors publish the papers presented at the international conference "Russian-French Links in Biology and Medicine" hosted by the St. Petersburg branch of the S.I. Vavilov Institute for the History of Science and Technology at the Russian Academy of Sciences on September 13–14, 2011. The book is a rich and lasting harvest from the Year of France in Russia and Russia in France (2010), which stimulated historians of science in both countries to summarize the tradition of exchange — while most regrettably the German organizers of the Year of Germany in Russia and Russia in Germany (2012) refused to consider the historical dimensions.

At the beginning, two renowned scholars give an overview on Russian-French interactions in their fields of research: By the example of catastrophist theories of transformation, *E. Kolchinsky* (re-)assesses the significance of French speaking naturalists (Peter Simon Pallas, George Cuvier, Jean-Louis Agassiz and others) in Russian paleontology. Paradoxically, due to the accuracy of their data (originally collected as arguments in favour of the invariability of species), their creationism helped establish the evolutionary idea in biology. *Jean-Claude Dupont* illustrates the differences between French-Russian and German-Russian relations in neurology by reference to Korsakov's syndrome. There is no doubt about the importance of German influence, but of course, leading French neurologists, esp. Jean-Marie Charcot, were well-known in Russia. Consequently, it would be more appropriate to consider a French-German-Russian triangle of scientific relations and a circulation of ideas. In contrast to the German-Russian links, the French-Russian collaboration — although wished-for by both sides — always lacked organization and planning.

Following this introduction, six papers give examples of Russian-French links in neurosciences and biomedicine. *Liva Pormale* lays the ground by outlining development, personalities and research at the Faculty of Medicine in Dorpat / Tartu in the first half of the 19th century. In spite of the German prevalence, French influence can be verified by the adoption of Claude Bernard's experimental approach to physiology. By the example of automatisms (reflexes, respiration, locomotion), *François Clarac* follows the mechanistic concept of the body from René Descartes to the neuron theory and the idea of central pattern generators. *Jean Massion* traces similar materialism in his comparison between Alfred Vulpian's lessons (1866) and Ivan Sechenov's "reflexes of the brain". This paper is complemented

[1] Russian-French Links in Biology and Medicine / ed. by J.-G. Barbara, J.-C. Dupont, E.I. Kolchinsky, M.V. Loskutova. St. Petersburg: Nestor-Historia, 2012. 204 p.

by *Marat Ioffe's* overview on Russian contributions to the clarification of movement automation (Sechenov, Bernstein, Anokhin). *Céline Cherici* examines the significance of electrophysiology in Russia (Sechenov, Danilevsky) and its reception in Hans Berger's development of the electroencephalogram, which at the beginning seemed to be a key for the understanding of the human soul. After the Second World War, the EEG gained clinical relevance as a diagnostic tool in epileptology, and the promising results of the French electrophysiologist Henri Gastaut were quickly taken up in the Soviet Union. — At the end of this section, *Irina Sirotkina* describes a scientific family network: The Russian-French psycho-physicist Victor Henri was part of the extended family uniting the Sechenovs, the Filatovs, the Krylovs and the Lyapunovs.

The second part of the volume presents Russian-French links in biology. *Anastasia Fedotova* discusses, on the basis of archival documents, the famous "anthrax trip" of the soil scientist and agronomist Pavel Kostychev and five Russian colleagues to Paris (1882). They were meant to study methods of inoculation, but did not find their way into Pasteur's laboratory. Since the Russian administration had underestimated the resources required to solve the problem of this epizootic disease and disappointedly retired from funding, at the end affordable domestic research on anthrax was more successful than scientific import[2]. *Lloyd Ackert* describes the international spread of ecological microbiology based on the pioneer studies of the Russian emigrant Sergei Vinogradsky, who had discovered chemosynthesis and autotrophism in the 1890ies and developed the conception of global nutrient cycles. *Sergei Fokin* also discusses biographies of émigré scholars: The biologists Sergei Metalnikov and Konstantin Davydov were close friends, but — other than Metalnikov, who made a brilliant career in France and published intensively in his fields of research (immunology, applied microbiology, physiology of invertebrates) — Davydov had great difficulties to find paid employment and a permanent position. *Tatiana Kursanova* examines Nicolai Vavilov's scientific activities and his contacts to France, which had two reasons: the opportunity to study the origins of cultivated plants from the overseas colonies and the French tradition of plant breeding. The political dimension of biology is considered in *Stéphane Tirard's* paper on Marcel Prenant: The French biologist connected biology and dialectal materialism, emphasizing permanent change and environmental influence and claiming science as a basis for politics. At the end, Prenant was annoyed about the Lysenko affair and retired from political activities. By comparison, *Mikhail Konashev* analyzes Pierre Teilhard de Chardin's and Theodosius Dobzhansky's attempts to reconcile science with religion to provide a synthesis of evolutionary thought and religious belief. Both took humans as a starting point for their arguments and — in spite of differences in details — they agreed on the main principles, Dobzhansky being of greater impact in the USSR and the USA. From 1950 to 1986 biologists at the Zoological Institute of the Russian Academy of Sciences (Leningrad) and French zoologists worked together in important areas: based on archival documents, *Nadezhda Slepkova* summarizes topics, personalities and institutions and shows that mutual interest in continuing these contacts was stronger than the Iron Curtain. An example of contemporary Russian-French cooperation (*Galina Zhouraleva's* account of current research on the regulation of protein synthesis) closes the volume and inspires the reader with confidence in the future of international scientific exchange.

[2] The revised and expanded Russian version of the paper was also published. See: *Федотова А.А.* Ветеринарная командировка почвоведа П.А. Костычева // Историко-биологические исследования. 2012. Т. 4. № 3. С. 79–93.