

## E. Suess and V.A. Obruchev creative correspondence

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Vladimir Afanasievich Obruchev (1863-1956) was an outstanding Russian geologist, a well-known traveller, writer and academician of the Academy of Sciences of the USSR (1929). He was one of Professor I.V. Mushketov's students and graduated from the St. Petersburg Mining Department in 1886. Consequently, Obruchev was immensely interested in all different kinds of scientific subjects, devoted more than 30 years of his life to research concerning Siberia and took part in investigations along the Transsiberian railway. Moreover, he was engaged in studies that dealt with ore deposits and spent half a century on expeditions, the last took place from 1936 to 1937.

For the conclusions of his expeditions to Central Asia (1892-1894) he received the Przhevalsky award of the Russian Geographical Society and the Chikhachev award of the Paris Academy of Sciences. The important stages in the history of the development of tectonics, geomorphology, stratigraphy, as well as the doctrine about mineral resources are related with Obruchev name. In Russia, Obruchev played an outstanding role establishing "Permafrost studies" as a science, was the organizer and director of the Permafrost Department which even carries his name nowadays. Moreover, Obruchev introduced the geological term "neotectonics" - the science about young movements of the Earth crust. Throughout his long creative life, the scientist published more than 1000 monographs, articles and popular scientific sketches, including science-fiction. Basically, Obruchev's works deal with regional geology and tectonics of Siberia, Central and Middle Asia, minerals and permafrost studies. But he also published comprehensive works, such as "Geology of Siberia", "History of Geological Studies of Siberia", "Central Asia, Northern China and Nan Shan". He saw himself in the first place as a mining engineer and paid much attention to practical works which are related to mineral resources. Obruchev's contribution to the popularisation of the Earth sciences is invaluable. His science-fiction novels "Plutonia" and "Sannikov Iceland", adventure stories and travellogues are still popular amongst

young people. Obruchev wrote more than 70 biographies of scientists including one monograph about E. Suess and one about the Russian geographer G.N. Potanin (1835-1920). Obruchev was a member of many scientific societies in Russia and abroad and winner of many awards.

63 of Edward Suess' letters to Obruchev are kept in the archive of the Russian Academy of Sciences. Correspondence between the most famous geologists of the 19<sup>th</sup> and 20<sup>th</sup> century began in 1891 and had been proceeding until Suess' death in 1914. According to Olga Suess, the widow of Suess' son Frantz Edward (1867-1941), Obruchev's letters were not kept, but the letters in the Russian archive show that the correspondence undoubtedly enriched the scientists mutually. Suess received a lot of topical material and information on Asian geology as well as geological maps, collections and articles of Russian geologists from Obruchev. Furthermore, correspondence with such an outstanding scientist allowed the young geologist Obruchev to increase his scientific level considerably. In one of his letters to Obruchev Suess wrote: "From now on the name Obruchev will rank forever among the most famous scientists of Central Asia ..." (Suess, 11/5/1894).



Eduard Sueß

Obruchev highly respected Edward Suess, calling him the "teacher" of all geologists": Edward Suess, the President of the Austrian Academy of

Sciences and Professor of the Viennese University, was one of the most outstanding scientists of the last third of the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century. He was an internationally acclaimed honorary member of nearly all academies, member of numerous scientific societies and author of the multivolume work "The Face of the Earth", which has remained an unmatched literary masterpiece for all the years. That is why he can be called the "teacher of all geologists" who influenced students from all over the world ..." (Obruchev, 1937). The correspondence of the two scientists began in the period when Obruchev carried out investigations in West Baikal region and the Lena River basin. The following period of correspondence (1893-1895) dealt with the discussion of the geological structure of Central Asia and China resulting in Obruchev's expeditions to Central Asia between 1882 and 1894.

During the expedition Obruchev sent reports to Professor Mushketov, but corresponded with Suess as well. Nine of Suess' letters regard this period. "... Now you surpass everybody in knowledge of Asian geology and can take part in drawing up the world map, which should present the review of all major lines of the great folded zones of the Earth..." (Suess, 4/6/1894). Obruchev investigated Bei Shan upland and Nan Shan Range in which he discovered six ranges, one was even named after Suess.

Correspondence of the period between 1896 and 1898 was about the Transbaikalian regional geology. In 1895, Obruchev was elected chief of the Transbaikalian group and supervised geological investigations along the Transsiberian railway. Obruchev assumed that the principal part of the "Ancient Top" made up the Selenga Dauria. The correspondence of the scientists, however, did not once touch the problem of the origin of Lake Baikal. Right after the first expedition to Baikal in 1889, Obruchev came to a conclusion about its young age and the collapse origin of the lake: Edward Suess shared Obruchev's opinion about the tectonic origin of Lake Baikal. "... and this lake, which you have already recognized as a graben for a long time, should be counted to the same kind of depressions. Therefore I attribute a very young

age to Baikal ..." (Suess, 6/12/1896).

As well as reports about expeditions, Obruchev sent maps and tectonic schemes, articles of Russian researchers and collections to Suess. For drawing up geological maps of Asia for the 3<sup>rd</sup> volume of "Face of the Earth", Suess used the material he had received by Obruchev. In the course of Obruchev's geological excursion across Germany, Austria and Switzerland the two scientists met for the first time in October 1898. The second encounter took place during an international congress in Berlin, 1899. In all the years of this creative collaboration, Edward Suess, being an excellent paleontologist as well, assisted Obruchev even in defining fauna. This help was of particular importance when Obruchev found unusually long bones in the Gobi desert. According to previous researchers, including Richthofen (1883), this region was the Khan-Khy sea in the Tertiary. Obruchev sent fragments of bones to Suess who afterwards prepared, stuck them together and described them. The result of his work was an article about the rhinoceros, published in the "Proceedings of the St.-Petersburg Mineralogical Society" in 1899. The article also contained Obruchev's description of the formations in which the rhinoceros had been found. (Suess, 1899).



Vladimir Afanasievich Obruchev

For the third volume of the "The Face of the Earth" Suess received a gold medal from the Russian Geographical Society and because of his outstanding contributions to the development of geology he was elected honorary member of the Imperial St.-Petersburg Academy of Sciences. The last period of Suess' and Obruchev's correspondence consisted of letters

that dealt, amongst others, with issues of gold mineralization in Siberia, which Suess paid much attention to.

But the correspondence between the colleagues and friends did not only touch scientific questions. Edward Suess even wrote about the Russian-Japanese war and other political events or transmitted greetings and wishes to members of Obruchev's family. True friendship and scientific cooperation went obviously side by side. Suess as well as Obruchev embodied two exceptional persons with outstanding characteristics. Contemporaries called Edward Suess a philosopher and a poet of geology, as he often used artistic images in his publications. Obruchev had an extraordinary artistic talent as well. His science-fiction stories and articles in popular scientific editions were written in a fascinatingly figurative language. The science-fiction story "Plutonia", for instance, which was published in 1924, has been translated into many foreign languages and republished eight times in the Soviet Union so far. Suess and Obruchev were the most outstanding geologists of their time which made indispensable contributions to the range of natural sciences.

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