



**Eduard SUESS' Letters
to the First Russian Woman-Geologist Maria PAVLOVA
in the Archive of the Russian Academy of Sciences**

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6 Text-Figures

*Geschichte der Geologie
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**Die Briefe von Eduard SUESS an die erste russische Geologin Maria PAVLOVA
im Archiv der Russischen Akademie der Wissenschaften**

Zusammenfassung

Die Ergebnisse über Untersuchungen des Briefwechsels von Eduard SUESS (1831-1914) mit einer der ersten russischen Geologinnen Maria Vasil'evna PAVLOVA (1854-1938) werden hier erstmals veröffentlicht. Die wissenschaftliche Biographie der ersten russischen Geologin M. PAVLOVA wird untersucht. Über ein historisches Treffen von Eduard SUESS mit Maria V. PAVLOVA im 1888 wird berichtet. Zur Debatte stehen hier 9 Briefe von Eduard SUESS an Maria Vasil'evna PAVLOVA, welche im Archiv der Russischen Akademie der Wissenschaften entdeckt wurden.

Abstract

Results of studying materials in the Archive of the Russian Academy of Sciences (RAS) are published. The scientific biography of the first Russian woman-geologist M. PAVLOVA was investigated. This paper presents information about Maria PAVLOVA and Eduard SUESS meeting in Vienna in 1888. The detected 9 letters of Eduard SUESS addressed to Maria PAVLOVA are quoted.

1. Biographical Data of Maria PAVLOVA

Studying materials on the life and activities of the first Russian woman-geologist, the Honorary Member of the Academy of Sciences of the USSR, Maria Vasilievna PAVLOVA, the author managed to detect 9 letters of the well-known Austrian geologist Edward SUESS addressed to her in the Archives of the Russian Academy of Sciences (RAS).

Maria V. PAVLOVA was born as Maria GORTYNSKAYA on June 26th, 1854, in Kozelets of the Chernigov province (nowadays the Chernigov oblast of Ukraine) in the orthodox noble family of Doctor Vasily Stefanovich GORTYNSKY. PAVLOVA'S initial education was at home. Since 1865 she studied in the Kiev Institute of Noble Maidens, from which she graduated in 1870 with a rank of home tutors and the

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Text-Figure 1.
Maria PAVLOVA in 1880.

right to teach Russian language and literature, geography, history, physics, German language and literature, natural history, French language and literature, arithmetic.

In 1880, after seven years of marriage, Maria PAVLOVA (ILLICH-SHISHATSKAYA by husband) became a widow. The same year she left for Paris and during the next four years she attended lectures on zoology, botany, geology and palaeontology in Sorbonne – one of the oldest universities of the world, where women could receive higher education, and was engaged in the Jardin des Plantes (National Museum of Natural History in Paris).

The call of palaeontology had reached her in the laboratory of the known professor Albert GAUDRY, the greatest expert in mammals of the Tertiary period. In Paris, she also met her future husband Alexey Petrovich PAVLOV.

In 1884, Maria V. PAVLOVA graduated from Sorbonne and became a specialist on palaeozoology. During her stay in France, she made some excursions for collecting bones of fossil vertebrates and brought this collection to Russia.

In 1885, she moved from Chernigov to Moscow and in May 1886 she married Alexey P. PAVLOV (1854–1929) who had been elected Professor of the Imperial Moscow University in January of that year.

2. The Scientific Career of Maria PAVLOVA

In the beginning, Maria PAVLOVA was allowed to process collections of the Geological Cabinet (museum) of the Moscow University. She worked free of charge.

In 1886, she published her first scientific work „Les ammonites du groupe *Olcostephanus versicolor*“ based on the results of her studies of the collection of Early Cretaceous ammonites collected by PAVLOV in the Volga region. However, all her further research activities were devoted to Tertiary mammals. In 1887, she published the first issue of her well-known „Studies of palaeontologic history of ungulates“, in the next year the second issue, and the last (ninth!) in 1906. In a series of works she showed from a Darwinistic position the development of major groups of ungulates and established their relations on the basis of Vladimir O. KOVALEVSKY's evolutionary method; she used known materials not only from Western Europe and America, but for the first time she widely presented data of the territory of Russia. These books gained global popularity and noticeably raised the prestige of Russian science.

PAVLOVA was fluent in English, French and German and was engaged in translations of foreign natural-science publications into Russian. She translated from English books by H.N. HUTCHINSON „The Extinct Monsters“ and „Animals of the last geological epoch“ (1897–1899) and, in 1919, from German the work of the untimely deceased eminent Austrian paleontologist Melchior NEUMAYR „Roots of the animal world“ [„Die Stämme des Tierreiches“]. These books became the first popular scientific editions on palaeontology accessible in Russian.

Her works on ungulates received high evaluation of palaeontologists and biologists, both domestic and foreign, which was evidenced by printed responses of the most outstanding experts (for example GAUDRY, ZITTEL and OSBORN; Archive of RAS, Fund 311, Inventory 1, File 95, Sheet 5 turnaround). Alongside with ungulate mammals, her scientific interests covered also proboscidiens, which she had started to study in 1893.

At the IXth Congress of Russian naturalists and doctors in 1894, she presented the report „On Russian mastodons and their correlation to mastodons of other countries“, in which she gave an inventory of all known materials on mastodons of Russia. In 1897, she published the article „About the mammoth found near the city of Yaroslavl in 1896“ with the results of the examination of the finding site and description of the remainders of the fossil mammoths, which she brought to Moscow and which are stored till now in the Vernadsky Geological Museum of the Russian Academy of Sciences.

In 1897, the International Geological Congress (IGC) for the first time was carried out in Russia, in St. Petersburg. PAVLOVA, together with Maria K. TSVETAeva, became the first Russian women invited to the Organizing Committee of this forum and to participate in the work of Congress. Many delegates of the 7th IGC visited the Geological Cabinet (museum) of the Imperial Moscow University during the excursion and examined geological and palaeontological collections presented in its two halls.

In 1898, PAVLOVA for the first time undertook the „Review of the Russian Literature on Palaeontology of Mammals for 1896–1897“ and later she repeatedly prepared such reviews. In 1899, her popular book „Fossil Elephants“ was published; it was republished in 1924.

At the beginning of the 20th century, she started describing separate groups of fossil mammals as well as the description of complete faunas. She became the first organizer of studies of Tertiary and Quaternary mammals of Russia, carefully tracing genetic lines of some large mammals, mainly, horses, rhinoceros, and elephants.

In 1910, she published her capital work on fossil elephants of Russia „Les elephants fossiles de la Russie“ and the „Catalogue of Collections of the Geological Cabinet of Imperial Moscow University. The first issue. Department II, Mammals“. By the catalogue, the Geological Cabinet stored many original specimens of her works and moulds of

specimens, which served as originals for works of many European paleontologists, including her teacher Albert GAUDRY.

In the same year Maria PAVLOVA began her pedagogical activity as professor of palaeontology of the Shanyavsky Public University. Here, she read the first course of palaeontology in Moscow. Students of the Imperial Moscow University, to which audience at that time she, as a woman, had no access, also attended her lectures.

By 1912, PAVLOVA had collected over 10,000 bones and teeth of fossil vertebrates, which now she transferred to the Geological Cabinet (museum) of the Imperial Moscow University, considerably enriching its collections.

On September 9th, 1916, PAVLOVA received the diploma of Doctor of Zoology of the Imperial Moscow University, an extremely rare rank for a Russian woman.

From 1919 to 1930 PAVLOVA headed the Chair of Palaeontology in State Moscow University (SMU). In 1919, she also became Director of the Palaeontological Museum of the State Moscow University, which was separated from the Geological Cabinet (museum) of the University.

For many years PAVLOVA infatigably kept contact with local lore organizations and separate collectors, teachers, doctors, learned about new finds, corresponded with directors and keepers of university museums and local lore museums of Ekaterinburg, Troitsk-Savsk, Tyumen and Stavropol (on Volga). She visited these museums and also museums of Simbirsk, Kherson, Tobolsk, Irkutsk, Chita, Barnaul, overcoming many obstacles (it was necessary to travel with books, manuals, cameras, mounts), made careful scientific descriptions of interesting and rare specimens, defined bones of fossil vertebrates stored in provincial museums.

“For my long life I have visited numerous museums both under my own initiative, finding additional material for my publications, and under invitations of museum directors, and everywhere I met thirst of knowledge and absence of a slightest possibility to satisfy it” [Archive of RAS, Fund 311, Inventory 1a, File 67, Sheet 3].

As results of such trips, PAVLOVA wrote many publications. In the article “Post-Tertiary ruminants of the Ekaterinburg museum” [7, p. 2] she described a skeleton of fossil giant deer *Cervus eurycerus* ALDR.

“... being the only in Russia”.

In 1911, she carried out a scientific description of Post-Tertiary animals of the Transbaikalian region and northern Mongolia from collections of the Troitsk-Savsk-Kyakhta museum, using the comparative material stored in other museums of Siberia and in zoological museums of Moscow and St. Petersburg. PAVLOVA had stated a wish that

“... other Siberian museums would also as hotly pursue the scientific purposes ...” [8, p. 47].

She was convinced that in museums

“... it is necessary not only to collect material ... but still to care of scientific processing of the collected material ...” [ibid].

She considered that

“... the role and importance of provincial museums are so great that doubt them can only those who has not visited them and, in particular, worked in them ...” [Archive of RAS, Fund 311, Inventory 1a, File 67, Sheet 1].

Her memoirs serve as bright illustration of her selflessness and disinterested service to science:

“Due to my speciality – palaeontology – I had to go quite often for thousand versts (1 versta – 1066,8 meters – Z.B.) from Moscow to a museum, when I learned that it has an object – fossils of any scientifically interesting animal. And



Text-Fig. 2.
Maria PAVLOVA (1910) in the Geological Cabinet (museum) of the Imperial Moscow University.

I did not regret about this trip, though in most cases it has been related to both large expenditure of forces and material means. ... I did not regret, because in any museum there is always a natural-historical subject for a newcomer, this is first. Secondly, to study a subject in a small local museum is incomparably more interesting than in show-windows of capital museums, where they often remain not noticed owing to the big material” [ibid, Sheet 2].

In her opinion, the state of affairs in a museum in many respects is defined by the enthusiasm of its employees:

“Even such museums as those belonging to the Geographical Society – in Siberia – are not in a better situation. As soon as there appears a person interested in this issue and loving it, it comes to life. This person searches for experts, who would help him to understand the collected material and will manage to explain the interesting” [ibid, Sheet 2].

In her deep belief,

“... for prosperity of a museum and education of broad masses it is necessary that the museum would be headed by a person liking this business ...” [ibid, Sheet 3],

and also

“... it is necessary that ... visitors and managers could understand the collected and exposed subjects. Reasonably made catalogues and labels are necessary for this purpose, specifying not only the name of a subject, but also its shortest biography, as it is made in foreign museums, for example, in Brussels” [ibid].

Studying the remainders of fossil animals, she visited museums of London, Paris, Munich, St. Petersburg, Vienna having palaeontologic collections. At trips abroad, always together with Alexey P. PAVLOV, they used all possibilities for visiting natural-science museums and to talk to

known European scientists working in them. So, for example, in 1888, in Vienna, they met Eduard SUESS and Melchior NEUMAYR, and in Munich Carl ZITTEL. In her diary, which she conducted in trips abroad, she made a comparative analysis of palaeontologic collections studied by her in different museums.

PAVLOVA's works have made a basis of palaeontologic substantiation of the stratigraphy of continental Neogene and Quaternary deposits of the Western Europe. In the Moscow University she created a school of paleontologists-stratigraphers of continental Quaternary deposits, which included the famous scientists Vladimir V. MENNER, Maria A. BOLKHOVITINOVA, Maria I. SHUL'GA-NESTERENKO, and many others.

In 1921, PAVLOVA was elected full member of the Academy of Sciences of the Ukrainian SSR; on January 3rd, 1925, she became a corresponding member of the Academy of Sciences of the USSR. In 1928 she was awarded the rank of an "Honored Scientist of the RSFSR (Russia)".

Her publications obtained the deserved recognition abroad. She was, for example, a member of the French Geological Society and Linnaeus Society of Lyon. The French Geological Society in 1926 awarded its supreme award – the Gaudry Gold Medal – to her and Alexey P. PAVLOV.

In 1926, the Geological-Palaeontological Museum of the Moscow University was named after Alexey P. and Maria V. PAVLOVS. The museum expositions created by PAVLOVA played a great role in practical studies and original researches of students.

Her lectures on the Faculty of Paleontology of the Moscow State University were the base for her textbook "Palaeozoology" (published 1927–1929) in two parts: part I – Invertebrate (1927) and part II – Vertebrate (1929).

PAVLOVA was a member of many Russian scientific organizations. She had been a full member of the Moscow Society of Naturalists since 1886 (since 1911 Honorary



Text-Fig. 3.
Maria V. PAVLOVA and Alexey P. PAVLOV in the Geological-Palaeontological Museum of the Moscow University in 1920.

Member), since 1916 Honorary Member of the Mineralogical Society; she was a member of the Moscow Society of Amateurs of Natural Sciences, Anthropology and Ethnography; Russian Geographical Society; Uralian Society of Amateurs of Natural Sciences; Novorossiysk Society of Naturalists, Russian Mining Society.

On February 1, 1930, the Academy of Sciences of the USSR elected her as Honorary Member. Even today she remains the unique woman among geologists and paleontologists, awarded with this high rank.

In 1931, at the age of 77, she went to her last expedition to Volga, to vicinities of the city of Khvalynsk, where she collected very rich collections of fauna and brought them to Moscow.

PAVLOVA published about a hundred of scientific works. On December 23, 1938, Maria Vasilievna PAVLOVA died in Moscow and was buried at the Novodevichiy cemetery.

3. A Journey through Europe

In 1888, she and her husband Alexey P. PAVLOV, at that time Professor of the University, went abroad. The diary including her notes on this multimonthly travel across the countries of Western Europe is kept in the archive of the Russian Academy of Sciences [Fund 311. Inventory 1a. File 86.]

They left Moscow on June 13 (25). Having passed through Smolensk, Brest and Warsaw, at 7 o'clock in the morning, on June 17 (29), on Friday, they arrived in Vienna. They stayed at Schwertgasse, No. 3. On days off, they walked around the city, admiring the beauty and richness of the buildings. On June 20 (July 2), Maria Vasilievna noted in her diary that Rathaus and Parlaments Geb[äude] are especially beautiful and the University is a majestic building outside and rich inside, both in construction, and in conveniences of cabinets and museums.

The next day, on June 21 (July 3), 1888, they met with Professors Melchior NEUMAYR (the son-in-law of SUESS) and Eduard SUESS. PAVLOVA wrote about this event:

"I have got acquainted with Professor Neumayr, which has made good impression, but has deceived my expectations to see something very great, serious. Suess more suits to that I had thought; the face is more intelligent, but all the same very simple, affable; showed the collections, but very much in a hurry, that is why we could nothing examine in detail." (Archive of the Russian Academy of Science. Fund 311. Inventory 1a. File 86. Sheet 4).

The PAVLOVS stayed in Vienna till July 6 (18). They have climbed to the Kahlenberg, have visited the geological museum, Homuseum, picture gallery in Belvedere, industrial exhibition, brick-works in Hernals, studied outcrops of Miocene deposits in vicinities of Vienna and went to Baden

"... beautiful clean city with masses of greens ..." (Ibid. Sheet)

On July 7 (19), they were already in Munich and examined palaeontologic collections in the Academy of Sciences with Carl ZITTEL. After sightseeing of Munich, a climb to a mountaintop covered by a glacier and studying geological sections, they left for Italy. In a month, they were in Paris, Maria PAVLOVA's favorite city. On August 15 (27), they met her teacher, Professor Albert GAUDRY. PAVLOVA wrote

"He has received us with such courtesy, with such readiness to show all interesting to us." (Ibid. Sheet 56).

The next day, under kind invitation of GAUDRY, PAVLOVA worked in the Museum, examined palaeontologic collections.

In September, the PAVLOVS reached London, where they participated in the work of the 4th session of the International Geological Congress.

Text-Fig. 4.
The title of the postcard from June 10th, 1896.

4. Exchanging Letters with Eduard SUESS

The correspondence of Maria PAVLOVA and Eduard SUESS proceeded more than two decades. The first letter (in French) is dated May 17th, 1890 and the last was sent on May 13th, 1913. [The Archive of RAS, Fund 311, Inventory 3, File 100.]

Four letters are written in French, and five letters in German. Eight out of nine of SUESS's letters are written on small post cards. SUESS thanks in these small messages for works which Maria PAVLOVA had been sending him regularly.

In archives were kept Maria PAVLOVA's notes on works she had sent to foreign scientists. PAVLOVA transferred her works at personal meetings with the foreign colleagues when she was abroad, too. The first release of "Etudes sur l'histoire paléontologique des Ongulés" was published in 1887. She transferred fourteen copies of this book to Europe to the various scientists in 1888. Notes in her journal testify that. (The Archive of RAS, Fund 311, Inventory 1a, File 86).

① Eduard SUESS thanks Maria PAVLOVA in the letter from May 17, 1890, for receiving these works:

"Etudes sur l'histoire paléontologique des ongulés en Amérique et en Europe. IV. Hipparion de la Russie." Bull. de la Soc. Imp. des Natural. de Moscou. 1888. T. 2. pp. 653-665.

"Etudes sur l'histoire paléontologique des ongulés en Amérique et en Europe. V. Chevaux pléistocènes de la Russie." Bull. de la Soc. Imp. des Natural. de Moscou. 1889. T. 3, No. 4. pp. 666...-716.

② For this work SUESS thanked in the letter from October 22, 1892:

"Etudes sur l'histoire paléontologique des ongulés en Amérique et en Europe. VI. Les Rhinocéridae de la Russie et le développement des Rhinocéridae en général". Bull. de la Soc. Imp. des Natural. de Moscou. 1892. T. 6, No. 3. pp. 137-221."

③ In the SUESS letter from September 17, 1893, was a mention about receiving of a work:

"Note sur un nouveau crane d'Amynodon". Bull. de la Soc. Imp. des Natural. de Moscou. 1893. No. 1. 8p.



④ The letter from January 31st, 1895, was not deciphered completely. The handwriting of SUESS frequently was illegible. He wrote about the work of Maria PAVLOVA "Les Mastodontes de la Russie et leurs rapports avec les Mastodontes des Autres Pavl. / Mémoires de l'Académie Impériale des sciences de St. Pétersburg. 1894. VIII série. Vol.1. No. 3."

⑤ The postcard from July 1, 1896, was written in French:

"Vienne, 1. Juillet, 96

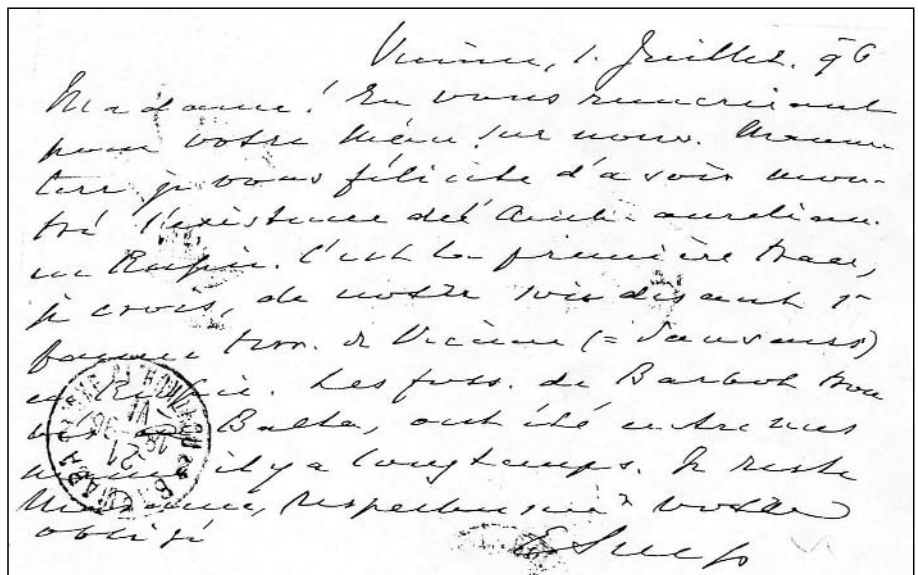
Madame! En vous remerciant pour votre Mem. sur nouv. Mammifères je vous félicite d'avoir montré l'existence de [illegible] aureliane en Russie. c'est la première trace, je crois, de notre soit disant 1^{re} ... en Russie. Les foss. de Barbot trouvés a Balta ont été entre mas mains il y a longtemps. Je reste, madame, respectueusement votre obligé

E. Suess"

⑥ On the postcard from March 3, 1904, SUESS thanks for 4 works sent from PAVLOVA; 3. 1904

Hochgeehrte Frau! Mit vielen herzlichsten Danke bestätige ich den Empfang der werthvollen Schriften üb.[er] Mastodon, üb.[er] Protoghippus, Procamelus u[nd] Ungulat VII.

Ihr sehr verbundener
Suess



Text-Fig. 5.
The postcard from July 1st, 1896.
The Archive of RAS, Fund 311, Inventory 3, File 100.

- The works mentioned were:
- Mastodon Angustidens Cuv. et Mastodon cf. Longirostris Kaup. de Kertch. Varsovie. 1903.
 - Nouvelles trouvailles de Mastodon Borsoni au sud de la Russie. Varsovie. 1901.
 - Procamelus du gouvernement de Kherson. Mémoires de la Soc. Imp. des Natural. de Novorussia. Odessa. 1903. XXV. ?2. pp. 113-133.
 - Etudes sur l'histoire paléontologique des ongulés en Amérique et en Europe. VII. Artiodactyles anciens. Bull. De la Soc. Imp. Des Natural de Moscou. 1899. T.13. pp. 268-328.

⑦ Postcard from June, 6th, 1905:
„Wien, 10.6.05

Für Rhinoc.[...] Schle[..] an [...] sagt besten Dank

Ihr sehr verbundener
Suess“

This was PAVLOV's work "Rhinoceros Schleiermacheri Kaup. des environs d'Ananiev". 1905. St. Pétersburg.

⑧ Postcard from May, 5th, 1910.
„Wien, 17.5.10

Mit vielen Danke für Eleph [...] foss.[...] de la Russie.

Ihr sehr verbundener
Suess“

SUESS thanks for Maria PAVLOVAS work "Les elephants fossiles de la Russie" was published in 1907 in the journal "Nouvelle mem. de la Soc. Imp. des Nat. de Moscou" and in 1910 by the separate book.

⑨ This was the last letter of Eduard SUESS to Maria PAVLOVA (SUESS died on April 26th, 1914):

„Wien, 10 Mai, 1913.

Sehr geehrte Madame

Sie haben vor einiger Zeit mich ersucht, zu vermitteln, daß Ihnen [...] Rhinoceros-Schädel von Maragha in Photographie zugänglich gemacht werden. Vor einer Reihe von Jahren hat Mr. Günther jun[or], der Sohn des Custos aus Brit.[isch] Mus.[eum], genau dasselbe an mich gerichtet, doch wünschte er die Originale zu benutzen. Ich beförderte damals sein Schreiben durch der Vorstand des Museums an den Custos dieser

Wien, 10. Mai, 1913.

Sehr geehrte Madame

Sie haben vor einiger Zeit mich ersucht, zu vermitteln, daß Ihnen gewisse Rhinoceros-Schädel von Maragha in Photographie zugänglich gemacht werden. Vor einer Reihe von Jahren hat Mr. Günther jun., der Sohn des Custos am Brit. Mus., genau dasselbe Ersuchen an mich gerichtet, doch wünschte er die Originale zu benutzen. Ich beförderte damals sein Schreiben durch der Vorstand des Museums an den Custos dieser Abteilung, Herrn Kiehl, der jedoch die Benutzung verweigerte, da er diese Schädel selbst beschreiben wollte. Die Jahre sind vergangen und er hat es nicht getan.

Mit Ihnen verkehrte Brieffe konnte ich auch nicht anders verfahren. Herr Director Herr Daehner sagte mir, er habe Ihren Brief an Custos Kiehl gegeben, er erwarte daß die Sache in Ihrem Sinne geordnet werde; Kiehl wird Ihnen selbst schreiben.

Ob das geschehen ist, weiß ich nicht, aber vergangene Woche ist Custos Kiehl, ein verhältnismäßig junger Mann, plötzlich an einem Schlagflusse gestorben. Jetzt muß erst das Inventar geordnet, der Nachfolger ernannt werden, etc. etc. etc. Indem ich diese Sachlage melde, bleibe ich mit den Ausdruck vollster Hochachtung, sehr geehrte Frau

Ihr ergebener

Suess

Text-Fig. 6.
The letter from May 10th, 1913.

Abteilung, Herrn Kittl), der jedoch die Benützung verweigerte, da er diese Schädel selbst beschreiben wolle. Die Jahre sind vergangen und er hat es nicht gethan.*

Mit Ihrem werthen Briefe konnte ich auch nicht anderes verfahren. Herr Director Sterdachner sagte mir, er habe Ihren Brief an Custos Kittl gegeben, er erwarte, daß die Sache in Ihren Sinne geordnet werde; Kittl wird Ihnen selbst schreiben.

Ob das geschehen ist, weiß ich nicht, aber vergangene Woche ist Custos Kittl, ein verhältnismäßig junger Mann, plötzlich an einem Schlagflusse gestorben.

Jetzt muß erst das Inventar geordnet, der Nachfolger ernannt werden etc, etc, etc.

Indessen ich diese Sachlage melde, bleibe ich mit den Ausdrücken vollster Hochachtung, sehr geehrte Frau

*Ihr ergebener
Suess“*

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The Archive of the Russian Academy of Science. Fund 311. Inventory 1. File 95.

The Archive of the Russian Academy of Science. Fund 311. Inventory 1a. File 67.

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*) KITTL Ernst Anton Leopold (2. 12. 1854 – 1. 5. 1913), Direktor der Geologisch-Paläontologischen Abteilung des Wiener Naturhistorischen Hofmuseums. 1907 Professor für Paläontologie (Molluska, Mammalia, Cephalopoda) und Praktische Geologie an der Technischen Hochschule.