

GEOLOGICAL RESEARCH ON DOCUMENTS AND OBJECTS AT THE ARCHIVE OF GEOLOGY AT THE UNIVERSITY OF VIENNA

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1 Introduction

In 2017 the author was given the task by the head of the Institute of Geology Bernhard Grasemann with the reorganization of the geological collections. After an initial review an inventory of the documents and objects was established. Archive material was obtained for the documents in next step. A great challenge was to sift through the documents and objects properly in terms of conservation, organize them and bring them to an assigned location. Some documents had to be cleaned, organized and, above all, detached from metal objects such as staples and paper clips and from plastic parts.

A large number of archive boxes filled with manuscripts, letters, photos, drawings and personal items have now been cataloged, inventoried and digitized.

Since the collections are not very large and new additions are not planned in the near future, the author defined the following order in eleven storage cabinets: the first two metal cabinets contain the material on the general topic of the history of the Geological Institute, the Geological Society and the Society of Geology and Mining Students. From the third cabinet onwards, the estates of geoscientists are arranged in alphabetical order. The ninth cabinet contains a large collection of various geologist's hammers from well-known geologists. The tenth cabinet contains a collection of geohistorical photo glass plates and a slide collection that goes back to Ordinarius Alexander Tollmann. The 11th cabinet, after a transfer from another part of the institute, contains the geological field exercises mappings, the mining excursions and preparatory works "Vorarbeiten". They were first viewed, then sorted and freed of metal and plastic parts and finally archived.

An extensive collection of historical geological maps in different scales, and discussions, drawings and also portraits were arranged and carefully stored in special boxes and in special map cabinets. Some portraits of well-known geoscientists and two profiles were extensively restored and hung on the walls of the Geological Archive. A profile from 1937 goes back to Leopold Kober. It shows the different allochthonous naps of the Eastern Alps and the Alpine foothills (Grasemann, Hamilton, 2020). The second restored map is a colored 3D cross section map by Walter Medwenitsch. It dates from 1967.

Through her interdisciplinary work, the author was able to contribute her experience to the reorganization and systematization of valuable geo-historical cultural value (see Hamilton 2017).

The author allows herself to use the term „Geological Archive“ for the collections of the Institute of Geology in this article, which goes back to the founder of the archive Alexander Tollmann. The current name is „Archive of the History of Geology“. Our Geological Archive can be seen as a connection between archive and history. It enables transdisciplinary access of interested historians, geoscientists, experts from art history, the mining environment, local history, etc.

Editorial note: The shown figures of documents, objects and texts come mostly from the Geological Archive. The texts, some of which written in the German “Kurrentschrift”, are given in the original spelling, punctuation and in the order of the text, transcribed by the author. Abbreviated parts of words are added in square brackets.

2 What are collections and what is their purpose?

The collections at the Geological Institute largely consist of partial legacies from well-known scientists who were related to the institute or to the former head of the institute, Alexander Tollmann. This means these are not collections of scientific illustrative material, such as minerals or rocks or special instruments, but rather a collection of different types of sources which was accumulated over almost 100 years. For example administrative files, inventory books, accounting receipts and correspondence as well as letters, display objects and teaching material (such as slides, photo plates). These collections were accumulated and often were forgotten in a secluded place and thus were preserved. Since these objects and documents were accumulated randomly and without expert supervision, they received little or no attention. Hence the historical documentation is discontinuous. The research of these archival sources found little or no source documentation so far.

Nur wenige Institute (Departments) der Universität Wien verfügen über ein eigenes, die Geschichte ihrer Abteilung dokumentierendes Archiv bzw. über daran angeschlossene Sammlungen. Zu diesen eher seltenen Ausnahmen gehört das Archiv des vormaligen Geologischen Institutes (nunmehr Department für Geodynamik und Sedimentologie) [today: Institute of Geology]. Die jeweilige Entstehungsgeschichte und ebenso der Umfang derartiger Sammlungen sind vielfach von Zufälligkeiten bestimmt. Und oft ist auch der weitere Verlauf ihrer Entwicklung mangels institutioneller Betreuung diskontinuierlich. Nicht selten ging dem Beginn eines planvollen Sammelns und Aufbewahrens ein längerer Zeitabschnitt voraus, in welchem sich vielfältige Gegenstände alltäglicher Art (Verwaltungsakte, Korrespondenzen, nicht mehr in Verwendung stehende wissenschaftliche Geräte etc.) allmählich angesammelt hatten, deren Bedeutung als [des] Bewahrens wertige Objekte erst später (wieder)erkannt wurden (Lein, 2010).

On the occasion of the relocation of the Geological Institute from the main building of the University at the Ringstrasse to the New Institute building (NIG) in Universitätsstrasse in 1962, Alexander Tollmann sifted through all the documents, files, writings and objects that he could find. He put them in order partially. This became a basis for the history of the Geological Institute and the history of the “Vienna

School” of geology. This name goes back to the first professor of geology Eduard Suess (1831-1914) and his students.

The Geological Archive is thus an institution with different documents and objects giving insights into the way of research, the acquisition of knowledge and at the same time it shows the way of collecting and storage. It also can be viewed as a cultural and scientific memory.

3 What is the significance of archives - in particular the geological archive?

The term “archive” comes from the Latin “archivum” and means filing cabinet. In ancient Greek “archeion” stands for official building. So the archive is an institution, a building or a place in which something is collected and stored. Archives exist in different cultures and have been used to store and secure written documents and important information. It should be noted that this information – archive material – is to be seen as a primary source only existing once. These sources contain the historical information. The archived information can be stored on different carriers, such as paper, individual documents, maps, photos, slides, photo glass plates or also called photograms, sound carriers such as films or cassettes, and digital systems.

Digitization is changing archives and their content significantly. How and what do we collect in and for the future. Order, systematization and also digitization lead to the expansion and dissemination of knowledge. With digitization, data can be made more easily accessible for research purposes. But the digital file does not replace the original! It is important to examine the original. The questions of what condition the source is in, how it was made and in what context it was used, we only can find out from the original.

Archive collections also provide information about the networking among scientists. Some examples from the Geological Archive are mentioned here: the correspondence between Martha Cornelius-Furlani (1886-1974) and Peter Cornelius (1888-1950), between Friedrich Becke (1855-1931) and Viktor Uhlig (1857-1911) and between Eduard Suess (1831-1914) and Albert Rothschild (1844-1911) in Paris. Geologists’ hammers were exchanged on the occasion of Eduard Suess’ 60th birthday. In recognition of well-known geologists, Suess received a hammer from Marcel A. Bertrand (1847-1907), Dionys Stur (1827-1893) and Johan Cvijić (1865-1927). In return for receiving the hammer from Albert Heim (1849-1937) Eduard Suess gave him his hammer, which Alexander Tollmann was able to inspect personally during his visit to the ETH (Eidgenössische Technische Hochschule) in Zurich in 1990.

What is the importance of archiving hard drives and digital storage media? How can this material then be processed? Large files, such as the digital recordings of over 3000 pieces of photo glass plates, were saved on an external hard disk. The digital recording of around 5000 slides from the eighties of the last century on an external hard drive was also carried out.

Which documents and objects are available and are they evidence of geo-historical cultural assets? We come across manuscripts serving as the basis for future publications; E.g.: Leopold Kober: manuscript for the tectonogram and Eduard Suess: manuscript for “The Face of the Earth”. But not all manuscripts were published. For

example the manuscript “World and People” by Leopold Kober (Leopold Kober estate, K4 / Box 2). There is a first manuscript by Eduard Suess for the later publication “Der Boden der Stadt Wien” from April 8, 1864, which was never published (Eduard Suess estate, K7 / Box 8). There are also some unpublished manuscripts by Alexander Tollmann, such as plate tectonic results in the Eastern Alps from 1982.

We also find cross sections of site inspections – see Eduard Suess: Profile Eggenburg-Horn, correspondence with other scientists, photos, slides and photo glass plates that were available as illustrative material for the class.

Fieldtrip bags have been preserved from Rudolf Grill (1910-1987), Walter Medwenitsch (1927-1992) and Alexander Tollmann (1928-2007). The bags, made of sturdy linen or cotton fabric in a gray-green color had space for a notebook or field-trip book, pencils and crayons, and bottles with acids, especially 10% hydrochloric acid. The geologist’s hammer could be attached to the side of the bag in a holder.

The fascination of the collections of the Geological Archive lies with the fact that documents and objects can be traced back to the beginnings of the university institute. The collections give us an insight into the research work, the gathering of knowledge, the use of tools and the development of new theories, the documentation and teaching of the individual scientists. They bring our history to life and remind us of the creation of knowledge. The geological archive is therefore a place for the preservation of geoscientific and cultural memory.

4 The collections of the Archive of the History of Geology at the University of Vienna

The collections of the Archive of the History of Geology go back to the former head of the Geological Institute Alexander Tollmann (1928-2007), director of the institute from 1972 to 1984. Under his leadership, these collections were given a partial order and a name: Geological Archive. Alexander Tollmann names October 15, 1862 with the appointment of Suess as full professor of geology as the hour of birth of the Geological Institute. Tollmann also uses this date (the year!) as an opportunity to establish the geological archive 100 years later (1962).

Transcription of the original words of the charter:

Das hohe k k Staatsministerium hat durch Erlaß vom 15. Oktober 1862 Z [Zahl] 10810/529 C. U. [Cultus Unterricht] dem unterzeichneten Dekanate anher folgendes eröffnet:

„In Würdigung der in dem unterm 1. C.M. [Cultusminister] Z. 138 vorgelegten Einschreiten geltend gemachten Gründen welche dafür sprechen, daß dem Professor der neuerrichteten Lehrkanzel der Geologie ein selbständiges und nur diesem Zwecke gewidmetes Ločale [Lokal] im Universitätsgebäude selbst oder in dessen unmittelbarer Nähe angewiesen werde, hat man sich zu der Anordnung bestimmt gefunden, daß von den beiden Ločalen [Lokalen], welche zeitweilig von akademischen Vereinen, nämlich dem Gesangsverein und dem Unterstützungsverein benützt sind, jenes, welches hinzu am geringsten erscheint, zu Gunsten der genannten Lehrkanzel geräumt, und dem Professor Eduard Sueß als Vorlese- und Museums-Saal zur Verfügung gestellt werde.

Indem an das k. k. Univers. Constistorium hienach die geeignete Weisung unter einem ergeht, wird auch das Dekanat zur eigenen Wissenschaft und sofortigen Ver-

ständigung des Professors Sueß, welcher sich in Betreff der Bestimmung des für seine Lehrkanzel geeignetsten unter den beiden bezeichneten Lokalen mit dem Consistorium im kurzen Wege ins Einvernehmen zu setzen hat, mit dem Beisatze in Kenntniß gesetzt, daß unverweilt nach Bestimmung des Locals die vorhandene zoologische Sammlung aus den gegenwärtig zu ihrer Aufbewahrung dienenden, jedoch ganz ungeeigneten Lokalitäten im akademischen Gymnasialgebäude in selbes übertragen werde und selbst nebst den von ihm bereits gesammelten geologischen Objekten ihre Aufstellung finde.

Derselbe wird ferner zugleich ermächtigt, die Beistellung der zur Aufstellung der geologischen Sammlung und zur Adaptierung des Lokals als Vorlesesaal nöthigsten Einrichtungsstücke zu veranlassen und die Bedekung des bezüglichlichen Kostenerfordernisses im vorschriftsmäßigen Wege nachträglich in Anspruch zu nehmen.

Das für Professor Sueß ausgemittelte Local ist übrigens wie schließlich noch bemerkt wird, nicht bloß für die Vorträge der Geologie bestimmt, sondern es wird selbes auch namentlich dem Professor Peters, dessen Vorlesungen sich in verwandter Richtung bewegen, zur Benützung und Aufstellung seiner Lehrmittel einzuräumen sein.“

Hiervon werden Herr Professor Sueß zur Benehmung in Kenntnis gesetzt.
Vom Dekanate des k. k. Professorenkollegiums der philosophischen Fakultät.
Wien den 18. Oktober 1862.

Aschbach.

This letter shows Professor Eduard Suess got suitable locations for his lectures and collections at the University of Vienna from the minister of culture Graf Leo Thun-Hohenstein (1811-1888), with the zoological collections also being added. At first, Suess had to share this premises with a colleague, Carl Ferdinand Peters (1825-1881), who took over the professorship for mineralogy and geology at the University of Graz in 1864.

Eduard Suess, and also Alexander Tollmann wrote down everything as far as possible, so many events that took place in and around the Geological Institute are documented and found here in the archive. A well-known sentence Tollmann repeatedly postulated is quoted here:

Was nicht geschrieben ist, ist nicht geschehen.

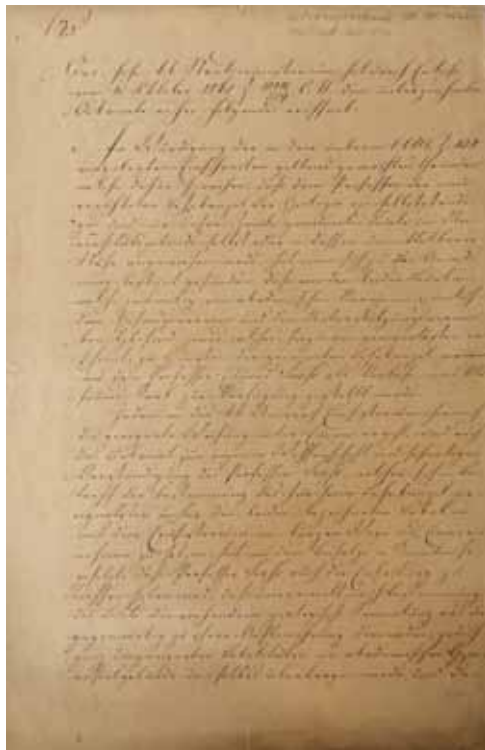


Figure 1: The founding document of the Geological Institute from 15. October 1862. Cabinet No. 1, Box 20. Size: 34,5x21cm

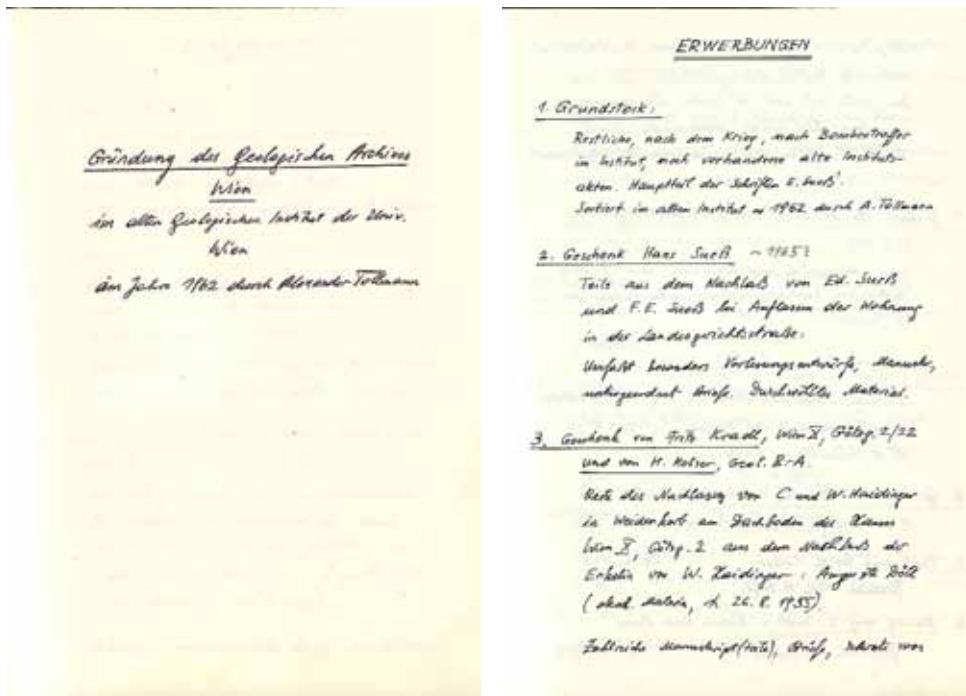


Figure 2: Inventory book by Alexander Tollmann. First and second page. Size: 21x14,5cm.

With the renaming of the Institute for Geodynamics and Sedimentology in October 2020 into today's name Institute for Geology and the initiation of the new curriculum under the head of the institute Bernhard Grasemann, the collections were also given a new name „Archive of the History of Geology“.

In 1962/63 the Geological Institute moved from the main building at the Ringstrasse to the so-called New Institute Building (NIG) at Universitätsstrasse 7. During the move, and also in view of the celebrations for the 100th anniversary of the Geological Institute, Alexander Tollmann put the scattered archive materials together on his own initiative. Initially, this collection was mainly dealing with Eduard Suess, but additional documents and objects were added. Tollmann created a handwritten inventory book for all these objects between 1962 and 1991.

Alexander Tollmann was able to acquire partial estates from important Austrian geologists, which he documented in an A5 booklet on pages 1-6. The first entry of the acquisitions applies to the „basic stock“ of the collections.

1. Grundstock:

*Restliche, nach dem Krieg, nach Bombentreffer im Institut, noch vorhandene alte Institutsakten. Hauptteil der Schriften von E. Sueß'.
 Sortiert im alten Institut ~ 1962 durch A. Tollmann.*

With this, Tollmann laid the foundation for today's extensive collection...

.... auch wenn diese z.T. nicht dem unmittelbaren Personalstand des Wiener Geologischen Institutes angehörten [...] (AMPFERER, CLAR, H.P. CORNELIUS,



Figure 3: Photographs of geologists. First overlook. – Box 1 and 2. Photo: Margret Hamilton.

M. CORNELIUS-FURLANI, DEL NEGRO, FINK, GRILL, C.u.W.HAIDINGER, F.v.HAUER, KIESLINGER, KOBER, SANDER, SCHMIDEGG, STINY, TELLER, THURNER, VENDEL, WALDMANN) (Lein, 2010).

There are photos, letters and correspondence of Walter Del Negro (1898-1984), Josef Stiny (1880-1958), Friedrich Teller (1852-1913), Andreas Thurner (1895-1975) and Miklós Vendel (1896-1977). These are not real estates, they were part of Alexander Tollmann's estate.

These partial estates from the geoscientists have been reviewed, sorted, inventoried and digitized and are now placed in the geological archive in alphabetical order. These are partial estates from Otto AMPFERER, Eberhard CLAR, Martha CORNELIUS-FURLANI, Hans Peter CORNELIUS, Christoph EXNER, Wilhelm von HAIDINGER, Franz von HAUER, Rudolf GRILL, KIESLINGER, Leopold KOBER, Leo LEITNER, Walter MEDWENITSCH, Bruno SANDER, Peter SCHLUSCHE, Oskar SCHMIDEGG, Eduard SUESS, Franz Eduard SUESS, Alexander TOLLMANN, Andreas THURNER and Viktor UHLIG.

A large number of photographs or lithographs by well-known geoscientists exist in the geological archive. Richard Lein, the former head of the archive, had put these in alphabetical order and temporarily stored them in used envelopes and in a box in the 8th cabinet within the estate of Alexander Tollmann.

With the renewed viewing, the new alphabetical order, the digitization and the archiving in specially manufactured acid-free wrapping paper, these photos are now stored in cabinet 2 of the archive in two boxes.

5 The geological hammer collection of the Geological Archive

As a special contribution, the author presents the newly arranged and inventoried collection of geological hammers. In cabinet 9 of the geological archive, all exi-



Figure 4: left: professor's office at the geolog. [Geological] Institute in "New Univers. [University] "Rathausplatz (Luegerring). Photo Ruziczka 1953. = Text on the back of the photo [by A. Tollmann]. Geological archive: geologist photos 1/3. Size: 13x18.5cm. Right: Statue of Eduard Suess at the Schwarzenbergplatz. Photo: Margret Hamilton.

sting historical geologists' hammers are now kept together. In the following the hammer collection of Eduard Suess and then the hammers in general are listed.

1. Eduard Suess's hammer collection

Alexander Tollmann attached a note to the Suess hammer collection indicating that there were 28 hammers existed in 1996 after the relocation from the NIG to the new Geocenter at Althanstrasse 14 in the 9th district of Vienna. With the reorganization and recording of the collection holdings, only 12 hammers from this historical collection could be recorded and inventoried by the author.

The earliest items in the collection go back to the first professor of the Geological Institute, Eduard Suess. These were originally located in Eduard Suess's private apartment at Afrikanergasse in Vienna. The Russian scientist Vladimir A. Obručev (also Obrutschew, 1863-1956) visited him there in 1898 and 1899. Obručev described this meeting in a biography of Eduard Suess. The biography is on display in the Moscow State Vernadski Museum. The digitized version was sent to Austria for translation by Zoya Bessudnova (Obručev, Zotina, 2009).



Figure 5: The hammer collection of the Geological Archive. 9th cabinet: 3rd, 4th and 5th shelf. Photo: Margret Hamilton.

The following illustration from 1953 refers to the professor's office at the university building at the Ringstrasse (Luegerring, today Universitätsring). The bust of Eduard Suess (copy by Franz Seifert, 1866-1961) stand on a wooden pedestal and is part of the permanent collection of the Geological Institute. The sides of the wooden pedestal are decorated with geologist hammers. The copy of the bust of Eduard Suess is currently on display at the Geozentrum, Althanstrasse, on the first level at the south entrance.

Inscriptions on the base of the statue of Eduard Suess on Schwarzenbergplatz:

EDWARD SUESS
1831-1914

Inscriptions on the base on both transverse sides:

DEM SCHÖPFER DER ERSTEN WIENER HOCHQUELLENLEITUNG
DEM MEISTER DER GEOLOGIE
DEM KÄMPFER FÜR FREIHEIT UND FORTSCHRITT
ERRICHTET VON SEINEN SCHÜLERN, FREUNDEN UND MITBÜRGERN 1928

On the occasion of Eduard Suess' 60th birthday he received geologists' hammers as recognition and thanks from well-known geologists, and also from some students. This hammer collection has been expanded through donations over the years. In the following, the hammers received are listed with their inscription:

Arnold Escher von LINTH (1809-1872), Jan (Johan) KREJČI (1825-1887), Oskar LENZ (1848-1925, Ottomar Pravoslav NOVAK (1851-1892), Jovan CVIJIC (1865-1927), William KING (1809-1886), Albert HEIM (1849-1937), Dionýs ŠTUR (1827-1893), Franz Serafin Ernestus Apollonius Edler von ROSTHORN (1796-1877), Marcel Alexandre BERTRAND (1847-1907).

2 hammers unknown from 1876

2. List of all geologist's hammers in the geological archive

1. shelf

3 hammers of Alexander TOLLMANN (1928-2007)

2 hammers of Edith KRISTAN-TOLLMANN (1934-1995)

2. shelf

2 hammer of Bruno SANDER (1884-1979)

1 hammer of Alois KIESLINGER (1900-1975)

3 hammer of Oskar SCHMIDEGG (1898-1985)

1 hammer of Robert MALLET (1810-1881)

1 hammer of Rudolf GRILL (1910-1987)

1 hammer of Julius FINK (1918-1981)

3. shelf

1 hammer of BECK-MANNAGETTA (1917-1998)

1 hammer of Martha CORNELIUS-FURLANI (1868-1974)

1 hammer of Hans Peter CORNELIUS (1888-1950)

1 hammer of Miklas VENDEL (1896-1977)

1 hammer of Walter Josef SCHMIDT (born 1923)

1 hammer C.A.O. – unknown

1 hammer of Erich THENIUS (born 1924)

2 hammer – unknown

4. shelf

Hammer collection of Eduard SUESS: 12 hammer

5. shelf

Hammer collection of Walter MEDWENITSCH: 9 hammers

Summary

Although the collections of the Geological Archive can only be seen as historical cultural assets, it is always fascinating to see fundamental statements that are still valid today. These are important testimonies showing the development of geological knowledge. They are available for those interested in studying the fundamentals of knowledge.

Working on historical material is very time-consuming, as the documents require special handling with special protective equipment - gloves and possibly mouth and nose protection. But the discovery of new or old documents can lead to new insights into the creation of data and certain scientific processes. The small-scale nature of the observations, the many but important details of the records led to a lar-

ger picture still fascinating. We also experience special access to the personalities here, and can understand and follow the steps of the research findings. They also enable a deeper insight into the working methods and the fundamental statements and theories based on them, as well as the application of technical devices.

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