

International Commission on the History of Geological Sciences

INHIGEO

ANNUAL RECORD No. 51



43rd Symposium

Mexico City, Mexico November 12-21, 2018

Photo: Héctor Pineda, Historical Archives, School of Mines, Mexico City.

INHIGEO

is

A Commission of the International Union of Geological Sciences

&

An affiliate of the

International Union of the History and Philosophy of Science and Technology



Covering Activities generally in 2018

Issued in 2019; ISSN 1028-1533

Compiled and Edited by William R. Brice

INHIGEO Editor

Printed in Johnstown, Pennsylvania, USA, on request

Available at www.inhigeo.com







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PRESIDENT'S MESSAGE (April 2019)

INHIGEO continues to thrive. In November 2018 INHIGEO held its annual conference for the first time in Mexico. It was most successful and memorable. Thank you to all who have been involved and especially to our Vice-President (Latin America), Luz Azuela.

A large conference volume was offered in Mexico with Conference Program, Abstracts and Field Trip Guides together with an overview of Mexican geology. It was another excellent contribution by our Mexican delegation.

Mike Johnston has provided an overall Mexico conference report in this volume. INHIGEO is especially indebted to Mike who has been reporting on our annual conferences since 2004.

In September 2019 I look forward to seeing many of you in Varese-Como, Italy for our annual conference. INHIGEO returns to Italy for the first time since the International Geological Congress in 2004. Our Vice-President (Europe), Ezio Vaccari, heads the Organizing Committee.

And please not forget that our 2020 conference follows only 6 months later in New Delhi, India in association with the 36th International Geological Congress. At this time a new INHIGEO Board of Management for the period 2020-2024 will be approved.

In conclusion, I acknowledge personally Secretary General Marianne Klemun, Editor Bill Brice, Webmaster Johannes Mattes as well as the residual INHIGEO Board for their ongoing major contribution to INHIGEO. We cannot function without their diligent efforts.

Barry Cooper
Adelaide, SA Australia



Secretary General's Report 2018

Looking back over more than 15 years and thinking about what originally interested me after being invited by David Oldroyd to join INHIGEO, it was at the meeting I first attended in Dublin in 2003. After taking part in these conferences for many years, I can conclude that this annual meeting continues to be the attractive heart of the INHIGEO community's life. It was confirmed more than ever last year. After this very interesting annual meeting of INHIGEO in Mexico City in 2018, I presume that all of us who had attended went back home very impressed by the interesting topics presented during the conference and the marvellous country we were able to get to know during the excursion. And we should not forget the talks and conversation, the exchange of knowledge and insights.

I would like to very warmly thank our local organisers, Luz Azuela and her highly committed group, for their perfect organisation and especially for their generous hospitality. We will long remember Mexico and our 2018 anniversary meeting. Many thanks to Luz who had the idea years ago, thanks to the local committee and, last but not least, to all the contributors. The Book of Abstracts and the Schedule, amounting to 129 pages, is an impressive record of this very well organised and interesting event. Publications are on the way in cooperation with the Editor of the Journal of the *History of Earth Sciences* Society, John Diemer, and, thanks to Mike Johnston, we can also read in this AR the report about the fieldtrips.

Our next INHIGEO Annual Conference will take place in Varese and Como (Italy) 2-12 September 2019, and we are looking forward to an outstanding special event. Having already seen the schedule and the field-trip destinations, we are confident that members will be happy to join the group in Italy, headed by our Vice-president Ezio Vaccari. The annual meeting for 2020 will be in New Delhi as part of the 36th International Geological Congress. Please take into consideration that this meeting will not be taking place in summer or autumn as usual but from 2 to 8 March 2020. Submission of abstracts opened in April 2019 and closes in August 2019. We will be part of Section 1, 'Geoscience for Society.'

The most important point of our activities is to strengthen our membership with new and, above all, young members. Our 2018 ballot has been completed and since May 2018 we have gained seven new members from seven different countries. Please join me in welcoming them all! They are: from China Dr. Sun Chengsheng (OM), from Germany Dr. Norman Henniges (OM), from Italy Luigina Vezzoli (AM) and Maddalena Napolitani (AM), from Russia Natalya Bryanchaninova.(OM), from Switzerland Dr. Tina Asmussen (OM) and from Uzbekistan Oksana Tsay (OM). With the annual ballot we also recognise and congratulate one new honorary senior member INHIGEO: Prof. Janusz Skoczylas from Poland!

It is with great sadness that I have to announce that INHIGEO Honorary Senior Member Robert H. Dott, Jr. (1929-2018) died in late February. I am also sad to record the passing of Canadian INHIGEO member Dr. S. George Pemberton, who died at the age of 69 on 4 August 2018. Rather belatedly, we have also learned of the death of Australian INHIGEO member, Homer Le Grand in 2017 at the age of 72 years. I very much regret to learn of the death of our Russian INHIGEO member Elena Minina (1957-2018), who was a research fellow of the Vernadsky State Geological Museum. We are also sad to record the passing of our Irish and Honorary Senior INHIGEO member Prof. Gordon L. Herries-Davies, who died at the age of 86 on February 22, 2019. Please see the memorials in this volume. The memorial for Prof. Herries-Davis will appear in the INHIGEO Record No.52 next year.

Let us return to more agreeable news, for several of our fellow INHIGEO members were honoured in 2018. Allow me to express my warm personal congratulations and those of INHIGEO to Dr. Sue Turner (Brisbane) who was awarded with the *Tom Wallace Medal* for her work on documenting the careers of Australian women in geology. Dr Mike Johnston (Nelson), in the New Year's Honours list, was made an *Officer of the New Zealand Order of Merit (ONZM)* for services to geological science and history. Warm congratulations to Mike! In addition, warm congratulations from INHIGEO to Prof. Algimantas Grigelis (Lituani) who was awarded by the *Grotthus Medal* at the end of 2018. The Société Géologique de France bestowed its *Prix Eugène Wegmann* upon INHIGEO Past President Kenneth Taylor. The INHIGEO editor, Bill Brice, was presented with the *Mary C. Rabbitt Award for the History of Geology* by the History and Philosophy of Geology Division of the Geological Society of America at the GSA Annual meeting in Indianapolis in November of 2018. And, last, but certainly not least, Octavio Puche Riart of Spain was honored three times – with the *Manuel Fernández de Castro Award*; the *Atlantic Copper Prize*; and the *XIII Award Francisco Javier Ayala Carcedo*. Congratulations to all!

To return to my duties as Secretary General: I can report that in this function, together with Martina Kölbl-Ebert, I attended the Executive Committee Meeting of the IUGS in Potsdam (Germany) from January 22-24, 2018, where I had to report on our activities. I also reported to IUHPST/DHST, and we are very grateful for the support we have received from both organisations, although these contributions do not fully enable us to give as much support to our young scholars as we would like.

One result of the Potsdam meeting was that IUGS wishes to develop better and more continuous co-ordination of the publication of information on news, events and achievements arising from IUGS activities (excluding science reports or papers). All IUGS Commissions, Task Groups, Initiatives and IGCP projects are requested to provide a steady flow of material. Contributions from Associated Bodies and Affiliates are also very welcome.

We have adopted this requirement. Ken Taylor has developed a model for our monthly mini-contributions called “Anniversaries.” So many thanks to Ken for his activity, which demonstrates that we are able to make a bridge between our research and a wider public. From March 2018 onwards we have submitted mini-pieces which are available on the IUGS home-page (www.iugs.org, “Anniversaries”), and you can now find examples in our *Annual Record No. 51; 2018*.

I should also mention that, apart from all our meetings, I am very pleased to thank all members for their lively engagement in “our” shared field. I thank you for your contributions, activities and reports and the activities and conferences of all affiliated groups. Our *Annual Record* illustrates the productivity of our members and affiliated groups of the INHIGEO. It is thanks to Bill Brice’s tremendous efforts that we can proudly present our *Annual Record*, a publication of almost 300 pages. If you have not received this large book via email because of firewall settings, you can find the AR on our home page (www.inhigeo.com).

Thanks to Martina Kölbl-Ebert for the minutes of the business meeting, Johannes Mattes as Webmaster (www.inhigeo.com), all members of the Board as well as President Barry for handling our Commission.

I am looking forward to a fruitful year, lively exchanges and discussions at our next annual meeting in Varese/Como in September! I hope to see you there!

Marianne Klemun



EDITOR'S MESSAGE 2019

The first thing that I must do is to thank everyone who contributed material, information, articles, *etc.* for the *INHIGEO ANNUAL RECORD*, No. 51 (2018), and who, each year, help make our publication the success that it is. Please accept this expression of appreciation for your many contributions, and, please keep them coming for the next issue in 2020. The success of the *Annual Record* is due to the many contributions submitted by our members. In fact, due to the many contributions, this year I have put the *Annual Record* in 10 pt. type to reduce the number of pages and keep our printing costs down.

My apologies to anyone who submits an item, or two, and it (they) doesn't (don't) appear in the *Record*. Sometimes I do lose an email or two. If that happens, please let me know and re-send the item(s), for I will add it the following year. That has happened in the past and I do apologize to everyone for those omissions.

And speaking of 2020, I have decided not to seek a second four-year term, so next year will be my last year serving as your editor. It has been an honor and a great privilege for me to serve as your editor these past three years, with one more to go. I have very much enjoyed putting together the *Annual Record* each year and seeing how much work is being done in the history of geology. INHIGEO members can be justly proud of their accomplishments. However, I feel that as your editor, I should be attending the annual meetings to get to know personally as many members as possible, but due to various time conflicts and family travel (with more to come as our granddaughter will be entering St. Andrews University (Scotland) in the Fall of 2019), I have been unable to attend. Mike Johnston has done a great job reporting on the meetings, and reading his reports makes me even sadder that I could not attend. In addition, I have several personal projects in the history of geology that have been neglected for too many years, and it is high time I completed them. And finally, there is the age factor to consider. If I did renew for an additional four years, I would be almost 90 years of age by the end of that term, and I feel that INHIGEO needs a younger person with new ideas as editor. With all this in mind, reluctantly, I will be stepping down at the end of 2020, after completing *Record* No. 52. I urge the members to give serious consideration to stepping forward and volunteering to become the next INHIGEO editor. I know you will find it as interesting and rewarding as I have these last four years.

I, too, offer my congratulations to those members whose work has been recognized with various awards and medals (see the Awards section in this volume). And I extend my sympathies and condolences to the families, friends, and colleagues of those INHIGEO members who are no longer with us in body, but whose works and memories of friendships will long endure (see Obituaries in this volume).

According to the INHIGEO *By-Laws*: "7. The INHIGEO Board distributes information to Members by means of regular emails and the INHIGEO Annual Record in English."

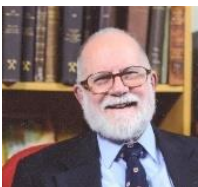
In order for me, as Editor of the *Annual Record*, to do this, I have to rely on the membership to provide the appropriate translations when items are submitted in a language other than English. As you will see in this issue, as a group we have not always followed Item #7 in the *By-Laws*. So, I am asking everyone, please keep the *By-Laws* item #7 in mind when making your report for the year 2019. Thanks.

I, also, join my colleagues in welcoming our new INHIGEO members. The complete list, with their addresses, is to be found within this issue. I hope we all will take the time to send a welcoming note to each of them.

In closing I, again, urge you, yes you, the person reading this note, please consider becoming the new INHIGEO editor for the next term 2021-2024. I will be happy to work with my successor in any way I can to help with the transition, and I do have a few tips to pass along.

And finally, thank you, again, for the privilege of being your editor these past three years and for one more year.

Cheers, Bill Brice



LETTER FROM THE PRESIDENT OF JAHIGEO*

First, on behalf of JAHIGEO (The Japanese Association for the History of Geological Sciences) constituted in 1994, I would like to offer our congratulations to INHIGEO (The International Commission on the History of Geological Sciences), which celebrated its 50th anniversary in 2017

Although JAHIGEO has supported INHIGEO in many of its activities, one of its most important contributions has been the holding of the 2011 INHIGEO conference in Toyohashi, Aichi Prefecture, in central Japan. On 11 March of that year, at the time JAHIGEO was preparing for this conference, a major earthquake with a magnitude of 9.1 occurred off the coast of northeastern Japan. Together with the tsunami it generated, the earthquake devastated large parts of the countryside and built-up areas across 20 prefectures, resulting in the death of 15,895 inhabitants and injured 6,156, with a further 2,539 residents declared missing. The tsunami also caused a serious nuclear accident in the Fukushima Prefecture, which necessitated the evacuation of many residents. This natural disaster is now variously referred to as the '2011 Tōhoku earthquake', the '3.11 earthquake' or the 'Great East Japan Earthquake'.

In view of the magnitude of this event and its tragic consequences, JAHIGEO seriously debated if the conference could be held as planned and, above all, if foreign participants might be prepared to attend the meeting. However, the encouragement JAHIGEO received from individuals and institutions, both in Japan and from overseas, led to the decision to hold of the conference as scheduled. Consequently, the 36th Symposium of INHIGEO was held from the 2nd to the 5th of August at Aichi University, Toyohashi Campus. Over 60 participants, including accompanying members from 15 countries attended and 50 papers were presented, in both oral and poster form. I greatly appreciated the scientific and financial support provided by participants and institutions.

The conference's two main themes were well chosen to demonstrate and illuminate the history of geological study in the island-arc country. The first theme, "Visual Images and Geological Concepts", focused on the various kinds and scales of geological maps, paintings, photographs and illustrations. The second dealt with the "History of Seismology, Volcanology and Geotectonics", an appropriate topic, given the active tectonic setting of the Japanese Islands. The mid-conference excursion to the Shitara area, Aichi Prefecture and the post-conference excursion to the Kii Peninsula, in the southwest of Japan, were also highly appreciated by the participants. In 2012, many of the contributions to the conference were published in Proceeding of INHIGEO 2011, Japan, titled "Visual Images and Geological Concepts".

Finally, JAHIGEO reaffirms its continuing support for INHIGEO through its own activities and wishes that INHIGEO may carry on its work to allow it to celebrate its centenary.

Hirokazu Kato, President of JAHIGEO

*Reprinted from the Japanese Association for the History of Geosciences (JAHIGEO), *Newsletter* No. 20, June 2018.





INHIGEO CONFERENCE REPORT – MEXICO CITY

The International Commission on the History of Geological Sciences (INHIGEO) 43rd Meeting, Mexico City, Mexico 12 - 16 November 2018 with pre-, intra- and post-meeting field trips.

In 2018 INHIGEO gathered for the first time in Mexico although Mexico City had been the venue for the meetings of the International Geological Congress in 1906 and 1956. Fittingly the 43rd INHIGEO meeting was in the same venues as for those of IGC, the Palace of Mining, with a farewell function in Geological Museum. Both of these imposing buildings retain much of their original splendour. The Palace of Mining, renamed after Mexican independence as the School of Mines, is rightly described as one of the finest examples of neoclassical architecture in the Americas. It was built, between 1797 and 1813, under the supervision of Manuel Tolsá, after who the small square opposite is named. The building, constructed of ignimbrite, reflects the importance of mining in Mexico's history. Both buildings are now part of the National Autonomous University of Mexico (UNAM). The weather throughout the meeting was generally fine and warm, but at times with a few thundery showers and unfortunately rain on the morning of the intra-meeting field trip.

The Organising Committee for the meeting comprised:

Manuel Suárez-Lastra, Director of the Institute of Geography, UNAM
Elena Centeno-García, Former Director of the Institute of Geology, UNAM
Ricardo Barragán-Manzo, Director of the Institute of Geology, UNAM
Hugo Delgado-Granados, Director of the Institute of Geophysics, UNAM
Luz Fernanda Azuela, Institute of Geography, UNAM
Dante Morán-Zenteno, Institute of Geology, UNAM
Luis Espinosa-Arrubarrena, Head of the Geological Museum, UNAM
Lucero Morelos-Rodríguez, Institute of Geology, UNAM
Daniel Serrano-Juárez, School of Philosophy and Literature, UNAM

On arrival in Mexico City, delegates were provided with, both in hardcopy and on a USB, a well organised volume containing an introduction to the geology of Mexico, details of the meeting venue, abstracts of papers to be presented and field trips. The volume, which was edited by Daniel Serrano-Juárez, assisted by Dante Morán-Zenteno, Lucero Morelos-Rodríguez, Gabriela González-Casanova and Luz Fernanda Azuela, included a profusion of maps, illustrations and references and quotations from relevant scientific publications. Ensuring that the volume was published to a high standard were Raul Marcó del Pont and Laura Diana López-Ascencio.

In keeping with the Yerevan meeting of the previous year, each delegate received a beautiful plaque made from multi-coloured obsidian displaying the INHIGEO logo.

Pre-meeting Field Trip 11 November 2018 - Comarca Minera UNESCO Global Geopark

As with all INHIGEO meetings, comprehensive field trips showing historical, geological and cultural aspects were incorporated into the programme and were designed and planned by Dante Morán-Zenteno. For those who fortuitously arrived in Mexico with a day to spare were able to participate in the pre-meeting trip to the Comarca Minera Geopark (Fig. 1), and which was organised by Hugo Delgado-Granados. Lucero Morelos-Rodríguez accompanied us on this, and subsequent trips. The park, about 100 km NNE of Mexico City, straddles the junction between two geological provinces: the Trans-Mexico Volcanic Belt and the Sierra Madre Oriental thrust and fold belt and, in addition, two magmatic suites are present.



Figure 1. Participants on the field trip to Comarca Minera UNESCO Global Geopark assembling in the shadow of the statue of equestrian King Charles IV in Manuel Tolsá Square. (Photo: Unless otherwise specified, all photographs are by Mike Johnston).

The first stop was at Cerro de las Navajas, which translates into English as the Hill of Knives, at Epazoyucan, within the Pliocene Las Navajas Volcanic Complex. The complex is 3,200 m above sea level and consists of a partly collapsed caldera with lava flows and domes, tuff, pyroclastic (ignimbritic) flows and obsidian. The latter was quarried by people of the Teotihuacan, Tolteca and Azteca empires and was prized for its green and golden hues. Mining continued after the Spanish Conquest as testified by the remains near the quarries of a small 16th century Franciscan chapel (Fig. 2).



Figure 2. In the grounds of the 16th century chapel, Hill of Knives, Comarca Minera Geopark.

The obsidian was crafted into a variety of implements and ornaments that were widely traded. Knives made of obsidian were also used to extract sugary sap from the long, viciously spiked, leaves of the maguey plant (*Agave americana*) that grows in the vicinity. The sap is still extracted for use as a tonic or is fermented into pulque. The hill and its quarries come under the stewardship of the small local Nopalillo community. This was expertly explained by Miguel Ángel Cruz-Pérez and Erika Salgado-Martínez of the geopark. A short distance from the quarries a brief examination was made of thick tuff beds, with some ignimbrite flows, in a present-day quarry. The next stop was on the Pachuca Range where explosive rhyolitic breccia, of

Oligocene to Miocene age, has eroded into spectacular pinnacles, some precariously supporting large detached blocks on their summits. As was readily apparent, rock climbing is a favourite pursuit with Mexicans.

The third stop for the day was to the Museum at the La Dificultad Mine in Mineral del Monte. The present mine dates back to 1685 and is one of several that exploited the fabulous gold-silver epithermal deposits in andesitic-rhyolitic volcanics of the Tertiary Pachuca Group. From the 16th century until the early 21st century, this part of Mexico produced nearly 6% of the world's silver along with significant quantities of gold and other minerals. La Dificultad Mine was initially powered by steam, but it was later converted to electricity. Most of the machinery, manufactured in the United States, is still extant and, prior to closure in 2005, the mine was owned by American interests. Regardless of this, the mine and its surrounds display many features that reflect its dominantly Cornish mining history. These include its buildings, a Cornish cemetery and that the town is still the centre for what the Mexicans called *paste*, a pastry patterned on the traditional Cornish pasties.

The machinery, along with many other aspects of the mine and mining generally, are explained in display panels within its buildings and we also had as our guide Cosmelia Ortiz Velazquez. Still partly operational is the winding gear for the 575 m deep main shaft and we were privileged to have one of the former mine employees demonstrate its working. A mineral collection, along with much local drill core, is also housed within the building. A welcome lunch stop followed the mine visit at the Huasca de Ocampo pottery run by Felipe Cortes Lozada and his family. After a traditional Mexican meal, prepared by the family, we observed all stages of the manufacture of pottery, from the quarrying on site of deeply weathered rock to the finish product.

The final stop was to Huasca de Ocampo to see the spectacular columnar jointing in Early Pleistocene basalt in the canyon Barranca de Alcholoaya (Fig. 3). The up to 50 m high columns are readily observed from viewing platforms and a swing bridge that spans the canyon. For those of us at the Armenian INHIGEO meeting of the year before, there was much debate as to whether the Azat River canyon or the Huasca de Ocampo columns were the most impressive. The result was a dead heat, but the Mexican columns had the additional distinction of being described by Alexander von Humboldt following his visit to them in 1803.



Figure 3. Basalt columns in the canyon Barranca de Alcholoaya, which were visited by Alexander von Humboldt in 1803. (For scale, note the people in the lower right).

From the geopark it was a slow drive back to the School of Mines as we joined the citizens of Mexico City returning home for the working week. The trip was a great introduction to Mexico, and also demonstrated how successful the geopark theme can be with government organisations, local councils, companies, families and individuals co-operating to make the concept work.

INHIGEO Meeting

Delegates met at the School of Mines beginning 12 September (Fig. 4). As well as the excellent venue, lunches with traditional Mexican dishes were also provided at the venue (Fig. 5). This enabled greater networking among delegates as well as making the maximum use of time for what was an extensive and varied set of presentations. During the presentations, a companions'

activities programme was organised by Gabriela Gonzalez-Casanova. She was assisted by Erick Villanueva who was also a guide for all visits to cultural sites.



Figure 4. Delegates assembling in the School of Mines at the commencement of the opening of 43rd INHIGEO meeting.



Figure 5. Some of the Mexican organising committee relaxing at lunch in the School of Mines. From the left: José Daniel Serrano, Lucero Morelos-Rodríguez, Omar Escamilla-González, Luz Fernanda Azuela, and Dante Morán-Zenteno. (Photo: Héctor Pineda, Historical Archives, School of Mines.)

Monday 12 September

Introduction and welcome addresses by:

Manuel Suárez-Lastra, Vice-Chancellor, UNAM, and Director of the Institute of Geography, UNAM.
 Barry J. Cooper, President of INHIGEO.
 Ricardo Barragán-Manzo, Director of the Institute of Geology, UNAM
 Hugo Delgado-Granados, Director of the Institute of Geophysics, UNAM
 William Lee – Coordinator of Scientific Research, UNAM

Keynote Address – Chair: Luz Fernanda Azuela

James A. Secord – *Global Geology and the Tectonics of Empire*.

History of Volcanology Symposium (I)* – Chair: Hugo Delgado

*For multiple authors, the speaker is underlined
Ezio Vaccari, Andrea Candela – *The Great Volcano of the Italian Prealps: A European Controversy between the 18th and the 19th Century*.

Guillermo Alvarado – *Overview of the History of Volcanology in Central America*.

Hugo Delgado – *History of Mexican Volcanology*.

History of Volcanology Symposium (II) – Chair: Hugo Delgado

Alejandro Pastrana – *Sequences of the Geo-Archaeological Studies of the Obsidian Source of the Sierra Las Navajas, Hidalgo, Mexico*.

Claus Siebe – *Clues for the Jorullo Eruption in Michoacan (Mexico) from the Diary of Fray Francisco de Ajofrín who Visited the Volcano in May/June 1764*.

Claudia Principe, Luigina Vezzoli – *Development of the Ignimbrite Concept in Volcanology: Monte Amiata*

Rheomorphic Ignimbrite.

History of Volcanology Symposium (III) – Chair: Hugo Delgado

Michiko Yajima – *Volcanic Eruption and Trial of Prediction: Case Study of Izu-Oshima Volcano near Tokyo.*

Patricia Plunket, Gabriela Uruñuela y Ladrón de Guevara – *Major Eruptions of Popocatepetl Volcano in the First Millenium AD: A View from Northeast Flank.*

Servando de la Cruz – *The Paricutin Volcano Eruption: A Watershed in the Worldwide Volcanological Research.*

Tour of the School of Mines

Following the last paper presentation for the day we were expertly guided through the school by Omar Escamilla-González of the UNAM. Commencing in the capacious internal courtyard we moved into the impressive library that, when the school housed students, was a dining room. Ascending to the top floor of the palace we visited in turn the beautifully restored former chapel of the Virgin of Guadalupe, the historic (opening venues for the 10th and 20th meetings of IGC) and equally lavish Lecture Hall Fig. 6) and finally the archives.



Figure 6. The main meeting room in the School of Mines with Omar Escamilla-González on the left. (Photo: Héctor Pineda, Historical Archives, School of Mines).

Tuesday 13 November

Session 1 – Chair: Michiko Yajima

John Diemar – *Humboldt's Influence on Murchison's Russian Fieldwork.*

Maddalena Napolitani – *The Siberian Expedition of Jean Pierre Alibert (1844-1857): The Graphite Exploitation between Art and Science.*

José Alfredo Uribe-Salas, and Laura Valdivia – *The Cacahuamilpa Caverns: A Space for Geological Sciences of the 19th Century.*

Margaret Hamilton – *Friedrich Becke's Notes on the Excursion of the Radium Commission of the Imperial Academy of Sciences Vienna to St. Joachimsthal in 1904.*

Symposium – Early Modern Geological Agency (I)

Chair: Marianne Klemun with an introduction of panel by Pietro Omodeo

Tina Asmussen – *Spirited Matter: Mining and Natural Agency in the Harz Mountains.*

Ernst Hamm – *“On Nature,” Goethe, Spinoza and Geognosie: Late 18th Century Variants of Human and Natural Agency.*

Francesco Luzzini – *Sounding the Depths of Providence. On Mineral (Re)generation and Human-Environment Interaction in the Early Modern Period.*

Symposium – Early Modern Geological Agency (II)

Session 1 – Chair: Marianne Klemun

Pietro Omodeo – *Natural History and Human Praxis between Renaissance Vitalism and Magic.*

Jonathan Regier – *Relating the Cosmological and Geological in Early Modern Philosophy: The Case of Johannes Kepler and Anselmus Boëthius de Boodt.*

Sara Miglietta (presented by Tina Asmussen) – *“An early modern Anthropocene?”*

Session 2 – Chair: Ezio Vaccari

Marianne Klemun – *“Humboldtian Science” and Beyond: Potentials and Limits of a Historiographical Concept.*

Luz Fernanda Azuela – *Travel and Books as Globalization Instruments. The Case of Geological Research in Nineteenth Century Mexico.*

Johannes Mattes – *Look Like an Earth Scientist: Thoughts on Scientific Self-depiction on the Example of a Photo Album Dedicated to the Viennese Geologist Eduard Suess (1901).*

Wednesday 14 November – Intra-meeting Field Trip to Tepoztlán

Despite a light cold rain falling, eager participants assembled outside the Palace of Mining to board a bus for the first stop at the 20th century campus of the National Autonomous University of Mexico (UNAM). After negotiating rush hour traffic, the rain was falling steadily when we arrived at UNAM. The outside walls of main campus buildings are renowned for their eye-catching murals designed by some of Mexico leading artists, such as Diego Rivera, David Alfaro Siqueiros and Juan O’Gorman. Even in the rain, it was readily apparent why the campus has been designated a UNESCO World Heritage Site. The main murals are mostly composed of different coloured rocks collected from all over Mexico and, and these were explained by our guide Eduardo Alarcón. Although the rain eased it was decided to delay our arrival at Tepoztlán, some 25 km south of Mexico City, and instead visits were made to the nearby botanical gardens and the Institute of Geology. At the latter we were shown around by Dante Morán-Zenteno and saw some of the specimens in its extensive mineral and paleontological collections.

On reaching Tepoztlán the rain had increased in intensity and the water was flowing over ankle deep in the narrow streets filled with stalls for the weekly market. On the edge of town, we gained shelter in the impressive 16th century *Dominico de la Natividad*. This former convent, a World Heritage Site, is currently undergoing restoration and the adjacent abbey could only be viewed from the outside as repairs to damage caused by the 2017 $M_w=7.1$ Puebla Earthquake were in progress. Returning to Tepoztlán it was during lunch in a local restaurant that the rain ceased and the cloud lifted to reveal the impressive cliffs of Tepozteco. We could now begin to appreciate that we were in the Chichinautzin Volcanic Field that extends east-west for over 100 km south of Mexico City and is surrounded by huge stratovolcanoes. With still enough daylight, there was a hurried ascent to the base of the cliffs (Fig. 7). Here, within the Early Miocene Tepozteco Formation, the contact between fluvial sediments and overlying debris-flow deposits is well exposed. We were also rewarded with views south over of the Tepoztlán valley highlighted in the rays of the setting sun. The return to Mexico City was in darkness. In all, despite the rain, it was a good day and the resourcefulness of the trip leaders in modifying the itinerary so that the weather did not mar the day was appreciated by all.

Thursday 15 November

Session 3 – Barry Cooper

Francisco Omar Escamilla-González – *Werner’s Legacy in Mexico: The First Decade of Orictognosy, 1795-1805.*

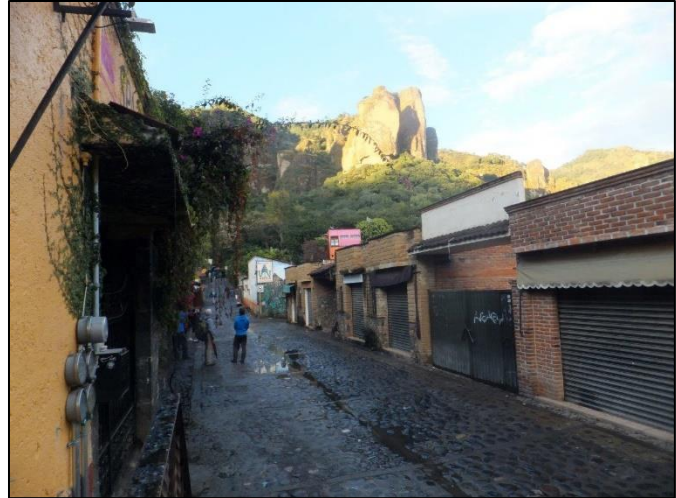
Lucero Morelos-Rodríguez – *From Geognosy to Geology: Werner’s Followers and Early Earth Sciences in Mexico.*

Renee M. Clary – *The Royal School of Mines: Henry De la Beche’s Convergence of Professionalization and Public Advocacy.*

Session 4 – Chair: Mike Johnston

Carlos Alberto Mondragón-Colín – *Geology’s Bibliographical Sources in Mexico in the Last Third of the 19th Century.*

Figure 7. Field trippers returning to Tepoztlán after visiting the cliff-forming Early Miocene Tepozteco Formation.



Oscar Hugo Jiménez-Salas – *The First Hundred Years of the Mexican Geological Society (1904-2006)*.
Leonid R. Kolbantsev – *Soviet Geologists at the XXth Session of the IGC, Mexico, 1956*.
Dorothy Sack – *Marie Morisawa's Itinerant Path to Success*.

Session 5 – Chair: Francesco Luzzini

Martina Kölbl-Ebert – *German Petroleum Geologists in World War II*.

Andrea Candela – *Searching for Radioactive Minerals in post-WWII Italy*.

Oscar Moisés Torres-Montúfar – *Building Shortage Geology, Sulfur, and Postwar Economics in the Gulf of Mexico, 1951-1953*.

Session 6 – Chair: Dante Morán-Zenteno

Norman Henniges (presented by Marianne Klumen) – *The Prophet of Gotha. Global map knowledge and catastrophe theory in Justus Perthes' Geographical Establishment*.

Barry J. Cooper – *A History of Iron Mining in Australia*.

Mike Johnston – *The Haupiri Question – The influence of Mining in Elucidating the Early Paleozoic Stratigraphy of New Zealand*.

Juan Manuel Rodríguez-Caso – *The Role of Geology in the Development of Natural Selection Theory: Charles Darwin and Alfred R. Wallace*.

INHIGEO Business Meeting (See separate report)

Friday 16 November

Session 7 – Chair: Martina Kölbl-Ebert

Sharad Master – *Manuscript Reports on the Gold Mines of Monomotapa by Francisco de Livera (1633), and on the Rios de Cuama (Zambezi River delta, Mozambique) by João da Costa*.

Zoya Bessudnova – *Contribution of the Scientists of the Moscow University Natural History Museum in Development of Geosciences in Development of Geosciences in XIXth century*.

Oscar Irazaba-Ávila and Luis Espinosa-Arrubarrena – *The Historical Mineralogical Collections of the Museum of the Institute of Geology of the National and Autonomous University of México (UNAM)*.

Luis Espinosa-Arrubarrena and Lucero Morelos-Rodríguez – *The Museum of the Institute of Geology, UNAM and its Paleontological Heritage: Highlights of Specimens with Historical and Scientific Relevance*.

Keynote Address – Chair: Luis Espinosa-Arrubarrena

Dante Morán-Zenteno with collaboration of Lorena Bautista and Lucero Morelos-Rodríguez – *Historical Evolution of Concepts on the Tectonic Framework of Mexico*

Closing Ceremony

The closing ceremony was in the Institute of Geology, now the Geology Museum of UNAM, in the Santa Maria district of Mexico City (Fig. 8). Although a much younger building than the Palace of Mining (it was completed in 1906), it is in some respects more impressive. It was also the venue for the sessions of the 10th IGC held soon after the building opened. The outside of the building is decorated with geological motifs.



Figure 8. A happy group assembled at the Institute of Geology, now the Geology Museum of UNAM. (Photo: Héctor Pineda, Historical Archives, School of Mines).

On entering the building attention immediately focuses on a grand double overlapping staircase that was imported from Germany. On the walls are exquisite paintings, stained glass windows, a domed ceiling (all depicting geological themes) and mosaic floors. After an introduction to the building by Luis Espinosa-Arrubarrena (Fig. 9), a tour of its rooms (Fig. 10) culminated in a description of the archives under the care of Lucero Morelos-Rodríguez (Fig. 11). Participants were then free to roam through the exhibition halls where there are extensive displays of minerals and fossils. Not all was in traditional cases for the museum also graphically displayed a mammoth skeleton and how this was used to interact with the younger generation. During cocktails, music was provided by students of the Assemble of Strings and Violins of the School of Artistic Initiation No. 4 of the National Institute of Fine Arts. The evening concluded with farewell speeches by Luis Espinosa-Arrubarrena, Ricardo Barragán-Manzo (Fig. 12), the Vice-president of INHIGEO for Latin America Luz Fernanda Azuela and the President of INHIGEO Barry Cooper.

Figure 9. Being welcomed to the Geology Museum by Luis Espinosa-Arrubarrena (centre). (Photo: Héctor Pineda, Historical Archives, School of Mines).





Figure 10. On the grand staircase in the Geology Museum.



Figure 11. Lucero Morelos-Rodríguez describing the archives at the Geology Museum.



Figure 12. Being farewelled by Ricardo Barragán-Manzo (and the mammoth) at the Geology Museum.

Post-conference Field Trip – Tlayúa, Tehuacán and Oaxaca

The five-day field trip was to the southwest of Mexico City with one night in Tehuacán and the remaining nights in Oaxaca. The weather was fine and temperatures pleasant throughout the trip. The trip was under the overall guidance of Dante Morán-Zenteno and Luis Espinosa-Arrubarena, José L. Palacio and Carles Canet-Miquel compiled the main sections of the guide book dealing respectively with Tlayúa, Mixteca Alta Geopark and Comarca Minera Geopark. Daniella Miranda accompanied us to look after the logistics of accommodation and the like.

17 November

From Mexico City the route was southeast and flanked the impressive andesitic stratovolcanoes of Iztaccihual (5,230 m) and the even more photogenic Popocatepetl (5,454 m) with their summits sparkling in snow,

some of which had fallen on the day of the mid-meeting field trip. These volcanoes are on the eastern flank of the Chichinautzin

Volcanic Field, all part of the Trans-Mexican Volcanic Belt that stretches for 1,000 km across Central Mexico. After a longish drive we arrived at the Museo Regional Mixteco in the small town of Tlayúa in Puebla State. At the museum we were introduced to Felix Aranguthy who provided us with an overview of this internationally recognised fossil site within the late Early Cretaceous (Albian) Tlayúa Formation. The museum has on display a number of spectacular examples of the over 8,000 fossils that have been collected from the quarry over the past 35 years. The fossils include fishes along with turtles, lizards and invertebrates.

From the museum it was a short drive to the quarry (Fig. 13), which is owned and operated by the Aranguthy family. The finely bedded to laminated pale yellowish limestone, attractively streaked with hematite, of the Tlayúa Formation is quarried for a building stone as well as being carefully searched for fossil remains. The formation is, with good reason, sometimes referred to as the “Mexican Solnhofen.” For those who had attended the 32nd INHIGEO Meeting at Eichstätt in 2007, it was interesting to compare what we were seeing with the Jurassic Solnhofen.



Figure 13. Tlayúa quarry.

All fossils are, in collaboration with UNAM, carefully documented, including the stratigraphic horizon they were found in (Figs. 14, 15). Returning to the town a brief stop was made to observe, in the distance, the remains of buildings of the Tepaxi el Viejo above which loomed the snowy summit of Popocatepetl whose lower slopes were lost to haze.

Figure 14. Felix Aranguthy splitting a slab of Tlayúa Formation limestone. Note the numerals on the quarry face on the right identifying the various layers exposed in the Tlayúa quarry.



Following lunch at the Aranguthy family’s restaurant in Tlayúa, where more fossils were on display, a nearby mudstone exposure known as “Pie de Vaca” (cow foot) was visited. In the exposed mudstone a large number of footprints are evident (some aligned in tracks) and include those of a camel (llama type) and a felid. The age of footprints and the mudstone were keenly debated without apparent resolution. With this conundrum to mull over, we continued our southeastern journey across Pueblo State reaching Tehuacán city late in the afternoon.



Figure 15. ...and the outcome – a beautifully preserved fossil fish.

18 November – Mixteca Alta UNESCO Global Geopark

The global park is about 100 km south of Tehuacán, in Oaxaca State, and is within the mountainous Sierra Madre del Sur physiographical province. Soon after leaving Tehuacán we ascended into the mountains that are spectacularly covered in large columnar or “organ pipe” cacti (Fig. 16). The province is geologically one of the most complex areas of Mexico, lying astride the contact between the Mixteco and Zapoteco terranes, with Pre-Cambrian basement and a variety of Cretaceous and Middle Tertiary rocks. Mixteca Alta has been farmed for 3,500

years and one of the aims of the geopark is to show, with the help of local residents, the interaction between humans, rock type and topography. Our guides for the day were Gonzalo Fernandez de Castro and Barbara Martini. The first stop on arrival in the small town of Yanhuítlán was its restored 16th century church and former convent of Santo Domingo (Fig. 17). While the exterior of the church, built of a white tuff, is impressive the interior is more so with numerous alcoves, religious statues and a historic organ. Lunch was nearby, under a canvas.

A short journey westward took us into a countryside dominated by Badlands, but on the way we were shown evidence that corn was grown in the area at least 3,400 years ago. This was possible by the good management of the meagre water resources and terracing in the small gullies eroded into the hills. Taking a poorly maintained, winding side road we climbed up through the red coloured Yanhuítlán Formation of Late Paleocene-Middle Eocene age. The weakly consolidated, montmorillonitic-rich, siltstone and claystone erode readily to form extensive Badlands (Fig. 18). Stopping briefly at a church in an apparently deserted village we continue north for a short distance to our main destination on the continental divide. The continent here is about 280 km wide and we were equidistant from the Gulf of Mexico and the Pacific Ocean. The badlands to the west are crossed by a large dike and in the distant, sharp hills of Yucudaac andesite dotted the skyline. Dona Tauas introduced us to the area and its crafts (notably pottery).

Retracing our steps, it was nightfall when we reached Yanhuítlán and headed for the Victoria Hotel on the east side of the Oaxaca valley and overlooking the city of Oaxaca. The night proved a lively one as the hotel was cramped with Mexicans celebrating Revolution Day weekend.

19 November – Oaxaca quarries

Our main guide for the day was Hermes Garcia but we also benefited from having with us Fernando Ortega-Gutiérrez, emeritus professor of the Geology Institute, whose knowledge of the geology of the Oaxaca valley is unsurpassed. Although the day was largely devoted to Miocene ignimbrites, we also examined the Pre-Cambrian basement rocks. The first quarry visited was in a non-welded ignimbrite that gives many of the older buildings in Oaxaca their greenish hue. The colour is apparently due to barium compounds within secondary zeolites in the Early Miocene ignimbrite. In the next quarry the ignimbrite had a yellow colouration due to oxidation and is characterised by greater biotite content. More variants of ignimbrite were seen in two more quarries including one displaying widespread fracturing (Fig. 19). Although ignimbrite is extensive, and its volume great, its source has not been positively identified. One possible explanation is that it erupted from vents along the poorly exposed major

fault that has now brought the Pre-Cambrian rocks into contact with the ignimbrite, the latter being preserved in the floor of the Oaxaca valley.



Figure 16. On the road from Tehuacán city to Yanhuatlán with the cacti covered mountains capped by Mesozoic cover rocks.



Figure 17. Zoya Bessudnova (Russia) admiring the church of Santo Domingo, Yanhuatlán.



Figure 18. Into the Badlands.



Figure 19. Sheltering from the sun in an Oaxaca ignimbrite quarry.

In the afternoon it was time to look at the basement rocks in a road cutting where a side road joins the main highway. Although the cuttings were a little weathered and partly overgrown (they must have been spectacular when first made), the characteristics of the 1.5 billion-year-old, steeply dipping, migmatites, were readily apparent. Another stop along the highway was even more impressive. Being Revolution Day weekend, holiday traffic on the main road was heavy, and was further congested by accidents and toll booths. The booths, as is customary in this part of Mexico, had been taken over for the day by the local populace and the revenue collected being assigned to community projects, such as schools. This led to one tense moment when, on returning to Oaxaca City, the citizens who had commandeered the booth adjacent to the migmatite section mistakenly believed that they had been photographed by INHIGEO members. There was much discussion before we were allowed through the toll gates.

20 November – Monte Albán and Mitla

Both of these important and impressive archaeological sites are a short distance from Oaxaca City. In the morning we were at Monte Albán (Fig. 20), in the middle of the central valley of Oaxaca with commanding views over the surrounding countryside, including to the northwest the sprawling city.

Figure 20. The impressive Monte Albán archaeological site.



The mountain was the Zapotecan capital for 1200 years until the beginning of the 9th century and is of such importance that it features on the 20 pesos Mexican banknote as well as being a UNESCO Cultural Heritage of Humanity Site. While a significant part of the site has been restored, there are areas that have

not, which allows for an interesting comparison to be made between the two. After lunch in a suburban Oaxaca restaurant (Fig. 21) we proceeded to the other archaeological place of interest at Mitla, about 40 km southeast of downtown Oaxaca. Mitla is a small town that, pleasingly, gives the impression of having not caught up with the 21st century. Within the town are, after Monte Albán, the remains of the most important Zapotec site in Oaxaca State. Unlike Monte Albán, which was mainly administrative, Mitla was a religious complex and its name means “Place of the Dead.” The buildings have been partly demolished, the stone being used by the Spanish to construct the adjacent Church of San Pablo (currently under renovation) and other buildings. Nevertheless, more than enough remains to get a good appreciation of the site (Fig. 22). This includes the Palace of Mitla, stone columns, intricate fretwork carved in stone and painted frescos.



Figure 21. Celebrating INHIGEO at lunch in the suburbs of Oaxaca.

Figure 22. Mitla (“Place of the Dead”) religious complex.



21 November – Oaxaca city

On this, the last day of the field trip the morning was in Oaxaca, a city that dates back to the mid-15th century when it was founded by the Aztec civilisation. The city, with many of its colonial buildings superbly constructed of green ignimbrite, is now a World Heritage Place. The day’s sights began with the magnificent 17th century *Basílica de Nuestra Señora de la Soledad* whose low towers were designed to minimise potential damage due to earthquakes. After this, participants wandered around the city at their leisure visiting such places as *Cathedral of Our Lady of the Assumption*, which was completed early in the 18th century, its two predecessors having been destroyed by earthquakes. The present twin towers are relatively recent, being rebuilt after an earthquake in 1931. Perhaps the best building that highlights the green ignimbrite is the modest, as far as size, *El Teatro Macedonio Alcalá*. Participants reassembled at *St Domingo de Guzmán*, a Baroque-style Dominican complex, in which in its elaborate interior much use has been made of gold leaf. The former monastery attached to the church is now occupied by *Centro Cultural de Santo Domingo*, an extensive museum complex holding a great many artefacts and displays relevant to Oaxaca and southern Mexico.

In the afternoon we returned to Mexico City and, considering some of the traffic congestion we had experienced at various times, involved few delays. On the trip thanks were conveyed to the organisers and guides who had made the trip a memorable experience.

In conclusion, the sincere thanks of all participants go to those who organised the meeting and the field trips, thereby ensuring their great success. This includes all those mentioned above as well as the support given to INHIGEO organising committee by staff of the Coordination of Scientific Research, Institute of Geography, the Institute of Geology and the Institute of Geophysics – all of the *Universidad Nacional Autónoma de México (UNAM)*. Finally, I am grateful to Luz Fernanda Azuela and Lucero Morelos-Rodríguez for reviewing this report.

Mike Johnston, Nelson, New Zealand

Minutes of the INHIGEO BUSINESS MEETING, Mexico City; 15 November 2018

Start of the meeting: 6:15 p.m. local time end of the meeting: 7:25 p.m. local time

1. Welcome: The President Barry Cooper and the Secretary General Marianne Klemun welcome delegates and guests. An attendance sheet is being circulated.
2. Regrets and apologies from those unable to attend: Bill Brice, Sylvia Figueiroa, Greg Good, Rodney Grapes, Irena Malakhova, Simon Nathan, John Taylor, Bruce Waterhouse.
3. Agenda: no modifications of the agenda are requested.
4. Minutes of previous meeting in Yerevan, Armenia, 2017 have been sent out to all INHIGEO members (Published in the Newsletter of December 2017). They are considered known and approved.
5. No matters arising.
6. President's report: The President expresses thanks for being entrusted with this office. Members are informed that there will be a new President in 2020. INHIGEO currently publishes a quarterly Newsletter, the Annual Record, and its website. Additional publications are being planned. Annual meetings are in planning stage up to 2021. The President thanks Marianne Klemun for her work as Secretary General including preparation of the quarterly newsletters. Thanks are also expressed to Bill Brice for editing the Annual Record (which is produced in electronic form as PDF to minimize costs), and to Johannes Mattes for supervising the INHIGEO website. The Geological Society Special Publication 442 has been published in 2017 as INHIGEO anniversary volume. A second such volume as proceedings of the Armenian meeting is in the making. Members are invited to offer nominations for new INHIGEO members or associated members. The IUGS wishes especially to increase geographical coverage. All national committees are invited to offer conference venues. There are open slots in 2022 and 2023.
7. No matters arising.
8. Secretary General's report: Marianne Klemun expresses her thanks to INHIGEO members, the President, Past-President and INHIGEO board members for support, advice and encouragement. The quarterly "INHIGEO Circular", with issues appearing in March, June, September and December, prepared by the Secretary General continues to be very successful. Members are invited to contribute. The INHIGEO website www.inhigeo.com was established by Johannes Mattes in 2016. It continues to operate successfully with continual updating throughout the past year. Thanks are due to Johannes for his creativity. An important development has been the signing of a formal agreement between INHIGEO and the University of Oklahoma Library that will store all INHIGEO publication and make them available to the general public via the internet. This initiative is thanks to Past President Ken Taylor and his UO colleague and INHIGEO member Kerry Magruder. Hugh Torrens' papers have also been secured in Oklahoma. INHIGEO has had ongoing financial support from IUGS and IUHPS, enabling a wide range of INHIGEO activities.
9. Matters arising: Ernst Hamm expresses his appreciation of the format of the quarterly Newsletter. There is some discussion as to the number of issues and length of the Newsletters. It is agreed that 4 circulars per year are needed. There is always a brief summary on page 1 to minimize repetitions.
10. Editor's report: The editor of the Annual Record, Bill Brice, regrets that he cannot be present. The report is therefore delivered by letter (read by the Secretary General): The Annual Record for 2017 has been distributed. The editor thanks all members who have sent in their reports. Special thanks are expressed to Mike Johnston for his report on the Armenian meeting. The deadline for the 2018 country reports is March 15th, 2019.
11. Matters arising: Mike Johnston is volunteering to also provide the report to the present Mexican INHIGEO meeting (applause by the delegates). The President remarks that all INHIGEO members are required to annually report about their activities in the history of the geosciences.

12. IUGS topics: The International Union of Geological Sciences, 72st executive committee meeting took place in Potsdam, Germany, 23 to 24 January 2018. A power point presentation and report on the activities of INHIGEO was prepared and delivered by the Secretary General. Since she was unable to attend both days of the meeting, Martina Kölbl-Ebert joined in. Upon request of the IUGS INHIGEO now contributes to their e-bulletin on a regular basis. All IUGS commissions are requested to provide a steady flow of appropriate material. INHIGEO has adopted this requirement; Ken Taylor developing a model for INHIGEO's monthly contributions on historical anniversaries (see www.iugs.org/). Ken Taylor has contributed "Basalt, 250 years ago"; among contributions by others are "Coining the term »geology« 240 years ago"; "INHIGEO, IGC 1968 and the Cold War, 50 years ago". There is always a longer version on the INHIGEO website. Anybody interested in writing a mini-contribution of this sort is invited to contact the Secretary-General for coordination. The next IUGS executive committee meeting will take place in Beijing in February 2019. The Secretary General will be able to attend. The next *Vladimir V. Tikhomirov History of Geology Award* will be awarded in 2020 at the next IGC in New Delhi, India. Contributions to "Episodes": Mike Johnston and Marianne Klemun have submitted an article to *Episodes*. It is currently under review. INHIGEO *Episodes* Coordinator is Karen Cook. There is discussion about making the number of INHIGEO meetings more visible to the IUGS: there are the international Annual Meetings of INHIGEO plus every few years additional international meetings due to INHIGEO sponsored sessions at congresses and other international conferences. Plus there are local meetings of national INHIGEO groups and affiliated societies (currently, there are twelve affiliated societies).

13. IUHPST/DHST Topics (International Union of History and Philosophy of Science and Technology) / (Division of History of Science and Technology): The Austrian delegation has nominated Gregory Good into the DHST council board, which meets once a year. The 25th International Congress on the History of Science and Technology (25ICHST) – Rio de Janeiro (Brazil), took place on 23–29 July 2017 on the Praia Vermelha campus of the Federal University of Rio de Janeiro (UFRJ). The overall conference theme was "Science, Technology and Medicine between the Global and the Local". A book related to an INHIGEO session is in preparation (to be published by Springer; forthcoming in 2019/2020). It is edited by INHIGEO members Drielly Peyerl, Greg Good and Silvia Figueirôa.

14. Future INHIGEO meetings:

- Ezio Vaccari presents the 44th INHIGEO Symposium which will take place in Varese and Como, Italy, 2-12 September 2019. The conference website (<https://inhigeo2019.jimdofree.com/>) was launched in August and members can express their interest.
- In July 2019 Italy will also host the 3rd International Congress on Stratigraphy - STRATI 2019 (Milan, 2-5 July 2019), where a session on History of Stratigraphy had been proposed by members of the Italian delegation (Ezio Vaccari, Andrea Candela, Marco Pantaloni, Luigina Vezzoli). A sponsorship by INHIGEO to this session is requested by the convenors and by Claudia Principe, Italian member of INHIGEO and of the Scientific Committee of the Congress: the delegates approve.
- Further conferences are scheduled as follows:
- 2020 – 45th INHIGEO Symposium New Delhi, India (in association with the 36th International Geological Congress) 2–8 March 2020. INHIGEO will be part of the section (1) 'Geosciences for Society' with the following topics: Historical achievements in geology on the Indian subcontinent; Historical textbooks and handbooks: their function in earth sciences; Moving knowledge in earth sciences: historical communication and circulation; General contributions to the history of geology. Abstract submission opens December 2018 and closes August 2019. Early registration opens February 2019 and closes October 2019;
- 2021 – 46th INHIGEO Symposium, Krakow, Poland, 18-24 July 2021 and
- DHSR Conference in Prague, Czech Republic, 25-31 July 2021;
- 2024 in conjunction with the 37th IGC in Busan, South Korea. Since there are currently no INHIGEO members in South Korea, Michiko Yajima suggests organizing an INHIGEO fieldtrip to Japan in conjunction with the congress.
- All suggestions are fully approved by the delegates. The Secretary General encourages members to make suggestions for annual meetings in 2022 and 2023.

15. Membership development:

- The following members have passed away since the last business meeting: Arkady Karakhanyan (Armenia), Hakuyu Okada (Japan), Robert H Dott (USA), Ursula Marvin (USA), Ken Aalto (USA). They are honoured with a minute of silence.

- Finalization of the 2018 INHIGEO Membership Ballot: Seven new members have been elected: Sun Chengsheng (China, OM), Norman Henniges (Germany, OM), Luigina Vezzoli (Italy; AM), Maddalena Napolitani (Italy; AM), Natalya Bryanchaninova (Russia; OM), Tina Asmussen (Switzerland; OM), Oksana Tsay (Uzbekistan; OM); The INHIGEO Board has also endorsed Janusz Skoczylas (Poland) as new Honorary Senior Member in 2018: The INHIGEO delegates express their congratulations to the elected.
- Currently, INHIGEO has twenty Honorary Senior members and 301 members.

16. Conclusion: The INHIGEO President expresses special thanks and acknowledgements to the Mexican organizers who had had a major task in successfully administrating the annual meeting in Mexico City.

Minutes: **Martina Kölbl-Ebert**



INTERNATIONAL COMMISSION ON THE HISTORY OF GEOLOGICAL SCIENCES 44th INHIGEO SYMPOSIUM

Varese - Como (Italy), 2 - 12 September 2019

The Organizing Committee of the 44th INHIGEO Symposium is delighted to welcome you to Varese and Como, the two main cities of the University of Insubria, in an area of North-Western Lombardy also known as the Italian 'lake district', located within the mountains and the attractive scenery of the Prealps bordering Switzerland.

The Symposium is organized by the Center for the History of the Mountains, Material Culture and Earth Sciences (CHMCES) of the University of Insubria in Varese, in conjunction with the Italian Society for the History of Science (SISS) and with the collaboration of the Visconti di San Vito Foundation, the Transnational Association of Official Guides of Monte San Giorgio, the Turin unit of the Institute of Geoscience and Earth Resources (National Research Council of Italy).

CONFERENCE THEMES

- History of the Earth sciences in mountain environments
- History of communication in the geological sciences.
- General contributions on the history of geology

ORGANIZING COMMITTEE:

Ezio Vaccari, chair (Director, CHMCES, University of Insubria)

Libera P. Arena (CHMCES, University of Insubria)

Andrea Candela (CHMCES, University of Insubria)

Carlo Dossi (Department of Theoretical and Applied Sciences, University of Insubria, Varese)

Maria Faccioli (CHMCES, University of Insubria)

Francesca Gambino (Department of Earth Sciences, University of Turin)

Pietro Mosca (Institute of Geosciences and Earth Resources, National Research Council, Turin)

Alessandro Michetti (Department of Science and High Technology, University of Insubria, Como)

Marco Pantaloni (Institute for Environmental Protection and Research - ISPRA, Geological Survey of Italy, Rome)

Donatella Reggiori (Transnational Association Official Guides of Monte San Giorgio, Meride)

Silvio Renesto (Department of Theoretical and Applied Sciences, University of Insubria, Varese)

Luigina Vezzoli (Institute of Geosciences and Earth Resources, National Research Council, Pisa)

with additional collaboration from Fabiana Console (ISPRA Library, Rome and Italian Geological Society)

The welcoming reception will take place in the Salone Estense (Fig. 1), in the City Hall of Varese. The Palazzo Estense was built between 1766 and 1771 by the Duke of Modena Francesco III d'Este who, having obtained the Seigniorship of Varese from Maria Theresa of Austria, moved his court here. The building and the garden, inspired by the Viennese Imperial residence in Schönbrunn and designed by the architect Giuseppe Bianchi, were completed in 1787.



Figure 1. The Salone Estense, in the City Hall of Varese.

The scientific sessions of the first two days of the Symposium will take place in the *Aula Magna* (Great Hall) of the University of Insubria, in the building known as *Collegio Sant'Ambrogio* (Fig. 2), which is also the seat of the Rectorate and is located in Varese city center.

Figure 2. The Collegio Sant'Ambrogio.

The INHIGEO Business Meeting will be held in Villa Toeplitz (University of Insubria) (Fig. 3), built towards the end of the 19th century on a hill in the Varese district of Sant'Ambrogio Olona. The Villa was bought in 1914 by the founder of the Banca Commerciale Italiana, Giuseppe Toeplitz, and was renovated with addition of a metal dome where an astronomic specula was installed. The building is surrounded by an eight-hectare garden-park, designed in the Italian and English styles.



Figure 3. The Villa Toeplitz (University of Insubria).

The Aula Magna of the Chostro di Sant'Abbondio (University of Insubria) (Fig. 4) will be the venue for the scientific session on the morning of the 4th day of the Symposium, in Como. The cloister, built in the 16th century as part of the medieval *Basilica di Sant'Abbondio*, is a great example of the Como Romanesque style. It is located outside the town walls, at the side of Monte Croce, in an area of great archaeological importance. It was restored both in the 19th and in the 20th century.

Figure 4. The Chostro di Sant'Abbondio (University of Insubria).

The medieval Visconti Castle in Somma Lombardo, south of Varese (Fig. 5), will be the venue for the final scientific session in memory of Nicoletta Morello, hosted by the Visconti di San Vito Foundation. The castle was built in 1448, when the brothers Francesco and Guido Visconti (members of the noble family Visconti of Milan), in order to escape disputes with the Ambrosian Republic, took refuge in their estate of Somma.





Today the castle, having a large exterior quadrilateral appearance, encloses three castles built around three large courtyards, enhanced by porticos and with independent entrances.

Figure 5. The medieval Visconti Castle.

Participants will be based in Varese and transport for the sessions in Como and Somma Lombardo will be provided. The morning scientific session in Como will be followed by a half-day walking tour in the city center on scientific heritage and ornamental stones. There will be a special program for accompanying persons.

The mid-meeting one-day field trip will follow the path of the geo-paleontological excursion on the Prealps north of Varese, undertaken by the participants of the 7th meeting of the Italian Society of Natural Sciences in September 1878.

A post-meeting five-day field trip (8-12 September) will include the UNESCO World Heritage Site of Monte San Giorgio (one of the most important fossil localities in the world for the Middle Triassic, which has been studied since the mid-19th century), the mining park in Cortabbio, the quarries of Valceresio and Ornavasso, the Susa Valley, Oulx and Monginevro in the western Alps. In Turin city the field trip will also include a guided tour of the ornamental stones of the Parco Valentino, the Egyptian Museum and the National Museum of the Mountain.

See the complete program of the 44th INHIGEO Symposium 2019 in the Third Circular (July 2019), available at the website address <https://inhigeo2019.jimdofree.com/circulars/> For additional information, please contact our Vice President Europe, Ezio Vaccari, and the Organizing Committee: inhigeo2019@uninsubria.it.

2020 – 45th INHIGEO Symposium New Delhi, India (in association with the 36th International Geological Congress) 2-8 March 2020

We will be part of the section (1) ‘Geosciences for Society’ with the following topics:

1. Historical achievements in geology on the Indian subcontinent
2. Historical textbooks and handbooks: their function in earth sciences
3. Moving knowledge in earth sciences: historical communication and circulation
4. General contributions on the history of geology

Abstract submission opens January 2019 and closes August 2019. Early registration opens February 2019 and closes October 2019!

2021 – 46th INHIGEO Symposium, Krakow, Poland, 18-24 July 2021.

OTHER CONFERENCE REPORTS

Austrian Working Group “History of Earth Sciences” (AWGHES)

With the support of the Austrian Geological Society

On November 23rd 2018 the annual meeting of the AWGHES was held in the Archives of the University of Austria. In contrast to the meetings in the years before, no general topic was determined this time to give the members of the working group the chance to report about their current research. This resulted in a wide range of biographical thematic areas, which impressively showed the connection of earth scientists in different cultural and social facets. On one hand this was documented by the person of Ludwig Ritter von Koechel, who apart from his geoscientific research became well-known as an editor of Beethoven’s letters and for cataloguing the works of Mozart; on the other hand in form of travel diaries of a geologist's wife, which gave an interesting insight into the living conditions of southern Dalmatia at the beginning of the 20th century, and in the person of Irmgard Schloegl, who was ordained from a geologist to a Zen nun. Friedrich Becke’s descriptions of the excursion of the Radium Commission to St. Joachimsthal or Helmut Stremme’s defense geological activities in World War II supplemented the biographical focus. Some presentations also dealt with the commemorative year 2018. In this regard studies to the academic teachers for the subjects of mineralogy and mineralogy-petrography at the University of Vienna from 1848 to 1918, a focus on memory and reflection, but also the lighting of political influences on development the Geological State Institute, which was founded in 1848/49 are worth mentioning.

The next meeting of the AWGHES is planned for December 2019 in Graz and will have the special focus on the 20th anniversary of the working group.

From 4th to 9th June 2018, the 14th Heritage Symposium celebrated its 25th anniversary in the European Year of Cultural Heritage in Ravne na Koroškem, Slovenia, in the spirit of “Our Heritage - Where the past meets the future”.

The wide spectrum of lectures and poster presentations dealt with international, local and regional topics. In keeping with the theme of the cultural year, the mining history and culture was represented as a world heritage. Geology, mining and metallurgy are closely linked to didactics with various museological backgrounds such as the Slovenian School Museum, a virtual mining museum or the “documentation center of mining history of Vordernberg.” In numerous lectures metalworking at the venue was highlighted as an example of drawing attention to the local Montanist tradition and history in the surrounding area such as the Miestal or Idrija. In keeping with the tradition of the Heritage Symposium, the focus was on the archives and collections as the central opportunity to research. Here, in addition to current investigations, future scientific possibilities were also addressed, for example by the University Archives in Vienna. The new aspect of mineralogy, which was recently included in the heritage symposium program, was also presented in several lectures. Further focal points were biographical lectures, which spread far into the past and thematically across the entire European continent, covering a very broad spectrum.

In addition, a comprehensive cultural program was offered, such as a photo exhibition on "Images of Work", the Ravne-based steelworks, the Podzemlji Peca mine, the ethnological museum in Schwarzbach, the Gornjesavki museum in Jesenice and the technical museum of Slovenia in Borovnica.

The 15th Heritage Symposium will be held in Eggenburg, Lower Austria, from the 13th to the 20th of June 2020. The annual AWGHES meeting will be integrated into this conference.

Annual Record of Chinese Commission of History of Geology in 2018

Led by Geological Society of China (GSC) and supported by China University of Geosciences (Beijing) (CUG) and other Societies, the Chinese Commission of History of Geology (CCHG) made much endeavors to carry out many activities in 2018. The commission undertook two projects, organized one academic symposium, conducted two exhibitions and five lectures, and edited several books and proceedings as well.

On October 26, 2018 at the International Conference Center of CUG (Beijing), the 28th Annual Academic Symposium of CCHG was convened, with the co-organization of CUG (Beijing).

This annual symposium centered on the theme of “Rethinking Studies in the History of Geosciences under the New Contexts.”

The opening ceremony was presided over by Mr. Dai Jinye. The attendees at the ceremony included Meng Xianlai, former director of China Geological Survey, Professor Deng Jun, chairman of CCHG and president of CUG (Beijing), Academician Zhai Yusheng, Professor Cai Keqin, counsellor of the State Council of China and former vice-president of CUG (Beijing), Professor Yu Guang, former vice-president of Peking University (PKU) and vice-chairman of CCHG, and 78 representatives and 33 students from organizations of geology, petroleum, metallurgy, and nuclear industry and from institutions of higher learning, such as CUG and PKU. An aggregate of 33 papers were submitted to the symposium and 20 were presented. The articles covered the biography of geologists, the history of geological undertakings, and the disciplinary history of geosciences.



Group photo of the 28th Annual Academic Symposium of CCHG.

Aiming to promote popularization of science, the commission made two exhibitions, “Special Exhibition on Feng Jinglan” and “One Century of Life and Exemplar as a Master: Exhibition on Yang Zunyi’s 110th Birthday.” Additionally, five lectures were organized, including “Man Overtopping Mountain Peak: A Review of the Climbing of Mount Qomolangma,” “Seven Decades of PRC’s Petroleum Industry and the ‘Iron Man’ Spirit,” “Forward Visions of Li Siguang’s Academic Thoughts,” “Relationship between China University of Geosciences and Peking University,” and “The Early Development of Geological Sciences in China.”

The commission also proceeded and propelled forward research in the history of geosciences. The commission edited *The History of Geological Sciences in China* and *History and Trend of Research in Regional Metallogenic Regularity* (first draft). *Journal of the History of Geosciences* (7) and *Proceedings of the 28th Annual Academic Symposium of CCHG* were edited and to be published.

Yun Xuemei, China University of Geosciences, Beijing

HISTORY OF GEOLOGY GROUP/GSL

John Henry sends in a report on the History of Geology Group (HOGG for 2018):

“The History of Geology Group” (HOGG) is affiliated to the Geological Society of London (GSL) and has a current membership of about 170 people. It was inaugurated in October 1994 to encourage interest in the lives and work of those scientists and philosophers who influenced both the study and the practice of geology. The Group is open to anyone with an interest in the subject. For the 3 years ending in December 2018 the chair was Tom Sharpe and the Secretary was Chris Duffin. Currently, the Chair is Duncan Hawley and the Secretary is John Henry.

In 2018, HOGG organised three meetings. In May, Chris Duffin organised an Open Meeting at Burlington House, London; open meetings are not themed and provide an opportunity for members and students to present papers their research to an interested audience. In September, Nina Morgan co-convoked a two-day meeting at the Bath Royal Literary and Scientific Institution, jointly organised with the Geological Curators Group and BRLSI on ‘Collectors, Collections and the Geology of South West Britain.’ The first day comprised lectures, followed by a second day with a choice of field trips to: Haycombe Cemetery, Bath; Brown’s Folly, Bathford, (old quarry face that had provided building stone for Bath since the Romans) and, to Moon’s Hill Quarry to look at the volcanic rocks exposed there. The abstracts booklet may be downloaded at: https://www.geocurator.org/images/resources/prev_events/2018SWmeeting/GCG-HoGG_SW_meet_abstracts.pdf.

In November, Geoffrey Walton organised a meeting on ‘Aspects of the History of Coal and its Mining’ at Burlington House. The programme may be found at <https://historyofgeologygroup.co.uk/coal/>. The occasion for the meeting was to mark the demise of the GSL affiliate, the Coal Geology Group. Also, in November, Duncan Hawley gave a talk on Murchison’s fieldwork and the ‘discovery’ of the Silurian to the student geological society at University College London as part of a developing strategy by HOGG to introduce a younger audience to the history of geology.

For the forthcoming year, the meetings are planned to celebrate the Centenary of the admission of female fellows to the Geological Society (20th May), to explore the history of geology in Edinburgh (11th-12th July) and in York (23rd-24th October).

HOGG continues to actively support the conservation of Pope’s Grotto in Twickenham, SW London. Alexander Pope (1688-1744) was an eminent poet. His house on the River Thames was separated from his 5acre/2hectare garden by a main road. Visitors landing at the riverbank could reach his garden an arched aisle through his cellars and a tunnel under the road. Pope conceived this passage as a grotto to the muses; it evolved from the shell grotto to a trend-setting mineral grotto that, in its day, was much admired. Although Pope’s house was demolished in 1807, the foundation with grotto remained. It currently lies beneath a private school which is interested in its historic associations. HOGG has been instrumental in setting up a digital survey and imaging of the grotto (2017), to create accurate plans and sections, and a successful beta model of a virtual walk through of the Grotto. In 2018, HOGG, through its members and collector/dealer friends sourced minerals to replace losses due to weathering, souvenir hunters and poor repairs of the past. For more information visit <https://popesgrotto.org.uk/>.

HOGG publishes three Newsletters a year packed with reports of recent meetings, news items, news of future meetings, reviews of books and exhibitions relevant to members, and a dedicated email discussion account serve gives members more immediate news.

HOGG’s website: www.historyofgeologygroup.co.uk, Twitter feed @HOGGroup.

Petroleum History Institute Annual Meeting and Field Trip; Salt Lake City, Utah, May 17-19, 2018



Participants of the PHI meeting at the Anschutz Well on Antelope Island. The first PHI group photograph taken at a dry hole.

The 17th meeting of the Petroleum History Institute was held in Salt Lake City, Utah, at the Marriott Research Park Hotel on the campus of the University of Utah. The group of about 35 participants was treated to beautiful mountain vista and gardens, and a great Friday Symposium, which included papers on “History of Oil in Utah,” “North Dakota’s Discovery Period,” “Pioneering Women in Petroleum Geology – Celebrating 100 Years!,”

“Charles Whiteshot (1866-1937) – The Walking Oil Historian,” “Brazil and the Problem of Domestic Supply of Fossil Fuels,” and several more. For the complete abstract list, please refer to *Oil-Industry History*, v. 19, no. 1, 2018.

At the Awards Banquet on Friday evening PHI presented the following awards: *The Colonel Edwin L. Drake Legendary Oilman Award* – The R. Earl Holding Family; *The Samuel T. Pees Keeper of the Flame Award* – Robbie Rice Gries and Jonathan Craig; and for the first time *The Gerald M. Friedman Award for Excellence in Oil History Presentation* had a three-way tie - Robbie Rice Gries, Matthew Silverman, and Jonathan Craig. For 2018 *The Distinguished Service Award* was presented to the meeting coordinator, Rasoul Sorkhabi, in recognition of his many contributions to PHI.

The Saturday Field Trip offered some local history as well as oil history with stops at Ft. Douglas, which is the oldest part of the University campus. Then we had a drive to Antelope Island where we had a look at the Anschutz Well which was drilled through the up-faulted Precambrian rocks into the Paleozoic material underneath. The afternoon found the group at Ogden, Utah, examining the 19th century Union Station which has been restored and now houses the Utah State Railroad Museum. The last stop of the day was back at the University of Utah’s Natural History Museum where we got a good look at the local geology and a very nice exhibit of the Eocene-age Green River Oil Shale. The meeting closed with the end of the field trip. We want to recognize and thank the meeting Gold Sponsors *Sinclair Oil & Gas Company* of Salt Lake City and *The Rocky Mountain Association of Geologists*. The RMAG was, again, the Student Meeting Fellowship Sponsor. The field trip sponsor for 2018 was *Liberty Oilfield Services* of Denver, Colorado. Submitted by **W. R. Brice**

For more information about the Petroleum History Institute, please see: www.petroleumhistory.org.

Congress SGI-SIMP, Catania, Italy, 12-14 September 2018

Session S38. History of Geosciences and Geoethics: the right way for social responsibility.

Conveners and Chairpersons: Marco Pantaloni (ISPRA, Roma), Silvia Peppoloni (INGV, Roma), Fabiana Console (ISPRA, Roma), Giuseppe Di Capua (INGV, Roma)

Abstract book: <https://doi.org/10.3301/ABSGI.2018.01>

Presentations:

Alimenti S. & Lupi R. - Policy, economy and geosciences in the debate about Fucino and Trasimeno lakes (1780-1870 ca.)

Barale L., Fioraso G. & Mosca P. - The role of geological studies in large infrastructural projects in the 19th century – some examples from NW Italy.

Boscaino G. & Boscaino M. - The geology between past and present: cultural heritage and the current social value of geosciences. The tragedy of the Rigopiano Hotel.

Branca S. & Abate T. - The hypotheses of Jean Hoüel (1735-1813) on the formation of Etna. The evolutionary model of the volcano in the representation of the CXIX planche.

Cubellis E., Luongo G. & Obrizzo F. - Sciences of Laws and Sciences of Processes for Earth Science.

De Caterini G. & Radogna P.V. - Critique of Practical Geology.

Di Cencio A., Mori G., Casati S. & Nardi M. - Paleotherapy - the new method in field of medical geology for the therapy of young disturbances.

Foresta Martin F. - Marcello Carapezza (1925-1987), Scientist and Humanist.

Hamilton M. - The research of the western Tauern window between 1894 and 1898 in the documents of the mineralogist and petrographer Friedrich Becke. A project of the “Österreichische Akademie der Wissenschaften“.

Macini P. - Well construction and underground fluids in pre-industrial ages: Scientific observations, ethical speculation and medical contributions of Bernardino Ramazzini on the health and safety of Putearii (water well diggers).

Pantaloni M., Console F. & Motti A. - The “rebirth” of the Torbidone River (Norcia Plain, Umbria): a historic and geoethic approach.

Pinarelli L., Piccardi L. & Montanari D. - The social value of geological knowledge in the supernatural narratives of the ancient world: some case studies.

Romano M. - Inventor, Engineer and Earth Scientist in a single brushstroke: Leonardo da Vinci and the earliest conception of sustainable land management on a constantly changing Planet.

Sudiro P. - The Expanding Earth: a disproved scientific hypothesis surviving its falsification.

Vaccari E. - The role of the institutions for the birth of the professional geologist between the 18th and the 20th century.

Submitted by Marco Pantaloni (Rome)

AWARDS

William R. Brice - 2018 *Mary C. Rabbitt History of Geology Award*

History and Philosophy of Geology Division/Geological Society of America

The Mary C. Rabbitt History of Geology Award is presented annually by the Geological Society of America's History and Philosophy of Geology Division to an individual for exceptional scholarly contributions of fundamental importance to our understanding of the history of the geological sciences. Neither the nominator nor the nominee has to be a member of the Division or of GSA. Achievements deserving of the award include, but may not be limited to, publication of papers or books that contribute new and profound insights into the history of geology based on original research or a synthesis of existing knowledge. The award was established by the History of Geology Division in 1981 and renamed in memory of Mary C. Rabbitt in 2005. [<https://community.geosociety.org/histphildiv/awards/rabbit>]

Citation by Gary D. Rosenberg

William R. Brice, Professor Emeritus of Geology and Planetary Sciences, University of Pittsburgh at Johnstown, Johnstown, PA, and a graduate of Cornell University, has authored or co-authored some 36 manuscripts and three books on the history and philosophy of geoscience. Several interweave the history of geology with international events in economics. As such, Bill can rightly be considered to have pioneered in the contextualization of the history of geology. Bill's approach revitalizes the historical narrative which for too long merely itemized personae and events in a progression of "golden spikes" on a track isolated from cultural developments.

Several of Bill's publications, most notably his seminal book of 2009, *Myth, Legend, Reality: Edwin L. Drake and the Early Oil Industry* secured the record of Drake's founding of the American petroleum industry as part of a larger, international development. Bill explained the role that Alfred Nobel's explosives had in "shooting" wells in western Pennsylvania in the late 1800s—early 1900s and related the growth of the American industry to Emanuel and Ludwig Nobel's oil business in Baku, Azerbaijan which Rockefeller tried to buy in an unsuccessful effort to monopolize the international oil trade in the late 1800s.

A true scholar, Bill rescued from the obscurity of Cornell University's archives, and a few from the dumpster, a treasure trove of material on Charles Frederick Hartt. Without Bill's subsequent publications, Hartt would have faded into oblivion despite having founded both Cornell's Geology Department (1868) and Brazil's first nationwide geological survey (1875). Bill, often in cooperation with his co-author, Dr. Silvia F. de M. Figueirôa, showed how Hartt's pioneer studies on Brazilian marine, terrestrial, and glacial geology (the last in opposition to the ideas of his mentor, Louis Agassiz) influence Brazilian geoscience to the present day. Always generous, Bill shared his unpublished archival material with others who, sometimes, did not acknowledge Bill in their publications.

But we are delighted to acknowledge Bill's accomplishments here. His internationalization of the history of geology is imbued with a generous respect for people and we therefore submit that Bill Brice is a most worthy recipient of the 2018 *Mary C. Rabbitt Award* for distinguished research in the history and philosophy of geology.



Bill Brice (center) accepting the Mary C. Rabbitt Award for 2018, flanked by his wife, Heather (left) and the Citationist, Gary Rosenberg (right); at the Geological Society of America annual meeting, Indianapolis, Indiana, November 2018.

RESPONSE MARY RABBIT AWARD HISTORY AND PHILOSOPHY OF GEOLOGY FOR 2018

First, I must thank Gary for his most generous introduction and citation. It is a different experience to be following a citation like that, for my usual role is reading the citation, not being cited. And I want to thank all my colleagues, but especially Rene Clary and Kathy Lohff, for supporting my nomination.

In 1997, I had the honor and great pleasure of being the citationist for my good friend and colleague, Ken Bork. I have always remembered his response, and I hope he doesn't mind, but I have used a small part of it as a model for my response.

Ken answered four potential questions: NO, YES, YES, and YES; before we knew what the questions were. And I give you these slightly different answers: NO, YES, and really YES to the last one, but to slightly different questions.

1. NO – I certainly did not ever, in my wildest dreams, think that I would be standing here today receiving the *Mary Rabbitt History of Geology Award* for 2018. When I look over the list of past awardees, it is deeply moving and humbling to know that I will be listed with such outstanding scholars as Michele Aldrich, Bob Dott, Sally Newcomb, Gary Rosenberg, Ursula Marvin, Hugh Torrens, the two Kens – Taylor and Bork; just to mention a few. I was on the review committee for this award for several years, but this year, oddly, I was not sent the usual material for review; things were running late this year, I assumed, not thinking that I was being considered for the *Award*. So, NO, I never imagined that I would ever be standing here before my friends and colleagues, and part of my family, as I am today. Our daughter, Tania, and our son, Jack, could not come as they had planned to do.

2. YES – I am delighted that my work in the history of geology, and in the history of the oil and gas industry, is being recognized. Words cannot describe how thrilled I was when I received word that I was the Awardee for 2018. So, am I delighted? A resounding YES.

3. YES – I had plenty of help getting to where I stand today; at one of the high points of my professional career, and one that I hope still has a gentle slope to it as I go forward from today. But I have been helped, nurtured, and mentored by so many people; some of whom are in this room today and you know who you are. It was during my graduate work at Cornell University that I was introduced to the history of geology by Professors John Wells (paleontology) and Arthur Bloom (geomorphology). For them, however, the history was an integral part of studying any geologic concept; learning the history was basic to learning the subject. With such a fine History of Sciences Collections at Cornell University Kroch Library, often when discussing Hutton's work or the map of William Smith, we would be in the Library looking at the originals – how great is that! Later in my own teaching, I followed their example by having the history as part of the normal subject matter.

I have been so very fortunate to have colleagues who were willing to assist me in many projects. For them to freely give of their time and knowledge to work with me has been one of life's great pleasures. I shall always be grateful for the privilege of working with my colleague from Brazil, Dr. Silvia Figueirôa, as we sorted out the life and work of Charles F. Hartt, whom Gary mentioned in his introduction. I remember going with Silvia to see a colleague of hers in Rio de Janeiro who had saved a small round plaque with the likeness of Hartt's face, which was presented to me. That item now hangs in a place of honor in the Department that he founded at Cornell University in 1868. I have fond memories of traveling with Hugh Torrens down a back road of West Virginia to locate the exposures that were sketched in 1854 by another Englishman, James Buckman. And then having the shared excitement of comparing Buckman's sketch with an outcrop before us, and 145 years later, we were looking at the outcrop he sketched. Fortunately for us, weathering is a slow process. How blessed I have been to have colleagues like Silvia and Hugh, and others, who were willing to share their time with me.

There has always been great family support. They accepted me disappearing for hours, first with yellow pads and pencils, then with my old Commodore 64 as I moved, slightly, into the modern world. Or when I spent entire summers at Cornell teaching and doing research, or twice going to Brazil for a month each time. I was immersed in my world of history searching for details of someone's work or determining how an idea was developed and when. Because my family tolerated those absences for so many years, I offer this public thank you with all my heart.

I would be remiss if I didn't acknowledge the contribution of archivists and librarians who collect, catalogue, and maintain the many repositories of historical documents, letters, personal papers, and artifacts. Without those collections, we historians would have very little to say.

Finally, I offer this, perhaps more for the younger members of our group, but it is really for all of us, and with apologies to James Hutton – remember and believe that the study of the past can always illuminate the present.

Thank you to all my colleagues and friends in the History & Philosophy Division. My thanks, again, to Gary for that wonderful citation, and to Renee for her support over many years. And I want my wife, Heather, to come up and accept the Award with me, for I would not be here without her support and understanding. Thank you, Bill Brice

Academician Algimantas Grigelis awarded the *Theodor von Grothuss Medal*



Professor Algimantas Grigelis, photo taken by Vincas Būda, 24 September 2018

Professor Algimantas Grigelis, a Member of the Lithuanian Academy of Sciences (Academician) and Honorary Member of the INHIGEO, the President of the Lithuanian Ignotas Domeika Society has been awarded by prestigious *Theodor von Grothuss Medal* for his achievements in science and culture nurturance at the full meeting of the Lithuanian Academy of Sciences held in Vilnius on 24 September, 2018. The *Grothuss* medal is established and managed by an International Board of Theodor von Grothuss Foundation led by Prof. Academician Aivaras Kareiva, Director of the Institute of Chemistry, Vilnius University.

Theodor von Grothuss (Freiherr Christian Johann Dietrich Theodor von Grothuß, 1785 Leipzig-1822 Gedučiai, Lithuania) earned his fame in electrochemistry and photochemistry and is known for establishing the first theory of electrolysis in 1806 and formulating the first law of photochemistry in 1817. His theory of electrolysis is considered the first description of the so-called original Grothuss mechanism. After studies of natural sciences first in Leipzig and later in Paris at the École Polytechnique, Grothuss left for Italy where he stayed at Naples and later Roma and actively contributed to this area both in terms of electrolysis experiments and their interpretation. The following years Grothuss spent in Paris, and from 1808 on he lived at the estate Geddutz (Gedučiai) of his mother in northern Lithuania. There he conducted research on electricity and light with the limited research equipment he could assemble.

Front: Theodor von Grothuss medal. Silvery cooper, D. 51 mm. Avers: Theodor von Grothuss 1785-1822.

Reverse: While light illuminates darkness, nothing is more dark as light. Grafik artist Petras Repšys, Vilnius, 2017.



Algimantas Grigelis (born 1931), geologist and palaeontologist, historian of sciences, traveller and photographer, graduated in geology the Vilnius University (1954), defended his PhD thesis (1958) and the Doctor Habilitus Dissertatio (1981) on stratigraphy, micropalaeontology (Foraminifera) and geological history of the Jurassic System.

Talented and hard working, Algimantas Grigelis succeeded to reach the top of his science. He collected microfossils and worked as micropalaeontology expert in Sweden, Poland, France and other European countries, in Russia and Caucasus, Timan-Pechora region, Taimyr Peninsula in Siberia, Syrian Arab Republic, Eastern Canada and its Atlantic margin, travelled in Alaska and Chile Andean Cordilleras. He compiled the set of geological maps of the East Baltic region, took part in marine geological mapping expeditions in the Baltic Sea. Over the last few decades, he has actively worked in the history of sciences and is author and co-author of about 30 monographs. Dr. Grigelis has been awarded two State science prizes and by premium of Academician Juozas Dalinkevičius.

Travelling and working he has always used a notebook and photcamera. In 2018, he compiled five photo exhibitions held in Warsaw, Vilnius, and Utena. Source: www.lma.intranetas.lt.

Michael Robert Johnston - New Year Honours 2019 Citations for Officers of the *New Zealand Order of Merit*

The New Zealand Order of Merit (NZOM) is awarded to people who have served the Crown or country with merit, or become distinguished in any field. It was established in 1996 to replace the British state honours that were still being used to pay tribute to New Zealanders at that time.

To be an Officer of the said Order: For services to geological science and history

The investiture was by Governor-General, The Rt Hon Dame Patsy Reddy at Government House, Wellington, on 1 May 2019.

Dr Mike Johnston is a leading authority on the geology of the Nelson region and has authored numerous publications including books and papers on New Zealand geology, geologists, mining history, early European exploration of New Zealand, and Nelson history.



Dr Johnston has been a member of the Geological Society of New Zealand and its successor, Geosciences Society of New Zealand, since 1962. He was a member of the National Committee from 1993 to 2009, President from 2003 to 2005, and convened the Historic Studies Group. In 2012, he was elected Vice President of the International Commission on the History of Geological Sciences (INHIGEO) representing Australasia and the Pacific; a post which he still holds today. He has been a professional geologist for more than 50 years and has completed field work covering most of the top of the South Island across a total of 16 geological reports and maps. He has been involved with the Nelson Historical Society since 1968 and has been a committee member and President. He was involved with the governance of the Nelson Provincial Museum between 1979 and 2009. Dr Johnston has been a Trustee and Chairman of the Nelson Heritage Protection Trust and a Trustee of the McKee Charitable Trust, in addition to holding various roles with the Royal Society Nelson Branch.

Growing up in the rich landscapes of Nelson has led Dr Michael Robert Johnston to become an Officer of the New Zealand Order of Merit for services in geological science and history. For as long as he can remember, Johnston has been interested in geology, seeing his role as someone getting to understand "why New Zealand, and particularly Nelson, is how it is" while sharing that information to the general public through groups, talks and books.

Johnston said when he was young, family outings around the region sparked his enthusiasm for earth science – being fascinated by fossils, rocks and the terrain. "Pa would take us up to the Brook Dam ... and he used to point out this old railway line going up to copper mines." He said his dad was also a keen fisherman so he would "trail along behind him in the rivers." "I was more interested in looking at the different rocks. Back in those days ... in the Baton River, there was still old miners eking out an existence there. I used to stop and talk to them."

Since the days of Sunday afternoon drives packed in the car with his family, Johnston has become a leading authority on the geology of New Zealand, being in the profession for more than 50 years. He has written numerous publications including books and papers on New Zealand geology, geologists, mining history, early European exploration of New Zealand, and Nelson history. Johnston said one of his greatest achievements during his career was "getting to understand what makes Nelson", including Dun Mountain as a prominent attribute. "That's a very unusual place, geologically, and it's got a lot of history from the copper and chromite mining that went on there in the 1860s."

Johnston has been a member of the Geological Society of New Zealand and its successor, Geosciences Society of New Zealand, since 1962. Currently working on his seventh book, Johnston said it was geology that kept him alive and he would be involved in it till the day he dies. "It keeps the brain ticking over."

<https://dpmc.govt.nz/honours/lists/ny2019-onzm#johnstonmi>

<https://www.stuff.co.nz/nelson-mail/news/109614709/nelsonian-receives-new-year-honour-for-service-to-geology>.

Octavio Puche Riart

the Manuel Fernández de Castro Award, the Atlantic Copper Prize, and the XIII Award Francisco Javier Ayala Carcedo

INHIGEO member from Spain, Dr. Octavio Puche Riart, received three awards in 2018, the *Manuel Fernández de Castro Award* as the best referee of articles published in Geological and Mining Bulletin, the *Atlantic Copper Prize* for the best Publication in the category of the professorate (2017-2018), Awarded by the Chair Atlantic Copper, Polytechnical University of Madrid, and the *XIII Award Francisco Javier Ayala Carcedo* for the best paper in *De Re Metallica*.

The *Manuel Fernández de Castro Award* is presented to recognize the work of the reviewers of the scientific papers received for publication in the Geological and Mining Bulletin. The editors of the journal know that without the work of reviewers, it would not be possible to maintain the quality standards and the scientific rigour of the journal. For 2018, that "Best Reviewer" was Dr. Octavio Puche Riart.

The *Atlantic Copper Prize* goes to the best Publication in the category of professorate (2017-2018) and is presented by the Chair of the Atlantic Copper, through the Polytechnical University of Madrid. The award comes with a grant of €1000 to be used for studies and research papers about copper metallurgy, or technical analysis about copper metallurgy, and its publication in specialized magazines, or by presenting in national or international congresses and others. For 2018, the award went to Octavio Puche Riart, for his book: *Hispania the country of metals. Mining and Metallurgy in Spain from the origins to the Catholic Kings*.

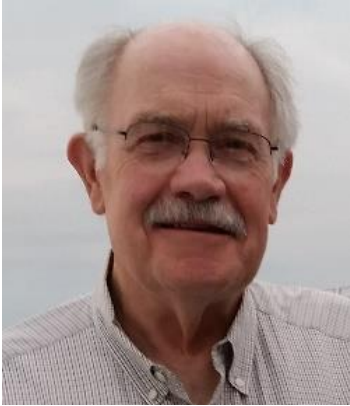


Isabel Rábano (INHIGEO member) presenting the award (premio in Spanish) to Octavio Puche.

The *XIII Award Francisco Javier Ayala Carcedo* (September 2018) to the best paper in the journal *De Re Metallica* (Spanish Society for the Defense of Geological and Mining Heritage). The title of paper

is: *Algunos datos históricos sobre la mina de plata de Pozo Rico (Guadalcanal, Sevilla)/Some historical data on the Pozo Rico silver mine (Guadalcanal, Seville).*

Kenneth L. Taylor — *Prix Eugène Wegmann*



The Société Géologique de France bestowed its *Prix Eugène Wegmann* upon INHIGEO Past President Kenneth Taylor at its annual meeting in Lille, on 24 October 2018. Unable to travel to France to receive the award personally, Ken recorded an acceptance statement on video, which was projected during the awards session. Philippe Taquet represented Ken in accepting the award. Below is the text of Ken's video statement (the video itself may be viewed at <https://www.geosoc.fr/propos-html/les-prix/laureats.html>, or at <https://www.youtube.com/watch?v=ZTDvrShmAnU>).

[The following is an English version of Ken's acceptance statement]

“President Charbonnier, ladies and gentlemen of the Geological Society of France: Here I am in Norman, Oklahoma, sending my greetings from a location on the central plains of the United States. I ask you please to excuse my absence from your meeting in Lille, as reasons of health prevent me from making the long journey to France at this time.

“Fifty-one years ago, I had the privilege of meeting Professor Eugène Wegmann. An American colleague had organized a conference involving about thirty historians of geology, and M. Wegmann was one of the participants. We passed several very pleasant autumn days by the Atlantic shores of the state of New Hampshire, mainly in discussing written papers that each one of us had prepared in advance. For me, at the age of 26, this was a sort of launching as a historian of geology: it was my first experience of this kind and yielded soon after my first scholarly publication.

“Seventeen years later the Geological Society of France made its first presentation of the *Wegmann Prize*, to François Ellenberger. I could only admire and applaud both of these events: the establishment of a prestigious award bearing the name of that excellent citizen of Neuchâtel, and the selection of its first recipient. Since then, the *Wegmann Prize* has been conferred rather sparingly, and this has surely served to maintain and even increase its worth. It is my privilege to have had personal friendships with each of the six previous recipients. I vouch for the great merit of each one of those choices; I deeply respect the work done by each of them.

“The *Wegmann Prize* is a distinction of a very high order, and your decision to accord me this honor fills me with the greatest happiness and pride. Your action moves me deeply. I thank the Geological Society of France and its officers. And with equal force and sincerity I thank my colleagues and friends in the Comité Français d'Histoire de la Géologie.

“In addition, I have a debt of gratitude to a number of your country's cultural institutions. Two years before I became acquainted with M. Wegmann at our New England conference, I came to Paris to spend a year doing research for my doctoral thesis in the history of science. Thus in 1965, I began to profit from the riches held by French libraries and archives, not only those situated in Paris, but others as well located in various other cities. From that year forward, and through numerous trips back to France, I have always enjoyed a most cordial welcome, and have benefited from innumerable acts of kind assistance which have aided my historical research.

“My objective in 1965 was to study the career and scientific thought of a French figure of the 18th century, Nicolas Desmarest. I have never regretted that decision. The general subject of most of my research has been the early development of geological science, the beginnings of a geological discipline during the late part of the 18th century. This was to be sure a development of an international nature, but it was easy to see, half a century ago, that the historical part played by French and other French-speaking figures in it was undervalued, especially in the Anglo-American historiography then prevailing. It seemed to me then, as it still does, that a great deal can be learned about the scientific and cultural pathways which produced geological science, by making a close study of the preoccupations and initiatives of a character like Nicolas Desmarest.

“All of which is to say that I am grateful to France and to the French people, first for having supplied the core of my research's main subject, and then also for having nourished so often and for so long my wish to extend and deepen my knowledge. The list of individuals to whom I am indebted for their help and encouragement — in France and elsewhere, living

and now deceased — is too long to be recited here. I must be content for now to register my thanks to them all in silent meditation, and from the bottom of my heart.

“In closing, please allow me, President Charbonnier, and ladies and gentlemen of the Geological Society of France, to express my sincere respect and admiration, and to tell you that the *Wegmann Prize* constitutes a crowning moment in my life. I am deeply and humbly grateful. “Thank you so very much.” **Kenneth L. Taylor**

Susan Turner - 2018 TOM VALLANCE MEDAL
For her work in documenting the careers of Australian women geologists.

The Tom Vallance Medal was introduced in 2011 to recognize people who have made a significant contribution to researching, recording, investigating, documenting and/or publishing about people or places or events of historical importance to the geological sciences in Australia or Australasia. It will be awarded biennially and be presented at the biennial Convention of the Geological Society of Australia (or similar event).

Currently Sue is working with colleague Professor Annalisa Berta of San Diego on a history of women in vertebrate paleontology worldwide.

Sue Turner in celebration with a bit of Australian bubbly.

Response: “To be chosen to receive the Tom Vallance medal, which has already been awarded to the brightest names in world of Australian history of geoscience, is an honour for which I feel both humility and a sense of responsibility that goes with it. I can only say that in the years left for active work, this high honour will be a constant incentive to do all that lies in my power to further the objects for which the medal was instituted and hopefully do Tom and the Society proud.

“On emigrating to Australia in 1980 I met Tom himself and his colleague, David Branagan, another source of inspiration and my predecessor for this medal, both of whom helped set me on the path of understanding Australian geoscience history and the role of women in it. Tom’s paper on the founders in Australian palaeontology was a springboard because there were no women in it!! David helped especially when he invited me to talk about women at the 1994 INHIGEO conference in Sydney and I met for the first time many of the world’s geoscience historians.

“The 1982 Australian Bicentennial planning meeting in Canberra was the beginning of the idea for a database of Australian (and later other) women geoscientists that I have maintained ever since and, like Tom before me, I am happy to share with anyone who is interested in the role of women in Australian geology.

Susan Turner October 2018

See also Facebook Women in Geoscience page

References

Vallance, T.G. 1978. Pioneers and leaders - a record of Australian palaeontology in the nineteenth century. *Alcheringa* 2, 243-250.



OBITUARIES

PROFESSOR KENNETH ROLF AALTO (1945-2018)



KENNETH ROLF AALTO, PH.D. passed away June 15th, 2018, following heart surgery. He was born February 22, 1945, to Johan August Aalto and Helen Dorothy Aalto, both of Finnish ancestry. Ken grew up in the Catskill Mountains of New York State, where his father was chief engineer of the Ashokan Reservoir that fed New York City. With his brother, Fred, he explored the surrounding wilderness, including winter mountaineering expeditions at a young age. Ken acquired a lifelong love of wild terrain and exceptional outdoor skills, earning an Eagle Scout ranking at the age of 13. After attending scout camp for some years, he became camp activities director and counselor, and taught riflery and canoeing.

Ken attended Philips Exeter Academy, graduating in 1962. He received a Bachelor of Arts in geology from the University of Pennsylvania in 1966, and went on to get a Master's Degree and Doctor of Philosophy in geology from the University of Wisconsin, minoring in the history of science. Ken married Ingeborg Frederica Muller in 1966. They lived in Bogata, Colombia for a year, where Ken taught at the Universidad Nacional, and later in Hamilton, Ontario, where he taught at McMaster University. Melding his outdoor skills and his love of the earth, Ken developed into an exceptional field geologist and stratigrapher. The earth's rocks were history books to him, and he wanted to read every page possible. No spot was too inaccessible or wild. His mapping in the wilds of British Columbia led to a seminal paper postulating the occurrence of a "snowball earth" event, a time in the Precambrian Era (before the existence of most life forms) when the earth froze to the tropics. Received with incredulity at the time, this phenomenon is now accepted. Ken did field research in many provinces of Canada, in South America and in many western states.

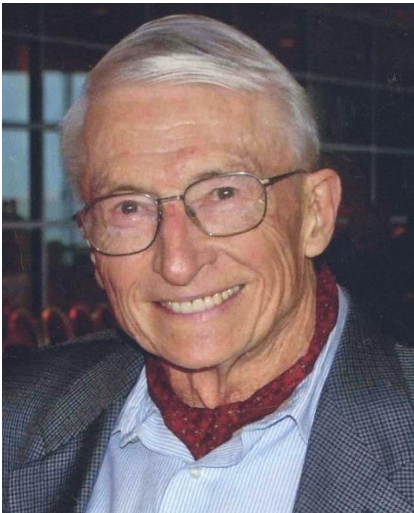
However, it was after coming to Humboldt State University in 1974, that he found his life's work. The challenge was the Franciscan Formation, the complex, deformed, frequently overturned, poorly understood rock that underlies this area. Ken mapped virtually every exposure from Cape Mendocino to Point St George, even those stretches considered inaccessible, clambering down cliffs like a mountain goat, through briars and thickets of poison oak. He explored extensively further inland, for some years with his young son (now a geology professor) in tow. This work led to important publications about the geology of plate subduction zones, the Franciscan being a global exemplar.

Ken received the inaugural Scholar of the Year award from HSU in 1987. He ultimately published over 100 papers and led many conference sessions and field trips. During his 35 years as a professor of geology, Ken mentored generations of students, a significant number of whom went on to graduate degrees. His teaching abilities in the field were legendary, with many HSU students remembering field camp with Ken as their best experience on their path to successful careers. He also had time for those with personal difficulties, always believing in his students' capabilities to succeed. Later in his career, he teamed with a brilliant student, Russell Shapiro, for underwater research on Bahamian stromatolites, an ancient life form. For this he acquired a new field skill: scuba diving. After his retirement, Ken reengaged with the history of geology, especially surveys of the American West in the 1800s. This resulted in many papers, his being selected to be History of Geology Chair of the Geological Society of America and elected to membership in the International Commission of the History of Geological Sciences, a society, a select international group. In his later years, Ken enjoyed the history of scientific discovery as much as he had his own research. Both his scientific and historical publications were well received, and he made scores of presentations nationally and internationally (Moscow, London, Rio, Beijing, Toyohashi, Cape Town...). Ken had always loved travel, and when he retired, there was no holding him back. With his wife, he walked on glaciers in the Andes, went up the Nile by boat, went on horseback safari on the Serengeti Plains of Tanzania, collected fossils in Morocco, explored Andalusian Spain, followed the Pilgrim's Way in Japan, and trekked on the Annapurna circuit in Nepal, to name a few. He also went on geological trips to Tibet, Iceland and Uzbekistan.

Ken was a fan of bluegrass music and played the mandolin with several bands over the years. He was a capable skier and Bridge player. He had a passion for justice and compassion for those who suffered. He demonstrated against the Vietnam War and joined a strike for graduate students' rights at the University of Wisconsin, despite the fact that it jeopardized his degree. When being driven to the hospital for heart surgery, Ken was more upset about the immigrant children who were separated from their families than his own dire situation. Ken was a devoted and enthusiastic husband and father, and leaves behind the grieving but grateful Aalto family: wife of 52 years Frederica, MA; sons Rolf Erhart, PhD and Emilius August, PhD; as well as daughters-in-law Mary Rebecca and Brie Noel, JD and five grandchildren: August Riordan, Tess Elizabeth, Stellan Eugene, Arthur Johan Raymond and Mahon Curran Take. He was predeceased by his son Eugene Arthur. A memorial service was held at his home on October 2nd, 2018.

[Modified from the obituary published in Eureka Times-Standard from July 7 to July 8, 2018; (<http://www.legacy.com/obituaries/times-standard/obituary.aspx?page=lifestory&pid=189485164>)].

PROFESSOR ROBERT H. DOTT, JR. (1929-2018)



Madison, Wisconsin - **Robert (Bob) H. Dott, Jr.** died February 27, 2018, after battling lymphoma for 11 years. Bob was born June 2, 1929 in Tulsa, Oklahoma to Robert and Esther (Reed) Dott. The family moved to Norman, Oklahoma in 1935. He attended elementary through high school in Norman. Beginning at age 10 he first spent three summers as a camper and then three more as a counselor in summer camps in Colorado and New Mexico which began a love affair with the Rocky Mountains. He began college at the University of Oklahoma and then followed both his grandfather and father to the University of Michigan. He graduated from Michigan in 1950 (BS) and 1951 (MS). At Ann Arbor he met his wife, Nancy, in a geology class. They were married February 1, 1951 in Farmington, Michigan. The newlyweds soon moved to New York where Bob entered a PhD program at Columbia University. The couple spent two summers in Nevada doing field research, which began the close partnership of their entire 67 years together.

During two years of active duty in the U.S. Air Force, Bob participated in several Arctic research projects. After the Air Force, he worked in the petroleum industry in Oregon and California for three years. In 1958 he accepted a faculty position at the University of Wisconsin from which he retired in 1994. He was delighted to join a major university at age 29. Bob's academic career focused primarily on sedimentology, tectonics, and the evolution of the Earth. He conducted research in Wisconsin's Baraboo Hills, Oregon, Tierra del Fuego, South Georgia Island, and Antarctica. In 1971 Bob co-authored with Roger Batten a textbook of earth history, *Evolution of the Earth*, (now co-authored with D.R. Prothero). Royalties from this book helped pay college tuition for his five children.

During his first years of teaching, Bob led a two-month summer field course vagabonding around the West where geology is raw. The five Dott children grew up camping and beach combing during those summers. Bob enjoyed being able to have his family with him on those trips.

Over his 36 years at the University of Wisconsin, Bob worked with many MS and PhD students, and several post-doctoral fellows. He and his students studied sediments deposited in nearly every environment from ancient Sahara sands to deep seas. He continued close relationships with many of his former students up until his death.

Later in his career Bob developed a deep interest in the history of geology. He created a course in the subject and published studies of several important geologists. After retiring from teaching Bob continued to contribute to the history of geology and to the knowledge of Wisconsin geology. In 2004 he and co-author John W. Attig published *Roadside Geology of Wisconsin*. Bob Dott was an Honorary Senior Member of the International Commission on the History of Geological Sciences (INHIGEO).

In 1964 the growing Dott family built a home in an abandoned stone quarry next to Madison's Hoyt Park. They named it the Cambrian Lodge because the sandstones upon which the house stands were formed during the geological Cambrian Period half

a billion years ago. Being composed entirely of the mineral quartz, they also inspired an easily remembered name for the family's auto license, "Quartz."

Throughout his life Bob traveled widely and visited every continent including Antarctica and Greenland. At home the family enjoyed nature with the guidance of naturalist Nancy. Bob sang in the First Unitarian Society choir for many years. He and Nancy enjoyed attending plays and concerts in the Madison area. They were long time supporters of the American Players Theater, Friends of the Arboretum, and the First Unitarian Society.

Bob instilled in his children a sense of independence, an interest in nature, and a love of learning. He infected all of them with the "travel bug." He kept an active interest in the lives of his nine grandchildren and his sons and daughters-in-law. Bob is survived by his five children, James (Ann), Karen (Bill), Eric (Debbie), Cynthia (Gary), and Brian(Sally), nine grandchildren, Kelly, Michael, Gregory, Cori, Gordon, Collin, Helena, Mei Li, and Alex, a sister, Esther (Bobette) Bird, and Dinesh Gunatilaka who became a member of the family. Peter Iselin (deceased), an AFS student from Switzerland, was also a beloved member of the family.

A memorial service was held at 12:30 p.m. on Saturday, April 21, 2018 at the First Unitarian Meeting House, 900 University Bay Drive.

<https://www.cressfuneralservice.com/obituary/246801/Robert-Dott-Jr/#obituary>

ENDRE DUDICH (1934-2016)*

In the early morning of November 3, 2016, in age of 83 years Endre Dudich returned to his Creator. He died after many years of illness. He graduated in geology, biology and chemistry. In the



Hungarian geology he was a personality of extraordinary education and talent, a man of universal knowledge and of renaissance character. His modesty, good will and patriotism remains example for several decades not only for his fellow geologists but also for every Hungarian intellectual.

In his career he achieved several important steps. He organised the geological laboratory at the Company of Bauxite Exploration and played decisive role in the activity of ICSOBA. He participated in the international association CBGA, in commissions of the Council of Mutual Economic Aid (COMECON) and served as programme coordinator at UNESCO. He was Secretary General and later honorary member of INHIGEO. He was visiting professor of Sopron University and of its Transylvanian branch. He had extreme talent for languages

which he successfully applied in international meetings promoting the understanding of foreign participants. He served as deputy director of the Hungarian Geological Institute responsible for the international relations. He specially promoted relations with the neighbouring countries. He also contributed to the foundation and activity of a Discussion Club of Philosophy in the institute which later acquired wide interest. He was an enthusiastic Esperantist, member, later vice-president of the Hungarian Esperanto Association and became honorary member of the *Universala Esperanto Asocio*. He was one of the founders of HUNGEO, the meeting of Hungarian earth scientists of the world, the 13rd conference of which will be organised by the Hungarian Geological Society in 2017 in Pécs.

Endre Dudich was honorary member of the Hungarian Geological Society and of the Serbian Geological Society and corresponding member of the *Geologische Bundesanstalt* (Federal Geological Institute) in Vienna, Austria. With co-authors he described the history of the last 50 years of the Hungarian Geological Society. He was the author of a large number of scientific publications.

His burial took place the 28th November 2016, in Budapest. Not only his family and his friends mourn for him, but also his former co-workers, the Hungarian Geological Society and the whole community of earth scientists.

We say farewell to him with his motto: *Maria adjuvante cum Deo pro patria et libertate.*

Csaba Baksa, President of the Hungarian Geological Society [*Editor's Note: For an additional memorial for Professor Dudich by Dr. Irena Malakhova, see the *INHIGEO Record No. 49*, p. 57-59.]

HOMER EUGENE LE GRAND (1944-2017)



Well known historian of science and INHIGEO member from Australia since 1998, Homer Le Grand, passed away on 16 January 2017 at the age of 72 years. Born and raised in North Carolina in the United States, Homer never lost the distinctive accent peculiar to people from that part of the US. He did his undergraduate work at the University of North Carolina, majoring in history and chemistry, before proceeding to the University of Wisconsin to do a PhD in the history of science. From this education, he emerged as a well-rounded historian of science, capable of teaching across a broad area of the discipline. His thesis was a fine piece of work. In it, he explored an aspect of the so-called “chemical revolution” of the late 18th century that is usually associated with the name of Antoine-Laurent Lavoisier, a period of dramatic change in thinking about some of the most fundamental aspects of chemistry. Homer immersed himself deeply in the work of Lavoisier and the group around him in Paris, especially that of the almost equally famous Claude-Louis Berthollet, exploring the historical situation that drove these men to think about things in such a new and different way. During the following few years, while holding an Assistant Professorship at Virginia Polytechnic Institute and State University in Blacksburg, Virginia, he drew on material from his thesis for a number of published papers.

In 1975, Homer transferred to the University of Melbourne in Australia with appointment to a limited-tenure Lectureship in the Department of History and Philosophy of Science. A tenured position soon opened up in the Department and he remained based in Melbourne for the remainder of his life.

From the beginning at the University of Melbourne, Homer threw himself wholeheartedly into the life of his new Department. The undergraduate subjects that he taught, prospered, and he also soon began to attract graduate students, eventually supervising or co-supervising 10 completed PhDs and 5 MAs. At Honours level he team-taught in a year-long seminar on eighteenth-century science. Later he contributed to a Faculty-wide seminar on eighteenth-century studies and became involved in the Nichol Smith Seminars in Eighteenth-Century Studies that brought some of the world’s leading scholars in this field to Australia. He continued to publish regularly on late-18th-century French chemistry, including a couple of papers based on research in the archives in Montpellier in which he pursued the interesting notion of seeing how a leading group of provincial French chemists responded to the new ideas coming out of Paris.

Homer’s central interest had always been to understand how major changes in scientific theory came about. It was an interest that informed all of his teaching as well as his research, and that had already caused him to read widely and deeply in the philosophy and sociology of science, as well as in the historical sources. It now led him to the revolution that had occurred in the earth sciences only a few years earlier, with the widespread acceptance of theories of continental drift and plate tectonics. Here, Homer decided, was a subject that cried out for serious historical research, one that had the additional attraction that most of the major figures in the story were still around to talk to, with a significant number of them in Australia. First, though, he had to learn more geology, so, with a period of sabbatical leave due, he opted to take his family to France where he had arranged a visiting appointment in the Earth Sciences Department of the University of Lille. It was an interesting choice, not least because of language considerations. Homer could read French with ease — he couldn’t possibly have undertaken his research in the history of chemistry otherwise— but he had not previously immersed himself for so long in a French-speaking environment. The environment at Lille proved very stimulating. Homer’s new line of research on the history of continental drift/plate tectonics flourished. Over the course of the next few years he became recognised internationally as a leading authority. The work culminated in a splendid book, *Drifting Continents and Shifting Theories*, published by Cambridge University Press in 1988, and it continued to generate new papers for years after that. The book was not “straight” history, as Homer sought not just to tell a story—something difficult enough in itself to sort out—but also to use the history he was presenting to test models of scientific change that had been proposed by various well-known philosophers of science during the course of the previous couple of decades. In fact, the book was partly written during a further period of sabbatical leave that Homer spent in his old stomping ground of Blacksburg, Virginia, where one of these philosophers, Larry Laudan, was based. Laudan later came and spent time at the University of Melbourne.

Meanwhile, Homer had also taken his first, fateful steps into academic administration, serving a term as Chairman of the Department of History and Philosophy of Science, in the early 1980s, with another term a few years later. In due course he

became the Faculty's Associate Dean (Budgets) and then, in 1994, Dean of Arts. His rise through the ranks was no accident. He was extremely competent at handling administrative affairs. But he was also trusted, as his being elected Chairman of his Department showed most clearly. As a good historian, Homer knew how to weigh evidence and assess arguments and he also had a good strategic sense of how things fitted together. He brought the same skills to bear in the various administrative roles he took on, that took him more and more away from his teaching and research.

In 1999, Homer left the University of Melbourne to become Dean of the Faculty of Arts at Melbourne's Monash University. From this position he retired as Emeritus Professor in 2006. During this period, Homer never gave up his teaching altogether and he fought valiantly to keep his research going. In 2001, he jointly edited with another historian of the earth sciences, Naomi Oreskes, a volume of papers that was entitled *Plate Tectonics: An Insider's History of the Modern Theory of the Earth. Seventeen Original Essays by the Scientists who made Earth History.*

INHIGEO mourns his passing. He will be sorely missed.

(Summarised by **Barry Cooper** from a eulogy given at Homer Le Grand's funeral by Rod Home, Emeritus Professor of History and Philosophy of Science, University of Melbourne).

PROF. DR. WOLFHART LANGER (1933-2017)

Prof. Dr. Wolfhart Langer, Professor of Paleontology at the University of Bonn, died in April 2017 at the age of 83 years in Bonn. Dr. Langer was born on October 17, 1933 in Krefeld and grew up there. He successfully completed his studies in geology and paleontology on 21 February 1964 with a doctorate at the University of Münster.



As a scientific assistant, he first came to Prof. Klaus Müller at the Paleontological Institute of the University of Bonn where he habilitated on April 17, 1973. In 1975, he was appointed Associate Professor of Paleontology and Historical Geology at the Paleontological Institute of the University of Bonn, and in 1980 his appointment as C3 Professor. Based on his broad and profound education Langer reached pioneering, micropalaeontological work on ultrastructure and micromorphology of ostracods, the stratigraphy of the Miocene and Oligocene in northern Germany and the North Sea basin, the microfauna of the Devonian and Tertiary of the Eifel and the Lower Rhine Bay. In addition, Wolfhart Langer was a pioneer in the application of contact microradiography in micropaleontology. His micropaleontological collection, built by him and Prof. Klaus Müller, is considered one of the world's largest and most internationally renowned collections of microfossils. Prof. Wolfhart Langer was very close to his Rhenish region in terms of both geology and regional research history. His special scientific interest was in the history of geology and paleontology. Numerous historical works on the history of geology and paleontology are a treasure trove for everyone interested in the history of geosciences. Wolfgang Langer was an Honorary Senior Member of INHIGEO.

In 1999, Prof. Wolfhart Langer retired. Until recently, he worked on publications on the history of geology and paleontology in the Rhineland. With Wolfhart Langer, the geosciences are losing a highly respected scientist who convinced colleagues and students alike with his extensive and varied knowledge as well as his humorous but always straightforward way of life.

<https://www.steinmann.uni-bonn.de/institut/bereiche/palaeontologie/termine-und-nachrichten/nachruf-prof.-dr.-wolfhart-langer-1933-2017> Translated from the original German by Google.

URSULA B. MARVIN (1921–2018), PLANETARY GEOLOGIST AND HISTORIAN OF GEOLOGY¹

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Ursula in 1945 at work at Harvard with a petrographic microscope examining uranium minerals. (Photo courtesy of Gayl Heinz).



Ursula B. Marvin in 1990, at a Lunar and Planetary Science Conference. (Photo courtesy of Gayl Heinz).

Ursula Bailey Marvin died 12 February 2018 in Concord, Massachusetts, at the age of 96. Her scientific work advanced the incorporation within geology of the study of extraterrestrial objects, and she also was distinguished for her achievements as a historian of geology.

Ursula was born 20 August 1921 in Bradford, Vermont, the youngest of three children of Harold Leslie Bailey and Alice M. Bartlett Bailey. Her father was an entomologist who directed programs for plant-pest control for the state of Vermont's Department of Agriculture. Her mother was a teacher and homemaker. In a 2001 interview she recalled the beauty of the rural countryside where she grew up: "Our family lived on a high terrace overlooking the Connecticut River, with the White Mountains of New Hampshire dominating the skyline to the east. It was one gorgeous scene by daylight or moonlight—best of all was just after sunset when a breathtaking alpenglow lit up the mountains in shades of peach and purple. Living in that landscape gave us all a great love of the out-of-doors".² Given this love of nature, it is no surprise that Ursula retained a lifelong taste for dramatic landscapes and became an avid bird-watcher.

However, when she went to college at Tufts, in Medford, Massachusetts, just outside Boston, a scientific career was far from what she had in mind. She majored in history, which had interested her throughout her schooling. To meet Tufts' general requirement of two full-year courses in science, she first took introductory biology, which failed to stir her interest. But then she took the introductory geology course taught by Professor Robert L. Nichols and was almost immediately captivated. Earning top grades in Nichols' course, she asked him if she could change majors, switching from history to geology. "No," he said, "you cannot major in geology. You should be learning to cook!"

Ursula didn't change her major, but before her graduation in 1943 she was not prevented from taking other courses in geological sciences, as well as some physics and mathematics. One of the substitute geology teachers at Tufts (some of the regular faculty having been drawn into wartime work) was Dr. Katharine Fowler-Billings, who had earned the Ph.D. degree in geology at Columbia in 1930. Fowler-Billings wisely recommended to Ursula that she apply for admission to graduate study

¹ Courtesy of *Earth Sciences History*, V. 37, No. 2, p. 444-449; re-printed with permission, John A. Diemer, Editor; doi: 10.17704/1944-6178-37.2.444.

² Interview with Ursula Marvin, by Kenneth L. Taylor. *INHIGEO Newsletter* no. 34 for 2001 (published 2002), pp. 23–29.

in geology at Radcliffe College, where she was given a full tuition scholarship, graduating with the M.A. degree in 1946 with a focus on mineralogy. During her second and third years in the Master's program she held assistantships in Harvard's geology department, first as a research assistant with Professor Esper S. Larsen, Jr., then as a teaching assistant with Professor Kirtley F. Mather. In both instances she was the first woman to hold such assistantships in geology at Harvard.

During the next few years Ursula worked in the experimental geochemistry laboratory of Julian Goldsmith at the University of Chicago, carrying out optical and x-ray studies of feldspars. This happened while her first husband—Lloyd Chaisson, whom she had married in 1944—attended dental school at Northwestern. The marriage broke up after a few years, and Ursula returned to Harvard to work in the geology Ph.D. program. One of her fellow students there was Thomas C. Marvin, just returned from several years doing mining geology in the Andes. Ursula and Tom married in 1952.

Soon after their marriage the couple went to Brazil, recruited by Tom's friend and colleague Donald F. Campbell to prospect for manganese oxide deposits in the Corumbá district. At this time, they had both finished the required coursework and language tests for the Ph.D., and Tom had passed his general qualifying exams as well. They both expected to return to Cambridge before terribly long to complete their doctoral programs; the period in Brazil appeared to them as a relatively brief adventure too attractive to pass up. The adventure turned out to be much longer, lasting a total of about six years—which they both enjoyed greatly—with a substantial period in Angola in addition to Brazil, most of this time working for Union Carbide. By the time they returned permanently to Cambridge, Massachusetts in 1958, Ursula and Tom had both decided not to resume graduate school. Tom was well on course in a career as a consulting economic geologist, and Ursula found employment working with Harvard mineralogist Clifford Frondel on the meteorites in the Harvard collection. At the same time, Ursula accepted an offer to teach mineralogy part-time at Tufts, which she continued to do for the next three years. (This offer was made by none other than Professor Robert L. Nichols, who had insisted some 15 or so years earlier that geological science was not for women! Ursula has made clear that over the succeeding years she had quite positive and friendly relations with Nichols, who helped her in numerous ways.)

Ursula's investigation of the Harvard meteorites was soon relocated to the nearby Smithsonian Astrophysical Observatory (SAO), where Frondel entered into a collaborative study with Edward L. Fireman. There, in 1961, Ursula became a permanent employee, and thus a federal civil servant. She worked there for the rest of her life, officially taking retirement in 1998, but continuing her active involvement in scientific and especially historical work for a long time after. From 1973 forward, the SAO was joined with the Harvard College Observatory, the new entity being named the Harvard-Smithsonian Center for Astrophysics (or CfA). Considering herself a 'classical geologist', Ursula said at first she felt odd working at an astrophysical institution. In the course of time this must have come to feel less peculiar, especially when she and her colleagues began examining samples returned from the Moon by the Apollo missions and by the Soviet Luna robotic probes. Integration of extraterrestrial materials within the scope of geological studies became in effect the central theme of her scientific career.

Ursula earned the Ph.D. degree belatedly in 1969, when Harvard's Geology Department sagely decided that her published meteorite research merited this recognition. "I had given up all thought of getting the degree," she later related, "when the Department offered me the opportunity to take the comprehensive oral examinations I had missed in 1952, and use my publications on meteorites in lieu of a thesis. I was the third former student who was making a career in geology to whom the Department offered this arrangement, so I took it, gladly."³



Ursula B. Marvin setting up a Scott tent near a meteorite concentration, close to the Allan Hills, Antarctica. (Photo courtesy of Gayl Heinz).



Ursula B. Marvin in Antarctica, 1978–1979. (Photo from the Smithsonian Institution Archives, Ursula B. Marvin Papers, Accession 13-060).

³ Interview, p. 26.

Adventures Ursula no doubt considered to be among her greatest were her three seasons in the field in Antarctica, from the late 1970s through the mid-1980s. During the early 1970s it had come to be recognized that in certain circumstances the gradual motion of Antarctic ice, and its regular surface exfoliation by wind and sublimation, left concentrations of meteorites exposed to view. Ursula was the first woman to join NSF-sponsored American teams searching for such accumulations. Among the exciting finds, along with the many thousands of meteorite fragments recovered during those expeditions, was discovery of the first bits of Moon materials found on Earth, ejecta sent our way by cosmic objects crashing into the Moon.⁴

The germ of Ursula's engagement in historical study of geological science lay in identifying and understanding the contexts of her own and her colleagues' scientific inquiries. In spring of 1966 Ursula was asked by the SAO Assistant Director for Science to prepare a summer seminar on a topic outside the area of her main expertise: crustal motions across the East African rift valleys. This came at a time when SAO was focusing intensely on satellite tracking for NASA; advances in tracking techniques were expected soon to locate stations on the Earth's surface with unprecedented precision, within a few centimeters. It was of course seen that this should lead to capabilities for precise measurement of any lateral crustal motions. Before long Ursula's seminar topic was broadened beyond rift valley motion, and soon she was deeply engaged in study of the general issue of continental drift.

With her Harvard geology background, she knew that drift theory was dismissed by most American geologists, but Ursula's acquaintance with South American and South African geologists made her aware that drift was far more favorably viewed in some other parts of the world. Reminiscing later about how she prepared for her seminar, she emphasized the collection of papers assembled from the 1964 Royal Society Symposium on Continental Drift ("It was like sitting down to a feast," she said), as well as an encounter with the MIT geochronologist Patrick M. Hurley, who had attended that London meeting, and had come home from it converted from being a fixist to a drifter.⁵ For the July seminar, Ursula said she treated the drift issue even-handedly, but remained somewhat doubtful about the main arguments in favor of drift. During the next several months, however, as she wrote up her SAO Special Report on the topic, she herself came to be convinced by pro-drift arguments, some of them just then coming to general notice among geologists (notably, the mapping of strikingly symmetrical bands of remanent magnetism on the Atlantic Ocean floor, and the emerging concepts of transform faults and of ocean-floor spreading).

The ultimate result of Ursula's attention to this issue was her 1973 book *Continental Drift: The Evolution of a Concept*. A step along the way, besides her 1966 SAO report, was her article in the Spring 1968 issue of the short-lived magazine, *Geoscience News*. For the 1973 book she greatly expanded the chronological and topical scope of the narrative, to take account of, for example, considerations of a geographical, geomagnetic, and geodynamical nature prior to the nineteenth century. It seems not unlikely that this whole experience strengthened her taste for engaging with geological science in a 'big picture' perspective and encouraged her appetite for framing the scientific issues historically.

Her engagement in historical study of her own scientific specialty, meteoritics, was not long in following. Ursula began to present historical papers, in addition to the usual stream of scientific ones, at national and international meetings. Some of her writings concentrated on historically significant meteorite falls, and the scientific responses they elicited. One focus of her research was on E. F. F. Chladni and his late-eighteenth-century contemporaries who founded modern meteoritical science. Another was the history of the Meteoritical Society itself. She also examined the consequences for geology of modern-day challenges to Lyellian uniformitarianism—i.e., the late-twentieth-century neo-catastrophism engendered in part through her own researches as well as the surging interest in impact structures. Her scholarly efforts in these areas were complemented by several popular expositions, and a few key encyclopedia articles. She also founded a program in the Meteoritical Society for conducting and publishing oral histories with noteworthy participants in the field.

Thus, practically all of Ursula's historical work can be understood as related to the two major geoscientific transformations through which she lived: the adoption of crustal-mobilist ideas in the plate-tectonics revolution, and the reorientation of geoscience within a planetary and cosmic perspective. While aware of the general tendency to regard the first of these great transformations as the definitive modern conceptual shift in the Earth sciences, she believed that the second would come to be seen in the course of time as of equally momentous importance (Marvin 1983, p. 214).

⁴ The main objective of Ursula's third season in the field in Antarctica (1985) actually lay not in hunting meteorites, but rather in search of evidence bearing on the possible conjunction of a bolide impact with the Cretaceous-Tertiary boundary.

⁵ *A Symposium on Continental Drift*, organized by P. M. S. Blackett, Sir Edward Bullard, and S. K. Runcorn (London: The Royal Society, 1965); interview, p. 27.

Ursula was drawn into activities of geologist-historians, serving on the U.S. National Committee on the History of Geology, chairing the Geological Society of America's History of Geology Division (1982), and holding the office of President of the History of the Earth Sciences Society (1991). She served as INHIGEO's Secretary-General from 1989 to 1996, and twice as its Vice-President for North America (1987–1989, 1996–2004). During the period of her editorship the *INHIGEO Newsletter* expanded considerably, a pattern pressed further by her successors (David Oldroyd, Ken Bork, and Barry Cooper)—to a point when it was finally recognized (2013) that this enlarged editorial task ought to be a responsibility separate from that of the Secretary-General. Ursula was a key figure in one of INHIGEO's fundamental transformations, the abandonment during the 1990s of a distinction between ordinary and corresponding members, and elimination of the limit on the number of members from any particular nation. She was an Honorary Senior Member of INHIGEO.

Tufts University, Ursula's alma mater, called on her for a decade of service on its Board of Trustees (1975–1985). The U.K. campaign for Women into Science and Engineering (WISE) bestowed their Lifetime Achievement Award on her in 1997. Her other honors include the Geological Society of America's History of Geology Award (1986), the Geological Society of London's Sue Tyler Friedman Medal (2005), and the Meteoritical Society's Service Award (2012). She was especially pleased that, during the early 1990s, steps were taken to officially give her name to an asteroid (Asteroid Marvin, 4309) and to an Antarctic peak (Marvin Nunatak, in the Beacon Valley Quadrangle), in honor of her accomplishments.

Ursula's colleagues and friends have described her as serious, determined, good-humored, and easy to like, as well as possessed of strong will, great integrity, and a somewhat understated but intense passion for her many interests. For over half a century Ursula and Tom made their home close by Harvard Square (with a few changes in apartments). In 2009 they moved to an assisted living facility in Concord. When Tom Marvin died in July of 2012, at age 96, they had been married for more than 60 years. They had no children. They are survived by several nieces and nephews and their families.

A substantial record of Ursula's career has been deposited in the Smithsonian Institution Archives (Ursula B. Marvin Papers, Accession 13-060).

Historical publications by Ursula B. Marvin

N.B.: Any effort at a clear and complete demarcation between Ursula's historical writings and her scientific work ultimately founders, because in so many of her publications there is a blend of motives, involving both historical perspective and active scientific assessment. This listing of her historical work reflects an inclination toward inclusion; a few items may seem to some to involve relatively little history. Aside from its omission of the larger (scientific) portion of her *oeuvre*, the list does not include abstracts of historical papers presented at meetings and conferences, nor does it include obituary notices or memorials, or award citations. The list also omits specific mention of the issues of the *INHIGEO Newsletter* which she compiled and edited (numbers 22 through 28, for 1989 through 1995, respectively), and it excludes book reviews, with the exception of two essay-length reviews of historical books.

1966. Continental Drift. Smithsonian Astrophysical Observatory Special Report no. 236, pp. 31–74. Cambridge, Massachusetts: Smithsonian Astrophysical Observatory. [At adsabs.harvard.edu, 1966SAOSR.236 . . . 31M, accessed 21 August 2018.]
1968. Continental drift. *Geoscience News* 1(4): 4–7, 20–25.
1973. *Continental Drift: The Evolution of a Concept*. Washington, D.C.: Smithsonian Institution Press.
1977. The development of the field of earth sciences: 1956–1976. 82 pp. Cambridge, Mass.: Smithsonian Institution Astrophysical Observatory. [An overview analysis paper prepared for the National Science Foundation. NSF Contract 77-SP-0352. Copy in the NSF Library.]
1979. An unpublished memoir on meteorites by Lyman Spaulding, 1810. *Meteoritics* 14: 197–205.
1979. Impact of technology on volcanology, geochemistry, and petrology. In: *Impact of Technology on Geophysics*, pp. 87–95. Washington, D.C.: National Academy of Sciences. [A National Research Council report for the Geophysics Study Committee].
1983. The rediscovery of Earth. In: *Astronomy from Space: Sputnik to Space Telescope*, edited by James Cornell and Paul Gorenstein, 213–242. Cambridge, MA, and London: MIT Press.
1983. Granite House: 1911–1981. *Antarctic Journal of the United States* 18: 15–19.
1985. The British reception of Alfred Wegener's continental drift hypothesis. *Earth Sciences History* 4: 138–159.
1986. Meteorites, the Moon, and the history of geology. *Journal of Geological Education* 34: 140–165.
1990. Impact and its revolutionary implications for geology. In: *Global Catastrophes in Earth History: An Interdisciplinary Conference on Impacts, Volcanism, and Mass Mortality*, edited by Virgil L. Sharpton and Peter D. Ward. Geological Society of America, Special Paper 247: 147–154.
1990. Alfred Church Lane, 1863–1948. *Dictionary of Scientific Biography*, Supplement II, 17: 525–527. New York: Charles Scribner's Sons.
1990. Lewis Stephen Ramsdell, 1895–1975. *Dictionary of Scientific Biography*, Supplement II, 18: 729–731. New York: Charles Scribner's Sons.
1991. Amadeus William Grabau's global theories in light of current models. In: *Proceedings of the XVIth INHIGEO Symposium on the*

- Interchange of Geological Thought between East and West*, edited by Wang Hong-zhen, Yang Guang-rong and Yang Jing-yi, 55–72. Beijing: Geosciences Press.
1992. The meteorite of Ensisheim: 1492 to 1992. *Meteoritics* 27: 28–72.
1993. The Meteoritical Society: 1933 to 1993. *Meteoritics* 28: 261–314.
1994. The meteorite of Campo del Cielo, Argentina, its history in politics, diplomacy, and science. In: *Geological Sciences in Latin America: Scientific Relations and Exchanges*, edited by S. de M. Figueirôa and M. Lopes, 155–174. São Paulo, Brazil: Universidade Estadual de Campinas, Instituto de Geociências.
1994. Historic advances in meteoritics in Australia and Antarctica. In: *Useful and Curious Geological Enquiries Beyond the World: Pacific-Asia Historical Themes*, edited by David F. Branagan and G. H. McNally, 52–58. Springwood, NSW, Australia: INHIGEO.
1994. On writing history of science. *Meteoritics*, 29: 431–433.
1996. Ernst Florens Friedrich Chladni (1756–1827) and the origins of modern meteorite research. *Meteoritics and Planetary Science*, 31: 545–588.
1996. History of planetary geoscience. *Macmillan Encyclopedia of Earth Sciences*, edited by E. Julius Dasch, 2: 836–840. New York: Simon & Schuster Macmillan.
1996. Geology. *Dictionary of American History*, Supplement (2 vols.), edited by Robert H. Farrell and Joan Hoff, 1: 281–282. London: Simon & Schuster and Prentice Hall International.
1997. The global theories of Amadeus W. Grabau (1870–1946): A retrospective view. In: *Proceedings of the 30th International Geological Congress*, 26: 165–176.
1998. The shower of stones at Siena, 1794: History’s most consequential meteorite fall. In: *Volcanoes and History*, edited by Nicoletta Morello, 303–321. Genoa: Brigati.
1999. Impacts from space: The implications for uniformitarian geology. In: *James Hutton—Present and Future*, edited by Gordon Y. Craig and J. H. Hull, 89–117. London: Geological Society. Special Publications, 150.
2001. Stones which fell from the sky. In: *Meteorites: Their Impact on Science and History*, edited by Brigitte Zanda and Monica Rotaru, translated by Roger Hewins, 16–29. Cambridge: Cambridge University Press. [Chapter originally published in French: Des pierres tombées du ciel. In: *Les Météorites*, edited by Zanda and Rotaru, 16–29. Paris: Muséum National d’Histoire Naturelle; Bordas, 1996].
2001. Oral histories in meteoritics and planetary science. *Meteoritics and Planetary Science* 36. I: Edward Anders, A255–267. II: Robert N. Clayton, A269–274. III: Robert M. Walker, A275–283. IV: James R. Arnold, A285–292.
2001. Reflections on the American Rejection of Continental Drift. [Essay review of book by Naomi Oreskes.] *Metascience* 10: 208–217.
2002. Geology: from an Earth to a planetary science in the twentieth century. In: *The Earth Inside and Out: Some Major Contributions to Geology in the Twentieth Century*, edited by David R. Oldroyd, 17–57. London: Geological Society, Special Publications, 192.
2002. Oral histories in meteoritics and planetary science. *Meteoritics and Planetary Science* 37, Supplement. V: Brian Mason, B35–B45. VI: Stuart Ross Taylor, B47–B56. VII: Alastair G. W. Cameron, B57–B67. VIII: Friedrich Begemann, B69–B77. IX: Heinrich Wänke, B79–B88.
2002. [With Mario L. Cosmo]. Domenico Troili (1766): “The true cause of the fall of a stone in Albereto is a subterranean explosion that hurled the stone skyward.” *Meteoritics and Planetary Science* 37: 1857–1864.
2003. The meteorite fall at Évora Monte, Portugal, 1796. In: *Geological Resources and History: Proceedings of the 26th INHIGEO Symposium*, edited by Manuel Serrano Pinto, 281–290. Aveiro, Portugal: Centro de Estudos de História e Filosofia da Ciência e da Técnica, Universidade de Aveiro.
2003. Oral histories in meteoritics and planetary science. *Meteoritics and Planetary Science* 38, Supplement. X: Ralph B. Baldwin, 163–175. XI: Masatake Honda, 177–187.
2004. Oral histories in meteoritics and planetary science. *Meteoritics and Planetary Science* 39, Supplement. XII: Gerald J. Wasserburg, 177–197. XIII: Fred L. Whipple, 199–213.
2005. History of geology since 1962. *Encyclopedia of Geology*, edited by R. S. Selley, L. R. M. Cocks, and I. R. Plimer, 197–207. Elsevier.
2006. Meteorites in history: An overview from the Renaissance to the 20th century. In: *The History of Meteoritics and Key Meteorite Collections: Fireballs, Falls and Finds*, edited by G. J. H. McCall, A. J. Bowden, and R. J. Howarth, 15–71. London: Geological Society, Special Publications, 256.
2007. Ernst Florens Friedrich Chladni (1756–1827) and the origins of modern meteoritic research. *Meteoritics and Planetary Science*, 42 (supplement): B3–B68. [A revised and expanded version of Marvin’s paper of the same title, 1996.]
2007. Théodore Andre Monod and the lost *Fer de Dieu* meteorite of Chinguetti, Mauritania. In: *Four Centuries of Geological Travel: The Search for Knowledge on Foot, Bicycle, Sledge and Camel*, edited by Patrick N. Wyse Jackson, 191–205. London: Geological Society, Special Publications, 287.
2011. A Professor, a President, and a Meteor. [Essay review of book by Cathryn J. Prince.] *Meteoritics and Planetary Science* 46: 1608–1616.
2014. Leonid Alexeyevich Kulik. *Biographical Encyclopedia of Astronomers*, edited by Thomas A. Hockey et al., 1254–1256. New York: Springer.
2015. The origin and early history of the U.S. Antarctic Search for Meteorites Program (ANSMET). In: *35 Seasons of U.S. Antarctic Meteorites (1976–2010): A Pictorial Guide to the Collection*, edited by Kevin Righter, Catherine M. Corrigan, Timothy J. McCoy, and Ralph P. Harvey, 1–22. American Geophysical Union, Special Publication 68. Hoboken, NJ: John Wiley & Sons.

Acknowledgement: The author wishes to thank Ken Bork, John Diemer, and Gayl Heinz for assistance in preparing this tribute.

In memory of ELENA MININA (1957-2018)



On April 3 2018, we lost our friend Elena Minina, an INHIGEO member since 2008. She has passed away after a serious illness.

Elena Leonidovna *Minina* (maiden surname *Dolgova*) was born in Moscow, Russia on April 15, 1957. In 1980, she graduated from the Moscow Geological Prospecting Institute and worked as a field geologist of the Polar-Ural Geological Corporation prospecting gold deposits of the Russian North. Elena was back in Moscow in 1984 and continued prospecting works at the All-Union Institute of Mineral Resources. She studied the mineralogy of beryllium deposits in the Russian Far East. In 1991, she defended her Ph.D. thesis about micas typomorphism on the Russian Far East. Since 1993 Elena has been a scientific research fellow of the Vernadsky State Geological Museum, Russian Academy of Sciences. She participated in the creation of permanent and temporary exhibitions, guided regular tours in the Museum, and described minerals of the old historical collections. Elena was active in the Museum publishing and spent a lot of time working with scholar-visitors of the Museum.

The interest of Elena Minina in the history of geosciences has been realized in her monographs on the mineralogical collections of the Princes Gagarin (2010) and Lydia Prokhorova (2013). Elena is the author of a big article about the collection of Count Alexander F. Keller (2016) and a series of publications on the history of the Museum mineralogical collections.

The work of Elena Minina in cooperation with the historians of geosciences of the Vernadsky State Geological Museum has resulted in her election as a member of the INHIGEO in 2008. Her professional experience and good French made Elena an indispensable member of the team, which has been working on the monograph *The Foreign Members of the Russian Academy of Sciences. 18-19 c.: Geology and Mining* (2012).

Elena was a member of the Russian Mineralogical Society (1987) and a representative from Russian in the Museum Commission of the International Mineralogical Association. She participated in many scientific meetings in Russia and abroad.

Inherent softness and kindness of Elena attracted many friends to her. The memory of Elena Minina – an enthusiastic researcher, a partial person with diverse interests, a caring mother and grandmother – will always remain in hearts of her friends and colleagues.

Elena Minina on the presentation of her book “Mineralogical collection of L.P. Prokhorova” (Moscow, 2014). Photo I. Vtorov.



Selected works of Elena L. Minina on the history of geology

Minina E.L. 2004. The Alexander the First collection of the Lausanne Museum. *Scripta Geologica*. Sp. iss. N 4. 223-228.

Minina E. L. 2006. From Russia to Austria and back: E. Suess and V. A. Obruchev Correspondence. *Herald of the Russian Academy of Sciences*. Vol. 76. N 10. 946-952. [URL](#) (in Russian).

Minina E. L. 2009. Louis Dupark and his research in the Urals. *S.I. Vavilov Institute for the History of Science and Technology RAS Annual scientific conference, 2008*. Moscow: IHST RAS. 375-378. (in Russian).

Minina E. L. 2009. Private mineralogical collections of the turn of the 19-20 centuries in the collection of the State Geological Museum of the Russian Academy of Sciences. *Science and Education for the 250th anniversary of the Geological Museum of the Russian Academy of Sciences*. Moscow: SGM RAS. 105-124.

- Minina E. L.* 2010. Mineralogical collection of princes Gagarin: (19-early 20 centuries). Moscow, 104 p. (Mineralogical Almanac; sp. iss.).
- Malakhova I. G., Bessudnova Z. A., Khomizuri G. P., Minina E. L.* 2012. Foreign members of the Russian Academy of Sciences. 18-19 centuries: Geology and mining. Moscow: GC RAS, 504 p. [URL](#)
- Minina E. L.* 2013. Mineralogical collection of L. P. Prokhorova (19-early 20 centuries). Moscow: Oleabuk, 144 p.
- Minina E. L.* 2016. Mineralogical collection and its creators: [Alexander F. Keller (1883-1946)]. *Priroda*. N. 1. P. 88-96. [URL](#)
- The full list of the publications on <http://scirus.benran.ru>

Submitted by Zoya A. Bessudnova, Leonid R. Kolbantsev, Irena G. Malakhova, and Ivan P. Vtorov.

STUART GEORGE PEMBERTON (1948-2018)



Dr. Stuart George (George) Pemberton passed away unexpectedly August 04, 2018, after battling illness for several years. George is survived by his wife Teresa, his daughters Sarah and Erin, and his son Joshua, a family to which he was utterly devoted. In discussions with him regarding life, family and his pursuit of science, George would smile and talk of a life well lived. He confided to many of those close to him that as a young man, he never expected to live so full and satisfying a life. To him, his family was all, and he was ever so generous as to include the students he mentored into that privileged space.



George was born Dec. 3, 1948 in Preston, Lancashire, England, by his account in a flat above a pub, to Ethel Mary Pemberton and George Edgar Pemberton. He emigrated to Canada with his family in about 1949 and became a Canadian citizen in 1958. George completed a BSc. (Honours) in Geology at Queen's University in Kingston, Ontario in 1972, and a MSc. in Geology and a Ph.D. in Geology at McMaster University in Hamilton, Ontario, in 1976 and 1979, respectively. He married Teresa Lynn (née Joyce) Pemberton on March 4, 1978 in Hamilton, before packing everything they owned and moving to Athens, Georgia, USA to take up an academic posting at the University of Georgia. George started as a temporary visiting instructor (1978–1979) in the Department of Geology, and later was hired as an Assistant Professor (1979–1981). There, he received both the Teacher of the Year Award (1979–1980) and Professor of the Year Award (1980–1981) in the Department of Geology, voted by the undergraduate students and graduate students, respectively. George accepted the offer of a position at the University of Georgia in order to work closely with two of his scientific idols—Dr. Robert W. Frey and Dr. James D. Howard. He regarded his collaboration with Bob Frey to be one of the highlights of his career, and he developed a close friendship with him until Bob's death in 1992.

George returned to Canada in 1981 to take up a post as an Assistant Research Officer (1981–1982) and later, Associate Research Officer (1983–1984) at the Alberta Research Council in Edmonton, Alberta. His desire, however, was to be an educator and supervise graduate student research. He left the research council in 1984 when an academic posting was offered at the University of Alberta, also in Edmonton. There, he took up the position of Associate Professor from 1984–1987 and was promoted to Professor in 1987. During his time as Professor, he held a Canada Tier 1 Research Chair in Petroleum Geology (2002–2009), was elevated to Distinguished University Professor (2009), the highest level the U of A offers to academic faculty, and held the C. R. Stelck Chair in Petroleum Geology from 2013 until his passing. He has mentored numerous undergraduate honours theses, graduated 63 MSc and 16 PhD students and mentored 7 Post-Doctoral Fellows. The number of undergraduate students and industry trainees Pemberton has influenced would be numbered between 3,000 and 4,000.

While at the University of Alberta, he established ichnological studies — the study of animal-sediment interactions as fossils — as a critical field of endeavor that is now employed globally. Pemberton's seminal contributions are directly responsible

for the presence of the world-leading ichnological community that exists today in Canada. The qualities Pemberton brought to his research and training included creative identification of problems and their solutions, excellence in conducting and communicating research, applying first-principle approaches to interpretation, and approaching each day and each scientific challenge with vigor and passion. Pemberton instilled these qualities in his students at every level.

George served as a Visiting Professor at the University of Copenhagen (1984), the University of Reading (1991), the University of Brunei Darussalam (2003), and the Universidad Venezolana de los Hidrocarburos PDVSA Exploración y Producción INTEVEP Los Teques, Venezuela (2011, 2012, 2013). He was a visiting scientist at Exxon Production Research at Houston, Texas (1992), Arco Alaska, Anchorage, Alaska (1998), Shell Canada, Calgary, Alberta (2002) and B.P. Trinidad, Port of Spain, Trinidad (2004). George Pemberton was the principle organizer of the 2009 INHIGEO conference in Calgary, Canada.

George would often cite Bernard of Chartres, when speaking of his academic heroes—“We are like dwarves perched on the shoulders of giants, and thus we are able to see more and farther than the latter. And this is not at all because of the acuteness of our sight or the stature of our body, but because we are carried aloft and elevated by the magnitude of the giants”. George, of course, was far too humble to consider it so, but for those of us who knew him, respected him, and loved him, he WAS such a giant upon whose shoulders we stood perched—and standing there, we do see very far, indeed!

[Editor’s Note: This obituary was modified from memorials by James A. MacEachern and Murray K. Gingras (<https://blog.ualberta.ca/lowering-the-flag-remembering-s-george-pemberton-and-mitchell-ormann-cc9c7bea7017>), and Murray Gingras and James MacEachern (<https://www.ualberta.ca/earth-sciences/about-the-department/george-pemberton>).]

LEONARD GILCHRIST WILSON (1928-2018)⁶

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Figure 1. The photograph of Leonard Wilson as a young man was taken by G. E. ‘Erik’ Erikson and is from the Isis article cited in the éloge. Reproduction of the photograph is by courtesy of the University of Chicago Press.

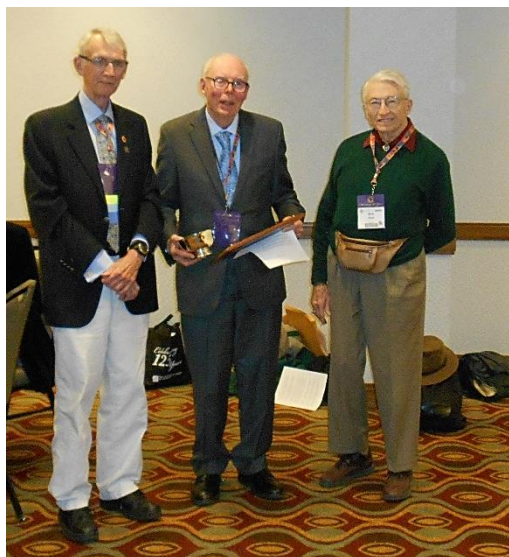
Leonard G. Wilson, the noted biographer of Charles Lyell (1797–1875), was born in Canada in June 1928 and died in Minnesota (USA) on 3 April 2018, aged 89. He received his B.A. with honors in biology from the University of Toronto in 1949, his M.Sc. from the University of London in 1955, and his Ph.D. from the University of Wisconsin at Madison in 1958. The title of his Ph.D. dissertation was “Theories of Respiration in the Seventeenth Century.” One may well ask how Wilson moved from a dissertation topic that falls clearly within the realm of the history of biology and medicine to writing the life of a geologist. Wilson answered that question in the preface to the first volume of his biography, *Charles Lyell: The Years to 1841*

⁶ Courtesy of *Earth Sciences History*, V. 37, No. 2, p. 450-451; re-printed with permission, John A. Diemer, Editor; doi: 10.17704/1944-6178-37.2.450.

— *The Revolution in Geology* (Yale University Press, 1972): “In 1959, while at the University of California at Berkeley I first read Charles Lyell’s *Principles of Geology* and immediately became interested in the man who had written such a thoughtful and delightful scientific book and one which had exerted such a profound, and, I believe, revolutionary influence on the history of science.” Wilson had already completed his Ph.D., but his encounter with Lyell’s *Principles* would alter the course of his career. With the help of long-term funding from the National Science Foundation, Wilson began to explore what was known of Lyell’s manuscripts. From Victor Eyles at the University at London, whose lectures on the history of geology he had attended earlier, Wilson learned that the University of Edinburgh held Lyell letters and that Lyell’s family was represented by Lord Lyell of Kinnordy, Scotland. With the help of the Department of the History of Science and Medicine at Yale University, where Wilson taught from 1960–1967, he arranged to have the over 2,000 Lyell letters at Edinburgh microfilmed. Of even greater importance to his ultimate work, in 1961 Wilson paid his first visit to Kinnordy, the family estate where the Lyells opened their archive to him.

Wilson’s first major publication stemming from his work on Lyell manuscripts at Kinnordy was his edition of *Sir Charles Lyell’s Scientific Journals on the Species Question* (Yale University Press, 1970). These seven previously unpublished journals date from 1855–1861, and contain material documenting the interactions between Lyell and Charles Darwin covering the period when Lyell was encouraging Darwin to publish his theory of evolution through natural selection. These notebooks are among the most important manuscripts illuminating the evolution debate as it unfolded in England in the years surrounding publication of Darwin’s *Origin of Species* in 1859. Wilson’s second major publication deriving from the new material was the initial volume of his Lyell biography, already mentioned. There was then a sixteen-year interval before Wilson published the second volume of the biography: *Lyell in America: Transatlantic Geology, 1841–1853* (Johns Hopkins University Press, 1998). While Wilson never completed his biography of Lyell, he published numerous articles on Lyell’s later years, one in *Earth Sciences History*: “Archibald Geikie on the Last Elevation of Scotland,” *ESH* 28(1): 32–56 (2009). Interestingly Wilson also had an article in the very first issue of *Earth Sciences History*: “Lyell on the Geological Similarity of North America and Europe,” *ESH* 1(1): 45–47 (1982).

Wilson’s approach to Lyell remained remarkably consistent over time. First, he saw Lyell as a revolutionary figure. Second, he saw Lyell as an empiricist, and his own reconstruction of Lyell’s work emulated his subject in the sense that he visited the sites of Lyell’s geological work in order to document his subject’s findings. It should be mentioned that in his later travels, Leonard Wilson was often accompanied by his wife Adelia Wilson, who assisted him in his work. For his efforts awakening geologists and historians of science to the importance of Lyell’s work Wilson received recognition from his colleagues. In 2013 Leonard Wilson received the *Mary C. Rabbitt Award* from the Geological Society of America. At the awards ceremony Wilson reiterated his belief that Lyell had introduced a profound change in geological thought and that the source of Lyell’s confidence in the continuity of the geological past with the present was based upon extensive field observation rather than on an *a priori* presumption in favor of uniformity. This is a strong view, and not all historians of geology would agree with it. However, Wilson’s meticulous care in reconstructing Lyell’s fieldwork, as well as his exhumation of significant primary sources, earned him universal respect. In addition, Wilson’s exploration of the link between Lyell and Darwin, both biographically and with the publication of Lyell’s species notebooks, is of lasting value to scholars.



Leonard Wilson receiving the Mary C. Rabbitt Award for the History of Geology at the Denver meeting of the Geological Society of America. He is flanked by James Dawson (left) and Robert Dott (right) who was the citationist. [Editor’s note – I added this photograph; it was not included in the original publication.]

Wilson was generous in sharing his knowledge of Lyell with others. For example, Robert H. Dott, in citing Wilson for the *Rabbitt Award* in 2013, noted that Wilson had provided him with manuscript records of Lyell’s American lectures. Dott later published on this topic in *ESH* 15(2): 101–140, (1996). More recently in a book reviewed in this issue of *ESH* 37(2) the young scholar Alistair Spensel made it a point to comment on Wilson’s generosity in sharing with him material from Lyell’s notebooks.

In considering Wilson's career it is important to remember that his interests spanned both the history of science and the history of medicine. From 1960–1967 he taught in the Department of the History of Science and Medicine at Yale University. In 1967 he moved from Yale to the University of Minnesota Medical School in Minneapolis to take up a position there. He held that position until his retirement in 1998. In 1989 he published a history of the university's medical school. From 1973–1982 he edited the *Journal of the History of Medicine and Allied Sciences*. Wilson also served as an associate editor of the *Dictionary of Scientific Biography*. Yet, despite these important services, perhaps his most original contribution to the infrastructure of scholarship occurred in 1965. It was then that he organized the Joint Atlantic Seminar in History of Biology (popularly known as 'JAS'). Mary P. Winsor has published a history of JAS in *Isis*, volume 90 Supplement (1999): S219-S225. This annual one-day seminar allows for speakers—the majority of whom are graduate students—to present their papers in a supportive environment. I remember Leonard Wilson sitting in the front row at JAS meetings, eyes trained on the speaker, following every word. In a soft voice (interestingly Lyell was also known for his soft voice) Wilson would ask a sympathetic question of the speaker. For a shy man to establish an institution dedicated to aiding young professionals deserves praise. Leonard Wilson was a scholar of the first rank.

I wish to thank Professor Jennifer Gunn of the University of Minnesota and Professor Mary P. Winsor of the University of Toronto for assistance with this éloge. **Sandra Herbert.**



ARTICLES

THE FIRST PHOTOGRAPH OF THE COAL MINE IN POLAND

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Mineral deposits in the West Mining District in the Kingdom of Poland

The territorial range of the West Mining District (Fig. 1) that existed until 1869 was gradually developing from Olkusz – Siewierz territory and was in operation from 1826-1833. In the first half of the 19th century, the administrative division of the Kingdom of Poland was undergoing a series of changes. The West Mining District itself consisted mostly of Będzin County, the south part of Częstochowa County, and west part of Olkusz County. Until 1795 this region belonged to the Republic of Poland, but then it was incorporated into Prussian Upper Silesia, and, together with the former Siewierz Duchy, named Neu Schlesien (New Silesia). Prussia later returned the Olkusz region to Austria in 1797. After the war between Prussia and France and Prussia's loss of New Silesia region in 1807, and as a consequence of the Vienna Congress arrangements in 1815, the political borders were stabilized and remained in place until 1914. The borders of three countries thus converged at a characteristic point in Niwka, at the confluence of the rivers White and Black Przemsza, commonly known as “Triangle of Three Emperors.” The development of geological-mining knowledge in the West Mining District of the Kingdom of Poland was mostly concerned with searching for hard coal deposits, zinc and lead ores, and making them accessible.



Fig. 1. Map of the West Mining District in the Kingdom of Poland.

Upper Carboniferous hard coal deposits were situated in a swathe from Czeladź and Sosnowiec in the west to Bukowno and Bór Biskupi in the east. These deposits were at the same time limited on the northeast side by the line of outcropping unproductive rocks of the Lower Carboniferous era. The hard coal was extracted in state's mines near Dąbrowa [Górnica] (mines: “Reden”, “Ksawery”, “Cieszkowski”, “Szuman”), near Niwka (“Maurycy”, “Jacek” and “Józef”), in Bobrek (“Józef”), near Niemce (“Feliks”) and near Strzyżowice (“Tadeusz”).

Coal mine “Cieszkowski”

The mine was founded in 1846 and named in honour of Józef Cieszkowski (1798-1867)⁷, the Head of Coal Mines in the West Mining District. As a result of exploratory drilling, Cieszkowski discovered there a steeply lying coal bed with a thickness of up to 20 m, called the “Cieszkowski's coal bed.” Its exploitation began in 1847 using the opencast method and the excavation depth reached up to 60 m. From 1856 coal was mined underground using a system of adits. The extracted coal

⁷ Józef Cieszkowski was promoted over the years in ministerial mining from assistant engineer (1820), inspector of calamine mines (1823) to the position of stationmaster of mines, which happened in 1829. In 1831 he became the stationmaster of mines and in 1837 the Chief stationmaster of Mines, and from 1843 he was the head of the West Mining District, Division of Mines (until 1861).

was used in the nearby located "Huta Bankowa" ironworks (Figs. 2 and 3). After the outbreak of a large fire in March 1873, the coal mine had been flooded.

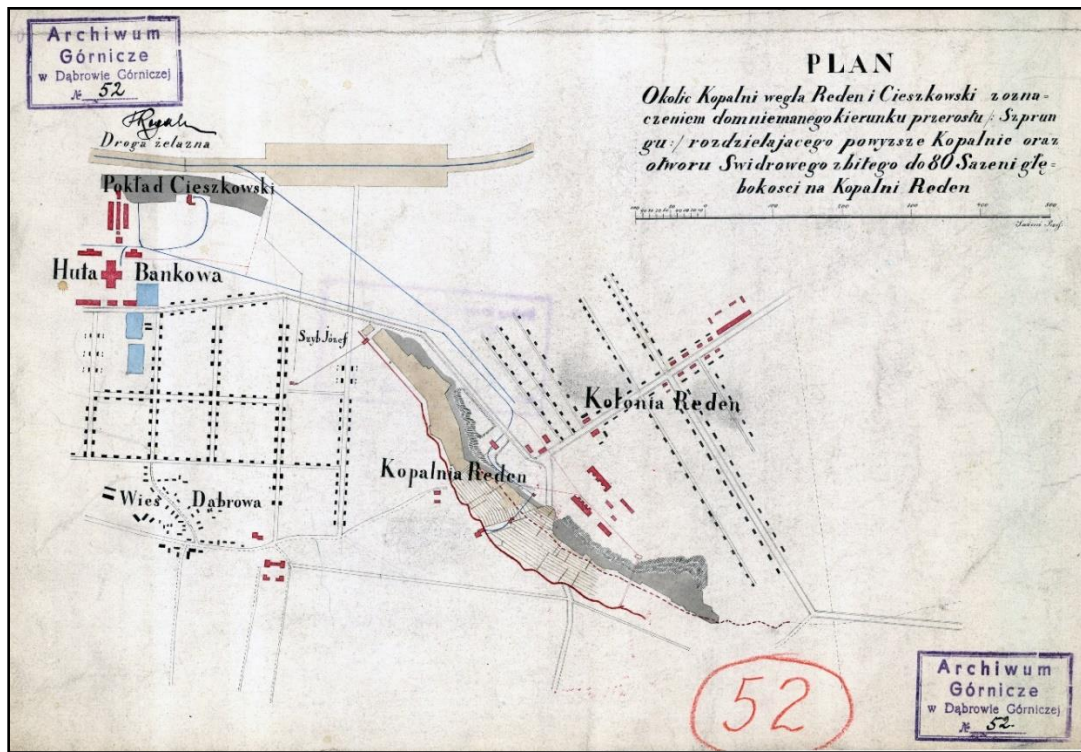


Fig. 2. The map of the location of coal mines: "Reden" and "Cieszkowski" near iron foundry "Huta Bankowa" - the collection of the National Archive in Katowice, Mining Archive of Dąbrowa AGD.

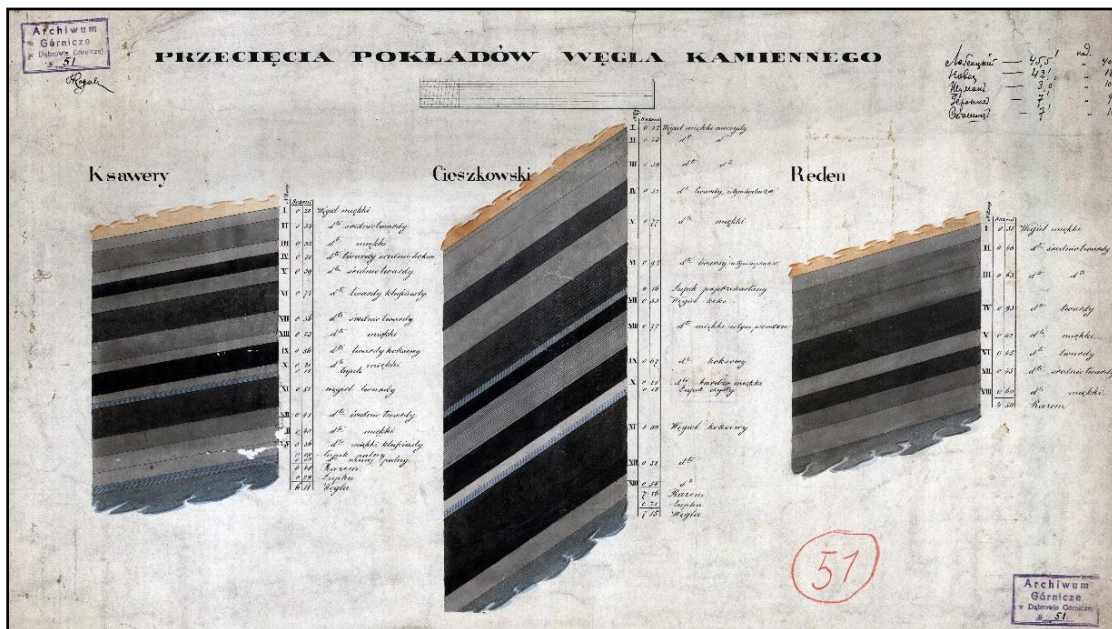


Fig. 3. The profiles of coal seams: "Ksawery", "Cieszkowski" and "Reden" - the collection of the National Archive in Katowice, Mining Archive of Dąbrowa AGD).

The first photographer of the industry

Maksymilian Fajans (1825–1890) (Fig. 4) was a Varsovian by choice, a Pole and a follower of Judaism. His works include documenting the construction of railway lines in Warsaw. He photographed almost all of the stations in the capital, especially of the eastern side of the river. He also took pictures of the interior of the city hall when this building was being rebuilt. These photographs were later awarded at the 1873 world exposition in Vienna.

Fig. 4. Maksymilian Fajans, 1861 - the collection of the Museum of Art in Łódź.



The publication of his work also contains dozens of photographs showing views of Warsaw – for instance the Royal Castle, which in Fajans' day was the private quarters of the viceroy of the Kingdom of Poland, or the interior of the famous Lourse's patisserie which was located in the Europejski Hotel. The pictures are accompanied by an essay written by the author, who is a curator of photography at the Warsaw National Museum, and by a calendar of events from the field of photography that occurred in the Kingdom of Poland and across the world.

In the summer of 1860, Maksymilian Fajans decided to take up a new art – photography. In 1862, this adept of the Warsaw School of Fine Arts, who apart from studying in Warsaw, had also pursued an education in lithography in Paris, founded a professional photographic studio. At the time, photography was the height of fashion, and caused great excitement in artistic circles. The profession of photographer was considered a job offering possibilities for both development and revenue. Fajans, who had achieved a lot in the field of lithography, rightly came to think that a studio that also had photographic capabilities would help his business grow.

Fajans, fascinated by the scale of mining exploitation, in 1865 took several photographs, including the "Ksawery" and "Cieszkowski" mines (Fig. 5).

References

- K. Lejko and J. Niklewska, *Warsaw on the old photograph*. State-Scientific Publishers, Warsaw, 1978, p. 1-208.
- A. J. Wójcik, School of Mines Sztygarka on background of beginnings of coal mining in Dąbrowa Basin. [in:] *Mining Review*, no 6, p. 37-40, 1996.
- A. J. Wójcik, The organization of the mining and metallurgy authorities of The Polish Kingdom in the first half of the XIX century. [in:] *Analecta*, 2005, vol. 1-2, p. 227-308;
- A. J. Wójcik, *West Mining District. The Drafts from Histories of Geological and Mining Activity in the Kingdom of Poland*. Institute for the History of Science, Polish Academy of Sciences, Warsaw, 2008, p. 1-330.

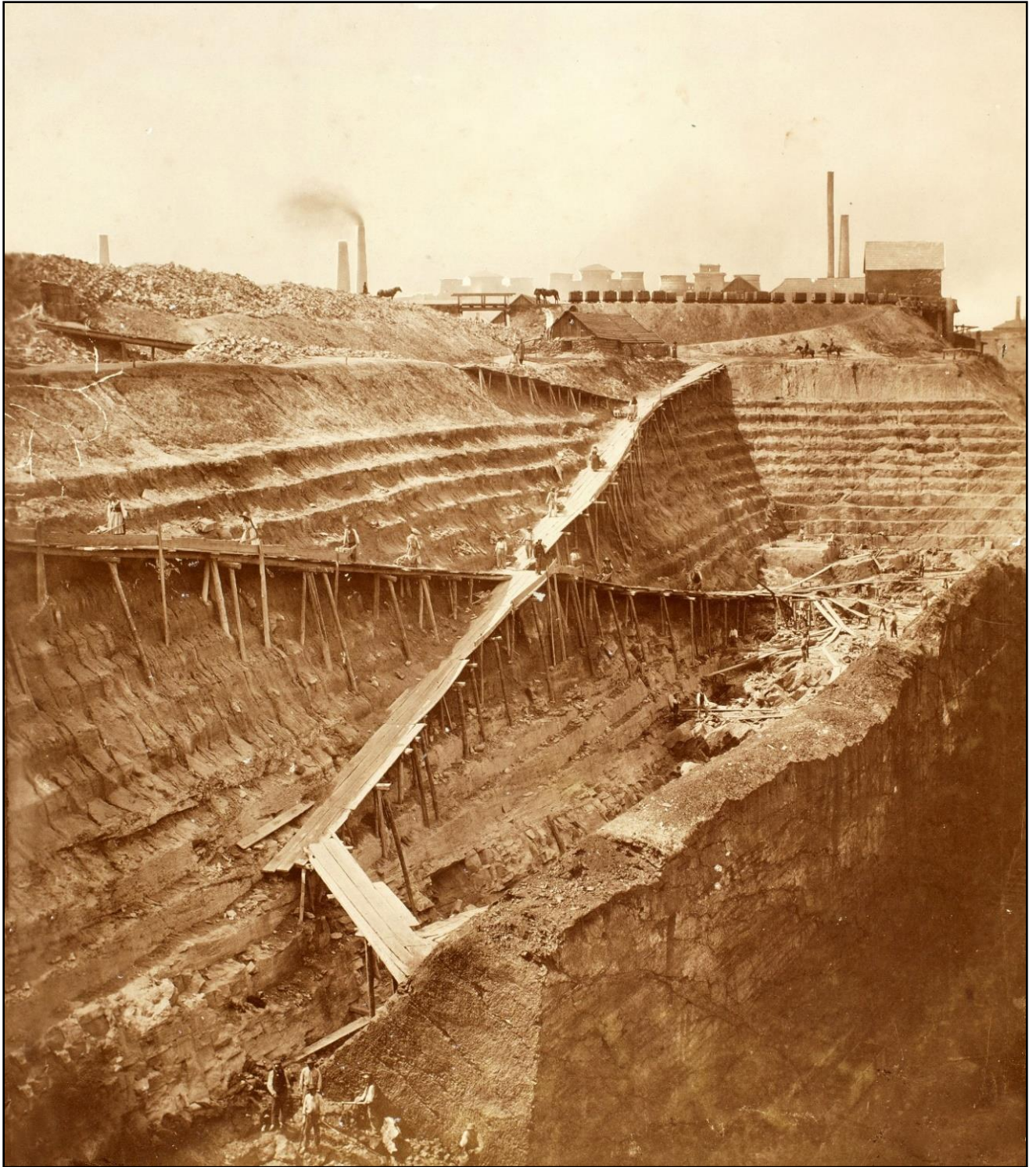


Fig. 5. The photograph of "Cieszkowski" coal mine (42 x 37 cm), 1865 - the collection of the National Museum in Warsaw.

A History of Observations and Investigations of Volcanic Eruptions and Landslides on Izu-Oshima Island, near Tokyo, and A Brief Account of Efforts by Staff of the Newly Established Geopark to Educate the Public about their Potential Dangers*

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*Reprinted from: *JAHIGEO* (Japanese Association for the History of Geosciences), *Newsletter* No. 21

Introduction: Currently, there are about 1,500 active volcanoes in the world. Most of these are situated on the Pacific Ring of Fire, a seismically active belt that surrounds most of the Pacific Basin. According to the Japan Meteorological Agency (JMA), there are 111 active volcanoes in Japan. JMA defines these as volcanoes which have erupted at least once between 10,000 BP and the present time or volcanoes with vigorous fumarolic activity" (Yamasato, 2007). There are now, 50 active volcanoes under JMA's continuous observation. Despite the potential dangers they pose, Japanese people enjoy volcanoes as beautiful parts of the scenery and/or as the source of hot springs. They can see and appreciate the beautiful form of Mt Fuji (3776 m high), which is the highest mountain in Japan, even from as far away as Tokyo in winter. However, they also hope that it will become possible to predict eruptions more accurately, as some volcanoes do erupt without warning and sometimes cause disasters. The presently active volcano on Izu-Oshima Island is one that is under JMA's continuous observation. In this paper, I will discuss the study of the history of eruptions and disasters on Izu-Oshima Island as case study of how people's perceptions and understanding of volcanoes and of the effects of their activity and predictability can change. Help in acquiring this knowledge is provided to them through the educational activities of the staff of the Geopark on Izu-Oshima Island.

Izu-Oshima: Izu-Oshima is an island with an area of about 91 square km, situated 120 km SSW of Tokyo. The island has a roughly circular coastline measuring approximately 52 kilometers in length. It has a population of 7,583 and is administered from Tokyo. The island's economy is based on tourism, agriculture, fishery and stockbreeding. Camellia trees grow well on volcanic rocks and are widely cultivated in Izu-Oshima. The oil extracted from their seeds is the principal product of Izu-Oshima. The island is a composite volcanic landmass formed by the products of several volcanic eruptions from different centers over a long period of time. It rises from the ocean floor with a depth of between 300 and 400 meters. Mt Mihara-yama, the highest point on the island (758 m), is one of the volcanoes which happens to be currently active.

The start of volcanic studies on the island of Izu-Oshima: The first scientific observations of the island were recorded by the German geologist Edmund Naumann (1854-1927) and the British geologist and seismologist John Milne (1850-1913). Both witnessed an eruption in 1877 (Naumann, 1877, 1879; Milne, 1877).

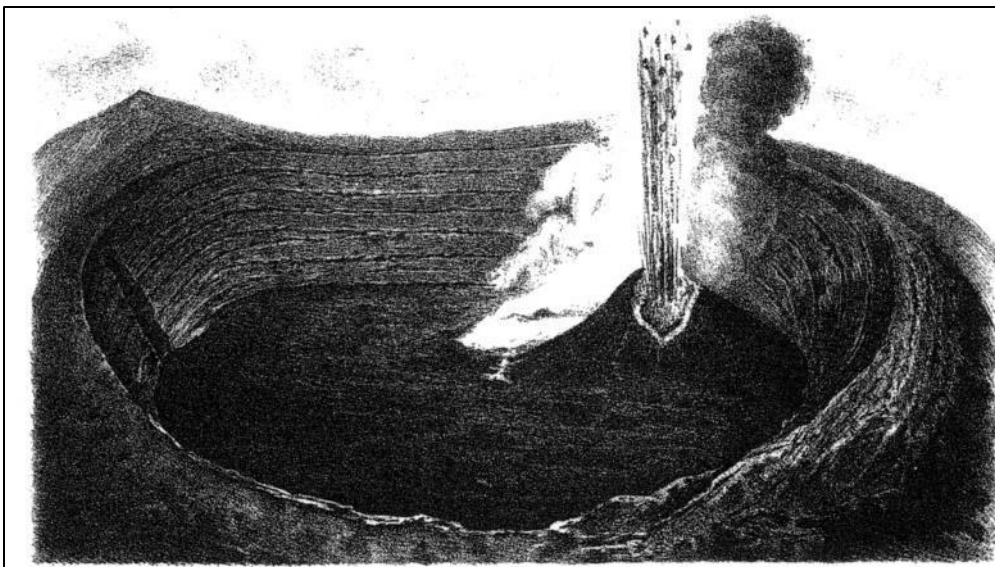
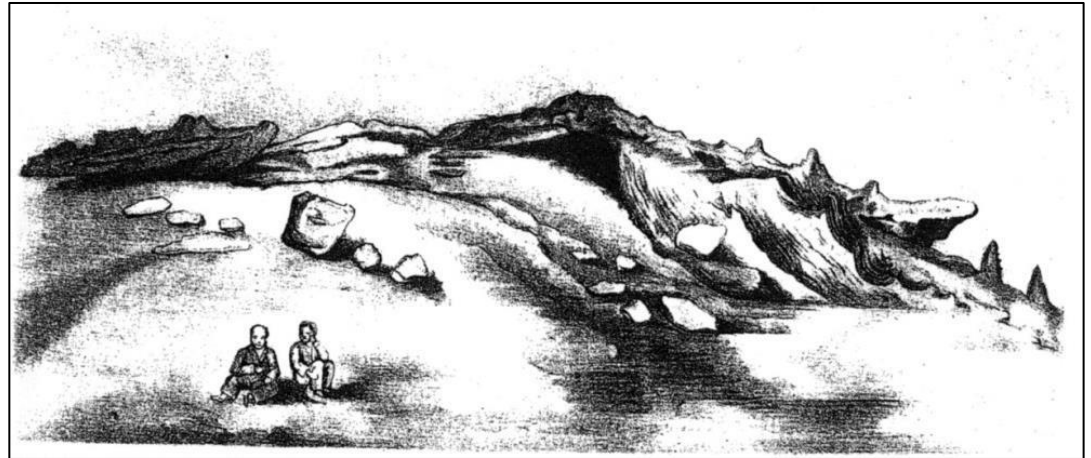


Fig. 1. The small volcanic cone in the crater of Mt Mihara-yama was named Naumann Hill, after Edmund Naumann who first recorded it (Naumann, 1877). It disappeared during the 1914 eruption of the volcano.

Figure 2. Lava on the south-facing slope of Mt Mihara-yama, with scientists taking a break. (Naumann, 1877).



The history of eruptions and disasters: Following the early studies of Naumann and Milne, further investigations of the volcanic island were carried out on a regular basis. Intensive tephrochronological research, especially after WW2, revealed that eruptions had occurred repeatedly over a long period of time (Nakamura, 1965). The history of eruptions on Izu-Oshima Island is as follows: (1). Three volcanoes started erupting at about 300,000 BP. (2). A new volcano appeared following several submarine eruptions at about 30,000 BP. (3). The lava of a new volcano covered three older volcanoes at about 10,000 BP. (4). Large eruptions resulted in the formation of calderas at about 1700 and 1500 BP, respectively. (5). The first written records of eruptions on the island with fumarolic activity extend as far back as 838-886 CE (Heian Era). Historical documents show that 12 small eruptions occurred and formed Mt Mihara-yama in the crater of a caldera by 1777. Between 1777 and 1792, large eruptions were recorded, and Mihara-yama was given its present-day appearance. (6). The scientific study of the island's volcanoes started in 1877. Between 1912 and 1914, eruptions of moderate severity occurred, which resulted in the destruction of Naumann Hill. The 1950-51 eruptions attracted many tourists to Izu-Oshima to witness the spectacle. The benefits brought to the island by the influx of tourists led the inhabitants of Izu-Oshima to regard the volcano as a good god. (7). In 1986, some scientists predicted an eruption of Mihara-yama, as the volcano had erupted regularly at 30-40 years interval in recent times. They believed that such an eruption would be of only of moderate severity. The expected event again brought many tourists to Izu-Oshima. However, in that year the volcano produced a major eruption, which necessitated the evacuation of everyone from the island for an entire month. Fortunately, no lives were lost, and no houses were destroyed.

Learning about volcanoes and their activities: In 1990, the Volcano Museum was founded at Izu-Oshima to tell the story of the 1986 eruption. In 2011, the Izu-Oshima Geopark was established. Many activities were started to educate people, especially the children living in Izu-Oshima, about volcanoes and their activity. Geotourism, offering guided tours, was introduced to the island, and a movement was started to preserve the evidence of the 1986 eruption. The recognition of a cycle of volcanic eruptions on the island in recent times, at 30 to 40-year intervals, led scientists to predict that the next eruption may occur in or close to the year 2020. Staff at the Izu-Oshima Geopark have started preparations to cope with such an event, should it occur.

Landslides: There are no rivers on Izu-Oshima Island, as rain tends to penetrate the volcanic strata and become absorbed by it. The inhabitants of the island have been proud of the fact that no floods had occurred there. On October 11, 2013, a typhoon brought heavy rain to the island (550 mm in 6 hours). The large volume of rainwater penetrated the thin volcanic ash layers on hillside surfaces causing them to become unstable and resulting in several landslides and debris flows. The inhabitants on the island had believed themselves to be safe from such disasters as there had been no knowledge of previous landslides on the island. However, on this occasion 36 people lost their lives and a further three remain missing. Later investigations established that large landslides had occurred at the boundary surface between two pyroclastic strata with different grain sizes. Studies also revealed that earlier landslides had happened on the island at about 400-year intervals.



Figure 3. Showing a large landslide which occurred in 2013. The hill with the cratered cone at the top of the picture is Mt Mihara-yama. © Asia Air Survey Co., Ltd.

The disaster brought much sorrow and sadness to the people of the island, but the educational activities offered by the Geopark staff on Izu-Oshima also provided them with a better understanding of volcanic activity and of natural disasters. They were told to take special care after heavy rainfalls. The island's inhabitants are interested in learning more about volcanic activity, but are prepared to live with the potential danger posed by active volcanoes.

I am deeply grateful to Dr Wolf Mayer for his language assistance.

References:

- Milne, John (1877). A Visit to the Volcano of Oshima. *Geological Magazine*, v.4, p. 193-199.
- Nakamura, K. (1965). Volcano-stratigraphic study of Oshima Volcano, Izu. *Bulletin of the Earthquake Research Institute*, University of Tokyo, v.42, no.4, p.649 – 728.
- Naumann, E. (1877). Die Vulkaninsel Ooshima und ihre jüngste Eruption. *Zeitschrift der Deutschen Geologischen Gesellschaft*, vol.29, no.2, p.364-391.
- Naumann, E. (1878). Über Erdbeben und Vulkanausbrüche in Japan. *Mitteilungen der Deutschen Gesellschaft für Natur – und Völkerkunde Ostasiens*, v.2, no.15, p.163-216.
- Yamasato, H. (2007): Japan's Active Volcanoes. *Science*, 77, p.1256-1259, (in Japanese).

HENRY BATSON JOYNER (1839-1884), WEATHER OBSERVER IN ENGLAND, JAPAN AND BRAZIL*

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*Reprinted from *JAHIGEO Newsletter*, Number 20, June 2018 (in English)

Introduction: The earliest known meteorological record of the Japanese National Meteorological Service in Tokyo was printed with a description of “(signed) HENRY B. JOYNER” in 1875 (Imperial Meteorological Observatory, 1875-1880). Henry Batson Joyner (1839-1884) established and made weather observations for this Meteorological Service. An obituary by an unknown writer (Anonymous, 1885) provides the only information available to us on Joyner’s life and work. Extracts from the obituary are shown in italics and underlined in the text below.

(1) 1839-1870 – England: Henry Batson Joyner was born on July 9th, 1839, the eldest son of Henry St. John Joyner (about 1810–1882), in Northwick, Harrow, England. Henry Joyner Sr. was a tenant farmer, occupying 1000 acres of land (Anonymous, 1844). He was also an enthusiastic weather observer, an interest which he will most likely have passed on to his son. After the younger Joyner had served a pupilage he worked as Assistant Engineer on the Parsonstown and Portumna Railway, as a Resident Engineer of the Cwm-Orthin Railway and Tunbridge Wells, from 1862 to 1870. At that time, some reports about remarkable weather events appeared in the journals *British Rainfall (BR)* and *Symons’s Monthly Meteorological Magazine (MM)*. Both BR and MM were published by the amateur weather observer, George Symons (1838-1900) on a private basis. He was a member of the Royal Meteorological Society from 1856 and its president in 1880. He organized the collection of weather data by amateur observers for publication in BR and MM. Joyner Sr., for example, contributed a report on a storm he witnessed in February of 1869 (Joyner, 1869).

(2) 1870-1877 Japan: In 1870, Henry Batson Joyner left England to take up an appointment under the Imperial Government of Japan (Oyatoi), being employed first in the Public Works Department, in the construction of the earliest railway in that empire [Japan]. Research carried out by this writer found that Joyner carried with him meteorological instruments, including a rain gauge and a thermometer, which had been presented to him by English donors (Joyner, 1873). With the aid of these he made weather observations in Tokyo over a two-year period as a citizen observer and sent reports of his observations to England for publication in MM (Joyner, 1873,1875). On the completion of the first section of the earliest railway, namely from Yokohama to Yedo [Tokyo], he was transferred to the Home Department, where his professional ability had a wider field. Among his chief labors were the trigonometrical survey of Japan, and also the survey of the capital, and other works of public utility. Following his early work, it is believed that he organized and developed in Japan the Imperial Department of Meteorology, that is the National Meteorological Service (NMS) of Japan, the present Japan Meteorological Agency (JMA), and that Joyner was initially the sole observer collecting data for the Japanese NMS. However, further research of the records is required to confirm this. While he was undoubtedly the first to make weather observation at Tokyo Observatory, there is evidence of a plan made by another person to install up-to-date instruments in the Tokyo Observatory, to prepare it for the collection of meteorological data. However, when this did not eventuate, Joyner resumed making his own weather observation, at first informally, but then on an official basis, after his position with NMS had been confirmed. He began to perform training and instructing the native students in a thorough knowledge of that science, which provided the basis for the future work of the service. In 1875, Joyner established Five-day Meteorological Records, to record weather data, which was published at the end of 1880 (Imperial Meteorological Observatory, 1875-1880). A complete set of these records is held in the National Meteorological Archive of the United Kingdom Met Office (those held at JMA are incomplete). Joyner, alongside Japanese observers, continued to contribute to the collection of weather data until his departure from Japan. The author of this article recognized his handwriting among entries in the untitled meteorological records of 1877, held in the library of the Japan Meteorological Agency.

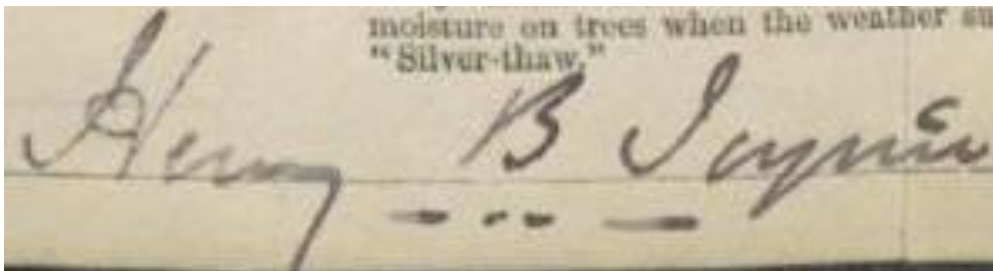
His great interest in the subject of Meteorology, and the benefit that he felt would accrue to Japan from the development of that science, caused him to write a non-official pamphlet, entitled, “The Progress and ultimate results of Meteorology, especially considered in reference to Japan” (Joyner, 1876a?). He presented here the Protocols of the International Meteorological Congress held in Vienna in 1873, and the 1874 International Conference on Maritime Meteorology in London. This was translated into Japanese with the title: “SOKKO RONSETSU” (Joyner, 1876b?) and was widely read among Japanese Meteorologists. The author found the original pamphlet written in English, from which the translation into the Japanese language version was made.

For unknown reasons, Joyner was honored by the naming of some new species of marine fauna after him. These are *Cynoglossus joyneri* (Akasitahirame in Japanese), a sole, *Mugil joyneri* (maybe Bora in Japanese), a flathead mullet, and *Metapenaeus joyneri* (Shibaebi in Japanese), a shrimp. All are commonly found in Japanese waters.

(3) 1878-1884 Brazil: He left Japan in 1877 and, after a short stay in England, proceeded at the latter end of 1878 to Sao Paulo, Brazil, as Engineer in-Chief for the planning and construction of the extensive water supply and sewerage system of the city. During his stay in that country he continued to make weather observation and to send reports of his work to the Meteorological Office in England. He also published summaries of his observations in local newspapers. His activities in this field in Brazil did not, however, lead to the founding of a National Meteorological Service. Further studies are needed to reveal details about the kinds of observation he made in Brazil, including the instruments he used and the locations in which he placed them, as well as about his co-workers in the field of meteorological data gathering. On the completion of his works as Engineer in-Chief, in May 1884, he returned to England hoping to recruit [restore] his somewhat impaired health. However, it deteriorated further and led to his death on the 23rd of November. A summary of Joyner's observations at Sao Paulo was published posthumously in the Quarterly Journal of the Royal Meteorological Society (Joyner, 1885). He was buried in the Kensal Green Cemetery, in London (Vivian-Neal, 2005).

Acknowledgement: I am enormously grateful to Dr. Wolf Mayer, Dr. Michiko Yajima, and Dr. Toshihiro Yamada for their comments and suggestions on an earlier manuscript. This work was supported by JSPS KAKENHI Grant Number JP17K01184.

The signature of Joyner (below) on a meteorological observation table at Sao Paulo, of February 1879, was found in the National Meteorological Archives of the United Kingdom Met Office. His 'signatures' on the Japanese Reports are only in printed form. No portrait or photograph of Joyner has so far been found.



References

- Anonymous, 1844, Summary of European News (Compiled from late English Papers), *The Sydney Morning Herald*, October 17, 1844, Vol. 18, No. 2317 (<https://trove.nla.gov.au/newspaper/page/1520007>, viewed June 1 2018).
- Anonymous, 1885, Obituary. Henry Batson Joyner, 1839-1884. *Minutes of the Proceedings*, Institution of Civil Engineers, 79, 370-371.
- Imperial Meteorological Observatory, 1875-1880, Untitled Report (Five-day meteorological observations at Tokei) 5th June, 1875-31st December 1880, National Meteorological Archive Bib. No. 228583.
- Joyner, H. B., 1873, Typhoon and rainfall in Japan. *Symons's Monthly Meteorological Magazine*, vol.8 p.45-46.
- Joyner, H. B., 1875, Abstract of Meteorological Observations at Tokei [Tokyo], Japan. *Symons's Monthly Meteorological Magazine*, 1874, vol.10 p.142.
- Joyner, 1876a?, The Progress and ultimate results of Meteorology especially considered in reference to Japan, An author's edition, Tokei [Tokyo], Japan, p.15.
- Joyner, 1876b?, *SOKKO RONSETSU*, Manuscript volumes, Library of Japan Meteorological Agency. [in Japanese, translated by A. Tomita]
- Joyner, H. B., 1885, Results of meteorological observations made at San Paulo, Brazil, 1879-1883. *Quarterly Journal of the Royal Meteorological Society*, vol. 11: p. 223-226.
- Joyner, H. St. J., 1869. The Remarkable Storm of February 12th, 1869, *Symons's Monthly Meteorological Magazine*, vol.4, 1869 p.22.
- Vivian-Neal, H., 2005, *A Railway Pantheon*, Friends of Kensal Green Cemetery, London, 28 pp.

GEOSCIENCES IN A RELIGIOUS SETTING? Thoughts on history of the geosciences, interdisciplinary dialogue and geoethics

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This essay was presented at Session RS10 “Geoethics in geoscience education, communication and citizen science: experiences, approaches, and concepts” of the RFG 2018 – Resourcing Future Generations in Vancouver, 20 June 2018 as a contribution by INHIGEO (The International Commission for the History of Geological Sciences).*

*Resources for Future Generations 2018

As a young student of geology in Germany, I received traditional scientific training, which, of course, included all sorts of scientific methodology. I did not, however, learn much about the history of my science and even less about its more philosophical aspects such as ‘nature of science’ or ethics. This did not seem unreasonable at the time, and I did not miss it. Later, however, I worked as a museum educationist and have since spent sixteen years as head of a palaeontological museum (Fig. 1), run as a joint venture between the Bavarian state and the Catholic Church. Among other natural history objects, the museum owns the world’s largest public research collection of fossils from the famous Upper Jurassic Solnhofen limestone including a fine specimen (Fig. 2) of the early bird *Archaeopteryx* (Kölbl-Ebert 2018).



Figure 1. The view into the main exhibition hall of the Jura-Museum Eichstätt. (Unless otherwise indicated, illustrations are supplied by the author).



Figure 2. Fossil Archaeopteryx in the Jura-Museum Eichstätt.

During my years working in the profession, I have become interested in history of geology, thus straying across the borders of science into the humanities and acquiring some expertise about history and philosophy of science. This knowledge has allowed me to better understand and communicate with my new

partners: the general public as well as the theologians, whose collection I curate and whose museum I direct. It soon dawned on me that the Catholic theologians and priests with whom I was interacting were still thinking in terms of the 18th and 19th century, when Jesuits had first founded and developed the collection: The theologians' motivation for financing a scientific museum and providing collection access to guest scientists was not science as such, but Tradition (with a capital T) and a philosophy of the two books: Finding God not only in the Bible, but also in the 'Book of Nature.' This, by the way, has nothing to do with creationism. In our museum we do perfectly normal mainstream science, *e.g.* with an exhibition on bird evolution (Fig. 3). For our theologians, furthering palaeontology (or natural history, as they would rather call it) – proper science – is so to speak a means of paying respect to God as the creator.

Figure 3. Part of the bird evolution exhibit at the Jura-Museum Eichstätt.



This seems strange to a present-day geoscientist, because, unlike in the past, there is no longer a relationship between geology and religion. Among scientists, it is not customary to talk about faith, and so it is hard to tell whether a colleague is practising a religious faith or wishes to be counted among atheists or agnostics. In fact, such knowledge does not seem relevant to our joint scientific efforts. We operate from a methodological naturalism, regardless of religious commitment.

However, although science and religion can presently be viewed as 'non-overlapping magisteria' (Gould 1997, 2002), the history of palaeontology and geology demonstrates that the geosciences remained intellectually important for the general public as long as the acquired knowledge was relevant for the general world view – that is, as long as the two magisteria were in contact and in dialogue (Brooke 2014). The geosciences were the fashionable science during much of the 19th century, when the discovery of Deep Time, of a whole succession of worlds before the advent of human beings, of the extinction of species, which seemed to sever the Chain of Being linking the creatures of this world with the heavenly spheres, and of biological evolution including its fossil evidence influenced and often changed people's worldview. Everyday palaeontology and stratigraphy were then the talk of intellectual society.

These days, the geosciences are much less prominent as an intellectual challenge. Nevertheless, once in the public realm, we are confronted with geology in a religious/philosophical context on a fairly regular basis. We deal with people who ignore the

boundaries of science by asking moral questions alongside scientific ones, whether we talk about geological hazards, climate change or mineral resources. We deal with people who adamantly believe in esoteric practices such as divining rods no matter what the scientific evidence. We deal with people who discredit us and our scientific work because of their creationist convictions, opting for a young earth and defying the theory of evolution; but, hopefully, we deal, also, with people who show a genuine interest in interdisciplinary dialogue such as the average theologian.

Coming back to my own personal experience, this is the benefit of the administrative structure of my museum. In daily contacts, I can try out what works in dialogue, and in doing this I have found my training as historian of science most valuable. History of science, by definition, bridges the gap between science and the humanities. Thus, it allows a better understanding of a world, which is less exact in its division between scientific method on the one hand and moral judgment on the other; but which often is more exact in its definitions of words, leading to problems of understanding, as soon as we engage in interdisciplinary dialogue.

Dialogue, whether with the public (Fig. 4), with politicians or with my theologians, requires first of all a common language. For example, two seemingly trivial words, “chance” and “design”, often seem to be at the core of misunderstandings when talking to a theologian. While for a palaeontologist, it is quite possible to talk about chance and design within an evolutionary framework, *e.g.* undirected mutations and natural selection leading to the body-plan of certain organisms, *i.e.* chance and necessity leading to design, these two terms exclude each other for most theologians. “Design” for them is synonymous to “purpose”, whereas a chance event in theology is, per definition, without sense and purpose. Whenever we as scientists talk of “chance”, a theologian suspects that we explicitly exclude God, while we are convinced that we have not made any religious statement at all (Kölbl-Ebert 2017).



Figure 4. A lecture on evolution versus creationism at Collegium Orientale in Eichstätt.

The description of Session RS10: “Geoethics in geoscience education, communication and citizen science: experiences, approaches, and concepts” of the RFG 2018 – Resourcing Future Generations speaks about geoscientists as transmitting societal values and goals; and providing tools which may contribute to a sustainable life on Earth. Providing such expertise is seen as part of a “tacit social contract between geoscientists and the public”, and the session’s organizers ask about the boundaries of these responsibilities (<http://www.geoethics.org/rfg2018>).

Whenever you make an ethical or moral decision, you are moving beyond the actual boundaries of science, which, as such, is ethically indifferent. In these cases you decide, not because you are a scientist (that only affects the amount of expertise with which you inform your decision), but rather you decide, because you are a human being with a more or less scrupulous

conscience like everybody else. Traditionally, the ethical, moral values were commonly disseminated by religious authorities, who told people (including politicians) what to do. These days, however, politicians, and also the ordinary people on the street, increasingly expect scientists to provide such guidelines, partly because things have become ever more complex and partly because old religious authority has eroded away. The latter is a phenomenon, which began in the Age of Enlightenment (Hyman 2010): Think for yourself, decide for yourself and take responsibility for your decisions! Taking responsibility, however, is strenuous, and therefore many people prefer to do it the traditional way: Delegate decision to a moral authority.

But do we scientists want to become a moral authority? As said before, ethics and moral values are not the province of science. We can only make a personal philosophical decision, albeit informed by our expertise. Unfortunately, the boundary between science and moral issues is often unclear to people and the various ways of argumentation – scientific versus ethic – become mixed up. Needless to say, there is definitely feedback between scientific results and metaphysical questions, but both operate on different levels of understanding. This feedback shows up whenever social and political decisions based on scientific data are called for, such as the use of fossil or renewable energy, climate research, or implications of geohazards. Science gives us criteria for political decisions. Which decision is actually made, however, is a moral question and not to be resolved within the bounds of science.

In a democratic society, these decisions require enlightened citizens willing to inform themselves scientifically and take responsibility morally. And it requires scientists, who are competent in more philosophical issues as well, not to improve their ability to act as a moral authority in lieu of religious authorities, but rather to be able to define the limits of their expertise and to distinguish between the various levels of understanding and argument, thus inviting society to share responsibility.

Acknowledgments

I am indebted to Karen Severud Cook (Lawrence, USA) for correcting my English.

References:

- BROOKE, J. H., 2014, *Science and Religion*. Cambridge University Press, Cambridge, 566 p.
- GOULD, S. J., 1997, Nonoverlapping magisteria. *Natural History*, v. 106, pp. 16–22.
- GOULD, S. J., 2002, *Rocks of Ages: Science and Religion in the Fullness of Life*. Ballantine Books, New York, 256 p.
- HYMAN, G., 2010, *A Short History of Atheism*. I. B. Tauris, London, 212 p.
- KÖLBL-EBERT, M., 2017, Thinking about the geosciences in their religious/philosophical context. *In: Mayer, W., Clary, R. M., Azuela, L. F., Mota, T. S., and Wołkowicz, S. (Eds.), History of Geoscience: Celebrating 50 Years of INHIGEO*. Geological Society of London, Special Publication, 442, pp. 69–79.
- KÖLBL-EBERT, M., 2018, Eichstätt: The Jura-Museum Eichstätt. *In: Beck L, and Joger U (Eds.), Palaeontological Collections of Germany, Austria and Switzerland. The History of Fossil Organisms at Museums and Universities*. Springer, Cham, pp. 183–187.



**23RD INTERNATIONAL GEOLOGICAL CONGRESS 19 - 28 AUGUST 1968
AUGUST 8 - SEPTEMBER 7, 1968 WITH EXCURSIONS**

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In the second half of 2019, the Czech Geological Survey will celebrate its 100th anniversary. On this occasion, a number of professional and social events will take place. It will also include a memory of an extraordinary event that took place 51 years ago in August 1968. A monthly program was prepared for 2911 geologists from 91 countries and planned 2 symposia, 13 expert sections and 500 lectures.



Figure 1. Members of the Organizing Committee (from the left) - Tibor Buday – Excursion Secretary; Arnošt Dudek – Secretary General; ?; Josef Svoboda - Prezident of the 23. IGC; ?; Jan Petránek – Secretary of the Session.

Figure 2. Participants in the Prague Congress in 1968.

Excursions were prepared together with neighboring countries, with the aim to get knowledge of the geology of the Bohemian Massif and the Carpathian System, not only in Czechoslovakia, but also in neighboring states. Fifty-one excursion guides were printed and 1000 localities were processed. A rich cultural and social program was envisaged.



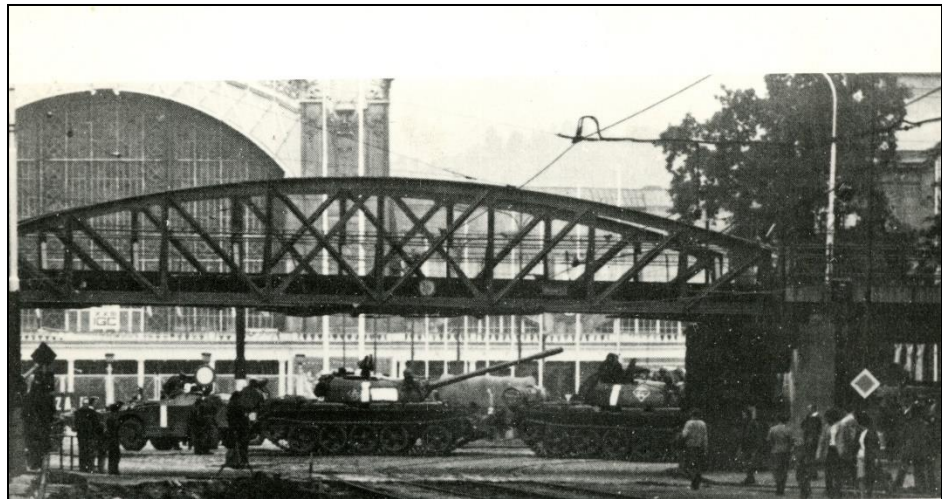


Figure 3. The locality Horní Bříza in the Pilsen basin during the OI – A excursion.

Professional exhibitions were held at the National Museum, at the Brussels Pavilion and at the Technical University (ČVÚT) in Prague. Leading delegates of individual countries envisaged to meet with the President of the Czechoslovak Socialist Republic Ludvík Svoboda on 21 August.

But the meeting was suddenly interrupted. In August 21, 1968, for the first time in the history of geological congresses, the meeting was suddenly interrupted by the entry of the troops of the five Allied states of the Warsaw Pact into the then Czechoslovakia.

Figure 4. Tanks below the railway bridge near the congress building in the Prague - Holešovice.



The Prague Congress lasted only 13 days (3 days of expert sessions and 10 days of excursion before the congress). The military occupation of the Czechoslovak Socialist Republic and technical problems caused a mass departure of the delegates and thus its premature termination. Some foreign delegates have created an extraordinary solidarity not only for the organizers of the meeting, but also for a number of emigrants who were part of the meeting. This event, what was prepared by all the then geological institutions of the Czechoslovak Socialist Republic, but also the neighboring states, marked a turning point in the history of Czechoslovak geology.

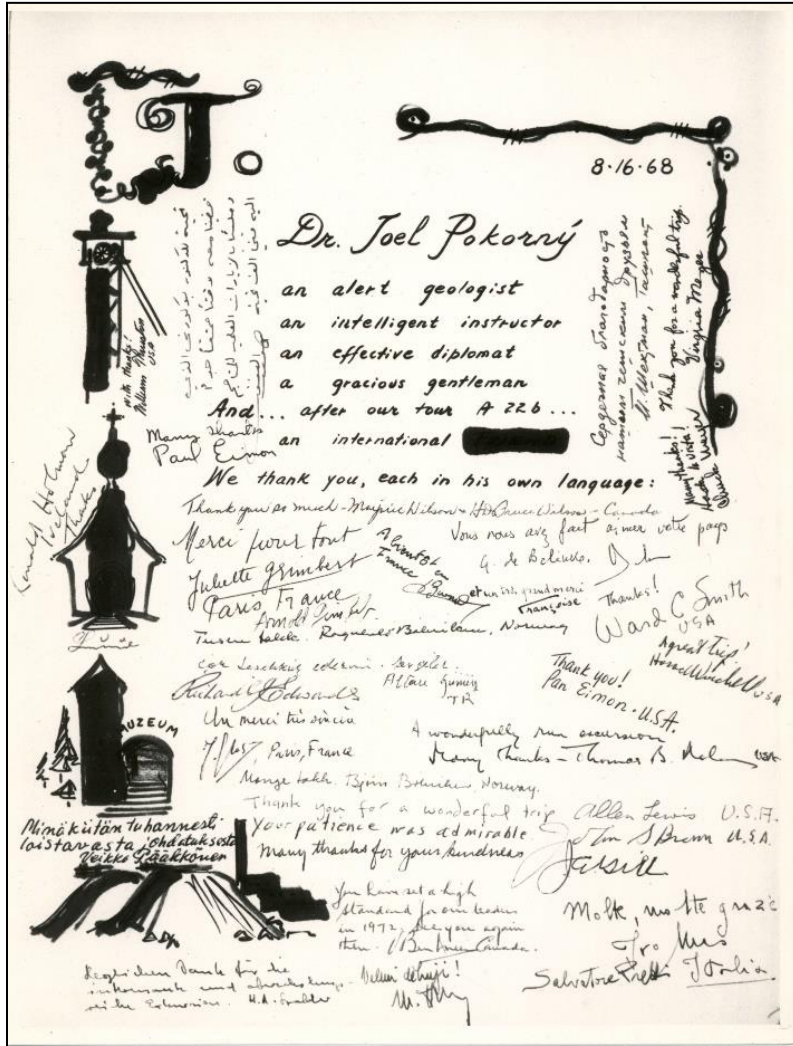


Figure 5. Photocopy of thanks letter to J. Pokorný, the head of the excursion (A 22b), from participants.

Part of the scanned photos from this event is part of the CGS Fotoarchive web application and is displayed in the photo gallery: 100. výročí založení ČGS. XXIII. IGC v Praze 1968 (100th anniversary of CGS. IGC in Prague 1968) - <http://fotoarchiv.geology.cz/cz/galerie-nahledy/galerie/125/>.

IUGS INHIGEO Anniversaries

In cooperation with, and upon the request of, The *International Union of Geological Sciences (IUGS)*, the parent of INHIGEO our members are preparing short “Anniversary” articles to be published in the *IUGS E-Bulletin*. Each article focuses on a particular event, person, theory, etc. that occurred in a certain year, sometimes down to the actual month, hence the overall title “Anniversaries.” Ken Taylor and Marianne Klemun are the driving forces behind this effort, and our thanks to them for this work. For those who may have missed the IUGS E-Bulletin, here are a few examples of what you missed; for additional “Anniversaries,” please see the IUGS web site for the E-Bulletin: <http://iugs.org/index.php?page=e-bulletins>. Bill Brice.



“ANNIVERSARIES”: THE GEOLOGIST’S HAMMER: TOOL, INSTRUMENT AND BADGE- 180 YEARS AGO⁸

Professor Marianne Klemun, Secretary-General, INHIGEO

Although the hammer has a long history in civilization, the “geologist’s hammer” was only born when field science and geology came into being together, and this happened on the end of the 18th century. Manuals written by geologists appeared in which the ideal shape of the geologist’s hammer was explained. One of these instruction books was written by the German scholar Karl Cäser von Leonhards (1779-1862) under the title *Agenda geognostica: Handbook for travelling mountain researchers and guidelines for lectures on applied geognosy*, which was printed in 1838 in German, 180 years ago.

Although today the geologist’s hammer is certainly not one of the most important instruments of geology, it has long exerted an almost magical power in the geological imagination, and it is still associated with the geologist’s profession (Fig. 1) and used as a logo by scientific associations. Other disciplines are sad that they do not have such a clearly recognizable tool and badge as do the geologists!

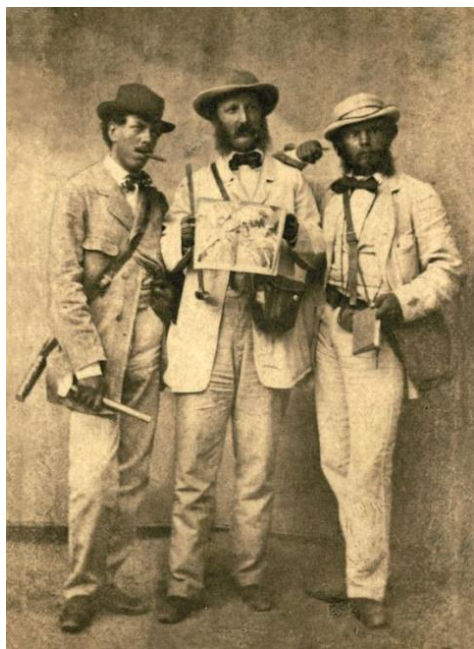


Figure 1. Austrian geologists (Hauer, Suess, Stache) with their hammers, by permission of the Geological Survey Vienna [Geologische Bundesanstalt].

Like almost no other tool, the hammer is to be found in all areas of manual work in the early modern period. This pre-industrial origin and unchanged shape of the hammer in a highly technologized world makes it today a ‘fossil’ tool. The predecessor of the geologist’s hammer is the mountaineer’s or mining hammer, from which the newly constructed geologist’s hammer was already distinct by the end of the eighteenth century, when its form was being perfected. Since the

⁸ IUGS E-Bulletin No. 144, July 2018, item No. 10.

time when field science was established as normal practice in geology, the best shape of a hammer has been discussed and suggestions have been made. One of the books, with the title *Agenda geognostica: Handbook for travelling mountain researchers and guidelines for lectures on applied geognosy*, was written by the German mineralogist Karl Cäser von Leonhard (1779-1862) in 1838. It is the best example of the phenomenon of introducing this tool to travelling geologists. Several different types of hammer were demonstrated. These included a heavier version that Leonhard called a ‘Schlage’ (or ‘striker’) and a hammer with moderate weight. Other manuals also considered it necessary to carry several different types of hammers (Boué, 1836) during a fieldtrip. The tool of the geologist’s hammer was understood as an extension of the geologist’s hand.

The immediate connection of geology to fieldwork is a given fact for today’s geologists. But from a historical viewpoint, fieldwork did not exist automatically: it cannot be taken for granted. It first had to be introduced and accepted epistemically among researchers as a means of establishing knowledge. This occurred at the end of the eighteenth century, when fieldwork-based earth science began to be established through a new practice, travelling. As Ezio Vaccari pointed out, ‘The appearance of the first specific instructions for geological fieldwork was clearly linked to the emergence of geology as a scientific discipline’ (Vaccari, 2007, p. 7.).

Geologists of the 19th century wanted to be portrayed with a geologist’s hammer, it became a fetish of geologists. Geologists’ hammers were exchanged between close friends, and after their death they were bequeathed to one another. Eduard Suess, the famous Viennese geologist, collected geologists’ hammers of his colleagues, and after his death his memory was kept alive with the installation of a sculpture of his head surrounded by hammers that once belonged to colleagues all over the world (Fig. 2).



Figure 2. Eduard Suess (1831-1914) with his hammers in the Department of Geology (Vienna), by permission of the Geological Survey Vienna.

For more information about the history of the geologist’s hammer, please see:

- Boué, Ami, 1836, *Guide du Géologue-voyageur, sur le modèle de l'agenda geognostica de M. de Léonhard*, Tom 2, F. G. Levrault: Paris.
- Klemun, Marianne (2011) “The Geologist’s Hammer – “fossil tool, equipment, instrument and/or badge?”; in Ana Carneiro and Marianne Klemun Ana Carneiro and Marianne Klemun (eds.), *Seeing and Measuring, Constructing and Judging: Instruments in the History of the Earth Sciences*, (= Centaurus, An International Journal of the History of Science and its Cultural Aspects, Vol. 53, Issue 2), pp. 86–101.
- Klemun, Marianne (2014) “Hammerkult und Geologie“; in Marion Meyer und Deborah Klimburg-Salter (eds.), *Visualisierungen von Kult*, Wien/Köln/Weimar: Böhlau, pp.16–39.
- Leonhard, C.C (1838) *Agenda geognostica. Hilfsbuch für reisende Gebirgsforscher und Leitfaden zu Vorträgen über angewandte Geognosie*. (Heidelberg: J. C. B. Mohr).
- Vaccari, Ezio (2007) “The organized traveller: scientific instructions for geological travels in Italy and Europe during the eighteenth and nineteenth centuries”; in Patrick N. Wyse Jackson (ed.), *Four Centuries of Geological Travel: The Search for Knowledge on Foot, Bicycle, Sledge and Camel*. (London: Geological Society of London) pp. 7-17.

"ANNIVERSARIES"
FACIES, A GEOLOGICAL CONCEPT (1838-2018) — 180 YEARS AGO⁹

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Figure 1. Amanz Gressly, after a drawing by Auguste Bachelin in 1864 (in Gressly, 1837-1841, frontispiece) [Public Domain].



The Swiss naturalist Amanz Gressly (1814-1865) introduced the term facies as a new geological concept 180 years ago. Gressly (Fig. 1) was born on 17 July 1814, in Bärschwil (canton Soleure [Solothurn], Switzerland), and passed away on 13 April 1865, in Waldau's Psychiatric Hospital (on the outskirts of Bern). At first, he went to Strasbourg in 1834 to study medicine, but he finally switched to geology under the influence of some naturalists, mainly Jules Thurmann (1804-1855), who was doing research on the Jura mountains (his native region), and also Louis Agassiz (1807-1873) and his studies on glaciology. The main fieldwork on the Jura was carried out over several years by Gressly, known in that time as "le géologue jurassien" (the Jurassic geologist). In 1838 he published his *Observations géologiques sur le Jura soleurois*, a long paper wherein the term facies was introduced into geology, in his own words:

"...d'abord il est deux faits principaux, qui caractérisent partout les ensembles de modifications que j'appelle *facies ou aspects de terrain*: l'un consiste en ce que tel ou tel aspect pétrographique d'un terrain quelconque suppose nécessairement, partout où il se rencontre, le même ensemble paléontologique; l'autre, en ce que tel ou tel ensemble paléontologique exclut rigoureusement des genres et des espèces des fossiles fréquents dans d'autres facies"* (Gressly, 1838, p. 11; original italics).

* "...firstly, there are two main facts, which characterize all the modifications that I call facies or appearances of terrain: the one consists that a certain petrographic appearance of any terrain, wherever found, supposes necessarily the same palaeontological assemblage; the other is that any palaeontological assemblage excludes rigorously the classes and species of fossils which are usual within other facies." (my translation).

Although Gressly did not specify the etymology, he was obviously using the Latin word *facies* (from *facio*: face), meaning external appearance, form, aspect, condition. Some authors (from Teichert, 1958) have held that the term *facies* was introduced into geological literature by Nicolas Steno (1638-1686) in his *Prodromus* (1669). Because Steno's work is written in Latin, the term *facies* appears in it, but Steno's meaning differs from that of Gressly. Steno's use only refers to the external aspect of rocks and mountains, excluding fossils, and does not of itself possess any historical significance.

Gressly's concept of *facies* was immediately accepted by naturalists everywhere, although later in the 19th century its usage among geologists, petrologists, palaeontologists, and even ecologists differed, causing a certain confusion in the definition. The concept of *facies*, however, as originated by Gressly, has allowed the deduction of both the environment and the conditions of formation of sedimentary rocks according to their petrographic features and associations of fossil groups. It has enabled the study of the depositional and palaeogeographic setting of sedimentary units. Furthermore, this combination of lithological and palaeontological data has contributed a profound historical perspective to Stratigraphy. In fact, the term *facies* has become a key (with the ideas of change, causal succession and chronology) to understanding the concept of geological time. By pointing out the assemblage of strata and rocks, together with fossils, as pages and words in the *Book of Nature*, the concept of *facies*

⁹ IUGS E-Bulletin, No. 145, August 2018, Item No. 4

has made it possible to read, interpret, understand, and even reconstruct, with a historical sense and as a whole, the past of the Earth within the methodology of causality with an actualistic view.

For more information

- Cross, T. A. & Homewood, P. W. (1997). Amanz Gressly's role in founding modern stratigraphy. *Geological Society of America Bulletin*, 109(12), 1617–1630.
- Gressly, A. (1838). Observations géologiques sur le Jura soleurois (1er partie). *Neue Denkschriften der Allgemeinen Schweizerischen Gesellschaft für die Gesamten Naturwissenschaften*, 2, 1112. [Complete paper: Gressly, A. (1837-1841). Observations géologiques sur le Jura soleurois (1er-4em parties). Neuchâtel, Société Helvétique des Sciences Naturelles, *Nouveaux mémoires* 2, 349 p]. (Universitätsbibliothek, Basel).
- Rudwick, M. J. S. (2010). *Worlds before Adam. The reconstruction of Geohistory in the Age of Reform*. Chicago, The Chicago University Press, 648 p.
- Schneer, C. J. (1972). Gressly, Amanz. In: Gillispie, C. C. (ed.). *Dictionary of Scientific Biography*. New York, Charles Scribner's Sons, vol. 5, p. 533-534.
- Stampfli, H. R. (1986). Amanz Gressly. *Mitteilungen der Naturforschenden Gesellschaft des Kantons Solothurn*, 32, 7-160.
- Teichert, C. (1958). Concepts of facies. *Bulletin of American Association of Petroleum Geologists*, 42.

"ANNIVERSARIES" BASALT, 250 YEARS AGO¹⁰

Kenneth L. Taylor, Professor emeritus of the History of Science
University of Oklahoma, USA
INHIGEO President, 2012–2016 (ktaylor@ou.edu)

Columnar basalt's igneous origin was first asserted in print 250 years ago, by Nicolas Desmarest. In 1768 the sixth volume of *Plates (Recueil de Planches)* for the great *Encyclopédie* edited by Diderot and d'Alembert carried a brief article, "Basalte d'Auvergne," accompanying one of two engravings depicting prismatic basalts in the Auvergne region of south-central France. Desmarest's article reported that based on field observations begun in 1763, examining the circumstances in which Auvergne basalt outcroppings stood in relation to remnants of volcanic action, basalts of any prismatic form (besides columns, such forms included ellipsoidal and tabular shapes) must be derived from volcanic extrusions. He further concluded that the regular shapes of these prismatic products must result from systematic contraction undergone during cooling.

Desmarest was well aware that prismatic basalt structures, of which the Giant's Causeway in Northern Ireland was the most renowned example, were generally presumed to be formed through some process of aqueous deposition or crystallization. His discovery, and the ensuing recognition of the existence of prismatic basalts in ever-widening localities, had evident implications for geological understanding. Desmarest first presented these researches to the Paris Academy of Sciences in an oral report in 1765, and later elaborated on them in an extended memoir in 1771. But their first appearance in print occurred in 1768, in what amounted to a lengthy explanatory commentary (about 1330 words) for an illustration in the *Encyclopédie*.

For more information on Desmarest and his discovery:

- François Ellenberger, *Histoire de la Géologie*, tome 2: *La Grande Écllosion et ses Prémices, 1660–1810*. Paris: Technique et Documentation, 1994. Esp. pp. 233–242.
- Pascal Richet, "Nicolas Desmarest et l'origine volcanique des basaltes," *Travaux du Comité Français d'Histoire de la Géologie*, 3e série, tome 17 (2003), pp. 81–98.
- Kenneth L. Taylor, *The Earth Sciences in the Enlightenment: Studies on the Early Development of Geology*. Variorum Collected Studies Series. Aldershot, UK, and Burlington, VT, USA: Ashgate Publishing, 2008.

¹⁰ IUGS E-Bulletin, No. 140, March 2018, Item No. 3.

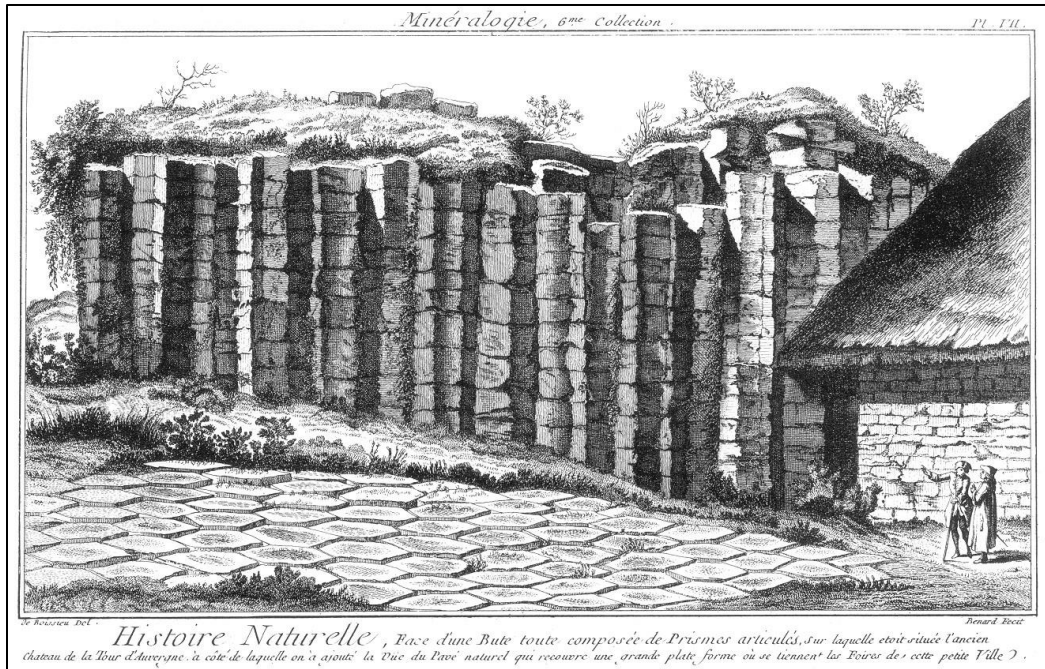


Figure A: Basalte d'Auvergne. Columnar basalt at La Tour d'Auvergne. Planche VII, Règne Minéral, Sixième Collection. Recueil de Planches, Vol. 6, Paris, 1768. Drawing by Jean-Jacques de Boissieu; engraving by Robert Bénard. <https://artflsrv03.uchicago.edu/images/encyclopedia/V23/370.sm.png>

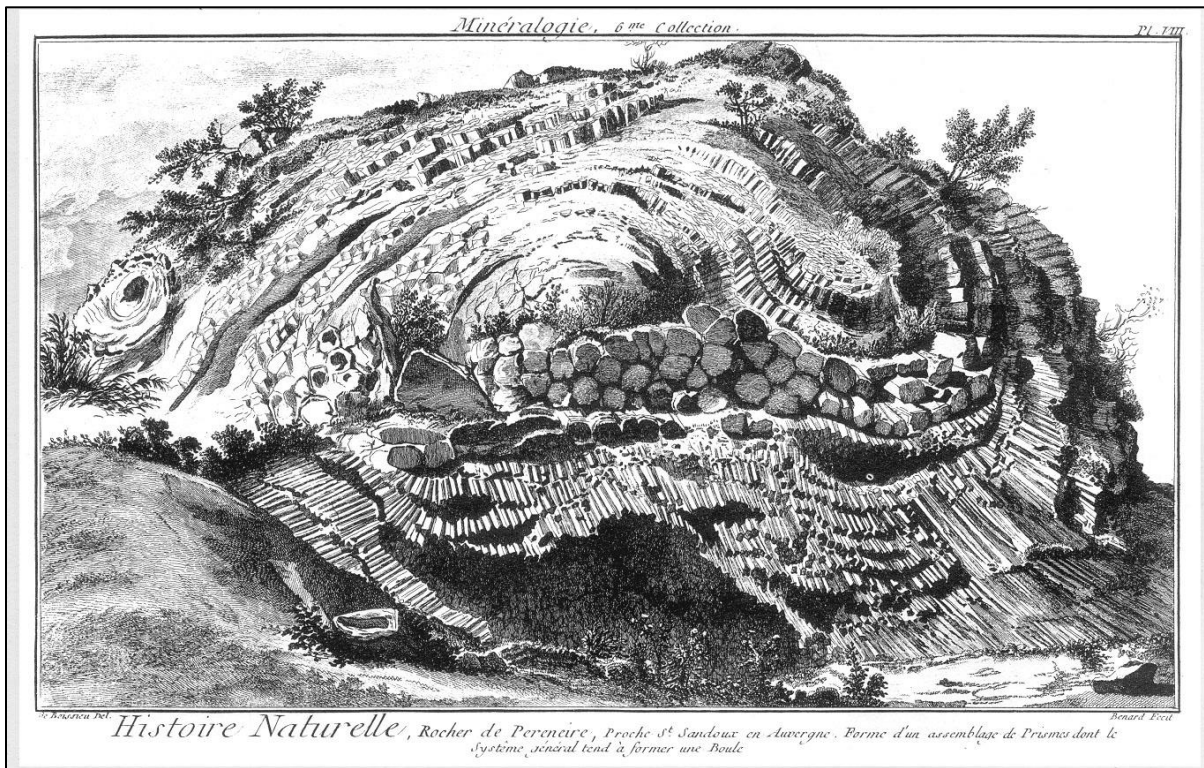


Figure B: Rocher de Peireneire, near Saint-Sandoux in Auvergne. Assemblage of prisms forming an overall shape of a ball (boule). Planche VIII, Règne Minéral, Sixième Collection. Recueil de Planches, Vol. 6, Paris, 1768. Drawing by Jean-Jacques de Boissieu; engraving by Robert Bénard. <https://artflsrv03.uchicago.edu/images/encyclopedia/V23/372.sm.png>

"ANNIVERSARIES"
CHARLOTTE MURCHISON (1788-1869):
A WOMAN NOT ALLOWED IN THE CLASSROOM BUT IN THE FIELD, 230 YEARS AGO¹¹

Marianne Klemun
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University of Vienna
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For hundreds of years, even into the twentieth century, the history of geology has been dominated by male figures and prominent male protagonists. Women were barred from university posts until 1920, and apart from some exceptions, geology has developed without the involvement of half of mankind, as history handbooks point out. This is true when considering that academic careers were not accessible for women. However, it is not accurate in light of the fact that women in their private lives took on the roles of “assistants” to their husbands. In the nineteenth century managing a household was solely in the hands of women, and only a few wives had the privilege to support their husbands’ scientific work privately. Many of these women were well educated, particularly in foreign languages. They translated texts for their husbands and arranged collections in their kitchens.

Despite having no access to academic institutions, some women, especially in Great Britain, were self-trained and developed their knowledge further by sharing their husbands’ interests. One of them was Charlotte Murchison (1788-1869), who was married to the well-known geologist Roderick Murchison. She accompanied her husband and Charles Lyell on a long journey to Paris in 1828, during which Charlotte assisted her husband and conducted independent fieldwork (Fig. 1). Charles Lyell was impressed by her knowledge on fossils and her enthusiasm: [Usually], “We have generally begun work at 6 o’clock & neither heat nor fatigue have stopped us, [not even for] an hour. Mrs. M. is very diligent, sketching, labelling specimen & making out shells in which last she is an invaluable assistant.” (quoted after Kölbl-Ebert 1997, p. 41).

Two years later, when Charles Lyell was appointed first professor of geology at King’s College, London, a number of women asked for permission to attend his lectures. Lyell explicitly refused do to so, not even allowing Mrs. Murchison to attend because he thought that women in the classroom were “unacademic.” Some women ignored the ban thereby triggering a public debate and, as a result, the university council decided that women were to be admitted to the entire course. A friend of Charlotte’s, Mrs. Somerville, wrote in a letter: “...so you can see... [that]...we are making...[quite an impact]...on the laws of learned societies, reform is nothing...” compared to this (quoted after Kölbl-Ebert 1997, p. 41).



Figure 1. Charlotte Murchison, her husband, Sir Charles Lyell, Lyell’s clerk George Hall, and an unidentified gentleman travelling in southern France in 1828 as illustrated in Henry Faul & Carol Faul, 1983, It began with a stone. A History of geology from the Stones Age to the Age of Plate Tectonics: New York, NY, John Wiley & Sons, p. 128, fig. 8.1. [Public Domain].

¹¹ *IUGS E-Bulletin* No. 149, December 2018, Item No. 6.

Self-confident women, such as Charlotte Murchison (Fig. 2), have served as role models for the following generations. It was not until the twentieth century that women not only handled hammer and spoon, but were responsible for their own research.



Figure 1. ‘The Light of Science’ a satirical cartoon by Henry T De La Beche (1832). Charlotte Murchison shines the light of science, dispelling the darkness which covered the world (<https://trowelblazers.com/charlotte-murchison/>).

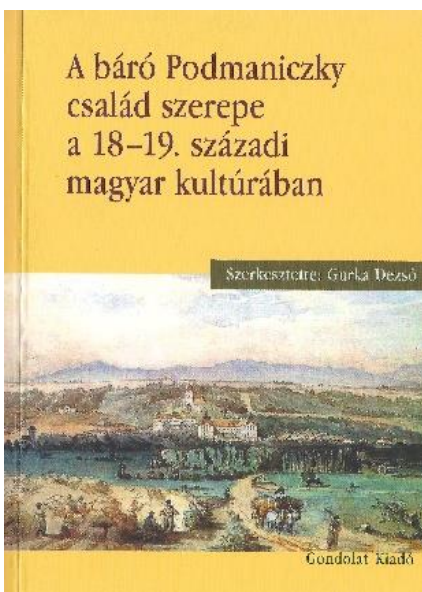
For more information:

Kölbl-Ebert M. (1997) Charlotte Murchison (Née Hugonin 1788-1869): *Earth Sciences History* (Journal of the History of the Earth Sciences Society), v. 16, no. 1, p. 39-43.

Rudwick, M. J. S. (2010) *Worlds before Adam. The reconstruction of Geohistory in the Age of Reform*: Chicago, IL, The Chicago University Press, 648 p.

BOOK REVIEWS

Gurka, D. (ed.) 2017: *A báró Podmaniczky család szerepe a 18-19. századi magyar kultúrában (Role of the Podmaniczky Family in the 18th and 19th century Hungarian Culture)*. – Gondolat Kiadó, Budapest. 264 p.



Dezső Gurka is editor of a very successful series of historical works dealing with German-Hungarian cultural relations in the period of Enlightenment and Romanticism, on the turn of the 18th and 19th centuries. In this process mineralogical and geological sciences played important role. His new book deals with the role of a Hungarian aristocratic family Baron Podmaniczky. Two papers of the volume are dealing with the mineralogical and mining aspects of the life of an important family member, Károly Podmaniczky (1772-1834).

Gurka states in his paper that during his stay in Saxony, he “...got into contact with many emblematic figures of the contemporary German spiritual life. He knew personally Goethe, Schiller and Hegel, was in connection... with Schelling and Schlegel and kept up lasting correspondence with Werner and Weber. The contact network was primarily initiated by Podmaniczky’s interest in mineralogy. During his study tour in 1802-1804 he took private lessons from Schelling in Jena, and visited the lectures of the mining academy in Freiberg. He was introduced to professor Charpentier by Werner and married in 1804 his daughter, the former fiancée of Novalis (who died two years earlier).”

The paper by Gábor Papp emphasizes the role of Károly Podmaniczky as mining expert and mineral collector: “He graduated at the Mining Academy at Selmecbánya (now Banská Štiavnica) and served between 1798-1812 as a mining officer at different mining authorities... After his retirement, he lived in the family estate at Aszód, but actively involved himself in the public life of the country.” He was general inspector of the Transdanubian Lutheran diocese from 1826 until his death in 1834. His intention was “promotion of Hungarian culture – reconciled with the German cultural orientation... A brief history of his mineral collection, which was purchased for the Hungarian National Museum in 1842, is also presented.”

István Viczián

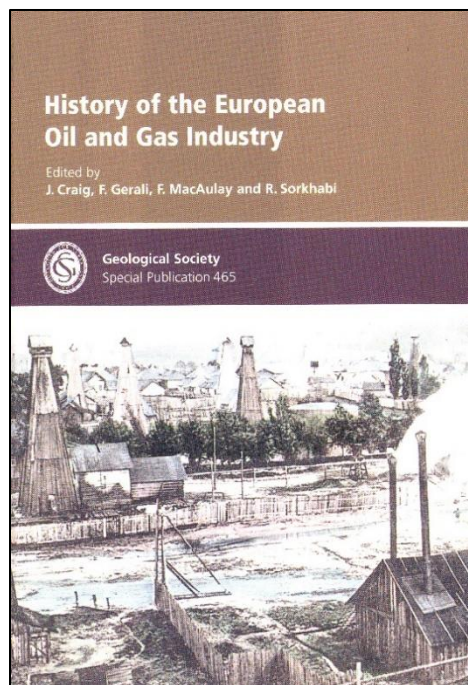
History of the European Oil and Gas Industry

Edited by: Jonathan Craig, Francesco Gerali, Fiona MacAulay, and Rasoul Sorkhabi
Geological Society, London, Special Publication No. 465, 472 p.

Available from: Geological Society Publishing House, Unit 7 Brassmill Enterprise Centre, Brassmill Lane, Bath, BA1 3JN, England, UK; Price £75.00

Reviewed by: William R. Brice¹²

All too often we in the United States, and elsewhere, have the impression that the world’s oil and gas industry started when Edwin Drake and “Uncle” Billy Smith put down the well near Titusville, Pennsylvania, in August of 1859 (Brice 2009). But the truth is, there was quite an industry across the Atlantic long before 1859. In fact, although not in Europe, the first drilled oil well was completed in Baku, Azerbaijan, in 1846, some 13 years before the Drake Well (Mir-Babayev 2017). Hence, there was considerable oil and gas activity going on in the world for many years prior to the boost that the industry received from the Drake Well in 1859. This volume, which resulted from an oil history conference held in London in 2016, goes a long way to fill in the blank spaces in our knowledge of the pre- and post-Drake oil industry in Europe.



producing oil fields in the world. The Bibi-Heybat Field in Baku, where the first well was drilled in 1846, is still producing petroleum today, and it was producing petroleum from dug wells long before the events of 1846 (Mir Babayev 2011).

In Britain, during the late 1600s, oil was distilled from oil-rich sandstones in Shropshire and used for starting fires, while the heavy tars made good caulking for boats. The local cattle benefited, as well as people, for this liquid was, also, used medicinally both on animal herds and people of the area. In 1847, James Young, a chemist from Scotland, was asked to find a use for the black, thick crude oil that was seeping into a Shropshire coal mine. The result of Young’s experimentation was refined “paraffin” oil. This fluid is called “kerosene” in North America thanks to Abraham Gesner, of New Brunswick, who, using a solid bitumen called “albertite,” also produced the same material in 1846, but gave it the different name of “kerosene” (Brice 2002). In Poland in 1853 the chemist Ignacy Łukasiewicz was producing this same illuminating material made from crude petroleum. Also, in the late 1840s, Samuel Kier of Pittsburgh started producing an illuminate from petroleum that he called

¹² Note, the reviewer of this book also served as a reviewer of one of the papers included in the volume.

“Carbon Oil” which was also essentially kerosene (Brice 2008). This lead article brings out some interesting parallels between Europe and North America in the mid- to late-1800s. Thus, this initial article provides a very good introduction for what follows.

The other articles are divided by region. The first section is, “History of the UK oil and gas industry,” – which has a total of eight articles; including stories about the Scottish shale industry and the work of James Young and early refining. The next section takes the reader into “History of the oil and gas industry in Eastern Europe and the Former Soviet Union,” – in which three articles describe the events in the Northern Carpathians and Romania, and takes us into the shale gas industry of Poland. Then we come back to Western Europe with the “History of oil and gas industry in Western Europe,” – in this section are six articles covering such topics as the history of industry in Norway, two about oil and gas in Spain, and three papers about the oil and gas industry in Italy. The final section, “History of the petroleum industry and petroleum geologists” which concentrates more on some of the people who helped create the industry, and recorded its history, *e.g.* “Sir Thomas Boverton Redwood (1846-1919) a watershed in the British oil industry,” (Rasoul Sorhabi) and “I. Simon Papp, a prominent Hungarian petroleum geologist: how to run exploration projects from a prison cell” (Gábor Tari and István Bérczi). I leave it to the readers to see how prison figures into this last story. This section also has a fascinating story, “German petroleum geologist and World War II” (Martina Kölbl-Ebert) detailing the very different professional lives and fates of Alfred Bentz, August Moos, and Karl Krejci-Graf.

Each article is very well researched and includes an extensive bibliography. The articles are all nicely illustrated, often with photographs that have never been previously published. I highly recommend this publication as it concentrates the considerable and diverse history of the European oil and gas industry into a single source.

CITED REFERENCES:

- BRICE, William R., 2002, Abraham Gesner (1797-1864) - A petroleum pioneer: *Oil-Industry History*, v. 3, no. 1, p. 72-80.
- BRICE, William R., 2008, Samuel M. Kier (1813-1874); the oft-forgotten oil pioneer: *Oil-Industry History*, v. 9, no. 1, p. 73-96.
- BRICE, William R., 2009, *Myth, legend, reality; Edwin L. Drake and the early oil industry*: Oil City, PA, Oil City, Pennsylvania, Oil Region Alliance, 661 p.
- MIR-BABAYEV, Mir-Yusif, 2011, The role of Azerbaijan in the world’s oil industry: *Oil-Industry History*, v. 12, no. 1, p. 109-123
- MIR-BABAYEV, Mir-Yusif, 2017, Brief history of the first drilled oil well: and the people involved: *Oil-Industry History*, v. 17, no. 1, p. 25-34.

[Editor’s note – this review will also appear in *Earth Science History*, 2019.]



COUNTRY REPORTS FOR 2018

ARGENTINA

2018-2019 activities

In Argentina the most important activity on the history of geology during the last year were published the papers presented during the Symposium on the birth of Geology in Argentinean Universities, held during the XX Argentinean Geological Congress (San Miguel de Tucumán, August 10th, 2017). Those papers were included in a special volume of the *Revista de la Facultad de Ciencias Exactas, Físicas y Naturales, Universidad Nacional de Córdoba*, vol. 5, Supl. 1, pp. 1-163 (Martino, R. & Ramos, V.A., eds.).

The Vth Argentinean Congress on the History of Geology will take place on September 12-13, 2019 at the National Academy of Sciences in the City of Cordoba. The main theme of the Congress is "Geology in the 150 years of the National Academy of Sciences". Abstract submission deadline is April 26th, 2019. More information in: www.cahgeo.con.efn.uncor.edu.

In addition to the above meeting, additional items were published by INHIGEO members, some of which are listed below

Ricardo N. Alonso, Salta, Argentina

Papers

Alonso, R. N., 2018. El nacimiento de la Geología en la Universidad Nacional de Salta. *Revista Facultad de Ciencias Exactas, Físicas y Naturales*, vol. 5, suplemento 1, agosto de 2018, pp. 71-79. Córdoba. From: XX Congreso Geológico Argentino "Geología, Presente y Futuro", Eds., Roberto Martino y Víctor Alberto Ramos. ISSN: 0373-9686 (Versión Impresa) ISSN: 2362-2539 (Versión Electrónica).

Books

- Aceñolaza, F. G. y Alonso, R. N., 2018. *Historia de la Geología del Noroeste Argentino*. 1ra. Ed., Mundo Gráfico Salta Editorial, 104 p.; 20 x 14 cm. ISBN 978-987-698-203-0. Salta
- Alonso, R. N., 2018. *Libros, librerías, bibliófilos y otras disquisiciones*. Con prólogo del Dr. Javier Vargas de Luna y prefacio de Alberto Casares. 1ra. Ed., Mundo Gráfico Salta Editorial, 160 p.; 22 x 15 cm. ISBN 978-987-698-204-7. Salta
- Alonso, R. N., Solís, N. G., Silva de Cruz, E. y N. H. Robles, 2018. *Historia Minera Colonial*. Documento Minero Inédito del Noroeste Argentino en el Archivo General de Indias (1760). Mundo Gráfico Salta Editorial, 208 p.; 22 x 15 cm., 1ra. Ed., ISBN 978-987-698-205-4. CDD 622.0982. Salta
- Alonso, R. N., 2018. *Litio. El Metal de los Salares Andinos*. Curiosidad de la Química en el siglo XIX a Soporte de la Tecnología del Siglo XXI. Con prólogo del Dr. Enrique J. Baran. 1ra. Ed., Mundo Gráfico Salta Editorial, 120 p.; 22 x 15 cm. ISBN 978-987-698-210-8. Salta
- Alonso, R. N., 2018. *La visionaria y genial Lola Mora. Pionera Mujer en Minería y Petróleo*. 1ra. Ed., Mundo Gráfico Salta Editorial, 118 p.; 22 x 15 cm. ISBN 978-987-698-212-2. Salta [Declarado de interés de la Cámara de Diputados de la Provincia de Salta, 23-9-2018, Resolución No. 359].
- Alonso, R. N., 2018. *Geología Recreativa*. Textos misceláneos sobre ciencias de la Tierra. Con prólogo del Dr. Alejandro J. Toselli. 1ra. Ed., Mundo Gráfico Salta Editorial, 180 p.; 22 x 15 cm. ISBN 978-987-698-223-8. Salta.
- Alonso, R. N., 2018. *Mente et Malleo*. El Pensamiento Geológico. En torno a la filosofía de la Geología. Con prólogo del Dr. Francisco Hervé. 1ra. Ed., Mundo Gráfico Salta Editorial, 68 p.; 20 x 14 cm. ISBN 978-987-698-228-3. Salta.
- Alonso, R. N., 2018. *¿Qué es la Geología? Lecciones básicas sobre la ciencia del planeta Tierra*. Con prólogo del Dr. Reynaldo Charrier. 1ra. Ed., Mundo Gráfico Salta Editorial, 188 p.; 22 x 15 cm. ISBN 978-987-698-239-9. Salta.

Eduardo G. Ottone

Ottone, E. G., 2018. Rafael Herbst (1936-2017). *Revista de la Asociación Geológica Argentina*, 75(2): 296-302.

Alberto C. Riccardi

Papers

Tchoumatchenco, P., Riccardi, A., †Durand Delga, M., Alonso, R., Wiasemsky, M., Boltovskoy, D., Charrier, R. & Minina, E., 2018. Geologists of Russian origin in Latin America. *Revista del Museo de La Plata*, 3 (2): 223-295.

Riccardi, A. C., 2018. Origen y desarrollo de la enseñanza de la geología en la Universidad Nacional de La Plata. Revista Facultad de Ciencias Exactas, Físicas y Naturales, 5, Supl. 1: 33-47. Córdoba. (Origin and development of the teaching of Geology in La Plata University)

Information submitted by A. C. Riccardi on behalf of the Argentinean Commission on the History of Geology.

ARMENIA

ANNUAL REPORT 2018

Kh. Meliksetian was involved in organization of two international conferences; one of them was held between 6-7 November 2018 in Lyon, France, titled “Ancient Armenia at the Crossroads” and dedicated to Arkady Karakhanyan’s memory. Another international conference was held in Yerevan Armenia, between 4-7 Dec 2018 titled “30 years after the Spitak Earthquake: Experience and Perspectives.” This conference included also an excursion to the epicentral zone of Spitak devastating earthquake of 1988. The social shock caused by Spitak earthquake on 7 December 1988, Mw 6.9, (more than 25,000 people died) forced complete reconsideration of common seismotectonic knowledge in Armenia and its surroundings and practice in many aspects, including critical re-evaluation of the techniques and organization of the studies of active faults, earthquake geology, and seismic hazard assessment that had been applied earlier. More than 100 participants from 19 countries participated in this conference including researchers from Russia, France, Georgia, Armenia who had worked in the epicentral zone in 1988-1989, right after the earthquake.

G. E. Malkhasyan together with **G. P. Khomizuri** took part in the formation of “INHIGEO Virtual Bibliography 2018” and sent INHIGEO material on Armenia to the curator of the project Francesco Gerali. Based on the compiled list of famous geologists and geophysicists, G. E. Malkhasyan started gathering material for their further publications in the “Hayazg” Armenian Encyclopedia Foundation.

G. P. Khomizuri together with **G. E. Malkhasyan** took part in the formation of “INHIGEO Virtual Bibliography 2018” and sent INHIGEO material on Armenia to the curator of the project Francesco Gerali. In 2016, **Valeri Benik Seyranyan**, a prominent Armenian mineralogist and author of a fundamental work on the history of geology of Armenia *History of studying and using gemstone minerals in the Armenian Highlands (from the ancient times to the beginning of the 20th century)* passed away in Moscow. He had been working there during the last 20 years. At the request of his daughter, L. V. Seyranyan, G. P. Khomizuri and N. A. Khomizuri left for Moscow and gathered V. B. Seyranyan’s archive from different places with a view to further export to Yerevan. L. V. Seyranyan kindly agreed to transfer the most important materials to the Group of the History of Geology for conservation. G. P. Khomizuri and N.A. Khomizuri constantly replenished the Group’s archive with documents and photos transmitted by the relatives of prominent geologists of Armenia. They closely collaborated with the staff of the Group of the History of Geology of Geological Institute of the Russian Academy of Sciences, exchanging new data on the history of geology.

G. P. Khomizuri continued the work on gathering and processing materials on the history of geology of Armenia.

Publications:

Khomizuri G. Travellers, natural philosophers and historians in the V BC – XVIII century // Fundamental Armenology. Is. 2(8)2018. Foreign sources and authors about Armenia and Armenians.

Malkhasyan G. Armenak Yezek Kocharyan // “Hayazg” Armenian Encyclopedia Foundation. 2018.

Meliksetian Kh., Karakhanyan A., Badalyan R., Neill I., Avagyan A., Harutyunyan A., Makaryan Kh., Balasanyan S., Navasardyan G., Miggins D., Koopers A. Holocene volcanism and human occupation in Armenia: new data, Ancient Armenia at the Crossroads, International Conference, 6-7 Nov. 2018, Lyon, France.

Sargsyan L., Meliksetian Kh., Metaxian J-P., Levonyan A., Karakhanyan A., Demirchyan H., Navasardyan G., Margaryan S., Gevorgyan M., Babayan H. Preliminary results of the analysis of earthquake swarms in Gegham volcanic ridge (Armenia). EGU General Assembly. Austria, 8–13 April 2018 Geophysical Research Abstracts vol. 20, EGU2018-417.

Submitted by G. Khomizuri, Yerevan (Armenia)

g.khomizuri@yandex.ru

AUSTRALIA

INHIGEO REPORT FOR 2018

William Birch: My main (only) historical project with an emphasis on geology in 2018 is continuing the transcription of the personal diary of Edward John Dunn (1844-1937), who was a pioneering geologist in Victoria and South Africa. He was closely involved in the discoveries of diamonds, gold and coal in ‘Cape Colony,’ as it was then known, in the late 19th century and contributed significantly to geological exploration and mapping. During his travels Dunn amassed significant collections of minerals, rocks and indigenous artefacts, distributing many specimens to museums in England and South Africa. Amongst his numerous publications are three books, devoted to gold, pebbles and the ‘Bushmen’ of South Africa. On his return to Victoria he eventually rose to be Director of the Geological Survey. Following his death, his daughter arranged for his mineral and rock collection to be acquired by the then National Museum of Victoria (now Museums Victoria).

His diary consists of detailed observations of the landscape, geology, mineral discoveries, flora and fauna, and the interactions between the native people and European settlers in late 19th century South Africa, then of his travels through mining areas in Australia and New Zealand. The transcription work is challenging due to the main typed accounts being heavily annotated and amended in handwriting by not only Dunn himself, but also by several of his adult children. The aim is to eventually publish his diary, with selected illustrations of specimens from his collections, however, no timetable exists for the publication.

Barry Cooper has continued to enjoy the role of INHIGEO President during 2018 with its regular interaction with INHIGEO members worldwide as well as ongoing historical investigations.

Published historical abstracts, notes and papers during 2018 include:

Charnockite: Important Heritage Stone from India. *Abstracts Annual General Meeting*, Geological Society of America, Indianapolis (with V. Sharma and L. Morrissey).

Armin Öpik’s first links with Australia? *The Australian Geologist*: v. 188, p. 41 (with J. B. Jago).

Robert Bedford (1874-1951), The Kyancutta Museum and a unique contribution to international geology. *Earth Sciences History*: v. 37, no. 2, p. 416-443 (with J.B. Jago).

A History of Iron Ore mining in Australia. *General Program and Abstracts*, International Commission on the History of Geological Sciences, 43rd Conference, Mexico page 66.

Barry also continues his local historical involvement as Vice Chair of the “History of Science, Technology and Ideas Group” based in Adelaide.

Thomas A. Darragh, Museum Victoria, Australia continues researching German scientists who worked in Australia. He has just submitted a paper on Lothar Becker, a Silesian naturalist, who was in Australia 1849 to 1852 and then again in 1855 to 1865. Though Becker was principally interested in horticulture and botany, he made some important observations on the relationships between plants and the local geology in Victoria. He would welcome any information on Becker’s death, which probably took place in Breslau about 1901.

Publications since his last report.

Darragh, T. A., 2017. Hermann Beckler: Contributions on Australia made in Germany. *Historical Records of Australian Science* 28(2): 140-145 plus Supplementary Material 29 pp.

Darragh, T. A., 2018. Ludwig Leichhardt: Four Previously Unknown Letters to John Nicholson and the Involvement of Ferdinand von Mueller in publishing Leichhardt’s Letters. *Historical Records of Australian Science* 29 (2): 153-161, plus Supplementary Material 14 pp.

Darragh, T. A., 2018. Review. Simon Nathan and Rebecca Priestley (eds): *Finding New Zealand’s Scientific Heritage: from Mātauranga Māori to Augustus Hamilton*. *Journal of the Royal Society of New Zealand* v. 47, no. 2 (March 2017):1-144.

J. B. Jago was a joint author (with Barry Cooper) on a substantial paper on Robert Bedford as follows:

COOPER, B. J. & JAGO, J. B., 2018. Robert Bedford (1874-1951), the Kyancutta Museum, and a unique contribution to international geology. *Earth Sciences History*, v. 37, no. 2, p. 416-443. doi: 10.17704/1944-6178-37.2.416.

As part of our investigations for the above paper on Robert Bedford, we found that he had had contact with Armin Öpik who later became a very prominent Cambrian palaeontologist in Australia. This information was recorded in a note in *The Australian Geologist* as follows:

JAGO, J. B. & COOPER, B. J., 2018. Armin Öpik's first links with Australia? *The Australian Geologist* v. 188, p. 41.

Wolf Mayer – The care for my wife, together with my responsibilities for all work in our home, leave me with very little free time. My contributions to INHIGEO during 2018 have therefore been nil. I attempted to make arrangements that might have enabled me to attend this year's meeting in Italy, however, the chances of this coming off look slim now. I deeply regret not being able to take any part in the work of INHIGEO for the time being, and I greatly miss meeting friends and colleagues at our annual conferences. My best wishes for a successful meeting at Varese/Como.

Ken McQueen maintained his interest and activities in the areas of geological heritage and education as a member of the Steering Committee for the Australian National Rock Garden and the Heritage Committee of the ACT Branch of the Geological Society of Australia. He also continued his membership of the Earth Sciences History Group of the GSA. He was active in the Australasian Mining History Association (AMHA) and completed his two-year term as President of the association at the end of 2018. During the year he developed a new website for the AMHA at <http://www.mininghistory.asn.au>. He attended the launch of the New England 1:750 000 scale metallogenic map, for which he prepared the historical notes, at the annual Exploration in the House Symposium of the Geological Survey of New South Wales, held in Sydney on the 8th May. On a trip to the Pilbara region in Western Australia during May, Ken visited geoheritage sites at the Pinnacles, Shark Bay and Karijini National Park, as well as inspecting historic and modern mining sites. In July, Ken presented a paper at the Australian Historical Association conference in Canberra on models of mining field development and their importance to understanding mining history. In October he attended and presented two papers at the 24th Annual Conference of the Australasian Mining History Association, held in Cromwell, Central Otago, New Zealand and participated in the associated field trips to the historic alluvial and reef gold mining areas of the Otago region. Later in October, Ken was invited to Cobar, in north-western New South Wales, as a guest speaker at the Cobar Miners Memorial service and celebrations.

AUSTRIA

INHIGEO Report for 2018

Marianne KLEMUN

Publications: 1 edited book, 6 articles (invited, peer reviewed), 8 lectures

Book:

Johannes Feichtinger, Marianne Klemun, Jan Surman und Petra Svatek (Hg.), *Wandlungen und Brüche*.

Wissenschaftsgeschichte als politische Geschichte [Changes and Breaks. History of Science as Political History] (Vienna University Press, Vandenhoeck & Ruprecht, Göttingen 2018).

Articles:

Together with Mike Johnston, "Looking back to the roots of INHIGEO: The inaugural and 50th anniversary meetings held in Yerevan in 1967 and 2017." In: *Episodes* Vol. 42, Nr. 1 (2019), 69-75.

'Indifferentismus' (ist) der Hauptthemmschuh des Fortschritts. Relationen zwischen Franz Unger, Charles Darwin und Eduard Suess sowie die Lektüren von Darwins "Origin" im Wien der 1860er und 1870er Jahre. ['Indifference' is the main obstacle to progress'. Relations between Franz Unger, Charles Darwin and Eduard Suess as well their readings of Darwin's "Origin" in Vienna in the 1860s and 1870s.] In: Herbert Matis, Wolfgang L. Reiter (Ed.), *Darwin in Zentraleuropa [Darwin in Central Europe]* (Wien 2018), 87-126.

Johannes Feichtinger, Marianne Klemun, Jan Surman und Petra Svatek, *Wandlungen und Brüche*. Wissenschaftsgeschichte als politische Geschichte. Einleitung. In: Johannes, Marianne Klemun, Jan Surman und Petra Svatek, *Wandlungen und Brüche*. *Wissenschaftsgeschichte als politische Geschichte [Changes and Breaks. History of Science as Political History]*. (Vienna University Press, Vandenhoeck & Ruprecht, Göttingen 2018), S. 13–20.

Different functions of learning and knowledge – Geology takes form: Museums in the Habsburg Empire, 1815–1848. In: Rosenberg, G.D., and Clary, R.M. (Eds.), *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making*: Geological Society of America Special Paper 535, 2018, p. 163–175, [https://doi.org/10.1130/2018.2535\(10\)](https://doi.org/10.1130/2018.2535(10)). © 2018 The Geological Society of America.

- Marianne Klemun, Erzherzog Ludwig Salvators “Wissenslandschaften”. [Archduke Ludwig Salvator and his “landscapes of knowledge”]. In: Viktor J. Bruckman (Ed.), Ludwig Salvator (1857–1915). *Erzherzog von Österreich (Interdisciplinary Perspectives)* No.3 (2018), S. 27–45.
- Nikolaus Joseph Jacquin (1727–1817): neue Zugänge in der Geschichte der Botanik.[New approaches in the History of Botany and Natural History]. In: 18. Österreichische Botanik-Tagung (18th Austrian Botanical Conference) gem. mit der 24. Internationalen Tagung der Sektion Biodiversität und Evolutionsbiologie der Deutschen Botanischen Gesellschaft (24th International Symposium on Biodiversity and Evolutionary Biology of the German Botanical Society) (= 68. Sonderheft zur Carinthia II), Klagenfurt 2018, 43.
- Fieldwork of the Austrian Geological Survey. In: Helena Ekerholm, Karl Grandin, Christer Nordlund & Patience A. Schell (Eds.): *Understanding Field Science Institutions*. Science History Publications, Watson Publishing International 2017/2018, 133–156.

Public lectures

- Nikolaus Joseph Jacquin (1727–1817): neue Zugänge in der Geschichte der Botanik, bei: Institut für Pflanzenwissenschaften an der Universität Graz, 4. Dezember 2018, Universität Graz.
- ‘Humboldtian Science’ and Beyond: Potentials and Limits of a Historiographical Concept, at: International Commission of the History of Geological Sciences, 43rd Conference, Mexico City, Palace of Mining, November 11th – 21st 2018, Mexico City, Mexico.
- Nikolaus Joseph Jacquin (1727–1817): neue Zugänge in der Geschichte der Botanik. In: 18. Österreichische Botanik-Tagung (18th Austrian Botanical Conference) gem. mit der 24. Internationalen Tagung der Sektion Biodiversität und Evolutionsbiologie der Deutschen Botanischen Gesellschaft (24th International Symposium on Biodiversity and Evolutionary Biology of the German Botanical Society) (= 68. Sonderheft zur Carinthia II), Klagenfurt 2018, 43.
- Spike between the “Alps” and the “Orient”: The Disunity of Plants and the Unity of Economies. At the Session ‘Unity and Disunity of Theory and Practice in Research on Economically Significant Species’, org. by Staffan Müller-Wille and Anastasia Fedotova. Biennial Conference 2018 of the European Society for the History of Science in conjunction with the British Society for the History of Science, London, Institute of Education, 14–17 September 2018.
- Back to the Roots: Nikolaus Jacquin (1727–1817) and the Zingiberales, at: 8th International Zingiberales Symposium, Singapore Botanic Gardens, Singapore, 23-27 July 2018.
- Speik: between the “Alps” and the “Orient”: local knowledge, botany and economies in circulation, at: Scientiae, University of Minnesota, Minneapolis, 16-19 May 2018.
- Selektion und Tiefenbohrung. Via Korrespondenzen zu neuer Sicht, am Beispiel Nikolaus Joseph Jacquins (1727–1817) [Selection and deep drilling. By means of correspondence on new perspectives, using the example of N. J. Jacquin]. In: *Selectiores aliquot doctissimorum virorum epistolae*. Gelehrtenkorrespondenzen, Edition und Erforschung. Institut für Klassische Philologie, Mittel- und Neulatein der Universität Wien, 12. April 2018.
- Metropolitan Geology: Turning Vienna into Stones in the Nineteenth Century, at: Science in the Metropolis. Spaces and Constellations of Scientific Knowledge 1848–1918. Österreichische Akademie der Wissenschaften [Austrian Academy of Sciences], November 15-17, 2017.

Johannes Mattes (Austria)

In 2018, Johannes Mattes published three papers and co-edited two books:

- J. Mattes, Wissenschaftspolitische Grenzverhandlungen. Zur Gründung der Lehrkanzel für Höhlenkunde an der Universität Wien (1929). In: J. Feichtinger, M. Klemun, J. Surman, P. Svatek (eds.): *Wandlungen und Brüche. Wissenschaftsgeschichte als politische Geschichte*, 2018. p. 119-126.
- J. Mattes, Mapping narratives & making politics – discourses on space and identity in the correspondence of Jovan Cvijić. In: J. Brankov, M. Drobnjaković (eds.): *The Balkan Peninsula of Jovan Cvijić. Historical Background and Contemporary Trends in Human Geography*, 2018. p. 55-69.
- J. Mattes: Traveling Olms. Local and Global Perspectives on the Research on *Proteus anguinus* (1700-1930). *Viaggiatori*, 2018. p. 186-203.
- J. Mattes, E. Christian, L. Plan (eds.), *Proceedings of the 12th EuroSpeleo Forum, Austria*, 2018. 164 pp.
- J. Mattes, D. Kuffner (eds.), *Höh(l)enluft und Wissensraum*, 2018. 464 pp.

Mattes gave 10 oral presentations within the following international conferences/lecture series:

- Between Nature and Culture – Concepts of Knowledge and Space in Historical Cave Maps (1500-1900)*. Invited Lecture, “Science & Technology Studies Lecture Series”, York University (Toronto 3/2018).
- 4 Invited Lectures on the topic *Epistémologie et imaginaires du souterrain (XVe-XXe siècles)*, École des Hautes Études en Sciences Sociales (Paris 4/2018):

Sous la peau de la Terre-Mère : Images du corps dans les débats sur les minéraux et les fossils trouvés en grotte (1500-1800)
Espace et savoirs : sur la cartographie des grottes (1400-1800)
Sciences de la Terre et culture du souterrain urbain à Vienne (1850-1930)
Archéologie, paléontologie, et politique pendant le Troisième Reich (1933-1945)
Doing Science, Creating Boundaries – Discourses on Space and Identity in the Correspondence of the Geoscientist Jovan Cvijić. "International Congress of the Association of Borderland Studies" (Vienna 7/2018)
National Spaces & Deepest Places: Politics of Verticality in the Scientific Research of Caves (1870-1970). "International Conference for the History of Geography" (Warsaw 7/2018)
Between Handbooks & Journals: Speleology as a Metadiscipline. Session Organizer & Oral Presentation, "Eurospeleo Forum" – European Speleological Congress (Ebensee, Austria 8/2018)
Mapping Narratives & Making Politics – Discourses on Space and Identity in the Correspondence of Jovan Cvijić. Keynote, "International Scientific Conference – The Balkan Peninsula of Jovan Cvijić: Historical Background and Contemporary Trends in Human Geography" (Trsic, Serbia 10/2018)
Look Like an Earth Scientist – Thoughts on scientific self-depiction on the example of a photo album dedicated to Eduard Suess. "Conference of the International Commission on the History of Geosciences" (Mexico City 11/2018)

Matthias Svojtka – In 2018 Matthias co-authored an open-access textbook on palynology containing a chapter on the history of palynology. Apart from that he authored 8 biographies of natural scientists for part 69 of the *Austrian Biographical Dictionary* and 10 biographies for the (online published) second edition of the *Austrian Biographical Dictionary* (part 7, December 14th), which including the famous geologist and palaeontologist Joachim Barrande (1799-1883), the palaeontologists Friedrich Blaschke (1883-1911), Julius Dreger (1861-1945) and Julius Enderle (1875-1908), as well as the mining engineer Joseph Wala (1820-1881).

ORCID: Matthias Svojtka, <http://orcid.org/0000-0001-7511-3964>

Publications:

- Halbritter, H. / Ulrich, S. / Grímsson, F. / Weber, M. / Zetter, R. / Hesse, H. / Buchner, R. / Svojtka, M. & Frosch-Radivo, A. 2018: Illustrated Pollen Terminology.- XVIII + 483 pp., Cham (Springer). ISBN 978-3-319-71364-9, DOI: 10.1007/978-3-319-71365-6
- Svojtka, M. 2018: Wala (Vála) Joseph. *Österreichisches Biographisches Lexikon 1815-1950*, 69. Lfg., 431-432 (ISBN 978-3-7001-8382-2).
- Svojtka, M. 2018: Barrande Joachim. *Österreichisches Biographisches Lexikon ab 1815* (2nd ed. – online), Lfg. 7, 14.12.2018 (ISBN 978-3-7001-3213-4).
- Svojtka, M. 2018: Blaschke Friedrich. *Österreichisches Biographisches Lexikon ab 1815* (2nd ed. – online), Lfg. 7, 14.12.2018 (ISBN 978-3-7001-3213-4).
- Svojtka, M. 2018: Dreger Julius. *Österreichisches Biographisches Lexikon ab 1815* (2nd ed. – online), Lfg. 7, 14.12.2018 (ISBN 978-3-7001-3213-4).
- Svojtka, M. 2018: Enderle Julius. *Österreichisches Biographisches Lexikon ab 1815* (2nd ed. – online), Lfg. 7, 14.12.2018 (ISBN 978-3-7001-3213-4).

BULGARIA

INHIGEO 2018

Prof. B. Mavroudchiev, Bulgaria:

Mavroudchiev B. 2018. Life and work of Prof. DSc Slavcho Nikolov Janév. – *Rev. Bulg. Geol. Soc.*, 79 (1-2), 99-110 (in Bulgarian).

Prof. P. Tchoumatchenco, Bulgaria:

Tchoumatchenco P. 2018. The 90 anniversary of Peter Darakchiev rnd. – life dedicated to the oil geology. – *Mining and Geology*, 2018, 7-8, 60-62 (in Bulgarian).

Abstract. In 2018 Bulgarian Geological society celebrated the 90th anniversary of the birth of R. N. Peter Darakchiev. He was born in Berlin in 1928 and graduated from the Charles University in Prague. Returning to Bulgaria P. Darakchiev became field geologist in the Geological Cartographic Group of the Geological Direction. All his life he worked as oil specialist in the Bulgarian Community of Geology. In the year 1990, he became a supervisor in the Bulgarian oil missions in Iraq and Libya.

When retired, P. Darakchiev became adviser to the Bulgarian-Russian enterprises Rusgeolcom and Overgas. Long life to Peter Darakchiev!

Tchoumatchenco P., Brouchev I. 2018. Cor.-Member Prof. Dr. Boyan Kamenov (1907-1979) and his place in the Bulgarian geology. – *Rev. Bulg. Geol. Soc.*, 79 (1-2), 85-97 (in Bulgarian).

Abstract: Boyan Kamenov (October 27, 1907, Sofia – November 22, 1979, Sofia), palaeontologist and stratigrapher (in the beginning), later founder of the Bulgarian engineering geology. Graduated from Sofia University (1931), he became PhD (1935), docent (1946), Corresponding Member of the Bulgarian Academy of Sciences (1951), Professor (1953) and first president of the University of Mining and Geology “St. Ivan Rilski”, Sofia, Bulgaria (1953-1959) and founder of the Department of Engineering geology and hydrogeology and founder of the Section of Engineering geology and hydrogeology of Geological Institute “Acad. Str. Dimitrov” of BAS. Author of more than 40 scientific papers and several geological and engineering geological maps of Bulgaria.

Tchoumatchenco P., Riccardi A., Durand Delga M., Alonso R., Wiazemsky M., Boltovskoy D., Charrier R., Minina E. 2018. Geologists of Russian origin in Latin America. – *Revista del Museo de La Plata*, 3 (2), 223-295.

ABSTRACT. This paper describes the life and career of 120 geologists who beyond their nationality (Russian, Ukrainian, Tatar, German, etc.), were born in the territory of the Russian Empire, the Soviet Union, or the Russian Federation and their descendants who became geologists; all of whom lived and worked in Latin-American countries (where Spanish and Portuguese languages prevail). We include, also, geologists from USSR who worked temporary in some countries of Latin America and left contributions to geology through their publications. Included are (by country):

Argentina: Ana Archangelsky, Sergio Archangelsky, Esteban Boltovskoy, Demetrio Boltovskoy, Gustavo Gabriel Bujalesky, Demetrio Chahnazaroff, Carlos Jorge Chernicoff, Laura Chornogubsky, Jacob Delevsky, Ignacio Domeyko, Casimiro Domeyko Alamos, Gregorio Gagarin, Igor Gavriloff, Marger Gutman, Julio Constantino Hlebszevitsch Savalsky, Moises Kantor, Pablo Klobukoff, Magdalena Maria Koukharsky, Nikita Lobanov-Rostovsky, Nina N. Mischkovsky de Ramos, Theopent Nikulin, Alejandro Novitzky, Alejandro Piatnitzky, Jorge Polanski, Mario Alberto Raskovsky, Andres Rozlosnik, Alejandro Stessin, Esteban Eduardo Strelkov, Ivan Sulatsky, Gerardo Veroslavsky Barbe, Vladimiro Vinda, Yevgeniy Yermolin.

Bolivia: Carlos Jorge Chernicoff, Ignacio Domeyko, Casimiro Domeyko Alamos, Roberto Herzenberg, Vladimir Kostoglodov, Alejandro Novitzky.

Brazil: Marly Babinski, Wladimir Belezkij, Boris Brajnikoff, Demetrio Chahnazaroff, Nicholas Grekoff, Vladimir Ilchenko, Liya Kogarko, Vladimir Kostoglodov, Basile Kotschoubey, Magdalena Maria Koukharsky, Leonid Krinitsky, Vera Malycheff, Stephen Marshak, Svetlana Medeanik, Nicolai Mirlean (Myrlian), Vsevolod Myrmire, Helena Polivanov, Vsevolod Romanovsky, Platon de Tchihatcheff, Gerardo Veroslavsky Barbe, Lena Viskova.

Chile: Salomon Baranovsky, Gustavo Gabriel Bujalesky, Casimiro Domeyko Alamos, Ignacy Domeyko Ancut, Juan Casimiro Domeyko Sotomayor, Xenia Golovchenko, Roberto Herzenberg, Vladimir Kostoglodov, Leonid Krinitsky, Michail Lomize, Victor Maksaev, Gennady V. Nisterenko, Alejandro Novitzky, Alexey A. Novoselov, Juriy Pucharovsky, Sergey Sedov, Alexander Sutulov, Nicolas Varlamoff.

Colombia: Max Eliash.

Costa Rica: Jacques-Marie Bardintzeff, Demetrio Boltovskoy, Paul Goudkoff, Vladimir Ilchenko, Vadim Levin.

Cuba: Mikhail L. Bazhenov, Ivan Belovol, Chermen B. Borukaev, V. G. Bovenko, Fedor V. Chukhrov, Irina Grigorieva-Chuprynina, Grigory S. Gurevich, Stanislav P. Ipatenko, S. S. Ivanov, Constantino Judoley (Khudoley), Konstantin Klethshev (Klethshov), Andrey Knipper, Liya Kogarko, Nina Kononova, Victor I. Kuznetsov, Nikolay P. Laverov, Mikhail Lekhov, Vsevolod A. Levchenko, Leonid B. Listengarten, Michail Lomize, Pavla. Lubimova, Vladimir Makarov, Stepan P. Maksimov, Alexey D. Mossakovsky, G. Nekrasov, Mikhail Ostroumov, Nicolai Pavlov, Juriy Pucharovsky, Anatoly G. Ryabukhin, B. Ye. Shcherbakova, Vasilij Shein, Sergey Sokolov, Mark L. Somin, V. Tchehovich, Andrey Ukhanov, Lena Viskova.

Ecuador: Jacques-Marie Bardintzeff, Nicolas Reformatsky.

Guatemala: John Aleinikoff, Jacques -Marie Bardintzeff.

Honduras: Jacques -Marie Bardintzeff.

Mexico: Wilhelm Ambrosimoff, Paul Dvorkovich, Paul Goudkoff, Vladimir Ingerman, Juan Korzujin, Vladimir Kostoglodov, Vladimir Kreyter, Paul Dimitri Krynine, Leonid Listengarten, Elena Lounejeva-Baturina, George von Mohrenschild, Yurii Nikolskii –Gavrilov, Vladimir Olhovich, Klaudia Oleshko, Mikhail Ostroumov, Theodore Rabishkin, Sergey Sedov, Thomas Simkin, Viacheslav Sovinsky, Yuri Taran, Platon de Tchihatcheff, Pavel Trofimoff-Sazanoff, Vsevolod Yustis, Oleg Zajcevsky.

Panama: Petar Anagnosti.

Paraguay: Esteban Andreev, Demetrio Chahnazaroff.

Peru: Petar Anagnosti, Leonid Krinitsky.

Puerto Rico: Konstantino Judoley (Khudoley),

Uruguay: Julio Constantino Hlebszevitsch Savalsky, Magdalena Maria Koukharsky, Gerardo Veroslavsky Barbe.

Venezuela: Vladimir Ingerman, Bohdan Korol, Leonid Listengarten, Nikita Lobanov–Rostovsky, George von Mohrenschild, Alejandro Novitzky, Pavel Trofimoff-Sazanoff.

CANADA

INHIGEO REPORT 2018-2019

Before describing Canadian INHIGEO members annual activities for 2018-2019, we first sadly note the passing of Canadian INHIGEO member **Dr. S. George Pemberton** who died at the age of 69 on August 4, 2018 [see the obituary section]. Though he had been ill for several years, his passing was unexpected. He was a distinguished University of Alberta (Edmonton) professor and C. R. Stelck Chair in Petroleum Geology, Faculty of Science, University of Alberta. For online obituaries see Brodie (2018) and Gingras and MacEachern (2018a-b). While he was not a regular contributor to the INHIGEO's Annual Record, he was critical in the organizing and running of the "Fossils and Fuel" INHIGEO annual meeting in Calgary held August 10-14, 2009. One of his last publications studied the history of the Cincinnati School of Ichnology (Pemberton *et al.*, 2018).

Literature cited:

Brodie, H. 2018. Lowering the Flag: Remembering S George Pemberton and Mitchell Ormann.

<https://blog.ualberta.ca/lowering-the-flag-remembering-s-george-pemberton-and-mitchell-ormann-cc9c7bea7017>

Gingras, M. and MacEachern, J. 2018a. Professor S. George Pemberton.

<https://www.ualberta.ca/earth-sciences/about-the-department/george-pemberton>

____ and ____ 2018b. Professor S. George Pemberton Ph.D., P. Geol., F.R.S.C. (Dec. 3, 1948 – Aug. 4, 2018).

https://www.sepm.org/CM_Files/Inmemory/George%20Pemberton%20Tribute.pdf

Pemberton, S. G., MacEachern, J. A., Gingras, M. K., Pemberton, E. A. L., and Davis, R. A. 2018. History of ichnology tradition and passing the torch: The Cincinnati School of Ichnology, *Ichnos*, 25(4): p. 299-322

Ernie Hamm

Throughout 2018 I continued to serve as President of the *History of Earth Sciences Society*, a society formally affiliated with INHIGEO. Like INHIGEO, HESS promotes the interaction of historians who focus on the earth sciences and geoscientists with an interest in the history of their fields. HESS also publishes *Earth Sciences History*, edited by John Diemer, the leading journal in the field and a venue for many INHIGEO members. Subscription to *Earth Sciences History* is a great value, and all subscribers automatically become members of HESS. In 2018 I also had the pleasure of presenting two papers at the annual meeting of the *Canadian Society for the History and Philosophy of Science*, a meeting in which I played multiple roles for I am also President of CSHPS. I also gave a paper related to Blumenbach, history of geoscience and ideas of race for the working group on the history of science at the History Department at the University of Vienna. It was a delight presenting a paper on ideas of agency and geoscience as they relate to Goethe, as part of a symposium organized by Tina Asmussen on “agency in early modern geology” at the INHIGEO meeting in Mexico. Once again, the INHIGEO meeting was an excellent event, with stimulating papers and exchanges of ideas, outstanding field trips and great collegiality.

David A.E. Spalding

History of Earth Sciences Society

During 2018 I continued to serve as an editorial board member for *Earth Sciences History*, with particular responsibility for vertebrate paleontology, geological education, conservation and Canada. I have also been keeping in touch with a number of developments in (primarily Western) Canada relating to organizations or topics I have been involved with or have written about in previous years.

Cloning of Mammoths in children's fiction

Ontario writer Eric Walters' book *Elephant Secret* that was mentioned in last year's report was published during 2018 by Penguin Random House in Canada, and Clarion Books (Houghton Mifflin) in the United States. It is the 100th book published by this popular author! Further information may be found in online sources, such as Kirkus Reviews. (<https://www.kirkusreviews.com/book-reviews/eric-walters/elephant-secret/>)

New Royal Alberta Museum

Alberta's Provincial Museum brought me to Canada in 1967, and I am now the only surviving senior staff member who was present at its opening in December of that year. My 15-year career with that institution as Head Curator of Natural History (and sometime Acting Director) gave me many opportunities to develop my interests in Earth Sciences History. I have naturally taken an interest in its successor, the new Royal Alberta Museum, which was opened in Edmonton, Alberta, on October 3rd, 2018. The new building is the largest museum in western Canada. It provides 419,000 sq. ft., total space, which includes 84,000 sq. ft. for exhibits; double the exhibit space of the earlier building. The museum curators are responsible for 2.4 million objects illustrating the natural and human history of the province. Free admission is available to indigenous peoples.

Earth science exhibits include a bronze replica of an Ice Age mammoth, skeletons of the dinosaurs *Albertosaurus* and *Edmontosaurus*, a cast of skeletons of a mammoth, a mastodon (from Utah) and a Jefferson ground sloth. In the children's gallery "the museum's youngest visitors have the opportunity to take part in activities such as uncovering fossils in a dig pit." and have access to a "digital sandbox" in which they can create snow-capped mountains, and an active volcano.

Interpretation of the Iron Creek Meteorite (discussed in last year's report), is given in a separate exhibit area reflecting its sacred status among First Nations. Known here as The Manitou Stone (a translation of a native name 'Manitou Asiniy') it is "on display in a stand-alone space within a circular room accented by a starry sky panorama. Visitors aren't allowed to take photos or film the stone. There is no admission fee for this section."

Quotations are from the Edmonton Journal newspaper:

<https://edmontonjournal.com/news/local-news/long-awaited-royal-alberta-museum-opens-doors-to-public>

https://en.wikipedia.org/wiki/Royal_Alberta_Museum.

Hope Johnson and Archival Resources

It was while I was on the staff at the Provincial Museum that I came to know and appreciate the work of amateur paleontologist and nature artist Hope Johnson. During this year I was able to complete contributions to Darren Tanke's forthcoming biographical study of Hope. Apart from an imperfect memory, most of my data came from ephemeral publications I and my colleagues had produced during the seventies — lists of naturalists, catalogues of art exhibits, and the like. During the editing process I began to get requests for copies of the material I had cited and learned the museum (the most obvious source) had not kept files of any of these items. Here is a further complication to the task of an older scientist who is trying to plan to leave some sort of record of his activities — when the parent institution does not keep reference copies of its own products where else will be safe?

Tumbler Ridge

When I wrote my book on the discovery of Canadian dinosaurs (Spalding, 1999) there was little evidence of dinosaurs in British Columbia other than Charlie Sternberg's work on Peace River dinosaur tracks (Sternberg, 1932) and subsequent work by Provincial Museum of Alberta staff and associates (Currie & Sarjeant, 1979). Almost immediately after publication of my book several new dinosaur fossil sites were recorded in the province. The major development has been around Tumbler Ridge in northern BC, where a small town was developed to service a number of coal mines. The mines began to close down in 2000. In the same year two small boys, one son of a local doctor, Charles Helm, found some dinosaur tracks in 2000. Helm sought assistance and connected with the Royal Tyrrell Museum of Palaeontology in Alberta. This led to many more discoveries in the area, and in 2003 a small museum was opened in an abandoned school building. This was seen as potentially an important attractor for tourism in this remote area. Two vertebrate paleontologists (the only ones then based in BC) were hired. Richard McCrea had studied fossil footprints with the late Professor William Sarjeant (well known to INHIGEO members for his bibliography of Earth Science history). His colleague Lisa Buckley completed her Ph.D. at the University of Alberta, with a thesis comparing the results of osteological and footprint studies.

The Peace River Palaeontology Research Centre and Museum began an energetic research and interpretation program. Many trackway finds have been documented, including the first Tyrannosaur trackways. The first skeletal remains were found in 2002, and in 2007 a hadrosaur skeleton was also discovered; the museum now has the most complete dinosaur skeleton from the province. Important Triassic marine fish and reptiles have also been found in the area, from which a new species of coelacanth has recently been described.

On March 28 the district refused to provide its annual grant that permitted the centre to operate. The museum was closed and the staff let go. However, support from other sources was found, and the museum reopened in June. On September 23 it became the focus of a global geopark, only the second to be established in North America.

Citations:

Currie, Philip J. and William A. S. Sarjeant. 1979. Lower Cretaceous dinosaur footprints from the Peace River canyon. *Palaeogeography, Palaeoclimatology, Palaeoecology*, 28: 103-115.

Sarjeant, W. A. S. 1980-1996. *Geologists and the History of Geology. An International Bibliography from the Origins to 1978*. [and supplements to 1993] Arno Press. 10 vols.

Spalding, David. 1999. *Into the Dinosaurs' Graveyard*. Doubleday Canada.

Sternberg, Charles. M. 1932. Dinosaur tracks from Peace River, British Columbia. *National Museum of Canada, Annual Report*, 1930: 59-85.

<http://www.trmf.ca/>

<https://www.cbc.ca/news/canada/british-columbia/tumbler-ridge-residents-say-yes-to-funding-dinosaur-museum-with-caveat-1.4876387>

https://en.wikipedia.org/wiki/Tumbler_Ridge

Cryptozoology and Paleontology

During the year my attention was called by a coincidence to the area of cryptozoology. One Saturday evening I enjoyed listening storytellers from Pender Island (near Victoria) sharing their memories, and hearing for the first time in my 37 years visiting or living on this island first-hand accounts of sightings of our local sea monster "Cadborosaurus/Penda". The following day I was asked to review a paper in preparation for the journal *Earth Sciences History*, dealing with a scientific question about the record of sea monsters.

This fascinating area on the boundary of science may be regarded as cryptozoology and/or folklore (depending on the researcher's point of view). It raises questions about the nature and validity of evidence, and the relationship of hypothesis to fact that are significant in other areas of our science, where popular (and sometimes professional) belief and scientific truth are not always in synch. Historians of science deal with many such questions, and similar discrepancies remain in current discussion, as for instance in the interpretation of the role of a variety of terrestrial and extraterrestrial events in the extinction of a few, some of, most of or all of the dinosaurs.

British Columbia, Canada's westernmost province, was occupied before settlement by a great diversity of aboriginal communities whose diversity of legends and visual art features many monsters, and more recent settlers have produced many reports of creatures unacknowledged by orthodox science. Its mountains and dense forests yield endless stories of man-like Sasquatches and their supposed footprints, while the many lakes and extensive coastline have produced vivid accounts of

freshwater and sea monsters. Some of these have acquired popular nicknames; for instance, Ogopogo is supposed to live in Lake Okanagan, and the principal marine monster is generally known as "Cadborosaurus" (or more familiarly as "Caddy") after the community of Cadboro Bay near Victoria on Vancouver Island. Some of the descriptions from supposed sightings of these creatures suggest plesiosaurs, leading to interpretations as surviving marine reptiles of the past.

Caddy is not without professional support, and indeed the principal book on the topic is authored by a professor emeritus from the University of British Columbia and a retired zoologist from the National Museum of Canada. (LeBlond and Bousfield, 1995). Like the Loch Ness monster, Caddy has achieved the distinction of a scientific name. I met Bousfield in the early 90s, when he invited me to serve on the editorial board of a new journal whose terms of reference would make it possible to publish cryptozoological data. I had to pass up this generous offer, but note that a scientific description of *Cadborosaurus willsi* was published in *Amphipacifica* in the same year as the book (Bousfield and LeBlond, 1995). I have not seen this paper, but assume that (as with Nessie), no type specimen is designated.

Among many other reported sightings, several pages of the *Cadborosaurus* book are devoted to Pender Island observations in the 1930's, with map, drawings of the monster, and photographs of some of the observers; one I believe the father of my recent informant. Recorded observations are of the monster swimming a foot underneath the surface, a horse-like head and two coils more than six feet above the observer and only ten feet away. It was observed to swallow a duck, showing sharp teeth and tongue. Observation was made by at least 13 people, one of whom was a Justice of the Peace called in to record sworn testimony about the sightings.

One of these sightings is reported briefly in Heuvelmans' world-wide survey of sea serpent records (Heuvelmans, 1965 p. 465). Bousfield died in 2016, while LeBlond is co-author of a 2014 book *Discovering Cadborosaurus*, which I have not yet seen.

Citations:

Bousfield, E. L. and LeBlond, P. H. 1995. An Account of *Cadborosaurus willsi*, new genus, new species, a large aquatic reptilian form from the Pacific Coast of North America. *Amphipacifica* 1, Supplement 1.

Heuvelmans, B. 1965. In the Wake of the Sea-Serpents. Rupert Hart-Davis. 645 pp.

LeBlond, P.H. and Bousfield, E.L. 1995. *Cadborosaurus: Survivor from the Deep*. Horsdal & Shubart. 134 pp.

<https://en.wikipedia.org/wiki/Cadborosaurus>

Hydrocarbon Transportation and the Environment — a current controversy.

How often does a historian wish he/she could have been present during past conflicts and controversies in science? How else can it be possible to disentangle the different events, opinions and objects of discussion, unless every principal player leaves detailed records of their actions and opinions? It is with this thought that I briefly mention my almost front row seat in what future historians may deem Canada's major economic geology/ oceanography/ political/ social / international controversy that has raged through 2018 and is still unresolved.

On my small island I currently have a splendid view of part of the Salish Sea, overlooking the junctions of Active Pass, Navy Channel, Swanson Channel, and Trincomali Channel. Boat traffic through the Southern Gulf Islands is mainly ferries serving the Gulf Islands, and an intermittent stream of freighters and tankers. A short distance down Swanson Channel are Boundary Pass and Haro Strait, route of the US/Canadian boundary and most of the big ship traffic. These waters are also occupied by Southern Resident Killer whales, an endangered group with a declining population of 75 in October 2018 — a 30 year low. Research has shown that the whales are suffering from inadequate food supply (declining salmon), high pollution, and intrusive boat traffic (aggressive whale watching boats and noisy commercial vessels). The geological part of the story is the huge Tar Sand deposit of northern Alberta (now generally miscalled Oil Sand). The major oil companies want to triple a pipeline that already crosses part of Alberta and British Columbia, to carry the heavy oil (known as dilbit), then transport and ship it to Asia by a seven-fold increase in the number of tankers.

This venture is supported by the Alberta and Federal governments (the latter having purchased the pipeline to ensure its completion). The development is opposed by the British Columbia government, and by many B.C. First Nations (who point out that the territory to be crossed is theirs by aboriginal title, and that most of the Nations have not negotiated access with other governments). A growing community of citizens with environmental concerns is lobbying against increased tanker traffic and the likelihood of a major spill of dilbit which cannot be cleaned up. Many of them have made on-site protests that have led them to be fined or imprisoned. Add in a review board that is largely staffed by oil business nominees and appeals to the courts (which have currently stalled the project) that point to inadequate consultation with First Nations, and no consideration for the potential dangers of increased tanker traffic. All this is played against a background of climate change and a national

program of reconciliation with First Nations. All these issues have given rise to a rich stew of fact, fake news, and opinion. In 2019 there is a considerable possibility that this issue will have a major impact on an upcoming provincial election (Alberta) and the Federal election in the fall, and thus on the country as a whole. Let us hope that future historians are making copious notes.

Darren H. Tanke

In late May 2018, I went to Ottawa and conducted research at the Canadian Museum of Nature's (CMN). I photographed various archival letters and papers related to pre-1970 Albertan vertebrate paleontology. While there I gave an oral presentation entitled "Dinosaurs in the Deep: The 1916 sinking of the Canadian Pacific ship SS *Mount Temple* and her Albertan dinosaur cargo" to about 50 CMN staff as part of their luncheon speaker series. I also worked with two others, Brigid Christiason and Dr. Jordan Mallon on a review of Late Cretaceous vertebrate fossils collected in Saskatchewan and Alberta during 1874-1899 by the North American Boundary Commission (1872-1876) and the Geological Survey of Canada. We are presenting on this at the Canadian Society of Vertebrate Paleontology in Grande Prairie, AB and the Judith River conference in Malta, MT this spring and summer. Part of this work involved some renewed research on my part of James Hoyes Panton, a largely unknown Winnipeg man who was one of the first people to collect dinosaur material in what is now Alberta, near the town of Irvine. He surface-collected dinosaur bones there in 1883-1884 and in the fall of 1883, some of these bones, along with other fossils Panton collected in western Canada, went on a travelling exhibit to St. John, NB and Boston, MA. These are either the first or among the first Albertan dinosaur bones exhibited in Canada, and certainly in the United States and are probably the first used in a Canadian travelling exhibit. Thanks to Dr. James Burns of Winnipeg for his help on this aspect of our project; he published an article on Panton recently that may be of interest to some INHIGEO members (Burns, 2018). While in Ottawa, Dr. Mallon and I "rediscovered" Canadian dinosaur artwork done by Dr. Robert T. Bakker for new dinosaur galleries in Ottawa around 1973. Mallon and I will pen a historical article on this beautiful and dynamic but oft forgotten artwork (Tanke and Mallon, in prep.).

While at the CMN going through old correspondence I came upon some 1950's letters describing the recovery of a partial horned dinosaur (*Anchiceratops*) from an underground coal mine near Vulcan, AB. The owner of the mine retained the specimen. I posted something in a Community of Vulcan Facebook group about this and a man there created the Facebook group: The BIG Champion Coalmine Dinosaur Head Hunt. The specimen has not been relocated.

A nearly 10-year project, the biography on Hope Johnson, was finalized in early December, 2018 and is now in the final editing phases, proofing stages and indexing. It should be available for sale in the summer of 2019. Check the Alberta Palaeontological website (<https://www.albertapaleo.org/>) for sale details.

John Louis Wegener (1870-1937) was a man who ranched in what is now Drumheller, AB and, in 1909, alerted the American Museum of Natural History to dinosaur bones on his land. A preliminary look to confirm the report was done that year and the museum then spent six field seasons collecting a vast haul of dinosaur specimens, sparking the "Great Canadian Dinosaur Rush." In November 2018, I made contact with some Wegener family members who got me in touch with a woman in Montana who had bought Wegener's youngest son's home. That son died in the late 1990's and the family locked up his house and left it alone. When the woman bought the house, she discovered all of J. L. Wegener's papers and photographs had been saved. She has digitally photographed many of the documents and shared them with me and a trip to Montana is planned to examine and further document the materials first hand for a biography on him well in progress.

This year I began working on a concise history of the extensive American Museum of Natural History (AMNH) paleontological activities here in Alberta. So much work was done by them and so many specimens collected, pictures taken, letters and report written, yet the information has become scattered. I'm working with two AMNH contacts, collections manager Carl Mehling and Dr. Lowell Dingus. This will be a multi-year project and may be published through the AMNH.

Some years ago, I was asked to comment on the helpful role the British Army Training Unit Suffield (BATUS) had lifting Royal Tyrrell Museum of Palaeontology's plaster field jackets, field gear, and one mercy flight for a crew member with a broken leg. They did lifts for us about a half dozen times from 1983-2005. My comments and others related to such lifts appeared in a new history book on BATUS (Warner, 2018: 85, 88-91).

Several old dinosaur quarry relocation attempts were made. In June Dr. Caleb Brown and I, using old Royal Ontario Museum fieldnote data, attempted to relocate the 1922 *Parksosaurus warreni* type specimen quarry. The site itself was not found, but specific layers of rock at the edge of an old road at the correct elevation above the nearby Red Deer River all matched the fieldnote description so we feel the stratigraphic and rough spatial nature of the site is now preserved. An effort (July 20) to relocate horned dinosaur (*Anchiceratops*) sites/bonebed reported in the badlands upstream from Drumheller in a 1920's report

failed. In August, renewed efforts (4th try) to relocate J.B. Tyrrell's 1884 "*Laelaps*" (*Albertosaurus*) was attempted. The quarry site or the remainder of the skeleton was not located, but the general field area of the skull's recovery is believed to have been found. The next day, a lost 1923 GSC quarry that yielded a partial *Edmontosaurus*, was finally relocated. The most remarkable relocation was that of a 1913 American Museum of Natural History (AMNH) armored dinosaur (*Euoplocephalus*) quarry. I had unknowingly found the site in 2007 when I discovered short lengths of rusty wire and a nail in DPP. Then I had thought it might be related to a ceratopsian quarry nearby, one with no information as to crew, year, or skeleton collected. Returning to the wire site this summer, an ankylosaur limb bone and a femur were seen protruding close by. In uncovering these small pieces of ankylosaur armor (ossicles) were found, proving this specimen was worth collecting. In working the site the next day, I realized a thin wedge of dark clay exposed in a nearby outcrop was familiar to me as I had seen something similar in an old quarry photograph sent previously. A check of my emails showed that four years and two months earlier, a 1913 AMNH field photograph of the very site we were working was sent to me. By process of elimination we were able to identify the site as yielding AMNH 5405, the best *Euoplocephalus* skull and lower jaws (and a partial skeleton) ever collected. Now we have even more of the skeleton and the precise location of the specimen, previously unknown, is preserved. More work will be conducted at the site in the summer of 2019. Another old dinosaur quarry in Dinosaur Provincial Park was a large tyrannosaur. The site was located in 1996 and considered a new skeleton eroding out, but a site inspection by me in the fall of 2018 revealed it is in fact an old unmarked quarry. It sits among marked 1913-1914 AMNH sites so it may have been excavated by them. A good candidate is a large *Gorgosaurus libratus* in New York, but sleuthing work to resolve this continues.

I participated as a guide/co-leader for the Dinosaur Research Institute's "Dinotour 2018" from August 3-6, 2018. This was a four-day guided bus tour to various fossil sites across southern Alberta. There was a strong history component, so I was utilized extensively as I, other tour leaders/helpers and several dozen public participants visited various sites. Another tour in Alberta or Alberta/Montana is planned for 2020. If any INHIGEO readers are interested they can visit the Dinosaur Research Institute's website at: <http://www.dinosaurresearch.com/>. I was also a co-leader of a five-day (August 17-22) joint Queen Mary University (London, England) and University of Southern California (Los Angeles, USA) undergraduate field school project in Dinosaur Provincial Park. While a fossil taxonomy and morphology-themed trip, history of the early collectors' activities in the Park was also included by me.

I was involved in the transfer of historical documents, maps and images of, or related to, the early collection of dinosaurs in Alberta. These were sourced from Dinosaur Provincial Park photograph collection (originally donated by Stan Martin, a descendant of fossil collector Charles M. Sternberg) and the widow of Maurice Stefanuk, a Drumheller amateur fossil collector and assistant to Dr. Loris S. Russell in the mid to late 1980's when Russell (and I) assisted him in relocating old dinosaur quarries in the Drumheller Valley. The documents and images are now in the collections of the Royal Tyrrell Museum of Palaeontology. More Stefanuk papers and images are awaited.

Other history projects I was involved in were:

1. A short documentary on Mr. Al Lakusta and the Pipestone Creek *Pachyrhinosaurus lakustai* (horned dinosaur) bonebed he found was a site I worked mainly in the summers of 1986-1989. I was asked to review an early version of the film, entitled *Secret Alberta: Grande Prairie Dinosaurs* for historical accuracy. Too bad I was not asked to review the subtitles for accuracy! This 16:01 minute film was posted online on March 19, 2019 at:

<https://www.youtube.com/watch?v=7rkJNqyfZTc&fbclid=IwAR3p4wgP-NRO9xIhsysPTn73vyrFpWYtegps2zr4eE4eq9EeEQCBdywrCEk>

2. Using historical (mostly) and anatomical features, I was able to re-associate three Royal Tyrrell Museum fossil specimens that likely derived from one ornithomimid (ostrich dinosaur) individual. Decades ago, and for reasons long lost, these specimens became separated and then were catalogued under three separate numbers.

3. On November 6th, 2018, our museum received a surprise donation of books, magazines, reprints, notes and a reel-to-reel recording all related to our museum's namesake Joseph Burr Tyrrell (1858-1957). I saw to it that these documents were safely added to our small collection of archived J.B. Tyrrell materials.

4. On January 17, 2019 I gave a talk at the Royal Tyrrell Museum of Palaeontology (TMP) to staff and public on Maurice Stefanuk, a Drumheller, Alberta amateur fossil collector and former TMP technician. He made several significant dinosaur discoveries. The talk was taped and can be seen on the Tyrrell Museum's YouTube channel (<https://www.youtube.com/watch?v=3flrwUdKZdQ>) and resulted in a local newspaper article (Smylie, 2019). As the same talk included naval military history, I was asked to give the same talk to the Drumheller Branch of the Sea Cadets on February 13th. I also gave the same talk twice at Dinosaur Provincial Park for the general public.

5. I found two 84-year-old newspaper stories online on the discovery of a scattered horned dinosaur skeleton by two Boy Scouts on Sullivan Creek near Calgary, AB. The articles are believed to be related to some 1919 Geological Survey of Canada photographs from the same creek that appear to show horned dinosaur bones. One of the bones was tracked to the University of Alberta where it was donated in 1939, but alas it was a common hadrosaur! Despite this, efforts are being made to establish where this site is and a visit to it this summer is anticipated.

6. Co-authoring (with Peter Hews) a memorial piece on Tony Ashton (1935-2018), a man involved in the oil industry in Alberta who lead the Royal Tyrrell Museum of Palaeontology to a particularly rich fossil area.

7. I have been spending much time searching through digitized newspaper sites and culling out historical articles on Albertan vertebrate paleontology and adding them to various manuscripts currently underway.

8. Just for fun I've been looking for and submitting paleontology-themed poems for the Palaeo Poems website: <https://palaeopoems.com/>. Some of these poems of both geological and paleontological themes go back 150 years and are found while searching for other historical items related to my research.

Citations:

Burns, J. 2018. J. Hoyes Pantou: An early Winnipeg rocks star. *Manitoba Hist.*, 87: 19-22.

Smylie, K. 2019. Amateur fossil hunter finds his long-lost love. *The Drumheller Mail*, January 30: 1, 3.

Warner, G. 2018. *British Army Training in Canada - Flying Above the Prairie*. Fonthill: Stroud. 160 pp.

Clinton Tippett

I am a retired geologist, formerly with Shell Canada, living in Calgary, Alberta, Canada. I have continued to bring my geological background and historical knowledge to bear as the Chair of the Yukon Oil and Gas Advisory Committee and as a member of the Technical Advisory Committee – Petroleum for Geoscience British Columbia. Over the past year I have been involved in leading several field trips to the Canadian Rocky Mountains.

Petroleum History Society

My focus on historical geology over the past year continued to be primarily through the Calgary-based Petroleum History Society (P.H.S.). I am both its President and the Editor of its newsletter *Archives* (back issues of which are accessible through our website at www.petroleumhistory.ca). Production of this newsletter involves the creation of articles summarizing presentations that have been given, news items from the media, interpretive pieces, photographs (current and historical) and excerpts from the publications of related organizations. Quite a number of our most popular articles relate to geological controversies or situations having a strong geological basis.

The P.H.S. sponsors 6-7 luncheons plus an Annual Meeting each year at which speakers address historical petroleum-related topics, many of which have a significant geological component. We have an annual awards program recognizing the preservation and communication of the history of the Canadian petroleum industry comprising Book of the Year, Article of the Year, Multimedia, Preservation and Lifetime Achievement. We have in the past organized topical field trips and walking tours, both of which have strong geological flavours. In 2018 the P.H.S. initiated a transcription project for petroleum industry interviews that took place in the early 1980s. Many of these were with geologists. The audio tapes are in the custody of the Glenbow Archives in Calgary, as are all the transcription records.

We have also been involved in making nominations to the Canadian Petroleum Hall of Fame whose induction ceremony for 2018 I attended in November.

Turner Valley Oilfield Society

During 2018, both the P.H.S. and I continued to cooperate with the Turner Valley Oilfield Society (T.V.O.S.) which is building its organizational capacity with the assistance of the charitable Calgary Foundation. The T.V.O.S. is also working with the Government of Alberta to develop and enhance an interpretive program, including guided walking tours, at the Turner Valley Natural Gas Processing Plant. This now-inactive facility is both a provincial and a federal historic site, dating back to the late 1910s. The tours feature all aspects of petroleum exploration and production including the interpretation of the geological context of this formerly prolific oil and gas field. The T.V.O.S. has a number of other preservation and communication initiatives ongoing as well including a speaker series and various documentation for tours of the Turner Valley region.

American Association of Petroleum Geologists

I am a member of the History of Petroleum Geology Division of the A.A.P.G. whose meeting I attended in Salt Lake City in May 2018. This group also hosted a session at the convention that featured talks on a wide range of historical geological topics. The convention itself included a number of exhibits of historical interest.

Canadian Society of Petroleum Geologists

In 2018, I became President of the C.S.P.G. Within this organization I am also the Chair of the History and Archives Committee. We are planning to reinvigorate our historical activities through the establishment of a committee in preparation for our own centennial in 2027. This will involve interviews with key society participants and other activities, following in the footsteps of our 75th anniversary celebrations in 2002. In addition, I am the Chair of the C.S.P.G. Stanley Slipper Gold Medal Committee that selects the recipient for this award that honours an individual who has made outstanding contributions to petroleum exploration in Canada, be that through their own accomplishments, by leading exploration teams or through mentorship. An understanding of the evolution of geological concepts is a key factor in exploration success. I have been involved in numerous technical forums related to geological concepts and have been active as an editor for a forthcoming book comprised of geologically-oriented hikes in Alberta and British Columbia. I attended the Resources for Generations convention in Vancouver, B.C. in June and the Atlantic Universities Geological Conference in Halifax, Nova Scotia in November. The latter also involved a visit to the memorial obelisk for Abraham Gesner, the father of petroleum geology.

Petroleum History Institute

I am a life member of this organization. I attended its annual symposium and field trip in Salt Lake City in May 2018.

Geological Society of America

I am a member of the History and Philosophy of Geology Division of the G.S.A.

(This report compiled and edited by Canadian INHIGEO member/editor Darren H. Tanke).

COSTA RICA

There are two Costa Rican members in INHIGEO: the geologist Gerardo J. Soto and Guillermo E. Alvarado.

Guillermo Alvarado published several papers related to the history of Volcanology in Costa Rica (see below), seismology, and paleontology related to legends. Also, he attended the INHIGEO meeting in Mexico City, where he delivered a lecture on the History of Volcanology in Costa Rica.

Because Mexico, for Latin American countries, is part of North America, therefore Alvarado was the only representative member of INHIGEO from Central America and South America at this meeting.

Meetings and field trips

11 - 12 de November, 2018: 43rd Conference International on the History of Geological Sciences. Talk: *Overview of the history of Volcanology in Central America*. Palacio de la Minería, Ciudad de México, INHIGEO, UNAM. Participation in the excursion at Geoparque de la Comarca Minera, Pachuca.

Papers related to different topic of History of Geosciences

Alvarado, G. E., 2018. Overview of the history of Volcanology in Central America. In: Serrano; D., Morán, D., Morelos, L., González-Casanova, G., Azuela, L. F. (eds.), International Commission on the History of Geological Sciences 43rd Conference. *Conference, Program, Abstracts, Field Trips Guides*, UNAM, México, p. 40-41.

Kohlmann, B., Solís, Á. & Alvarado, G. E., 2018. Did Costa Rica Dung Beetles (*Coleoptera: Scarabacidae*) Feed on Bison Dung Before the Arrival of Spanish Cattle? *The Coleopterists Bull.* 72 (2): 1-8.

Lichtig, A. J., Lucas, S. G. & Alvarado, G. E., 2018. Reappraisal of “*Testudo*” *costarricensis*, a tortoise supposedly from the Oligocene or Lower Miocene of Costa Rica. - *Rev. Geol. Amér. Central*, 59: 41-49.

Linkimer, L., Arroyo, I. G., Alvarado, G. E. & Bakkar, H., 2018. The National Seismological Network of Costa Rica (RSN): An Overview and Recent Developments. - *Seismol. Res. Letters*, 89 (2A): 392-398.

Articles for newspaper

Alvarado, G. E., 2018. El devastador despertar del volcán Arenal en 1968. En: *La Nación*, 29-VII-2018, *Áncora*, p. 6, San José, <https://www.nacion.com/ancora/el-devastador-despertar-del-volcan-arenal-en-1968/EG5QBTRSLVDEJBRE3GIGZWJHXQ/story/>

Guillermo E. Alvarado, San José, Costa Rica

CZECH REPUBLIC

Pošmourný K. (2018): *Franz Xaver Riepl and his geological map of Bohemia* (in Czech: Franz Xaver Riepl a jeho geologická mapa Čech), *Český kras*, pp. 64–66. Beroun. ISBN 978-80-87708-11-8 ISSN 1211-1643 © Muzeum Českého krasu, p. o., Beroun.

For the regional volume *Český kras* ("Bohemian karst") I have published a Czech text about a prominent personality of Franz Xaver Riepl. This Austrian expert had great merit not only in the development of industry in the Czech Republic, but also in the knowledge of geology, especially in Beroun District.



Figure 1. Franz Xaver Riepl, Lithography of Josef Kriehuber, 1855

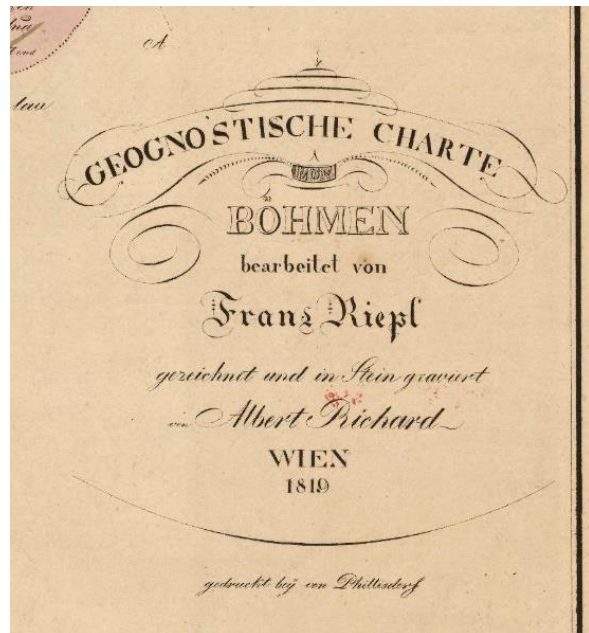


Figure 2. The title page of the map of Bohemia of F. X. Riepl.

Franz Xaver Riepl (*November 29, 1790, Graz; † April 25, 1857, Vienna) was an important Austrian geologist, metallurgical specialist and railway constructor, later also a professor at Vienna Polytechnic. He constructed the oldest geological map of Bohemia, the western part of the Czech Republic (in 1819). The map shows deposits of coal, iron ores and of pyritic shale. Geological content is highly simplified and different from present-day geological maps.

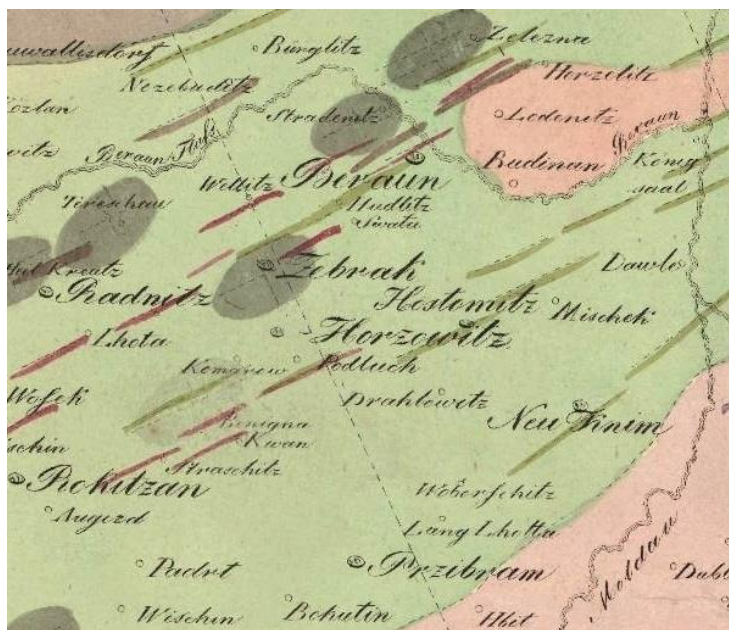


Figure 3. Detail of the geological map of Bohemia showing the wider surroundings of the town Beroun (Beraun).

Pošmourný K., Rambousek P. (2018): *History of mercury mining in the Czech lands in the context of large Hg-deposits in Europe (July 27-9, 2018)*. 14th International ERBE Symposium in Ravne na Koroškem, pp. 76-79, Slovenia ISBN 978-961-288-493-2 1. Oder, Karla COBISS.SI. ID 94591745

In the abstract for the 14th International ERBE Symposium in Ravne na Koroškem in Slovenia, the text of the lecture was published:

Mercury has been produced from cinnabar since ancient times. It served primarily to amalgamate gold and silver, or for use in gold-plating and silvering. Powdered cinnabar has also served as a high-quality red pigment. In modern times, mercury has been used in a variety of industrial, agricultural and medical applications, but is currently turning away from mercury because of its toxicity. On the basis of findings of the Minamata Convention on Mercury of the United Nations from 2013, mercury mining and its industrial use are limited. The properties of mercury, the form of its occurrence in the environment, especially in soil, water and food, and the impact of these forms on human health are being studied extensively today. Approximately forty mineralogical occurrences of cinnabar are mentioned in the Czech Republic. In just five locations, cinnabar has reached such concentration and volume that it has been mined in the past, *i.e.* between the 14th and 19th centuries.

The five Czech historical records of cinnabar are: Horní Luby by Cheb, Jedová hora near town Hořovice, Svatá by Beroun, Jesenný by Semily and Bezdrůžice near the spa Mariánské Lázně. None of these historical deposits today have a practical economic meaning, but they can greatly serve environmental geochemical research. Studying their structure and genesis can help to understand the origins, development and metallogeny of Variscan Europe.

Figure 4. The mouth of the old shaft at Jedová hora Mt. near town Hořovice (Beroun district), where mercury ores were mined. Photo by Jiří Pošmourný.



Mercury has been obtained in Europe only from few localities. The largest of them was Almadén, in the province of Ciudad Real in the Castilla-La Mancha in Spain. The stratiform submarine volcanogenic deposit of silurian age has been mined there since the time of ancient Greece and Rome. The second largest European deposit was in Idria near Ljubljana, on the border of the Alps and the Dinar Mountains, on

the territory of today's Slovenia. This submarine exhalative deposit of permian-triassic age has been mined since the 16th century. The Idrija mines covered all the consumption of mercury in the Habsburg Austrian monarchy for a long time. The third largest European deposit was Mt. Amiata in Italy, Pleistocene volcanogenic deposit. Mercury has been obtained also like a by-product of polymetallic ores in subvolcanic fields, mainly in Slovakia from Hg-tetraedrite (Rudňany, Malachov, Nižná Slaná). Mining at Moschellansberg by Obermoschel in Germany and by Nikitovka in Doněck region in Ukraine was known in past.

Alena Čejchanová (2018): Fotografická kolekce portrétů významných českých a světových osobností geologických věd v publikační webové aplikaci Fotoarchiv ČGS. ČGS Praha. 2018.



During the two-year project, 438 photographs with portraits of outstanding Czech, Slovak and foreign personalities of natural and geological sciences of the 16th to 20th centuries were scanned and made available. Professor Radim Kettner's unique collection of photographs is the property of the Institute of Geology and Paleontology, Faculty of Science, Charles University in Prague. Professor Radim Kettner (May 5, 1891 Prague - April 9, 1967 Prague) was a prominent Czech geologist, university professor and, above all, an expert in regional geology. The photo collection is part of Kettner's interest in the history of science and its popularization.

Professor R. Kettner and Professor Pentti Eskola

Scanned photos are part of the CGS Photo Archive web application and are displayed in two photo galleries

Kettnerova sbírka portrétů osobností přírodních věd - <http://fotoarchiv.geology.cz/cz/galerie-nahledy/galerie/113/>
- contains individual portraits of personalities with brief biographical data, so far in Czech. The collection also includes a small group of photos with objects related to personalities such as their tombstones, monuments and busts.

An example of several photographs that have been published by R. Kettner in *Journal of Mineralogy and Geology*.



Johann K. W. Voigt;



Christin Andreas Zipser;



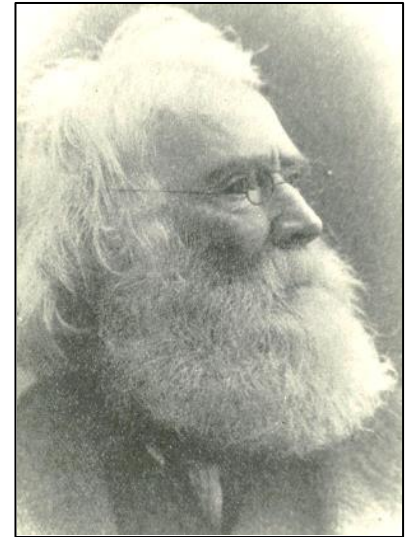
Charle Deville;



Sir Andrew C. Ramsay)



Amanz Gressly



William Logan

An example of photographs of technical or other non-human objects (bust, tombstones, etc.).



The grave plaque of J. Krejčí



The Memorial plaque of F. Pošepný

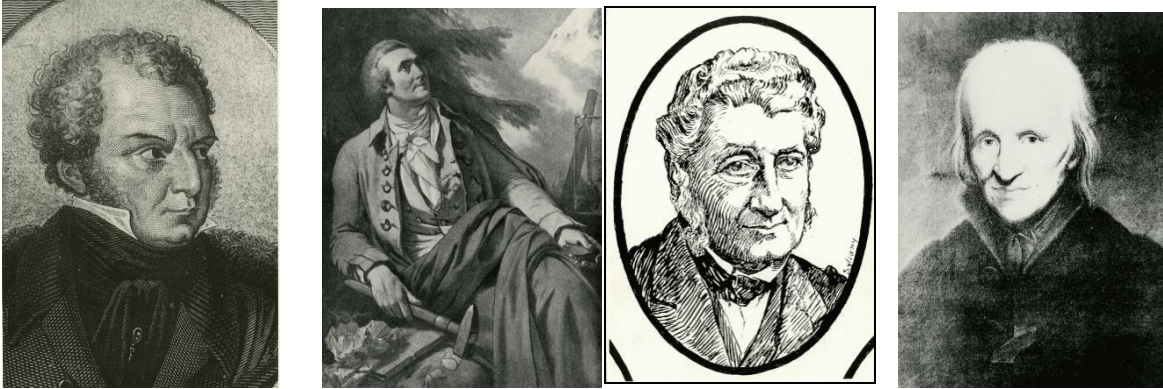


The bust of F. Stoliczka)

Kettnerova sbírka portrétů osobností – NEURČENÉ - <http://fotoarchiv.geology.cz/cz/galerie-nahledy/galerie/139/>
- contains portraits of people that have not been identified yet. It allows the visitor to the application of the photo archive to contribute to their identification.



Sample photos of men who have not been identified



If anyone can supply the name of any of these unknown men, please contact: Alena Čejchanová at e-mail: alena.cejchanova@geology.cz; tel. +420 234 742 204; mobile: +420 724 072 347.

FRANCE

Claudine Cohen, INHIGEO member

Directrice d'Etudes à l'Ecole des Hautes Etudes en Sciences Sociales (Paris) ; Directrice d'Etudes à l'Ecole Pratique des Hautes Etudes, 3^e section sciences de la Vie et de la Terre, Laboratoire Biogéosciences, Dijon et Paris.

Report on scientific activities 2017-2018

1 - *Sciences, Images and Imaginations of the Earth (17th-21st Century).*

The purpose of my 2017-2018 seminar at EHESS was to study the different ways the Earth was represented and understood as a whole, through different systems of thought. Several approaches to this history have been studied, from 17th-century Earth Theories to nineteenth-century catastrophist or Neptunist visions, to plate tectonics in the twentieth century, and to global theorizations that elicit the concepts of "biosphere", or "anthropocene" in the 21st century. Our research focused on field practices as well as on speculative theorization, on scientific and artistic image as well as literature.

In the course of this seminar, Mr. Ralph Samuel Grossmann, a Ph.D. student at EHESS under my supervision, presented his research work in a lecture on Robert Smithson's Land Art in relationship to the Geosciences. He defended his doctoral thesis under the title "*Thinking the territory, Sculpting the landscape: Robert Smithson's Nonsites and geosciences in the 1970s*" on December 7, 2018, before a multidisciplinary jury composed of art and science historians, a physicist and a Geoscientist.

At my request, Mr. Johannes Mattes (Vienna Academy of Sciences and member of INHIGEO) was an invited professor at EHESS for a month, in April 2018. During this stay, he extended the topics of my seminar by four lectures on "Science from the underground, from the Renaissance to contemporary times", entitled:

- "Under the Skin of Mother Earth" – Images of Body and Gender in the Debates on Cave Minerals and Fossils (1500-1800)
- "Landscapes of Translation" – Concepts of Knowledge and Space in Historical Cave Maps (1400-1950)
- Mapping the Past, Making Politics: Archaeological and Paleontological Cave Excavations during the Third Reich (1933-1945)
- Earth Sciences in the City – Mediators, Translators and Circles of Exchange between Scientific Research & the Public. A Case Study of Vienna (1850-1930)

2 - Thinking about the Anthropocene: a new role for the Geosciences?

As part of my responsibilities as a Directeur d'Etudes at the Ecole Pratique des Hautes Etudes, (EPHE) section of the Life and Earth Sciences, and a member of the laboratory Biogéosciences attached to the University of Dijon, I organized a workshop for the Geology graduate students of this laboratory, dedicated to a reflection on the notion of Anthropocene and its scientific, theoretical, practical, as well as socio-political implications.

The concept of Anthropocene was formed in 2002 by chemist (and Nobel Prize) Paul Crutzen. It proposes the definition of a new epoch in the geological history of the globe, succeeding the Holocene, during which the Earth has been irreversibly marked by the effects of human activity. If opinions differ as to the starting point of this epoch, speaking of Anthropocene implies

that anthropic activities produce cumulative effects on the biochemical level, as on the level of the biosphere, resulting in irreversible marks of this shift, and in transformations which threaten not only terrestrial biodiversity but human existence itself. Therefore, this concept strongly articulates the Life, Earth and Human sciences.

We first explored the history and epistemology of the notion, and its premise in the notion of "Biosphere" put forward by Suess, Teilhard, Vernadsky. Other similar notions were studied, such as the "Gaia" hypothesis (Lovelock) or the Earth as an "actor" (Latour) as well as the concept of "Earth System Science". We then addressed the current debates on the definition and limits of Anthropocene: what are the scientific procedures to define a new stratigraphic stage? What "Golden Nail" or specific landmarks is it possible to define? These questions were examined relying on the discussions that took place at the International Geological Congress in Brisbane Australia (2012) and Cape Town (South Africa) in 2016.

We then focused more precisely on the markers of the Anthropocene: Anthropocene and pollution; disturbances of the carbon and nitrogen cycles which result in climate warming; biological markers such as the destruction of biodiversity. Our reflections then turned to the societal choices implied by the Anthropocene: political and economic issues, preservation and conservation policies; to then examine the means, risks and myths of geoengineering, and envisioning the future of the Earth through science fiction.

Public lectures.

During the year 2017-2018, I was invited to give a number of public lectures, in France (Les Eyzies, Vallon Pont d'Arc, Toulouse, Carnac, Carcassonne, Créteil...) and abroad (Université Libre de Bruxelles, Belgium ; UQAM, Montreal, Canada), on different themes presented in my recent books, especially the question of women's place in Prehistory. I was also interviewed for various television and radio scientific programs.

Publications :

BOOKS

Boucher de Perthes, les origines romantiques de la préhistoire, avec J.-J. Hublin, (ed. de poche revue et corrigée) Paris, Belin Alpha 2017, 392 pp.

Anthologie de la Préhistoire littéraire, avec Romain Bondonneau, Sarlat, Ed. Périgord Patrimoine, 2018.

Manifeste du Muséum - Quel futur sans nature?, avec Bruno David, Philippe Taquet et al. Paris, ed. du Muséum 2017.

BOOK CHAPTERS

Claudine Cohen "Sex, reproduction and scenarios of human evolution", in *Rethinking Human Evolution*, J. Schwartz ed. MIT Press, Cambridge (USA) 2017, pp. 335-353.

Claudine Cohen "Aux origines du Genre" in *Variations sur l'histoire de l'humanité*, ed. La Ville Brule, Paris, 2018, pp. 79-84.

Claudine Cohen "Exhibiting life history at the Paris Muséum d'Histoire Naturelle (nineteenth–twenty-first centuries)" in *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making* edited by Gary D. Rosenberg and Renee M. Clary, The Geological Society of America, *Special Paper* 535, 2018, chapt. VIII, pp. 117-131.

Claudine Cohen « De Richard Owen à Charles Darwin : origine de la diversité du vivant » in M.-C. Maurel et Philippe Grancolas eds., *Biodiversité et évolution* ISTE editions, Paris, 2018, pp. 1-14.

Claudine Cohen, « From Richard Owen to Charles Darwin: Understanding the Origin of Life's Diversity, » M.-C. Maurel et Philippe Grancolas eds., *Biodiversity and Evolution* ISTE Editions Paris 2018, pp. 1-14.

Claudine Cohen "Pierre Teilhard de Chardin (1881 -1955)" in *L'Ecole Pratique des Hautes Etudes, Invention, Erudition, Innovation, de 1968 à nos jours.*, sous la direction de Patrick Henriet, Somogy Editions d'Art, Paris 2018pp. 298-299.

Claudine Cohen "Henri-Victori Vallois, (1889-1981)" in *L'Ecole Pratique des Hautes Etudes, Invention, Erudition, Innovation, de 1968 à nos jours.*, sous la direction de Patrick Henriet, Somogy Editions d'Art, Paris 2018, p. 236.

PAPERS

Claudine Cohen "How nationality influences Opinion": Darwinism and palaeontology in France (1859–1914) *Studies in History and Philosophy of Science Part C: Studies in History and Philosophy of Biological and Biomedical Sciences*, Volume 66, December 2017, Pages 8-17.

Report on the activities on the history of geology in France in 2018

In 2018, the French Committee on the History of Geology (Cofrhigéo) met in three sessions.

The session of March 14, 2018 was dedicated to the fiftieth anniversary of the theory of plate tectonics, with two conferences by **Gabriel Gohau** and **Xavier Le Pichon**, who was an actor in this scientific revolution:

Gabriel GOHAU : Théories tectoniques globales d' hier et d'aujourd'hui [Global tectonic theories of yesterday and today];

Xavier LE PICHON : Cinquante ans de Tectonique des Plaques: quelques réflexions sur la place qu'a prise la géologie française dans cette révolution qui a bouleversé les Sciences de la Terre [Fifty years of plate tectonics: some reflections on the place of French geology in this revolution that has revolutionized the Earth Sciences].

The recording of this conference can be seen at the following address : <http://Annales.org/archives/videos/xavier-le-pichon.html>.

The session of June 15 provided the audience with the following presentations:

Philippe TAQUET : Présentation de l'ouvrage de Mott T. Greene « Alfred Wegener - Science, Exploration, and the Theory of Continental Drift », John Hopkins University Press, 2015.

Patricia BOBECK, of the Texas University : Jean-Baptiste Paramelle, 19th century hydrogeologist : Abbé Jean-Baptiste Paramelle [1790-1875] began searching for water to help his parishioners on the Causses du Quercy, in the Department of Lot. Finding success using his observational skills, he prospected for water in 40 of France's departments and found shallow groundwater in 10,000 places. In 1856, he wrote *L'Art de découvrir les sources*, a best-seller that was reprinted five times and translated into German and Spanish.

Françoise DREYER: Voir et dire le Danien [See and say the Danian] : The controversies about the Danian, from 1759 to the present day, reveal a profound change in the framework of thinking in geology and the shift in criteria involved in stratigraphy.

Finally, the session of December 12th was mainly devoted to the history of the teaching of Wegener's continental drift and of the plate tectonics theory: Philippe LE VIGOUROUX: L'introduction des translations continentales de Wegener dans l'enseignement scolaire en France 1930-1960) [The introduction of Wegener's continental translations into French school education (1930-1960)]: While it was abandoned by university geologists in the 1930s, Alfred Wegener's theory of continental drift experienced an unexpected diffusion in middle and high schools, favoured by textbooks of geology.

Pierre SAVATON: Une révolution dans l'enseignement des sciences de la Terre en collèges et lycées: l'introduction de la tectonique des plaques [A revolution in the teaching of earth sciences in middle and high schools: the introduction of plate tectonics]. The introduction in the 1980s of the plate tectonics model in educational programs marks a major change in content and methods, sometimes abandoning a century-old tradition.

Didier MERLE: Menace d'un comblement partiel de la carrière Arnaudet de Meudon [Threat of a partial filling of the quarry Arnaudet at Meudon]: This quarry was studied by Cuvier and Brongniart, then the brothers d'Orbigny. Its disappearance would be a heavy loss for the French geological heritage.

Françoise BERGERAT: Présentation du livre 14-18, La Terre et le Feu. Géologie et géologues sur le front occidental [Presentation of the book "14-18, Earth and Fire. Geology and geologists on the Western Front"].

Our Committee publishes an annual periodical, *Travaux du Comité français d'Histoire de la Géologie* (ISSN 1156-2919), which is available online at the following addresses: <https://hal.archives-ouvertes.fr/COFRHIGEO/browse/period>; <http://www.annaes.org/archives/cofrhigeo/travaux.html>.

The 30th volume of this periodical was issued in 2018 and contains the following articles:

SUC, Jean-Pierre. Quarante ans de débats autour des évaporites messiniennes de Méditerranée et de la crise qui leur est associée. Un défi scientifique passionnant, mais singulier et déroutant [Forty years of debate around the Messinian evaporites of the Mediterranean and the crisis associated with them. A fascinating but singular and confusing scientific challenge], p. 1-64.

TOURET, Jacques et BULAKH, Andrey. Le tombeau de Napoléon, entre pétrographie et histoire [The tomb of Napoleon, between petrography and history], p. 65-87.

GINSBURGER, Nicolas. La Face de la Terre en Grande Guerre. Emmanuel de Margerie et ses réseaux internationaux (1914-1918) [Emmanuel de Margerie and his international networks (1914-1918)], p. 89-113.

TOURET, Lydie. François Pasumot (1733-1804), ingénieur-géographe du roi et naturaliste [François Pasumot (1733-1804),

engineer-geographer of the King of France and naturalist], p. 115-137.

AUFRERE, Marie-Françoise. Boucher de Perthes : sa vie et son œuvre vues par Léon Aufrère dans « Le cercle d'Abbeville, Paléontologie et Préhistoire dans la France romantique » [Boucher de Perthes: his life and work as seen by Léon Aufrère, in : « *The Cercle d'Abbeville, Palaeontology and Prehistory in Romantic France* », p. 139-162.

GALL, Jean-Claude. Les sciences de la Terre à l'Université impériale de Strasbourg (Reichsuniversität Straßburg), 1871-1918 [Earth Sciences at the Imperial University of Strasbourg (Reichsuniversität Straßburg), 1871-1918], p. 163-183.

On the occasion of the Centenary of the 1918 armistice, the **Cofrhigéo** co-edited a book on geologists in the First World War on the Western front: "14-18. La Terre et le Feu. Géologie et géologues sur le front occidental." ["14-18, Earth and Fire. Geology and geologists on the Western Front"], in-4°, 480 p. [ISBN 978-2-9550042-1-0]. During the First World War, the immediate environment of the soldiers was largely constrained by geology. The place of geologists in this conflict and their role were often decisive. The soils and waters, still polluted one hundred years after the end of the conflict, are the object of today's geological research.

A special issue of the periodical *Cahiers François Viète* (2018, Série III, n°5), edited by Pierre Savaton, is devoted to the history and epistemology of Earth Sciences, and contains the following contributions :

SAVATON, Pierre. Introduction : l'histoire et l'épistémologie des sciences de la Terre : un champ de recherche à cultiver [Introduction: the history and epistemology of earth sciences: a field of research to nurture].

COMPARATO, Guillaume. De la pierre à la presse: pratiques du voyage, de l'analyse et de l'écriture chez Barthélemy Faujas de Saint-Fond (1741-1819) [From the stone to the press: practices of travel, analysis and writing by Barthélemy Faujas de Saint-Fond (1741-1819)].

DREYER, Françoise. L'émergence de la notion de limite dans la géologie du XIX^e siècle : d'une vision catastrophiste à un cadre transformiste [The emergence of the notion of limit in the geology of the 19th century: from a catastrophist vision to a transformist framework].

Marie ITOIZ, Marie. Observer le monde minéral : analyse de la construction de pratiques autour de l'identification des roches et des minéraux au milieu du XIX^e siècle [Observing the mineral world: analysis of the emergence of practices for identifying rocks and minerals in the mid-19th century].

ACOLAT, Delphine. Le Vésuve et la photographie au XIX^e siècle, quel apport à l'histoire des sciences de la Terre ? [Vesuvius and photography in the 19th century. What contribution to the history of earth sciences?].

ROGER, Mathias. Des sciences de la Terre au service de l'atome ? Le rôle de Jean-Pierre Rothé, entrepreneur scientifique (1945-1976) [Earth sciences at the service of the atom? The role of Jean-Pierre Rothé, scientific entrepreneur (1945-1976)].

These articles can be downloaded at the following address : <https://cfv.univ-nantes.fr/cahiers-francois-viete-serie-iii-n-5-2419724.kjsp?RH=1405598162629>.

Finally, several studies on the history of the geosciences were published in 2018 (non-exhaustive list):

AUFRERE, L., 2018. *Boucher de Perthes, Imaginer la préhistoire*, CNRS Editions, Biblis, 142 p.

DUTREUIL, S., 2018. "James Lovelock and the Gaia hypothesis : 'a new look at life on Earth' ... for the life and the Earth Sciences." In : M. Dietrich & O. Harman (Eds) *Dreamers, Romantics and Visionaries in the Life Sciences*, University of Chicago Press, 272-287.

DUTREUIL, S., 2018. "L'anthropocène est-il un concept d'histoire de la terre ? Le nom qui ne dit pas son épistémologie," in: C. Larrère et R. Beau, *Penser l'Anthropocène*, Presses de Sciences Po, p. 355-374.

GODARD, G., 2018. "Early texts on the Cenozoic fossils of Aquitaine (1622-1767) and pioneering debates on the organic origin of fossils, the superposition of strata and the mobility of the seas". *BSGF – Earth Sciences Bulletin*, 189, 8, 12 p., //doi.org/10.1051/bsgf/2018007.

GODARD, G., 2018. "Premières descriptions des faluns miocènes de Sainte-Croix-du-Mont en Guyenne (1622, 1718): Pierre de L'Ancre a-t-il perçu le principe de superposition 45 ans avant Sténon? " *Bulletin de la Société Linnéenne de Bordeaux*, 153 (n.s., No. 46)(2-4), p. 297-310.

KORNPROBST, J., et al., 2018. "Boris Choubert : Unrecognized visionary geologist, pioneer of the global tectonics". *BSGF – Earth Sciences Bulletin*, 180007, 15 p., //doi.org/10.1051/bsgf/2018006.

G. Godard, Secretary of the *Cofrhigéo*.

GERMANY, 2018

In April 2017, **Wolfhart Langer**, Honorary Senior Member of INHIGEO, died aged 83. Due to an oversight, the German members of INHIGEO have failed to pass forward this information to our international colleagues.

It might be added that hardly any of us were immediately aware of Wolfhart Langer's passing. Albeit well-known and much liked by everyone who met him personally, he hadn't been to national conferences for many a year, rather putting his energy into the historical work he enjoyed most of all: the study of past geological activity in the Rhineland area, particularly where there was a connection to the University of Bonn. Since its very foundation in 1818 the university has been one of the most important institutions for the development of the earth sciences in Germany. And, incidentally, is the university where Wolfhart Langer, himself a native *Rheinländer*, was professor of palaeontology until entering retirement in 1999. He remained active in the new millennium, with a sizeable amount of popular lectures and articles published not least in Local History periodicals. He will be sadly missed. [Editor's note - Please refer to the Obituary section in this volume.]

Currently, Germany has 11 INHIGEO members, including one Honorary Senior Member: **Martin Guntau**, the national Grand Figure in the history of geology. He, as well as **Rudolf Daber** and **Jörg Keller**, has been enjoying his well-earned retirement for quite a while; more recently, in 2017, **Harald Walter** joined those ranks. INHIGEO members still of official working age are employed by universities (**Norman Henniges**, **Marita Hübner**) and museums (**Martina Kölbl-Ebert**, **Klaus Thalheim**); three members work freelance (**Gottfried Hofbauer**, **Cornelia Lüdecke**, **Peter Schimkat**). In the last few years, a rising number of monographies on the history of the earth sciences have been published, both by members and non-members of INHIGEO. In that respect, the field looks more buoyant than it has for some time.

Unfortunately, there is currently no INHIGEO Affiliated Association for Germany, and that shows in the lack of regular activities: the once flourishing succession of annual meetings has ceased to exist. The national organization encompassing the earth sciences, the *Deutsche Geologische Gesellschaft*, doesn't seem to have the same inclination to promote historical studies as some neighbouring sciences. The history of the earth sciences is not very visible within the academic discipline of history of science either. And while the field has its own established journal – the *Geohistorische Blätter*, published regularly for more than twenty years – not everybody cares to be associated with it.

Publications

As usual, a new annual issue of the *Geohistorische Blätter* was released around the turn of the year. The recent volume (no. 29) includes an overview by Frank Löcse and Ronny Rößler of the historical understanding of the Upper Carboniferous Basin of Flöha (Saxony) from the 18th century to the present, a jolly treatise by Austrian INHIGEO member Bernhard Hubmann on poems written by geology students of the University of Graz in the mid-20th century, and a paper by Johannes Baier on shifting 20th century interpretations of the formation of shatter cones in the Steinheim Basin, the latter by now recognized as an impact crater. Friedrich-Wilhelm Wellmer and Jürgen Gottschalk offer a thorough account of the involvement of polymath Gottfried Wilhelm Leibniz in matters related to mining in the Harz Mountains in the late 17th century (see below). Fortunately, the current volume doesn't include any article which amounts to a personal diatribe dressed up as an historical paper: the generosity of the *Geohistorische Blätter* to serve as a mouthpiece for such contributions has given the journal a certain notoriety.

The most unusual monography published in 2018 was ... a coffee table book about the history of the earth sciences, titled *Wegbereiter der Geowissenschaften: Portraits von 50 Geowissenschaftlern aus fünf Jahrhunderten in Wort und Bild* (Stuttgart: Schweizerbart). Making good use of portraits and photographs depicting 50 famous figures, painter Marianne Meschede created an artistic rendition of each of them, always accompanied by a short historical account written by her son (and professor of geology at the University of Greifswald) Martin Meschede. The book doesn't pretend to offer new historical insights (the authors freely admit as much), but it is a pleasure to look at and appealing to anyone interested in the history of the earth sciences, probably helping considerably to interest a wider audience in our activities.

As to German INHIGEO members, the following papers were published in 2018 (including recent publications not listed in previous volumes of the *INHIGEO Annual Record*):

Martina Kölbl-Ebert

Eichstätt: The Jura-Museum Eichstätt in: Lothar A. Beck & Ulrich Joger (Eds.) *Palaeontological Collections of Germany, Austria and Switzerland: The History of Life Fossil Organisms at Museums and Universities* (Cham: Springer, 2018), pp. 183–187.

Gedanken zum religiös-philosophischen Kontext der Geowissenschaften in: *Archaeopteryx* 35 (2018), pp. 27–41.
German Petroleum Geologists and World War II' in: Jonathan Craig, Francesco Gerali, Fiona MacAulay & Rasoul Sorkhabi (Eds.) *History of the European Oil and Gas Industry = Geological Society of London Special Publications* 465 (London: Geological Society, 2018), pp. 391-407.

Cornelia Lüdecke

Hermann Will = https://falklandsbiographies.org/biographies/will_hermann <extended Online Version of: David Tatham (Ed.) *The Dictionary of Falklands Biography (including South Georgia): From Discovery up to 1981* (Ledbury: ABC Print, 2008).

La classification des nuages avant et après la publication de Luke Howard en 1803 in: Pierre Glaudes & Cornelia Klettke (Eds.) *Nuages romantiques: Des Lumières à la Modernité = Sanssouci: Forschungen zur Romanistik* 15 (Berlin: Frank & Timme, 2018), pp. 45-75.

Vom Berg zur freien Atmosphäre: Die Erforschung der dritten Dimension seit dem 17. Jahrhundert in: Georg Braungart und Urs Büttner (Eds.), *Wind und Wetter: Kultur – Wissen – Ästhetik* (Paderborn: Wilhelm Fink, 2018), pp. 357-373.

Klaus Thalheim

Das Schmucksteininventar des Prunkkamins von Johann Christian Neuber aus dem Jahr 1782 in: *Geologica Saxonica: Journal of Central European Geology* 63 (2017), pp. 63-84.

Das Schmucksteininventar des Tisches von Teschen von Johann Christian Neuber aus dem Jahr 1779/80 in: *Geologica Saxonica: Journal of Central European Geology* 63 (2017), pp. 35-62.

Die Erzählung vom Silberfund von 1477 auf der St. Georg Fundgrube in Schneeberg im Erzgebirge und die Bedeutung der überlieferten Erzstufen am Museum für Mineralogie und Geologie in Dresden in: *Geologica Saxonica: Journal of Central European Geology* 63 (2017), pp. 1-14.

(with H. Carsten Bittmann) Vorkommen und Abbau von Kupfererz im Erzgebirge zwischen 1470 und 1750 in: *Geologica Saxonica: Journal of Central European Geology* 63 (2017), pp. 15-33.

(with Andreas Massanek, Steffen Michalski, Steffen Herrmann, Georg Gebhard, Wendell E. Wilson & Thomas P. Moore) 'The Schneeberg Mining District, Western Erzgebirge, Saxony, Germany' in: *The Mineralogical Record* 49 (2018), pp. 619-742.

(with Bernd Ullrich) Mineralogische Untersuchungen an "Pitticit"-Proben aus geowissenschaftlichen Sammlungen' in: *Geologica Saxonica: Journal of Central European Geology* 64 (2018), pp. 51-65.

(with Thomas Witzke & Andreas Massanek) *Erzgebirge: Bergbaugeschichte, Mineralienschatze, Fundorte. Band 1: Minerale mit einer Typlokalität in Sachsen = Edition Sachsen-Schatze* 1 (Salzhemmendorf-Lauenstein: Bode, (2018), 664 pp.

Harald Walter

(with Jörg W. Schneider & Hanspeter Jordan) Paläontologie an der Bergakademie Freiberg zwischen 1945 und 1990 in: *Mitteilungen des Freiburger Altertumsvereins* 109/110 (2016), pp. 393-432.

Conferences

Not much to report for 2018. There was no international meeting on the scope of the 2017 *Abraham Gottlob Werner Symposium* in Freiberg. Nothing like that is planned for 2019 either. However, come September 2019, considerably more Germans are likely to make the short trip to the next INHIGEO Annual Meeting in Italy than were able to attend the one taking place in Mexico City in 2018. The Italian gathering is sure to act as the next immediate focal point for German historians of earth science to renew personal acquaintance and for assessing the current state of the art.

In the meantime, German INHIGEO members have contributed to thematically overarching meetings. Of those, the 27th International Polar Conference in Rostock (25.-29.3.2018) and the Joint SCAR/IASC (Scientific Committee on Antarctic Research & International Arctic Scientific Committee) meeting POLAR2018 in Davos (19.-23.6.2018) deserve to be singled out. INHIGEO member **Cornelia Lüdecke** organized history sessions at both. **Martina Kölbl-Ebert** attended the Resources for Future Generations Conference in Vancouver (16.-21.6.2018), serving as a representative for INHIGEO as well as giving an own talk. On a more local level, during a one-day-conference in Dresden (16.11.2018) devoted to the task of discussing how best to deal with material collections of an enormously vast quantitative size, INHIGEO member **Klaus Thalheim** talked about mineralogical collections. And a handful of German scholars participated in the 14th Cultural Heritage in Geosciences, Mining & Metallurgy Symposium in Ravne na Koroškem, Slovenia (4.-9.6.2018).

The following talks by German INHIGEO members were given at conferences:

Martina Kölbl-Ebert

Geosciences in a Religious Setting?: History of Geosciences as Tool for Interdisciplinary Dialogue and Geoethics at:

Vancouver, Session ‘Geoethics in Geoscience Education, Communication and Citizen Science: Experiences, Approaches, and Concepts’, *Resources for Future Generations Conference* (20.6.2018).*

German Petroleum Geologists in World War II at: **Mexico City**, 43. *INHIGEO Conference* (15.11.2018)

*Editor’s note - This paper is re-printed in this volume.

Cornelia Lüdecke

Historische technische Innovationen für die Arktisforschung at: **Rostock**, 27. *Internationale Polartagung* (26.3.2018)

Ice, Snow, or Canvas?. How to Protect Oneself against Harsh Weather Conditions in Polar Regions around 1900 at: **Davos**, *Polar2018 – Where the Poles Come Together* (21.6.2018) = Poster Presentation

History of the Institutionalisation of Antarctic Research (Expert Group) at: **Davos** (see above) = Poster Presentation

History of German engagement in Antarctica at: **San Esteban / Chile**, 18. *EHOL (Encuentro de Historiadores Antárticos Latinoamericanos) Meeting* = Invited lecture (7.9.2018)

Arctic–Antarctic Relations and the Development of the Antarctic Treaty at: **Santiago**, Departamento de Derecho Internacional, Facultad de Derecho, Universidad de Chile, *Colloquium on the Antarctic Treaty System from the Perspective of Humanities* = Invited Lecture (11.9.2018)

Alexander von Humboldt’s Part in the Development of Earth Sciences in Germany at: **Moscow**, Geographical Institute of the Russian Academy of Science, *Conference ‘Alexander von Humboldt in Russia’* (1.11.2018).

Klaus Thalheim

Mineralogische Sammlungen: Archive für die Forschung <Mineralogical Collections: Archives for Research> at:

Dresden, Stadtmuseum Dresden, “*Die Masse macht’s*” (16.11.2018) <Museum of the City of Dresden, *The quantity makes it!*>

Universities

Right now, hardly any of the thematic areas covered by INHIGEO are established within German universities. The specific exception of geography apart, regular lecture series on the history of the geosciences are virtually non-existent. The longest-running such activity in our field might by now be the series of one-week seminars (usually on the history of meteorology or polar research) offered by INHIGEO member **Cornelia Lüdecke** at the University of Hamburg, which have taken place twice a year since 2003. At the same university, another one of our INHIGEO members, **Martina Kölbl-Ebert**, has recently taken on teaching duties, starting with a one-week course on *History of the Geosciences I: Fossils and Time* in October 2018.

Museums

As far as geological museums were concerned, 2018 wasn’t a terribly vintage year for exhibitions with a sizeable amount of historical content. But a special mention should be given to the visually stunning *Entfesselte Natur: Das Bild der Katastrophe seit 1600*, on show at the Hamburg Kunsthalle from June 29th to October 14th, which depicted round 120 contemporary images of Nature Unleashed from the past few centuries.

Public Lectures

German INHIGEO members have usually been very active in giving talks to a public audience. However, public talks on the history of the earth sciences were offered by a sizeable number of non-members as well. Courtesy of 1968 often being regarded as the year in which the notion of plate tectonics finally acquired general acceptance, a number of historical lectures were involved with this half-century anniversary, not least focusing on the launch of the drillship *Glomar Challenger*. It can already be guessed, that lunar talks are likely to move into the forefront come 2019.

The following public lectures were offered by German INHIGEO members in 2018:

Martina Kölbl-Ebert

German Geology: Geology in Germany 1933–1945 at: **Berlin**, Freie Universität = First Nicolaus Steno Lecture (29.11.2018).

Cornelia Lüdecke

The Movement of Glaciers: Erich von Drygalski’s Expeditions to the West Coast of Greenland, (1891, 1892-1893) at:

Reykjavik, Centre for Arctic Policy Studies, University of Iceland, Friday’s Open Seminar = Invited Lecture

(4.5.2018).

Successful Expedition, but Leader Dead: Alfred Wegener's Expeditions to Greenland 1930-1931 at: **Akureyi / Iceland**, Museum into the Arctic = Invited Lecture (7.5.2018).

First Test of Proof a Theory in Nature: Erich von Drygalski's Expeditions to the West Coast of Greenland (1891, 1892-1893) at: Akureyi / Iceland, Northern Research Forum, University of Akureyi = Invited Lecture (7.5.2018).

Penguin Ragout and Seal Steak: Living and Surviving during the Heroic Era of Antarctic Research (1897-1916) at: Viña del Mar / Chile, Centro de Estudios Hemisfericos y Polares = Invited Lecture (10.9.2018).

Die Entdeckung von Neuschwabenland in der Antarktis im Jahr 1939 at: **Hamburg**, Seminar „Aktuelle Themen aus der Erdsystemforschung,” Universität Hamburg (4.12.2018).

Outdoors

In 2016, the 300th anniversary of the death of Gottfried Wilhelm Leibniz gave rise to a multitude of events which honoured the myriad of activities in which Leibniz was involved during his lifetime. One outcome was the ambition to foster closer ties between the extant remnants of the past era of water-powered mining in the Harz Mountains (to a wide degree successfully preserved and already a UNESCO World Heritage site) and the specific role of Leibniz in trying to improve its fortune. As a consequence, that year saw the opening of the first section of a bilingual heritage path *Ideas and Innovations* (most easily accessed from Clausthal-Zellerfeld, the largest of the region's former mining towns and still the location of a prestigious Technical University) illustrating the novel approaches which Leibniz had tried to introduce to the world of mining. It furthermore demonstrates the breath of Leibniz's expertise and his role as an important precursor of modern earth science. Courtesy of the recent extension finished in 2018, that path is now complete.

Additional Information from Individual German Members

- In addition to giving talks at various conferences (see above), **Martina Kölbl-Ebert** participated in the workshop *Wissenschaft, Religion und politischer Dissens im langen 19. Jahrhundert* (16.-17.2.2018) taking place at the University of Munich and organized by the Internationales Graduiertenkolleg „Religiöse Kulturen im Europa des 19. und 20. Jahrhunderts”.

- In 2018, **Peter Schimkat** talked and published more than he can easily remember by now. But since virtually none of it has any bearings on INHIGEO, he refrains from mentioning much further detail. Closest to INHIGEO-related matters of interest was an online project devoted to an in-depth description of pre-20th century instruments of geodesy. The results can be accessed via the objects of the Astronomisch-Physikalisches Kabinett included in <www.datenbank.museum-kassel.de>

- **Klaus Thalheim** has published some articles about mining history, minerals, collection history and the history of the discovery of semi-precious stones and gemstones in Saxony and their use. He is also the coauthor of a book about minerals with typlocalities in Saxony, which examines also the history of the discovery of this minerals.

Peter Schimkat (on behalf of the German members of INHIGEO).

HUNGARY

Lectures presented in the sessions of History of Science Section of Hungarian Geological Society, 2018:

January 15.

Csath, B. – Don't forget these 80 years! 80th anniversary of the Hungarian Oil Industry.

Zelenka, T. – The memory of the chief geologists for metallic deposits József Cseh-Németh and for non-metallic deposits Ernő Mátyás.

February 18.

Endre Dudich memorial session – with contributions by Brezsnayánszky, K., Papp, P., Kecskeméty, T., Kaszap, A., Vitális, Gy.

March 19.

Rózsa, P. – Huttonian scientists in a Wernerian society.

Káplán-Juhász, M. – The Calvary in Selmechánya (Banská Štiavnica).

April 16.

Csath, B. – Anniversaries in 2018.

Election of the new Council of the Section.

May 14.

Vitális, Gy. – Chapters from the history of Academy of Mines, Selmechánya (Banská Štiavnica).

Bihari, D. – Memories of geological mapping in Mongolia.

June 18.

Kordos, L., Mészáros, I. – Hidden footprints – lessons for the history of science.

Baksa, Cs. – Natural raw materials for the agriculture, with special regard to the “raw material of the year” in the past three years (perlite, zeolite, alginite).

September 17.

Dobos, I. – Some less known mistakes in the history of science.

Zsadányi, É. – Pappenheim Mine Works.

October 15.

Síkhegyi, F. – Theoretical cross sections of the Earth crust in 19th century publications.

Gimesi, I. M. – Renaissance of amateur mineral collecting. What gave amateurs for the science?

November 10.

Memorial walk in the Farkasrét cemetery.

– Graves of Tamás Szontágh, Endre Dudich, Ferenc Horusitzky, Péter Bohn, Pál Kriván, Sándor Vitális, Antal Koch.

December 10.

Session closing the year:

Presentation of classical geological works in the Library of the Mining and Geological Survey of Hungary.

Works of the following authors were discussed:

Szabó, József: Geological atlas of the surrounding of Selmec (1891) by Vitális, Gy.,

Tóth, Mike: Minerals of Hungary (1882) by Nagy, B.,

Szabó, József: Books on Mineralogy (1864, 1893) by Papp, G.

Orbán, Balázs: Description of the Székely Land (1868) by Papp, P.

Other events related to history of earth sciences:

Werner Memorial Conference

On 20th April 2018. a memorial conference was held in the Academy of Sciences, Budapest with the title:

Survey of the third kingdom of the Nature. Abraham Gottlob Werners effect on the formation of disciplinal frames of mineralogy.

The following lectures were held:

Gurka, D. – Data to the effect of Werner in Hungary.

Kázmér, M. – Work of Werner translated by Ferenc Benkő.

Szakáll, S. – Effect of Werner’s natural mineral system on the “Physiography” of János Pettkó at Selmec.

Viczián, I. – Studies of János Szász in Jena and his activity in the mineralogical collection of the Teleki Téka Library in Marosvásárhely, Transylvania, in the first years of the 19th century.

Rózsa, P. – Huttonians in a Wernerian scientific society. James Hall and James Playfair in the Dresden Mineralogical Society.

Papp, G. – Fire and water – vulcanists and neptunists in Hungary.

Conference on History of Science and Technology, Csíksomlyó (Șumuleu, Romania), June 28 – July 1, 2018, organised by the Hungarian Technical Scientific Society of Transylvania – EMT.

The following presentations were related to the history of earth sciences:

Komlóssy, Gy. – „From the creek to the Ocean”. Career of the geologist György Bárdossy.

Vadászi, M., Bitay, E. – History of the technology of drilling thermal wells in Hungary, 1800–1820.

Pápay, L. – Risks of underground coal mining in Mecsek Mts., Hungary.

Inauguration of the memorial plaque of József Molnár July 9, 2018.

The memorial plaque was put on the house of birth of the outstanding ore prospecting geologist József Molnár in the village Balatonakali at Lake Balaton on the occasion of 100th anniversary of his birth. He established a geological data storage system in Hungary and in Cuba as well. The tablet was donated by his widow, Irma Dobos, the inauguration speech was held by István Viczián.

XXth Meeting of Geologists of Székely Land, Sepsiszetgyörgy, (Sfântu Gheorghe, Romania), October 25-28, 2018.

At the meeting Fazakas, J. commemorated Attila László (1959 – 2013) and Unger, Z. commemorated Endre Dudich (1934-2016). Unger, Z., Baksa, Cs., Cserny, T. reviewed the history of the 170 years old Hungarian Geological Society.

New Board of the Section on History of Science, Hungarian Geological Society:

The elections took place at the session held April 20, 2018. The new council for the period 2018-2021:

President: József Hála; Secretary: Éva Zsadányi

Members of the council: Irma Dobos, Tibor Kecskeméti, Péter Papp, Péter Rózsa, István Viczián, György Vitális.

Loss to science

In the last year deceased *András Kaszap* (1934-2018). He started his scientific career with Ammonite stratigraphy, later he switched to hydrogeology. In the last period of his activity he worked in the Ministry of Culture as expert for public education and religious relations. In this position he could well profit by his exceptional human and classical education. For a long period, he served as the technical editor of the Bulletin of the Hungarian Geological Society *Földtani Közlöny* and was a generally known servant of progress of geological sciences. He studied history of earth sciences, especially life and activity of 18th and 19th century scientists such as the leading personality of the Hungarian geology in the middle of the 19th century professor Elemér Vadász and the famous amateur naturalist and greatest Maecenas of earth sciences on the turn of the 18th/19th centuries, Andor Semsey. In addition to serious studies, he also collected and published amusing short stories and anecdotes on famous scientists of this historical period.

New publications:

Dobos, Irma 2018: Földtani térképezés 1950-ben Hódmezővásárhely és Mindszent környékén (Geological mapping at Hódmezővásárhely and Mindszent, in 1950). – Hódmezővásárhelyi Szeremlei Társaság Évkönyve (Annals of the Szeremley Society, Hódmezővásárhely), 2018.

Dobos, Irma 2018: Maradandó emlékeim az Ünnepeletről (My long lasting memories on the Person celebrated). – Emlék-album Juhász József professzor 90. születésnapjára, Miskolci Egyetem (Memorial album dedicated to the 90th birthday of Professor József Juhász, Miskolc University).

Kecskeméti, Tibor 2010: A természettudományi muzeológia a Gyűjteményegyetem szervezetében (The natural history collections in the organisation of the Hungarian National Collections University). – In: *Gyulai, É. & Viga, Gy. (ed.): Történet – muzeológia. Tanulmányok a múzeumi tudományok köréből a 60 éves Veres László tiszteletére* (History – Museology. Essays on science of museums, in honour of 60 years old László Veres). Miskolc. pp. 477-491.

Kecskeméti, Tibor 2013: A geogyűjtemények kialakulása és 18-19. századi fejlődése (Establishment and development of the Geocollections in the 18th-19th centuries). – In: *Gurka, D. (ed.): Formációk és metamorfózisok. A geológia, a filozófia és az irodalom kölcsönhatásai a 18-19. században* (Formations and metamorphoses. Interactions between geology, philosophy and literature in the 18th-19th century). Gondolat, Budapest. pp. 163-172.

Kecskeméti, Tibor 2014: A földtani tudománytörténet-írásról (On the writing of science history in geology). – In: *Fehér, B. (ed.): Az ásványok vonzásában. Tanulmányok a 60 éves Szakáll Sándor tiszteletére* (Fascination of minerals. Essays in honour of 60 years old Sándor Szakáll). Herman Ottó Múzeum és Magyar Minerofil Társaság (Herman Ottó Museum and Hungarian Minerophile Society). Miskolc. pp. 123-133.

Kecskeméti, Tibor 2016: Kubinyi Ferenc életútja, földtani és tudományszervező munkássága (Life and activity of Ferenc Kubinyi in geology and organisation of science). – In: *Guba, Sz. & Szarvas, I. (ed.): Ösmaradványok nyomában Ipolytarnóc földtani megismerése I. (On the track of fossils. Reconnaissance of the geology of Ipolytarnóc I.)*. Bükk Nemzeti park Igazgatósága (Management of the Bükk National Park), Eger. pp. 23-52.

Kecskeméti, Tibor 2016: Tűzvész a múzeumban (1956). Egy tanú visszaemlékezései (Conflagration of the Museum (1956). Recollections of a witness). – *Annales Hist.-nat. Mus. Nat. Hung.* 108, 127-149.

Submitted by **István Viczián and Éva Zsadányi**

ITALY

The activities of the Italian members included publications, participations to international symposia and national meetings, involvement in research projects and exhibitions, as well as teaching in the field of the history of the Earth sciences.

Libera Paola ARENA (University of Insubria, Varese) completed her research on the reconstruction of the geo-historical routes around Varese made on 28 September 1878 by some Italian naturalists after the meeting of the Italian Society of Natural Sciences. She presented this geo-historical route in a conference for the general public and led its first reply in the field, on 29 September 2019, with a group of 15 participants.

Conferences:

On 28 September 2018, she held a lecture at the Center for the History of the Mountains, Material Culture and Earth Sciences of the University of Insubria in Varese, on the topic *The historical geotourism as a new tool for geotourism: the excursion of the Italian naturalists around Varese 140 years later*.

Andrea CANDELA (University of Insubria, Varese) continued his researches on the history of uranium as well as on relationships between geology and nuclear industry. Candela has also begun a new research on the figure of the Italian geologist Scipione Breislak (1750-1826), who can be considered one of the most influential Vulcanists and then Plutonists in Italy between the Eighteenth and Nineteenth century, and whose *Introduzione alla geologia (Introduction to geology, 1811, 2 vols)* may be regarded as the first Italian handbook on geology.

Conferences:

In October and November 2018, he attended two international Symposia held in Varese (Italy) (*History and Philosophy of Science: A new Alliance?*, October 25-26) and Mexico City (43° INHIGEO meeting, November 12-17), where he presented two lectures: the first about the meaning of and role played by *Geohistory* in the analysis of environmental issues, and the second on the research of radioactive minerals in post-WWII Italy.

Publications:

Candela A., *The early stages of uranium geology in post-WWII Italy*, "Earth Sciences History", 38(1), 2019, pp. 137-149.

Candela A., *Per una storia sperimentale delle Scienze della Terra: dal documento alla prova sul terreno. In: Tre secoli di Geologia in Italia*, edited by A. Argentieri, M. Pantaloni, M. Romano, G.B. Vai, "Rendiconti Online della Società Geologica Italiana," 44, 2018 pp. 37-44.

Luca CIANCIO (University of Verona), continued his research on the 18th century history of geology and natural history, as well as on the relationship between natural sciences and antiquarian studies.

Publications:

Ciancio, L., Laurenza, D., *Visual representation in earth sciences history after "The emergence". Introduction*, "Nuncius", 33/3, 2018, pp. 397-414.

Ciancio, L., «*Immoderatus fervor ad intra coërcendus*». *Reactions to Athanasius Kircher's central fire in Jesuit Science and Imagination*, "Nuncius", 33/3, 2018, pp. 464-504.

Ciancio, L., *Scopoli, Giovanni Antonio*, in *Dizionario Biografico degli Italiani*, Istituto dell'Enciclopedia Italiana, Roma, 2018, vol. 91, pp. 606-608.

Ciancio, L., «*An amphitheatre built on toothpicks*»: *Galileo, Nardi and the hypothesis of central fire*, "Galilaeana", 15/3, 2018, pp. 83-113.

Fabiana CONSOLE (Library – ISPRA, Rome) continued her research on the history of geological sciences, with particular attention to historical geological maps, history of Geological Survey of Italy and biographies of geo-scientists. In 2018 she continued the digitizing, cataloging and archiving of the historic geological maps maintained in the Library of the Geological Survey of Italy – ISPRA. In April, she worked to the launch of the "Geological memory sites in the Latium region (Italy)" project, in cooperation between Geological Survey of Italy-ISPRA, the *Regione Lazio* and the *Città Metropolitana di Roma Capitale*, aimed to the characterization of sites with geological peculiarity closely linked to events or specificities in the heritage, history and culture of the places. In September, she organized an exposition of historic geological and geo thematic maps at the "Science week", in ISPRA library. In December she collaborated with the Library of the University of Texas at

Austin - Department of Geological Sciences, on the Costantino Faillace archive that contains the materials on investigations for sulphur in Sicily and oil in Northern Italy.

Conferences:

In July, she presented a work on “L’evoluzione storica delle conoscenze geologico-stratigrafiche del Materano”, at the Giornata di studio sulla Cartografia geologica, Matera, 4 June 2018. In September she organized the Session S38 “History of geosciences and Geoethics: the right way for social responsibility” at the “Congresso SGI-SIMP, Catania, 12-14 September 2018”. In September, she presented a seminar at the Chieti-Pescara University on “Strumenti per la diffusione dell’informazione cartografica: le collezioni cartografiche di ISPRA attraverso l’OPAC”.

Publications:

- Pantaloni M., Console F., Petti F.M., *On the trail of Hermann Wilhelm Abich in Italy: a journey through the Italian volcanoes*. "Italian Journal of Geosciences", 137, 2018, pp. 106-127. DOI:10.3301/IJG.2017.20
- Console F., Fabbi S. & Pantaloni M., *La cartografia geologica in Calabria nel XIX secolo*. "Rendiconti Online della Società Geologica Italiana", 44, 2018, pp. 119-126. DOI: 10.3301/ROL.2018.17
- Console F., Fabiani M., Giovagnoli M.C., Mancinella D., Rotella G., Testardi M., *Geological memory sites in the Latium region: a new pilot project*. Congresso congiunto SGI-SIMP, Catania, 12-14 settembre 2018. Abstract book, (doi.org/10.3301/ABSGI.2018.01)
- Pantaloni M., Console F., Motti A., *The “rebirth” of the Torbidone River (Norcia Plain, Umbria): a historic and geoethic approach*. Congresso congiunto SGI-SIMP, Catania, 12-14 settembre 2018. Abstract book, 785. (doi.org/10.3301/ABSGI.2018.01)
- Console F., Pantaloni M., *La cartografia dell’area dolomitica prima della Grande Guerra nell’archivio storico del Servizio Geologico d’Italia*. In: *Per un Atlante della Grande Guerra*, Masetti C. (ed.). CISGE, Roma, 2018, pp. 281-295.

Pietro CORSI (Oxford University) continued his research on history of geological sciences particularly in the 19th century.

Publications:

- Corsi, P., *Systèmes de la nature and Theories of Life: Bridging the Eighteenth and Nineteenth Centuries*, "Republic of Letters", 2018, pp. 1-27
- Corsi P., *Matteo Tondi*, in *Dizionario Biografico degli Italiani*, Istituto dell’Enciclopedia Italiana, Roma, 2018.

Francesco GERALI (Visiting Research Scholar, University of Oklahoma School of Library and Information Studies, Norman, OK, USA / Honorary Research Fellow, University of Western Australia FABLE, School of Humanities, Perth, WA, Australia) in 2018 worked as Senior Research Associate at the University of Oklahoma College of Law “Oil, Gas, Natural Resources and Energy Center” where he developed research on the early development of the unconventional oil technologies, practices and the joint R&D efforts of the U.S. Department of Energy with the private industry. From March to April, he was Andrew Mellon Fellow at the History of Science Collections of the University of Oklahoma to develop *The Oklahoma Oil & Gas Bibliography project. A collection of references on the history of the Oklahoman early oil industry*. The project aimed at the edition of a bibliographical repertoire on the oil history of Oklahoma, 1880s-1950s. The beneficiaries are scholars in the humanities, sciences, and industry practitioners interested in the history of energy, oil geology and the industrial past of Oklahoma. The result was the edition of a bibliographical repertoire of 1500 records to be published online as open-source.

The following May, with a Library Travel Grant-in-aid by the Science History Institute, Francesco visited the research library of Science History Institute (former Chemical Heritage Foundation), in Philadelphia, PA, to work on the project *Supplementary research for the manuscript ‘Science, Energy, And Knowledge. An Analysis of the Scientific Literature on the Synthetic Fuels in the 1970s and 1980s’*. Goal of the research was to improve some segments of the manuscript, like the synthetic fuels technologies between history and literature (1972-1988) and the role of the U.S. Energy and Research Development Agency. On August 2018, the University of Western Australia FABLE granted Francesco the renewal of the appointment Honorary Research Fellow at the School of Humanities until August 2021. In September, Francesco concluded his position at the OU College of Law and was then appointed Visiting Research Fellow at OU the School of Library and Information Studies. He facilitated meetings between the OU SLIS faculty, OU Human Resources and OU Industry External Relations officers with representatives of the oil data & info settings (oil geology and E&P - upstream). The aim of the meeting was to survey the conditions for future partnerships with the O&G industry to implement potential internship and capstone projects to train the SLIS students; to build tailored classes and seminars; a possible future inclusion of O&G info management subjects in the SLIS Data Science curriculum. Following, Francesco organized and chaired at the OU Bizzell Memorial Library a colloquium - broadcasted online through Zoom - with information professionals and data specialists from academia, government agencies, and the oil industry. At the same time, he developed activities in bibliography and biographies in the history of the early oil

industry and edited syllabus proposals for courses on the History of Information and Competitive Intelligence. He is Program Committee Officer for the 51st ICOHTEC Meeting, Katowice, Poland, 2019 and Board Officer of the International Committee for the History of Technology (ICOHTEC) with the appointment of *Newsletter Editor*. He was also a speaker for the *miniGeology Radio Show* presented by Daniel Minisi (Regional Geologist, SHELL USA) aired by the KPFT Radio Station of Houston and invited to present a one-hour show on the history of the oil industry.

Conferences:

- Colloquium organization: *Oil, Gas and Energy Information Professionals in academia and corporate setting*. University of Oklahoma Bizzell Memorial Library, Norman, OK, United States, October 26th, 2018.
- 45th ICOHTEC Meeting, St. Etienne, France, July 17-21. *Science, Energy and Knowledge. An Analysis of the Scientific Literature on the Synthetic Fuels Production Technologies in the 1970s and 1980s in the United States*.
- XV Reunión Internacional de Historiadores de México, October 17-20. *Los actores transnacionales del petróleo mexicano, 1880-1920s. Empresas, inversiones y estrategias*. With Paolo Riguzzi, Colegio de México.
- October 26th The University of Oklahoma Bizzell Library. *Information glimmerings in the early days of the modern oil industry (1860s-1910s)* presented at the colloquium “Data and Information Management in Oil and Gas, Energy, and Mineral Resources Settings: Argumentations and Reflections.”

Publications:

Books Edited

Craig, J. Gerali, F., MacAulay, F. Sorkhabi, R. (eds). *History of the European Oil & Gas Industry (1600–2000)*. Geological Society, London, Special Publications 465, 2018

Chapters in Books

Gerali, F., Craig, J., Macaulay, F. & Sorkhabi, R.. *Introduction*. In: Craig J., Gerali F., MacAulay F., Sorkhabi R. (eds), *European Oil & Gas Industry History (1600–2000)*. Geological Society, London, Special Publications 465. (Listed in Clarivate Web of Science), 2018.

Gerali F., Craig J., MacAulay F., Sorkhabi R.. *Bibliography of additional selected key publications on the history of the European oil and gas industry*. In: Craig J., Gerali F., MacAulay F., Sorkhabi R. (eds), *European Oil & Gas Industry History (1600–2000)*. Geological Society, London, Special Publications 465, 2018.

Gerali F., Craig J., MacAulay F., Sorkhabi R. *Gazetteer of oil and gas museums in Europe*. In: Craig J., Gerali F., MacAulay F., Sorkhabi R. (eds), *European Oil & Gas Industry History (1600–2000)*. Geological Society, London, Special Publications 465, 2018.

Gerali, F., Macini, P., Mesini, E. *Know How, Technology and Economy of the Italian Petroleum Industry between 19th and Early 20th Century*. In: Craig J., Gerali F., MacAulay F., Sorkhabi R. (eds), *European Oil & Gas Industry History (1600–2000)*. Geological Society, London, Special Publications 465, 2018.

Gerali, F., Lipparini, L. *Early oil explorers in Italy across '800 and '900: the Maiella-Tocco Casauria oil province, Abruzzo*. In: Craig J., Gerali F., MacAulay F., Sorkhabi R. (eds), *European Oil & Gas Industry History (1600–2000)*. Geological Society, London, Special Publications 465, 2018.

Journal Articles

Lipparini, L., Bencini R. & Gerali, F. *Sgorga il Petrolio dalla Terra d'Abruzzo: oil exploration and production history in the Abruzzo region (Central Italy) across the 20th century*. "Proceedings online of the Italian Geological Society" 44, 2018, pp. 51-57.

Lipparini, L., Gerali F., Bencini R. *Dighe di pece e di asfalto: bitumen exploitation history in the Abruzzo region (Central Italy) across the 20th century*. "Proceedings online of the Italian Geological Society" 44, 2018, pp. 58-63.

Gerali, F. *et al.* Conference Report: Forty-fourth Symposium of the International Committee for the History of Technology; “Science, Technology, and Medicine between the Global and the Local”. Rio de Janeiro, Brazil, 24–29 July 2017. *Technology and Culture* 59, no.1, 2018.

Newsletters Edited

Gerali, F. (Editor). *ICOHTEC Newsletter* issues 153 to 158 (2018)
(<http://www.icohtec.org/w-publications/w-publications-newsletter/>).

Contributions on not peer reviewed publications

Gerali, F. *INHIGEO Virtual Bibliography: China, Czech Republic, Germany, Hungary, and Ireland*. INHIGEO Annual Record 50, 2018, pp. 161-229.

Multimedia and Popular Science

Gerali, F. Talks for the "miniGeology Radio Show", the KPFT Radio Station, Houston, TX, USA.

Show #29 The History of Oil: <https://youtu.be/XQ0wTUeck1U>

Show #36 History of oil in Australia: <https://youtu.be/oH9D8YtTH3Q>

Show #40 History of oil in Mexico: <https://youtu.be/ZNUbi5Gs3d0>

Show #42 History of oil in Italy: <https://youtu.be/PqRrqwepAyg>

Francesco LUZZINI (Max Planck Institute for the History of Science, Department I - Berlin, Germany; MuSe-Museum of Sciences, Geology and Paleontology Section - Trento, Italy) as Affiliate Scholar at Department I of the Max Planck Institute for the History of Science in Berlin (MPIWG), he is member of the Anthropocene Research Group (<https://www.mpiwg-berlin.mpg.de/project/earth-making>). He is especially interested in evaluating how different streams of theoretical and practical knowledge interacted in the early modern period and how this cross-pollination fostered the emergence of an awareness of natural exhaustibility and exploitability, thus influencing the role of humans as environmental agents. This issue is the core subject of his new research project *Sounding the Depths of Providence*, which he intends to develop in the near future. He is also continuing his Research Fellowship at the Museum of Sciences in Trento (MuSe). There, he is working towards a critical edition of the first manuscript volume (1820-1875) of the guestbook of the Hotel *Nave d'Oro* in Predazzo (Italy), where travelers from all over Europe and the rest of the world left their signatures and a number of historically significant notes concerning the exploration of the Dolomites. Francesco is continuing his service as Contributing Editor for *IsisCB*, the *Isis* Current Bibliography of the History of Science (<http://isiscb.org/contributing-editors>). As special editor for Italian language sources, he recently published the article "Bibliographical Distortions, Distortive Habits: Contextualizing Italian Publications in the History of Science" (<https://www.journals.uchicago.edu/doi/pdfplus/10.1086/702660>), which is the inaugural piece of a new essay section of *Isis* devoted to bibliographical studies. In March 2018, Francesco published his critical edition work of Antonio Vallisneri's manuscript *Primi Itineris Specimen* (1705). The book (*Theory, Practice, and Nature In-between. Antonio Vallisneri's Primi Itineris Specimen*, Berlin 2018) is freely accessible on the Edition Open Sources website (<http://www.edition-open-sources.org/sources/9/toc.html>). By decision of the HESS Committee, Francesco's appointment as Councilor for the journal *Earth Sciences History* (<http://www.historyearthscience.org>) has been extended for an additional term (2018-2019). He is also History of Science Editor of the journal *Il Protagora* (<http://mimesisedizioni.it/riviste/il-protagora.html>), Scientific Manager of the Digital Archive of Antonio Vallisneri's Correspondence (<http://www.vallisneri.it/inventario.shtml>), and Affiliate Scholar to the ISCH COST Action *Reassembling the Republic of Letters, 1500-1800* (<http://www.republicofletters.net>).

Conferences:

- Seminar (Jan 26): *Acqua e tenebra. L'esplorazione speleologica in età moderna: il caso dell'Appennino Tosco-emiliano* (Spazio Alpino SAT, Trento, Italy)
- Seminar (Apr 24): *On Deep Time. Theories of the Earth in the Early Modern Period: an Overview* (Max Planck Institute for the History of Science, Dept. I, Berlin)
- Meeting (Oct 25): *Storia e filosofia della scienza: una nuova alleanza?* (University of Insubria, Varese, Italy) Paper: *Accettare lo stato mutevole dell'arte. Ecdotica e informatica: inquietudini epistemologiche e metodologiche*
- Meeting (Nov 13): *43rd INHIGEO Meeting (Mexico City)*. Paper: *Sounding the Depths of Providence. On Mineral (Re)generation and Human-Environment Interaction in the Early Modern Period* (Panel *Early Modern Geological Agency*)

Publications:

Books

Luzzini, F. *Theory, Practice, and Nature In-between. Antonio Vallisneri's Primi Itineris Specimen*, Berlin, Edition Open Access/MPIWG Berlin, Sources 9, 2018.

Book Chapters and Journal Articles

Luzzini, F. *Bibliographical Distortions, Distortive Habits: Contextualizing Italian Publications in the History of Science*, "Isis Current Bibliography", 109, n. S1, 2018, pp. 3-13.

Faelicissime floret. La Garfagnana estense descritta da Antonio Vallisneri, in *La Garfagnana. Relazioni e conflitti nei secoli con gli Stati e i territori confinanti*, ed. G. Bertuzzi, Modena, Aedes Muratoriana, 2018, pp. 119-137.

Scalare il Sublime. Scienza e storia nel primo volume del Memoriale dell'Hotel Nave d'Oro di Predazzo (1820-1875), "Natura Alpina, Rivista della Società di Scienze Naturali del Trentino", 69, 2018, pp. 95-100.

Reviews

Aqua curanda est. Le acque e il loro utilizzo nei territori di Friburgo in Brisgovia e Catania dal XIII al XVI secolo, by Marco Leonardi, book review, "Renaissance Quarterly", Vol. 71, n. 4, 2018, pp. 1489-1491.

Maddalena NAPOLITANI (École Normale Supérieure, Paris) as a PhD candidate in history of art at the École Normale Supérieure within the doctoral program SACRe-PSL (*Sciences Arts Création Recherche*, ED 540 école transdisciplinaire Lettres Sciences), from 2017 to 2019 taught history of art at the University of Grenoble as "attaché temporaire de l'enseignement et de la recherche"(ATER). Her dissertation focuses on the Parisian École des Mines' mineralogy collections between the 18th and the 19th century, and especially on how collecting practices related to scientific objects were changing during the revolutionary period, from the model of the curiosity cabinet to that of the modern scientific museum. Among her interests is also contemporary art and how artists deal nowadays with former curiosity cabinets. Within this frame she took part in the organization of the cycle of conferences *Passé et avenir des cabinets de curiosité* (2016-2017) organized by the LabEx *Création Arts Patrimoine* of the Université de Paris and the Conservatoire National des Arts et Métiers (CNAM).

Conferences:

Between 2017 and 2018 she presented her researches on the Siberian expedition of Jean Pierre Alibert (1844-1857) at the INHIGEO Annual Symposium (9-21 November 2018, Mexico City, Mexico) and the conference *La Science voyageuse* (15 December 2017, Grenoble, France). Her researches on the collections of the École des Mines between 1783 and 1794 were also presented at the INHIGEO Annual Symposium (12-18 September 2017, Yerevan, Armenia), the 7th conference of the European Society of History of Science (22-24 September 2016, Prague, Czech Republic), the conference *Les musées ne sont rien sans leurs histoires* (31 May-1st June 2016, Musée des Beaux-Arts, Montreal, Canada) and at the conference *Die Ordnungen der Dinge : die Kunst und- Naturalienkammern als Lehr und Lernorte in der Frühen Neuzeit* (5-7 October 2015, Leopoldina Stiftung, Halle, Germany). Her results in other research field, concerning the role of minerals and stones within the *Studiolo* of Francesco I de' Medici in the second half of the 16th century, were presented at the two conferences *Entre deux. Mouvements et métamorphoses du corps de l'âme et de la peinture dans l'Europe de la Renaissance (XIV-XVI siècles)* (26-27 May 2016, INHA, Paris, France) and *Lyon et la culture de la curiosité* (25-26 February 2016, Musée des Confluences, Lyon, France).

Publications:

Napolitani, M. *Teaching and the Wonder of Mineralogy : the Cabinet of Balthazar Georges Sage between 1783 and 1794*, in Dolezel, E., Godel, R. and Pečar, A. (Eds.), *Ordnen-Vernetzen-Vermitteln. Die Kunst und Naturalienkammern der Frühen Neuzeit als Lehr und Lernorte*, in *Acta Historica Leopoldina*, n. 70, Wissenschaftliche Verlagsgesellschaft, Stuttgart, Germany, 2018, pp. 95-120.

Napolitani, M. *Period Rooms: an Invisible History. Conversation with Mark Dion*; in Costa, S., Poulot, D. et Volait, M. (Eds.), *Period Rooms*, Bononia University Press, Bologna, Italy, 2018, pp. 247-254.

Marco PANTALONI (Geological Survey of Italy – ISPRA, Rome, Italy) - continued his research on the history of geological sciences, with particular attention to historical geological maps, history of Geological Survey and biographies of geoscientists. He continued the coordination of the "History of Geoscience working group" of the Geological Survey of Italy and maintained the role of coordinator of the "History of Geoscience Section" of the Geological Society of Italy. He continued his collaboration with the *Treccani* Italian Encyclopedia for the redaction of biographies of Italian geologists. He continued the digitizing, cataloging and archiving of the historic geological maps and archive maintained in the Library of the Geological Survey of Italy – ISPRA. In April, he coordinate the "Geological memory sites in the Latium region (Italy)" project, in cooperation between Geological Survey of Italy-ISPRA, the *Regione Lazio* and the *Città Metropolitana di Roma Capitale*, aimed to the characterization of sites with geological peculiarity closely linked to events or specificities in the heritage, history and culture of the sites. In December he collaborated with the Department of Geological Sciences - University of Texas at Austin, on the Costantino Faillace archive that contains the materials on investigations for sulphur in Sicily and oil in Northern Italy.

Conferences:

"*L'evoluzione storica delle conoscenze geologico-stratigrafiche del Materano*", Giornata di studio sulla Cartografia geologica, Matera, 4 June 2018.

Session S38 "*History of geosciences and Geoethics: the right way for social responsibility*", Congresso SGI-SIMP, Catania, 12-14 September 2018.

"*History of geology in Italy*", Chieti-Pescara University, 24 May 2018.

Pantaloni M., Crosti R. (2018) - *Il Drizzagno e l'ansa morta di Spinaceto lungo il Tevere, caratteri geologici ed ecosistemi fluviale a confronto*. Settimana del Pianeta Terra, 20 October 2018, Roma.

Publications:

- Pantaloni M., Console F., Petti F.M. *On the trail of Hermann Wilhelm Abich in Italy: a journey through the Italian volcanoes*. Italian Journal of Geosciences, 137, 2018, pp. 106-127. DOI:10.3301/IJG.2017.20
- Console F., Fabbi S. & Pantaloni M. *La cartografia geologica in Calabria nel XIX secolo*. "Rend. Online Soc. Geol. It.", 44, 2018, pp. 119-126. DOI: 10.3301/ROL.2018.17
- Pantaloni M., Console F., Motti A., *The "rebirth" of the Torbidone River (Norcia Plain, Umbria): a historic and geoethic approach*. Congresso congiunto SGI-SIMP, Catania, 12-14 settembre 2018. Abstract book, 785. (doi.org/10.3301/ABSGI.2018.01)
- Console F., Pantaloni M. *La cartografia dell'area dolomitica prima della Grande Guerra nell'archivio storico del Servizio Geologico d'Italia*. In: Per un Atlante della Grande Guerra, Masetti C. (ed.). CISGE, Roma, 2018, pp. 281-295.
- Sammuri P. & Pantaloni M. *Mineral Resources mapping in the 18th century (Tuscany, Italy)*. De Re Metallica, 30, 2018, pp. 39-50.
- Pantaloni M. *Fonti miracolose a Roma, tra credenza popolare, religione e scienza*. "Acque Sotterranee - Italian Journal of Groundwater", AS24-326, 2018, pp. 53 – 55, (DOI 10.7343/as-2018-326).
- Argentieri A., Cosentino D., Dal Piaz G.V., Pantaloni M., Petti F.M. & Zuccari A. *Ritratto di un gentiluomo con il papillon: Achille Zuccari, Segretario Generale della Società Geologica Italiana*. Rend. Online Soc. Geol. It., 44, 2018, pp. 3-6. DOI: 10.3301/ROL.2018.01
- Pantaloni M. *Sabatini, Venturino*. Dizionario Biografico degli Italiani, Enciclopedia Treccani, 2018
- Curatorship of the Special volume *Three hundred years of Geology in Italy*, published in the Rendiconti online della Società Geologica Italiana (2018).

Ezio VACCARI (University of Insubria, Varese) continued his research on the history of the geological sciences in 18th-19th century, with particular attention to the history of popular communication in geology. He also continued to teach history of geological sciences within his course of history of mountains at the University of Insubria in Varese and Como.

Conferences:

- 10th International Symposium: Cephalopods Present and Past, Fes (Marocco), March 2018: poster (with Kathleen Histon) *Arthur Humphreys Foord (1844-1933) The story of an eminent palaeontologist without biography*.
- Annual Meeting of the Italian Geological Society, Session P50. "History of geosciences and Geoethics: the right way for social responsibility", Università degli Studi di Catania, september 2018. Paper: *The role of the institutions for the birth of the professional geologist between the 18th and the 20th century*.
- European Society of History of Science (ESHS) biennial meeting, Imperial College, London Paper: *Popular knowledge and geological sciences: a comparative study in the history of scientific communication in France and Italy during the 19th century*.
- 43rd INHIGEO Symposium, Palacio de Minería, Mexico City. Paper (with A. Candela) *The great volcano of the Italian Prealps: an European controversy between the 18th and the 19th century*.

Gian Battista VAI (University of Bologna), continued his research activity in history of geology and paleontology, as Director of the geological museum "Giovanni Capellini", Bologna University, organizing exhibitions and popular conferences also on the history of geology. He is also working at the Giuseppe Scarabelli's Bicentennial Celebration, which will take place in 2020, in order to improve the knowledge and extend dissemination of Scarabelli's work, highlighting his legacy in geological studies.

Publications:

- Vai, G. B. (a cura di), Raimondo Selli (1916-1983) e la Società Geologica Italiana, Suppl. n.2 *Italian Journal of Geosciences* vol. 137 n. 1, p. 97-133.
- Vai, G. B., 2018, *Scarabelli Gommi Flaminj, Giuseppe Antonio Ignazio*. In *Dizionario Biografico degli Italiani*, Roma, Istituto dell'Enciclopedia Italiana - Treccani, vol. 91.
- Vai, G. B., *Selli, Raimondo*. In *Dizionario Biografico degli Italiani*, Roma, Istituto dell'Enciclopedia Italiana - Treccani, vol. 91.

Submitted by **Ezio Vaccari** (Varese)Italy

Italy - Additional Reports

HISTORY OF GEOSCIENCE SECTION - Geological Society of Italy

Special Volume: *Tre secoli di geologia in Italia*, Rendiconti online della Società Geologica Italiana, vol. 44, 2018

- Argentieri A., Cosentino D., Dal Piaz G.V., Pantaloni M., Petti F.M. & Zuccari A. - Ritratto di un gentiluomo con il papillon: Achille Zuccari, Segretario Generale della Società Geologica Italiana (<https://doi.org/10.3301/ROL.2018.01>)
- Battista F., Citton P., Leoncini C., Riti L. & Nicosia U. - The paleontological collection of Egidio Feruglio at MUST (<https://doi.org/10.3301/ROL.2018.02>)
- Fabbi S., Cestari R. & Pichezzi R.M. - The “Subiaco stone” and the early studies on the carbonate successions of the Upper Aniene Valley (<https://doi.org/10.3301/ROL.2018.03>)
- Laureti L. - The mapping of the Lombard geologists in the XIX Century from Brocchi to Taramelli (<https://doi.org/10.3301/ROL.2018.04>)
- Dal Piaz G.V. - Felice Ippolito, il Comitato Nazionale per le Ricerche Nucleari e la ricerca di minerali radioattivi nel basamento cristallino delle Alpi (<https://doi.org/10.3301/ROL.2018.05>)
- Candela A. - Per una storia sperimentale delle Scienze della Terra: dal documento alla prova sul terreno (<https://doi.org/10.3301/ROL.2018.06>)
- Perini P. - Cartografia geologica del confine calabro-lucano alla fine del XIX secolo: il contributo di Giovanni Battista Bruno, “amatore di geologia” (<https://doi.org/10.3301/ROL.2018.07>)
- Lipparini L., Bencini R. & Gerali F. - “Sgorga il Petrolio dalla Terra d’Abruzzo”: oil exploration and production history in the Abruzzo region (Central Italy) across the 20th century (<https://doi.org/10.3301/ROL.2018.08>)
- Lipparini L., Gerali F. & Bencini R. - “Dighe di pece e di asfalto”: bitumen exploitation history in the Abruzzo region (Central Italy) across the 20th century (<https://doi.org/10.3301/ROL.2018.09>)
- Barale L., Mosca P. & Fioraso G. - Il “periodo d’oro” degli studi geologici nelle Alpi Marittime tra il XIX e il XX secolo (<https://doi.org/10.3301/ROL.2018.10>)
- Salvador I., Romano M. & Avanzini M. - Gli “apparenti disordini delle leggi fisiche dell’universo”: gli effetti delle eruzioni del Laki (1783) e del Tambora (1815) nelle cronache delle regioni alpine (<https://doi.org/10.3301/ROL.2018.11>)
- Abate T. & Branca S. - L’introduzione del colore per la rappresentazione dei prodotti vulcanici: il caso della cartografia geologica dell’Etna nel XIX secolo (<https://doi.org/10.3301/ROL.2018.12>)
- Lanzini M. - La geologia e le catacombe romane. Michele Stefano De Rossi (1834-1898), un geologo inventore (<https://doi.org/10.3301/ROL.2018.13>)
- Romano M. & Nicosia U. - Tributo a Bruno Accordi: la prima riscoperta e valorizzazione moderna delle ‘gloriose’ radici geopaleontologiche italiane (<https://doi.org/10.3301/ROL.2018.14>)
- Argentieri A., Occhigrossi B.C., Piro M. & Rotella G. - Natural and anthropogenic cavities and sinkholes in Rome metropolitan area: from geological and speleological research to land management (<https://doi.org/10.3301/ROL.2018.15>)
- Marchetti L., Petti F.M., Bernardi M., Citton P., Rossi R. & Schirolli P. - On the first description of tetrapod footprints from Italy: re-analysis of the original specimen after 150 years (<https://doi.org/10.3301/ROL.2018.16>)
- Console F., Fabbi S. & Pantaloni M. - La cartografia geologica in Calabria nel XIX secolo (<https://doi.org/10.3301/ROL.2018.17>)
- Visconti A. - Paesaggi geo-mineralogici e produzione siderurgica in Lombardia tra Sette e Ottocento: un’interconnessione sempre più stretta (<https://doi.org/10.3301/ROL.2018.18>)

Other publications

- Argentieri A. (2018) - The race for the Seven Hills. In “Renato Funicello, un geologo in campo” (a cura di Fabio Funicello e Francesca Funicello), Anicia editore, Roma: 173-177.
- Capelli G., Argentieri A. (2018) - La stazione idrometrografica dell’Ovito. Da un’idea una grande avventura- The “Ovito” Hydrometrographic station (Carseolani Mounts, Central Apennines). A great adventure born from an innovative idea. *Acque Sotterranee - Italian Journal of Groundwater* AS25-331: 59 - 63 (DOI 10.7343/as-2018-331)
- Console F., Fabbi S. & Pantaloni M. (2018) - La cartografia geologica in Calabria nel XIX secolo. *Rend. Online Soc. Geol. It.*, 44, 119-126. DOI: 10.3301/ROL.2018.17
- Console F., Pantaloni M. (2018) – La cartografia dell’area dolomitica prima della Grande Guerra nell’archivio storico del Servizio Geologico d’Italia. *In: Per un Atlante della Grande Guerra*, Masetti C. (ed.). CISGE, Roma, 281-295.
- La Vigna F., Argentieri A. (2018) - Le sorgenti storiche del litorale di Capo d’Anzio: il “Turco” e lo “Speziale” – Historical springs of Cape Anzio: “Turco” and “Speziale”. *Acque Sotterranee - Italian Journal of Groundwater* AS26-347: 75 - 78 (DOI 10.7343/as-2018-347)

- Pantaloni M. (2018) - Fonti miracolose a Roma, tra credenza popolare, religione e scienza. *Acque Sotterranee - Italian Journal of Groundwater*, AS24-326, 53 – 55 (DOI 10.7343/as-2018-326).
- Pantaloni M. (2018) – Sabatini, Venturino. *Dizionario Biografico degli Italiani*, Enciclopedia Treccani.
- Pantaloni M., Console F., Petti F.M. (2018) - On the trail of Hermann Wilhelm Abich in Italy: a journey through the Italian volcanoes. *Italian Journal of Geosciences*, 137, 106-127. DOI:10.3301/IJG.2017.20
- Sammuri P. & Pantaloni M. (2018) – Mineral Resources mapping in the 18th century (Tuscany, Italy). *De Re Metallica*, 30, p. 39-50. G. Capelli, R. Mazza, A. Argentieri, *Acque sotterranee nell'Etruria meridionale laziale. Una ricerca che perdura da millenni- Groundwater in Southern Etruria. A long-lasting research. Acque Sotterranee - Italian Journal of Groundwater AS27-370: 75 - 80 (DOI 10.7343/as-2018-370)*

Seminars, meetings and workshops

- Pantaloni M., Console F. - History of geology and cartography in Italy. Chieti-Pescara University, 24 May 2018.
- Pantaloni M., Console F., Petti F.M. - L'evoluzione storica delle conoscenze geologico-stratigrafiche del Materano. Giornata di studio sulla Cartografia geologica, Matera, 4 June 2018.
- Pantaloni M., Crosti R. - Il Drizzagno e l'ansa morta di Spinaceto lungo il Tevere, caratteri geologici ed ecosistemi fluviale a confronto. *Settimana del Pianeta Terra*, 20 October 2018, Roma.
- Argentieri A., Parotto M. (2018) - "The impulse given by Angelo Secchi to the development of Terrestrial Physics in Italy". Interdisciplinary Workshop in History of Science "Angelo Secchi (1818-1878) SJ: the scientist and his time". Biblioteca Casanatense- Roma, 6/9/2018.

Submitted by **Marco Pantaloni** (Rome)

JAPAN

The JAHIGEO (Japanese Association for the History of Geological Sciences) held two meetings at the Hokutopia, Tokyo in 2018. The first was held on 24 June and the second on 23 December. The presentations at the first meeting were: Hidehisa Mashima's "Efforts of Professor Tatsuro Matsumoto to contribute to plate tectonics from Japan" and Yoichi Shibata's "Sketch of history of geopolitics in Japan." At the second meeting, Hirokazu Kato gave a lecture on "Yesso and Karafuto (Sakhalin) viewed from geology and culture" and Yukiko Kiyochi on "Geologist Zhang Zi-ping (1895-1963?)."

The Study Group for the History of Geosciences (*Chigaku-shi Kenkyu-kai*) conducted by JAHIGEO members had five meetings (69th to 73rd): 69th, 70th, 71st and 73rd at the Waseda Service Garden, Tokyo, on 27 January, 17 March, 14 July, and 22 December, and 72nd at the University of Tokyo, Komaba, Tokyo, on 8 September. At the January Meeting, Yasu Sato presented about "History of space development in the U. S.: Earth and Planetary Science in the Organizational Context of NASA"; at the March meeting, Nobuyuki Aida, "Motonori Matuyama (1884-1958)'s accomplishments and life, especially paleomagnetism"; at the July Meeting, Hozumi Hayashi, "Tracing an influence of Torahiko Terada on the meteorological studies of Sakuhei Fujiwhara," and Takao Nakajin, "Walker's "southern oscillation" and El Niño event - A science history of ocean-atmosphere interactions"; and at the December meeting, Akihiro Tawara: Ibn Sinā's cosmology and its criticism in the philosophies of Ismā'īlism and al-Ghazālī." The 72nd September meeting was a special one, in which **Hugh Torrens** (Geological Society, London, INHIGEO member) gave a lecture on "The English geologist William Smith (1769-1839), and his struggles to both earn a living, and finance his scientific projects, to 1820." This was an impressive presentation and we hope that his thorough study on Smith's life and work would be published soon.

Hugh Torrens was invited by the Geological Society of Japan (JGS) to celebrate the 125th annual meeting. The Geological Society of Japan was founded on 1898. In the ceremony, there was a plan to hold the memorial international symposium on Geology for Society, but, unfortunately, it was canceled because of large Hokkaido Earthquake on 6 September. In the regular session on the history of geology of the society, Yoshiaki Matsuda talked on "the birth and early development of geology in Hokkaido" and Michiko Yajima introduced "the 50th Anniversary of INHIGEO." On the other hand, fortunately, we had an opportunity to hear from Gregory Good (AIP History Center, INHIGEO member) about "The History of Geomagnetic Research Since 1800" on 1 December, at the University of Tokyo, Komaba, Tokyo. He was invited by the National Museum of Nature and Science and attended some meetings on the history of science.

At the 65th annual meeting of the History of Science Society of Japan (HSSJ) was held at Tokyo University of Science, Katsushika, 26-27 May. Five papers were read on the history of earth sciences: Nobumichi Ariga, "Making the Earthquake-

Resistant Kasumigaseki Building: A Process of Knowledge Production,” Jun’ichi Chiba, “How geologists has accepted the Plate Tectonics Revolution: The individual ‘essential tension’ contents development division,” Atsushi Miyashita, “The changes and points about geotectonic subdivision of the Japanese Islands,” Akira Yamamoto, “A weather observer Norimasa Muragaki,” and Takahiko Hatsuyama, “The formation process of Japanese Aphorism ‘Disaster will happen when we forget’.”

One week before the HSSJ sessions, on 20 May 2018, at the Makuhari Messe, Chiba, the Japan Geoscience Union (JpGU) provided sessions for geoscience studies: historical, philosophical and STS studies, in which 6 papers were read and 5 posters presented. The six oral papers were: Shigenori Maruyama, “Fate of Complex Science: Ad hoc science and falsifiability,” Jiro Tomari, “The Histories of the Climate Change Studies in Japan (II),” Hidehisa Mashima, “The initial stage of the formation of the accretional prism model for the Shimanto Belt by the stratigraphy group of Kyushu University,” Jun’ichi Chiba and Miyoko Shibasaki, “Did Social Circumstances of Researchers Delay the Acceptance of the Plate Tectonics Theory?,” Satoshi Sakai, “Universities are zoos in human society,” and Mai Suzuki, Binil Aryal, and Kazuki Koketsu, “Context dependency of earthquake research and education.”

The five posters were:

Akira Yamamoto, “Historical Meteorological Data in Hokkaido and Sakhalin from 1854 to 1858 written on the official diaries of Muragaki Norimasa, a magistrate of the shogun,”

Toshihiro Yamada, “Geoscience Education and the Historiography of Geoscience of Katsumi Mochizuki,”

Michiko Yajima, “The 50th Anniversary of INHIGEO,”

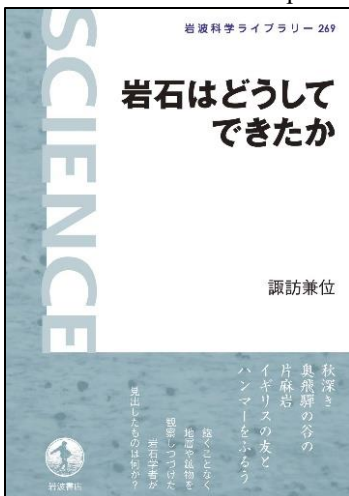
Shigeyuki Aoki, “Cosmic and individual dimensions on meaning of life,” and

Akira Taneko, “It can be said that it could be verified if it could explain all the plural outcome of one-time evolution with uniform verification of origin which cannot be induced or deduced without time machine and Abduction conformally.”

In 2018, the JAHIGEO issued its *Bulletin*, Numbers 50 and 51 (in Japanese), and the *JAHIGEO Newsletter*, Number 20 (in English). The contents of the 20th memorial volume of Newsletter are: “Letter from the President of JAHIGEO” written by the president KATO Hirokazu [Editor’s note – see the Messages to Members section of this volume.] and “Henry Batson Joyner (1839-1884), weather observer in England, Japan and Brazil” written by YAMAMOTO Akira. [Editor’s note – reprinted in the Articles section of this volume.]

The HSSJ has its international journal of *Historia Scientiarum*. Fortunately, we had an opportunity to edit a special issue on “The History of Geological Sciences in East Asia: Geosciences in Transition” (vol. 27, no. 3, March 2018). The contents are as follows; “Introduction” (by Toshihiro YAMADA and Michiko YAJIMA), “How Modern Geology Was Published: A Case Study of Chinese Geological Journals ,1919 to 1948” (by Jiuchen ZHANG), “Frontier of Professionals: The Vision of American Advisors That Supported Hokkaido Development in the Early Meiji Period” (by Tomomi NAKAGAWA), “Japanese Geological Scientists and Their Activities with Respect to Science Communication: With Special Reference to Professor Seitaro Tsuboi and *Chidanken*” (by Fumihiko TOCHINAI), and “Christian Missionaries and Natural Things: The Italian-style Geological Collection of Cimatti’s Museum at Chofu, Tokyo, Japan” (by Stefano MARABINI and Gian Battista VAI). We will have a one more special issue on the same theme.

Professor Kanenori Suwa published *Ganseki wa doushite dekitaka* (How rocks were investigated) (Tokyo: Iwanami-shoten, 2018), 136 pp. It is a short but intensive book on the history of petrology, dealing geology history from Werner to Lyell (Chapter 1), volcanic rocks (Chapter 2), plutonic rocks (Chapter 3), metamorphism (Chapter 4), Japanese contributions from Koto to Miyashiro (Chapter 5). It is very impressive with 53 illustrations of scientists, which Suwa himself depicted.



Hirokazu Kato and Michiko Yajima, Tokyo; Toshihiro Yamada, Tateyama

LITHUANIA

In 2018, the Lithuanian INHIGEO members **Dr. Gailė Žalūdienė** and Academician, **Professor Habil. Dr. Algimantas Grigelis** have appointed three new candidates to INHIGEO membership that are expected to be elected in 2019 on the 44th Symposia in Varese-Como, Italy. As is recorded in the Annual bibliography of this report, our activity is growing and – what is important to note – extending to society via different media networks. This remark is supported by the fact that in 2018 Academician Algimantas Grigelis was awarded the prestigious *Theodor von Grotthuss Medal* for his achievements in culture and science development [see the Awards section of this volume].

Remarkable event for historians of geological sciences in Lithuania in 2018 was the continuous activity followed the International Conference, held in July 2017 and dedicated to 215-years of birth of a great explorer of Andean geology and mineralogy Ignacy Domeyko (1802-1889), who graduated from Vilnius University in 1822. First, the large exhibition “Ignacy Domeyko: Look at mineral still unnamed” [in Lithuanian and Polish languages] was organized in the Lithuanian Embassy in Warsaw, Poland, from 12 April 2018 to 11 May 2018. The meeting organizers, authors A. Grigelis and A. Česnulevičius, based the meeting on the book published in July 2017 by Vilnius University: *Ignacy Domeyko – geologist, mineralogist and mining engineer* [title in Lithuanian] = *Ignotas Domeika : geologas, mineralogas, kalnų inžinierius* (compiler and scientific editor Algimantas Grigelis), 2017, 726 pp., ca. 600 figs.

The above-mentioned exhibition was presented to the public during April and May 2018 at the Lithuanian Academy of Sciences and in January 2019 in the academic Wroblewski library in Vilnius. A Catalogue of the exhibition was published as a booklet (100 copies). Also, several journal articles on Ignacy Domeyko heritage were published in Lithuanian, Polish, English, and Spanish languages.

Other activity continues with the ongoing explorations of country and international issues. In 2018, A. Grigelis edited *Baltica*, An International Journal on Geosciences (Vol. 31, biannual; Web on Science rank, ISI Clarivate Analytics). Several public papers were published by him in *The News of the Lithuanian Academy of Sciences* and in *The Journal of the Geological Society of Lithuania ‘Horizons of Geology’* in Vilnius. Newly it should be noted that there has been increasing publicity of the scientific achievements in science, including photography exhibitions and movie on Ignacy Domeyko presentations, that reaches society via different media networks.

Traditional Vilnius’ Conference *SCIENTIA ET HISTORIA-2018* held on 29-30 March has brought about 30 reports on history of sciences and of philosophy. It was here that Prof. A. Grigelis gave a presentation talking about episodes of Ignacy Domeyko rememberings from his being at Homeland in August-September 1884. In 2018, A. Grigelis wrote several chapters on the works and life of Ignacy Domeyko at website of the Lithuanian Society of historians of sciences and philosophers <http://www.moksloistorija.lt/zinynas/domeika-ignotas>.

Dr. Gailė Žalūdienė in 2018 published few articles on the history of geology in Lithuania.

Compiled by A. Grigelis

Annual bibliography on the history of geological sciences, Lithuania, 2018

I. Booklet:

Catalogue of Exhibition „Look at mineral still unnamed” [Lith., Pol.]: Pažvelk į mineralą dar bevardį : Ignotas Domeika : parodos katalogas, Varšuva, 2018 04 12 – 2018 05 11 = Spójrz na minerał jeszcze bezimienny : Ignacy Domeyko : katalog wystawy, Warszawa 12 04 2018 – 11 05 2018 / compiled by A. Grigelis and A. Česnulevičius. – Vilnius : Lietuvos Ignoto Domeikos draugija, 2018, 30 [1] p.

II. Journal *Baltica*:

Baltica: an International Journal on Geosciences / Nature Research Centre. Institute of Geology and Geography; past-editor A. Grigelis. – Vilnius, 2018, Vol. 31, No. 1–2, 178 p.

III. Articles:

Chile, a second homeland of Ignacy Domeyko : an Epilogue / A. Grigelis. – Літасфера, Мінск, № 2, 2018, p. 181–185.

- Last journey to mother land of great explorer of Andean geology / A. Grigelis, L. Ž. Gelumauskaitė. – Geologija. Geografija, Vilnius, t. 4, Nr. 2, 2018, p. 79–80. [English, Spanish].
- Domeikų šeimos dvaras Nedzviadkoje Dariušo Obuch-Voščatinskio prisiminimuose / translated from Polish by A. Grigelis [Title in English: Domeyko's family manor house in Nedzwiadka in remembering of Dariusz Obuch-Woszczatynski]. – Geologijos akiračiai, Vilnius, 2018, Nr. 2, p. 31–33.
- Ignoto Domeikos jubiliejinės parodos Varšuvoje ir Vilniuje / A. Grigelis [Title in English: Jubilee exhibitions on Ignacy Domeyko in Warsaw and Vilnius]. Geologijos akiračiai, Vilnius, 2018, Nr. 2, p. 33–34.
- Monografija apie įžymų geologą [Title in English: A monograph on eminent geologist], compiled by A. Grigelis. – Lietuvos mokslų akademija, 2018, April [<http://www.lma.lt/index.php?>]
- Geological investigations of Antanas Giedraitis / G. Žalūdienė (in Lithuanian). - Geologijos akiračiai, Vilnius, 2018, Nr. 1, p. 17-18.
- In memory of Marijonas Tomašauskas : saving society of Lithuania / G. Žalūdienė (in Lithuanian). – Geologijos akiračiai, Vilnius, 2018, Nr. 3, p. 28-30.
- Geology in Lithuania (1918-1940) : retrospective view / G. Žalūdienė (in Lithuanian). – Geologijos akiračiai, Vilnius, 2018, No. 4, p. 6-12.
- Country Report. Lithuania.– Johnstown, Pennsylvania, USA, 2018, No. 50 [<http://www.inhigeo.com>].

IV. Conferences, remembering, photoexhibitions:

- Viena Ignoto Domeikos diena savo Tėviškėje / A. Grigelis [Report: Title in English: One day of Ignacy Domeyko at his homeland]. Scientia et Historia-2018: Lietuvos mokslo istorijai ir mokslo filosofijai skirta konferencija, 2018 m. kovo 29–30 d., Vilnius.
- Krikštopaitis J. A., 2018. Monumentalaus mokslinės minties paminklo kūrėjas [Title in English: A man who created a monument of the idea of scientific mind]. –In: Kūrybinės galios proveržio liudininkai : susitikimai su kultūros turinį lemiančiomis asmenybėmis. – Vilnius, 2018, p. 59–67. [*About A. Grigelis' studies on the history of geological sciences*].
- Kai mokytojas kvatojasi kaip Mefistofelis / A. Grigelis [Title in English: When teacher laughs as Mefisto (rememberings)]. Indrāja, Utena, 2018, Nr. 3, p. 30–40.
- Exhibition: Pažvelk į mineralą dar bevardį : Ignotas Domeika : paroda, Varšuva, Lietuvos ambasada, 2018 04 12–2018 05 11; Lietuvos mokslų akademija, 2018 04 17–2018 05 08 / A. Grigelis, A. Česnulevičius; Lietuvos Ignoto Domeikos draugija. – Vilnius, 2018, 34 lap. [Lith., Pol.].
- Lietuvos ambasadoje pristatyta lietuvių kalba išleista akademinė monografija „Ignotas Domeika – geologas, mineralogas, kalnų inžinierius [Title in English: A monograph on Ignacy Domeyko presented in the Lithuanian Embassy in Warsaw, Poland]. – Lietuvos Respublikos ambasada Lenkijos Respublikoje [2018, April; <https://pl.mfa.lt/pl/lt/naujienos>].
- VU leidykla pristato: „Ignotas Domeika: geologas, mineralogas, kalnų inžinierius“ [Title in English: Vilnius University Publishing House represents a monograph on Ignacy Domeyko]. – Vilniaus universitetas. Naujienos [2018 03 21; <http://naujienos.vu.lt/vu-leidykla-pristato-ignotas-domeika-geologas-mineralogas-kalnu-inzinierius>].
- Filmo apie Ignotą Domeiką pristatymas Lietuvos mokslų akademijoje, 2018 spalio 23 d. / V. Baltrūnas [Title in English: Movie on Ignacy Domeyko presentation in the Lithuanian Academy of Sciences]. - Geologijos akiračiai, Vilnius, 2018, No. 4, p. 36.
- Tokia Sirija liko mano širdyje [Title in English: This Syria left in my heart; photography exhibition] : A. Grigelis, fotografijų paroda. Utena, „Utenos Indra“, 2018 04 01–2018 05 30.
- Pavasarių Praha [Title in English: Springs in Prague; photography exhibition] : A. Grigelis, fotografijų paroda. – Utena, „Utenos Indra“, 2018 06 10 – 2018 07 30.
- [Sirija] Žemė atspindinti puikiąsias saules... [Title in English: [Syria] Earth reflecting his beauty...; photography exhibition]: A. Grigelis, V. Pukelytė, fotografijų paroda. Vilnius, GTC, 2018 10 10 – 2018 12 30.

V. Theodor von Grotthuss Award:

- Akademikui Algimantui Grigeliui – vardinis „Theodor von Grotthuss“ medalis [Title in English: Academician Algimantas Grigelis awarded by Theodor von Grotthuss medal]. – Geologijos akiračiai, Vilnius, 2018, Nr. 4, p. 56–58; - Utenos apskrities žinios, 2018, rugsėjo 29 (Nr. 37), p. 2; - Lietuvos mokslų akademija [2018, spalio]; <http://www.lma.lt/news/443/38/Akademikui-Algimantui-Grigeliui-Teodoro-Grotuso-medalis>. [Editor's note: For the full award report, please see the awards section of this volume.]

Algimantas Grigelis. – Lietuvai ir pasauliui : enciklopedija [ELIP] [Biography: Encyclopaedia for Lithuania and the World]. [2018 12 21; http://lietuvai.lt/wiki/Algimantas_Grigelis].
Compiled by S. Dagienė, edited by A. Grigelis, Vilnius

MEXICO

2018 ANNUAL REPORT

Scientific Conferences and Presentations:

- 43^d Conference of the International Commission on the History of Geological Sciences (INHIGEO), Palacio de Minería, UNAM, Mexico City, November 12-18th, 2018.
- Organization of the field trips during the 43^d Conference of the International Commission on the History of Geological Sciences (INHIGEO), Palacio de Minería, UNAM, Mexico City, November 11-21th, 2018.
- Azuela, Luz F., "Geological Research in Nineteenth Century Mexico: Co-production and Globalization", 43rd Conference of the International Commission on the History of Geological Sciences (INHIGEO), Palacio de Minería, UNAM, September 12-18th, 2018.
- Espinosa-Arrubarrena, Luis (Organizer), 98^o Encuentro de Ciencias, Artes y Humanidades, and Sixth Geological Festival (6^o Encounter with Planet Earth), commemorating the International day of the Earth, organized by the Institute of Geology, and Geological Museum, UNAM and (Municipality) Cuauhtémoc, April 22.
- Espinosa-Arrubarrena, L., Morelos-Rodríguez, L., "The Institute of Geology's Museum and its Paleontological Heritage: Highlights on Specimens with Historical and Scientific Relevance" International Commission on the History of Geological Sciences 43rd Conference, November 2018.
- Irazaba-Ávila, O. and Espinosa-Arrubarrena, L., "The historical Mineralogical Collections in the Institute of Geology's Museum, UNAM", International Commission on the History of Geological Sciences 43rd Conference, November 2018.
- Morelos-Rodríguez, L., "Fuentes documentales para la historia del Volcán Parícutin: el Acervo Histórico del Instituto de Geología" ["Historical Documents for the History of Parícutin Volcano"], *75 Anniversary of Parícutin Volcano*, February 2018.
- Morelos-Rodríguez, L., "La veta histórica de J.G. Aguilera (1857-1941): Forjador de la Memoria y la Tradición Geológica en México" [José G. Aguilera's (1857-1941): Designer of Mexican Geology's Historical Tradition], IV Congress of Historians of Sciences and Humanities, March 2018.
- Morelos-Rodríguez, L., "Heroínas de las Ciencias Geológicas Mexicanas", [Heroines of Mexican Geological Sciences], *Conference of the Institute of Geophysics and the National Seismological Service, UNAM*, March 2018.
- Morelos-Rodríguez, L. and Moncada-Maya, J.O., "El Ministerio de Fomento de la República Mexicana, sus actividades en el conocimiento del territorio. Siglo XIX" [The Mexican Ministry of Development and its Territorial Research in the 19th Century], *7^o Ibero-American Conference on the History of Cartography*, April 2018.
- Morelos-Rodríguez, L., "Historia de las Ciencias Geológicas en México. De Servicio Geológico a Instituto Universitario (1888-1929)", ["History of Geological Sciences in Mexico. From a Geological Survey to a University Research Institute (1888-1929)"], *Seminar of History, Philosophy and Sociology of Mexican Anthropology through of the Direction of Ethnology and Social Anthropology of National Institute of Anthropology and History (INAH)*, May 2018.
- Morelos-Rodríguez, L., "La labor científica de Antonio del Castillo en la Sociedad Mexicana de Historia Natural" [The scientific work of Antonio del Castillo at the Mexican Natural History Society], *Colloquium 150 years of the Mexican Natural History Society*, August 2018.
- Morelos-Rodríguez, L., "From Geognosy to Geology: Werner's Followers and Early Earth Sciences in Mexico", *International Commission on the History of Geological Sciences 43rd Conference*, November 2018.
- Uribe-Salas, J., "The Institute of National Geology and the Mining Company" Las Dos Estrellas ", in *El Oro and Tlalpujahua, SA*", VI Congress of Historians of Sciences and Humanities, University of Guadalajara, Guadalajara, March 2018.
- Uribe-Salas, J. and Valdivia L., "Cacahuamilpa: visual representation and culture of the territory in the 19th century", VI Congress of Historians of Sciences and Humanities, University of Guadalajara, Guadalajara, March 2018.
- Uribe-Salas, J., "The Valley of Mexico as a space of production and circulation of knowledge and practices around the theories of evolution, nineteenth century", VIII International Colloquium on Darwinism in Europe and America, Las Palmas de Gran Canaria, May 15 to 18, 2018.
- Uribe-Salas, J., "Andrés Aldasoro and José Guadalupe Aguilera: agreements and exchanges for geological science and the mining economy", III Colloquium Geographical and naturalistic investigations in Mexico (1786-1950), Autonomous University of Pachuca, May 25, 2018.
- Uribe-Salas, J., "Contributions of engineer Ezequiel Ordóñez to the Mexican Society of Natural History", 150 years since the founding of the Mexican Society of Natural History, Faculty of Philosophy and Letters, UNAM, from 10:00 a.m. to 7:00 p.m. 00 hours, August 29, 2018.
- Uribe-Salas, J. and Valdivia L., "The Cacahuamilpa Grottoes: A Space for Geological Sciences in the 19th Century", International Commission on the History of Geological Sciences, November 12-16, 2018.

Uribe-Salas, J., "Human capital and labor sociability in the mineral of Tlalpujahua, in the transition from the 19th to the 20th century" IV International Seminar: Industry, entrepreneurs, workers, labor sociabilities and human capital constitution, 19th and 20th centuries, Universidad Michoacana de San Nicolás de Hidalgo, Morelia, Mich., November 29-30, 2018.

Keynote Speeches:

Morán-Zenteno, D., "Overview of the tectonic evolution of Mexico", International Meeting on the Jurassic System, IUGS Commission on Stratigraphy.

Morán-Zenteno, D., "Historical evolution of concepts on the tectonic framework of Mexico", Closing Ceremony of the 43rd Conference of the International Commission on the History of Geological Sciences (INHIGEO), Palacio de Minería, UNAM, Mexico City, November 2018.

José Alfredo Uribe Salas, "The caves in the history of Mexico: science and tourism", Colloquium History, past and present, Faculty of History of the UMSNH, June 28, 2018.

Book Presentation:

Omar Escamilla González and Lucero Morelos Rodríguez, Mexican Mining Schools. 225 years of the Real Seminary of Mining, (Faculty of Engineering, UNAM, 2017), The School of San Luis, October 4, 2018.

Recent Bibliography:

Books:

AZUELA, Luz Fernanda y Rodrigo Vega (coordinadores), 2018. *Geógrafos, naturalistas e ingenieros en México, siglos XVIII-XX*, Instituto de Geografía-Dirección General de Asuntos del Personal Académico.

AZUELA, Luz Fernanda y Rodrigo Vega (coordinadores), *Las investigaciones geográficas y naturalistas en México, siglos XIX y XX*, Instituto de Geografía-Dirección General de Asuntos del Personal Académico (in press).

Morelos-Rodríguez, L. and Escamilla-González, O. (coords.), *125 años de las meteoritas en el Palacio de Minería [125 years of the Palace of Mining's Meteorites]*, UNAM, 2018.

Serrano, D., Morán, D., Morelos, L., González, G., Azuela, L. (eds.), *Proceedings of the International Commission on the History of Geological Sciences 43rd Conference: Conference Program, Abstracts and Field Trips Guides*, Mexico, November 2018, 129 p.

Uribe-Salas, J., Herrera-Canales, I., Parra-Campos, A., Morelos-Rodríguez, L., González-Escamilla, F.O. (coords.), *Recent Perspectives of Latinoamerican Mining History [Perspectivas Recientes en la Historia de la Minería Latinoamericana]*, Mexico, UNAM, 2018.

Articles and book chapters:

Prol-Ledesma, R. M., Morán-Zenteno, D., "Heat flow and geothermal provinces in Mexico", *Geothermics*, December 2018; 78, 183-200 online

Ortega-Gutiérrez F., Elía-Herrera, M., Morán-Zenteno, D., Solari, L, Weber, B, Luna-González, L., "The pre-Mesozoic metamorphic basement of Mexico, 1.5 billion years of crustal evolution", *Earth Science Reviews*, May 2018; 183, 2-37 online

Morán-Zenteno, D.J., Martiny, B., Solari, L., Mori, L, Luna González, L., González-Torres, E.A., Cenozoic magmatism of the Sierra Madre del Sur and tectonic truncation of the Pacific margin of southern Mexico, *Earth-Science Reviews*, January 2018; 183, 85114

Morelos-Rodríguez, L., "Bacubirito: The Monster Meteorite", in Morelos-Rodríguez, L. and Escamilla-González, O. (coords.), *125 years of the Meteorites at the Palace of Mining*, UNAM, 2018, pp. 113-119.

Morelos-Rodríguez, L., "Exploradores y hombres de ciencia en la Comarca Minera. Panorama histórico de los estudios geológicos en el siglo XIX en México" [Explorers and Scientists at the Comarca Minera. Historical Overview of Geological Studies during the 19th Century] in Canet-Miquel, C. (coord.), *Guía de Campo del Geoparque de la Comarca Minera* [The Comarca Minera Geopark Field Guide], Hidalgo UNESCO Global Geopark, 2018, pp. 115-129.

Morelos-Rodríguez, L., Escamilla-González, O., "La Escuela de Minas de Guanajuato (1864-1867)" [The School of Mines of Guanajuato (1864-1867)], in Uribe-Salas, J.A., Herrera-Canales, I., Parra-Campos, A., Morelos-Rodríguez, L., González-Escamilla, F. O. (coords.), *Recent Perspectives of Latinoamerican Mining History*, Mexico, UNAM, 2018, pp. 135-144.

- Pastrana, A., García-Vallés, M., Morelos-Rodríguez, L., “La Obsidiana: Un vidrio precioso milenario. Aspectos generales, geología e importancia histórica de la obsidiana del Cerro de las Navajas” [The Obsidian: A Precious and Milenary Glass. General Aspects, Geology and Historical Importance of the Hill of the Knives Obsidian], in Canet-Miquel, C. (coord.), *Field Guide to The Comarca Minera, UNESCO Global Geopark*, 2018, pp. 93-106.
- Cruz-Pérez, M.A., Canet-Miquel, C., Salgado-Martínez, E., Morelos-Rodríguez, L., García, A. and Mora-Chaparro, J.C., “Guía de Geositios” [Geosites Guide], in Canet-Miquel, C. (coord.), *Field Guide to The Comarca Minera, UNESCO Global Geopark*, 2018, pp. 148-221.
- Irazaba-Ávila, O. y Espinosa A.L. “Aspectos Relevantes de la Colección de Meteoritos del Museo de Geología, UNAM”; in Morelos Rodríguez, L y Escamilla González, F. O (Coordinadores); 125 años de las Meteoritas en el Palacio de Minería; (pp. 73-76); Facultad de Ingeniería, División de Educación Continua y a Distancia; México, 2018; 122 p.
- Uribe-Salas, J. and Cortés Zavala, T. (Dossier Eds.), "History of science in Mexico", *Inclusiones Magazine*, vol. 5, no. Special Issue, October-December 2018 (ISSN: 0719-4706).
- Uribe-Salas, J. "Science and Philosophy: two aspects in the life of Andrés Manuel del Río", *Saberes. Journal on the History of Sciences and Humanities*, vol, 1, núm. 3, January-June 2018, pp. 10-29 (ISSN-2448-9166).
- Uribe-Salas, J. and Valdivia L., "Cacahuamilpa: visual representation and culture of the territory in the 19th century", *Inclusiones*, vol. 5, no. special, October-December 2018, pp. 69-99 (ISSN 0719-4706).
- Sánchez-Pineda, P. and Uribe-Salas, J., "Science and social networks in Mexico at the end of the 19th century: The Michoacán Society of Geography and Statistics", *Inclusiones Magazine*, vol. 5, no. special, October-December 2018, pp. 113-136 (ISSN 0719-4706).
- Uribe-Salas, J. "Science and economics in the exploitation of copper in Michoacán, XVI to XIX centuries", in Luz Fernanda Azuela and Rodrigo Vega y Ortega (coord.), *Geographers, naturalists and engineers in Mexico, XVIII to XX centuries*, Mexico, Institute of Geography-UNAM, 2018, pp. (ISBN: 978-607-30-0938-6.)
- Uribe-Salas, J. and Zaragoza-Cruz, J., "Technological change in the mining of silver and gold in the Porfiriato. A regional perspective", in José Alfredo Uribe Salas, Inés Herrera Canales, Alma Parra Campos, Lucero Morelos Rodríguez, Omar Escamilla González, *Recent Perspectives on the History of Latin American Mining*, Mexico, Faculty of Engineering, National Autonomous University of Mexico, 2018, pp. 173-181 (ISBN: 978-607-30-0859-4).

Book reviews:

- José Alfredo Uribe Salas, Critical Review of the Book: Omar Escamilla González and Lucero Morelos Rodríguez, "Mexican Mining Schools. 225 years of the Real Mining Seminar ", *Saberes. Journal of the History of the Sciences and the Humanities*, vol, 2, núm. 4, July-December 2018, pp. 79-83 (ISSN-2448-9166).

Other Activities:

- Espinosa-Arrubarrena, L. Guided visit in the Geology Museum, UNAM during the Closing Ceremony of the International Commission on the History of Geological Sciences 43rd Conference, November 2018.
- Espinosa-Arrubarrena, L., Field Trip Guide during the Post-Meeting Trip to Mixteca Poblana, Tlayúa locality and the “Regional Mixtecan Museum”, International Commission on the History of Geological Sciences 43rd Conference, November 2018.
- Espinosa-Arrubarrena, L., Curator of the Mineralogical Exhibition “Butterfly Double” by the artist Janet Levy, showing conceptual conditions of the rocks used in her sculptures, Geology Museum, UNAM, February-March 2018.
- Espinosa-Arrubarrena, L., Curator of the Soil and Mining Exhibition, Geology Museum, UNAM, April-August 2018.
- Espinosa-Arrubarrena, L., Curator of the “Nekrós-Opsis” Exhibition, where ancient skulls of birds, mammals and reptiles were combined with paintings and sculptures), Geology Museum, UNAM, April-June 2018.
- Espinosa-Arrubarrena, L., Curator of the Exhibition “Art in Scientific Illustration”, Geology Museum, UNAM, November 2017- April 2018.
- Espinosa-Arrubarrena, L., Curator of the Exhibition “Allende–Apollo XI” , Geology Museum, UNAM, December 2018 to March 10, 2019.
- Espinosa-Arrubarrena, L., Curator of the Exhibition “Jurassic Altotonga”, Municipal Palace, Altotonga, Veracruz, April 2018.
- Espinosa-Arrubarrena, L., Curator of the Exhibition “Art and Scientific Instruments”, Science Tunnel Museum (Mexico’s City Subway System), September 2018.
- Espinosa-Arrubarrena, L., Curator of the Exhibition “Stones of Water and Fire. Turquoises and jade among the Nahuas”, Museo del Templo Mayor, November 2018-April 2019.

As a final note, I would like to add that members of our group continue teaching three different courses at the National Autonomous University (UNAM) and Universidad Michoacana de San Nicolás de Hidalgo (UMSNH), containing topics on the History of Geological Sciences that contribute to raise the interest of young students in our subject matter.

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New Zealand

INHIGEO Report for 2017

[Editor's note: Due to an overlooked email, which ended up in the wrong file, the New Zealand Report for 2017 was inadvertently left out of *Record No. 50*. Here is the Report for 2017, with sincere apologies to our colleagues in New Zealand. WRB]

INHIGEO members in New Zealand are continuing research into various aspects of the history of geology in this country. Although several books are in preparation, including one on New Zealand photographer Lloyd Homer by **Simon Nathan**, this year most publications were in the *Journal of the Historical Studies Group*, of the Geoscience Society of New Zealand, which was edited by **Rodney Grapes**, with **Simon Nathan** as Convenor of the Group. As in the previous year, there were three issues and articles by INHIGEO members were:

Number 55 April 2017

New Zealand Geological Survey Conference in 1952 – Alison Johnston and Simon Nathan.

Charles Forbes on the geology of New Zealand and the Province of Wellington – **Rodney Grapes**.

Number 56 August 2017

Pat Suggate: Publications on coal-related topics – **Simon Nathan**.

Number 57 November 2017

Alexander McKay's volcanic crater and a history of the Red Hill teschenite – **Rodney Grapes**.

In addition, **Graeme Stevens** continues to provide the journal with a steady stream of articles relating to the New Zealand Geological Survey and the history of paleontological research in New Zealand.

Published elsewhere during the year were the following articles by **Simon Nathan**:

The scientific achievements of William Colenso FRS. *Colenso: a monthly newsletter and historical review*, 8(5): 14-21.

Mr 'Explorer' Douglas and the giant geological map of South Westland. *Journal of the Royal Society of New Zealand*, 47(2): 181-186.

Finding New Zealand's scientific heritage: from Maturanga Maori to Augustus Hamilton. *Journal of the Royal Society of New Zealand*, 47(1): 1-4. (co-authored with R. Priestley and both authors were also guest editors of this publication, dealing with the history of science in New Zealand). In the succeeding issue of the journal is a paper by the same co-authors titled: *The lessons of history for the future of science*.

The two issues of the *Journal of the Royal Society of New Zealand* (47 1 & 2)) also contains several other papers of interest to historians of geology including: *The 1848 earthquakes and building damage in Wellington, New Zealand: coping with a new reality* by **Rodney Grapes**.

Mike Johnston has now finished a draft of a history covering gold mining in northwest Nelson between 1855 and 1876. A major project by John Taylor in locating old mine and mining related plans in New Zealand was completed during the year. This involved searching public archives, museums and numerous private and company collections. Over 10,000 plans have now been catalogued and the best have been scanned for a government sponsored website to go on-line by the middle of 2018. The website will be of great benefit to many, not least of all historians of geology. Delegates to the INHIGEO meeting in Yerevan attended a presentation, at the Ministry of Energy and Natural Resources, which explained a very similar project in which the Armenian government is digitising paper geological records.

From New Zealand, **Mike Johnston** and **Simon Nathan** attended the INHIGEO meeting that marked the 50th Anniversary of the founding of the Commission in Yerevan. Simon presented a paper titled "James Hector (1834-1907) and the birth of the New Zealand Geological Survey".

Mike Johnston, Nelson

INHIGEO Report for 2018

Historical research by New Zealand INHIGEO members continues at the level of previous years. **Simon Nathan** has published an article titled “Alexander McKay: New Zealand's first scientific photographer”. McKay (1841-1917) was a self-taught geologist in colonial New Zealand who recognised and photographed transcurrent offsetting on a surface rupture accompanying an earthquake in 1888. The article is online at: https://www.tepapa.govt.nz/sites/default/files/tuhinga29_3-mckay.pdf. (There is also in the *Journal of the Historical Studies Group 57* (November 2017) Alexander McKay's first telephoto by Nick Perrin)

Simon is currently working on an illustrated book about the internationally recognised Lloyd Homer, who specialises in aerial photography of New Zealand's spectacular and varied landscapes.

Rodney Grapes continues as editor of the *Journal of the Historical Studies Group*, of the Geoscience Society of New Zealand (see below).

Although the project initiated by **John Taylor** of locating and digitising old mine and mining related plans in New Zealand was completed last year, maps are still continuing to be found. A website containing many of the plans went on line in the middle of 2018 at: <https://mineplans.nzpam.govt.nz/>

During the year John presented papers on “Building a NZ National Mine Plan Website and Beyond”; “Golden Blocks Mine, West Wanganui Goldfield, North-West Nelson, and the Forgotten Goldfield”; and “Malcolm Maclaren - New Zealand's Greatest Economic Geologist?”

John is also collaborating with Ross Barnett on a history of the Reef-ton Globe-Progress Mine from 1896 to 2016 and which also includes the West Coast activities of Consolidated Goldfields of New Zealand Ltd, the parent of Progress Mines of New Zealand Limited.

Both Simon and John co-authored chapters in “Hard Won Gold – stories from Waiuta and the Reef-ton Goldfield” (edited by Ross and Pauline Barnett). It was published in 2018 by the Friends of Waiuta as a memorial to West Coast author and historian Les Wright.

Mike Johnston's history of the Nelson goldfields is currently being edited. Mike also attended the 2018 INHIGEO meeting in Mexico City. A paper, “The Haupiri Question – The influence of Mining in Elucidating the Early Paleozoic Stratigraphy of New Zealand” was presented.

Articles published in the *Journal of the Historical Studies Group* in 2018 comprise:
Number 58 March 2018

Geological exploration of the Hokonui Hills – **Graeme Stevens**

The most studied mineral (*Antigorite*) from New Zealand – **Rodney Grapes**

Lester King (1907-1989): following in Cotton's footsteps – **Graeme Stevens**

Fossil hunting at Amuri Bluff and a belemnite story – **Graeme Stevens**

Number 59 June 2018

Travels of the New Zealand Geological Survey headquarters – **Graeme Stevens**

Heaphy and Hochstetter – the first record of basalt in the Coromandel Volcanic Zone – **David Skinner**

A few memories of Jack Marwick (1891-1978) – **Graeme Stevens**

Lost subdivisions: an account of Geological Survey mapping projects that were never completed or only published after considerable delays – **Simon Nathan**

A visit to Moscow during the Cold war – **Graeme Stevens**

Number 60 November 2018

The Emerald – uvarovite question: Docherty, Skey, Cox, Ulrich, Park – **Rodney Grapes**

History, natural history and geology studies of the proposed Belmont Regional Park – an innovative approach to adult education – **Graeme Stevens**

Research and solifluxion phenomena in the Western Hut hills during the early 1950s – **Graeme Stevens**

A personal tale of the Great Depression and the New Zealand Geological Survey – **Graeme Stevens**

Three Alpine geologists recognised on the ‘Geologists’ Terrace’ at Bastille overlooking Grenoble – **John Rhodes**
Memories of a PhD at Victoria University in the 1960s – **Gerrit Neef**

In addition, the Geoscience Society has during the year published two books that will have some interest to historians of geology:

The working life of Michael John Selby (1936–2018): A highly influential late 20th century New Zealand geomorphologist and university leader. C. S. Nelson with many colleague contributions. Geoscience Society of New Zealand Miscellaneous Publication 150.

Volcanoes: a historical account and tribute to George Eiby and John Latter. Eiby, G.A.; Latter, J.H. (edited by A. W. Hurst) 2018, 224 pages. Geoscience Society of New Zealand Miscellaneous Publication 149, available online at: <https://drive.google.com/file/d/1nqDJ2Lo8oUovkdU5CVGvoNevyI2cHL/view>

Mike Johnston, Nelson

NORWAY

Norwegian INHIGEO member professor **Geir Hestmark** after 12 years of archive studies all over Europe, in 2017 published a 690-page biography on the discoverer of Ice Ages, Jens Esmark (1762-1839): *Istidens Oppdager. Jens Esmark, pioneren i Norges fjellverden* - Oslo: Kagge. In 2018, a Scandinavian jury pronounced the book one of the ten best Scandinavian non-fiction books since the turn of the century. Hestmark originally wrote the book in English with the title *GLACIATOR: Jens Esmark, Ices Ages and Climate Change*, and he is still seeking an American or English publisher. Esmark's many connections to Germany would also merit a German translation. The book totally transforms the history of the discovery of ice ages, and certainly deserves an international audience. A brief summary of some of the major findings was published in the journal *Boreas* 47: 1-10 (2018). Work progresses to establish Esmark's crucial field localities, rediscovered by Hestmark, as UNESCO World Heritage sites.

RUSSIA

All-Russian Geological Research Institute (VSEGEI, Saint Petersburg):

Leonid Kolbantsev attended the 43rd INHIGEO Symposium in Mexico (November 2018) with oral presentation “Soviet geologists at the XX Session of the IGC, Mexico, 1956”.

For the 14th International Erbe-Symposium “The cultural heritage in geosciences, mining and metallurgy. Librarie–Archive–Museums” (Ravne na Koroškem, Slovenia) he prepared the paper “History of the Mosaic Map of the USSR: the victory of technology over ideology”.

Leonid *Kolbantsev's* presentation at the conference “Modern geology and problems of students education in the field of Earth sciences” in Saint-Petersburg was entitled “From the history of geological mapping in Russia: from the first sketches to the Geological Map of the country.”

We have just received the information that **Andrey V. Lapo** died on the 11th of March in Saint Petersburg. He was 81 years old, INHIGEO member since 2002. The obituary will be prepared for the next volume of the INHIGEO Annual Record. In 2018, he published the paper about forgotten episodes in the history of the Russian Geological Committee – VSEGEI (1920s-1930s) based on original archive documents.

N. M. Fedorovsky All-Russian Institute of Mineral Resources (VIMS, Moscow):

Igor G. Pechenkin organized the 33rd conference dedicated to the scientific work of the Russian mineralogist Anatoly (Nathan) I. Ginzburg (1917-1984) (Moscow, March 1, 2018). Igor Pechenkin continued his presidency of the Geological Section at the Central House of Scientists of the Russian Academy of Sciences in Moscow, with monthly sessions on the history of geosciences.

Geological Institute, Russian Academy of Sciences, Moscow:



I. G. Pechenkin at the Geological Section at the Central House of Scientists, RAS. Photographs by I. Vtoroy.

Irena G. Malakhova, Natalia I. Bryanchaninova and Ivan P. Vtorov (Department for the History of Geology) continued the work with the content of the Information System “History of geology and mining” (scirus.benran.ru/higeo). Currently it contains of about 820 geoscientists, 690 bibliographies, 695 documents and thousands of photographs. The System was visited online over 29,000 times in 2018. The most part of our customers are from the Russian Federation, Belarus, Ukraine, Armenia, Azerbaijan, USA, Germany, France etc.

Natalia Bryanchaninova participated in the academician N. P. Yushkin Yearly Conference (Syktyvkar, the Komi Republic, Russia) with the presentation “History of topomineralogy: N. P. Yushkin as the author of the scientific method”.

Ivan Vtorov presented the collective work (with L. Kolbantsev and I. Malakhova as co-authors) “International cooperation in the field of the history of geological sciences” for the 39th International Conference of the Institute for the History of Science and Technology (St. Petersburg, Russia) “International networks as a factor of the scientific communities integration”.

Serge V. Naugolnykh published several papers on the history of geology and made propagated online video lectures on paleontology and history of evolution on the Russian science channel postnauka.ru.

Lomonosov Moscow State University (MSU)

Tatyana K. Ivanova gave dozens of tours about mineralogy and history of geology in MSU Center for Art and Natural Collections during the All-Russian Festival of Science (October 2018), and for cadets from the Moscow Suvorov Military School and the Moscow Girls’ Boarding School. She was awarded for these educational activities with special diploma of the Festival of Science and the Russian Ministry of Defense.



Sergey Shoygu (the Russian Minister of Defense and the President of the Russian Geographical Society, on the left), academicians V. Kotlyakov, the MSU Rector V. Sadovnichiy and others with T. Ivanova (right) in the MSU Mineralogical gallery.

T. Ivanova (left) with a delegation from France. Photographs by T. Ivanova.

Mining University (St. Petersburg)

Professor Yury L. Voytekhovskiy (a honorary member and the Vice-President of the Russian Mineralogical Society) was a member of the organizing committee of the 24th All-Russian Scientific Conference “The Ural Mineralogical School” devoted to 200th anniversary of an academician N. I. Koksharov (Ekaterinburg, October, 15-17. 2018). Yuri Voytekhovskiy presented papers about a prominent Russian mineralogist academician, Nikolay I. Koksharov (1818-1893), at conferences in Moscow and Miass (the Urals) too.

He was the chairman/co-chairman/editor was of the 6th Conference of the Scientific Associations of the Murmansk region, dedicated to the national “Science Day” (Kirovsk, Russia); the 15th All-Russian Scientific School “Mathematical research in the natural sciences” (Apatity, Russia); the 6th International Symposium “Biogenic-abiogenic interactions in natural and anthropogenic systems” on the 150th anniversary of the St. Petersburg Society of Naturalists (St. Petersburg, Sept. 24-27, 2018). Public and popular lectures of Yuri Voytekhovskiy were devoted to various problems of geology and its history as well “History of the Association of Scientific Societies of the Murmansk region” (6th Conference of the Scientific Associations of the Murmansk region); “On the history of the Kola Superdeep Borehole” (Annual meeting of the S.I. Vavilov Institute for Science and Technology, RAS); “The Kolyma expeditions of Yu.A. Bilibin”, “The first Kola minerals, mineral species and the system of mineralogy”, and “Rare manuscripts from the archive of Professor D. P. Grigoriev (the Apatity Library).

For students of the Mining University Yuri Voytekhovskiy read the next lectures: “The Kola Peninsula is the land of unique mineral diversity,” “Fullerenes – the fundamental structures of the Universe: the history of discovery and applications,” “The lessons of geological prospection of the Kola Peninsula: natural and cultural heritage in education.”

V. I. Vernadsky State Geological Museum, Russian Academy of Sciences, Moscow

The presentation of **Zoya A. Bessudnova** at the 43rd INHIGEO Symposium (Mexico, November 2018) was titled “Contribution of the scientists of the Moscow University Natural History Museum in development of geosciences in 19th century.” She attended the 14th International Erbe-Symposium in Ravne na Koroškem (Slovenia) with the oral presentation “The collection of Theodor Fölkner (1802-1877) in the Vernadsky State Geological Museum.”

Zoya Bessudnova’s presentation for the Annual meeting of the S. I. Vavilov Institute for Science and Technology, RAS (Moscow) was named “From the history of collections and expositions of the Vernadsky State Geological Museum, RAS. 1930s. Activities of Valentine A. Teryaev.”

Zoya Bessudnova was a co-author and co-editor of “The Guide to the halls of Vernadsky State Geological Museum of the Russian Academy of Sciences.” She was an editor for several issues of the journal *Mineralogical Almanac* (minbook.com).

Publications

Books

- Pechenkin I. G., Antonenko L. A., Kuzmin V. I. et al. 2017. A comprehensive method for the study of mineral deposits. Creation and implementation. Moscow: VIMS, 2017. 55 p. *Mineral raw materials. A series of methodical.* No. 19. (in Russian).
- Pechenkin I. G., Antonenko L. A., Kuzmin V. I. et al. 2018. Vladimir Vasilyevich Arshinov / Ed. I. G. Pechenkin. Moscow: VIMS. 112 p. *Materials to the bibliography of scientists of the VIMS. Ed. I. G. Pechenkin. Vol. 3.* (in Russian).
- Starodubtseva I. A., Andreeva I. P., Bessudnova Z. A., Samsonova N. N., Zakrevskaya E. Yu., Vishnevskaya N. A., Minina, E. L. 2018. The Guide to the halls of the Vernadsky State Geological Museum of the Russian Academy of Sciences / Ed. S. V. Cherkasov, I.A. Starodubtseva, Z.A. Bessudnova. Moscow: SGM RAS. 176 p. (in Russian)
- Voytekhovskiy Yu. L. [Ed.] 2018. 6th Conference of the Scientific Associations of the Murmansk region, dedicated to the “Day of Science”: [Kirovsk, Russia. Feb. 12. 2018]: Proceedings. Apatity: K&M Publ. House. 93 p. (in Russian).

Journal articles

- Lapo A. V. 2018. Forgotten episodes in the history of Geolcom–VSEGEI 1920s and 1930s. *Regional Geology and Metallogeny.* **73.** 108-113. (in Russian).
- Malakhova I. G., Fedonkin M. A. 2018. 50 years of the International Commission on the History of Geological Sciences: 1967-2017. *Herald of the Russian Academy of Sciences.* **6.** 562-565. (in Russian).
- Malakhova I. G. 2018. The Russian trace of Hans Stille (1876-1966). *Global Tectonics and Metallogeny.* **10.** 2/4. 67-76. [URL](#).
- Pechenkin I. G. et al. 2018. Elena Leonidovna Minina (Dolgova): [Feb. 15, 1957–Apr. 3, 2018: Obituary]. *Prospect and protection of mineral resources.* **5.** [URL](#) (in Russian).
- Pechenkin I. G. et al. 2018. Nikolay Nikolaevich Gerasimov: [May 5, 1956–Nov. 2, 2018: Obituary]. *Prospect and protection of mineral resources.* **12.** 58-59. [URL](#) (in Russian).

Voytekhovskiy Yu. L. 2018. Three notes for the discussion continuation: What system of mineralogy are we building? *Bulletin of the Institute of Geology, Komi SC UB RAS*. **9**, 43-45. (in Russian).

Conference papers

- Bessudnova Z. A. 2018. Contribution of the scientists of the Moscow University Natural History Museum in development of geosciences in 19th century. *43rd INHIGEO Conference Program. Abstracts. Field trips guides*: [Mexico. Nov. 11-21. 2018]. Mexico. 69.
- Bessudnova Z. A., Kolbantsev L. R. 2018. Elena Minina: [Feb. 15, 1957–Apr. 3, 2018: Obituary]. *14th International Erbe-Symposium*: [Ravne-na-Koroškem, Slovenia. 4-9 June 2018]. Ravne-na-Koroškem. 30.
- Bessudnova Z. A. 2018. From the history of collections and expositions of the Vernadsky State Geological Museum, RAS. 1930s: Activities of Valentin A. Teryaev. *S.I. Vavilov Institute for the History of Science and Technology RAS Annual scientific conference*. Moscow: Janus-K. 433-436. (in Russian).
- Bessudnova Z. A., Romanova V. A., Samsonova N. N. 2018. The collection of Theodor Fölkner (1802-1877) in Vernadsky State Geological Museum. *14th International Erbe-Symposium*: [Ravne-na-Koroškem, Slovenia. 4-9 June 2018]: Abstract. Ravne-na-Koroškem. 35.
- Bryanchaninova N. I. 2018. History of topomineralogy: N. P. Yushkin as the author of the scientific method. *Modern problems of theoretical, experimental and applied mineralogy (Yushkin Science Conference–2018)*: [Syktyvkar. May 22-24, 2018]: Proceedings. Syktyvkar: IG KSC UB RAS. 9-11. (in Russian).
- Kolbantsev L. R., Petrov O. V., Sokolov A. R., Tolmacheva T. Yu. 2018. History of the Mosaic Map of the USSR: the victory of technology over ideology. *14th International Erbe-Symposium*: [Ravne-na-Koroškem, Slovenia. 4-9 June 2018]: Abstract. Ravne-na-Koroškem. 58-59.
- Kolbantsev L. R., Bessudnova Z. A. 2018. Personalities of the INHIGEO: From Madrid (2010) to Cape Town (2016). *INHIGEO Annual Record*. No. 50. 29-35.
- Kolbantsev L. R. 2018. Soviet geologists at the 20th Session of the IGC, Mexico, 1956. *43rd INHIGEO Conference Program. Abstracts. Field trips guides*: [Mexico. Nov. 11-21. 2018]. Mexico. 61-62.
- Voytekhovskiy Yu. L. 2018. A remarkable anniversary of Russian mineralogy and crystallography: to the 200 jubilee of N. I. Koksharov. *Proceedings of the 19th Scientific Readings in the memory of an Ilmenian mineralogist V. O. Polyakov*: [Miass. November 15-17, 2018]. Miass: Institute of Mineralogy UB RAS. 108-111. (in Russian).
- Voytekhovskiy Yu. L., Stepenshchikov D. G. 2018. Etudes on convex polyhedral: the Rome de Lisle problem. *Proceedings of the 14th All-Russian Scientific School "Mathematical Studies in the Natural Sciences"*. [Apatity, Russia. Oct 23, 2017]. Apatity: K&M. 38-44.
- Voytekhovskiy Yu. L. 2018. From the history of modal analysis and stereology in petrography. *Proceedings of the 15th All-Russian Fersman Scientific Session dedicated to the 100th anniversary of the Ye. K. Kozlov birthday*: [Apatity, Russia. April 2-3, 2018]. Apatity: KSC RAS. 92-94. (in Russian).
- Voytekhovskiy Yu. L. 2018. From the history of modal analysis of rocks and ores in thin sections: perspectives of the method. *S. I. Vavilov Institute for the History of Science and Technology RAS Annual scientific conference*. Moscow: Janus-K. 435-438; Idem. *Proceedings of the All-Russian meeting "The role of technological mineralogy in rational subsoil use"*: [Moscow. May 15-16, 2018]. Moscow: VIMS. 40-42. (in Russian).
- Voytekhovskiy Yu. L. 2018. Once again about the main issues of mineralogy. *Proceedings of 19th Scientific Readings in the memory of an Ilmenian mineralogist V. O. Polyakov*: [Miass. Nov. 15-17, 2018]. Miass: IM UB RAS. 13-16. (in Russian).
- Voytekhovskiy Yu. L. 2018. The highlights of the mineralogy. *Proceedings of the All-Russian Scientific Conference dedicated to the 70th anniversary of the founding of the Ural Branch of the Russian Mineralogical Society, and 7th readings in memory of S. N. Ivanov*: [Ekaterinburg. October 2-4. 2018]. Ekaterinburg: IGG UB RAS. 43-45. (in Russian).
- Voytekhovskiy Yu. L. 2018. The system of mineralogy: what is the intention of nature? *Proceedings of the 9th All-Russian Scientific Conference "Minerals: structure, properties, research methods"*: [Ekaterinburg. Febr. 5-8, 2018]. Ekaterinburg: IGG UB RAS. 36-38. (in Russian).
- Voytekhovskiy Yu. L. 2018. To the 200th anniversary of the birthday of N. I. Koksharov. *Proceedings of the 24th All-Russian Scientific Conference "The Ural Mineralogical School", to the 200th anniversary of the N. I. Koksharov birthday*: [Ekaterinburg, October 15-17. 2018]. Ekaterinburg: Alpha Print. 30-33. (in Russian).
- Voytekhovskiy Yu. L. 2018. To the creative heritage of N.P. Yushkin: System complexity and entropy; Symmetry, asymmetry, dissymmetry, antisymmetry. *Modern problems of theoretical, experimental and applied mineralogy (Yushkin Science Conference–2018)*: [Syktyvkar. May 22-24, 2018]: Proceedings. Syktyvkar: IG KSC UB RAS. 11-16. (in Russian).

Vtorov I. P., Kolbantsev L. R., Malakhova I. G. 2018. International cooperation in the field of the history of geological sciences: International networks as a factor of the scientific community integration: 39th International Conference of the St. Petersburg branch of the S. I. Vavilov Institute of the History of Science and Technology, RAS: [St. Petersburg, Russia. 12-16 Nov. 2018]: Abstract. St. Petersburg, 2018. 151-152. (in Russian).

Book Reviews

Bessudnova Z. A. 2018. A. I. Zhamoida, A. S. Alekseyev, A. Yu. Rozanov, A. A. Suyarkova. Paleontological Society of Russia 100th anniversary: Historical overview. St.-Ptb.: VSEGEI, 2016. 244 p. (in Russian). *Voprosy istorii estestvoznaniya i tekhniki*. **2**. 187-190. (in Russian)

Kolbantsev L. R. 2018. M. S. Leykum, V. G. Albrecht, M. P. Popov, P. A. Reus. Mysterious stone of Tsar Alexander (about Alexandrite, Alexander II and not only). Second ed. revised and enlarged. St.-Ptb.: Ridero, 2016. 376 p. (in Russian). *INHIGEO Annual Record*. **50**. 83-84.

Voytekhovskiy Yu. L. 2018. Notes to the V.A. Popov paper "On the modern paradigm of mineralogy as a reflection of the laws of the anatomy of crystals". *Mineralogy*. **4**. **2**. 69-71. (in Russian).

Serge V. Naugolnykh

Artinskian (Early Permian) Sea Basin and Its Biota (Krasnoufimsk, Cis-Urals)

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Submitted by: I. G. Malakhova and I. P. Vtorov; Geological Institute, Russian Academy of Sciences

SERBIA

The Serbian National Commission of INHIGEO (hereinafter: INHIGEO SRB) officially works as the History of Geology Division of the Serbian Geological Society (www.sgd.rs) and has the INHIGEO "Affiliated Association" status from June 2015.

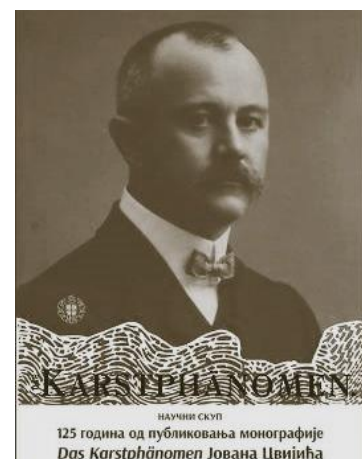
During the 2018, members of the of the History of Geology Division actively participated in a few meetings organized by the Serbian Geological Society (SGD) as well as Serbian Academy of Science and Arts (SANU). Several of us took part in the organization of the mentioned events. At all these meetings, our members had lectures on the history of geological science in Serbia and surrounding countries (*e.g.* speech about Spiridon Brusina, a zoologist /palaeontologist from Zagreb, the former Austro-Hungarian Empire, who was the first foreign member of the Serbian Geological Society).

Our members attended at the 17th Congress of Geologists of Serbia (Vrnjačka Banja, 17-20.05.2018), the Fall Session of the Serbian Geological Society (Belgrade, October 26, 2018), as well as three memorial meetings. The scientific gathering "125 years since the publication of the monograph *Das Karstphänomen* by Jovan Cvijić" (SANU Grand Hall, November 7, 2018). Twenty invited lectures related to Cvijić's work and life and state of art in karstology, speleology and karst hydrogeology, were presented by experts from Bosnia & Herzegovina, Montenegro, Slovenia and Serbia. V. Jović was one of the organizers.



(Source: SANU, 2018).

Fig. 1. Scientific conference on occasion of 125 years of the J. Cvijić's book "Das Karstphänomen". Cvijić's "Karst (A Geographic Monograph)" (in English) represents his doctoral thesis published in Vienna, 1893.



The scientific session "150 years since the birth of Stevan Bošković" was held on November 21, 2018 in the Ceremonial hall of SANU. The co-organizer of the meeting was the Military Geographical Institute from Belgrade. The chairman of the Organizing Committee was our member, Academician Vidojko Jović. Stevan Bošković (1868-1957) was a surveyor, cartographer, geographer, general, academician of the Serbian Academy of Sciences.

The special meeting regarding the celebration of 150th Anniversary of the birth of Academician Vladimir Laskarev held on December 3, 2018. V. Laskarev was a Russian geologist, later and a Serbian professor of geology at the Belgrade University and famous European Neogene researcher and member of the SGD. He introduced the well-known term "Paratethys" in geological science (209. Session of SGD, April 10, 1924). Same year, his lecture was published in French language as "Sur les equivalents du Sarmatien superieur en Serbie." All members of the INHIGEO SRB had lectures, while the INHIGEO Honorary Senior Member Aleksandar Grubić held an introductory lecture on life and work V. Laskarev. Besides, a few colleagues from Natural History Museum in Belgrade gave important contributions related to the work and life of V. Laskarev. Lectures from this and all the mentioned meetings will be printed in 2019. Similar to these, our Section have plan to celebrate important anniversaries into 2019 as well. In addition to SGD activities, our younger members published an article and a historical overview of the stratigraphic nomenclature used in the Quaternary research.

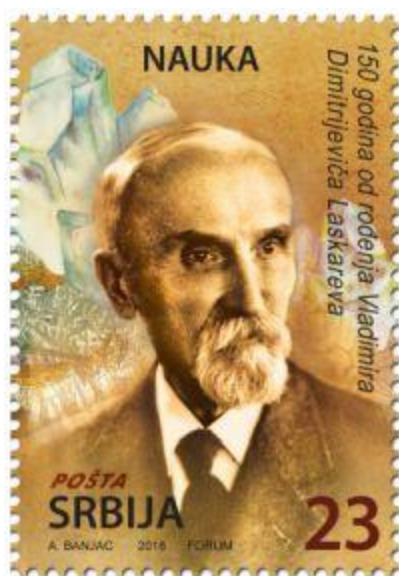


Fig. 2. The Post of Serbia issued the memorial post stamp on occasion of the 150th Anniversary of the birth of Academician Vladimir Laskarev.

PUBLICATIONS

Gaudenyi, T. & Jovanović, M., 2018. Quaternary Stratigraphic Nomenclature: A Historic Review. *In:* Huard, G. & Gareau, J. (eds.) *The Pleistocene: Geography, Geology, and Fauna.* pp. 1-54. ISBN: 978-1-53613-729-3, New York: Nova Science Publishers.

Јовић, В., 2018. Владимир Ласкарев, скромни научни великан. Даница: српски народни илустровани календар за 2018. годину, Вукова задужбина, Београд, стр. 279–283 / **Јовић, В., 2018.** Vladimir Laskarev, a modest scientific giant. Danica: Serbian national illustrated calendar for 2018, Vuk Karadzic Endowment, Belgrade, p. 279-283.

Јовић, В., 2019. Математика, физика и гео-науке у књигама 11–15 едиције Живот и дело српских научника. Трибина Библиотека САНУ, година VII, број 7, стр. 66–70 / **Јовић, В., 2019.** Mathematics, physics and geo-sciences in books 11-15 of the Edition "Life and work of Serbian scientists". Tribune of the Library of SANU, Year VII, No. 7, p. 66-70.

PUBLIC LECTURES

Јовић, В., 2018. Академик Владимир Ласкарев (1868-1954). Врњачка Бања (централна Србија), 18. 08. 2018./ **Јовић В., 2018.** Academician Vladimir Laskarev (1868-1954). Vrnjačka Banja (central Serbia), August 18, 2018.

Рундић, Љ., 2018. Спиридон Брусина (Spiridon Brusina) (1845-1908) – први инострани члан СГД. Јесењи збор СГД, Београд - 26.10.2018/ **Rundić, Lj., 2018.** Spiridon Brusina (1845-1908), the first foreign member of Serbian Geological Society. Serbian Geological Society, Fall Session, Belgrade - October 26, 2018.

- Рундић, Љ., 2018.** Паратетис – последње море на простору Србије. Удружење Милутин Миланковић, Београд – 17.10.2018/ **Rundić, Lj., 2018.** Paratethys - the last sea in Serbia. Association “Milutin Milankovitch”, Belgrade - October 17, 2018.
- Рундић, Љ., 2018.** О термину „Паратетис“ (Ласкарев, 1924) и значају истраживања неогена у Србији. Научни скуп поводом 150 година рођења академика Владимира Ласкарева, Београд – Српска Академија наука и уметности (САНУ), 03.12.2018/ **Rundić, Lj., 2018.** On the term “Paratethys” (Laskarev, 1924) and the significance of the Neogene research in Serbia. Scientific Meeting on the occasion of 150th Birthday of Academician Vladimir Laskarev, Belgrade - Serbian Academy of Sciences and Arts (SANU), December 3, 2018.
- Рундић, Љ., Јовановић, М., Гаудењи, Т., Гајић, В., 2018.** Први резултати истраживања заштићеног лесног профила у Земуну. Научни скуп поводом 150 година рођења академика Владимира Ласкарева, Београд – Српска Академија наука и уметности (САНУ), Београд, 03.12.2018/ **Rundić, Lj., Jovanović, M., Gaudenyi, T., Gajić, V., 2018.** The first results of research of the protected loess section in Zemun. Scientific Meeting on the occasion of 150th Birthday of Academician Vladimir Laskarev, Belgrade - Serbian Academy of Sciences and Arts (SANU), Belgrade, December 3, 2018.
- Грубич, А., 2018.** Владимир Ласкарев (1868-1954). Научни скуп поводом 150 година рођења академика Владимира Ласкарева, Београд – Српска Академија наука и уметности (САНУ), Београд, 03.12.2018 / **Grubić, A., 2018.** Vladimir Laskarev (1868-1954). Scientific Meeting on the occasion of 150th Birthday of Academician Vladimir Laskarev, Belgrade - Serbian Academy of Sciences and Arts (SANU), Belgrade, December 3, 2018.

INHIGEO SRB

Prof. Ljupko Rundić, President

SPAIN

INTRODUCTION

Many diversified activities are reported from the Spanish INHIGEO group.

In February 2018, the Manuel Fernández de Castro Prize, was awarded to **OCTAVIO PUCHE**, member of INHIGEO, awarded by the Editorial Committee of the *Boletín Geológico y Minero* (Instituto Geológico y Minero de España) to the referee of the year 2017. [Editor’s note – for more details see the Awards section in this volume.]

CARLOS MARTÍN ESCORZA, member of INHIGEO, organized two geoarcheological field trips (*Senderos Geoarqueológicos*): 1.-“Castilla Channel” (March, 24 to 26) and 2.-“Thermalism and other waters” (15-17 de Abril).

MIGUEL LEÓN GARRIDO, submits the communication: “*Imágenes de un poder telúrico. Una aproximación a la representación del vulcanismo americano a lo largo del tiempo*”, at the Fifth Youngs Americanists Congress, in Sevilla, between April 25 and 27

On April 26 - May 31, the Department of Paleontology of the La Rioja University organized a series of conferences *Dinosaurs and other Arts*.

In May 21, 2018, the *Atlantic Copper Prize* to the best Publication in the categorie of professorate (2017-2018) was given to **OCTAVIO PUCHE**, for the book: *Hispania the country of metals. Mining and Metalurgy in Spain from the origins to the Catholic Kings*. [Editor’s note – for more details see the Awards section in this volume.]

In May 24, 2018, Ramón Capote del Villar and **JOSÉ LUIS BARRERA MORATE** (INHIGEO member) gave a conference on Manuel Medina Alia: “The discoverer of Phosphate in Sahara”, at El Greco High School, Toledo.

The ceremony held in May 24, 2018, in the Ávila Technical School in memory of **JORGE CIVIS-LLOVERA** (1948-2017), who has been Director of Geological Survey of Spain, was a posthumous tribute organized by the Geological Society of Spain.

The First Mining Heritage, History of Mining and History of Geology in Catalonia was held in Sant Llorenç de Morunys, Solsona, Manresa y Vilanova de Meiá, May 30 to June 3, 2018. A special meeting was devoted to Homage to famous geologist/mining engineer LUIS MARIANO VIDAL (1842-1922), the father of Geology in Catalonia. The activity was organized by the *Sociedad Internacional de Geología y Minería para el Desarrollo y el Ordenamiento del Territorio (SIGMDOT)*,

On August 10, 2018, **ALEJANDRO ROBADOR** and **ESTER BOIXEREU**, member of INHIGEO, chaired the conference entitled "Geology of Poza de la Salt Diapir and its Historical Interpretation throughout the History of Science". As part of the "Salt Cultural Days" conference series organized by the Poza de la Sal (Burgos) Town Council.

In August 2018, **BLANCA MARTÍNEZ-GARCÍA**, organized the conference entitled: "The fantastic Geology of Verne, Poe and H. O. Lovecraft" as a part of the *Nature, Literature and Science* conference series organized by the Chair of Scientific Culture of the University of the Basque Country. The conference was repeated again on November 23, 2018, in the ICOG head office in Madrid

Organized by the Spanish Association of Hydrocarbons Research, Exploration and Production Companies (ACIEP), Geological and Mining Institute of Spain (IGME) and University of Oviedo, on September 24, at the School of Mining Engineers of Oviedo, **JUAN GARCÍA PORTERO**, of the Hydrocarbons Society of Euskadi, (SESHA), gave the conference entitled "The contribution of hydrocarbons to the development of humanity".

A tribute has been made by the Spanish Society for the Defense of the Geological and Mining Heritage (SEDPGYM), to the members of INHIGEO: **ISABEL RÁBANO** and **OCTAVIO PUCHE**, as editors of the magazine *De Re Metallica* and its predecessor the *Bulletin of the SEDPGYM*. The event took place on October 4, 2018, within the framework of the X *International Congress of Mining and Historical Metallurgy in the European Southwest*, Molina de Aragón (Guadalajara). Likewise, in the said Symposium, the member of INHIGEO **OCTAVIO PUCHE**, together with JORGE NAVARRO, gave the conference: "The petroleum heritage in Spain". Another work was also presented by a member of INHIGEO, **ESTER BOIXEREU**, together with **CONCEPCIÓN FERNÁNDEZ-LEYVA**, entitled: "The historical exploitation of antimony in Santa Cruz de Mudela, Torrenueva and Almuradiel (Ciudad Real)".

The meeting: *The Gypsum in the Built Heritage* took place from October 25 to 26 in Ribera de Ondara (Lérida).

In the same way, meetings about History of Mining entitled: "Iron and Coal in the Iberian Northwest from the Lazurtegui dream to MSP: historical analysis and heritage dimension" were also organized in Ponferrada from October 29 to 31, in Villablino on November 2nd and in Ponferrada-Páramo del Sil-Villablino on November 3rd.

ISABEL RÁBANO has initiated a research line about the *History of the Philippines Mining Survey during the XIX century*, when the islands were a Spanish colony. In keeping with this work, she participated, on November 6, in the seminar *Science and Engineering in the Philippines at the end of the 19th century*, organized by the Institute of History of the Superior Council of Scientific Research (CSIC), with the presentation: "Encounters and disagreements with the metropolis: the General Inspection of Mines of the Philippines and its engineers."

From November 15 to 17, the *II International Congress on Salt* was held in Ciempozuelos (Madrid), "Historical exploitation of salt: research and enhancement." **OCTAVIO PUCHE** was invited to present at the conference. His paper was: "Current status of the Spanish salt heritage".

On November 16, at the University of Oviedo, on the occasion of the of St. Albert the Great Day, **ELISA VILLA OTERO** gave the lecture: "History of the geological exploration of the Picos de Europa"

On the occasion of the *XVII Week of Science and Innovation in Madrid*, on November 14, at the Faculty of Geology, **NIEVES MELÉNDEZ HEVIA** gave the lecture: "From Geology to Philosophy. Michel Foucault." On November 18, **FRANCISCO PELAYO**, at the headquarters of AMESDE, spoke on: "The republican naturalists and the protection of scientific heritage during the Civil War." On November 23, **BLANCA MARTÍNEZ-GARCÍA** gave a talk on: "The fantastic Geology of Verne, Poe and H. O. Lovecraft" at the ICOG head office .

From 20 to 30 November, held at the Geological Survey of Spain (IGME), in collaboration with the School of Arab Studies (CSIC), the Exhibition of Historical Photography: "Canteras en el recuerdo" (Quarries in the memory) within the framework

of the European Year of Cultural Heritage 2018. The objective of the exhibition was to bring the public in general and in a retrospective way these spaces of today are preserved on the rock the imprints of all an intense extractive activity of the past.

On Wednesday, November 21, 2018, the presentation of Volume 36 of the journal *Trabajos de Geología* took place in homage to Professor **ALBERTO MARCOS VALLAURE**, who was Rector of the University of Oviedo.

On November 26, in the conference room of the Royal Academy of History and Art of San Quirce (Segovia), the conference: "The blackboard of Bernardos: its importance in the history of architecture" was given by **JOSÉ UBALDO BERNARDOS SANZ** professor of the UNED in Madrid.

On December 4, the exhibition of the mineral collection of **MANUEL DE SAS DE LA ENCINA** was inaugurated at the School of Mines and Energy of Vigo.

On December 14, in Puebla de Guzmán (Huelva), organized by the Herrerías Association, the *II Transborder Archeology Days* were held: *History and Mining of the Iberian Pyrite Belt*. This year the conference was devoted to "Geology as economic, historical and social support of the region."

Throughout the year several conferences have been held at the National Museum of Natural Sciences of Madrid (MNCN), organized by the Society of Friends of the Museum (SAM). We highlight here the one given by the member of INHIGEO: **CARLOS MARTÍN ESCORZA**: "Characters and histories of the Museum: The landscape according to D. Eduardo Hernández-Pacheco" (April 17). Other conferences of interest have been those of **SUSANA FRAILE** and **CELIA SANTOS**: "Walk through the Paleontology room of the National Museum of Natural Sciences" (January 30), **CARMEN DIÉGUEZ**: "Characters and stories of the Museum: Juan Vilanova and Piera. The tireless paleontologist" (February 27), **JAVIER SÁNCHEZ**: "Scientists, artists, writers: the female voices of the Enlightenment" (March 8), **JOSÉ IGNACIO CANUDO**: "Cinema commented. The crocodile of Ricla" (March 13), **JOSÉ ANTONIO MATEO**: "The giant lizard of El Hierro island and its relationship with humans in history. A journey through myth, legend and disagreement" (March, 20), **CARLOS ACOSTA**: "Characters and stories of the Museum: José Royo Gómez (Castellón, 1895-Caracas, Venezuela, 1961)" (April, 3), **SORAYA PEÑA**: "Characters and histories of the Museum: The cartoonist of the megatherium" (May 8), **MARÍA TERESA ALBERDI**: "Cinema commented on Mexico in the Ice Age Canal Once, Mexico. Produced by Fabricio Feduchy" (May 22), **EMILIO BLANCO NAVA**: "The dream of Linnaeus. Putting order in chaos" (May 29), **GÜNTER WAGNER**, **LAURA NUÑO** and **EDUARDO ROLDÁN**: "20 years after Pere Alberch. Why selection is not enough. Development, physiology and evolution" (June 5), **LEONCIO LÓPEZ OCÓN**, **ENCARNACIÓN MARTÍNEZ** and **GABRIELA OSSENBACH**: "Science and innovation in the classroom. Centenary of the Institute-School (1918-1939)" (November 27) and **LEONCIO LÓPEZ OCÓN**: "Characters and histories of the Museum: Carlos Vidal Box (1906-1972): vicissitudes of the last professor of Natural Sciences of the Institute-School" (December 18).

Other activities of INHIGEO members are the following: **ISABEL RÁBANO**, as in previous years, continues with the coordination of the Geology History Commission of the Geological Society of Spain. **LUIS FELIPE MAZADIEGO** follows the director of the magazine *De Re Metallica*. **ESTER BOIXERE**, publishes this magazine and is responsible, since 2015, for *Geoforo* (Geological gathering created by, the member of INHIGEO, **JOSÉ LUIS BARRERA MORATE**, in 1994). Likewise, the Center for Studies and Research of the Geological and Mining Heritage has been created, by agreement signed between the Gómez Pardo Foundation (Higher Technical School of Mining and Energy Engineers of Madrid), IGME and SEDPGYM, nominating **LUIS FELIPE MAZADIEGO** Director and **OCTAVIO PUCHE**, together with **JUANA VEGAS**, Deputy Directors.

PUBLICATIONS

- ARAGONÉS, E. (2017). Un epistolario inédito de Lucas Mallada: las cartas a Luis Mariano Vidal y Carreras (1873-1902). *Treballs del Museu de Geologia*. Barcelona, 23: 27-102 [Publicado en 2018].
- BELLIDO, F. (2018). La Tierra hueca. <https://pacobellido.naukas.com/2018/11/12/712/>
- CALVO REBOLLAR, M. (2018). Lo que el Ebro se llevó. Minas, trenes y barcos en la cuenca carbonífera de Mequinenza. Ed. Paramés. Zaragoza.
- CAPOTE DEL VILLAR, R.; BARRERA MORATE, J. L. (2018). El descubridor de los fosfatos del Sáhara Occidental: el geólogo Manuel Alia Medina (1917-2012). En *Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras* (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 2, 129-140.
- COLLANTES, L., GOZALO, R.; GARZÓN, I.; MAYORAL, E. (2018). Trilobites del Cámbrico inferior (Marianiense) de la Unidad Fregenal-Cumbres (Sierra Norte de Huelva), *Cuadernos del Museo Geominero*, 27, 563-579

- CUCHÍ, J. A. (2018). Lucas Mallada en el Alto Aragón, Lucas Mallada, 19, 135-164
- GARCÍA CRUZ, C. M. (2018). Consideraciones sobre la geología de las Islas Canarias en la obra de Alexander von Humboldt (1769-1859). [Some considerations concerning the Geology of the Canary Islands in the works of Alexander von Humboldt (1769-1859)]. *Estudios Canarios*, 61, 23-60 (2017).
- GARCÍA CRUZ, C. M. (2018). El conocimiento geológico sobre las Islas Canarias en la obra de José de Viera y Clavijo. [Geological knowledge concerning the Canary Islands in the works of José de Viera y Clavijo (1731-1813)]. *Anuario de Estudios Atlánticos*, 64, 1-19.
- GARCÍA CRUZ, C. M. (2018). Aspectos históricos del trap como concepto geológico [Historical aspects regarding the trap as a geological concept]. *Revista de la Sociedad Geológica de España*, 31 (1), 29-34.
- GARCÍA CRUZ, C. M. (2018). “Anniversaries”: Facies, a geological concept (1838-2018) -180 years ago. [“Aniversarios”: 180 años de facies como concepto geológico (1838-2018)]. *IUGS E-Bulletin*, No. 145, August, 2018, Item No. 4, 2 pp.
- GONZÁLEZ-PUMARIEGA SOLÍS, P. y RÁBANO, I. (2018). El dibujo de paisaje en la ingeniería. La colección de vistas de la Comisión del Mapa Geológico de España (1850-1853). *Ería*, 2018 (1), 27-53.
- GOZALO, R.; DIES ÁLVAREZ, M. A.; GÁMEZ VINTÁNEZ, J. A.; CHIRIVELLA, J. B.; LIÑÁN, E. (2018). Presence of Naraoia Walcott, 1912 (Nektaspida, Arthropoda) in the middle Cambrian of Europe (Murero, NE Spain). [Presencia de Naraoia Walcott, 1912 (Nektaspida, Arthropoda) en el Cámbrico medio de Europa]. *Spanish Journal of Palaeontology*, June 2018, 83-88.
- GARCÍA DEL CURA, M. A.; ORDÓÑEZ, S. (2018). Una polémica sobre la génesis del yeso del Cerro de los Ángeles En Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 2, 119-128.
- HERNÁNDEZ ORTÍZ, F. (2018). Guía geominera de Rodalquilar en el Parque Natural de Cabo de Gata-Nijar (Almería). GBG Editorial. Almería.
- LEÓN GARRIDO, M. (2018). Una aproximación a los primeros estudios geológicos en Hispanoamérica (1492-circa 1650). *Revista de la Sociedad Geológica de España*, 31 (1): 67-88.
- LEÓN GARRIDO, M. (2018). Los primeros estudios mineralógicos en la América colonial española, siglos XVI y XVII. Lull, *Revista de la Sociedad Española de Historia de las Ciencias y de las Técnicas*, 41 (85), 13-41.
- LLANEZA GONZÁLEZ, L. J. (2018). De la Academia de Almadén a la Escuela de Minas de Mieres. El comienzo de las enseñanzas de la minería en España. Asturias. Autoedición.
- MARTÍN ALBADALEJO, C.; PEÑA DE CAMUS SÁEZ, S. (2018). El Museo Nacional de Ciencias Naturales y el Instituto “José de Acosta” (1940-1974). En Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 1, 267-277
- MARTÍN ESCORZA, C. (2018). La longitud del río Cidacos (Soria-La Rioja, España). *Kalakorikos*, 23, 159-165.
- MARTÍN ESCORZA, C. (2018). Aspectos geológicos de las aguas termales y minerales relacionadas con la Antigüedad en la Península Ibérica. En VBI AQVAE IBI SALVS. Aguas Mineromedicinales, Termas curativas y culto a las aguas en la Península Ibérica (Desde la Protohistoria a la Tardoantigüedad) (PÉREX AGORRETA, M. J.; MIRÓ I ALAIX, C.). Ed. UNED. Madrid. Pp. 21-42.
- MAZADIEGO, L. F.; LLAMAS, B.; RODRÍGUEZ DE GÓRGOLAS, C.; POUS, J.; PUCHE, O. (2018). The contingent valuation method applied the mining heritage of Extremadura (Spain). *Geoheritage* (January 2018), 1-15
- NAVARRO, J.; PUCHE, O. (2018). A Century of hydrocarbon exploration and production in Spain (1860-1960). *In History of the European oil & gas industry*. Special Publications of Geological Society of London, 465, 345-465.
- ORCHE GARCÍA, E. (2018). La minería del Famantina (La Rioja, Argentina). Ed. SEDPGYM. Vigo.
- ORDÓÑEZ, S.; GARCÍA DEL CURA, M. A. (2018). De D. de Orueta (1862-1967: De la Minería a la Geología Estructural a principios del siglo XX en las “peridotitas de Ronda”. En Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 2, 109-118
- PABLO ESCUDERO, O. (2018). José Miguel de Barandiarán. Estudio crítico. Fundación Larramendi. Madrid.
http://www.larramendi.es/es/catalogo_imagenes/grupo.do?path=1024260
- PELAYO, F. (2018). El origen del hombre en América y la polémica de su existencia durante el Terciario. En Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 2, 97-108
- PEÑA DE CAMUS, S.; MARTÍN ALBADALEJO, C. (2018). Las Exposiciones del Museo Nacional de Ciencias Naturales (1935-1985). En Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 2, 141-151
- PÉREZ AGORRETA, M. J.; MARTÍN ESCORZA, C. (2018).
[Aguas termales y mineromedicinales en el valle del Ebro](#): su incidencia en el poblamiento en época romana, *Studia Histórica in Honorem Prof. Urbano Espinosa Ruiz*, 179-204.

- PUCHE RIART, O. (2018). Hispania país de los metales. Minería y metalurgia histórica en España desde los orígenes a los Reyes Católicos. Ed. Cátedra Atlantic Copper. Madrid.
- RÁBANO GUTIÉRREZ, I. (2018). La Comisión de Exploración geológica de Casiano de Prado en Filipinas: Un proyecto fallido de 1852. *Llull*, 42 (85), 113-127
- RÁBANO GUTIÉRREZ, I. (2018). La pizarra y sus fósiles. In *Lapide Depictum. Pintura italiana sobre piedra 1530-1555*, (GONZÁLEZ MOZO, A.; coord.). Ed. Museo Nacional del Prado, Madrid, pp. 49-52.
- RÁBANO GUTIÉRREZ, I. (2018). Del diluvismo a la tectónica de placas: el descubrimiento de la constitución geológica de la Tierra. In *Cosmos* (SÁNCHEZ RON, J. M., Coord.). Ed. Biblioteca Nacional de España, Madrid, pp. 131-141
- SANTANACH PRAT, P. (2018). La escuela alemana de Hans Stille. Influencia en la geología española de la postguerra. *Cuadernos del Museo Geominero*, 26.
- SEQUEIROS, L. (2018). Nuevas fronteras en paleogenómica: Svante Pääbo. <https://blogs.comillas.edu/FronterasCTR/2018/06/13/paleogenomica-svante-paabo/>
- TACORONTE DOMÍNGUEZ, M.J. (2018). Un acercamiento al creacionismo y al evolucionismo en la postguerra española. En *Ciencia y Técnica en la Universidad. Trabajos de Historia de las Ciencias y de las Letras* (RUIZ-VERDÚN, D.; Ed.). Ed. Universidad de Alcalá de Henares. Madrid. 1, 331-338
- TOMÉ LÓPEZ, C. (2018). Introducción histórica a la Mineralogía. *Cultura Científica*. <https://culturacientifica.com/2018>
- VEGA, A. (2018). Geología de la palabra (Frederic Prokosch y Jorge Ordaz). *Clarín. Revista de Nueva Literatura*, 23 (135), 87-88.

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SWITZERLAND

[Editor's note: Due to an overlooked email, which ended up in the wrong file, the Switzerland Report for 2017 was inadvertently left out of Record No. 50. Here is the Report for 2017 and 2018, with sincere apologies to our colleague in Switzerland. WRB]

INHIGEO activity report for 2017 & 2018

Tina Asmussen (Science Studies, ETH Zürich) continued her research on her second book project on sixteenth and seventeenth century European mining and metalworking. From March until June 2018 she was visiting fellow at the Center for Science and Society (Columbia University, New York) and completed a special issue entitled *The Cultural and Material Worlds of Mining in Early Modern Europe* which will appear in the *Renaissance Studies Journal* in 2020. Together with her students at ETH Zürich she published a book in the book series *Æther* on the history of the Alps in early modern period from the connected perspective of history of science, environmental history and economic history: *Montan-Welten: Alpengeschichte abseits des Pfades*.

Edited Volumes/ Special Issues:

Tina Asmussen (ed.), *Montan-Welten: Alpengeschichte abseits des Pfades*, Zürich: intercomverlag, 2019.
(online: aether.ethz.ch)

Tina Asmussen (ed.), *Cultural and Material Worlds of Mining in Early Modern Europe*, Renaissance Studies Special Issue, (2020)

Journal articles/Book chapters

Tina Asmussen and Pamela O. Long, "Cultural and Material Worlds of Mining in Early Modern Europe. Introduction", *Renaissance Studies Special Issue: Cultural and Material Worlds of Mining in Early Modern Europe*, Tina Asmussen (ed.), 2020, (2019, early view online), <https://onlinelibrary.wiley.com/doi/abs/10.1111/rest.12581>.

Tina Asmussen, "Wild Men in Braunschweig. Economies of Hope and Fear in Early Modern Mining", *Renaissance Studies Special Issue: Cultural and Material Worlds of Mining in Early Modern Europe*, 2020, (2019, early view online), <https://onlinelibrary.wiley.com/doi/abs/10.1111/rest.12587>

Tina Asmussen "Pfade durch die Alpen: Eine Einleitung", *Montan-Welten. Alpengeschichte abseits des Pfades*, Tina Asmussen (ed.), Zürich: intercomverlag, 2019, A1-A10, (online: aether.ethz.ch).

Tina Asmussen, Sascha Müller, "Gletscher im Flacon", *Montan-Welten. Alpengeschichte abseits des Pfades*, Tina Asmussen (ed.), Zürich: intercomverlag, J1-J17, (online: aether.ethz.ch).

Tina Asmussen, Lucas Burkart and Hole Rößler, „Einleitung“, *Athanasius Kircher. Musaeum Celeberrimum (1678). Band 11 der Werkausgabe: Athanasius Kircher. Hauptwerke*, hg. v. Anne Eusterschulte, Olaf Breidbach, Wilhelm Schmidt-Biggemann, Hildesheim: Olms, 2019, 9-108.

Talks:

- “Verheißungsvolle Erze. Bergbau und Risiko im frühneuzeitlichen Harz”, *Frühneuzeit Kolloquium*, University of Rostock, 4 June 2019.
- With Nils Güttler, “Publish or Perish. History and Future of Scientific Publishing”, D-GESS, ETH Zürich, 31 May 2019.
- “La promesse des métaux. Histoire culturelle de l’exploitation minière en Allemagne au XVI^e siècle”, plenary lecture at the Centre d’Études Supérieures de la Renaissance, Tours, 27 May 2019.
- “Promising Futures. Knowledge and Affects in the Early Modern Harz Mountains”, Frühneuzeit Forum, University of Zürich, 15 April 2019.
- “Mineral Knowledge and Antiquarian Practice in Late Sixteenth-Century Basel”, Symposium: *Prudence, Techne and the Practice of Good Government in the Early Modern Kunstkammer*, organized by Andrew Morrall und Mark A. Meadow, Bard Graduate Center, New York, 12 April 2019.
- “Spirited Matter. Mining and Natural Agency in the Harz Mountains, Symposium on Early Modern Geological Agency”, Symposium on Early Modern Geological Agency, INHIGEO Conference, Mexico City, 13 November 2018.
- “Wirtschaftskulturgeschichte des Bergbaus in der Frühen Neuzeit. Eine vertikale Verflechtungsgeschichte”, Forschungskolloquium zur Geschichte der Frühen Neuzeit, Friedrich-Schiller-Universität Jena, 7 November 2018.
- “Engines of Desire: Wolfenbüttel and the Antwerp Market for Water Technologies”, Annual Meeting of the Renaissance Society of America, New Orleans, 23 March 2018.
- “Vernetzte Geschäfte und geteilte Versprechen: Ressourcenökonomien des europäischen Bergbaus im 16. und 17. Jahrhundert”, Berufungsvortrag für die Juniorprofessur für Allgemeine und Schweizer Geschichte der Frühen Neuzeit mit Tenure Track, Universität Zürich, Zürich 22 February 2018.

Dominik Letsch, Dr. von Moos AG, Consulting Geologists & Engineers, Zurich, Switzerland, letsch@geovm.ch

During the past two years, I have published four papers (two for myself and two as co-author) which are mainly concerned with the history of geosciences. Concomitant with my geological work on the mostly Precambrian geology of Northwest Africa, I’ve developed a vivid interest on the history of both the political/social and the scientific (mostly geographic and geologic) aspects of the European (mostly French) conquest of this part of the world. Most interestingly, I encountered the work of a Russian-born French colonial geologist, Boris Choubert (1906-1983), who had a lot of first-hand experience of Precambrian and Paleozoic geology on both sides of the central and southern Atlantic (mostly Gabon and French Guiana). Based on this, he published in 1935 a fascinating paper wherein he fully endorsed Wegner’s continental drift theory and extended it back to Paleozoic and Precambrian times. He also published an impressive and very detailed Permian continental reconstruction which pre-supposes the famous later Bullard-fit from 1965. In my 2017a-paper I highlight some of Choubert’s remarkable insights and put them into the larger context of NW-African and Precambrian geology. In the Kornbrost *et al.* 2018 paper, Choubert’s work is looked at from a more global (or rather circum-Atlantic) perspective with the paper’s many co-authors coming from all over the world.

My third partly geohistoric paper (2017b) is a very short note on a small Jurassic ophiolite occurrence in the Central Alps of Switzerland (only one hour’s drive from Zurich). Based on historical evidence, I suggest that it was here, where the German geologist Gustave Steinmann (1856-1929) first saw in 1889/1890 all three members of the peculiar ophiolite succession which later became known as the “Steinmann trinity” (serpentinite, metabasalt, and radiolarites).

In the Blattmann *et al.* 2018 paper, the historic development of thoughts on so-called petrogenic carbon (i.e. carbon which is derived from the mechanical decomposition of Corg-bearing rocks and does not participate in the normal carbon cycle) is reviewed with special attention being paid to the Finish geologist Matti Sauramo.

Despite having left academic geology last year and working now as an engineering geologist in the greater Zurich area in Switzerland, I have kept a vivid interest in the history and philosophy of geology and shall hopefully continue publishing in this area.

Letsch, D., 2017a, A pioneer of Precambrian geology: Boris Choubert’s fit of the continents across the Atlantic (1935) and his insights into the Proterozoic tectonic structure of the West African Craton and adjacent areas: *Precambrian Research*, v. 294, p. 230-243.

Letsch, D., 2017b, The Isentobel in Central Switzerland: remnants of the Penninic ocean and a source of inspiration for Gustav Steinmann’s idea of young ophiolites: *International Journal of Earth Sciences*, v. 106, p. 1693-1694.

Kornprobst, J. *et al.*, 2018, Boris Choubert: unrecognized visionary geologist, pioneer of the global tectonics: *Bulletin de la Société géologique de France*, v. 189/7.

Blattmann, T. *et al.*, 2018, On the geological and scientific legacy of petrogenic organic carbon: *American Journal of Science*, v. 318, p. 861-881.

UNITED KINGDOM

INHIGEO REPORT FOR 2018

The Hugh Miller Writing Competition which I mentioned last year has resulted in a pleasing anthology of the winning entries, and other contributions, edited by Lara Reid and Elsa Panciroli:

Reid, L. and Panciroli, E. (eds) *Conversations in stone. A celebration of Hugh Miller's legacy*. Privately published. This “brings together prose and poetry inspired by Miller and his life, and his unwavering love of stone, landscape and palaeontology”: <https://www.edinburghgeol Soc.org/publications/geological-excursion-guides/#conversations-in-stone>.

As regards INHIGEO members' news:

Pratik Chakrabarti – has had a recent publication:

Chakrabarti, P. 2019. Gondwana and the Politics of Deep Past. *Past & Present*, 242 (1), 1 February, 119–153, <https://doi.org/10.1093/pastj/gty016>.

Richard Howarth – is “currently working on a history of early geophysics (which I started in 2002 and somehow never finished - it is now being revised and a last section added!). If anyone has been frustrated by the difficulty of finding out why someone they are researching was confined in a mental hospital they may be interested in my most recent publication:”

Howarth, R.J. and Aleguas, S.A. 2019. Through a glass darkly: Patients of the Illinois State Hospital for the Insane at Jacksonville, U.S. (1854-1880). *History of Psychiatry*. <https://doi.org/10.1177/0957154X18821059>.

John Mather – is “presently working on papers about Eileen Mary Lind Hendriks (1887-1978), for the HOGG meeting in May celebrating the centenary of the first female Fellows of the Geological Society of London and on W. A. E. Ussher (1849-1920), for a meeting planned for 2020 to mark the centenary of his death. Both individuals were prominent in sorting out the geology of southwest England.”

Bennett, J. A. & Mather, J. D. 2018. Geological highlights and controversies recorded in early volumes of the Transactions. *Report and Transactions of the Devonshire Association for the Advancement of Science, Literature and the Arts*, 150, 137-176.

Mather, J. D. 2018. Obituary: Deryck James Colson Laming 1931-2017. *Geoscientist*, 28 (1), 28.

Mather, J. D. 2018. National water supply, debates between geologists and engineers and the role of the Society of Arts. *Earth Science History*, 37, 342-362. <https://doi:10.17704/1944-6178-37.2.342>.

Mather, J. D. 2018. Obituary, Chris Cornford (1948-2017). President (2014-2015). *Report and Transactions of the Devonshire Association for the Advancement of Science, Literature and the Arts*, 150, 581-583.

Mather, J. D. 2019. Groundwater supplies to maritime and coastal defences in Southern England: a story of risk and innovation. In: Rose, E. P. F., Ehlen, J. & Lawrence, U. L. (eds) *Military Aspects of Geology: Fortification, Excavation and Terrain Evaluation*. Geological Society, London, Special Publications, 473, 47-60. First published online March 6, 2018; <https://doi.org/10.1144/SP473.8>.

Ralph O'Connor and Mike Taylor – are completing their study of Hugh Miller's *The Old Red Sandstone* (1841) to be published alongside a facsimile of the original. They are also writing a paper on the confusing early publication of Miller's *Testimony of the Rocks* (1857) with Leslie Overstreet of the Smithsonian Institution. Ralph also has a book chapter impending in: O'CONNOR, R. 2019 in press. 'Geology and paleontology', in DENISOFF, D. and SCHAFFER, T. (eds) *The Routledge research companion to Victorian literature*. Routledge, London.

Mike Taylor – as well as working with Ralph O'Connor, is also completing a paper on Miller's unusual printing and publishing arrangements (as the editor and co-owner of an Edinburgh newspaper), and another on the Reverend John Gleed (1785–1870), Independent minister and fossil trader of Lyme Regis, Dorset, and erstwhile pastor of Mary Anning's family.

Tassell, N. and Taylor, M. A. 2018. History explorer. Georgian fossil hunting [on Mary Anning]. *BBC History Magazine*, June, 82-85.

Taylor, M. A. 2018. Autobiography and documentable fact in the family background and religious affiliation of Archibald

- Geikie (1835-1924). In Betterton, J., Craig, J., Mendum, J. R., Neller, R. & Tanner, J. (eds) *Aspects of the Life and Works of Archibald Geikie*. Geological Society, London, Special Publications, 480; <https://doi.org/10.1144/SP480.11>.
- Taylor, M. A. 2018. 'Miller's most important geological discovery': Archibald Geikie (1835-1924) as pupil and memorialist of Hugh Miller (1802-56). In Betterton, J., Craig, J., Mendum, J. R., Neller, R. & Tanner, J. (eds) *Aspects of the Life and Works of Archibald Geikie*. Geological Society, London, Special Publications, 480; <https://doi.org/10.1144/SP480.14>.
- Taylor, M. A. 2018. A memoir of Hugh Miller (1802–1856) by Harriet M. Taylor. *Archives of Natural History*, 45, 369-372.
- Taylor, M. A. and Anderson, L. I. 2018. A note on Alfred Tennyson and Hugh Miller. *Tennyson Research Bulletin*, 11, 176-179.
- Taylor, M. A. 2019. Hugh Miller's Palace of Printing. Pp. 41-53 in Reid, L. and Panciroli, E. (eds) *Conversations in stone. A celebration of Hugh Miller's legacy*. Privately published.
- Taylor, M. A. 2019. Three memoirs of Hugh Miller (1802–1856) by his son Hugh Miller FGS. *Archives of Natural History*, 46, 113-118.

Hugh S. Torrens

1. Paperback edition of *The Enlightenment of Thomas Beddoes: Science, Medicine and Reform*, by T. Levere, L. Stewart and H. S Torrens, Taylor & Frances, London (first published November 2016)

Chapter 2. Thomas Beddoes and natural history, especially geology pp. 79-115

Chapter 5. (with Jo Wachelder), Models, Toys and Beddoes' struggle for educational Reform pp. 206-237

Appendix 1. The Mystery of Dr. John Edmonds Stock, Beddoes' first biographer pp. 238-248.

2. Obituary: Ronald James Cleevely (1934-2017), *Archives of Natural History*, vol. 45, no. 1, pages 170-178, 2018.
3. (with Gill, Madeleine), John Player's 'Geological Observations' of 1764-1766, and his contributions to the Society of Arts journal *Museum Rusticum et Commerciale: Earth Sciences History*, vol. 37, no. 2, pages 247-265, 2018.
4. (Abstract) A Double Anniversary: the planned 2019 publication of *William Smith's Fossils Reunited*. Paper delivered at the Geological Society of America's Annual Convention. Indianapolis, November 2018. <https://gsa.confex.com/gsa/2018AM/meetingapp.cgi/Paper/318462>

Submitted by **Mike Taylor**.

UNITED STATES OF AMERICA

Summaries of Activities in 2018 by U. S. members of INHIGEO.

Vic Baker presented an invited talk in December at the American Geophysical Union Annual Meeting, Centennial Special Session honoring Grove Karl Gilbert (1843-1918). Vic's contribution was entitled "G. K. Gilbert's Investigative Scientific Methodology: Philosophical Foundations and Continuing Relevance." Vic also prepared an invited paper dealing with the 50-year history of the Binghamton Geomorphology Conferences. It will be published in the journal *Geomorphology*. Also, in a review paper for an upcoming edited volume on paleohydrology, he covered some of the historical background to geological studies of catastrophic flooding. Vic also continued working on his long-term project dealing with the history of the 19th-century controversy concerning the origin of slaty cleavage. The background research for this included a 10-day visit in October/November 2018 to the Institute for American Thought, Indiana University-Purdue University at Indianapolis. A book manuscript is in progress.

Kennard B. Bork enjoyed writing a Foreword for a fascinating book being created by Jan Kozák (Prague) and Roger Musson (Edinburgh). It is an illustrated narrative of artistic renditions of geological disasters through history (Springer, 2019). Service on the Awards Committee for the Geological Society of America's Division of the History and Philosophy of Geology was rewarding. Ken's involvement with OLLI (Osher Lifelong Learning Institute; Sedona, Arizona, program) has included teaching 6-week courses and 3-hour workshops on a number of topics incorporating history of geology.

William R. (Bill) Brice continued as Editor for the *INHIGEO Record*, with Number 50 in 2018, which covered INHIGEO member activity during the year 2017. He also continued his coordination of the Petroleum History Institute Annual

Symposium, which in 2018 was held in Salt Lake City, Utah. Bill was invited to present several papers which are listed below. He currently serves as Second-Vice President of the Petroleum History Institute, and as a member of the review boards for *Oil-Industry History* and *Earth Sciences History*.

In 2018 Bill received the *Mary C. Rabbitt History of Geology Award* presented by the History and Philosophy of Geology Division of the Geological Society of America. [See the Awards section of this volume.]

Published Articles:

- BRICE, William R., 2018d, Acceptance: *Mary C. Rabbit Award in the History of Geology*: History & Philosophy of Geology Division/Geological Society of America, <https://www.geosociety.org/awards/18speeches/rabbitt.htm>.
- _____, 2018c, The Impact of Drake's Discovery on Maps of the Early Pennsylvania Oil Region: *Oil-Industry History*, v. 19, p. 59-80.
- _____, 2018b, Petroleum History Institute annual meeting and field trip; Salt Lake City, Utah, July 17-9, 2018: *Oil-Industry History*, v. 19, p. 3-12.
- _____. (Editor), 2018a, INHIGEO Annual Record, No. 50: International Commission on the History of Geological Sciences, 279 p.
- BRICE, William R. and SORKHABI, Rasoul (Eds), 2018, *Program and Abstracts*: Petroleum History Institute Annual Oil History Symposium & Field Trip, Salt Lake City, Utah, May 17-19, 39 p.

Professional Presentations:

- BRICE, William R., 2018c, Fossil illustrations in three-dimensions: Geological Society of America Annual Meeting, Indianapolis, Indiana, 2018, *Abstracts with Programs*, Vol. 50, No. 6, ISSN 0016-7592, doi: 10.1130/abs/2018AM-317047 (Invited Speaker).
- _____, 2018b, Abraham Gesner (1797-1864); The Forgotten Discoverer of Kerosene: Annual Meeting, MENSA, Pittsburgh, Pennsylvania, September 1 (Invited Speaker).
- _____, 2018a, The impact of Drake's discovery on maps of the early Pennsylvania oil region: Petroleum History Institute Annual Meeting, May 18, Salt Lake City, Utah, *Program and Abstracts*, p. 9-10.
- Mir-Babayev, Mir-Yusif and BRICE, William R., 2018, The World's First Oil Well: Friends of Drake Well, Annual Meeting, August 19 (Invited presentation)

Paul D. Brinkman is currently a member of the editorial boards for the journals *Endeavour* and *Journal of the History of Collections*. He is also serving as the secretary of the History of Earth Sciences Society. Paul continues to work on a multitude of history of geology projects. He is currently working on a book-length history of the Captain Marshall Field Paleontological Expedition to Argentina and Bolivia, 1922-1927.

Publications:

- BRINKMAN, Paul D., 2018. "John Conrad Hansen (1869-1952) and his scientific illustrations." *Archives of Natural History*, 45(2): 233-244.
- _____, 2018. "Following the lure: field experience and professional opportunities in turn-of-the-twentieth-century American vertebrate paleontology." *In* *Naturalists in the Field: Collecting, Recording and Preserving the Natural World from the Fifteenth to the Twenty-First Century*. Leiden and Boston: Brill Academic Publishers, pp. 775-805.

Renee M. Clary co-edited GSA Special Paper 535 with Gary Rosenberg: *Museums at the Forefront of the History and Philosophy of Geology: History made, history in the making*. Renee and Gary co-authored the forward and the dedication. Renee also coauthored a chapter (listed below) in that volume. At the Geological Society of America meeting in Indianapolis, Renee (with Gary Rosenberg and Dallas Evans) convened a topical session on "The Evolution of Paleontological Art," and presented a paper (listed below) in that session.

Publications:

- CLARY, R. M., & MOE-HOFFMAN, A. (2018). The role of the Dunn-Seiler Museum, Mississippi State University, in promoting public geoliteracy. *In* G. Rosenberg & R. Clary (eds.) *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making*. (Chapter 15, p. 237-248). GSA Special Paper 535. Boulder, CO: Geological Society of America.
- CLARY, R. M. (2018). Can the history of geology inform geoscience education and public reception of climate change? Lessons from the history of glacial theory. *Geosphere*, 14(2), DOI: 10.1130/GES01461.1
- CLARY, R. M. (2018). The evolution of U.S. museums and science centers as informal learning environments. Invited book

review of “Life on Display: Revolutionizing U.S. Museums of Science & Natural History in the Twentieth Century.” *Science and Education*, 27, 371-377. doi 10.1007/s11191-018-9967-x.

Conference Presentations:

- CLARY, R. M. (2018, November). The Royal School of Mines: Henry De la Beche’s convergence of professionalization and public advocacy. Research paper presented at the 43rd International Commission on the History of Geological Sciences (INHIGEO) Symposium, Mexico City, Mexico.
- CLARY, R. M., BOURGEOIS, J., & ROSENBERG, G. D. (2018, November). We are made by history: Robert H. Dott, Jr. (1929-2018) and the importance of looking backwards. Research paper presented at the Geological Society of America Annual Meeting, Indianapolis, IN. (invited).
- CLARY, R. M. (2018, November). The pioneering illustration of the paleontological reconstruction revolution: De la Beche’s *Duria antiquior*. Research paper presented at the Geological Society of America Annual Meeting, Indianapolis, IN.
- CLARY, R. M. (2018, February). Etheldred Benett: A woman’s contributions to geology before Anning’s “seashells on the seashore.” Research presentation at the Mississippi Academy of Sciences Annual Conference, Hattiesburg, MS. (refereed).
- CLARY, R. M. (2018, February). Agassiz’s glacial theory: How a past controversy can inform modern climate change discussions. Research presentation at the Mississippi Academy of Sciences Annual Conference, Hattiesburg, MS. (refereed).

Invited Lecture:

- CLARY, R. M. (2018, February). Beyond the HIS-tory of geology: Unpacking the contributions of early women geologists—Early geological contributions of Mary Anning, Etheldred Benett, and Florence Bascom. Research presentation for the Department of Geosciences, Auburn University. (invited)

Professional Service:

Renee continued to serve as the Geol. Soc. Amer.’s History and Philosophy of Geology Division webmaster. She was appointed to the Division’s Awards Committee, and she assumed the Chair position. She also serves as the permanent Joint Technical Program Committee representative for the Division. She also serves as an editor for the “Rock Stars” series published within *GSA Today*.

Because of GSA participants’ (and non-participants’) interest on a special volume on the Evolution of Paleontological Art, she is exploring publication opportunities along with her co-editors, Gary Rosenberg and Dallas Evans.

Karen Severud Cook greatly enjoyed attending the HoGG-GCG meeting in Bath, UK and presenting the following paper:

COOK, Karen Severud, “Reflections across the Pond? Cuvier and Brongniart’s Map of Paris (1811) and Conybeare and De la Beche’s Map of Bath (1823),” presented at: “Collections, Collectors and the Geology of SW Britain,” HoGG-GCG Joint Meeting, BRLSI, Bath 18th September 2018.

She is presently revising this paper for publication.

John A. Diemer continued to serve as editor of *Earth Sciences History* in 2018 editing two numbers of Volume 37:

DIEMER, J. A. 2018. *Earth Sciences History*. Volume 37, Number 1, pp. 1-228. “Editor’s Introduction”, pp. iii–iv.

DIEMER, J. A. 2018. *Earth Sciences History*. Volume 37, Number 2, pp. 229–458. “Editor’s Introduction,” pp. iii-iv.

The second of these (37/2) was a special issue containing papers from the “Society of Arts and the Encouragement of Mineralogy and Geology (1754–1900) Meeting” sponsored by the RSA and the History of Geology Group, and held at the Geological Society London, 9 November 2017.

Conference presentations:

- DIEMER, J. A., 2018. Humboldt’s influence on Murchison’s Russian fieldwork. INHIGEO Annual Meeting, Mexico City, Mexico, November 12–16, 2018.
- DIEMER, J. A., and DIEMER, L. 2018. Three types of artwork used to illustrate *The Geology of Russia* (1845). *GSA Abstracts with Programs*, v. 50, no. 7, Indianapolis, Indiana.

Sandra Herbert: The geology activities for this past year: I've just finished a play about the Smithsonian Institution during the U. S. Civil War. The title is "Castle on the Mall." Geology figures since Joseph Henry, the Smithsonian Secretary, was a leader in American science.

Published:

HERBERT, Sandra, 2018b, Leonard Gilchrist Wilson (1928-2018): *Earth Sciences History*, v. 37, no. 2, p. 450-451.

[Editor's note: see the Obituary section of this volume.]

HERBERT, Sandra, 2018a, Review: *Darwin's Evolving Identity; Adventure, Ambition, and Sin of Speculation*: by Alistair Sponsel, Chicago and London, University of Chicago Press, 358 p.; *Earth Sciences History*, v. 37, no. 2, p. 451-453.

Alan Leviton laments that he was unable to attend any professional meetings in 2018 due to medical reasons. He did, however, publish a paper (coauthored by the late Michele Aldrich) in a GSA symposium volume on *Museums in the Forefront of the History and Philosophy of Geology*, edited by Gary Rosenberg and Renee Clary:

LEVITON, A. E., and M. L. ALDRICH. 2018. California Academy of Sciences: A museum center for public outreach and basic research in the geosciences. Geol. Soc. America, [symposium volume] *Museums at the Forefront of the History and Philosophy of Geology*, Special Paper 535, pp. 203-215, figs. 1-29.

Cliff Nelson continues to prepare for publication his narrative analysis of the reform of federal mapping and science during the 1871-81 administration of President Rutherford Hayes and the subsequent years of America's Gilded Age.

Sally Newcomb gave an oral paper "Lewis Evans (1700-1756), 18th Century Cartographer" at the History and Philosophy of Geology Division session at the Geol. Soc. Amer. meeting in Indianapolis. She is currently writing a long paper on Lewis Evans, an interesting commentator on—and mapper of—American geology. Sally is also thoroughly enjoying an opportunity to see and write briefly (blog) about books in the ~4,000 volume Wenner Collection recently acquired by the Niels Bohr Library and Archives at the American Institute of Physics. Her first blog, about Pierre Simon Laplace's *Exposition du Système du Monde*, was posted on November 5th. This publication is of interest to geologists because it contains not only his proposal for the metric system, but also his suggestions for the nebular hypothesis for planet origin, and black holes. Sally's most recent blog concerned three papers by Lord Kelvin on ages of the sun and earth. AIP and its library, in College Park MD, is an interesting place for visitors.

Steve Rowland continued to serve on the INHIGEO Executive Board as Vice President for North America. He, also, continues as an editor of the "Rock Stars" series published in *GSA Today*, and as an associate editor of *Earth Sciences History*. At the Geol. Soc. Amer. meeting in Indianapolis he presented a paper titled "The sculptures of Waterhouse Hawkins in England and America and the ill-fated Paleozoic Museum of Central Park: the beginnings of three-dimensional representation of extinct animals.

Dorothy Sack served as past chair and member of the management board of the History and Philosophy of Geology Division of the Geological Society of America in 2018. At the GSA annual meeting in Indianapolis, she presented "The Prometheus Connection: When Life of a Geologist Imitates Art," about late twentieth century Quaternary geologist Donald R. Currey. She completed her sixth and final year as chair of the History of Geography Specialty Group of the American Association of Geographers. She organized three paper sessions on the history of geography for the AAG annual meeting in New Orleans and presented a paper on the chronologies postulated for Lake Bonneville over the past 150 years. Finally, she attended the INHIGEO meeting in Mexico City, where she presented a paper on American geomorphologist Marie Morisawa, entitled "Marie Morisawa's Itinerant Path to Success."

David Spanagel: The highlights of the past year for David Spanagel included the following. In April 2018, he was the invited commenter on the pre-circulated research paper "Frederic Tudor's Slippery Speculation," written by Boston University history professor Andrew Robichaud, at a meeting of the Environmental History Seminar sponsored by the Massachusetts Historical Society. In October, he presented his research on "Harold N. Fisk's (1944) Maps of the Meandering Mississippi River" as part of the "Climate Cartography from Maps to Models" session at the History of Science Society annual meeting, held in Seattle, WA. During the winter term, he developed and taught an entirely new theme (Ethnobotany) for his HI 3335 Topics in the History of Non-Western Science and Technology seminar class. During the spring-summer terms he co-created and delivered (with colleague Esther Boucher-Yip) an entirely new curriculum model of guided scholarly independent study projects covering all the humanities and arts disciplines for Worcester Polytechnic Institute students at the London (England) Project Center.

Before the end of the year, David was also re-elected to serve a second consecutive term as Treasurer of the History of Earth Sciences Society (HESS).

Kenneth Taylor prepared the inaugural “Anniversary Note” for this series of INHIGEO contributions to the IUGS E-Bulletin (“Basalt, 250 years ago,” in E-Bulletin no. 140, March 2018). He completed English translations of the articles “Basalte d’Auvergne” and “Géographie Physique” in the Diderot/d’Alembert Encyclopédie, for the Encyclopedia Translation Project. His *Éloge* on Ursula Marvin was published in *Earth Sciences History* [see the Obituary section of this volume]. In October he was awarded the Prix Eugène Wegmann by the Société Géologique de France. [See the Awards section in this volume.]

Submitted by **Steve Rowland**.

UZBEKISTAN

INHIGEO Report for 2018

During the reporting period 2018 a Seminar and three International conferences were held in Tashkent. On March 24 Scientific and practical seminar on the use of GIS technologies in the geological industry with the participation of 23 organizations-members of National Committee of Geologists of Uzbekistan (NKGU) was organized by State Committee of the Republic of Uzbekistan on Geology and Mineral Resources (Goskomgeology).

On August 17 Goskomgeology and State Enterprise “IMR” (GP “IMR”) organized the International Scientific and Technical Conference “Integration of science and practice as a mechanism for the effective development of the geological industry of the Republic of Uzbekistan” with the participation of specialists from the countries: Australia, Great Britain, Georgia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan, Turkey, and Uzbekistan. Materials of the conference (ed. *B. F. Islamov*. - 434 pp.) included more 250 theses. Theses, having an interest for the history of geology are the following:

New frontiers in the activities of the geological industry and science of the Republic of Uzbekistan (Kh. A. Akbarov *et al.*);

Modern innovative technologies of prospecting and exploration (case study of Canada) (A.E.Antonov);

Issues of diversification of geological exploration production and the development of "land tourism" in the Republic of Uzbekistan (M. M. Pirnazarov *et al.*);

On the development trends of the mineral resource base of the Republic of Uzbekistan (A. B. Kholikov);

Geodynamic settings, magmatism and composition of ores of gold deposits of Uzbekistan (Western Tien Shan)

(R. I. Koneev *et al.*);

The evolution of natural mineral formations and gold mining in Uzbekistan (R. D. Allabergenov).

On October 15-16, the International Conference "Geophysical Methods for Solving Actual Problems of Modern Seismology", dedicated to the 150th anniversary of the Tashkent Geophysical Research Observatory was held. More than 100 scientific theses were published in the Materials of the conference (ed. *S. S. Khusamiddinov*. - 516 p.). Theses, having an interest for the history of geology are the following:

History, achievements and prospects for the development of geophysical research in Uzbekistan (S. S. Khusomiddinov);

The complex of new maps of general seismic zoning of the territory of Uzbekistan OSR-2017 (T. U. Artikov *et al.*);

Geodynamics and petroleum potential of the lithosphere of Uzbekistan / Review of the monograph by G. S. Abdullaev,

F. G. Dolgopolov. Geodynamics and petroleum potential of the lithosphere of Uzbekistan (L. N. Lordkipanidze);

Problems of the Aral Sea ... what's next? (V. A. Rafikov).

On November 22-23, the Goskomgeology and the National Committee of Geologists of Uzbekistan for the first time organized the International Conference "Earth Sciences". The conference was attended by specialists from France, Canada, Kazakhstan, Kyrgyzstan, Russia, and Tadjikistan. During the conference, a memorandum of cooperation was signed between the State Geological Museum, V. I. Vernadsky of the Russian Academy of Sciences (Moscow, Russia, Director S. V. Cherkasov), and the State Geological Museum of the State Committee on Geology of the Republic of Uzbekistan (Director A. Sh. Akhmedshayev) (Geology and Mineral Resources, № 6). Materials of the conference (ed. *B. F. Islamov*. - 273 p.) included 80 theses, among which for those with an interest in the history of geology, we offer the following:

Geological and structural positions of ore fields and deposits of Tien Shan (Kh. A. Akbarov *et al.*);
 Priority areas of fundamental and applied research work of the Institute of Geology and Geophysics of the State Committee on
 Geology of the Republic of Uzbekistan (M. U. Isokov *et al.*);
 Modern ideas about the formation of the Aral Sea: geological and historical aspects (M. A. Bogdasarov *et al.*);
 Regional Climate Change in Central Asia (X. Yu. Bilbil and V. Hk. Mergen);
 The gold ore deposits in the weathering crust is a new type of mineralization of arid zones (N. N. Zhuraev).

Books and monographs:

Lordkipanidze L. N. Tien Shan fault tectonics (Selected Works). - T.: GP "IMR", 2018. - 142 p. (Photo 1a).

In the selected works included by the author of the book on elements of the fault tectonics of the Middle, Southern Tien Shan, and adjacent territories include: their definitions, features, classifications, analysis of maps and schemes of domestic and foreign researchers. Included, also, are geodynamic problems, the possibility of isolating transform faults, and consideration of their magmatism. In addition, there are reviews of the most important works on the connection between the faults of the Tien Shan and High Asia and their relationship to ore and gas and oil deposits.



1a. *Tien Shan Fault Tectonics (Selected Works).*

The author's abstracts of doctoral theses are published:

DSc:

1. Mamarozikov, U. D. Ore bearing capacity of intraplate intrusive magmatism of the Chatkal-Kurama region (Middle Tien Shan). - T., IGG; PhD;
2. Omonov, Kh. A. Geological structure and ore content of the Auminzatau mountains (Central Kyzylkum). - T., IMR;
3. Movlanov, Zh. ZH. Mineralogical and geochemical criteria for predicting gold mineralization in the mountains of South Nuratau (Western Uzbekistan). - T., IMR;
4. Karimova F.B. Petrology of plutonic dikes of the gold-silver deposits of the Kyzylalmasay ore field (Almalyk-Angren mining region). - T., IGG.
5. Zhanibekov B.O. Structural-tectonophysical conditions for the formation of gold deposits of the Central Kyzylkum (Mount Auminzatau and Beltau). - T., IMR.

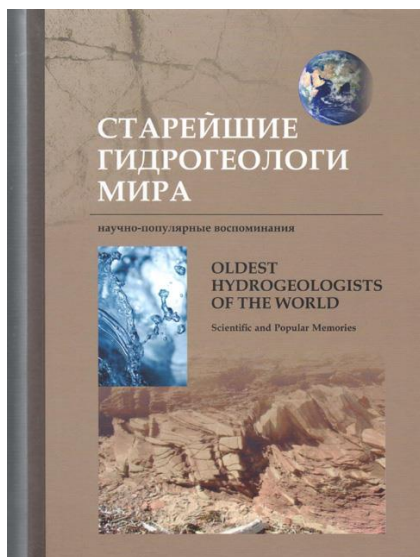
Scientific articles related to the history of geology have been published in the Geology and Mineral Resources Journal:

Geodynamic evolution of magmatism and related mineralization of the Western Tien Shan in the territory of Uzbekistan (R. Kh. Mirkamalov *et al.*) (№ 1);

Natural and conditioned silicate waters: mineralization, geochemical peculiarities of silicon and rare-earth elements (Pritashkent ore-mining district, Uzbekistan) (P. N. Mavlyanov *et al.*) (№ 1);

About consequences of Bakhmal earthquake in September 29, 2017 (V. A. Ismailov *et al.*) (№ 1) - parameters of strong earthquakes occurring within a radius of R = 120 km from Zaamin from the historical period to the present are given according to T. U. Artikov and R. S. Ibrahimov;

On the content and significance of the book *The Oldest Hydrogeologists of the World* (U. A. Azizov and N. G. Mavlyanova) (№ 2). The book *The Oldest Hydrogeologists of the World* (ed. V. S. Krupoderov) was published in Belarus in 2016 in Russian and English languages and presents information about 30 scientists from 13 countries of the world: Azerbaijan, Belarus, Canada, China, Georgia, Israel, Kazakhstan, Lithuania, Poland, Russia, Switzerland, Ukraine, and the USA; as well as a series of articles and memoirs about the world's leading hydrogeological scientists (Photo 1b).



1b. *The Oldest Hydrogeologists of the World.*

- Scandium in fields of Uzbekistan and Eurasia (metals paragenesis and extraction technology) (Yu. B. Ezhkov, *et al.*) (№ 2);
- Distribution and the occurrence form of rare-earth elements in different types of deposits in Western Uzbekistan (M. S. Karabaev and M. B. Ashirov) (№ 2);
- Mumiyo: organomineral composition, facial and geochemical unity, information status (R. G. Yusupov and S. D. Fatkhullaev) (№ 2);
- Systematics of gold and gold-containing deposits of Uzbekistan: approaches to typification, informativity and scientific-applied consequences (M. M. Pirnazarov, *et al.*) (№ 3);
- Local mineral-geochemical criteria for searching and estimation of the gold mineralisation of separate areas, deposits and ore bodies (on the example of the Chatkal-Kurama mountains of the Tien Shan) (E. A. Dunin, Barkovskaya, *et al.*) (№ 3);
- Peculiarities of structural and metallogenic connection of Tien-Shan with Ural by geological-geophysical data (B. S. Nurtaev, *et al.*) (№ 4);
- Seismoactivity of megafissures of Southern Tien-Shan (T. K. Zakhidov, *et al.*) (№ 4);
- Geological heritage of nature and some issues of the organization of "tourism of the earth" in the Republic of Uzbekistan (G. V. Pyanovsky, *et al.*) (№ 4) (The scheme of the territories of the Republic of Uzbekistan that are promising for the development of geo-tourism is given);
- Chatkal-Kurama region in the late Pleistocene and the Holocene based on geomorphological and instrumental dating methods (review) (F. N. Akbarov, *et al.*) (№ 5);
- Problems of formation of gold, copper and rare metal deposits (Kh. A. Akbarov, *et al.*) (№ 6);
- Electronic catalog of the faults of the Middle, Southern Tien Shan and adjacent territories (O. G. Tsay) (№ 6).

Jubilees

80th birth anniversary of **R. A. Niyazov** – chief Researcher of the GP “Institute GIDROINGEO”, PhD of Geological and Mineralogical Sciences, author of 154 scientific works, including 8 monographs, Member of the National Commission of the Republic of Uzbekistan on Climate Change, the National Commission to Combat Desertification and Drought; awarded the Scientific Council on Engineering Geology, Hydrogeology and Geoecology of the Russian Academy of Sciences with the Medal of Honor by Academician E.M.Sergeyev for his contribution to the development of engineering geology for the monograph "Landslides caused by Pamir-Hindukush earthquakes" (2016) (Geology and mineral resources - 4) ;

Y. B. Yezhkov – a prominent specialist in the field of metallogenic and geochemical zoning of the territory of Uzbekistan for a complex of noble, rare and radioactive metals, as well as new non-traditional types of uranium, rare-earth and thorium mineralization, PhD of Geological and Mineralogical Sciences, author of more than 100 scientific works, including 8 monographs, awarded the medal "For services in exploration of mineral resources" and the sign "Excellence in exploration of mineral resources" (Mingeo USSR (- № 6).

80th birth anniversary of **A. Kh. Turesebekov** – a renowned expert in the field of mineralogy and geochemistry, geotechnology for the development of endogenous and man-made deposits of Uzbekistan, head of the laboratory of “Geochemistry and geotechnology”, IGG, Ph.D, author of more than 170 scientific works, including 7 monographs (in collaboration), awarded the prize Fund name after Kh.M.Abdullaev, diplomas of the Presidium of the Academy of Sciences and the Goscomgeology of the Republic of Uzbekistan (- № 6).

70th birth anniversary of **N. F. Khamidullaev**- Honored Geologist, Honorary Mine Scout of the Republic of Uzbekistan, Head of the Department of State Geological Information Center, Goscomgeology (- № 6);

70th birth anniversary of **Sh. Kh. Abdullayev** – Head of the Hydrogeophysics Laboratory of the GP “Institute GIDROINGEO”, Ph.D of Geological and Mineralogical Sciences, author of 50 scientific works, including 3 monographs and 5 patents (- № 6);

50th birth anniversary of **L. R. Sadykova** – Head of the Laboratory of "Geodynamics and Modeling of Geological Structure and Processes", IGG, DSc of Geological and Mineralogical Sciences, a member of the Association of Gemologists of Russia and Thailand (- № 5).

50th birth anniversary of **B. D. Abdullaev** – Director of the GP “Institute GIDROINGEO”, DSc of Geological and Mineralogical Sciences, author of more than 80 scientific works, including 2 monographs, member of the International Academy of Ecology, Safety of Man and Nature (2017), awarded the prize name after Academician Gubkin for the monograph "Geoecology of Ustyurt" (2011), (- № 6).

In memory of the following colleagues:

100th anniversary of **Kh. N. Baymukhamedov** (01 January 1918 – 14 July 1990) (- № 5);

70th anniversary of **F. I. Islamov** (19 September 1948-24 March 2012) (№ 4).

The loss to science:

D. B. Djamalov (22 July 1933-22 May 2018) - a leading scientist in the field of geomorphology, quaternary geology and tectonics (- № 4);

Kh. L. Rakhmatullaev (05 May 1949-17 May 2018) - a leading scientist in the field of engineering geology, loess studies, seismic microzonation (- № 4).

Submitted by: **L. N. Lorkkipanidze, B. S. Nurtaev, and O. G. Tsay**



APPENDIX A

INHIGEO VIRTUAL BIBLIOGRAPHY 2019 Armenia, Austria, Chile, France, Germany, Hungary, India *Edited by Francesco Gerali, Project Curator*

ARMENIA

Библиография публикаций по истории геологии Армении (1821-2017)

Э.Г. Малхасян, Г.Э. Малхасян, Г.П. Хомизури

Bibliography of publications on the history of Geology of Armenia (1821-2017)

Edward. G. Malkhasyan (1926-2003), Armenian State Pedagogical University; **Gourgen. E. Malkhasyan**, Vallex Group and Vektor-Pro LLC; **Georgy. P. Khomizuri**, Institute of Geological Sciences of the NAS of RA

- Абих Г.В. Восхождение на Арарат 29 июля 1845 года // Горн. журнал. 1846. Ч. 2. № 4. С. 109-153.
- Абих Г.В. Об озере Урмия и химическом составе его воды // Горн. журнал. 1856. Ч. 1. Кн. 3. С. 333-359; Ч. 2. Кн. 4. С. 110-111.
- Абих Г.В. Землетрясения в Шемахе и Эрзеруме в мае 1859 г. / Горн. журнал. 1861. Ч. 4. №. 10. С. 101-120.
- Абих Г.В. Новые сведения о геологии Кавказа и сопредельных ему стран // Зап. Кавк. Отд. РГО, 1864. № 6. С. 66-74.
- Абих Г.В. Геология Армянского нагорья: Западная часть и Восточная часть. Орографическое и геологическое описания. Тифлис, 1899. II, 202 с. (Зап. Кавк. Отд. РГО. Кн. 21). 1902. 67 с. (Зап. Кавк. Отд. РГО. Кн. 23).
- Абрамян А.Г., Петросян Г.Б. Естественнонаучные представления Анания Ширакаци о строении Вселенной // История геологии. Ереван: Изд-во АН АрмССР, 1970. С. 196-204.
- Абрамян А.Г., Петросян Г.Б. Анания Ширакаци. Ереван: Изд-во Ереванского гос. ун-та, 1970.
- Абрамян А. Г., Петросян Г. Б. Нововыявленная рукопись труда Иоанна Ерзынкаци «О движении неба» // История естествознания и техники в Армении. 1987. № 8. С.52-80.
- Аветисян В.А., Долуханова Н.И., Сардаров Э.И. История гидрогеологического изучения Армянской ССР // Геология Армянской ССР. Гидрогеология. Т. VIII. Ереван: Изд-во АН АрмССР, 1974.
- Авчян Г.М., Татевосян Л.К. История развития геофизических исследований и построения карт в Армянской ССР (на англ. яз.) // X INHIGEO Simposium, 16-22 Aug. 1982. Abstracts.
- Аджимамудов Э.Б., Ганин Ж.И. Первые гравиметрические наблюдения в Армении // Изв. АН АрмССР. Науки о Земле. 1982. № 4. С. 62-67.
- Айвазян С.М. К развитию геологии и горного дела // Изв. АН Арм ССР. Сер. Науки о Земле. № 1. 1965. С. 61-74.
- Айвазян С.М. Развитие геологии и горного дела в древнейшей Армении // Тез. докладов IV Закавказской конференции по истории науки. Ереван: Изд-во АН АрмССР, 1972. С. 63.
- Айвазян С.М. Совершенствование знаний о металлах, горнометаллургическом производстве (на примере Армении) и развитие учения о Земле. Некоторые аспекты горнометаллургического производства в Армении. Ч. 1. Тр. Арм. НИИ Процветмета. Вып. 6(15). 1977. 103 с.

Айвазян С.М. Совершенствование знаний о металлах, горнометаллургическом производстве (на примере Армении) и развитие учения о Земле. Развитие представлений о формировании и строении Земли. Ч. 2. Тр. Арм. НИИ Процветмета. Вып. 7(16). 1978. 283 с.

Айвазян С.М. Развитие геолого-минералогических знаний и горно-металлургического производства в древней Армении // История горной науки и техники / Материалы I Всес. координационного совещания. Тбилиси. 1976. Ч. 1. Тбилиси. 1979 С. 58-66.

Акопян Ц.Г., Ванцян Г.М. Краткий очерк истории геофизического изучения территории Армянской ССР // Геология Армянской ССР. Т. X. Геофизика. Ереван: Изд-во АН АрмССР, 1972.

Амирас Ерзнкаци. Хроника. Извлечено и составлено недостойным Амирасом Ерзнкаци // Ист.-филол. журн. 1988. № 4. С. 188-208.

Амирдовлат Амасиаци. Ненужное для неучей. М.: Наука, 1990. 880 с.

Амирян Ш.О. История открытия и изученности золоторудного оруденения на территории Республики Армения // Изв. НАН РА. Науки о Земле. 2007. № 1. С. 49-52.

Аноним¹³. Описание месторождений минералов, открытых в Кавказском крае с 1799 по 1848 год // Горн. журнал. 1851. Кн. 1. С. 91-98; Кн. 2. С. 241-256.

Аракелян Б.Н. Значение камня в экономике и культуре древней и средневековой Армении // Учредительное собрание Международной комиссии по истории геологических наук и Симпозиум по проблеме древнейшего этапа развития горно-геологических знаний в Армении. Тезисы докладов. Ереван: Изд-во АН АрмССР, 1967. С. 50-51.

Аракелян Р.А., Асратян В.П., Багдасарян Г.П., Ванцян Г.М., Гулян Э.Х., Долуханова Н.И., Малхасян Э.Г., Мкртчян С.С., Пиджян Г.О., Хачатурян Э.А., Цамерян П.П. Развитие геологических знаний и расширение минерально-сырьевой базы Армянской ССР за годы советской власти // Изв. АН АрмССР. Науки о Земле. 1967. № 5/6. С. 3-21.

Аракелян Б.Н. История применения камня и его значение в экономике и культуре армянского народа // История геологии. Ереван: Изд-во АН АрмССР, 1970. С. 173-183.

Аракелян Ф.О. Исследование раскопок античных сооружений на Керченском полуострове для оценки интенсивности разрушительных землетрясений. // Изв. АН АрмССР. Науки о Земле. 1983. № 4. С. 40-49.

Арзуманян А.М. К вопросу о развитии геологической науки в Советской Армении (Из истории творческого содружества армянских и русских ученых) // Из истории естествознания и техники. Т. 2. Ереван: Изд-во АН АрмССР, 1962. С. 254-277.

Арзуманян С.К., Малхасян Э.Г. История тектонического изучения Араратской нефтегазоносной впадины // Материалы IV Двустороннего симпозиума по истории геологических наук (29 сент. 1986 г., Баку). Баку, 1986. С. 15-16.; То же на нем. яз.: Geol.wiss. Bd. 27. S. 75-78.

Арсенян Г.М., Бартикян П.М., Вартанян А.С., Гаспарян М.Г., Гулян Э.Х., Хачатрян Н.С. Благотворное влияние науки и техники на развитие горного дела и геологической мысли в Армении // Изв. АН АрмССР. Науки о Земле. 1979. № 1. С. 33-40.

Арутюнян Р.А. Катастрофическое извержение вулкана Арарат 2 июля 1840 г. // Изв. НАН РА. Науки о Земле. 2005. № 1. С. 27-35.

Асланян А.А. Французская экспедиция 1952 г. на вершину Большого Арарата // Изв. АН АрмССР. Науки о Земле. 1978. № 4.

¹³«Предлагаемая статья, или вернее книга, составлена одним трудолюбивым чиновником по официальным бумагам» [газета «Кавказ»].

Аслабян А.Т. Успехи геологической изученности рудных месторождений Армении за 40 лет // Гидрометаллургическая промышленность Армении за сороклетие. Ереван: Изд. Кавказского науч.-техн. об-ва цветной металлургии СССР, 1959. С. 7-33.

Аслабян А.Т., Сардарян С.А. Культура камня в антропогене Армении и геологическое значение археологических памятников // История геологии. Ереван: Изд-во АН АрмССР, 1970. С. 149-154.

Аслабян А.Т., Вартамян А.С., Геворкян Р.Г. Геология Армянского нагорья в трудах немецких и советских исследователей // Zur Geschichte deutsch-sowjetischer Beziehungen auf dem Gebiet der Berlin. 1975. S. 7; То же на нем. яз.: Z. geol. Wiss. 1976. N 2. S. 273-276.

Аслабян А.Т. Институту геологических наук АН Армянской ССР 50 лет // Изв. АН АрмССР. Науки о Земле. 1985. № 5. С. 3-19.

Аслабян А.Т., Геворкян Р.Г. К истории геотектонического районирования территории Армении // Материалы 4-го Двустороннего (СССР-ГДР) симпозиума по истории геологических наук (29 сентября - 4 октября 1986 г., Баку). Баку, 1986. С. 14-15.

Аслабян А.Т., Каграманов Ю.Р. История геологоразведочных работ на нефть и газ в Армянской ССР // Там же. С. 13-14.

Асратян В.П. Развитие геологии в Ереванском государственном университете // Изв. АН АрмССР. Науки о Земле. 1972. № 5. С. 13-22.

Багдасарян Г.П. Успехи петрографических исследований Армянской ССР (1920-1960) // Из истории естествознания и техники. Ереван: Изд-во АН АрмССР, 1962. С. 278-299.

Бадалян С.В., Баграмян А.Х., Оганесян Ш.С., Пирузян С.А. Основные черты развития геофизических исследований Армянской ССР // Тез. докладов II Двустороннего симпозиума (СССР-ГДР) по истории геологических наук. Ереван: Изд-во АН АрмССР, 1979. С. 35-36.

Батюшкова И.В. Региональные геологические исследования территории России. Кавказ // История естествознания в России. Т. 3. Геол., геогр. и биол. науки. М.: Изд-во АН СССР, 1964. С. 32-34.

Батюшкова И.В. Из истории изучения землетрясений Кавказа (досоветский период) // Тез. докладов IV Закавказской конференции по истории науки. Ереван: Изд-во АН Арм ССР, 1972. С. 67.

Бируни. Собрание сведений для познания драгоценностей (минералогия) / пер. А.М. Беленицкого. М.: Изд-во АН СССР, 1963. С. 172, 182.

Брик Э.Ю. Араратская экспедиция Ф. Паррота // Вопросы ист. естеств. и техники. 1971. Вып. 34. С. 52-55.

Броневский С.М. Новейшие географические и исторические известия о Кавказе. Ч. I. М.: тип. С. Селивановского, 1823. 385 с.

Вагнер М. О землетрясении на Арарате 20-го июля (2-го июля) 1840 года [извлечение из письма академику Брандту] / перев. В. Ерофеев // Горн. журнал. 1843. № 11. С. 135-161.

Вартамян А.С., Казанчян Т. Металлургия серебра в древней Армении // Промышленность Армении. 1966. № 10.

Вартамян А.С. Об источниках по истории геологии Армении (Реферат) // Изв. АН АрмССР. Науки о Земле. 1970. № 6. С. 89-90.

Вартамян А.С. Русско-армянские геологические связи в XIX и в начале XX вв. // Изв. АН АрмССР. Науки о Земле. 1971. № 5. С. 92-93.

Вартанян А.С. Периодизация истории геологии Армении и развитие геологии в Советской Армении. Автореф. дисс. на соиск. уч. степ. канд. геол.-минерал. наук. Ереван: Изд. Ерев. гос. ун-та, 1973. 40 с.

Воскобойников Н.И. Описание горы, содержащей в себе каменную соль, в Армянской области, в бывшей Эриванской провинции // Горн. журнал. 1828. Кн. 12. С. 3-16.

Воскобойников Н.И. О дарачичакских рудниках и об углекислых источниках, близ оных находящихся // Горн. журнал. 1830а. Кн. 3. С. 317-331.

Воскобойников Н.И. Описание источников каменной соли, находящихся Карском пашалыке и существующего там Кануманского соляного источника // Тифлиские ведомости. 1830б. №№ 21, 23.

Воскобойников Н.И. Описание месторождения Нахичеванской каменной соли // Горн. журнал. 1830в. Кн. 3. С. 380-426.

Воскобойников Н.И. Описание месторождения каменной соли в Карском, принадлежащем Турецкой Империи, пашалыке // Горн. журнал. 1832. Кн. 7. С. 96-111.

Воскобойников Н.И. Рапорт генералу Головину от 25 ноября 1840 года, № 120 // Акты, собранные Кавказской археографической комиссией. Т. 9. Тифлис: Тип. Гл. управл. Наместника Кавказского, 1884. С. 580-584.

Габриелян А.А. Итоги изучения геологии Армении за 40 лет и очередные задачи // Науч. тр. Ереванского гос. ун-та. Сер. геол. наук. 1961. Т. 75. Вып. 4. С. 3-26.

Габриелян А.А. Геология Армении за 50 лет (Итоги изучения и очередные задачи) // Изв. АН АрмССР. Науки о Земле. 1970. № 5. С. 3-19.

Габриелян А.А. Развитие геологических наук в Армянской ССР за 60 лет // Изв. АН АрмССР. Науки о Земле. 1983. № 3. С. 3-22.

Габриелян Г.К. История геоморфологических исследований // Геология Армянской ССР. Геоморфология. Т. 1. Ереван: Изд-во АН АрмССР, 1962.

Ганин Ж.И. Первое восхождение на Большой Арарат // Тез. докладов Двустороннего симпозиума (СССР-ГДР) по истории геологических наук. Ереван: Изд-во АН АрмССР, 1979. С. 26-27.

Ганин Ж.И. Первая Араратская экспедиция (к 150-летию) // Изв. АН АрмССР. Науки о Земле. 1980. № 2. С. 63-69.
Гаспарян Л.А., Арутюнян М.К., Тер-Саргсян О.О. К истории развития металлургии и литейного производства в древней Армении // Тез. докладов XVII научно-технич. конференции проф.-препод. состава ЕрПИ. 1970.

Гаспарян Л.А., Епископосян М. Колыбель древнейшей истории // Наука и техника. 185. № 8. С. 19-23 (на арм. яз.).

Геворкян А.Ц. Древнейшие этапы металлургии меди Армянского нагорья // Вопросы геологии четвертичного периода Армении. Ереван: Изд-во АН АрмССР, 1983. С. 113-116.

Геворкян Р.Г. Изоморфные ряды Арцруни // Тез. докладов Международного симпозиума «История учения о месторождениях полезных ископаемых. Фрайберг, 1970. С. 19-20.

Геворкян Р.Г. Армянские обсидианы на древнем рынке неолитической эпохи // Тез. Докладов IV Закавказской конференции по истории науки. Ереван: Изд-во АН АрмССР. 1972. С. 69.

Гельмерсен Г.П. О землетрясении в Армении и обвале горы Арарат // СПб. ведомости. 1840. № 267.

Герасимов А.П. История исследований // Геология СССР. Т. 10. Закавказье. Ч. 1. [б. м.], Госиздат, 1941 С. 15-25.

Головин Е.А. Рапорт гр. Чернышеву от 27-го июня 1840 года, № 2 // Акты, собранные Кавказской археографической комиссией. Т. 9. Тифлис: Тип. Гл. управл. Наместника Кавказского, 1884. С. 580.

Гулян В.Г. К истории соляных промыслов Восточной Армении (III четверть XIX века) // Изв. АН АрмССР. 1985. № 4. С. 66-69.

Гулян Э.Х., Матевосян А.Ш. Геология Армении в 20-ом веке. 75-летие геологии Армении // Экономика. 1965. № 4-6. С. 24-36.

Гулян Э.Х. Развитие минерально-сырьевой базы Армянской ССР. К 50-летию Великого Октября // Разведка и охрана недр. 1967. № 12. С. 16-21.

Гюльденштедт И.А. Путешествие по Кавказу в 1770-1773 гг. СПб.: Петербургское востоковедение, 2002. 512 с.
Демехин А.П. О находке обсидиановых орудий палеонтологического типа в Армении // Вопросы геологии и гидрогеологии Армянской ССР. Ереван: изд-во АН АрмССР, 1956. С. 11-13.

Джанелидзе Т.В., Малхасян Э.Г. Исследователи минерального сырья // Промышленность Армении. 1981. № 1. С. 43-44.

Дюбуа де Монпере Ф. Письмо о главных геологических явлениях в Кавказе и Крыму, адресованное к г. Эли-де-Бомону. Париж, 9 мая 1837 г. // Горн. журнал. 1838. Кн. 3. С. 345-394.

Дюбуа де Монпере Ф. Путешествие вокруг Кавказа по Черкессии, Абхазии, Мингрелии, Грузии, Армении и Крыму // Библиотека для чтения. 1839. Т. XXXV, XXXVI; 1840. Т. XXXIX.

Еремян С.Т. Земля по Анания Ширакаци // Наука и техника. 1984. №1. С. 32-33.
Залибекян М.А. Золото древней Армении // Изв. АН АрмССР. Науки о Земле. 1993. № 1. С. 68-72.

Иванов А.П. Из истории металлургии меди // Цветные металлы. 1937. № 11. С. 44-55.
История геологии. Ереван: Изд-во АН АрмССР, 1970. 363 с.

Карапетян Б.К. Инженерная сейсмология. Наука Армении за 50 лет. Ереван: Изд-во АН АрмССР, 1973 (на арм. яз.).

Карапетян Г.А., Малхасян Э.Г. Уэйджер - лауреат премии им. Л. Спендиарова 1948 г. // Зап. Арм. отд ВМО. Вып. 6. Магматизм и оруденение Армянской ССР. Ереван: Изд. АН АрмССР, 1974. С. 148-149.

Карапетян Г.А., Малхасян Э.Г. Исследование русских геологов в Армении в XIX веке. История естествознания и техники в Армении // Мир науки. Т. 8. Ереван: Изд-во АН АрмССР, 1987. С. 81-89.

Карапетян Д. Труд Овасапа Себастанци по естествознанию (на арм. яз.) // Вестник общественных наук НАН АССР. 1982. № 2. С. 66-74.

Карапетян К.И. О зарождении знаний геологического характера (на примере каменного века территории Армянской ССР) // Вопросы геологии четвертичного периода Армении. Ереван: Изд-во АН АрмССР, 1983. С. 75-84.

Карапетян К.И. Об истоках геологических знаний (на примере палеолита Армянской ССР) // Тез. докладов VI Закавказской научной конференции историков науки. Тбилиси: Мецниереба, 1987. С. 45.

Кашкай М.А. Периодизация в истории разработок минерального сырья и развитии геолого-минералогических наук на Кавказе и в Азербайджане // Тез. докладов Второй Закавказской научной конференции по истории и теории науки, посвященной 50-летию Великой Октябрьской Социалистической Революции 16-20 мая 1967 г. Баку: Изд-во АН АзербССР, 1967.

Кочарян А.Е. Институту геологических наук 40 лет // Изв. АН АрмССР. Науки о Земле. 1975. № 6. С. 3-16.

Кятиб Челеби. Джихан-Нюма. Раздел 41. [URL](#)

Магакьян И.Г. Развитие металлогенических исследований в Институте геологических наук АН АрмССР // Изв. АН АрмССР. Науки о Земле. 1975. № 6. С. 17-22.

Мадатян Э.М. К истории разработки Зодского золоторудного месторождения // Изв. АН АрмССР. Науки о Земле. 1965. № 3/4. С. 127-137.

Мадатян Э.М. Рукописи из глубины веков // Гитутюн ев техника. 1984. № 7. С. 26-28 (на арм. яз.).

Мадатян Э.М. Разработка золотоносных россыпей на территории Армянской ССР в древности. «История естествознания и техники в Армении» // Мир Науки. 1987. № 8. С. 90-102.

Мадатян Э.М., Малхасян Э.Г. Геолого-археологические исследования как метод поисков рудных месторождений // Тез. докладов Всес. семинара «Древнейшие этапы развития горно-геологических знаний в Средней Азии» (21-24 окт. 1991 г., г. Душанбе). Душанбе: Дониш, 1991. С. 6.

Максимов М.М. Серебро античной Армении // Геология рудных месторождений 1985. № 6. С. 109-114.

Малхасян Э.Г. Международный форум ученых по истории геологии // Изв. АН АрмССР. Науки о Земле. 1967. № 5-6. С. 197-198.

Малхасян Э.Г., Ростомова Э.И. Роль классиков петрографической науки в изучении магматизма Армении // Вопросы истории науки. Ереван: Изд-во АН АрмССР. 1967. С. 267-270.

Малхасян Э.Г. Герман Аби́х и геология Армении // Тр. IV Закавказской конференции по истории науки, посвященной 50-летию образования СССР. Ереван, 3-7 октября, 1972. Ереван, Изд-во АН АрмССР, 1974. С. 340-344.

Малхасян Э.Г., Карапетян Г.А. Х.Р. Винни-Эдвардс - лауреат премии имени Л.А. Спендиарова // Изв. АН АрмССР. Науки о Земле. 1974. № 2. С. 109-110.

Малхасян Э.Г. Развитие взглядов о происхождении вулканов Малого Кавказа // Тез. докладов 5-й Закавказской конференции по истории наук. Баку: Элм, 1977. С. 66.

Малхасян Э.Г., Карапетян Г.А. Естественнонаучные воззрения средневекового армянского ученого Анания Ширакаци // Методология и история геологических наук. М.: Наука, 1977. С. 157-161.

Малхасян Э.Г. Г. Аби́х и геологическое картирование Армении. М.: Наука, 1982. С. 38-44 (Очерки по истории геол. знаний; Вып. 21); То же на англ. яз.: Budapest: Publ. Housofthe Hung. acad. ofsci., 1984. P. 363-367.

Малхасян Э.Г. Библиография по истории геологических наук Армении (1900-2000). Sydney: Univ. Of New South Wales, 2000. 23 + 4 p.

Маноян В.М. Зачатки геологических знаний у доисторического человека // Тез. докладов III Закавказской конференции историков. Тбилиси: Изд-во АН ГрузССР. 1969. С. 173.

Маноян В.М. Земля по представлениям обитателей Армянского нагорья древних армян // Тез. докладов IV Закавказской конференции по истории науки. Ереван: Изд-во АН АрмССР, 1972. С. 74.

Маноян В.М. Представления о строении Земли на территории древней Армении // Труды IV Закавказской конференции по истории науки, посвященной 50-летию образования СССР. Ереван, 3-7 октября, 1972. Ереван, Изд-во АН АрмССР, 1974. С. 345-354.

Маноян В.М. Элементы представлений о внутреннем строении Земли обитателей Армянского нагорья (по материалам фольклора // Вестн. общественных наук АН АрмССР. 1974. № 1. С. 68-74.

Маноян В.М. Вода как геогеническое вещество (попытка восстановления древнеармянских представлений // Изв. АН АрмССР. Науки о Земле. 1976. № 5. С. 47-57.

Маноян В.М. Геогенические воззрения древних армян // Тез. докладов V Закавказской конференции по истории науки. Баку: Элм, 1977. С. 65.

Маноян В.М. Субстративистские воззрения армянских мыслителей V-VII вв. // Методология и история геологических наук. М.: Наука, 1977. С. 147-157.

Маноян В.М. Геогеническое вещество или первовещество мира раннесредневековой Армянской натурфилософии. История естествознания и техники в Армении // Мир науки. 1987. № 8. С. 11-12.

Маноян В.М. Геологические представления Иоанна Воротнеци // Тез. Докладов VI Закавказской научной конференции историков науки. Тбилиси: Мецниереба, 1987. С. 59.

Мелконян В.А. История развития металлургии меди в Армении // Труды IV Закавказской конференции по истории науки, посвященной 50-летию образования СССР. Ереван, 3-7 октября, 1972. Ереван, Изд-во АН АрмССР, 1974. С. 361-365.

Мелкумян Б.Г. Состояние горно-заводской промышленности в Армении после 1917 г. до установления Советской власти (1917-1920) // Изв. АН АрмССР. Науки о Земле. 1965. № 3-4. С. 148-151.

Мелкумян Б.Г. Об истории изучения минеральных источников Арзни // Изв. АН АрмССР. Науки о Земле. 1968. № 1-2. С. 188-200.

Мелкумян Б.Г. К вопросу об истории открытия рудных месторождений в Зангезуре // Изв. АН АрмССР. Науки о Земле. 1972. № 2. С. 88-91.

Месропян А.И., Тигранян С.Т., Демехин А.П. История развития горного дела в Армении до XIX столетия. (Рукопись). Б. г. 20 с.

Мкртчян К.А., Барсегян Л.А., Оганесян Дж.А., Арутюнян А.Р., Айвазян С.М. Древнейшее горно-металлургическое сооружение Мецамора (Армения) // Изв. АН АрмССР. Науки о Земле. 1964. № 2. С. 69-74.

Мкртчян К.А., Айвазян С.М. Еще раз о Мецаморском горно-металлургическом сооружении // Изв. АН АрмССР. Науки о Земле. 1964. № 5. С. 59-64.

Мкртчян, К. А., Айвазян, С. М. К вопросу о сырьевой базе и системе плавки на Мецаморе // Изв. АН АрмССР. Науки о Земле. 1964. № 6. С. 73-82.

Мкртчян К.А., Ханзадян Э.В. Металлургия и горно-рудное дело древней Армении // Учредительное собрание Международной комиссии по истории геологических наук и Симпозиум по проблеме древнейшего этапа развития горно-геологических знаний в Армении. Тез. докладов. Ереван: Изд-во АН АрмССР, 1967. С. 52-54.

Мкртчян К.А., Айвазян С.М. Мецаморское древнейшее горно-металлургическое сооружение // Вопросы истории науки. Ереван: Изд-во АН АрмССР, 1967. С. 248-253.

Мкртчян С.С. Успехи науки в исследовании геологического строения и минеральных богатств Армении // Изв. АН АрмССР. Геол. и геогр. науки. 1957. № 4. С. 3-12.

Мкртчян С.С., Месропян А.И. К истории развития геологических исследований в Армении за советский период // Из истории естествознания и техники. Сб науч. трудов I. Ереван: Изд-во АН АрмССР, 1960. С. 179-193.

Мкртчян С.С. Научная деятельность Института геологических наук за 25 лет // Тр. ИГН. Ереван: Изд-во АН АрмССР, 1963. С. 5-19.

Мкртчян С.С., Малхасян Э.Г. История развития генетических представлений о медноколчеданных месторождениях Армении // История естествознания и техники в Армении. Вып. :6. Ереван: Изд-во АН АрмССР, 1967. С. 194-200.

Мкртчян С.С., Паффенгольц К.Н., Малхасян Э.Г. Развитие геологических знаний в Армении // История геологии. Ереван: Изд-во АН Арм ССР, 1970. С. 244-257.

Мовсесян С.А., Карамян К.А. Ценный вклад в историю изучения рудных месторождений в СССР // Изв. АН АрмССР. Науки о Земле. 1972. № 2. С. 88-91.

Назаретян Д.Р. О вкладе русских ученых и путешественников в изучение природы Армянского нагорья // Изв. АН АрмССР. Науки о Земле. 1978. № 3. С. 55-62.

Наука в Советской Армении за 50 лет. 1920-1970. Библиография. Т. 3. Геология. География. Ереван: Изд-во АН АрмССР, 1974. 470 с.

Никонов А.А., Асланян И.И. Ереванское землетрясение 1679 г. // Природа. 1991. № 10. Ч. 91-95.

Патканов К.П. Драгоценные камни, их названия и свойства по понятиям армян в XVII веке. СПб: Тип. ИАН, 1873. 135 с.

Патканян К.П. Драгоценные камни, их названия и свойства по понятиям армян в XVII веке. 2-е изд. Ереван: Изд-во АН АрмССР, 1979. 74 с.

Паффенгольц К.Н. Успехи геологии Советской Армении за 20 лет. Науч. сб., посвященный XX-летию Советской власти в Армении. Ереван: Изд-во ФАН СССР, 1941. С. 362-367.

Паффенгольц К.Н. История геологических исследований Малого Кавказа (досоветский период) // Вопросы истории науки. Ереван: Изд-во АН АрмССР. 1967. С. 258-262.

Паффенгольц К.Н. История геологического изучения Кавказа, его металлогения и задачи дальнейших исследований // Изв. АН АрмССР. Науки о Земле. 1973. № 1. С. 25-41; То же: Тр. ВСЕГЕИ. 1975. Т. 234. С. 38-47.

Петросян Г.Б. Развитие естествознания в Армении // Вопр. ист. естеств. и техники. 1964. Вып. 17. С. 61-60.

Петросян Г.Б. История естествознания и техники // Наука в Армении за 50 лет. Ереван: Изд-во АН АрмССР, 1973. С. 252-262.

Положение о премии имени геолога Леонида Афанасьевича Спендиарова // Изв. Геолкома. 1900. Т. XIX. С. 55-56.

Ренгартен В.П. Исследования закавказских геологов в конце XIX и начале XX века // Очерки по истории геологических знаний. 1956. Вып. 1. С. 77-94.

Саакян П.С. Металлогенические исследования в Армянской ССР за 40 лет // Изв. АН АрмССР. Сер. геол. и геогр. наук. 1960. № 6, С. 31-50.

Саркис из Алеппо. Рукопись о драгоценных камнях // Аракел Даврижеци. Книга историй. Гл. 53 / пер. Л.А. Ханларян. М., 1973.

Сейранян В.Б. Аметист - древнейший самоцвет // Промышленность Армении. 1981а. № 9. С. 16-18.

Сейранян В.Б. Золотистый камень моря // Там же. 1981б. № 6. С. 73-77.

Сейранян В.Б. Цветные камни Армении // Там же. 1981в. № 9. С. 67-69.

Сейранян В.Б. К истории «арминакуна» // Изв. АН АрмССР. Науки о Земле. 1982а. № 3. С. 47-52.

Сейранян В.Б. Легенды и быль о бирюзе // Советакан Айастан . 1982б. № 7. 20-21.

- Сейранян В.Б. Армянский камень // Советакан Айастан. 1983а. № 3. С. 27-28.
- Сейранян В.Б. Легенда и быль о голубом камне // Наука и жизнь. 1983б. № 7. С. 33-36.
- Сейранян В.Б. Мраморный оникс - прошлое и настоящее // Промышленность Армении. 1983в. № 10. С. 74-76.
- Сейранян В.Б. Палитра халцедонов // Советакан Айастан. 1984. № 1. С. 12.
- Сейранян В.Б. Цветные камни исторической Армении // Советакан Айастан. 1984. № 8. С. 28-29.
- Сейранян В.Б. Гранаты армянских гор // Советакан Айастан. 1985а. № 2. С. 36.
- Сейранян В.Б. Дивный камень - мраморный оникс /Наука и жизнь. 1985б. № 6. С. 60-62.
- Сейранян В.Б. Деревья-самоцветы // Промышленность Армении. 1986а. № 1. С. 77.
- Сейранян В.Б. Полезные ископаемые древней Армении // Советакан Айастан. 1986б. № 6. С. 31-32.
- Сейранян В.Б. Рудные богатства древней Армении // Советакан Айастан. 1986в. № 3. С. 31-32.
- Сейранян В.Б. Армянские самоцветы. Ереван: Айастан, 1987. 76 с.
- Сейранян В.Б. Секреты истории армянского камня // Советская Армения. 1988. № 7. С. 31-32.
- Сейранян В.Б. Сердолик // Гарун. 1990. № 7. С. 32-34.
- Сейранян В.Б. Камень сард - о прошлом память // Наука и жизнь. 1991а. № 7. С. 70-72.
- Сейранян В.Б. «Счастливые камни» // Гарун. 1991б. № 7. С. 85.
- Сейранян В.Б. Агаты Армении: прошлое и настоящее // Мир камня. 1996. № 9. С. 11-14.
- Сейранян В.Б. Гелиотроп и его новые находки в Армении // Мир камня. 1997. № 12. С. 38-39.
- Сейранян В.Б. Бусы древних // Ювелирный мир. 1998. № 1. С. 68-69.
- Сейранян В.Б. Легенды и были о самоцветах. М.: ООО «Макцентр», 2000. 96 с.
- Сейранян В.Б. История материальной культуры обсидиана Армянского нагорья (с древнейших времен) // Научно-практическая конференция, посвященная 30-летию Музея «Самоцветы» (13-15 октября 2003 г.). М.: [б. м. и.]. 2003. С. 19-20.
- Сейранян В.Б. История изучения и использования камнесамоцветного минерального сырья на территории Армянского нагорья (с древнейших времен до начала XX века). Автореф. дисс. на соиск. уч. степ. д-ра геол.-мин. наук. М.: Изд. дом «Форте Пресс», 2004. 53 с.
- Степанян В.А. Краткая хронология наиболее значительных землетрясений в исторической Армении и прилегающих районах // Закавказская конференция по антисейсмическому строительству. Ереван, 1942. С. 59-72.
- Супрычев В.А., Малхасян Э.Г. Представления о самоцветах в средневековой Армении (Лекция по геммологическим исследованиям). Ереван: Айастан, 1984. 54 с.
- Татевосян Л.К., Авчян Г.М. История развития геофизических исследований и геологическое картирование территории Армянской ССР // История геологической картографии. М.: Наука, 1982. С. 248-258 (Очерки по истории геол. знаний; Вып. 21).

Тигранян С.Т. История развития горного дела в Армении в XIX веке (Сводный отчет Кабинета истории геологии Института геологических наук АрмССР). Рукопись. Ереван, 1953.

Тигранян С.Т. Новые сведения о горном деле в Армянской ССР // Тр. ИИЕиТ АН СССР. Т. 3. М.: Изд-во АН СССР, 1955. С. 170-175.

Тигранян С.Т. О деятельности комиссии по истории естествознания и техники при Президиуме Академии наук Армянской ССР // Вопр. истории естеств. и техники. 1959. Вып. 7. С. 191-192.

Тигранян С.Т. Международный геологический конгресс и премия имени Л.А. Спендиарова // Учредительное собрание Международной комиссии по истории геологических наук и Симпозиум по проблеме древнейшего этапа развития горно-геологических знаний в Армении. Тез. докладов. Ереван: Изд-во АН АрмССР, 1967. С. 67-68.

Тихомиров В.В. Первые русские геологи в Закавказье // Вопросы петрографии и минералогии. Ереван: Изд-во АН АрмССР, 1953. С. 485-499.

Трифонов В.Г., Караханян А.С. Геодинамика и история цивилизаций / Ред. Ю.Г. Леонов. М.: Наука, 2004. 668 с. (Тр. ГИН РАН. Вып. 553).

Тунян А.Г. К истории соляных промыслов Восточной Армении // Изв. АН АрмССР. Науки о Земле. 1985. № 4. С. 66-69.

Учредительное собрание Международной комиссии по истории геологических наук и Симпозиум по проблеме древнейшего этапа развития горно-геологических знаний в Армении. Тезисы докладов. Ереван: Изд-во АН АрмССР, 1967. 73 с.

Ханзаян Э.В. О древней металлургии Армянского нагорья и городища Мецамор // Вопросы геологии четвертичного периода. Ереван: Изд-во АН АрмССР, 1983. С. 106-112.

Хачатрян А. Свидетельство древних историков золоторудных месторождений об их местах // Изв. Гос. Ун-та Армении. 1925. № 1.

Хачатурян Э.А. Рудные месторождения и вопросы металлогении Армянской ССР // Тез. докладов Первой Закавказской конференции по истории науки 7-11 окт. 1965 г. Ереван: Изд-во АН АрмССР, 1965. С. 72-73.

Хачикян Л.С. Армянская естественнонаучная мысль в XIV-XVIII вв. // Ист.-филол. журнал. 1971. № 2. С. 23-44.

Хомизури Г.П. История зарождения геологических знаний в Армении // Изв. НАН РА. Науки о Земле. 2016. № 2. С. 75-85.

Хрлопян Г. Философ, математик, астроном, географ (Анания Ширакаци) // Промышленность Армении. 1966. № 11.

Чалоян В. К. Естественно-научные воззрения Иоанна Ерзынкаци (XIII в.) // История естествознания и техники в Армении. 1960. № 1. С.40-49.

Ширакаци А. Космография. Ереван: Изд-во АН АрмССР, 1963.

Ширакаци А. Слово Анания Ширакаци о том, как представляют себе философы вращение небес // А. Ширакаци. Космография. Ереван: Изд-во АН АрмССР, 1963. С. 100-107.

Шлегельмильх А.К. Минералогическое обозрение северо-восточной части Памбакских гор // Умозрительные исследования Императорской Санкт-Петербургской Академии наук. 1815. Т. IV. С. 369-381.

Шостак М.А. Исторический очерк развития горного дела на Кавказе. 1801 - 1901 гг. Тифлис: Тип. Штаба Кавказского Военного Округа, 1901. 146 с.

Эвлия Челеби. Книга путешествия (Извлечения из сочинения турецкого путешественника XVII века). Перевод и комментарии. Вып. 3. Земли Закавказья и сопредельных областей Малой Азии и Ирана. М.: Наука, 1983. 376 с. (Памятники литературы народов Востока. Переводы; Т. VI).

Эсадзе С. Очерк истории горного дела на Кавказе. 1. Деятельность графа Мусина-Пушкина и князя Цицианова при введении горного производства в Грузии. Составил Спиридон Эсадзе. Тифлис, 1903.

40 лет геологической службы АрмССР. Ереван: Госиздат, 1961. 196 с.

Abich H. Geognostische Wanderungen durch den Kaukasus und zum Ararat, speciell die geologische Skizze der vulkanischen Plateauflächen des unteren Kaukasus // Monatsber. Ges. Erdkunde. Berlin. 1841. Bd. 4. S. 143-164.

Abich H. Über die geologische Natur des armenischen Hochlandes. Dorpat: H. Laakmann, 1843. 68 S. : Kart.

Abich H. Sur les ruines d'Ani // Bull. Acad. sci. St.-Ptb. Cl. hist.-phil. 1845. T. 2. N 24. P. 369-372.

Abich H. Über die Natronseen auf der Araxes-Ebene // J. prakt. Chemie. 1846. Bd. 38. S. 4-11. Idem /// Bull. Acad. sci. St.-Ptb. Cl. phys.-math. 1847. T. 5. N 7/8. Col. 116-125.

Abich H. Notices sur les lacs salés de la plaine d'Araxea // Rev. sci. ent., indust. Sér. 2. 1847. T. 13. P. 305-309.

Abich H. Die Besteigung des Ararat am 29. Juli 1845 // Beiträge Kenntniss Russischen Reiches. Bd.13. 1849. S. 41-72.

Abich H. Über die Soda der Araxec-Ebene in Armenien // Bull. Acad. sci. St.-Ptb. Cl. phys.-math. 1850. T. 8. N 21. Col. 333-336.

Abich H. Hauteurs absolues du système de l'Ararat // Bull. Soc. géogr. France. 1851. Vol. 1. P. 66-73.

Abich H. Notice explicative d'une vue du cône de l'Ararat // Idem. P. 515-525.

Abich H. Observations sur le mont Ararat // Bull. Soc. géol. France. 1851. Vol. 8. P. 265-271.

Abich H. Über das Steinsalz und seine geologische Stellung im Russischen Armenien. Paläontologischer Teil // Mém. Acad. sci. St.-Ptb. Sér. 6. Mathém., phys.. 1858. T. 12. P. 58-150.

Abich H. Vergleichende geologische Grundzüge der Kaukasischen, Armenischen und Nordpersischen Gebirge als Prodrömus einer Geologie der Kaukasischen Länder // Mém. Acad. sci. St.-Ptb. Sér. 6. Mathém., phys. 1859. T. 7 (9). P. 359-534.

Abich H. On fulgurites in the andesite of the Lesser Ararat and on the influence of local agents on the production of thunderstorms // Phil. Mag. 1869. Vol. 38. July-Dec. P. 436-440.

Abich H. Der Ararat, in genetischer Beziehung betrachtet // Z. dtsh. geol. Ges. 1870. Bd. 22. S. 69-91.

Abich H. Über den Ararat // Tageblatt Vers. dtsh. Naturforsch., Ärzte. 1872. S. 135-136.

Abich H. Geologische Forschungen in den Kaukasischen Ländern. Th. 1-3. Wien: A. Hölder, 1878-1887. Th. 1. Eine Bergkalkfauna aus der Araxusenge bei Djoulfa in Armenien. 1878. VII, 126 S.; Th. 2. Geologie des Armenischen Hochlandes: Westhälfte. 1882. 472 S. Th. 3. Geologie des Armenischen Hochlandes: Osthälfte. 1887. XII, 462 S.

Du Bois de Montpereux F. Voyage autour du Gaucase, chez les Tcherkesses et les Abkhases, en Colchide, en Georgie, en Armenie et en Crimée. E. 1-6. Paris, 1839-1843.

Güldenstädt J.A. Reisen durch Russland und im Kaukasischen Gebürg von P.-S. Pallas. Russisch-Kayserlichen Akademie der Wissenschaften. Bd. 1. 1787. Bd. 2. 1791.

Jrbashyan R.T., Khomizuri G.P., Harutyanyan A.E. The Origin and Development of the geological thought in Armenia. Yerevan: 2017. 87 p

Karakhanian A., Abgaryan Ye. Evidence of historical seismicity and volcanism in the Armenian High land (from Armenian and other sources). // *Annals of geophysics*.2004. № 2/3.P. 793-809.

Khanlaryan, L. New Chronology Dedicated to Earthquakes // *Lraber hasarakakan gitutiuneri*, Yerevan. 1983. № 10. P. 65-67 (in Armenian).

Parrot Fr. *Reise zum Ararat*. Th. 1. Berlin: Haude und Buchhandlung, 1834. 263 S.

Porter R.K. *Travels in Georgia, Persia, Armenia, Ancient Babylonia etc., etc. during the years 1817, 1818, 1819, 1820*. Vol. 1. London, Longman, Hurst, Rees, Orme and Brown. 1821.

AUSTRIA

Daniela Angetter-Pfeiffer, Austrian Academy of Sciences.

Chapters in books

Angetter, Daniela, Bernhard Hubmann, Johannes Seidl, Physicians and their contribution to the early history of earth sciences in Austria, in: *A History of Geology and Medicine*, ed. C. J. Duffin, R. T. J. Moody, C. Gardner-Thorpe (= Geological Society Special Publication 375), London 2013, S. 445-454.

Journal Articles

Angetter, Daniela, Steininger Fritz F., Seidl Johannes, *Zur Entwicklung der Paläontologie in Wien bis 1945* (= *Abhandlungen der Geologischen Bundesanstalt* 72), Gerin Druck GmbH Wien 2018.

Dictionary and Encyclopedia Entries

Angetter, Daniela, Hubmann Bernhard, Seidl Johannes, *Grazer Erdwissenschaftler/innen (1812-2016)*. Ein bibliographisches Handbuch (= *Scripta geo-historica* 6 *Grazer Schriften zur Geschichte der Erdwissenschaften*), Graz 2017.

Angetter, Daniela, Johannes Seidl, Ferdinand von Hochstetter (1829-1884) und Franz von Toula (1845-1920) - zwei österreichische Pioniere der geologischen Balkanforschung, in: *Deutsche und österreichische Forschungsreisen auf den Balkan und nach Nahost*, ed. Johannes Seidl, Ingrid Kästner, Jürgen Kiefer, Michael Kiehn, (= *Europäische Wissenschaftsbeziehungen* 13), 2017, S. 183-202.

Angetter, Daniela, Johannes Seidl, Ferdinand von Hochstetter (1829-1884) und Franz von Toula (1845-1920) - zwei österreichische Pioniere der geologischen Balkanforschung, in: *Deutsche und österreichische Forschungsreisen auf den Balkan und nach Nahost*, ed. Johannes Seidl, Ingrid Kästner, Jürgen Kiefer, Michael Kiehn, (= *Europäische Wissenschaftsbeziehungen* 13), 2017, S. 183-202.

Angetter, Daniela, *Geologische Exoten aus dem Institut Österreichisches Biographisches Lexikon*, in: *Wissenschaftshistorischer Workshop GeoGeschichte und Archiv* (= *Berichte der Geologischen Bundesanstalt* 89), Wien 2011, S. 6-11.

Angetter, Daniela, *Grazer Geologen im Kontext der Akademie der Wissenschaften in Wien*, in: *Die Anfänge geologischer Forschung in Österreich Beiträge zur Tagung „Zehn Jahre Arbeitsgruppe Geschichte der Erdwissenschaften*, Hg. Bernhard Hubmann, Elmar Schübl, Johannes Seidl, (= *Scripta geo-historica* 4 *Grazer Schriften zur Geschichte der Erdwissenschaften*), Graz 2010, S. 179-202.

Angetter, Daniela, *Geologische Aspekte in der Kriegführung des Ersten Weltkriegs*, in: *Jahrbuch der Geologischen Bundesanstalt* 149, H. 2+3 (= *Festschrift zum 66. Geburtstag von HR Dr. Tillfried Cernajsek*, Bibliotheksdirekt i.R. der Geologischen Bundesanstalt) Wien 2009, S. 291-300.

Angetter, Daniela, Joseph Grailich (1829-1859) und seine Anschauungsweise über den naturwissenschaftlichen Unterricht, in: Eduard Suess und die Entwicklung der Erdwissenschaften zwischen Biedermeier und Sezession, Hg. Johannes Seidl, (= Schriften des Archivs der Universität Wien 14), Wien, 2009, S. 245-253.

Angetter Daniela, Der Krieg in Fels und Eis. Das Entstehen der hochalpinen Front, in: „Die kahlen, kalten Berge...“ Der Erste Weltkrieg im Alpenraum, die Deutsche Gebirgstruppe und das Württembergische Gebirgsbataillon, bearb. Alexander Jordan, Begleitband zur Sonderausstellung 21. Oktober 2017 bis 15. April 2018 im Wehrgeschichtlichen Museum Rastatt (= Katalog 13 aus der Reihe Studiensammlungen und Sonderausstellungen im Wehrgeschichtlichen Museum Rastatt, Bruchsal (Stork Druckerei GmbH), 2017, S. 62-83.

Angetter Daniela, Eduard Suess und die Präsidentschaft der kaiserlichen Akademie der Wissenschaften, in: Angetter Daniela, Wolfgang Raetus Gasche, Johannes Seidl (Hrsg.), Eduard Suess (1831-1914) Wiener Großbürger - Wissenschaftler - Politiker Zum 100. Todestag. Begleitheft zur gleichnamigen Ausstellung in der Volkshochschule Wien-Hietzing (22. Oktober 2014 bis 19. November 2014), Berichte der Geologischen Bundesanstalt 106, Wien 2014, S. 24-30.

Angetter, Daniela, Bernhard Hubmann, Johannes Seidl, (Eds). 2012. Physicians and their contribution to the early history of earth sciences in Austria, *Geological Society, London, Special Publications* v.375.

Angetter, Daniela. 1998. Il rifornimento sanitario dell' esercito k.u.k. nella Prima Guerra Mondiale. In: *Per non dimenticare. Luserna e gli Altipiani nella rima Guerra Mondiale*, p.120-128. Centro Documentazione Luserna, München: Dom Verlags GmbH.

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Journal Articles

Hamilton, Margret, Franz Pertlik, Die Salzminerale von Hall in Tirol und ihre Charakterisierung durch Rudolf Görgey von Gorgö und Toporc. Zur Kenntnis der Minerale von Hall in Tirol Ende es 19. Jahrhunderts. *Berichte der Geologischen Bundesanstalt* 65 (2005): 69-71.

Hamilton, Margret, Franz Pertlik. Die Salzminerale von Hall in Tirol und ihre Charakterisierung durch Rudolf Görgey von Gorgö und Toporc. *Geo.Alp, Sonderband 1* (2007): 45-52.

Hamilton, Margret. Die Alpenexkursion während des 9. Geologischen Kongresses in Wien im Jahre 1903 im Lichte der Feldtagebücher des Friedrich Johann Karl Becke (1855-1931). *Berichte der Geologischen Bundesanstalt* 107 (2014): 14-16.

Margret Hamilton & Franz Pertlik. Gerhard Hamilton (1917-1967). Sein Lebenswerk als Beitrag zur Charakterisierung „Anorganischer Nichterze“ Österreich. *Mitteilungen der ÖMG* 154 (2008): 59-67.

Andreas Ertl, Hamilton, Margret. Der Magnesit vom Eichberg bei Gloggnitz (Niederösterreich) und dessen Begleitminerale: Eine mineralogische Studie. In: *Mitteilungen der österreichischen Mineralogischen Gesellschaft* 154 (2008): 53-57.

Margret Hamilton & Franz Pertlik. Chronologische Dokumentation der zu Ehren von Friedrich Becke (1855-1931) benannten Lichtlinie. *Mitteilungen der österreichischen Mineralogischen Gesellschaft* (2016): 73-81.

Hamilton, Margret. Der Einfluss Friedrich Johann Karl Beckes auf die Entwicklung der Erdwissenschaften an der Universität in Wien. *Bibliotheken-Archive-Museen-Sammlungen. Beiträge des 10* (2010): 147-155.

Hamilton, Margret & Wolfgang Vettors, Amüsante Wissenschaftsgeschichte der Geologie. Wiener „Geopoesie“ vor mehr als 100 Jahren. *Berichte der Geologischen Bundesanstalt* 90 (2011).

Notizbücher von 1,25 Laufmeter. Die Aufzeichnungen von Friedrich Becke (1855-1931) - ein Überblick. *Berichte der Geologischen Bundesanstalt* 103. 12. *Tagung der österreichischen Arbeitsgruppe „Geschichte der Erdwissenschaften“* (2013): 17-23.

Hamilton, Margret & Franz Pertlik, Rudolf Görgey von Görgö und Toporc (1886-1915). Ein Pionier in der Erforschung mitteleuropäischer Salzlagerstätten. *Berichte der Geologischen Bundesanstalt* 101 (2013): 50-57.

Hamilton, Margret „Prodrous Crystallographiae de Crystallis improprie sic dictis commentarium“. Der Mediziner Moritz Anton Cappeller (1685-1769) mit der ersten kristallographischen Dokumentation in der Geschichte der Kristallographie. 14. Wissenschaftshistorische Tagung der österr. Arbeitsgruppe „Geschichte der Erdwissenschaften“. *Berichte der Geologischen Bundesanstalt* 113 (2015): 17-23.

Hamilton, Margret. Wieder entdeckte Zeugnisse der regen Forschertätigkeit des Mineralogen und Petrographen Friedrich (Johann Karl) Becke (1855-1931). *Mitteilungen der ÖMG* (1916): 61-72.

Hamilton, Margret. Die Notizbücher des Mineralogen und Petrographen Friedrich Becke 1855-1931. Der Weg von der praktischen Erkenntnis zur theoretischen Deutung. *Schriften des Archivs der Universität Wien* 23 (Hg. Kurt Mühlberger, Thomas Maisel und Johannes Seidl).

Hamilton, Margret, Friedrich Johann. 2009. Karl Becke als akademischer Lehrer an der Universität in Wien von 1898-1927. In: *Berichte der Geologischen Bundesanstalt Wien* 45: p.12-15.

Hamilton, Margret, & Franz Pertlik. Chronologische Dokumentation der im Hinblick auf die Gesteinskunde überwiegend historische verwendeten Termini „Molekularvolumen, Volumgesetz, Volumregel“. *Berichte der Geologischen Bundesanstalt* 118 (2016): 14-20.

Hamilton, Margret. Die ersten Doktorinnen an der Universität Wien in den Fächern Mineralogie und Mineralogie-Petrographie: Hilda Gerhart und Adelheid Schaschek (Kofler). In: *Berichte der Geologischen Bundesanstalt*, Band 123: Arbeitsgruppe der Österreichischen Geologischen Gesellschaft „Geschichte der Erdwissenschaften“, Jahrestagung (2017): 23-27.

Hamilton, Margret. & Franz Pertlik. Das Studienfach „Mineralogie und Petrographie“ an der k. k. Universität zu Wien. Eine Synopse der Alumnae und Alumni in den Studienjahren 1872-1918. *Berichte der Geologischen Bundesanstalt* 123: Arbeitsgruppe der Österreichischen Geologischen Gesellschaft „Geschichte der Erdwissenschaften“, Jahrestagung (2017): 30-40.

Hamilton, Margret. Exkursion der Radium Kommission nach St. Joachimsthal im Auftrag der kaiserlichen Akademie der Wissenschaften Wien. Friedrich Beckes Aufzeichnungen über die Besichtigung der Lagerstätte im Jahr 1904. *Mitteilungen der Österreichischen Mineralogischen Gesellschaft Band* 164 (2018): 127-139.

Hamilton, Margret. Exkursion der Radium Kommission nach St. Joachimsthal im Auftrag der kaiserlichen Akademie der Wissenschaften Wien. Friedrich Beckes Aufzeichnungen über die Besichtigung der Lagerstätte im Jahr 1904. *Berichte der Geologischen Bundesanstalt Band* 130 (2018): 17.

Hamilton, Margret. *Franz Pertlik*, Die akademischen Lehrer für die Studienfächer Mineralogie und Mineralogie-Petrographie an der Universität Wien von 1848-1918. In: *Berichte der Geologischen Bundesanstalt* 130. 17 & *Jahrestagung der Arbeitsgruppe „Geschichte der Erdwissenschaften“* (2018): 14-19.

Dictionary and Encyclopedia Entries

Hamilton, Margret. *Viktor Waltl*. Biographie im Österreichischen Biographischen Lexikon.

Conference Abstracts

Hamilton, Margret. Gerhard Hamilton (1917-1976) and His Contribution to the Exploration of Non-metallic Mineral Deposits in Austria. 9th International Symposium Cultural Heritage in Geosciences, Archaeology, Mining and Metallurgy Quebec, Canada (Quebec 2007), p.71-72.

Hamilton, Margret. Der Einfluss Friedrich Johann Karl Beckes auf die Erdwissenschaften an der Universität in Wien. In: 10. Internationales ERBE Symposium in Freiberg/ Sachsen. Tagungsband (Freiberg, Deutschland 2009), p.34-43.

Hamilton, Margret. Notizbücher von 1,25 Laufmeter. Die Aufzeichnungen von Friedrich Becke (1855-1931) - ein Überblick. In: Berichte der Geologischen Bundesanstalt 103. 12. Tagung der österreichischen Arbeitsgruppe „Geschichte der Erdwissenschaften“ (Wien 2013), p.17-23.

Conference abstracts

Hamilton, Margret The personal and handwritten notes of the mineralogist and petrograph Friedrich (Johann Karl) Becke concerning the Western Tauern Window between 1893-1903. 13. ERBE Symposium Banska Stiavnica 2015, p.72-74.

Hamilton, Margret. Franz Pertlik, Chronologische Dokumentation der im Hinblick auf die Gesteinskunde überwiegend historische verwendeten Termini „Molekularvolumen, Volumgesetz, Volumregel“. In: Berichte der Geologischen Bundesanstalt 118 (Wien 2016), p.14-20. Tagung der österreichischen Arbeitsgruppe „Geschichte der Erdwissenschaften“.

Hamilton, Margret. „Prodromus Crystallographiae de Crystallis improprie sic dictis commentarium“. The first crystallographic documentation in the history of crystallography by Moritz Anton Cappeller (1685-1769). Tagungsband des Internationalen Symposium Abraham Gottlob Werner und die Geowissenschaften seiner Zeit. (Freiberg 2017), p.31.

Hamilton, Margret. Die ersten Doktorinnen an der Universität Wien in den Fächern Mineralogie und Mineralogie-Petrographie: Hilda Gerhart und Adelheid Schaschek (Kofler). In: Berichte der Geologischen Bundesanstalt, Band 123: Arbeitsgruppe der Österreichischen Geologischen Gesellschaft „Geschichte der Erdwissenschaften“, Jahrestagung (Wien 2017), p. 23-27.

Hamilton, Margret. Franz Pertlik. Das Studienfach „Mineralogie und Petrographie“ an der k. k. Universität zu Wien. Eine Synopse der Alumnae und Alumni in den Studienjahren 1872-1918. In: Berichte der Geologischen Bundesanstalt, Band 123: Arbeitsgruppe der Österreichischen Geologischen Gesellschaft „Geschichte der Erdwissenschaften“, Jahrestagung (Wien 2017), p. 30-40.

Hamilton, Margret. Friedrich Beckes Aufzeichnungen über die Besichtigung der Lagerstätte St. Joachimsthal im Auftrag der kaiserlichen Akademie der Wissenschaften im Jahr 1904. Abstract: Tagungsband des 14. Internationalen ERBE Symposiums in Ravne, Slovenia (2018), 184-185.

Hamilton, Margret. Friedrich Beckes's Notes on the Excursion of the Radium Commission of the Imperial Academy of Sciences Vienna to St. Joachimsthal in 1904. Abstract. In: Conference venue of the 43th INHIGEO Conference in Mexico City, p.49 (2018).

Hamilton, Margret. Friedrich Beckes's Notes on the Excursion of the Radium Commission of the Imperial Academy of Sciences Vienna to St. Joachimsthal in 1904. Abstract. In: 14th Erbe-Symposium in Ravne, Slovenia, p. 27-32 (2018).

Hamilton, Margret. The research of the Western Tauern Window between 1894 and 1898 in the documents of the mineralogist and petrographer Friedrich Becke. A project of the “Österreichische Akademie der Wissenschaften”. Abstract. In: Berichte der Geologischen Bundesanstalt 128. Pangeo Austria 2018 Wien, p. 41 (Wien 2018).

Klemun, Marianne, University of Vienna, Department of History

Books

Klemun, Marianne, Madame Sonne konferieren. *Die Großglockner-Expeditionen 1799 und 1800*. Das Kärntner Landesarchiv 25, Klagenfurt 2000.

Klemun, Marianne, Peter Tropper: „*Die Reise selbst hat ihre Eigenheiten*“ - der Besuch über die Visitation des Kardinals Salm im Gail- und Lesachtal 1817. Archiv für vaterländische Geschichte und Topographie 103, Klagenfurt, 2011.

Klemun, Marianne, Helga Hühnel: *Nikolaus Jacquin (1727-1817) - ein Naturforscher (er)findet sich*. Vienna University Press, Vandenhoeck & Ruprecht, Göttingen, 2017.

Books Edited

Klemun, Marianne Günther Hamann: *Die Welt begreifen und erfahren. Aufsätze zur Wissenschafts- und Entdeckungsgeschichte.* (= Perspektiven der Wissenschaftsgeschichte 1, eds. von Helmuth Grössing, Karl Kadletz und Marianne Klemun, Wien/Köln/Weimar 1993).

Klemun, Marianne Rudolf Werner Soukup und Helmut Mayer: *Alchemistisches Gold - Paracelsische Pharmaka.* Laboratoriumstechnik im 16. Jahrhundert (= Perspektiven der Wissenschaftsgeschichte 10, eds. von Helmuth Grössing, Karl Kadletz und Marianne Klemun, Wien/Köln/Weimar 1997).

Klemun, Marianne. *Zur Geschichte des Naturwissenschaftlichen Vereines für Kärnten* (= Werkstatt Natur, ed. von Marianne Klemun, Sonderheft der Carinthia II , Klagenfurt 1998) 9-158.

Klemun, Marianne *Werkstatt Natur.* (im Katalogteil unter Mitarbeit von Hartl, Leute etc.) (= 56. Sonderheft der Carinthia II , Klagenfurt 1998), Objektbeschreibungen 161-299.

Klemun, Marianne Der Hochobir. *Aus Natur und Geschichte*, Marianne Klemun Ed. (Schriftleitung B. Golob et.al, gemeinsam mit Naturwissenschaftlicher Verein für Kärnten) (Klagenfurt 1999).

Klemun, Marianne, Veronika Hofer (Eds.): *Bildfunktionen in den Wissenschaften.* Wiener Zeitschrift zur Geschichte der Neuzeit 7/1, 2007.

Klemun, Marianne (Ed.), *Wissenschaft und Kolonialismus* (= Wiener Zeitschrift zur Geschichte der Neuzeit 9/2, 2009).

Klemun, Marianne / Ana Carneiro (Eds.): *Seeing and Measuring, Constructing and Judging: Instruments in the History of the Earth Sciences* (= Centaurus, An International Journal of the History of Science and its Cultural Aspects, Vol. 53, Issue 2, 2011).

Klemun, Marianne (Guest Editor): *Moved Natural Objects. Spaces in Between* (= Host Journal of History of Science and Technology, Vol. 5, Spring, 2012) online-journal: <http://johost.eu/>

Klemun, Marianne / Thomas Hofmann (Eds.): *Die k. k. Geologische Reichsanstalt in den ersten Jahrzehnten ihres Wirkens. Neue Zugänge und Forschungsfragen* (= Berichte der Geologischen Bundesanstalt 95, Wien 2012).

Klemun, Marianne, Ulrike Spring (Eds.): *Scientific Expeditions as Experiments* (London, New York, Melbourne: Palgrave & Macmillan 2016).

Klemun, Marianne (ed.), *Einheit und Vielfalt. Franz Ungers (1800-1870) Konzepte der Naturforschung im internationalen Kontext* (Göttingen 2016).

Johannes Feichtinger, Marianne Klemun, Jan Surma Petra Svatek (Eds.), *Wandlungen und Brüche. Wissenschaftsgeschichte als politische Geschichte* (Vienna University Press, Vandenhoeck & Ruprecht, Göttingen 2018).

Chapters in Books

Klemun, Marianne. Die Gründung des Naturhistorischen Museums in Kärnten und die Rolle der Bürgerlichkeit. In: *Museumsraum. Museumszeit. Zur Geschichte des österreichischen Museums- und Ausstellungswesens*, eds. von Gottfried Fliedl, Roswitha Muttenthaler und Herbert Posch (Wien 1992), 49-70.

Klemun, Marianne. Bischof Salm und die Naturwissenschaften im Kärnten des ausgehenden 18. Jahrhunderts. In: *Franz Xaver von Salm. Aufklärer - Kardinal - Patriot.* Katalog zur Salm-Ausstellung, eds. (1993), 100-115 und Objektbeschreibungen 217-233.

Klemun, Marianne. Die ersten Glocknerbesteigungen - Höhepunkt der naturwissenschaftlichen Entwicklung in Kärnten. In: *Franz Xaver von Salm. Aufklärer - Kardinal - Patriot* (= Katalog zur Salm-Ausstellung, 1993), 116-132.

Klemun, Marianne. Vorwort. In: *Günther Hamann, Die Welt begreifen und erfahren. Aufsätze zur Wissenschafts- und Entdeckungsgeschichte.* (= Perspektiven der Wissenschaftsgeschichte 1, eds. von Helmuth Grössing, Karl Kadletz und Marianne Klemun, Wien/Köln/Weimar 1993), 11.

Klemun, Marianne. Zur Geschichte des Naturwissenschaftlichen Vereins für Kärnten 1848-1998. In: *Kärnten - Natur. Die Vielfalt eines Landes im Süden Österreichs*, eds. von Paul Mildner und Helmut Zwander (Klagenfurt 1998), 11-22.

Klemun, Marianne. Zur Geschichte der ältesten und höchsten meteorologischen Stationen der Habsburgermonarchie auf dem Obir (1846-1948). In: *Der Hochobir. Aus Natur und Geschichte*, ed. Naturwissenschaftlicher Verein für Kärnten und Klemun et al (Klagenfurt 1999), 84-94.

Klemun, Marianne. Geleitwort. In: *Der Hochobir. Aus Natur und Geschichte*, eds. vom Naturwissenschaftlichen Verein für Kärnten, und Klemun et. al, Klagenfurt 1999, S. 9.

Klemun, Marianne. Gem. mit: Gerfried H. Leute, Franz Xaver Wulfens Reisebeschreibung vom Jahre 1783 -"Auf meiner Reise bis zum höchsten Gipfel des Owirs". In: *Der Hochobir. Aus Natur und Geschichte*, eds. Naturwissenschaftlicher Verein für Kärnten und Klemun et al.(Klagenfurt 1999), 13-48.

Klemun, Marianne. Naturwissenschaftliche Vereine und Gesellschaften als Informationsträger zwischen Wien und Hermannstadt. In: *Siebenbürgen in der Habsburgermonarchie. Vom Leopoldinum bis zum Ausgleich*, eds. von Zsolt K. Lengyel und Ulrich A. Wien (= Siebenbürgisches Archiv, Köln, Weimar und Wien 1999), 209-220.

Klemun, Marianne. Der "historische Erfahrungsraum" von Naturgeschichte und Biologie. In: *Themen der Wissenschaftsgeschichte*, ed. von Helmuth Grössing (=Wiener Beiträge zur Geschichte der Neuzeit 25, 1999), 50-82.

Klemun, Marianne. Naturwissenschaftliche und kulturelle Aneignung von Naturgewalten - am Beispiel des Wasserfalls und dessen kultureller Transformationen. In: *Elementare Gewalt. Kulturelle Bewältigung. Aspekte der Naturkatastrophe im 18. Jh.*, eds. von F. Eybl, H. Heppner und A. Kernbauer (= Jahrbuch der Österr. Gesellschaft zur Erforschung des achtzehnten Jahrhunderts 14/15, Wien 2000), 89-118.

Klemun, Marianne. Der "fürstliche" Großglockner anno 1799 und 1800: Ziel wissenschaftlichen Begehrens. Ein Reiseführer zur "Ausstellung 200 Jahre Großglockner-Erstbesteigung". In: *Jubiläum Großglockner. 200 Jahre Erstbesteigung*, ed. von der Großglockner Hochalpenstraßen Ag, (Salzburg und Döllach 2000), 5-27.

Klemun, Marianne. Dynamisierung von Raum und Zeit. Die Großglockner-Erstexpeditionen 1799/1800. In: *Der Berg. Einige Berg- und Tal-, Lebens- und Todesbahnen*, ed. von Friedbert Aspetsberger (Innsbruck/Wien/München/Bozen 2001), 147-166.

Klemun, Marianne. Franz Unger (1800-1870). Wanderer durch die Welten der Natur. In: *Glücklich, wer den Grund der Dinge zu erkennen vermag. Österreichische Mediziner, Naturwissenschaftler und Techniker im 19. und 20. Jahrhundert*, eds. von Daniela Angetter, Johannes Seidl (Frankfurt/Main/Berlin/Bern 2003), 27-43.

Klemun, Marianne. Österreichische wissenschaftliche Sammelreisen nach den Amerikas, 1783-1789. Intentionen, Implikationen und Instruktionen. In: *Österreich und die Amerikas*, eds. von Thomas Fröschl und Ursula Prutsch. In: *Wiener Zeitschrift zur Geschichte der Neuzeit*, 5. Bd. (2005), 21-35.

Klemun, Marianne. Der französische Revolutionskalender (1793-1806): Natur versus Geschichte oder Natur im Einklang mit der Gesellschaft? In: *Ideologisierte Zeit. Kalender und Zeitvorstellungen im Abendland von der Antike bis zur Neuzeit*, eds. von Wolfgang Hameter, Meta Niederkorn-Bruck und Martin Scheutz (= Querschnitte 17, Innsbruck/Wien/München/Bozen 2005), 144-162.

Klemun, Marianne. Writing, ‚inscription‘ and fact: eighteenth century mineralogical books based on travels in the Habsburg regions, the Carpathian Mountains. In *Four Centuries of Geological Travel: The Search for Knowledge on Foot, Bicycle, Sledge and Camel*, ed. Wyse Jackson (= Geological Society, London, Special Publications 287, 2007), 49-61.

Klemun, Marianne. Questions of periodization and Adolphe von Morlot's contribution to the term and the concept "Quaternär" (1854). In: *History of Geomorphology and Quaternary Geology*, ed. By David Oldroyd (= Geological Society, London, Special Publications 301, 2008), 19-31.

Klemun, Marianne. Lehrkanzel und Kanzellehre. In: *Sachunterricht. Fundstücke aus der Wissenschaftsgeschichte*, eds. von Thomas Brandstetter, Dirk Rupnow, Christina Wessely (Wien 2008), 157-161.

Klemun, Marianne. Franz Unger and Sebastian Brunner on evolution and the visualization of Earth history; a debate between liberal and conservative Catholics. In: *Geology and Religion. A History of Harmony and Hostility*, 259-267. Geological Society, London, Special Publications 2009.

Klemun, Marianne. Wissenschaft und Kolonialismus - Verschränkungen und Konfigurationen (Hefteditorial). In: Marianne Klemun (Hg): *Wissenschaft und Kolonialismus* (= Wiener Zeitschrift zur Geschichte der Neuzeit 9/2 (2009), 3-12.

Klemun, Marianne. Netzwerke und Naturforschung in Zeiten des politischen Umbruchs in Kärnten. In: *Napoleon und seine Zeit. Kärnten - Innerösterreich - Illyrien*, ed. von Claudia Fräss-Ehrfeld (Klagenfurt 2009), 65-94.

Klemun, Marianne. Brückenschläge: NaturWissen-schaf(f)t und Popularisierung - der Naturwissenschaftliche Verein für Kärnten und die Zeitschrift Carinthia. In: Martin Seger (ed.): Kärnten. *Landschaftsräume - Lebensräume. Eine geographische Landeskunde. Jubiläumsband aus Anlaß des 200. Jahrgangs der Zeitschrift Carinthia* eds. vom Geschichtsverein für Kärnten und vom Naturwissenschaftlichen Verein für Kärnten (Klagenfurt 2010), 17-24.

Klemun, Marianne. Die Österreichisch-Ungarische Nordpolexpedition (1872-1874). Euphorie der Gemeinsamkeit und die Positionierung der Akademie der Wissenschaften (Wien) im Vorfeld der Expeditionsplanung. In: *Die Leidenschaft des Sammelns. Streifzüge durch die Sammlung Woldan*, eds. von Gerhard Holzer et al. (= Edition Woldan, Österreichische Akademie der Wissenschaften, philosophisch-historische Klasse Bd. 3/2, ed. von Christine Harrauer (Wien 2010), 343-364.

Klemun, Marianne. Die neue(n) Wissenschaft(en) - Natur im Diskurs. In: *Renaissance und Reformation. Katalog zur Oberösterreichischen Landesausstellung 2010*, eds. von Karl Vocelka, Rudolf Leeb, Andrea Scheichl (Linz 2010), 173-181.

Klemun, Marianne. Reisen, Aufzeichnen, Beschreiben. Visualisierung erdwissenschaftlichen Wissens und „Mineralogische Reisen“ innerhalb habsburgischer Territorien. In: *Images en capitale: Vienne, fin XVIIe -début XIXe siècles*, eds. von Christine Lebeau und Wolfgang Schmale (Bochum 2010), 95-115.

Klemun, Marianne, Ana Carneiro, Instruments of Science - Instruments of Geology. Introduction to: *Seeing and Measuring, Constructing and Judging: Instruments in the History of the Earth Sciences*, ed. by Ana Carneiro and Marianne Klemun (= Centaurus, Klemun, Marianne An International Journal of the History of Science and its Cultural Aspects, Vol. 53, Issue 2, 2011), 77-83.

Klemun, Marianne. The Understanding of Resources and Knowledge of Raw Materials, as Presented at the Big Exhibitions in the 19th Century. In: *History Research in Mineral Resources*, ed. by J.E. Ortiz, O. Puche, I. Rabáno and L. F. Mazadiego, 247-252. Cuadernos del Museo Geominero 13, Madrid 2011.

Klemun, Marianne. The Geologist's Hammer - "fossil tool, equipment, instrument and/or badge? In: *Seeing and Measuring, Constructing and Judging: Instruments in the History of the Earth Sciences*, ed. by Ana Carneiro and Marianne Klemun (= Centaurus, An International Journal of the History of Science and its Cultural Aspects, Vol. 53, Issue 2, 2011), 86-101.

Klemun, Marianne. History of Science. In: *18th Century Studies in Austria 1945-2010*, ed. by Thomas Wallnig, Johannes Frimmel and Werner Telesko (= The Eighteenth Century And The Habsburg Monarchy, International Series Vol.4. Bochum 2011), 51-69.

Klemun, Marianne. Verwaltete Wissenschaft - Instruktionen und Forschungsreisen. In: *Ordnung durch Tinte und Feder? Genese und Wirkung von Instruktionen im zeitlichen Längsschnitt vom Mittelalter bis zum 19. Jahrhundert*, eds. von Anita Hipfinger, Josef Löffler, Jean Paul Niederkorn, Martin Scheutz et al. (= Veröffentlichungen des Instituts für Österreichische Geschichtsforschung 60, Wien 2012), 391-414.

Klemun, Marianne 'Wissen im Gepäck': Reisendes Bergpersonal zwischen den Bergbauorten in den habsburgischen Ländern (1765-1814). In: *Staat, Bergbau und Bergakademie. Montanexperten im 18. und frühen 19. Jahrhundert*, eds. von Hartmut Schleiff und Peter Konečný (= Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte - Beihefte, Stuttgart 2013, Bd. 223), 75-91.

Klemun, Marianne Erforschungsgeschichte: Ein Bergsturz im Wandel - gesehen aus unterschiedlichen Perspektiven und in diversen Kontexten. In: *Natur & Mensch in der Schütt. Die Bergsturzlandschaft im Naturpark zwischen Dobratsch und Gail*, ed. vom Naturwissenschaftlichen Verein für Kärnten (Klagenfurt 2013), 23-27.

Klemun, Marianne [Einleitung zur Ausstellung] Auf den Weg mitgegeben: 'Gelehrte Objekte'? Manifestationen universitärer Kulturen. In: Hubert Szemethy, Marianne Klemun, Martina Fuchs, Fritz Blakolmer und Matthias Beitzl (Eds.): *Gelehrte Objekte - Wege zum Wissen. Aus den Sammlungen der Historisch-Kulturwissenschaftlichen Fakultät* (= Kataloge des Österreichischen Museums für Volkskunde 2013, 98), 27-40.

Klemun, Marianne „Doch finde ich das Ganze sehr trostlos“: Theorie und Praxis im Rahmen der geologischen Aufnahme Kärntens durch die Geologische Reichsanstalt (1853-1855) und Karl Peters' Befund über die Sattnitz. In: *Die Sattnitz. Konglomerat der Natur im Süden Kärntens*. Ein Naturführer (Klagenfurt 2006), 69-84.

Klemun, Marianne National 'Consensus' as Culture and Practice: The Geological Survey in Vienna and the Habsburg Empire (1849-1867). *The Nationalization of Scientific Knowledge in the Habsburg Empire, 1848-1918*, ed. by Mitchell G. Ash and Jan Surman, 83-101. New York 2012, Palgrave Macmillan.

Klemun, Marianne Erkenntnisinstrument Reisen: Reflexionen zu komplexen wissens- und wissenshistorischen Phänomen der Frühen Neuzeit. In: Ingrid Kästner, et al. (Hrsg.): *Erkunden, Sammeln, Notieren und Vermitteln - Wissenschaft im Gepäck von Handelsleuten, Diplomaten und Missionaren* (Europäische Wissenschaftsbeziehungen, eds. von Dietrich von Engelhardt et al, Bd. 7, Aachen 2014), 21-36.

Klemun, Marianne Historismus/Historismen - Geschichtliches und Naturkundliches: Identität - Episteme - Praktiken, in: Christine Ottner, Gerhard Holzer und Petra Svatek (Eds.): *Wissenschaftliche Forschung in Österreich 1800-1900. Spezialisierung, Organisation, Praxis* (= Schriften des Archivs der Universität Wien, Fortsetzung der Schriftenreihe des Universitätsarchivs der Universität Wien, Bd. 21, Göttingen 2015), 17-41.

Klemun, Marianne Kärntner Ackerbaugesellschaft. In: Katja Sturm-Schnabl und Bojan-Ilija Schnabl (Eds.), *Enzyklopädie der slowenischen Kulturgeschichte in Kärnten / Koroška. Von den Anfängen bis 1942*. Band 1: A-I (Böhlau Verlag Wien/Köln/Weimar 2016), Band 2.

Klemun, Marianne. Ahacel, Matija. In: Katja Sturm-Schnabl und Bojan-Ilija Schnabl (Eds.), *Enzyklopädie der slowenischen Kulturgeschichte in Kärnten / Koroška*. Von den Anfängen bis 1942, Band 1: A-I (Böhlau Verlag Wien/Köln/Weimar 2016), 70-72.

Klemun, Marianne. Together with Ulrike Spring, Expeditions as Experiments: An Introduction. In: Marianne Klemun / Ulrike Spring (Eds.): *Scientific Expeditions as Experiments* (London/New York/ Melbourne: Palgrave & Macmillan 2016), 1-25.

Klemun, Marianne. Spaces and places: an historical overview of the development of geology in Austria (Habsburg Monarchy) in the eighteenth and nineteenth centuries. Geological Society, Special Publications, 442. Online, Lyell Collection 442.

Klemun, Marianne. Ausrichtung des Bandes. In: *Einheit und Vielfalt. Franz Ungers (1800-1870) Konzepte der Naturforschung im internationalen Kontext*, ed. von Marianne Klemun (Göttingen 2016), 9-14.

Klemun, Marianne. Franz Unger (1800-1870): multiperspektivische wissenschaftshistorische Annäherungen. In: *Einheit und Vielfalt. Franz Ungers (1800-1870) Konzepte der Naturforschung im internationalen Kontext*, ed. von Marianne Klemun (Göttingen 2016), 15-92.

Klemun, Marianne. Fieldwork of the Austrian Geological Survey. In: Helena Ekerholm, Karl Grandin, Christer Nordlund & Patience A. Schell (Eds.): *Understanding Field Science Institutions*. Science History Publications, Watson Publishing International 2017/2018, 133-156.

Klemun, Marianne Spaces and places: an historical overview of the development of geology in Austria (Habsburg Monarchy) in the eighteenth and nineteenth centuries. In: Mayer M, Clary R M, Azuala L F, Mota T S, Wołkowitz (eds) History of geoscience: Celebrating 50 Years of INHIGEO, Geological Society, Special Publications, 442, London 2017, pp 263-270

Klemun, Marianne Evolutionskonzepte im Wandel. Debatten in der Zeit vor Darwin. In: Angela Schwarz (Ed.), Streitfall Evolution. Böhlau Verlag 2017 (aber erst 2018 erschienen), 32-45.

Klemun, Marianne Im Aufbruch: Verwissenschaftlichung von Forschung und Lehre und Gregor Mendels Studium an der Universität Wien. In: 150 Jahre Mendelsche Regeln: Vom Erbsenzählen zum Gen-Editieren, ed. von Gottfried Brem (Nova Acta Leopoldina, Abhandlungen der Deutschen Akademie der Naturforscher Leopoldina, neue Folge, Nr. 413, Stuttgart 2017), 21-36.

Klemun, Marianne Classification and Experience, Rocks and Taste. 'Vulgar Reasoning' in the Earth Sciences. In: Taste and Smell in the Eighteenth Century, ed. by Lieke van Deinsen, Beatrijs Vanacker and Inger Leemans, De Achttiende Eeuw 48 (2017), 113-126.

Klemun, Marianne Gärten und Sammlungen. In: Marianne Sommer, Staffan Müller-Wille und Carsten Reinhardt (Eds.), Handbuch Wissenschaftsgeschichte (J. B. Metzler Verlag, Stuttgart 2017), 235-244.

Klemun, Marianne 'Indifferentismus' (ist) der Haupthemmschuh des Fortschritts. Relationen zwischen Franz Unger, Charles Darwin und Eduard Suess sowie die Lektüren von Darwins „Origin im Wien der 1860er und 1870er Jahre. IN: Herbert Matis, Wolfgang L. Reiter (Eds.), *Darwin in Zentraleuropa* 87-126. (Wien 2018),

Klemun, Marianne Johannes Feichtinger, Jan Surman und Petra Svatek, Wandlungen und Brüche. Wissenschaftsgeschichte als politische Geschichte. Einleitung. In: Johannes Feichtinger, Marianne Klemun, Jan Surman und Petra Svatek, *Wandlungen und Brüche. Wissenschaftsgeschichte als politische Geschichte*. (Vienna University Press, Vandenhoeck & Ruprecht, Göttingen 2018), S. 13-20.

Klemun, Marianne Different functions of learning and knowledge - Geology takes form: Museums in the Habsburg Empire, 1815-1848. In: Rosenberg, G.D., and Clary, R.M. (Eds.), *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making*: Geological Society of America Special Paper 535, 2018, p. 163-175, [https://doi.org/10.1130/2018.2535\(10\)](https://doi.org/10.1130/2018.2535(10)). © 2018 The Geological Society of America.

Klemun, Marianne From Local to Global: The Petroleum Geologist Hans Höfer von Heimhalt between Empires, Economies and Epistemologies, in: *History, Exploration and Exploitation of Oil and Gas*. Ed. by S. Figueirôa, G.A. Good and D. Peyerl. Springer 2019, 1-11.

Journal Articles

Klemun, Marianne Arbeitsbedingungen eines Naturforschers im Kärnten des 18. Jahrhunderts am Beispiel Franz Xaver Wulfens. *Carinthia* I, 174 (1984): 357-374.

Klemun, Marianne Belsazar Hacquet - Begründer einer vielfältigen Durchforschung des Ostalpenraumes. *Carinthia* II, 178/98 (1988): 5-13.

Klemun, Marianne Zur naturwissenschaftlichen Erforschungsgeschichte Kärntens. *Carinthia* II, 178/98 (1988), 85-93.

Klemun, Marianne Franz Xaver Freiherr von WULFEN - Jesuit und Naturforscher. Die erste naturkundliche Bestandsaufnahme in Kärnten. *Carinthia* II, 179/99 (1989), 5-17.

Klemun, Marianne Georg Grabherr und Marianne Klemun, Die Bedeutung David Heinrich Hoppes für die Erforschung der österreichischen Alpen. *Hoppea, Denkschriften der Regensburgischen Botanischen Gesellschaft* 50 (Regensburg 1991), 7-29.

Klemun, Marianne Friedrich Simony (1813-1896) - 1. Kustos des Naturhistorischen Museums in Klagenfurt (1848-1850). Ein Beitrag zur Gründungsgeschichte des Museums. In: *Carinthia* II, 182/102 (1992), 375-391.

Klemun, Marianne "Wulfenia" - eine Reminiszenz an den Begründer der naturgeschichtlichen Erforschung in Kärnten, Franz Xaver Wulfen (1728-1805). *Wulfenia. Mitteilungen des Botanischen Gartens des Landes Kärnten* 1 (1992), 4-6.

Klemun, Marianne. Gustav Adolf Zwanziger (1837-1893). Naturwissenschaftler und Bohèmien. In: *Carinthia* II, 182/102 (1993), 303-320.

Klemun, Marianne Friedrich Simonys Beziehungen zu Kärnten - gezeigt anhand von Briefen. *Carinthia* II, 182/102 (1993), 7-25.

Klemun, Marianne Aufbau und Organisation des meteorologischen Meßnetzes in Kärnten (19. Jh.). *Carinthia* II, 184/104 (1994), 97-114.

Klemun, Marianne Kontakte zwischen der Zentralanstalt für Meteorologie in Wien und Klagenfurt, dokumentiert durch Briefe aus den Jahren 1862 und 1863. *Carinthia* II, 184/104 (1994), 115-121.

Klemun, Marianne Das Landesmuseum in Klagenfurt und die mineralogische Erforschung Kärntens. *Mitteilungen der Österr. Mineralogischen Gesellschaft* 143 (1998), 457-458.

Klemun, Marianne Die Erforschung des vorgeschichtlichen "Pfahlbaus" - ein kontroversielles Kapitel der internationalen prähistorischen Forschung des 19. Jahrhunderts und Ferdinand Hochstetters Entdeckung der Keutschacher "Pfahlbauten" (1864). *Carinthia* II, 185/105 (1995), 215-238.

Klemun, Marianne Zur Geschichte des Naturwissenschaftlichen Vereines für Kärnten. Werkstatt Natur, ed. von Marianne Klemun (im Katalogteil unter Mitarbeit von Hartl, Leute etc.) (= 56. Sonderheft der *Carinthia* II, Klagenfurt 1998), 11-158.

Klemun, Marianne Objektteil (Objektbeschreibungen). Werkstatt Natur, ed. von Marianne Klemun (im Katalogteil unter Mitarbeit von Hartl, Leute etc.) (= 56. Sonderheft der *Carinthia* II, Klagenfurt 1998), 161-299.

Klemun, Marianne Anfänge einer organisierten Verbreitung von Mineralien: Sigmund von Zois (1747-1819) Geschichte der Erdwissenschaften in Österreich. Symposium (= *Res montanarum. Zeitschrift des Montanhistorischen Vereins für Österreich* 20 (Leoben 1999), 22-23.

Klemun, Marianne "Ohne daß die gräßliche Langweiligkeit des Grundgebirgs einige Heiterkeit zuließe" - Symptomatisches bei der geologischen Aufnahme der Monarchie durch die Geol. Reichsanstalt am Beispiel von Peters Schwierigkeiten bei der Arbeit in der Provinz. *Geschichte der Erdwissenschaften in Österreich. 2. Symposium, Abstracts.* (= *Berichte des Instituts für Geologie und Paläontologie* 1, Graz 2000), 37-39.

Klemun, Marianne "Dynamisation of Space and Time: Perception of High Mountains in the 18th Century". Abstract. (The Eighth Annual Meeting of the Group for Early Modern Cultural Studies, GEMCS: "It's About Time", Nov. 2000, New Orleans, Louisiana).

Klemun, Marianne Internationale Kontakte und Funktionen des Mineraliensammelns am Beispiel von Siegmund Zois (1747-1819). *Geschichte der Erdwissenschaften in Österreich. Tagungsband* (= *Berichte der Geologischen Bundesanstalt* 51, Wien 2000), 13-20.

Klemun, Marianne "Friedrich Mohs' "naturhistorische Methode" und der mineralogische Unterricht in Wien - "Die Gestalt der Buchstaben, nicht das Lesen wurde gelehrt". *Geschichte der Erdwissenschaften in Österreich. 3. Symposium, Abstracts* (= *Berichte der Geologischen Bundesanstalt* 56, Wien/ Hallstatt 2001), 67.

Klemun, Marianne Raumkonzepte im Werk Belsazar Hacquets. *Hacquetia* 2 (2003): 25-35.

Klemun, Marianne. Der Siebenbürgische Verein für Naturwissenschaften zu Hermannstadt im Netzwerk der Habsburgermonarchie. *Siebenbürgische. Verein für Naturwissenschaften zu Hermannstadt (1849 - 1949) (Societatea Ardeleana pentru Stiintele Naturii din Sibiu)* (= *Jubiläumsband, Naturwissenschaftliche Forschungen über Siebenbürgen VII; Studii si Comunicari Muzeul de Istorie Naturala Sibiu* 28) (2003): 35-46.

Klemun, Marianne. Ami Boué (1794-1881) und Kärnten im Vormärz - Mittler zwischen den unterschiedlichen Wissenskulturen. *Geschichte der Erdwissenschaften in Österreich. 4. Symposium Berichte der geologischen Bundesanstalt* 64 (2003): 42-43.

Klemun, Marianne The Royal Natural History Collection in Vienna (18th century): from possessing minerals as treasure towards territorial ambitions as consciousness. *Scripta Geologica. Special Issue* 4 (2004): 193-199.

Klemun, Marianne "Die Gestalt der Buchstaben, nicht das Lesen wurde gelehrt". Friedrich Mohs' "naturhistorische Methode" und der mineralogische Unterricht in Wien. *ÖGW* (2004): 43-60.

Klemun, Marianne Naturgeschichte, Austausch und Funktionen eines wissenschaftlichen Korrespondenznetzes. *Carinthia* II, 195/115 (2005): 253-268.

Klemun, Marianne Das Eigene und das Fremde am Tier. Von der Schweizbegeisterung zum Tirolerhof. Menagerie des Kaisers - Zoo der Wiener. 250 Jahre Tiergarten Schönbrunn, eds. von Mitchell Ash und Lothar Dittrich (Wien 2002): 317-329.

Klemun, Marianne Natural Science and Geology as a Medium of Integration: The "Versammlung deutscher Naturforscher und Ärzte" in Prague in 1837 and the Meetings of German Natural Scientists and Physicians during the 'Vormärz' (1822-1848). *Centaurus* 48 (2006), Issue 4: 284-297.

Klemun, Marianne „Da bekommen wir auf einmal wieder zwei Etagen mehr! Wohin soll das noch führen!“ - Eduard Sueß in Briefen (1854-1855) an Escher von der Linth“. „Eduard Sueß (1831-1914) und die Entwicklung der Erdwissenschaften zwischen Biedermeier und Sezession“. 6. Wissenschaftshistorisches Symposium „Geschichte der Erdwissenschaften in Österreich“ (= Berichte der Geologischen Bundesanstalt 69, Wien 2006): 35.

Klemun, Marianne Together with Veronika Hofer: Wissenschaftstheoretische Positionen von Bildfunktionen (Hefteditorial). Bildfunktionen in den Wissenschaften (= Wiener Zeitschrift zur Geschichte der Neuzeit 7/1, 2007): 3-7.

Klemun, Marianne Karl von Ployer (1739-1812): Bergwesen (Erdwissenschaften), politisches Klima und „aufgeklärte Öffentlichkeit“. *Geo.Alp. A yearly journal devoted to alpine geology. Jahreszeitschrift zur Alpengeologie, Sonderband* 1 (2007): 81-90.

Klemun, Marianne Naturbeziehung. *Enzyklopädie der Neuzeit*, Bd.8 (Stuttgart/Weimar 2008): 1169-1175.

Klemun, Marianne Space, State, Territory, Region and Habitat. Alpine Gardens in the Habsburg Countries. In: *Designing Botanical Gardens: Science, Culture and Sociability* (= *Studies in the History of Gardens & Designed Landscapes, An International Quarterly*, Vol.28, 2008): Nr. 3&4, pp. 414-423.

Klemun, Marianne Beruf, Berufung und Wissenschaft - Karl E(h)renbert von Molls (1760-1838) Visionen als „Akademiker“ in politischen Umbruchzeiten (mit der Edition eines Briefes). In: *Jahrbuch der Geologischen Bundesanstalt* Bd. 149, Heft 2 und 3 (2009): 309-324.

Klemun, Marianne Marianne Klemun und Friedhelm Thiedig, Die älteste geognostische Beschreibung der Saualpe (Kärnten) und der Naturforscher Sigismund von Hohenwart (1745-1825). *Carinthia* II, 199/119 (2009): 85-120.

Klemun, Marianne "Da bekommen wir auf einmal wieder zwei Etagen mehr! Wohin soll das noch führen!" Geologische Wissenskommunikation zwischen Wien und Zürich: Arnold Escher von der Linth's Einfluss auf Eduard Suess' alpines Deckenkonzept, diskutiert anhand seiner Ego-Dokumente (1854-1856) und seiner Autobiografie. *Eduard Suess* (2009): 295-318.

Klemun, Marianne Die „Kopernikanische Revolution“: Nikolaus Kopernikus würde staunen, was wir ihm heute zuschreiben! *Bulletin des Geschichtsvereins für Kärnten* (2009): 82-84.

Klemun, Marianne Zwischen Praxis und Dokumentation: Die von der geologischen Reichsanstalt durchgeführte Landesaufnahme (1849-1863/67). *Berichte der Geologischen Reichsanstalt* 89 (2011): 34-36.

Klemun, Marianne Together with Heidi Rogy: Berg - Naturwissenschaft - Visualisierung: Das Alpine Museum in Klagenfurt und dessen Gründung im Jahre 1911. *Carinthia* I, 201 (2011): 403-422.

Klemun, Marianne „Geognosie“ im Vormärz: AMI BOUË (1794-1881) und dessen Mittlerfunktion zwischen den unterschiedlichen europäischen geologischen Wissenskulturen und Kärnten. *Carinthia* II, 201/121 (2011): 249-268.

Klemun, Marianne. 'Moved' Natural Objects - 'Spaces in Between'. *Host - Journal of History of Science and Technology* 5 (2012): 1-7. online-journal: <http://johost.eu/>

Klemun, Marianne 'Living fossil' - 'fossilized life'? Reflections on biography in the history of science. *Earth Sciences History* 32, no 1 (2013): 121-131.

Klemun, Marianne, Cornelia Lüdecke, Martina Kölbl-Ebert, Bernhard Fritscher, historian of geosciences, 1954-2013. *Earth Sciences History* 32, no.2 (2013): 332-333.

Klemun, Marianne Natur/Geschichte und das Kärntner Landesmuseum Rudolfinum. *Spuren-Suche: 130 Jahre Rudolfinum* (2014): 73-82.

Klemun, Marianne Administering science: the paper form of scientific practice and geological fieldwork. *Earth Sciences History* 33, no 2 (2014): 279-293.

Klemun, Marianne. Hammerkult und Geologie. *Visualisierungen von Kult*, eds. von Marion Meyer und Deborah Klimburg-Salter (2014): 16-39.

Klemun, Marianne Amazonaspracht in Lippitzbach. Die Victoria regia, globales Symbol der Industriellen Revolution, und die lokale Sammlungskultur der Gewerkendynastie Egger. In: *Carinthia* 205 (2015), 255-276.

Klemun, Marianne Geognosie versus Geologie: Nationale Denkstile und kulturelle Praktiken bezüglich Raum und Zeit im Widerstreit. In: *Berichte zur Wissenschaftsgeschichte. Organ der Gesellschaft für Wissenschaftsgeschichte* 38/3 (2015), 227-242.

Klemun, Marianne Kulturwissenschaften und Instrumentengeschichte. Der Geologenhammer. Tagungsbericht des 26. *Veröffentlichungen des Verbandes Österreichischer Historiker und Geschichtsvereine* 325 (2015), 415-424.

Klemun, Marianne Wie wurde der Großglockner zum höchsten Berg seiner Region? Ein Reiseführer durch die Geschichte eines Wahrnehmungswandels. In: *Bulletin des Geschichtsvereines für Kärnten*, 1. Halbjahr (2016), 45-50.

Klemun, Marianne Instrucciones y viajes de investigación. Práctica de la administración. In: De las instrucciones de viaje al viaje sobre el terreno en el siglo XVIII. *Revista Escuela de Historia* 15 (2017), Vol. 1, Colaboraciones (02).

Klemun, Marianne , Erzherzog Ludwig Salvators "Wissenslandschaften". In: Viktor J. Bruckman (ed.), Ludwig Salvator (1857-1915). *Erzherzog von Österreich* (Interdisciplinary Perspectives no.3 (2018), S.27-45.

Klemun, Marianne, Mike Johnston. Looking back to the roots of INHIGEO: The inaugural and 50th anniversary meetings held in Yerevan in 1967 and 2017. *Episodes* Vol. 42, Nr. 1 (2019), 69-75.

Conference Abstracts

Klemun, Marianne "Patriotismus", internationale Kontakte und Mineraliensammeln in der Provinz - am Beispiel von Sigmund von Zois (1747-1819). Abstract. In: Abraham Gottlob Werner und seine Zeit. (=Tagungsband/Proceedings des Internationalen Symposium, eds. von TU Bergakademie Freiberg und der Intern. Commission on the History of Geological Science (INHIGEO), Freiberg 1999.

Klemun, Marianne The Royal Natural History Collection in Vienna (18th Century) - From private Treasure Hunting towards the Formation of a national Consciousness for the collection of minerals. Abstract. (= Mineralogical Museums. Collected

Papers of the IV International Symposium on the History Museums, Mineralogy, Gemology, Crystal Chemistry and Crystallogenesis, Saint-Petersburg, Russia 2002), 61-62.

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Books

Mattes, Johannes. *Wissenskulturen des Subterranean. Vermittler im Spannungsfeld zwischen Wissenschaft und Öffentlichkeit. Ein biografisches Lexikon*. Wien, Köln, Weimar: Böhlau, (2019 -in print). 574 pp.

Mattes, Johannes. *Reisen ins Unterirdische. Eine Kulturgeschichte der Höhlenforschung in Österreich bis zur Zwischenkriegszeit*. Wien, Köln, Weimar: Böhlau, 2015. 418 pp.

Books Edited

Mattes, Johannes, Christian, Erhard and Lukas Plan (Eds.). *Proceedings of the 12th EuroSpeleo Forum, Ebensee, 2018*. Wien: Austrian Speleological Association, 2018. 164 pp.

Mattes, Johannes and Dietmar Kuffner (Eds.). *Höh(l)enluft und Wissensraum*. Linz: Federal Museum of Upper Austria, 2018. 464 pp.

Mattes, Johannes. *Alexander von Mörk - Maler, Höhlenforscher, Literat*. Salzburg, Wien: Edition Tandem, 2011. 160 pp.

Chapters in Books

Mattes, Johannes. "Going Deeper Underground: Social Cooperation in Early Twentieth-Century Cave Expeditions." In Klemun, Marianne and Ulrike Spring (Eds.). *Scientific Expeditions as Experiments*, 163-186. London, New York, Melbourne: Palgrave & Macmillan, 2016.

Mattes, Johannes. "Coming from Abroad. The Discourse on Scientific Centralism and Jovan Cvijić's Studies in Vienna." In Jović, Vidojko and Ana M. Petrović (Eds.). *150th Anniversary of Jovan Cvijić's Birth. Proceedings of the International Conference held at the Serbian Academy of Sciences and Arts, October 12-14, 2015*, 13-28. Belgrade: Serbian Academy of Sciences and Arts 2016.

Mattes, Johannes. "Höhlennutzung seit der Antike." In Spötl, Christoph, Plan, Lukas and Erhard Christian (Eds.). *Karst und Höhlen in Österreich*, 287-296. Linz: Oberösterreich. Landesmuseen 2016.

Mattes, Johannes. "Geschichte der Höhlenforschung. Von den Anfängen bis zum Ende des 20. Jahrhunderts." In Spötl, Christoph, Plan, Lukas and Erhard Christian (Eds.). *Karst und Höhlen in Österreich*. Linz: Oberösterreich. Landesmuseen, 2016, 377-390.

Mattes, Johannes. "Hans Wawrickas Tagebücher aus literaturwissenschaftlicher und sozialgeschichtlicher Perspektive." In Ernst Straka, Johannes Wallner (Eds.). *Tagebuch Hans Wawricka (1924-34)*. Graz: Speldok, 2017, 3-12.

Mattes, Johannes. "Wissenschaftspolitische Grenzverhandlungen. Zur Gründung der Lehrkanzel für Höhlenkunde an der Universität Wien (1929)." In Feichtinger, Johannes, Klemun, Marianne, Surman, Jan and Petra Svatek (Eds.). *Wandlungen und Brüche. Wissenschaftsgeschichte als politische Geschichte*. Göttingen: Vandenhoeck & Ruprecht, 2018, 119-125.

Mattes, Johannes. "Mapping Narratives & Making Politics - Discourses on Space and Identity in the Correspondence of Jovan Cvijić". In: Jovana Brankov, Maija Drobnjaković (Eds.). *The Balkan Peninsula of Jovan Cvijić. Historical Background and Contemporary Trends in Human Geography*. Belgrade: Geographical Institute "Jovan Cvijić", Serbian Academy of Sciences & Arts 2018, 55-70.

Journal Articles

Mattes, Johannes. "Die Eroberung der Tiefe. Mitglieder der k. k. Geologischen Reichsanstalt als Akteure und Förderer der Höhlenforschung unter Tage." *Berichte der Geologischen Bundesanstalt* 95 (2012): 80-114.

Mattes, Johannes. "Höhlendunkel und Wissbegierde - Eine Kulturgeschichte der Höhlenforschung in Europa von der Antike bis zur Romantik." *Die Höhle* 63, no 1-4 (2012): 63-81.

Mattes, Johannes. "Von Industriearbeitern, Soldaten und Höhlentouristen - eine Forschungsgeschichte und speläologische Beschreibung der Gassel-Tropfsteinhöhle bei Ebensee." *Mitteilungen des Verbands deutscher Höhlen- und Karstforscher* 2 (2012): 40-48.

Mattes, Johannes. "Giving us an Identity" - The Construction of Memory in the History of Speleology." Filippi, Michal and Pavel Bosák (Eds.). *Proceedings of the 16th International Congress of Speleology* Vol. 1, Brno (2013): 75-80.

Mattes, Johannes. "Die Vermessung des Erdinneren - eine Geschichte der Höhlenforschung in Österreich vom 19. Jahrhundert bis zum Beginn der Ersten Republik." *Mitteilungen der Österreichischen Gesellschaft für Wissenschaftsgeschichte* 29 (2013): 107-132.

Mattes, Johannes. "Unter der Haut der Erde. Geschlechter- und Körperbilder des Unterirdischen von der Antike bis ins 20. Jahrhundert." *Mitteilungen des Verbands deutscher Karst- und Höhlenforscher* 2 (2013): 60-68.

Mattes, Johannes. "Alexander von Mörk and Poldi Fuhrich: The Conception of Heroes in Cave Exploration in the Early Twentieth Century." *Earth Sciences History* 32 no 1 (2013): 132-149.

Mattes, Johannes. "Disciplinary Identities and Crossing Boundaries. The Function of History for the Academization of Speleology in the First Half of the 20th Century." *Earth Sciences History* 35 no 2 (2015): 275-295.

Mattes, Johannes. "Underground Fieldwork - a cultural and social history of cave cartography and surveying instruments in the nineteenth and at the beginning of the twentieth century." *International Journal of Speleology* 44 3 (2015): 251-266.

Mattes, Johannes. "Touristen vom Fach und Männer der Wissenschaft." Franz Kraus als Mittler zwischen akademischer Forschung und Alpinismus." *Die Höhle* 66, no 1-4 (2015): 43-62.

Mattes, Johannes. "Grenzgang zwischen Erkenntnisinteresse und der Gefahr des Abgrunds - Ein soziologisches Essay zum Verhältnis von Speläologie und Extremsport." *Mitteilungen des Verbands deutscher Höhlen- und Karstforscher* 61, no 3-4 (2015): 80-82.

Mattes, Johannes. "Early Efforts in the Musealization of Cave Research. Exemplified by the Speleological Museum in Linz (1912-1917)." *Atti e Memorie della Commissione "E. Boegan"* 47 (2016): 71-88.

Mattes, Johannes. "Entre nature et culture. La grotte comme cabinet de curiosité aux temps modernes". *Revue Communications "Vivants sous terre"*, 105 (2019 - in print).

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Book Edited

Johannes Seidl, Rudolf Werner Soukup, (Hrsg. u. Bearb.), Bruno Schneeweiß (Bearb.), Christa Kletter (Bearb.). 2019. *Ami Boué. De urina in morbis (1817). Eine Dissertation an der Schwelle zur modernen Medizin*. Melle: Wagener Edition.

Book Chapters

Seidl, Johannes. 2019. Ami Boué (16. 3. 1794 - 21. 11. 1881). Hamburger Patrizier, Geologe und Bibliograph. Leben, Werk und wissenschaftlicher Nachlass. In: Johannes Seidl, Rudolf Werner Soukup, (Hrsg. u. Bearb.), Bruno Schneeweiß (Bearb.), Christa Kletter (Bearb.), *Ami Boué. De urina in morbis (1817). Eine Dissertation an der Schwelle zur modernen Medizin*, 1-15. Melle: S. Wagener Edition.

Journal Articles

Seidl, Johannes. 2018. Zur Entwicklung der Paläontologie in Wien bis 1945. *Abhandlungen der Geologischen Bundesanstalt* 72. (gem. mit Fritz Steininger und Daniela Angetter-Pfeiffer).

Conference Abstracts

Seidl, Johannes. 2018. Jahrestagung der Arbeitsgruppe „Geschichte der Erdwissenschaften“ der Österreichischen Gesellschaft. 23. November 2018 im Archiv der Universität Wien (= Berichte der Geologischen Bundesanstalt ; 130). Gem. mit Bernhard Hubmann und Daniela Angetter.

CHILE

Publications on the history of the Geosciences in Chile

Compiled by Reynaldo Charrier University of Chile, School of Physics and Mathematics, Department of Geology; Francisco Hervé University Andrés Bello, College of Engineering, School of Earth Sciences

Hervé, F., 1976. Evocación de la personalidad de Don Humberto Fuenzalida Villegas. *Actas I Congreso Geológico Chileno*, v. 3, p. I4-I8, Santiago.

Hervé, F., 2000. Geología y peripecias en Isla Elefante, Cabo Lookout, *Boletín Antártico Chileno*, v. 19, N° 2, pp. 19-20.

Hervé, F., 2000. Visicitudes en Cabo Dubouzet, 1991. *Boletín Antártico Chileno*, v. 16 (2), p. 38-41.

Hervé, F., 2000. The story of the metamorphic facies map of South America 1:5.000.000. Abstracts volume *31st International Geological Congress*, Rio de Janeiro, Brazil

Hervé, F., Faúndez, V., Lacassie, J.P., Fernández, R., Morata, D., Durán, M., Oteiza, O. y Solari, M. (2003). Investigaciones geológicas desarrolladas en la Antártica entre 1998 – 2003 por INACH y Universidad de Chile. *Boletín Antártico Chileno*, Vol. 22, N° 1, 8-11, Santiago.

Madaune, M y Hervé, F. (2010). El origen de los sismos según Maxime Dorlhac. Primer Simposio de Historia de la Geología en Chile, Sociedad Geológica de Chile, Santiago, 17 de Agosto, texto en Actas electrónicas.

Ramírez, C. y Hervé, F. (2010). James Hutton, el primer navegante del tiempo. Primer Simposio de Historia de la Geología en Chile, Sociedad Geológica de Chile, Santiago, 17 de Agosto, texto en Actas electrónicas.

Charrier, R. y Hervé, F. (2010) Primer Simposio de Historia de la Geología en Chile, Sociedad Geológica de Chile, Santiago, 17 de Agosto, texto en Actas electrónicas.

Charrier, R. y Hervé, F. (2010) El Abate Juan Ignacio Molina: Una vida dedicada a la historia natural y civil del reino de Chile. 2° Simposio de Historia de la Geología, Buenos Aires, Agosto 2010, p.

Ramírez, C. y F. Hervé (2011). William Smith (1769-1839) y el mapa que cambió al mundo. II Simposio de Historia de la Geología. Sociedad Geológica de Chile, Agosto 17, Actas CD.

Hervé, F. (2011) Determinación de la edad del basamento metamórfico de Chile: una historia compleja. II Simposio de Historia de la Geología. Sociedad Geológica de Chile, Agosto 17, Actas CD.

Hervé, F. (2011) Los Dres. Amadeo Pissis y Hans Brüggén, figuras de la geología de Chile. *Revista Chilena de Historia y Geografía*, 171, 207 – 222, Santiago

Charrier, R. y Hervé, F. (2011) El abate Juan Ignacio Molina: una vida dedicada a la historia natural y civil del Reino de Chile. *Revista de la Asociación Geológica Argentina*, 68 (3):445 – 463.

Sagredo, R. y Hervé, F. (2011) Introducción to: Un geólogo en terreno. Darwin en América del Sur. (Introduction to: A geologist in the field. Darwin in South America). In R. Sagredo Ed., Charles Darwin, Observaciones geológicas en América del Sur, (Geological Observations in South America) Biblioteca Darwiniana, Editorial Universitaria, 457 p., Santiago.

Charrier, R., Croft, D.A., Flynn, J.J., Pinto, L. and Wyss, A.R., 2012. Mamíferos fósiles cenozoicos en Chile: Implicancias paleontológicas y tectónicas. Continuación de investigaciones iniciadas por Darwin en América del Sur, in: Veloso, A. and Spotorno, A. (editores), Darwin y la evolución: avances en la Universidad de Chile. Editorial Universitaria, Santiago de Chile, p. 281-316.

Camus, F., Charrier, R., Hervé, F., Tobar, A. y Zentilli, M. (2012) El legado de Roberto Araya A. (1939-1976): un geólogo inusual. XIII Congreso Geológico Chileno (agosto 2012)

Herve, F., Madaune, M., & Keller, B. (2013) El origen de los sismos según Dorlhiac (1906). III Congreso Argentino de Historia de la Geología, Salta, agosto 2013.

Ugalde, R., Charrier, R. & Hervé, F. (2013) La gran aventura de Don Giovanni Cecioni por Magallanes y la Patagonia: un indiscutible pionero de la mágica geología austral. IV Simposio de Historia de la Geología, Santiago, septiembre 2013, Actas electrónicas.

Hervé, F. (2013) 50 años de Investigación geológica del Departamento de Geología de la Universidad de Chile en la Antártica. IV Simposio de Historia de la Geología, Santiago, Sociedad Geológica de Chile, septiembre 2013, Actas electrónicas.

Hervé, F. (2013). Los sismos según Dorlhiac (1906) III Congreso Argentino de Historia de la Geología, Salta, Agosto 2013.

Hervé, F. (2013) 50 años de investigaciones Antárticas. VII Congreso Latinoamericano de Investigación Antártica, La Serena, Septiembre 2013.

F. Hervé y R. Charrier (2015) Historia de una arbitrariedad cometida por el gobierno de Chile durante la dictadura con un académico del Departamento de Geología de la Universidad de Chile. XIV Congreso Geológico Chileno, La Serena, 3 -7 Octubre

Herve, F. y Charrier, R. (2016) Legado de Ignacio Domeyko (1802 – 1889) a la geología y a la institucionalidad científica de Chile. Revista del Museo de La Plata, Volumen 1, Número Especial: 138-148, La Plata, Argentina.

Charrier, R., Hervé, F. & Aceituno, P., 2016. Contribución del Profesor Johannes Brügger a la geología en Chile. Revista del Museo de La Plata, Universidad Nacional de La Plata - Facultad de Ciencias Naturales y Museo, Volume 1, Number 3, p. 1-25.

Hervé, F., Fanning, C.M., Pankhurst, R.J., Rapela, C., Fuentes, F., Calderón, M. (2016) Cenozoic dynamothermal metamorphism at the western Andean foothills of Chiloé, Southern Chile. X SSAGI, Puerto Vallarta, Mexico, 22- 25 de Mayo.

Tchoumatchenco, P., Riccardi, A.C., Durand Delga, M., Alonso, R., Wiasemsky, M., Boltovskoy, D., Charrier, R., and Minina, E., 2018. Geologists of Russian origin in Latin America. Revista del Museo de La Plata, Facultad de Ciencias Naturales y Museo, La Plata, Argentina 3(2): 223-295.

Charrier, R., Aguirre, L., Hervé, F., Klohn, E. and Thiele, R., 2018. La carrera de Geología en la Universidad de Chile. Revista Facultad de Ciencias Exactas, Físicas y Naturales, Vol. 5, Suplemento 1, p. 48-62, Córdoba, Argentina.

Chilean Symposium on the History of Geology, 2011. *Proceedings of the Segundo Simposio*. Universidad Andrés Bello, 17 de Agosto 2011.

Chilean Symposium on the History of Geology, 2012. *Proceedings of the Tercer Simposio*. XIII Congreso Geológico Chileno, Antofagasta. <https://es.scribd.com/document/126105529/XIII-Congreso-Geologico-Antofagasta-2012-Historia-de-La-Geologia-S3>

Chilean Symposium on the History of Geology, 2013. *Proceedings of the Cuarto Simposio*. Departamento de Geología, Universidad de Chile, octubre 27, 2013.

Chilean Symposium on the History of Geology, 2014. *Proceedings of the Quinto Simposio*. Departamento de Geología, Universidad de Chile, 2014.

Chilean Symposium on the History of Geology, 2015. *Proceedings of the Sexto Simposio*. XIV Congreso Geológico Chileno, Coquimbo, 2015.

Chilean Symposium on the History of Geology, 2016. *Proceedings of the Séptimo Simposio*. Departamento de Geología, Universidad de Chile, 2016.

Chilean Symposium on the History of Geology, 2017. *Proceedings of the Octavo Simposio*. Universidad Santo Tomás, Santiago; 13 y 14 de noviembre 2017.

Chilean Symposium on the History of Geology, 2018. *Proceedings of the Noveno Simposio*. XV Congreso Geológico Chileno, Concepción; 18 al 23 de noviembre 2018.

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Books Edited

Aufrère, Marie-Françoise. [Ed.], 2007. *Aufrère, Léon (1889-1977). Le Cercle d'Abbeville: paléontologie et préhistoire dans la France romantique*. Brepols, 396 p., Coll.: De diversis artibus, 77.

Aufrère, Marie-Françoise. [Ed.], 2018. *Aufrère, Léon. Boucher de Perthes, Imaginer la préhistoire*. CNRS Editions, Biblis, 142 p.

Journal Articles

Aufrère, Marie-Françoise. 1995. De la "galère aréique" à l'Histoire de la Géomorphologie. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 9: 33-41.

Aufrère, Marie-Françoise. 2007. L'homme antédiluvien selon Boucher de Perthes (1788-1868): divagations théoriques et vraies découvertes scientifiques. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 21: 155-187.

Aufrère, Marie-Françoise. 2012. Histoire de l'archéologie préhistorique comme patrimoine: Léon Aufrère et Boucher de Perthes, *Les nouvelles de l'archéologie*, 129: 155-187.

Aufrère, Marie-Françoise. 2016. Boucher de Perthes: sa vie et son œuvre vues par Léon Aufrère dans *Le cercle d'Abbeville, Paléontologie et préhistoire dans la France romantique*. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 30: 139-162.

Claudine Cohen, Directrice d'études at École pratique des hautes études and at École des hautes études en sciences sociales

Books

Cohen, Claudine. *Boucher de Perthes, Les Origines romantiques de la Préhistoire*, par Claudine Cohen et Jean-Jacques Hublin, Paris, ed. Belin, 1989, 275 p.; new edition Paris Alpha-Belin 2017.

Cohen, Claudine. *Le Muséum au premier siècle de son histoire*, (ed. by C. Blanckaert, C. Cohen, P. Corsi, J.L. Fisher), éditions du Muséum, collection archives Paris, 1997, 687 p.

Cohen, Claudine. *Le Destin du Mammouth*, Paris, ed. du Seuil, 1994, réed. 1999, 352 p. (English transl.) *The Fate of the Mammoth: Fossils, Myth and History* (traduit par William Rodarmor), The University of Chicago Press, Chicago, 2002 (XLVII- 297 pp). (Japanese transl.) *Manmosu no unmei*, translated by Sugaya Satoru, ed. Shin Hyoron, Tokyo 2003, 389 p.

Cohen, Claudine. *Le Destin du Mammouth*, nouvelle édition remaniée, Paris, éd. du Seuil, coll. Points, (Paperback revised new edition) March 2004.

Cohen, Claudine. *Leibniz's Protogaea, the first English translation*. Translation, annotation and presentation by Claudine Cohen and André Wakefield, The University of Chicago Press 2008, Paperback edition 2010.

Cohen, Claudine. *La Méthode de Zadig: traces, faux et preuves en paléontologie et en préhistoire*. Editions du Seuil 2011 - Eugen Wegmann Award of the French Geological Society 2012.

Cohen, Claudine. *Science, libertinage et clandestinité à l'aube des Lumières: Le Transformisme de Telliamed*, Paris, Presses Universitaires de France 2011.

Chapters in Books

Cohen, Claudine. *Fontenelle*, ed. A. Niderst, Paris, PUF 1989: "De Fontenelle à Benoît de Maillet: temps géologiques et temps des fables", p. 475-486.

Cohen, Claudine. *Proof and Persuasion: Essays on Authority, Objectivity and Evidence*, ed. by S. Marchand et E. Lundbeck, Brepols Press, Amsterdam, 1996: "Leibniz's Protogaea: Patronage, Mining and Evidence for a History of the Earth", p. 125-143.

Cohen, Claudine. *Le Muséum au premier siècle de son histoire, Actes du Colloque pour le Bicentenaire du Muséum, Juin 1993*, sous la dir. De C. Blanckaert, C. Cohen, P. Corsi, J. L. Fisher, éditions du MNHN, 1997: « Stratégies et Rhétorique de la preuve dans les *Recherches sur les Ossements fossiles de quadrupèdes* de Cuvier (1812-1825) », p. 523-539.

Cohen, Claudine. *Lyell, The past is the key to the present* Blundell, D.J. & Scott, A. C., eds, Geological Society, London, Special publications, 1998": Charles Lyell and the Evidences of the Antiquity of Man ", p. 83-93.

Cohen, Claudine. *Les philosophies de la Nature*, sous la dir. D'O. Bloch, Presses de la Sorbonne, 2000, « Richard Owen: Paléontologie, embryologie et morphologie transcendante autour de 1840 », p. 301- 317.

Cohen, Claudine. "De l'Homme - et de la femme - préhistorique", in *Qu'est-ce que La Vie*, sous la dir. d'Y. Michaud, Université de Tous les Savoirs, ed. Odile Jacob, 2000 (rééd. O. Jacob, Poche 2001).

Cohen, Claudine. *Manuel de Paléontologie humaine*, vol. I, sous la dir. de J.-J. Hublin, B. Vandermeersch; éditions du CTHS, Paris 2004 Chapitre I, "Histoire de la paléoanthropologie ».

Cohen, Claudine. *Balzac géographe: Territoires*, sous la dir. de Philippe Dufour et Nicole Mozet, Paris, Christian Pirot, 2004, « Balzac et l'invention du concept de milieu », p. 25-32.

Cohen, Claudine. *Невский археолого-исторический сборник, Фестирифт А. А. Фомозовой (Festschrift pour A.A. Formosov)*, Publications de l'Université de Saint-Pétersbourg, 2004," Ж. Бушэ де Перт и его Путешествие в Россию(1856)» [« Le Voyage en Russie de Boucher de Perthes (1856) »] p. 143-151.

Cohen, Claudine. *Fälschungen. Zu Autorschaft und Beweis in Wissenschaft und Künsten*“, sous la direction de Reulecke, Suhrkamp Publishing House, Berlin, Mars 2006, “Vom “Kiefer von Moulin-Quignon zum “Piltown-Menschen”. Betrug und Beweis in der Paläanthropologie”, p. 163-179.

Cohen, Claudine. *Les Néandertaliens, Biologie et Cultures* sous la direction de Bernard Vandermeersch, Paris, ed. du CTHS, 2007 « Néandertal: histoire des idées et des découvertes », p. 15-31.

Cohen, Claudine. « Die Anatomische Rekonstruktion in der Paläontologie. Prinzipien, Modelle, Bilder », *Nachleben und Rekonstruktion*, Ikones, Basel 2012, p. 21-49.

Cohen, Claudine. « The Quest for Lost Worlds, Intellectual Revolutions and Mutations of the Imagination at the Turn of the 19th Century », in *Of Elephants and Roses, French Natural History 1790- 1830*, American Philosophical Society, Philadelphia, 2013, p. 179-188.

Cohen, Claudine. « Jacques Boucher de Perthes, 1788-1868: Humanity's High Antiquity » *The Great archeologists*, Ed. By Brian Fagan, London, Thames and Hudson, 2014.

Cohen, Claudine. « Sex and Gender in the Scenarios of Human Evolution ». In *Rethinking Human Evolution*, Jeffrey Schwartz ed. MIT Press.

Cohen, Claudine. « Exhibiting Life history at the Paris Museum of Natural History ». In Gary D. Rosenberg, Renee M. Clary, Eds, *Museums at the Forefront of the History and Philosophy of Geology: History Made, History in the Making*. The Geological Society of America Publications, Boulder, 2018.

Papers

Cohen, Claudine. "André Leroi-Gourhan, chasseur de préhistoire", *Critique*, 444, 1984, p. 384-403.

"Un Théoricien de l'Evolution: Stephen Jay Gould", *Alliage, Culture, Science, Technique*, 2, 1990, p. 6-14.

Cohen, Claudine. L'Anthropologie de Telliamed", *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, 3-4, 1989, p. 45-56.

Cohen, Claudine. "Benoît de Maillet et la diffusion de l'histoire naturelle à l'aube des Lumières", *Revue d'Histoire des Sciences*, 1991, XLIV, 3-4, p. 325-342.

Cohen, Claudine. "Histoire naturelle et imaginaire à l'aube des Lumières: le Telliamed de Benoît de Maillet", *Alliage, Science, culture, technique*, Juin 1995.

Cohen, Claudine. "Paris-New York, l'évolution mise en scène" *La Recherche*, N° 268, septembre 1994, p. 932-933.

Cohen, Claudine. "Des Fossiles et des mines" in *La Revue du Centre National des Arts et Métiers*, n° 18, mars 1997, p. 4-16.

Cohen, Claudine. "L'archéologie préhistorique française et anglaise autour de 1859: spécificité, emprunts, échanges" *Revue de la Maison Française d'Oxford*, n° 7, Trinity term 1997, p. 54-65.

Cohen, Claudine. "Formes et métamorphoses du récit paléontologique", in "Le narratif hors fiction" sous la dir. de R. le Huenen, *Texte, Revue de critique et de théorie littéraire*, Toronto, n° 19/20 1996, p. 279-289.

Cohen, Claudine. "Sto liet (1695-1796) v istorii izoutchéniija mamonta: nakhodki mamontovykh kostiei i ikh obiasnienija v zapadnoj Ebropiié" in *Troudy Zoologiticheskovo Institutouta, Rosiiskaia Akademiia Naouk (Compte rendus des travaux de l'Institut Zoologique de de Saint Pétersbourg, Académie des Sciences de Russie)*, St Pétersbourg, 1996, vol. 270 p. 196-205 (in Russian).

Cohen, Claudine. " Un manuscrit inédit de Leibniz (1646-1716) sur la nature des " objets fossiles " (version abrégée) *Travaux du Comité Français d'Histoire de la Géologie*, 3^{ème} série, t. X, 1996, n° 1, p. 165-166.

Cohen, Claudine. "Un manuscrit inédit de Leibniz sur la nature des "objets fossiles", *Bulletin de la Société Géologique de France*, 1998, t. 169, n° 1, p. 137-142.

Cohen, Claudine. "Le transformisme de Boucher de Perthes et la pensée scientifique de son temps". *Boucher de Perthes*, Abbeville, 1997, p. 35-43.

"Bouvard et Pécuchet réécrivent les sciences" in "L'Écrit de la science", *Alliages*, n° 37/38, 1998.

"Preuve et authenticité en préhistoire" *Terrains*, n° 33 Septembre 1999.

Cohen, Claudine. "From Moulin Quignon Jaw to Piltdown Skull: frauds in Paleoanthropology" in „*Fälschungen. Zu Autorschaft und Beweis in Wissenschaft und Künsten*“, Suhrkamp Publishing House, Berlin, 2006.

Cohen, Claudine. « Gould et D'Arcy Thompson » in *Palevol (Comptes rendus de l'Académie des Sciences)* 3 (2004) p. 421-431.

Cohen, Claudine. « Géopoésie: les Fossiles de Louis Bouilhet (1854) » S&TP, IIe série, 13, 2010, fasc. 1.

Cohen, Claudine. « Leibniz et Benoit de Maillet: De la Protogée au Telliamed », *Corpus*, mars 2011, p. 55-78.

Cohen, Claudine. « La Terre en ruines » in *Critique* n° 783-784, Août-sept. 2012 *Penser la catastrophe*, p. 653-665.

Cohen, Claudine. « Bouvard et Pécuchet font de la science. Savoirs et pratiques » Actes du Colloque de Rouen *Bouvard et Pécuchet, une encyclopédie des Savoirs*, 2016, online.

Cohen, Claudine. "How nationality influences opinion". Darwinism and French Palaeontology, 1859-1914", in "Darwinism and Palaeontology, Historical Studies in the Natural sciences", Ed. By Marco Tamborini and David Sepkoski, in *Studies in History and Philosophy of Biol & Biomed Sci* 2017 (66) p. 8-17.

Cohen, Claudine. "Primitivité dans les arts et les sciences à l'aube du 20^e siècle: N.K. Roerich, de l'archéologie préhistorique russe au *Sacre du Printemps*" in "Autour de Nikolaï Roerich: art, ésotérisme, orientalisme et politique" sous la dir. De Dany Savelli, *Slavica Occitania* 2019, on press.

Dictionary Entries

Cohen, Claudine. *Dictionnaire du XIX^e siècle européen*, sous la dir. de M. Ambrière, Paris, Presses universitaires de France, 1997. *Entries by Claudine Cohen & Pascal Tassy*: Homme Fossile, p. 547-549; Kovalevsky (Woldemar), p. 641-642; Lamarck (Jean-Baptiste Monet de), p. 656; Lyell (Charles), p. 698-699; Mammouth, p. 717; Murchison (Roderick Impey), p. 780; D'Orbigny (Alcide), p. 848; Owen (Richard), p. 865; Paléontologie et évolution (controverses), p. 869-870; Préhistoire, p. 945-947. *Entries by Claudine Cohen*: Actualisme en paléontologie, p. 4; Agassiz (Louis), p. 8-9; Blumenbach (Johann F.), p. 161; Boucher de Perthes (Jacques), p. 166-167; Buckland (William), p. 187; Cuvier (Georges), p. 306; Déluge, p. 327; Falconer (Hugh); Gaudry (Albert), p. 474-475; Geoffroy Saint Hilaire (Etienne), p. 487-488,.

Cohen, Claudine. *Dictionnaire encyclopédique des Lumières*, sous la dir. de Michel Delon, Paris, P.U.F., 1997. Entry "Diffusion et vulgarisation des sciences au XVIII^e siècle".

Cohen, Claudine. *Dictionnaire culturel des sciences*, sous la dir. de Nicolas Witkowski, ed. du Seuil/ ed. du Regard, Paris, 2001. *Entries*: Agassiz (Louis), p. 19-20; Australopithèque, p. 48-49; Boucher de Perthes, p. 72; *Bouvard et Pécuchet*, p. 74; Cro-Magnon, p. 119; Dinosaur, p. 141; Fossile, p. 182-183; Geoffroy Saint-Hilaire (Etienne), p. 196; Géants, p. 193; *Homo*, p. 215-216; *Homo sapiens*, p. 216; mammouth, p. 272-273; Néandertal, p. 301; Owen (Richard), p. 321; Paléontologie, p. 323; Piltdown, p. 337; Preuve (en paléontologie), p. 344-345; Zadig, p. 440.

Cohen, Claudine. *New Dictionary of Scientific Biography*, 2007. Entry: Vallois (Henri-Victor).

Cohen, Claudine. *Encyclopedia Universalis: Universalis* (1997). Entry: Gould (Stephen Jay).

Cohen, Claudine. *Encyclopedia Universalis* (2008). Entry: Gould (Stephen Jay).

Films

Nouveaux regards sur le mammouth (30 mn) film réalisé par Momoko Seto, réalisé et diffusé pour le 40e anniversaire de l'EHESS, 2015 (<https://www.youtube.com/watch?v=QSzt-2m5tp0>) DVD en préparation.

Mini-geology 8 films réalisés à Asilomar (USA) en 2016 sur l'histoire et l'épistémologie de la géologie (Youtube <<https://www.youtube.com/watch?v=5KRTabZbFaE&list=PLmmAUOBnIY7R4pk7RFleuv60vN7CgpfjA&index=2>>).

Femmes de terrain film réalisé en collaboration avec Momoko Seto, (en préparation, pour le 70e anniversaire de la 6e section de l'EPHE, EHESS, septembre 2019).

Michel Durand-Delga, (1923-2012) Professor at Université Paul-Sabatier de Toulouse.

Books

Durand-Delga, Michel, 2010. *Marcel Bertrand (1847-1907), génie de la tectonique*. Paris, Transvalor-Presses des Mines, 185 p.

Papers

Durand-Delga, Michel, 1990. L'Affaire Deprat. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 4: 117-212.

Durand-Delga, Michel, Moreau, R., 1994. Un savant dérangeant: Jules Marcou (1824-1898), géologue français d'Amérique. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 8: 55-82.

Durand-Delga, Michel, Nikolov, T., Sandulescu, M., 1996. Ami Boué, fondateur de la Société géologique de France, et la naissance de la géologie dans le Sud-est de l'Europe". *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 10: 97-100.

Durand-Delga, Michel, 2000. Les querelles de "deux amis de vingt ans": les professeurs Alexandre Leymerie, de Toulouse, et Victor Raulin, de Bordeaux. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 14: 61-100.

Durand-Delga, Michel, 2002. Pierre-Bernard Palassou (1745-1830), pionnier de la géologie des Monts-Pyrénées. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 16: 1-36.

Durand-Delga, Michel, 2004. Le 19e Congrès géologique international - Alger, 1952. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 18: 165-180.

Durand-Delga, Michel, 2004. Géologie et géologues du Bassin d'Aquitaine du XVIe siècle à la période moderne. *Bulletin d'Information des Géologues du Bassin de Paris*, 41 (4): 49-72.

Durand-Delga, Michel, 2006. Alexandre de Humboldt, le dernier savant universel, par Mireille Gayet. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 20: 207-211.

Durand-Delga, Michel, 2006. Trois essais de tectonique globale avant la lettre, par Léonce Élie de Beaumont, Eduard Suess et Alfred Wegener. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 20: 75-103.

Durand-Delga, Michel, 2007. Marcel Bertrand (1847-1907), honneur de la géologie française. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 21: 221-349.

Durand-Delga, Michel, 2011. Bernard Balan, L'Évolution des idées en géologie - Des Cosmogonies à la Physique du Globe. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 25, 11: 223-224.

Durand-Delga, Michel, 2011. La recherche géologique française en Algérie du Nord après 1962. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 25, 10: 217-222.

Durand-Delga, Michel, Cherchi, A., Schroeder, R., 2016. Les "Nummulites carbonifères" comme source de querelles entre Jacques Deprat et Maurice Piroutet sur la stratigraphie de la Nouvelle-Calédonie. *Boletín Geológico y Minero*, vol. 127: 657-672.

Sebastien Duteuil, Université Aix Marseille; CNRS, Centre Gilles Gaston Granger, Aix-en-Provence

Chapters in Books

Duteuil, Sebastien, 2018. "James Lovelock and the Gaia hypothesis: 'a new look at life on Earth', for the life and the Earth sciences." In: M. Dietrich & O. Harman (Eds), *Dreamers, Romantics and Visionaries in the Life Sciences*, University of Chicago Press, 272-287.

Duteuil, Sebastien, 2019. "Dagognet et les sciences de la Terre", chapter of a collective book edited by B. Bensaude-Vincent, J-F. Braunstein and J. Gayon dedicated to Dagognet. Éditions Matériologiques.

Papers

Duteuil, Sebastien, 2014. "What good are abstract and what-if models ? Lessons from the Gaia hypothesis", *History and Philosophy of the Life Sciences*, 36(1), 16-41.

Duteuil, Sebastien, Pocheville, A., 2015. "Les organismes et leur environnement: la construction de niche, l'hypothèse Gaïa et la sélection naturelle", *Bulletin de la Société d'Histoire et d'Épistémologie des Sciences de la Vie (SHESVIE)*, 22(1), 27-56.

Duteuil, Sebastien, 2017. "James Lovelock, Gaïa et la pollution: un scientifique entrepreneur à l'origine d'une nouvelle science et d'une philosophie politique de la nature", *Zilsel*, 2 (2), 19-61.

Duteuil, Sebastien, 2018. "L'anthropocène est-il un concept d'histoire de la terre ? Le nom qui ne dit pas son épistémologie". In: C. Larrère et R. Beau, *Penser l'anthropocène*, Presses de Sciences Po, p. 355-374.

Briday, R., Duteuil, Sebastien, 2019. "Les multiples facettes de l'entrepreneuriat scientifique de James Lovelock dans les années 1960 - 70: développement d'instruments, consultance sur les pollutions et hypothèse Gaïa", *Marché et organisations*, 1(34), 33-60.

François Ellenberger (1915-2000) Professor at *Université d'Orsay Paris-Sud*. Former president and founder of the *Comité français d'Histoire de la Géologie* (Cofrhigéo).

Books

Ellenberger, François, 1988. *Histoire de la Géologie. Tome 1, Des anciens à la première moitié du XVII^e siècle*. Paris, Technique et Documentation/Lavoisier, 352 p.

Ellenberger, François, 1994. *Histoire de la Géologie. Tome 2, La grande éclosion et ses prémices, 1660-1810*. Paris, Technique et Documentation/Lavoisier, XVI+381 p.

Ellenberger, François, Gaudant, Jean [Eds.], 1995. *Essais sur l'histoire de la géologie: en hommage à Eugène Wegmann, 1896-1982*. Paris, Société géologique de France, 152 p.

Papers

Ellenberger, François, 1977. Le dilemme des montagnes au XVIII^e siècle: vers une réhabilitation des diluvianistes? *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 6: 14-22.

Ellenberger, François, 1978. Précisions nouvelles sur la découverte du volcanisme en France: Nicolas Guettard, ses prédécesseurs, ses émules clermontois. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 11: 9-14.

Ellenberger, François, 1979. Louis Cordier, initiateur de la pétrographie moderne. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 20: 29-37.

Ellenberger, François, 1979. Origine et histoire du terme Horizon en Géologie et Paléontologie: un exemple d'éclatement sémantique. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 16: 1-7.

Ellenberger, François, Gohau, G., 1980. En guise de petit divertissement (Réponse au questionnaire du 17 février 1980). *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 27: 2 p.

Ellenberger, François, Gohau, G., 1980. Jean-André De Luc (1727-1317) et l'aurore de la stratigraphie paléontologique. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 31: 8 p.

Roger, J., Ellenberger, François, Gohau, G., Laurent, G., Laffitte, R., 1980. Table ronde: temps court - temps long. La préhistoire du débat. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 22: 1-2.

Ellenberger, François, 1981. Le problème des grès de Fontainebleau: premiers travaux méconnus. Du danger des cribles conceptuels dans la vision des faits. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 36: 15-25.

Ellenberger, François, 1982. Les premières cartes géologiques en France: projets et réalisations. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série: 45-65.

Ellenberger, François, 1983. La dispute des lignites du Soissonnais. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 1: 1-22.

Ellenberger, François, 1984. Histoire des idées sur les chaînes de montagnes de HUTTON à WEGENER: présentation d'un ouvrage récent, avec commentaire critique. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 2: 63-88.

Ellenberger, François, 1984. Quelques idées anciennes sur la constitution interne du globe terrestre. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 2: 1-19.

Ellenberger, François, 1985. Analyse d'ouvrage de Dederick C. Ward et Albert V. Carozzi: "Geology Emerging - A Catalog Illustrating the History of Geology (1500-1850)". *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 3: 85-87.

Ellenberger, François, 1986. Brève évocation de Jean-Etienne GUETTARD (1715-1786), à l'occasion du bicentenaire de sa mort. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 4: 85-90.

Ellenberger, François, 1986. Les premiers travaux géologiques en Provence. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 4: 23-31.

Ellenberger, François, 1986. Notes de lecture de Claude-Jean ALLEGRE: "De la Pierre à l'Etoile". *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 4: 95-100.

Ellenberger, François, 1987. Hommage à André Cailleux (1907-1986). *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 1: 101-113.

Ellenberger, François, 1987. Jan VAN GORP (GOROPIUS BECANUS), 1518-1572: un pionnier méconnu de l'étude des fossiles au XVI^{ème} siècle. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 1: 9-27.

Ellenberger, François, 1987. Un centenaire à commémorer: la découverte des charriages de Provence par Marcel Bertrand. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 1: 49-56.

Ellenberger, François, 1988. Un remarquable texte arabe médiéval sur le cycle érosion-sédimentation, dans une traduction nouvelle. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 2: 75-80.

Ellenberger, François, 1989. La première coupe historique du stratotype d'Etampes, dressée par Lavoisier en 1767. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 3: 7-20.

Ellenberger, François, 1990. Johann Scheuchzer, pionnier de la tectonique alpine. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 4: 85-115.

Ellenberger, François, 1991. La paléontologie britannique naissante et ses dilemmes. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 5: 29-60.

Ellenberger, François, 1991. Ovide et la géologie. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 5: 17-24.

Ellenberger, François, 1992. Commémoration du bicentenaire de la naissance de Roderick Impey Murchison (1792-1871). *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 6: 119-120.

Ellenberger, François, 1992. Giovanni Arduino (1714-1795): le génial vénitien. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 6: 93-108.

Ellenberger, François, 1993. Analyse d'ouvrage d'Ezio Vaccari: "Giovanni Arduino (1714-1795) Il contributo di uno scienziato veneto al dibattito settecentesco sulle scienze della Terra". *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 7: 125-132.

Ellenberger, François, 1993. La méthode en géologie vue par ses premiers acteurs et ses leçons toujours actuelles. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 7: 75-104.

Ellenberger, François, 1993. Observations sur la communication de M. Lorenz. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 7: 45-47.

Ellenberger, François, 1996. Le présent, clef du passé. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 10: 65-71.

Ellenberger, François, 1996. Les leçons toujours actuelles de l'histoire de la géologie (Adresse présidentielle). *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 10: 189-197.

Jean Gaudant, (1939-2015) Associated professor at Université de Paris-Diderot and researcher at Muséum national d'Histoire naturelle. Former secretary of the Cofrhigéo.

Books

Gayet, M., Gaudant, Jean, 1971. *Les Théories classiques de l'évolution*. Paris, Dunod, X-238 p.

Ellenberger, François, Gaudant, Jean [Eds.], 1995. *Essais sur l'histoire de la géologie: en hommage à Eugène Wegmann, 1896-1982*. Paris, Société géologique de France [Mémoire n° 168], 152 p.

Gohau, G., Gaudant, Jean [Eds.], 1997. *De la géologie à son histoire: ouvrage édité en hommage à François Ellenberger*. Paris, CTHS, 223 p.

Gaudant, Jean [Ed.], 2008. *Géologues et paléontologues: de la passion à la profession*. Paris, Presses de l'École des Mines, 293 p.

Gaudant, Jean, 2008. Johann Jakob Scheuchzer. *Les fossiles témoins du déluge*. Paris, Presses de l'École des Mines, 163 p.

Gaudant, Jean [Ed.], 2009. *Dolomieu et la géologie de son temps*. Paris, Presses de l'École des Mines, 199 p.

Gaudant, Jean [Ed.], 2009. *L'essor de la géologie française: essais*. Paris, Presses de l'École des Mines, 380 p.

Edition of Book Series

Series « l'histoire de la découverte géologique de la France », Presses des Mines, Paris, 2011-2014: 4 books by J. Debelmas (Ed.), 2011, « *L'exploration géologique des Alpes franco-italiennes* », 252 p.; J. Philip, 2012, « *L'Exploration géologique de la Provence. Deux siècles et demi de débats et de controverses* », 366 p.; C. Babin, 2013, « *L'Exploration géologique du Massif armoricain* », 380 p.; L. David, N. Mongereau, 2014, « *L'Exploration géologique du Fossé rhodanien* », 373 p.

Chapters in Book

Gaudant, Jean, 1997. "La géologie à la Sorbonne." In: J. Lorenz, P. Benoît & D. Obert (Eds) *Pierres & Carrières, Géologie – Archéologie – Histoire*, Association des géologues du Bassin de Paris et AEDEH, Paris, 35-47.

Gaudant, Jean, Bouillet, G., 1997. "Aux sources de la paléoichthyologie: Les doléances et revendications des poissons (*Piscium querelae vindiciae*) de Johann Jakob Scheuchzer [1708]." In: G. Gohau (Ed) *De la géologie à son histoire*. Éditions du CTHS, Paris, 37-59.

Gaudant, Jean, 2009. "Giuseppe Scarabelli, Eugenio Sismonda, Igino Cocchi et l'ichthyofaune messinienne de la Marche et de la Romagne." In: G. B. Vai (Ed.) *Il diamante e Scarabelli*, Comitato Promotore per le Celebrazioni Scarabelli, Imola, 1-20.

Gaudant, Jean, 2009. "La genèse de la Terre, d'après un manuscrit inédit de Déodat de Dolomieu." In J. Gaudant (Ed.) *Dolomieu et la géologie de son temps*, Presses de l'École des Mines, Paris, 185-190.

Gaudant, Jean, 2010. "L'itinéraire de Johann Jakob Scheuchzer (1672-1733): Des pierres figurées à la théologie naturelle." In B. Hubmann, L. Schubl, J. Seidl (Eds.), *Die Anfänge geologischer Forschung in Österreich*, Grazer Universitätsverlag, Graz, 13-27.

Gaudant, Jean, Bouillet, G., 2010. "Les origines de la paléontologie: de la Renaissance à l'âge classique." In C. Thomasset, J. Ducros, J.-P. Chambon (Eds.), *Aux origines de la géologie de l'Antiquité au Moyen Âge*, Champion édit., Paris, 321-347.

Gaudant, Jean, 2012. "Géologues outre-mer." In P. Bonnichon, P. Geny, J. Nemo (Eds.), *Présences françaises outre-mer (XVII^e-XXI^e siècles). Tome II: Science, religion et culture*, Académie des Sciences d'Outre-mer, Karthala, Paris, 139-177.

Papers

Gaudant, Jean, 1979. Louis Agassiz (1807-1373) fondateur de la paléoichthyologie. Travaux du Comité français d'Histoire de la Géologie, 1^{ère} série, n° 17: 8 p.; *Revue d'Histoire des Sciences*, vol. 33 (1980): 151-162.

Gaudant, Jean, 1980. De la Dérive des Continents à la Tectonique des Plaques: Réflexions sur l'histoire des théories de la mobilité continentale. *Travaux du Comité français d'Histoire de la Géologie*, 1^{ère} série, n° 30: 6 p.

Gaudant, Jean, 1982. Actualisme, antiprogressionnisme, catastrophisme et créationnisme dans l'œuvre d'Alcide d'Orbigny. Travaux du Comité français d'Histoire de la Géologie, 1^{ère} série, n° 46: 7 p.; *Revue d'Histoire des Sciences*, vol. 37: 305-312.

Gaudant, Jean, 1984. Albert Gaudry (1827-1908) et les "enchaînements du monde animal". Travaux du Comité français d'Histoire de la Géologie, 2^{ème} série, vol. 2: 21-29; *Revue d'Histoire des Sciences*, vol. 44 (1991): 117-127.

Gaudant, Jean et Cailleux, A., 1985. Franck Bourdier et l'histoire de la géologie. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 3: 105-107.

Gaudant, Jean, 1986. Arthur Birembaud (1905-1986). *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 4: 91-93.

Gaudant, Jean, 1986. Le COFRHIGEO a 10 ans. Travaux du Comité français d'Histoire de la Géologie, 2^{ème} série, vol. 4: 101-105.

Gaudant, Jean, 1986. Camille Arambourg (1885-1969), précurseur du ponctualisme. *Revue d'Histoire des Sciences*, vol. 39: 31-34.

- Gaudant, Jean, 1988. Analyse d'ouvrage: Martin Schwarzbach, « Wegener, le père de la dérive des continents » (Belin, Paris, 1985, 144 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 2: 93-94.
- Gaudant, Jean, 1989. Principaux résultats de l'enquête sur la dérive des continents. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 3: 21-36.
- Gaudant, Jean, 1989. Analyse d'ouvrage: Gabriel Gohau, « Histoire de la Géologie » (La Découverte, Paris, 1987, 259 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 3: 87-88.
- Gaudant, Jean, 1989. Analyse d'ouvrage: François Ellenberger, « Histoire de la Géologie », tome 1. (Technique et Documentation/Lavoisier, Paris, 1988, 352 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 3: 89-90.
- Gaudant, Jean, 1989. Le Bassin Parisien, berceau de la Géologie. Bulletin d'Information des Géologues du Bassin de Paris, Mém. hors-série. 7: 15-41.
- Gaudant, Jean, 1990. Darwin et après. Sciences & Vie hors-série 173: 16-21.
- Gaudant, Jean, 1990. Jacques Roger (1920-1990) et l'histoire de la Géologie. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 4: 39-51.
- Gaudant, Jean, 1990. L'exploration géologique du Bassin Parisien. Quelques pionniers, le plus souvent méconnus. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 4: 59-78; Histoire et Nature, vol. 30 (1993): 17-39.
- Gaudant, Jean, 1990. Analyse d'ouvrage: Gabriel Gohau, « Les Sciences de la Terre aux XVII^e et XVIII^e siècles. Naissance de la Géologie » (Albin Michel, Paris, 1990, 420 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 4: 219-221.
- Gaudant, Jean, 1990. Meudon et la limite Crétacé-Tertiaire: aperçu historique. Bulletin d'Information des Géologues du Bassin de Paris, vol. 27: 17-20.
- Gaudant, Jean, 1991. Le puits artésien de Grenelle fête ses 150 ans. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 5: 9-15; La Recherche n°230: 388-390.
- Gaudant, Jean, 1991. Les cent-cinquante ans de la première carte géologique de France. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 5: 79-83; La Recherche n°238: 1498-1500.
- Gaudant, Jean, 1991. Analyse d'ouvrage: Éric Buffetaut, « Des fossiles et des hommes » (Éditions Robert Laffont, Paris, 1991). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 5: 141-142.
- Gaudant, Jean, 1992. Hommage à Richard Owen (1804-1892), le Cuvier anglais. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 6: 109-117.
- Gaudant, Jean, 1992. Analyse d'ouvrage: André Bailly, « Défricheurs d'inconnu: Peiresc, Tournefort, Adanson, Saporta » (Edisud, Aix-en-Provence, 1992, 277 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 6: 127-129.
- Gaudant, Jean, 1993. Analyse d'ouvrage: Helmut Hölder, « Une brève histoire de la géologie et de la paléontologie » (Springer-Verlag, Paris, 1992, 280 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 7: 119-123.
- Gaudant, Jean, 1994. Analyse d'ouvrage: François Ellenberger, « Histoire de la Géologie », tome 2 (Technique et documentation/Lavoisier, Paris, 1994, XIV + 381 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 8: 123-126.
- Gaudant, Jean, 1995. Analyse d'ouvrage: Claudine Cohen, « Le destin du mammouth » (Éditions du Seuil, Paris, 1994, 348 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 9: 137-138.

Gaudant, Jean, 1995. Analyse d'ouvrage: S. Figueiroa & M. Lopes, « Geological sciences in Latin America – Scientific Relations and Exchanges » (UNICAM/IG, Campinas, Brésil, 1994, 402 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 9: 139-141.

Gaudant, Jean, 1995. Analyse d'ouvrage: Gaetano Giglia, Carlo Maccagni, Nicoletta Moreno (Éd.), « Rocks, Fossils and History » (Festina Lente, Fierenze, 1995, 283 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 9: 147-148.

Gaudant, Jean, 1995. La réception de l'idée de dérive des continents en France et en Suisse romande: les enseignements d'une enquête. Mémoires de la Société géologique de France, vol. 168: 129-138.

Gaudant, Jean, 1996. Les poissons pétrifiés du Monte Bolca (Italie) et leur influence sur les théories de la Terre au milieu du siècle des Lumières, d'après un manuscrit inachevé de Jean-François Séguier (1703-1784). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 10: 167-169.

Gaudant, Jean, 1997. La querelle des trois abbés (1793-1795): le débat entre Domenico Testa, Alberto Fortis et Giovanni Serafino Volta sur la signification des poissons pétrifiés du Monte Bolca (Italie). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 11: 147-184; Studi e ricerche sui giacimenti terziari di Bolca, vol. 8 (1999): 159-206.

Gaudant, Jean, 1997. Analyse d'ouvrage: Philippe Taquet, « L'empreinte des Dinosaures – Carnets de piste d'un chercheur d'os » (Éditions Odile Jacob, Paris [collection Opus], 1997, 362 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 11: 185-186.

Gaudant, Jean, 1997. Analyse d'ouvrage: Francesco Pelayo, « Del Diluvio al Magaterio – Los origenes de la paleontologia en España » (Consejo superior de Investigaciones científicas [Cuadernos Galileo de Historia de la Ciencia, n°16], Madrid, 1996, 310 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 11: 189-190.

Gaudant, Jean, 1997. Analyse d'ouvrage: Pierre L. Maubeuge, « Comme une odeur de pétrole... La recherche du pétrole en France des origines jusqu'en 1945 » (Éditions Pierron, Sarreguemines, 1996, 215 p., 24 pl. h. t.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 11: 191-192.

Gaudant, Jean, 1998. Analyse d'ouvrage: Éric Buffetaut, « Histoire de la Paléontologie » (PUF [Que sais-je ?], Paris, 1998, 127 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 129-131.

Gaudant, Jean, 1999. Hommage à Jean Piveteau (1899-1991) pour le centenaire de sa naissance. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 13: 29-38.

Gaudant, Jean, 1999. Analyse d'ouvrage: Nicoletta Morello (Éd.), « Volcanoes and History. Proceeding of the XXth INHIGEO Symposium, Napoli – Eolie – Catania (Italy), 19-25 September 1995 » (Brigati, Genova, 1998, 755 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 13: 115-116.

Gaudant, Jean, 1999. Analyse d'ouvrage: Claudine Cohen, « L'Homme des origines – Savoir et fictions en Préhistoire » (Éditions du Seuil [Collection "Science ouverte"], Paris, 1999, 312 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 13: 121-123.

Gaudant, Jean, 2000. Analyse d'ouvrage: Jean-Pierre Brun & Marie-Anne Ollivier (Coord.), « 150 ans de géologie à Rennes » (Mémoires de Géosciences Rennes, h. s. n°3, 2000, 105 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 14: 145-146.

Gaudant, Jean, 2000. Analyse d'ouvrage: L. Alberti, G. Rainaldi et E. Rizzi (Éd.), « Horace-Bénédict de Saussure Viaggi nelle Alpi – Passo del Gries e Monte Rosa » ('Fondazione Enrico Monti, Anzola d'Ossola, 2000, 220 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 14: 151-152.

Gaudant, Jean, Bouillet, G., 2000. La genèse et l'interprétation des « fossiles » dans la science classique: de la Renaissance aux Lumières. Bulletin de la Société géologique de France, vol. 171: 587-601.

Gaudant, Jean, 2001. La naissance du Transformisme, par Goulven Laurent. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 15: 177-178.

Gaudant, Jean, 2001. Jacques Sigal (1920-2001). In memoriam. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 15: 179-180.

Gaudant, Jean, 2001. Analyse d'ouvrage: Goulven Laurent, « La naissance du transformisme, Lamarck entre Linné et Darwin » (Éditions Vuibert/Adapt, Paris, coll. "Inflexions", 2001, 151 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 15: 209-210.

Gaudant, Jean, 2001. Les débuts de l'exploration géologique et paléontologique du Bassin Parisien (1720-1850). Bulletin d'Information des Géologues du Bassin de Paris, vol. 38: 3-39.

Gaudant, Jean, 2002. Analyse d'ouvrage: Pierre Bordet, « Volcans et autres montagnes » (Édimontagne-IGAL, Le Bouchet, 74310 Servoz, 2001, 181 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 16: 179-180.

Gaudant, Jean, 2002. Analyse d'ouvrage: Michel Durand-Delga et Richard Moreau, « Jules Marcou (1824-1898), précurseur français de la géologie nord-américaine » (L'Harmattan, Paris, 2002, 199 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 16: 181-182.

Gaudant, Jean, 2002. Le manuscrit du cours de paléontologie professé par Alcide d'Orbigny en 1854 et 1855 au Muséum national d'histoire naturelle. C. R. Palévol, vol. 1: 365-382.

Gaudant, Jean et Bouillet, G., 2003. Hommage à Johann Friedrich Blumenbach (1752-1840) à l'occasion du bicentenaire de son essai d'"Archéologie de la Terre" (1803). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 37-50.

Gaudant, Jean, 2003. Un observateur méconnu des volcans d'Auvergne: l'abbé Paul-François Lacoste, de Plaisance (1755-1826). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 121-129.

Gaudant, Jean, 2003. Analyse d'ouvrage: Gabriel Gohau, « Naissance de la géologie historique. La Terre, des "Théories" à l'histoire » (Éditions Vuibert/Adapt, Paris, coll. "Inflexions", 2003, 124 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 197-198.

Gaudant, Jean, 2003. Analyse d'ouvrage: Thérèse Charles-Vallin, « Les aventures du chevalier géologue Déodat Dolomieu » (Presses universitaires de Grenoble, coll. "L'Empreinte du temps", 2003, 297 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 201-202.

Gaudant, Jean, 2003. Analyse d'ouvrage: Manuel Serrano Pinto, « Geological Resources and History-june 24th – July 1st 2001. INHIGEO Meeting Portugal 2001 » (Proceedings of the 26th Symposium, Centro de Estudos de Historia et Filosofia da Ciencia e da Technica, Universidade de Aveiro, 2003, 439 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 203-204.

Gaudant, Jean, 2004. Guillaume-François Rouelle (1703-1770), précurseur d'un enseignement géologique en France. C. R. Palévol, vol. 3: 85-98.

Gaudant, Jean, 2004. Lieux de mémoire géologiques du Bassin de Paris et Protection du patrimoine naturel. Journées d'étude de printemps. Bulletin d'Information des Géologues du Bassin de Paris, vol. 41: 3-27.

Gaudant, Jean, 2004. La naissance et le développement de la stratigraphie dans le Bassin parisien: survol historique. Bulletin d'Information des Géologues du Bassin de Paris, vol. 41: 32-48.

Gaudant, Jean, Bouillet, G., 2004. Johannes Reiskius (1687): Une tentative de réfutation aristotélicienne des idées de Fabio Colonna et Nicolas Sténon sur la nature organique des glossopètres. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 18: 93-102.

Gaudant, Jean, 2005. Jean-François Ségurier (1703-1784), premier historiographe de la paléontologie. C. R. Palévol, vol. 4: 295-310.

Gaudant, Jean, 2005. La géologie est née en Italie ! Géochronique n° 95: 21-22.

Gaudant, Jean, 2005. Les pétrifications du Véronois: un manuscrit inachevé de Jean-François Séguier (1703-1784). Studi e ricerche sui giacimenti terziari di Bolca, vol. 11: 165-230.

Gaudant, Jean, 2005. Les terrasses quaternaires de la vallée de la Somme et la naissance de la Préhistoire. Journées d'étude d'automne (16-17 octobre 2004). Bulletin d'Information des Géologues du Bassin de Paris, vol. 42: 3-24.

Gaudant, Jean, Bouillet, G., 2005. La paléontologie de la Renaissance. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 35-50.

Gaudant, Jean, 2005. Analyse d'ouvrage: Evaristo Alvarez-Muñoz, « Filosofía de las ciencias de la tierra. El cierre categorial de la geología » (Biblioteca Filosofía en español, Fundacion Gustavo Bueno, Pentalta Ediciones, Oviedo 2004, 355 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 175-176.

Gaudant, Jean, 2005. Analyse d'ouvrage: Albert. V. Carozzi, « Horace-Bénédict de Saussure (1740-1799), un pionnier des sciences de la Terre » (Slatkine, Genève, 2005, 430 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 193-194.

Gaudant, Jean, 2006. Analyse d'ouvrage: Philippe Taquet, « Georges Cuvier, naissance d'un génie » (Odile Jacob, 2006, 544 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 20: 203-205.

Gaudant, Jean, 2006. Analyse d'ouvrage: Pietro Corsi, Jean Gayon, Gabriel Gohau et Stéphane Tirard, « Lamarck, philosophe de la nature » (Éditions Vuibert/Adapt, Paris, coll. "Inflexions", 2005, 167 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 20: 213-215.

Gaudant, Jean, 2006. L'histoire de la géologie fait partie intégrante des sciences. Géochronique n° 99: 17-19.

Gaudant, Jean, 2007. Aux sources de la Préhistoire: les céramiques, ces pierres étranges supposées tombées du ciel. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 21: 97-112.

Gaudant, Jean, 2008. John Woodward (1695) et Johann Jakob Scheuchzer (1708): l'irruption du Déluge dans l'interprétation des fossiles. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 22: 55-63.

Gaudant, Jean, 2008. Albert Gaudry (1827-1908), paléontologue darwinien ? Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 22: 105-111.

Gaudant, Jean, 2008. Analyse d'ouvrage: Kenneth L. Taylor, « The Earth Sciences in the Enlightenment Studies on the Early Development of Geology » (Ashgate Variorum, Ashgate Publishing Ltd, Aldershot, Hampshire GU11 3HR, Great Britain, 2008). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 22: 133-134.

Gaudant, Jean, 2008. Analyse d'ouvrage; Christian Montenat, « Une famille de géologues: les Lapparent – Un siècle d'histoire & d'aventure de la géologie » (Vuibert-Société géologique de France, coll. "Interactions", Paris, 2008, 216 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 22: 135-136.

Gaudant, Jean, 2008. Des jeux de la Nature aux médailles de la Création. Cahiers François Viète 2005: 83-104.

Gaudant, Jean, 2008. Déodat de Dolomieu (1750-1801), chevalier de Malte, ingénieur des mines et membre de l'Institut national. ABC Mines, vol. 29: 5-11.

Gaudant, Jean, 2008. Quand les poissons fossiles revendiquaient leur appartenance au règne animal ! Géochronique n° 107: 20-22.

Gaudant, Jean, 2009. André Brochant de Villiers (1772-1840), concepteur de la Carte géologique de la France, dite de Dufrenoy et Élie de Beaumont (1841). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 67-88.

- Gaudant, Jean, 2009. Extraits du Traité sur l'Origine des pierres figurées (1709) de Karl Nikolaus Lang (1670- 1741), dans une traduction de Geneviève Bouillet: une critique de la théorie de la Terre de John Woodward (1695) et des Doléances et Revendications des Poissons, de Johann Jakob Scheuchzer (1708). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 185-199.
- Gaudant, Jean, 2009. Analyse d'ouvrage: Christian Moreau, « Louis Benjamin Fleuriu de Bellevue, savant, physicien naturaliste, géologue et philanthrope rochelais (1761-1852) » (Les Indes savantes, Paris, 2008, 344 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 233-234.
- Gaudant, Jean, 2009. La France a-t-elle oublié Lamarck ? Géochronique n° 111: 36-37.
- Gaudant, Jean, 2010. Nicolas-Antoine Boulanger (vers 1750) et les « Vestiges du continent auquel appartenait le Mont Aymé »: nouvel examen des roches de la « Pierre aux Vignes », près de Sommesous (Marne). Bulletin d'Information des Géologues du Bassin de Paris, vol. 47: 3-7.
- Gaudant, Jean, 2010. Histoire d'une brève controverse: Wilhelm Ernst Tentzel (1659-1707) et l'éléphant fossile découvert en 1695 à Burg Tonna, près de Gotha (Allemagne). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 24: 117-130.
- Gaudant, Jean, 2010. Il y a trois siècles, l'irruption d'un "crocodile" dans le bestiaire fossile. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 24: 173-184.
- Gaudant, Jean, 2011. La Société de la Carte géologique de France (1869-1872): une éphémère réaction à la création du Service de la Carte géologique de la France. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 25: 207-215.
- Gaudant, Jean, 2011. Analyse d'ouvrage: Rhoda Rappaport, « Studies on Eighteenth-Century Geology » (Edited by Kenneth E. Taylor & Martin S. Rudwick, Ashgate, Farnham, Surrey, England, and Burlington Vermont, USA, 2011, 340 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 25, 12: 225-227.
- Gaudant, Jean, 2011. La publication de l'*Ittiolotologia Veronese* (1796-1809): Le triomphe de l'obstination au service d'une entreprise scientifique hors norme. Studi e ricerche sui giacimenti terziari di Bolca, vol. 13: 67-133.
- Gaudant, Jean, 2011. Brève histoire de la collection Gazola de poissons fossiles éocènes du Monte Bolca (Italie) conservée au Muséum national d'histoire naturelle, Paris. Geodiversitas, n°33: 637-647.
- Gaudant, Jean, 2012. Brève histoire de la Société géologique de France vue à travers ses présidents successifs. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26: 81-104.
- Gaudant, Jean, 2012. Une nouvelle contestation de la nature organique des fossiles: les *Dissertationes taurinenses Epistolicae physico-medicae* d'Elias Camerarius (1712). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26: 235-240.
- Gaudant, Jean, 2012. Analyse d'ouvrage: Jacques Debyser, « Un nouveau regard sur la Nature: temps, espace et matière au siècle des Lumières » (EDP Sciences, Les Ulis et Observatoire de Paris, 2007, 426 p.). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26: 241-242.
- Gaudant, Jean, 2012. Naissance de la stratigraphie! Géochronique n° 122: 12-14.
- Gaudant, Jean, 2013. Jean-François d'Aubuisson de Voisins (1769-1841) et le basalte: de la Saxe à l'Auvergne. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 27: 221-232.
- Gaudant, Jean, 2013. Évocation d'Ernest Munier-Chalmas (1843-1903) par Gustave F. Dollfus, d'après un document inédit conservé aux Archives de l'Académie des sciences. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 27: 251-260.

Gaudant, Jean, 2014. Ami Boué (1794-1881), fondateur de la Société géologique de France ? Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 28: 151-155.

Gaudant, Jean, 2014. Quoi de neuf dans l'histoire de la géologie française ? Géologues n°180, 106-110.

Gaudant, Jean, 2014. Les premières coupes géologiques du Bassin parisien (1816-1852). Bulletin d'Information des Géologues du Bassin de Paris, Mém. h.-s. 9: 16-19.

Gaudant, Jean, 2014. Quelques figures emblématiques de l'étude géologique du Bassin parisien, Bulletin d'Information des Géologues du Bassin de Paris, vol. 51: 7-19.

Moreau, G., Gaudant, Jean, 2015. L'exploration géologique des Charentes (partie septentrionale du Bassin aquitain). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 29: 1-26.

Dictionary and Encyclopedia Entries

Gaudant,

Jean, 1990. « Arambourg, Camille Louis Joseph ». Dictionary of Scientific Biography, vol. 17 (Suppl. II): 28-33.

Gaudant, Jean, 1999. « Fossile ». Dictionnaire d'Histoire et de Philosophie des Sciences, PUF, Paris: 429-434.

Gaudant, Jean, 2004. [190 biographical notes on geologists]. Guide de la géologie en France, SGF/Belin, Paris, Coll. Guides Savants, 916 p.

Gaston Godard, Associated professor at Université de Paris-Diderot and researcher at Institut de Physique du Globe de Paris. Secretary of the Cofrhigéo.

Books

Godard, Gaston, Viaud, J.-M., 2007. *De la Vendée au Sahara. L'aventure saharienne du géologue Léon Pervinquière (1873-1913)*. Ed. CVRH, La Roche-sur-Yon, 272 p. + 24 p. de pl. couleurs [ISBN 2-911253-33-7] p.

Poncet, D., Bichot, F., Bouton, P., Branger, P., Camuzard, J.-P., Godard, Gaston, Moisdon-Pouvreau, P., Tézère, S., Vosges, J., 2014. *L'Homme et la pierre en Deux-Sèvres. Des origines à nos jours*. Editions patrimoines médias, Niort, 243 p.

Chapters in Books

Godard, Gaston, 2005. "Peiresc et la proto-géologie du début du XVII^e siècle." In: J. Dhombres, A. Bresson [eds.], *Peiresc (1604-2004). Sciences et Techniques en Perspective*, (2 s.) 9(n° 1): 63-110.

Godard, Gaston, 2009. "The fossil proboscideans of Utica (Tunisia), a key to the 'giant' controversy, from Saint Augustine (424) to Peiresc (1632)." *Geological Society, London, Special Publications*, 310 "Geology and religion": 67-76.

Journal Articles

Godard, Gaston, 1984. Auguste Rivière [1805, 1877]: Pionnier de la géologie vendéenne. Bulletin de la Société des Sciences naturelles de l'Ouest de la France, (n. s.), 6(1): 57-62.

Godard, Gaston, 1995. Histoire d'une énigme: Les buttes coquillières de Saint-Michel-en-l'Herm. Recherches vendéennes, vol. 2: 193-229.

Godard, Gaston, 1995. Histoire d'une énigme: Les buttes coquillières de Saint-Michel-en-l'Herm (Vendée). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 9: 7-31.

Godard, Gaston, 1996. Peiresc, Gassendi, Menestrier, La Ferrière, Gilles de Loches.: Un cercle méconnu de "géologues" au début du dix-septième siècle. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 10: 155-163.

- Godard, Gaston, 1998. Analyse d'ouvrage de Georges Chapot, René Couprie, Jacques Dumas, Pierre Leblanc et Jean-Louis Kerouanton: "L'uranium vendéen. 40 ans de recherches et d'exploitations minières dans le Massif armoricain". Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 139-140.
- Godard, Gaston, 2001. Eclogites and their geodynamic interpretation: a history. *Journal of Geodynamics*, vol. 32: 165-203.
- Godard, Gaston, 2001. Histoire des éclogites et de leur interprétation géodynamique. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 15: 51-76.
- Godard, Gaston, 2003. Histoire de la géologie en Talmondaise (Vendée, France). *Le Naturaliste vendéen*, vol. 3: 13-28.
- Godard, Gaston, 2004. Le Discours sur les coquilles de mer qu'on trouve en terre ferme, particulièrement en Champagne, adressé à Peiresc dans les années 1630. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 18: 65-78.
- Godard, Gaston, 2005. Le "Discours sur les coquilles de mer qu'on trouve en terre ferme particulièrement en Champagne" adressé à Peiresc dans les années 1630. *Bulletin de Liaison des Géologues du Bassin de Paris*, vol. 42: 26-32.
- Godard, Gaston, 2006. Peiresc (1604-2004). Actes du colloque international (26 au 30 août 2004), par Jean Dhombres & Agnès Bresson [eds]. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 20: 217-219.
- Godard, Gaston, Viaud, J.-M., 2007. De la Vendée au Sahara; l'aventure tunisienne du géologue Léon Pervinquier (1873-1913), par Gaston GODARD et Jean-Marc VIAUD. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 21: 189-195.
- Godard, Gaston, 2011. Les travaux géologiques de la première *Accademia dei Lincei* (1603-1651). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 25: 119-137.
- Godard, Gaston, 2014. Le Discours sur les coquilles de mer qu'on trouve en terre ferme, particulièrement en Champagne, adressé par le jésuite Jacques Vignier à Peiresc en 1635: entre Déluge et « inondation » de la mer. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 28: 157-173.
- Godard, Gaston, Chabou, C.M., Adjerid, A., Bendaoud, A., 2014. First African diamonds discovered in Algeria by the ancient Arabo-Berbers: History and insight into the source rocks. *Comptes Rendus Géoscience*, vol. 346: 179-189.
- Godard, Gaston, 2015. Le métamorphisme de (ultra)haute pression: deux siècles de débats. *Géochronique*, n° 136 (décembre 2015): 21-26.
- Godard, Gaston, Reynes, J., Bascou, J., Ménot, R.-P., 2017. First rocks sampled in Antarctica (1840): Insights into the landing area and the Terre Adélie craton. *C. R. Géosciences*, vol. 349: 12-21.
- Godard, Gaston, 2017. The Discourse on the seashells [... found] in Champagne, written by Vignier to Peiresc (1635): An early text supporting the organic origin of fossils. *Comptes Rendus Palevol*, vol. 16: 122-131.
- Godard, Gaston, Guzzetta, G., Frati, G., 2017. Manuscript on the Vesuvius eruption of 1631 by the Carthusian Dom Severo Tarfaglione. *Analecta Cartusiana*, vol. 291: 16-66.
- Godard, Gaston, 2018. Early texts on the Cenozoic fossils of Aquitaine (1622-1767) and pioneering debates on the organic origin of fossils, the superpositioning of strata and the mobility of the seas. *BSGF – Earth Sciences Bulletin*, 189, 8, 12 p. DOI: [//doi.org/10.1051/bsgf/2018007](https://doi.org/10.1051/bsgf/2018007)
- Godard, Gaston, 2018. Premières descriptions des faluns miocènes de Sainte-Croix-du-Mont en Guyenne (1622, 1718): Pierre de L'Ancre a-t-il perçu le principe de superposition 45 ans avant Sténon? *Bulletin de la Société Linnéenne de Bordeaux*, vol. 153: 297-310.

Gabriel Gohau, École normale supérieure de Saint-Cloud (Retiree). Former president of the Cofrhi géo.

Books

Gohau, Gabriel, 1987. *Histoire de la Géologie*. Paris, La Découverte, 259 p.

Gohau, Gabriel, 1990. *Les Sciences de la Terre aux XVII^e et XVIII^e siècles*. Naissance de la Géologie. Paris, Albin Michel, 420 p.

Gohau, Gabriel, 2003. *Naissance de la géologie historique. La Terre, des "Théories" à l'histoire*. Paris, Éditions Vuibert/Adapt, coll. "Inflexions", 124 p.

Books Edited

Gohau, Gabriel, Gaudant, Jean [Eds.], 1997. *De la géologie à son histoire: ouvrage édité en hommage à François Ellenberger*. Paris, Comité des travaux historiques et scientifiques, 223 p.

Papers

Gohau, Gabriel, 1978. Constant Prévost et la "géologie positive". *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 9: 1-5.

Gohau, Gabriel, 1979. Du Système du monde à l'histoire de la terre. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 19: 22-28.

Gohau, Gabriel, 1981. La théorie de la terre de l'abbé Needham. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 35: 9-14.

Gohau, Gabriel, 1982. L'épistémologie de Karl R. Popper et la naissance de la géologie. *Travaux du Comité français d'Histoire de la Géologie*, 1ère série, 1982: 40-44.

Gohau, Gabriel, 1984. A propos de quelques lettres de Lavoisier sur la minéralogie. *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 2: 49-56.

Gohau, Gabriel, 1986. La naissance de la géologie historique: les "Archives de la Nature". *Travaux du Comité français d'Histoire de la Géologie*, 2^{ème} série, vol. 4: 57-65.

Gohau, Gabriel, 1987. A propos d'un bicentenaire: Constant Prévost (1787-1856) et la théorie du soulèvement. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 1: 41-48.

Gohau, Gabriel, 1993. Discussion sur le métamorphisme et le magmatisme autour de 1850. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 7: 51-63.

Gohau, Gabriel, 1994. Analyse d'ouvrage de G. W. Leibniz: "Protogaea - De l'aspect primitif de la Terre". *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 8: 119-121.

Gohau, Gabriel, 1996. Expériences anciennes sur la formation des roches cristallines du dernier quart du dix-huitième siècle aux années 1850. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 10: 101-103.

Gohau, Gabriel, 1997. Analyse d'ouvrage de René Létolle et Hocine Bendjoudi: "Histoire d'une mer au Sahara - Utopies et politiques". *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 11: 187-188.

Gohau, Gabriel, 1997. Hommage à James Hutton, à l'occasion du bicentenaire de sa mort. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 11: 113-125.

- Gohau, Gabriel, 1998. Analyse d'ouvrage de Albert V. Carozzi, Bernard Crettaz & David Ripoll (resp.): "Les plis du temps. Mythe, science et H.-B. de Saussure". Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 137-138.
- Gohau, Gabriel, 1998. Analyse d'ouvrage de David Oldroyd: "Sciences of the Earth. Studies in the History of Mineralogy and Geology". Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 133-135.
- Gohau, Gabriel, 1998. Analyse d'ouvrage de Rhoda Rappaport: "When Geologists were Historians 1665-1750". Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 127-128.
- Gohau, Gabriel, 1998. Léonce Élie de Beaumont (1798-1874). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 12: 71-77.
- Gohau, Gabriel, 1999. Analyse d'ouvrage de Pascal Richet: "L'âge du monde - A la découverte de l'immensité du temps". Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 13: 117-119.
- Gohau, Gabriel, 2000. Analyse d'ouvrage: Albert V. Carozzi: Manuscripts & publications of Horace-Bénédict de Saussure on the origin of basalt (1772-1797). Manuscrits et publications de Horace-Bénédict de Saussure sur l'origine du basalte (1772-1797). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 14: 147-149.
- Gohau, Gabriel, 2000. Thomas Burnet, la première Théorie de la Terre: entre science et religion. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 14: 49-59.
- Gohau, Gabriel, 2003. Naissance de la théorie des cratères de soulèvement: du Puy de Dôme au Cantal. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 131-140.
- Gohau, Gabriel, 2004. De Stahl à Dolomieu: la notion de molécule intégrante. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 18: 79-91.
- Gohau, Gabriel, 2005. Alcide d'Orbigny Entre Europe et Amérique - Textes et contextes d'une Œuvre, sous la direction de C. Moreau et D. Dory. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 177-179.
- Gohau, Gabriel, 2005. Autour du catastrophisme - Des mythes et légendes aux sciences de la vie et de la terre par Claude Babin. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 173-174.
- Gohau, Gabriel, 2005. Bursting the limits of Time. The Reconstruction of Geohistory in the Age of Revolution, par Martin J.S. Rudwick. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 187-192.
- Gohau, Gabriel, 2005. Jules Verne (1828-1905), disciple de Buffon ? Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 27-33.
- Gohau, Gabriel, 2005. Le concept de semence dans les théories de la matière à la Renaissance -- De Marsile Ficin à Pierre Gassendi par Hiro Hirai. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 181-183.
- Gohau, Gabriel, 2007. Des Paléontologues de A à Z, par Mireille Gayet et Claude Babin. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 21: 351-352.
- Gohau, Gabriel, 2008. Hommage à Goulven Laurent (1925-2008). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 22: 65-70.
- Gohau, Gabriel, 2009. Bory de Saint-Vincent. L'évolution d'un voyageur naturaliste, par Hervé Ferrière. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 231-232.
- Gohau, Gabriel, 2009. Darwin géologue: entre Lyell et Humboldt. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 89-98.

Gohau, Gabriel, 2009. Worlds before Adam. The Reconstruction of Geohistory in the Age of Reform, par Martin J. S. Rudwick. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 225-230.

Gohau, Gabriel, 2010. Histoire de la tectonique: Des spéculations sur les montagnes à la tectonique des plaques. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 24: 185-186.

Gohau, Gabriel, 2012. Des sciences palétiologiques (Whewell) aux archives de la nature. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26, 3: 55-65.

Gohau, Gabriel, 2012. Hommage à Michel Durand-Delga (1923-2012): l'historien de la géologie. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26, 7: 109-118.

Philippe Grandchamp, Editor of Travaux du Comité français d'Histoire de la Géologie (Cofrhigéo).

Books

Grandchamp, Philippe, Debelmas, J., 2011. *L'exploration géologique des Alpes franco-italiennes*. Paris, Presses de l'Ecole des Mines, 252 p.

Chapters in Books

Grandchamp, Philippe, 1990. "Une création éphémère: les Ecoles pratiques des mines de la Sarre et du Mont-Blanc (1802-1815)." In: *Scientifiques et sociétés pendant la Révolution. Actes du 114^e Congrès national des sociétés savantes, Paris, 1989*. Paris, Comité des travaux historiques et scientifiques, 533-549.

Grandchamp, Philippe, 1991. "Jean-Baptiste Raymond et la première tentative de cartographie géologique du Mont-Blanc et des régions avoisinantes (1797-1815)." In: *La Montagne et ses images du peintre d'Arkésias à Thomas Cole. Actes du 116^e Congrès national des sociétés savantes, Chambéry, 1991*. Paris, Comité des travaux historiques et scientifiques, 323-343.

Grandchamp, Philippe, 1993. "Brochant de Villiers et les Alpes." In: *Les Scientifiques et la montagne. Actes du 116^e Congrès national des sociétés savantes, Chambéry, 1991*. Paris, Comité des travaux historiques et scientifiques, 39-61.

Grandchamp, Philippe, 1997. "Les origines de l'affaire de Petit-Cœur ou la découverte du célèbre gisement de végétaux fossiles et de bélemnites replacée dans son véritable contexte." In: G. Gohau [Ed.]: *De la géologie à son histoire*. Paris, Comité des travaux historiques et scientifiques, 151-161.

Grandchamp, Philippe, 2005. "La place faite aux travaux de Dolomieu dans l'enseignement de la Géologie en France au début du XIX^e siècle." In: Gaudant, Jean [Ed.]: *Dolomieu et la géologie de son temps*. Paris, Presses de l'Ecole des Mines de Paris, 139-150.

Grandchamp, Philippe, 2009. "Deux cours de géologie professés en France au début des années 1810, l'un à la Sorbonne, l'autre à l'École des mines." In: Gaudant, Jean [Ed.]: *L'essor de la géologie française. Essais*. Paris, Presses de l'Ecole des Mines de Paris, 227-273.

Grandchamp, Philippe, 2009. "Cuvier et la reconstitution de l'histoire du Globe: quatre étapes d'un cheminement intellectuel." In: Gaudant, Jean [Ed.]: *L'essor de la géologie française. Essais*. Paris, Presses de l'Ecole des Mines de Paris, 275-344.

Journal Articles

Grandchamp, Philippe, 1988. La vie quotidienne d'un élève de l'École des Mines à la fin du Premier Empire, d'après les carnets de Charles-Marie-Joseph Despine. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 2: 45-59.

Grandchamp, Philippe, 1994. Deux exposés des doctrines de Cuvier antérieurs au "Discours préliminaire": les cours de Géologie professés au Collège de France en 1805 et 1808. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 8: 13-26.

Grandchamp, Philippe, 1996. Les appréciations savoureuses qu'un membre de la Société géologique de France portait sur ses confrères il y a plus de 150 ans. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 10: 171-178.

Grandchamp, Philippe, 1999. Un essai inédit de classification des terrains: le cours de Géognosie professé en 1813 par Alexandre Brongniart à la faculté des sciences de Paris. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 13: 99-113.

Grandchamp, Philippe, 2003. Naissance et développement de la stratigraphie in dossier sur l'Essor de la géologie française au XIX^e siècle. Géochronique, n°88 (décembre 2003): 24-25.

Grandchamp, Philippe, 2005. Le cours de géologie professé par Brochant de Villiers à l'École des mines dans les années 1810. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 19: 149-171.

Grandchamp, Philippe, 2006. Il y a 200 ans... l'École pratique des mines du Mont-Blanc. Géochronique, n°99 (septembre 2006): 15-16.

Grandchamp, Philippe, 2009. Des leçons de géologie du Collège de France au Discours sur les révolutions de la surface du Globe: quatre étapes successives du cheminement intellectuel de Cuvier. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 23: 17-65.

Grandchamp, Philippe, 2011. Une figure méconnue de la géologie alpine: Gustave Maillard (1860-1891). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 25, 3: 63-102.

Grandchamp, Philippe, 2012. Un Florimontan hors norme: Gustave Maillard (1860-1891). Revue savoissienne, 2012: 129-157.

Grandchamp, Philippe, 2013. Théodore-Hippolyte Lachat (1829-1901) et la géologie de la Maurienne. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 27, 6: 135-162.

Grandchamp, Philippe, 2015. L'histoire de la découverte de l'allochtonie des Préalpes revue et corrigée. Travaux du Comité français d'histoire de la géologie, 3^e série, vol. 29: 79-95.

Dictionary and Encyclopedia Entries

Grandchamp, Philippe, 1999. Article: Stratigraphie. In: Dictionnaire d'histoire et philosophie des sciences, publié sous la direction de Dominique Lecourt, PUF, Paris, 881-883.

René Medioni, Geologist at the Bureau de Recherche géologique et minière, Paris.

Chapters in Books

Medioni, René , 2000. "Deux siècles de recherches géologiques et minières." In: *L'Aventure au bout du marteau* (avec la collab. de H. Carpentier, J. Petot et G. Sustrac). Orléans, édit. Amicale BRGM, t 1, p 17-30.

Medioni, René , 2000. "Le Secrétariat de la Carte géologique entre 1969 et 1983: entre le marteau et l'enclume." In: *L'Aventure au bout du Marteau*. Orléans, édit. Amicale BRGM, t 1, p 203-206.

Medioni, René , 2009. "Les cartes géologiques en France: une aventure de plus de deux siècles." In: *L'essor de la géologie française*. Paris, Presse des Mines, 201-224.

Journal Articles

Medioni, René , 2002. Du Service de la carte géologique de la France au Service géologique national. Causes et conséquences de la fusion de 1968. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 16: 165-175.

Medioni, René , 2003. Les expositions universelles et la création du Service de la carte géologique de la France. In « L'essor de la géologie française au XIX^e siècle », Géochronique, n° 88: 23-24.

Medioni, René , 2008. Maroc. In « Géologues français outre-mer », *Géochronique*, n ° 108: 26-28.

Medioni, René , 2008. Philibert Russo (1885-1965), pionnier de l'exploration géologique du Maroc. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 22: 37-54.

Medioni, René , 2009. Le BRGG (Bureau de Recherches géologiques et géophysiques, 1941-1953), premier ancêtre direct du BRGM. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 23: 99-113.

Medioni, René , 2011. L'œuvre des géologues français au Maroc. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 25: 1-52.

Medioni, René , 2015. Georges Lecointre (1888-1972). Entre Touraine et Maroc, les itinéraires d'un géologue. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 29: 43-69.

Jean Mergoïl, Juliette Mergoïl-Daniel, Professors at Université Blaise-Pascal at Clermont-Ferrand. Members of the Cofrhisgé.

Journal Articles

Mergoïl, Jean, Mergoïl-Daniel, Juliette, 2011. L'abbé Gui de Mortessagnes (1714-1796), collaborateur de Faujas de Saint-Fond et pionnier de la volcanologie en Vivarais-Velay (France). *Comptes-Rendus Géoscience*, vol. 343: 370-378.

Mergoïl, Jean, Mergoïl-Daniel, Juliette, 2011. Gui de Mortessagnes (1714-1796), "géologue": Biographie - Œuvres - Collaborations. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 25: 139-176.

Mergoïl, Jean, Mergoïl-Daniel, Juliette, 2012. Des "cailloux roulés" basaltiques haut perchés à l'histoire du Rhône: observations et spéculations de Gui de Mortessagnes (1782). *Comptes-Rendus Géoscience*, vol. 344: 526-534.

Mergoïl, Jean, Mergoïl-Daniel, Juliette, 2014. Regards croisés sur le Puy de Dôme au milieu du XVIII^e siècle: Garmage, Guettard et les autres. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 28: 107-150.

Pascal Richet, Professor at the Institut de Physique du Globe de Paris. Vice-president of the Cofrhisgé.

Books

Richet, Pascal, 1999. *L'âge du monde. À la découverte de l'immensité du temps*. Paris, Le Seuil, 384 p. [translations:]; 2000. *A Idade do Mundo. A Descoberta da Imensidão do Tempo*. Lisboa, Instituto Piaget, 421 p. ; 2002. *Dünya'nin Yasi. Bir Bilimsel Sorunum Serüveni*. Istanbul, Günsel, 410 p. ; 2007. *A Natural History of Time*. Chicago, The University of Chicago Press, 471 p. ; 2010. *Una storia naturale del tempo*. Pisa, Pacini Editore, 312 p.

Chapters in Books

Richet, Pascal, 2000. "Temporalités terrestres." In: *Le Temps, vite (Sciences)*. Paris, Editions du Centre Georges Pompidou, 21-24.

Richet, Pascal, 2002. "Les temps divers de la géologie." In: P. de Wever [Ed.], *Le temps mesuré par les sciences — L'homme à l'échelle géologique*. Paris, Vuibert, 17-37.

Richet, Pascal, 2005. "Dolomieu, les volcans et l'origine profonde des laves." In J. Gaudant [Ed.]: *Dolomieu et la géologie de son temps*. Paris, Presses de l'Ecole des mines, 95-108.

Richet, Pascal, 2008. "Uniformitarisme et catastrophisme: L'histoire de la Terre est-elle continue ou non ?" In L. Viennot: *Didactique, épistémologie et histoire des sciences*. Paris, PUF, 195-211.

Journal Articles

Richet, Pascal, 1996. La radioactivité, le soleil, la Terre et la mort de Kelvin, *La Recherche*, n°291: 78-83.

Richet, Pascal, 1999. Temps géologique et désintégrations radioactives: la fin d'une longue controverse. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 13: 83-98.

Richet, Pascal, 2003. Nicolas Desmarest et l'origine volcanique des basaltes. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 17: 81-97.

Richet, Pascal, 2003. La volcanologie en France au XIX^e siècle, *Géochronique*, n°88: p. 32-33.

Richet, Pascal, 2006. Le risque volcanique au cours des âges. *Pour la Science*, Dossier n 52: 26-31.

Richet, Pascal, 2007. L'imaginaire des volcans et les progrès de la volcanologie. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 21: 197-220.

Richet, Pascal, 2012. From Hooke and Leibniz to Rouelle and Lavoisier, the eventful world of early geologists. A review of Studies on Eighteenth-Century Geology, a Selection of Papers by Rhoda Rappaport, *Hist. Geoph. Space Sci.*, vol. 1: 1-3.

Richet, Pascal, 2017. The creation of the world and the birth of chronology. *Comptes Rendus Géosciences*, vol. 349: 226-232.

Dictionary and Encyclopedia Entries

Richet, Pascal, 2001. Entries on Earth Sciences. *Dictionnaire culturel des sciences*. Editions du Seuil et du Regard, Paris.

Richet, Pascal, 2005. Articles Fossiles, Géologie, Roche, Sédiments, Séismes, Terre et Volcans. *Dictionnaire culturel en langue française*. Paris, Dictionnaires Le Robert.

Richet, Pascal, 2017. L'Âge de la Terre. *Encyclopedia Universalis*.

Pierre Savaton, Associated Professor at Université de Caen Normandie, Researcher at the Centre François Viète, Université de Nantes. Treasurer of the Cofrhigéo.

Books

Savaton, Pierre [Ed.], 2015. Histoire de la géologie, Cahiers François Viète, série II, n°5, 2011, Université de Nantes.

Savaton, Pierre [Ed.], 2018. Histoire et épistémologie des sciences de la Terre, Cahiers François Viète, Série III, n° 5, 2018, Université de Nantes.

Chapters in books

Savaton, Pierre, 2001. "L'enseignement de la géologie dans le Secondaire: quelle approche expérimentale de 1902 à 2001 ?" In: A. Giordan, J.-L. Martinand, D. Raichvarg [Eds.]. *Actes des XXIII^{es} Journées internationales sur la communication, l'éducation et la culture scientifiques et industrielles*, 187-192.

Savaton, Pierre, 2007. "L'enseignement de la géologie dans la première moitié du XIX^e siècle: quelle transposition didactique des savoirs ?" In: *Actes des Cinquième Rencontres de l'Association pour la Recherche en Didactique des Sciences et des Techniques (ARDIST), Grande Motte, 17 au 19 octobre 2007*. ARDIST, AVL Diffusion, 353-360.

Savaton, Pierre, 2009. "Le Rapport sur la géologie expérimentale d'Auguste Daubrée." In: E. Barbin, J.-L. Godet, G. Stenger [Eds.], *1867, L'année de tous les Rapports. Les lettres et les sciences à la fin du Second Empire*. Paris, Editions du temps, 199-209.

Gohau, Gabriel, Savaton, Pierre, 2010. "La géologie: éléments d'épistémologie." In: S. Gonzalez [Ed.], *Epistémologie et histoire des sciences*. Paris, Vuibert/CNED, 187-216.

Savatou, Pierre, 2014. "Une datation presque parfaite. " In: O. Néron de Surgy et S. Tirard [Eds.], *La Science des sixties*. Paris, Belin, 40-41.

Savatou, Pierre, 2015. "1795-1840. Quels ouvrages pour enseigner la géologie dans le secondaire ? " In: L. Perret-Truchot [Ed.], *Analyser les manuels scolaires. Questions de méthodes*. Rennes, Presses Universitaires de Rennes, Coll. Paideia, 69-87.

Savatou, Pierre, 2015. "James Hutton (1726-1797): pour une histoire cyclique de la surface du globe." In: E. Bertrand & R. Compatangelo-Soussignan, *Cycles de la Nature, Cycles de l'Histoire, De la découverte des météores à la fin de l'âge d'or*. Bordeaux, éditions Ausonius, 125-141.

Savatou, Pierre, 2016. "L'introduction de la théorie de la tectonique des plaques dans l'enseignement secondaire. Révolution ou reconfiguration d'une discipline scolaire ? " In: J. Simon & F. Charles [Eds.]. *Reconfigurations dans le paysage disciplinaire des sciences*. Lyon, Jacques André éditeur, Coll. Theriaka Remèdes et Rationalités, 113-132.

Savatou, Pierre, 2016. "Le patrimoine géologique... des manuels scolaires." In: J. Avoine, L. Baillet [Eds.]. *Actes du colloque Géopatrimoine, quel avenir pour le patrimoine géologique en France ?*, 15-18 octobre 2013, Caen. - Mémoires h.s. Société géologique de France 15, 230, 41-50.

Savatou, Pierre, 2018. La carte géologique de la France à 1/80 000 en 1914, In: *14-18, la Terre et le Feu. Géologie et géologues sur le front occidental*. Paris, AGBP/COFRHIGEO/SGN.

Journal Articles

Savatou, Pierre, 1999. Evolution des cartes géologiques de la France depuis le début du XIX^e siècle. *Géologie de la France*, 1999, n°2: 65-78.

Savatou, Pierre, 2002. De la Minéralogie aux sciences de la Terre: la géologie dans l'enseignement secondaire de 1795 à 1988. *Revue d'histoire des sciences*, vol. 55/4: 533-558.

Savatou, Pierre, 2003. Les cartes géologiques départementales. *Géochronique*, n° 88: 20-22.

Savatou, Pierre, 2003. Les cartes avant les cartes. Les cartes géologiques départementales: la première cartographie détaillée de la France. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 17: 53-74.

Savatou, Pierre, 2004. De la géologie aux sciences de la Terre: 50 ans d'enseignement secondaire. *Géochronique*, n° 90.

Savatou, Pierre, 2005. Le terrain dans l'enseignement secondaire (1902-2002). *Bulletin d'Information des Géologues du Bassin de Paris*, vol. 42: 3-7.

Savatou, Pierre, 2007. The first detailed geological maps of France: contributions of local scientists and mining engineers, *Earth Science History*, vol. 26-1: 55-73.

Savatou, Pierre, 2008. Analyse d'ouvrage: Kenneth L. Taylor, *The Earth Sciences in the Enlightenment*. *Studies on the Early Development of Geology*. *Revue d'histoire des sciences*, vol. 61-2: 332-333.

Savatou, Pierre, 2011. Histoire des sciences et démarche historique dans l'enseignement des SVT. Quelle histoire de la tectonique des plaques ? *Recherche en Didactiques des sciences et des technologies*, 2011, n° 3: 107-126.

Savatou, Pierre, 2015. La géologie expérimentale: une voie fondatrice de la géologie moderne. *Cahiers François Viète*, série II, n° 5: 87-103.

Savatou, Pierre, 2016. Le temps fondateur de la géologie, *Romantisme*, 2016/174: 29-39.

Dictionary and Encyclopedia Entries

Savatou, Pierre, 2011. Entries: History of Geological Time Scale; Goldschmidt, Viktor Moritz; Plate Tectonics (History). *Encyclopedia of Astrobiology*. Berlin, Heidelberg: Springer-Verlag, 2011, Part 7: 658-660, 683-684; Part 16: 1297-1299.

Philippe Taquet, Member of the French Académie des Sciences. Former professor at the Muséum National d'Histoire Naturelle. President of the Cofrhigéo.

Books

Taquet, Philippe, 1994. *L'empreinte des dinosaures : carnets de piste d'un chercheur d'os*. Paris, Odile Jacob, 363 p.

Taquet, Philippe, 2006. *Georges Cuvier, naissance d'un génie*. Paris, Odile Jacob, 2006, 544 p.

Taquet, Philippe, 2013. *Les bonnes feuilles du Jardin des plantes : de Jean-Jacques Rousseau à Claude Simon ; une anthologie*. Paris, MNHN, 111 p.

Books Edited

Vérec-Peyré, M.-T., Taquet, Philippe [Ed.], 2002. *Alcide d'Orbigny, 1802-1857: sa vie et son oeuvre, histoire de la stratigraphie de d'Orbigny à nos jours*. Colloque international Alcide d'Orbigny, 1 juillet-7 juillet 2002. Paris, SGF.

Taquet, Philippe [Ed.], 2002. *Alcide d'Orbigny: du Nouveau monde au passé du monde*. Paris, MNHN, Nathan, 125 p.

Chapters in books

Taquet, Philippe, 2009. Geology beyond the Channel : the beginnings of geohistory in early nineteenth-century France. From : Lewis, C.L.E. and Knell, S.J. [Eds]. *The Making of the Geological Society of London*. The Geological Society of London, Special Publications, vol. 317 : 155-162.

Journal Articles

Taquet, Philippe, 1995. Les premiers pas d'un naturaliste sur les sentiers du Wurtemberg, récit inédit d'un jeune étudiant nommé Georges Cuvier. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 9: 87-88.

Taquet, Philippe, 2009. Les contributions respectives de Georges Cuvier et d'Alexandre Brongniart à l'élaboration de l'Essai sur la géographie minéralogique des environs de Paris, d'après les manuscrits retrouvés d'Alexandre Brongniart. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 23: 1-16.

Jacques Touret, Professor at the Université Paris 7 and Professor at Vrije Universiteit Amsterdam.

Journal Articles

Touret, Jacques, 1999. La découverte du dioxyde de carbone dans les inclusions des minéraux: une grande aventure scientifique du dix-neuvième siècle. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 13: 71-81.

Touret, Jacques, 2004. Dutch pioneers of the Earth sciences. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 18: 161-164.

Touret, Jacques, 2006. Dans l'ombre de ses maîtres: Alexandre-Eugène Béguyer de Chancourtois (1820-1886). *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 20: 61-73.

Touret, Jacques, 2006. De la pétrographie à la pétrologie. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 20: 167-184.

Touret, Jacques, 2007. Élie de Beaumont (1798-1874), des systèmes de montagnes au réseau pentagonal. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 21: 127-155.

Touret, Jacques, 2010. Michel Lévy (Auguste Michel-Lévy, 1844-1911), brillant élève de l'École impériale des mines. *Travaux du Comité français d'Histoire de la Géologie*, 3^{ème} série, vol. 24: 103-116.

Touret, Jacques, 2012. Le microscope polarisant à l'assaut des montagnes. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 26: 67-80.

Touret, Jacques, 2013. De granite à granulite: le retour du métasomatisme. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 27: 91-103.

T.G. Nijland, T.G., Touret, Jacques, 2013. De historische mijnbouw in Zuid-Noorwegen en haar Nederlandse connecties. Grondboor & Hamer, Deel 1, Jaargang 67, num. 3: 80-86; Deel 2, Jaargang 67, num. 6: 188-194.

Nijland, T.G., Touret, Jacques, 2014. Un naturaliste aux multiples facettes: Jean Lavalley (1820-1880) et la notion de pression de cristallisation. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 28: 55-72.

Touret, Jacques, Bulakh, A.G., 2016. Le tombeau de Napoléon, entre pétrographie et histoire. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 30: 65-87.

Touret, Jacques, Nijland, T.G., 2016. Het graf van Napoléon in de Dôme des Invalides in Parijs. Geobrief (KNGMG). Mei issue: 4-7 (in Dutch).

Touret, Jacques, Bulakh, A.G., 2016. The Russian contribution to the edification of the Napoleon tombstone in Paris. Vestnik of St Petersburg State University. Ser. 15, n° 3:70-83. DOI: 10.21638/17071/spbu15.201 (In Russian).

Touret, Jacques, Bulakh, A.G., 2016. From Schoksha to Paris (the history of quarrying, transportation and carving stone for the sarcophagus of Napoleon). Proceedings Karelian research centre of the RAS, n° 10: 127-134. DOI: 10.17076/geo446 (In Russian).

Touret, Jacques, Bulakh, A.G., 2017. From Russia with rocks: The tombstone of Napoleon. Mineralogical Almanac, vol. 22, 1: 80-87.

Touret, Jacques, Bulakh, A.G., 2017. Ornamental stones of the Napoleon tombstone (Paris): Art, geology, geography Vestnik of St Petersburg State University. Ser. Earth sciences, vol. 62, 1: 20-30. DOI: 10.21638/11701/

Lydie Touret, Curator of the Musée de minéralogie de l'Ecole des mines de Paris (Retiree).

Journal Articles

Touret, Lydie., 1991. Un rare exemple de cabinet du XVIII^{ème} siècle: le cabinet des "Fossiles" du Musée Teyler de Haarlem (Pays-Bas). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 5: 63-71.

Touret, Lydie., 1994. Les relations internationales de René-Just Haüy (1743-1822). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 8: 27-40.

Touret, Lydie., 1997. Jean-Baptiste Louis de Romé de l'Isle (1736-1790): des géôles britanniques aux salons parisiens. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 11: 127-137.

Touret, Lydie., 2001. L'abbé Jérôme Tonnellier (1751-1819): quarante ans au service des mines. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 15: 37-49.

Touret, Lydie., 2003. Correspondance, 1785-1787, de Petrus Camper (1722-1789) et son fils Adriaan Gilles Camper (1759-1820), Hans Bots & Rob Visser (Eds). Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 17: 193-195.

Touret, Lydie., 2016. François Pasumot (1733-1804), ingénieur géographe du Roi et naturaliste. Travaux du Comité français d'Histoire de la Géologie, 3^{ème} série, vol. 30: 115-137.

GERMANY

Harald Walter, Saxon State Agency for Environment, Agriculture and Geology (Retiree)

Chapters in Books

Ospovat, A. & Harald, Walter. Abraham Gottlob Werner als Wissenschaftler. - In: P. Schmidt (Hrsg.), *Abraham Gottlob Werner und sein Werk. Kalender für das Jahr 1999*. TU Bergakademie Freiberg, Druckerei Thieme: S. 2-2b. Freiberg, 1998.

Harald, Walter & G. Künzel. Der Fortuna-Brunnen.- In: Ladwig (Hrsg.) Tagungsband "Abraham Gottlob Werner und seine Zeit", p.5. Werner-Symposium Freiberg 19.-24.9.1999. TU Bergakademie Freiberg, 1999.

Harald, Walter. Das „Permische System“ in Deutschland: Geschichte der stratigraphischen Begriffe. In: *Deutsche Stratigraphische Kommission* (Hrsg.; Koordination und Redaktion: H. Lützner & G. Kowalczyk für die Subkommission Perm-Trias): Stratigraphie von Deutschland X. Rotliegend. Teil I: Innervariscische Becken. - Schriftenreihe der Deutschen Gesellschaft für Geowissenschaften, Heft 61: S. 19-57. Hannover, 2012.

Pälchen, W. & Harald, Walter. Zur Geschichte der geologischen Erforschung. In Pälchen, W. & Walter H. (Hrsg.) *Geologie von Sachsen, E. Schweizerbart'sche Verlagsbuchh.* (Nägele u. Obermiller) 9-16. 2008.

Journal Articles

Hoth, K., Leonhardt, D., Lange, J. M., Eissmann, L., Börngen, M., Harald, Walter. & Freyer, G. Wiederholung historischer Exkursionen von H. Credner bei Leipzig und A. Sauer im Erzgebirge. *Kurzreferate und Exkursionsführer der Gesellschaft für Geologische Wissenschaften* 200 (1997): 96-110.

Harald, Walter. Zur Geschichte der Paläontologie und der paläontologischen Sammlung an der Bergakademie Freiberg zu Beginn des 19. Jahrhunderts. *Zeitschrift für geologische Wissenschaften* 11(10) (1983): 1185-1194.

Harald, Walter. & G. Künzel. Zur Geschichte der Paläontologie in Sachsen. *Zeitschrift für geologische Wissenschaften* 21 (5/6) (1993): 765-776.

Harald, Walter. Dr. Günter Freyer - 65 Jahre. *Nachrichtenblatt zur Geschichte der Geowissenschaften* 5 (1995): 72-75.

Künzel, G. & Harald, Walter. Die Versteinerungskunde bei Abraham Gottlob Werner (1749-1817) in Freiberg. *Abhandlungen des Staatlichen Museums für Mineralogie und Geologie zu Dresden* 42 (1996): 99-112.

Harald, Walter. Zwei Langenauer waren Schüler beim berühmten Bergrath Abraham Gottlob Werner in Freiberg. *Striegis Bote* 5 (1999): 9-12

Harald, Walter. & G. Göricke. Frühe wissenschaftliche Ausgrabungen des Petrus Albinus (1543-1598) und ihre Bedeutung für die Geschichte der Paläontologie. *Geoprofil* 10 (2001): 76-90.

Harald, Walter. & G. Göricke. Die wissenschaftliche Ausgrabungen des PETRUS ALBINUS 1597 und ihre Bedeutung für die Geschichte der Paläontologie.- *Kurzreferate und Exkursionsführer der Gesellschaft für Geologische Wissenschaften* 223 (2004): 141-147.

Hoth, K., Harald, Walter & Freyer, G. Manfred Horn, ein hessischer Landesgeologe aus Masuren. *Geologisches Jahrbuch Hessen* 131 (2004): 225-227.

Schneider, J. W., Harald, Walter & Jordan, H. Erinnerungen an A.H. Müller (25.08.1916-11.04.2004). *Freiberger Forschungshefte C* 502 (2004): I-III.

Schneider, J., Harald, Walter & Jordan, H. Arno Herrmann Müller 1916-2004. *Geowissenschaftliche Mitteilungen* 20: (2005): 105-106.

Harald, Walter. & A. Kießling. 80. Geburtstag von Prof. Dr. Otfried Wagenbreth, Freiberg.- Geowissenschaftliche Mitteilungen 29 (2007): 81-82.

Harald, Walter. & A. Kießling. Otfried Wagenbreth. Geohistorische Blätter. 9/10 (2007): 127-160.

Harald, Walter. Kurt Pietzsch (1884-1964) und die "Geologie von Sachsen". *Miniaturen zur Geologie Sachsens* 3 (2008): 32.

Harald, Walter, Schneider, J., Hofmann, J. & Abraham, T. Hanspeter Jordan (23.7.1935-19.7.2010). *Zeitschrift für Freunde und Förderer der TU Bergakademie Freiberg* 17 (2010): 194.

Harald, Walter. Hanspeter Jordan (23.7.1935-19.7.2010). *Geohistorische Blätter* 20 (2010):136-144, Berlin

Harald, Walter. Paläontologie in der DDR. *Schriftenreihe für Geowissenschaften* 18 (2011): 175-206.

Harald, Walter. Persönlichkeit und wissenschaftliche Leistungen von Prof. Dr. Kurt Pietzsch. *Schriftenreihe des Museums Borna und des Geschichtsvereins Borna* 6 (2011): 6-33.

Douffet, H., Hübschmann, M., Lehmann, U., Richter, J., Starke, Chr., Suhr, P. & Harald, Walter. Sächsischer Geologischer Dienst - seit 75 Jahren in Freiberg. *Sächsische Heimatblätter* 58(4). (2012): 364-376.

Harald, Walter. Paläontologie an der Bergakademie Freiberg zwischen 1945 und 1990. *Mitteilungen des Freiburger Altertumsvereins* 107 (2013): 133-192.

Harald, Walter. & J. Rascher. Paläontologie in den Nachfolgeeinrichtungen des Sächsischen Geologischen Landesamtes 1945-1990. *Mitteilungen des Freiburger Altertumsvereins* 109/110 (2016): 393-432.

HUNGARY

Irma Dobos, INHIGEO Member

Chapters in Books

Dobos, Irma, Marton, Lajos, Szlabóczky, Pál. History of Hungarian hydrogeology. - In Howden, Nicholas, Mather, John (ed.): History of Hydrogeology. IAH, London. 117-127. 2012.

Journal Articles

Dobos, Irma. Development of the exploration and exploitation of subsurface waters in Hungary till 1920. - Földtani Közlöny (Bulletin of Hungarian Geological Society), 110, 1, (1980): 36-38.

Dobos, Irma. Úloha V. Zsigmondyho pri výskume a využívaní hlbinných vôd v Karpatskom oblúku (Vilmos Zsigmondy's Rolle bei der Forschung und dem Aufschluss von Tiefwässern im Becken der Karpathen). - Balneologický spravodaj, Piešťany (Slovakia). (1980): 50-57.

Dobos, Irma. A rétegvízfeltárás hatása a 19. században a Kárpátokon belüli nagy medencék fejlődés-történetének szemléletére (Influence of formation water exploration on the aspect of the development history of large basins within the Carpathians in the 19th century). - BKL - Kőolaj és Földgáz (Journal of Mining and Metallurgy - Petroleum and Gas), 19, 11 (1986): 332-335.

Dobos, Irma, Dudich, Endre, Széky-Fux, Vilma. 150 years of the Hungarian Geological Society, Part II. 1972-1997. *Acta Geologica Hungarica* 41, 3 (1998): 271-282.

Dobos, Irma. Geohistorical stone landmarks in the Pannonian Basin, Hungary. - *European Geologist* 28 (2009): 29-30.

Conference Proceedings

Dobos, Irma Exploration of subsurface waters in the Neogene basins. - In Hála, József (ed.): Neogene mineral resources in the Carpathian basin. Historical studies on their utilization. Hungarian Geological Survey, Budapest. 531-555. 1985.

Dobos, Irma. Museums of hydrological science history in Hungary - In Vitális, Gy., Kecskeméti, T. (ed.): *Museums and Collections in the History of Mineralogy, Geology and Palaeontology in Hungary. Annals of the History of Hungarian Geology*, Special Issue 3, 399-411. Published by Hungarian Geological Survey and Hungarian Geological Society on the occasion of the 16th International Symposium of INHIGEO, Dresden, Germany, 1991, with the theme Museums and Collections in the History of Mineralogy, Geology and Palaeontology.

Dobos, Irma 1993: Ferenc Nopcsa's Hydrogeological studies in Albania. In Dudich, E., Hála, J. (ed.): *International Conference on Ferenc Nopcsa and Albania 13-14 October 1993*. Hungarian Geological Survey, Budapest, 26-28.

Dobos, Irma, Pataki, Nándor. Budapest as City of Spas at the Turn of the Millenary. *Proceedings of The 33rd Conference of SITH (International Society of Hydrothermal Techniques) in Hakone, Kanagawa, Japan, December 1-6. 1997*. Kanagawa Prefectural Museum of Natural History, 110-116.

Conferences Abstracts

Dobos, Irma. Hydrogeologische Forschungsrichtungen in Ungarn zwischen den zwei Weltkriegen (abstract). - In: The Development of Science and Technology in Central Europe between 1918-1938. Conference with international participation. Budapest, March 16-20. 1987. Published by the Commission on History of Science and Technology, Hungarian Federation of *Technical and Scientific Societies (MTESz)*, Budapest, 1987. 13-14.

Dobos, Irma. Aufschluss von Mineralwässern durch artesische Brunnen in den Westlichen Karpaten. - History of the Geological Exploration of the Western Carpathians before World War I. INHIGEO Symposium. Banský Studenec, CSSR, 1988. Summaries. 31-32.

Dobos, Irma. Mapping of the springs wells of the Carpathian Basin in the 19th century. CBGA XVth Congress, Vienna, 1998. Special Symposium S. (INHIGEO). Abstract, 133-134.

Dobos, Irma. Analytical method of mineral waters developed by Károly Than chemist (1834-1908). - XXIII. International Congress of History of Science and Technology. Budapest, 2009. Abstract, Regular Session T40, Pioneering Ideas and Methods in the History of Earth Sciences, 17.

Gábor Papp, Hungarian Natural History Museum Dept. of Mineralogy and Petrology

Books

Papp, Gabor. A magyar topografikus és leíró ásványtan története (History of topographical and descriptive mineralogy in Hungary). (*Topographia Mineralogica Hungariae*, 7). Miskolc: Herman Ottó Múzeum. 2002.

Papp, Gabor. *History of minerals, rocks and fossil resins discovered in the Carpathian region. (Studia Naturalia, 15)* Budapest: Magyar Természettudományi Múzeum. 2004.

Chapters in Books

Papp, Gabor. On the type locality of rutile (review of contemporary data about the occurrence of the "Hungarian red schorl"). In: Jancsy, P. (ed.): *Prvenstvá nerastnej ríše Slovenska*. Banská Štiavnica, Slovenské banské múzeum, 51-55. 2007.

Papp, Gabor. Carpathian carbuncle, Hungarian ruby and their relatives - legends, misconceptions and facts about Slovakian garnet occurrences in 17-18th century sources. In: Jancsy, P. (ed.): *Prvenstvá nerastnej ríše Slovenska*. Banská Štiavnica, Slovenské banské múzeum, 46-50. 2007.

Papp, Gabor. Der mineralogische Gesinnungswechsel von Matthias Sennowitz: Eine Episode der Vulkanist-Neptunist Kontroverse. - In: Gurka, D. (ed.): *Deutsche und ungarische Mineralogen in Jena*. [alcím:] *Wissenstransfer an der Wende des 18-19. Jahrhunderts im Rahmen der "Societät für die gesammte Mineralogie zu Jena"*. Gondolat, Budapest, pp. 147-159. 2015.

Papp, Gabor. Podmaniczky Károly báró, a minerofil bányatiszt. (Biographical sketch of Baron Károly Podmaniczky (1772-1834 [recte: 1833]), an enlightened mining officer and mineral collector.) - In: Gurka D. (ed.): *A báró Podmaniczky család szerepe a 18-19. századi magyar kultúrában*. Gondolat Kiadó, Budapest, 91-110, 259. 2017.

Journal Articles

Papp, Gabor, Szakáll, S.-Weiszburg, T.: A brief history of the mineral and rock collections in Hungary. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 15-26.

Kecskeméti, T. Papp, Gabor. The geological collections of the Hungarian Natural History Museum. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 37-43.

Papp, Gabor, Szendrei, G.-Vincze-Szeberényi, H.: The history of the Mineral and Rock Collection of the Hungarian Natural History Museum. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 45-61.

Papp, Gabor, Vincze-Szeberényi, H.: The Duke Lobkowitz Collection. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 63-66.

Papp, Gabor, Weiszburg, T.: The history of the Mineral Collection of the Eötvös Loránd University. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 115-133.

Papp, Gabor, Weiszburg, T.: The mineral collection of Archduchess Maria Anna. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 135-144.

Papp, Gabor. The mineral collections of Grand Duchess Alexandra Pavlovna. *Annals of the History of Hungarian Geology*, Special Issue, 3 (1991): 145-153.

Papp, Gabor: Dr Lajos Tehel (1769-1816), the first curator of our museum. *Annales Historico-Naturales Musei Nationalis Hungarici*, 84 (1992): 195-197.

Papp, Gabor: Az erdőbényei antimonitról. - (On the stibnite from Erdőbénye (Tokaj Mts., Hungary)). *Földtani Közlöny* 122 (1992): 39-50.

Papp, Gabor: Ignaz von Born und der Kärntner Bleispat. *Carinthia* II, 183/103 (1993): 95-108.

Papp, Gabor: A telkibányai opál ("Telkebanyerstein") története (History of the Telkibánya opal ("Telkebanyerstein")). - *Topographia Mineralogica Hungariae*, 2 (1996): 199-207.

Papp, Gabor. Gazetteer of the mineral locality names of the Carpathian region. *Acta Mineralogica-Petrographica (Szeged)*, 37, Suppl. (1996): 89.

Papp, Gabor. On the mineral species first described from the Carpathian Region. *Acta Mineralogica-Petrographica (Szeged)*, 38, Suppl. (1998): 65-75.

Kázmér, M. & Papp, Gabor. Minerals from the Carpathians in an eighteenth-century British collection. *Annales Historico-Naturales Musei Nationalis Hungarici*, 91 (2000): 5-36.

Papp, Gabor. Early reports on meteorite falls in the Carpathian Basin. *Acta Mineralogica-Petrographica (Szeged)*, 41 (Suppl.) (2000): 85.

Rózsa, P., Kázmér, M. & Papp, Gabor. Activities of volcanist and neptunist ‘natural philosophers’ and their observations in the Tokaj Mountains (NE Hungary) in the late 18th century (Johann Ehrenreich von Fichtel, Robert Townson and Jens Esmark). *Földtani Közlöny*, 133 (2003): 125-140.

Papp, Gabor. A searchable database of mineral locality names of the Carpathian Region. *Acta Mineralogica-Petrographica, Abstract Series* 1 (2003): 84.

Papp, Gabor. A critical review of 16-17th century reports on meteorite falls in and around the Carpathian Basin (Additions and corrections to the NHM Catalogue of meteorites). *Annales historico-naturales Musei nationalis Hungarici* 96 (2004): 19-28.

Papp, G.: Der Meteorit “Steiermark“ - ein Meteoritenfall durch Übersetzungsfehler. *Joannea - Mineralogie* 2 (2004): 81-84.

Buda, Gy., Papp, Gabor & Weiszbürg, T.: Short history of teaching mineralogy at the Eötvös Loránd University, Budapest. *Acta Mineralogica-Petrographica, Szeged* 45(1) (2004): 5-20.

Papp, Gabor. Kitaibel és Klaproth vitája a tellúr felfedezéséről a korabeli dokumentumok tükrében (a Függelékben a témához kapcsolódó eredeti levelezés betűhív átiratával) (The priority dispute between Kitaibel and Klaproth over the discovery of tellurium, on the basis of contemporary documents (with the transliterated original correspondence in the Appendix)). *Börzsönyvidék* 3 (2005): 147-178.

Papp, Gabor. “History of minerals, rocks and fossil resins discovered in the Carpathian region” - a new handbook. *Acta Mineralogica-Petrographica, Abstract Series* 5 (2006): 90.

Papp, Gabor. & Bartha, L.: On the fireball observed at Mihályfa, Hungary, on 5 January, 1837, mistaken as the “Mikolawa meteorite”. *Annales historico-naturales Musei nationalis Hungarici* 99 (2007): 207-210.

Papp, Gabor. Three forgotten precious stones from the Tokaj Mts.: “Tokay lux sapphire”, “Tokay diamond” and “plasma of Tokay”. *Acta Geographica ac Geologica et Meteorologica Debrecina, Geology, Geomorphology, Physical Geography Series* 2 (2007): 29-32.

Papp, Gabor. & Kolitsch, U.: Authentic (type and other original) specimens of minerals first described from the Carpathian region in the collection of the Natural History Museum, Vienna - a survey. *Mitteilungen der Österreichischen Mineralogischen Gesellschaft* 155 (2009): 121.

Papp, Gabor. & Szendi, A.: Zepharovich’s studies at the academy of mining and forestry, Banská Štiavnica / Schemnitz / Selmečbánya. *Mitteilungen der Österreichischen Mineralogischen Gesellschaft* 155 (2009): 122.

Papp, Gabor. A sample of 18th century networking: an unpublished letter of Ignaz von Born to Johann Beckmann from 1775. *Annales historico-naturales Musei nationalis Hungarici* 105 (2013): 379-393.

Papp, Gabor. “Gross Divina, rendelésre” - A nagydivényi meteorit másolatának elkészítése 3D-nyomtatással (A meteorit és a példány rövid történetével). / “Gross-Divina on demand” - making of a meteorite replica by 3D printing (with a brief history of the meteorite fall and the specimen). *Annales historico-naturales Musei nationalis Hungarici* 106 (2014): 53-70.

Papp, Gabor. Az 1814-ben talált lénártói (hivatalos nevén Lenarto) meteorit története / History of the “Lenarto” meteorite found in 1814. *Annales Musei historico-naturalis Hungarici* 107 (2016): 131-190.

Papp, Gabor. A Természettudományi Múzeum és 1956. A Nemzeti Múzeumban pusztító tűzvész előzményei, körülményei és következményei. / The Hungarian Natural History Museum and the Hungarian Revolution of 1956. Fire in the building of the National Museum. *Annales Musei historico-nationalis hungarici* 108 (2016): 151-220.

Papp, Gabor. Szendrei Géza (1942-2015) / Géza Szendrei (1942-2015). *Annales Musei historico-nationalis hungarici* 108 (2016): 33-50.

Papp, Gabor. Kitaibel Pál ásványtani munkásságának áttekintése és ásványgyűjteményének katalógusa. / An overview of the mineralogical activities of Pál Kitaibel and the catalogue of his mineral collection. - *Annales Musei historico-nationalis hungarici*, 109 (2018), 27-94.

Conference Abstracts

Papp, G.-Weiszburg, T.: Computer processing of catalogues of early mineral collections. Mineralogy and Museums Conference II, (abstracts). Toronto, p. 2. 1992.

Weiszburg, T., Papp, Gabor. Mineral locality names and computer processing of them. Mineralogy and Museums Conference II, (abstracts). Toronto, p. 3. 1992.

Papp, Gabor: Johann Ehrenreich von Fichtel (1732-1795): an early vulcanist from Hungary. Volcanoes and History. XX. Symposium INHIGEO. Abstracts. Naples-Aeolian Islands-Catania: 52-53. 1992.

Weiszburg, T.G. & Papp, Gabor: The Alexandra Pavlovna Collection, an 18th century Russian collection part of the Eotvos University Collection, Budapest. Mineralogicheskii Muzei 210. Tezisy Dokladov [abstracts]. Sankt-Peterburg. 1992.

Horák, J.-Bevins, R.E.-Symes, R.F.-Tandy, P.C.-Weiszburg, T, Papp, Gabor: The deciphering and updating of old Carpathian locality names in two major British collections - a case study. Mineralogy and Museums Conference II, (abstracts). Toronto, p. 11. 1992.

Papp, Gabor. The role of the Hungarian Natural History Museum in the history of the Hungarian mineralogy. 16th International Symposium of INHIGEO, Dresden. Abstracts, p. 39. 1991.

Papp, Gabor. Die [Esterházyische] Mineraliensammlung. In: Barkóczi, I. (Hrsg.): *Von Raffael bis Tiepolo. Italienische Kunst aus der Sammlung des Fürstenhauses Esterházy*. Schirn Kunsthalle, Frankfurt; Klinkhardt & Biermann, München. 74-75. 1999.

Rózsa, P., Kázmér, M. & Papp, Gabor. Observations of vulcanist and neptunist natural philosophers in Hungary in the late 18th Hungary (Johann Ehrenreich von Fichtel, Robert Townson and Jens Esmark). In: *International Symposium "Abraham Gottlob Werner and his times"*, Freiberg. Proceedings: B09. 1999.

Papp, Gabor. Historical dictionary of minerals first described from the Carpathian region. 4th Intern. Conf. Mineral. Mus., Melbourne, Australia, Dec. 4th-7th, 2000, Program and Abstract Vol., 76. 2000.

Papp, Gabor. News from the past - mineralogical science history books and databases from the Hungarian Natural History Museum. 18th General Meeting of the International Mineralogical Association, 1- 6 September 2002, Edinburgh, Scotland. *Mineralogy for the new millennium. Programme with abstracts*, 125-126. 2002.

Papp, Gabor. From palaces to museums: Pathways of aristocratic mineral collections to public institutions in Hungary during the 18-19th centuries. In: Thalheim, K. & Schlüter, J. (comp.): 7th International Conference on Mineralogy and Museums, August 27th - 29th, 2012, Dresden, Germany. Program / Abstracts / Field trips. Dresden: Senckenberg Gesellschaft für Naturforschung, 47-48. 2012.

INDIA

Pratik Chakrabarti, The University of Manchester, Centre for the History of Science, Technology and Medicine

Journal Articles

Chakrabarti, Pratik. 'Gondwana and the Politics of Deep Past', *Past & Present*, Volume 242, Issue 1 (2019): 119-153.

Chakrabarti, Pratik and Joydeep Sen, "'The World Rests on the Back of a Tortoise'; Science and Mythology in Indian History", (with Joydeep Sen) *Modern Asian Studies*, 50, 3, 2016, pp. 808-840

Other works on the history of the Geosciences in India

Compiled by Pratik Chakrabarti

van der Geer, Alexander, et al, 'Fossil Folklores from India: The Siwalik Hills and the Mahābhārata', *Folklore*, 119 (2008): 71-92

Grout, Andrew. "Geology and India, 1775-1805: An Episode in Colonial Science." *South Asia Research* 10.1 (1990): 1-18

Sangwan, Satpal. "Reordering the Earth: The Emergence of Geology as a Scientific discipline in Colonial India", *Indian Economic and Social History Review*, July-Sept., (1994): 224-233

Sumathi, Ramaswamy, *The Lost Land of Lemuria; Fabulous Geographies, Catastrophic Histories*, Berkley and Los Angeles, 2004

Zou, David Vumlallian, and Kumar, M. Satish. "Mapping a Colonial Borderland: Objectifying the Geo-Body of India's Northeast." *The Journal of Asian Studies* 70, no 1 (2011): 141-170.

APPENDIX B

Affiliated Association

INHIGEO Affiliated Associations
(Current as of June 2019)

International	History of Earth Sciences Society (HESS)
Argentina	Comisión Argentina de Historia de la Geología
Australia	Earth Sciences History Group, Geological Society of Australia (ESHG)
Austria	Austrian Working Group "History of Earth Sciences" (AWGHES)
China	Committee on the History of Geology, Geological Society of China
France	Comité Français d'histoire de la Géologie (COFRHIGEO)
Italy	History of Geoscience Section; Geological Society of Italy
Japan	Japanese Association for the History of Geosciences (JAHIGEO)
Poland	Section on the History of Geological Sciences; Polish Geological Society
Poland	Polish Geological Institute
Serbia	History of Geology Division, Serbian Geological Society (Srpsko geološko društvo - SGD) –
United Kingdom	History of Geology Group (HOGG), Geological Society of London
Venezuela	Sociedad Venezolana de Historia de las Geociencias

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APPENDIX C

Honorary Senior Members

July 2019

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Professor Kennard B. Bork, USA	Professor Wojciech Narębski, Poland
Professor David F. Branagan, Australia	Professor Sally Newcomb, USA
Dr Gabriel Gohau, France	Professor Martin J. S. Rudwick, United Kingdom
Professor Algimantas Grigelis, Lithuania	Professor Janusz Skoczylas, Poland
Professor Aleksandar Grubic Serbia	Professor Kanemori Suwa, Japan
Professor Martin Guntau, Germany ¹	Professor Philippe Taquet, France
Professor Léo F. Laporte, USA	Professor Hugh S. Torrens, United Kingdom
Professor Lora N. Lordkipanidze, Uzbekistan	Professor Zbigniew Wójcik, Poland
Professor Wolf Mayer, Australia	

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APPENDIX D

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Appendix F



MEMBERSHIP NOMINATION FORM:

NAME: _____

Country: _____

Birth date: _____

Address: _____

Telephone: _____

E-mail: _____

Education:

(with dates)

Positions held:

(with dates)

Areas of interest / expertise in geology (e.g. sedimentology, vulcanology):

Scientific Publications (summary in 1-3 lines):

Area of interest in the history of geosciences:

List of all publications in the history of geosciences: (attach)

Languages:

Indicate preference for either Ordinary Membership given demonstrated achievement in the history of geology or Associate Membership

Nominators: (If available: Current INHIGEO member in same country or appropriate Government representative, another INHIGEO member, INHIGEO Board Member)

PLEASE SEND, PREFERABLY BY EMAIL TO THE INHIGEO SECRETARY GENERAL, To.- Prof. Marianne Klemun, Department for History, University of Vienna, Universitätsring 1, 1010 Vienna, Austria; EMAIL: marianne.klemun@univie.ac.at