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*International Commission  
on the  
History of Geological Sciences*

**INHIGEO**

**ANNUAL RECORD**

No. 46

Covering activities generally in 2013

Issued in 2014

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*

**Compiled and Edited by Wolf Mayer  
INHIGEO Editor**

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**INSIDE COVER**

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**PRESIDENT'S MESSAGE  
(APRIL 2014)**

Dear Members,

This inaugural number of INHIGEO's *Annual Record* is the successor to 45 previous annual issues of the Commission's annual *Newsletter*. There are other signs of change, as well, in the midst of continuity in INHIGEO's operation. Expansion in membership is occurring at an annual rate of approximately 10 percent, with added members in several countries previously unrepresented. These and other recent changes are detailed below, in our Secretary- General's report and in various articles. I hope it will be agreed that the recent changes and initiatives serve to extend even further the successes INHIGEO has experienced lately in achieving its basic objectives, of promoting studies on the history of the geosciences in an international context.

Those of us who attended the 2013 INHIGEO symposia, set within the 24<sup>th</sup> International Congress for History of Science, Technology and Medicine held at Manchester, enjoyed many fine presentations on the themes "Geologists in the Field" and "Geology in Art and Literature." We are indebted to those who organized these marvelous symposia, and also to those who arranged the outstanding field trips before, during, and after the Congress.

During the Congress at Manchester, I was able to represent INHIGEO at a session of the General Assembly of the Division of History of Science and Technology (DHST) of the International Union of the History & Philosophy of Science and Technology (IUHPST), the second of our Commission's two parent organizations. What I learned at this session reinforced and strengthened my sense that INHIGEO is a highly effective and useful Commission.

In July this year we will convene the 39<sup>th</sup> INHIGEO symposium at the Asilomar Conference Grounds in Pacific Grove, California, USA. This will be only the second INHIGEO conference ever held in the United States (the first was 25 years ago, as part of the International Geological Congress in Washington, DC). This year's meeting is co-sponsored by the Geological Society of America, with logistical support provided by GSA's Meetings and Events Department. In part because it is now 20 years since a GSA Penrose Conference on "Interdisciplinary Perspectives on the History of the Earth Sciences" was held in California, the principal theme at Asilomar will revisit some of the same issues under the heading "Doing the History of the Earth Sciences: What, Why and How?" With this meeting's venue in California—and at the site of the watershed 1969 Penrose Conference ("The Meaning of the New Global Tectonics for Geology")—it is especially appropriate that the second conference theme be "California's Place in the History of the Earth Sciences." I am looking forward to the pleasure of seeing many of you at Asilomar.

I wish to express my heartfelt thanks to all members of INHIGEO's Board for their dedicated engagement in the Commission's activities during the last year. I also want to say a particular word of thanks to Wolf Mayer for his excellent work as Editor. And above all, a special thank you to Barry Cooper, our outstanding Secretary-General, for overseeing INHIGEO's ongoing business with his characteristic energy, skill, and good judgment.

Ken Taylor



**SECRETARY GENERAL'S REPORT  
(APRIL 2014)**

Dear Members,

INHIGEO has completed another very successful year. The large numbers attending our sessions within the ICHSTM conference in Manchester coupled with the increase in membership and member countries are a testament to this success. INHIGEO has every reason to be proud of its achievements and to look forward to the future with confidence.

First of all I must congratulate Wolf Mayer in transforming our longstanding INHIGEO Newsletter into this new "INHIGEO Annual Record". I am sure that we can expect many further fruitful changes as the "Annual Record" evolves.

I am also delighted that Wolf has accepted responsibility for co-ordinating and compiling a history of INHIGEO for the 50<sup>th</sup> anniversary of INHIGEO in 2017. This is an especially important project for an organisation such as INHIGEO at this time in our history as it demonstrates our ongoing vitality and enduring significance as an IUGS and IUHPST Commission.

Two other new initiatives have been proposed during 2013. Francesco Gerali has initiated the INHIGEO Virtual Bibliography. This exciting project promises to provide a permanent record of all historical publications by INHIGEO Members. As well, and following from comments at the Manchester business meeting, INHIGEO is moving to create an "Affiliated Association" category that aims to forge stronger links with other history-of-geology organisations.

In addition, 2013 has seen the continuation of the "INHIGEO Circular", which was first introduced in 2012. It aims to provide up-to-date news and essential information on current INHIGEO activities. With Circulars now being issued by email in March, June, September and December, I am constantly amazed on the size in page numbers that these documents attain. I encourage you all to save or print out a copy of the current Circular so that you have a record of current INHIGEO happenings.

As of April 2014, INHIGEO membership has increased to 265 members (from 54 countries) up from 237 members (from 48 countries), twelve months ago. Notably we have elected our first Associate Members from countries in Africa and the Middle East and they are contributors to this journal. As our new Annual Record is nearing completion we also have 29 new nominations to be considered by the INHIGEO Board over the next few months, including nominations from three previously unrepresented European countries. Unfortunately over the past year we have also lost three longstanding and widely respected members in Stanislaw Czarniecki (Honorary Senior Member, Poland), Bernhard Fritscher (Germany) and Yasumoto Suzuki (Japan).

In July 2014, INHIGEO will convene at the Asilomar Conference Grounds located by the Pacific Ocean on the Monterey Peninsula in Pacific Grove, California, USA. I need to acknowledge the major effort of our President Ken Taylor and the US delegation in planning this much anticipated event. As mentioned by Ken in his President's Message, it is ground-breaking in several ways. In addition, in order to assist youthful participation, INHIGEO has further provided financial assistance for three young post-doctoral students to attend this conference and to present their research, following our newly adopted guidelines.

INHIGEO has continued over the past year to provide historical papers and reviews for the IUGS Journal "Episodes" under the initial stewardship of David Oldroyd. Two historical articles dealing with the International Geological Congresses in South Africa (1929) and USA (1989) have been published. David retired from this responsibility during the year and has been replaced by Karen Cook (University of Kansas, USA) in the role of "Episodes" Coordinator with *ex officio* membership of the INHIGEO Board. Thank you, Karen, for offering to undertake this role.

In his role as Editor of “Earth Sciences History”, David Oldroyd also facilitated publication, during 2013, of most of the papers that had been presented in the INHIGEO biography symposium at the International Geological Congress in Brisbane in 2012.

INHIGEO’s work continues to be made possible by important support from various organisations. Financially we continue to depend upon the annual grant provided by the International Union of Geological Sciences (IUGS). We also are aided by smaller funding provided by the International Union of the History and Philosophy of Science and Technology, Division of History of Science and Technology (IUHPST/DHST). Personally, the University of South Australia has continued to provide me with facilities without which I could not undertake my INHIGEO responsibilities.

My final acknowledgment is to my fellow members of the INHIGEO Board who have been quick to respond to my calls for advice, information and assistance and especially to our President Ken Taylor.

Please remember to keep me advised of any address changes especially to your email address as the latter is now our major means of communication.

My very best wishes to all INHIGEO members for the coming year. May you realise great achievements in the history of geology. And I look forward to seeing many of you at Asilomar.

Barry Cooper

### EDITOR’S MESSAGE

Dear Members,

I present to you Number 46 of our annual INHIGEO publication under its new title of *INHIGEO Annual Record*, in the hope that you will find its contents both informative and enjoyable to read. I would again like to thank the many contributors who have provided interesting accounts and records of the Commission’s affairs, as well as of their own research on the history of geology. I am grateful to Cherry Lewis, Mike Johnston and John Henry for supplying photos, taken on the various field excursions, which complemented our very successful meeting at Manchester.

As was the case last year, I was somewhat disappointed by the relatively low number of country reports I have received for publication in the *Annual Record*. Our Secretary-General has pointed out in his report (above) that we now have members in 54 countries, yet only slightly more than half of these (29) have submitted reports. I would like to encourage all members to prepare, at appropriate times, brief summaries of their work relating to the history of geology and to submit their contributions, either via their country coordinator or directly to the editor, at the email address below, for inclusion in next year’s *Annual Record*.

In cases where I have received both a compiled report and single contributions from members in a particular country, I have included the individual reports as separate entries under the heading of the relevant country. While activity reports published in the *Annual Record* generally provide information on work carried out during the preceding year, in the case of new members I have also included references to their earlier publications.

It was particularly gratifying to receive a contribution from Lala Andrianaivo in Madagascar, one of our Associate members, a new category of membership introduced only last year. I would welcome hearing from others in this grouping about their activities and interests relating to the history of geology.

Readers will note that reports from different countries and from individual members vary considerably in format and style. However, given the wide range of activities reported and the many

sources from which the information is drawn, I believe that it would impose an unwarranted restraint on authors if they were asked to submit their material in a uniform format. I therefore encourage authors to continue to send in their reports in a form that best suits their circumstances. Some diversity will probably be welcome by the reader.

Volume 46 of the *Annual Record* features the customary sections of previous issues, including three interesting articles and eleven book reviews. A new entry is the section on the 'INHIGEO 50<sup>th</sup> Anniversary History Project'. As the anniversary of the founding of INHIGEO is now only three years away, I ask readers to give some particular consideration to the contents of this section. I would appreciate it if all of our members would spend a little time to reflect on this special event and to consider how they might contribute to its celebration. The proposed publication of a book on the history of INHIGEO, possibly in late 2016 or in early 2017, will require ideas, suggestions and commitments to contribute articles, from historians of geology in our many member countries, in order for it to succeed.

Large volumes of listed information, such as the names of members and their addresses, bibliographies, etc., have been included in appendices in this volume. Appendix A provides readers with a summary of the background and the interests of new INHIGEO members, who were elected in 2013.

I would like to thank the Director and the staff of the Research School of Earth Sciences at the Australian National University for their continued support, which allows me to distribute our annual publication electronically and, in the case of hardcopies, by ordinary mail.

To all members of the INHIGEO community I extend my good wishes for another productive and successful year in their chosen endeavors to promote and to increase the store of knowledge on the history of geology.

Wolf Mayer [wolf.mayer@bigpond.com](mailto:wolf.mayer@bigpond.com)

### 39<sup>th</sup> INHIGEO CONFERENCE AT ASILOMAR, 6 – 10 JULY 2014



*Photo taken some 80 years ago, from the Point Lobos vicinity, by our President's grandfather*

Planning is in advanced stages for the 39<sup>th</sup> INHIGEO symposium, scheduled to begin 6 July at the Asilomar Conference Grounds, Pacific Grove, California, USA.

The conference's dual themes are "Doing the History of the Earth Sciences: What, Why and How?" and "California's Place in the History of the Earth Sciences". The program will feature more than 50 oral presentations, and a dozen posters, by authors from 15 countries.

Keep abreast of developments at the conference website, where a detailed program schedule is posted: <http://community.geosociety.org/INHIGEO2014/home/> (Under the heading "Program" click on "Program Outline".)

Program highlights include keynote talks by Claudine Cohen, Eldridge Moores, Ernst Hamm, and William R. Dickinson. The closing banquet will feature an informal talk by Henry R. Frankel, on his experiences researching his four-volume study *The Continental Drift Controversy*. In preparation for the mid-meeting excursion to Point Lobos, there will be a special evening lecture by Charles Paull (Monterey Bay Aquarium Research Institute) on "Monterey Canyon: Super Highway to the Deep-Sea".

In an effort to enliven the program, some of the conference presentations are clustered in thematic panels or round-table discussions. The four panel topics are (a) We belong too: Inclusion of 'outlier disciplines' in the history of the Earth sciences; (b) Approaches to how one does the history of the Earth sciences; (c) What can historians of geology do in the world?; and (d) Some national or culture-group perspectives on doing the history of the geosciences.

The mid-meeting excursion is fully subscribed, and the post-meeting field trip to the Sierra Nevada is nearly so.

The conference organizers plan to honor six distinguished members of INHIGEO, by dedicating to each of them one of the half-day sessions of the symposium. The six people chosen for this recognition are the four living American Senior Honorary Members (Albert Carozzi, Robert Dott, Ursula Marvin, and Cecil Schneer) and two former INHIGEO officers who have given many years of outstanding service to the Commission, Martin Guntau and David Oldroyd.

We are looking forward to seeing many of you at Asilomar!

Ken Taylor

### 40th INHIGEO Symposium – Beijing, China, Late June 2015

The 2015 INHIGEO conference will be held at the China University of Geosciences in Beijing, China. The general conference theme will be “Geology and the development of economy and society”.

The conference symposia topics will include:

1. *History of mineral enterprises*
2. *Biographies of geologists*
3. *Conservation of geological relics*
4. *General contributions to the history of geology*

The associated field trips will be as follows:

*Mid-meeting excursions* (1 day)

Shouyun National Mine Park, north eastern Beijing.

Peking Man Site Museum, southern Beijing.

*Post-meeting field trip* (3~4 days)

East China: Mount Tai, Temple of Confucius, and several geothermal areas and mining areas.

Accommodation of various types will be offered including in guest houses, inns and hotels of all standards, where daily cost ranges from 70 to 200 USD (at present level).

The First Conference Circular will be issued around June 2014.

An Organising Committee has already been established with 12 members from several Chinese geological institutions including: China University of Geosciences, Chinese Committee of History of Geology, Chinese Academy of Sciences, etc.

For further details contact:

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### 41<sup>st</sup> INHIGEO Symposium - Cape Town, South Africa (in association with the 35<sup>th</sup> International Geological Congress, 27 August – 4 September, 2016)

The 41<sup>st</sup> INHIGEO Symposium will be part of 35<sup>th</sup> IGC scheduled to be held in Cape Town, South Africa.

The First Circular is available at

[www.35igc.org/Content/Downloads/35th\\_IGC\\_AnnouncementDoc\\_LR.pdf](http://www.35igc.org/Content/Downloads/35th_IGC_AnnouncementDoc_LR.pdf)

Abstract submission will open in April 2015, with Registration commencing in August 2015.

It is now possible to register your interest at the 35<sup>th</sup> IGC Congress website [www.35igc.org](http://www.35igc.org).

The preliminary symposia suggestions for the 41<sup>st</sup> INHIGEO conference are:

1. Historical Studies of Gondwana (aiming to attract contributions on the early history of geology in Africa as well as other Gondwana continents)
2. Local understanding of geology (aiming to elicit what African and other indigenous peoples thought about the earth and rocks around them)
3. History of fossil man investigations (a subject of major interest in Africa)
4. History of geology over the past 50 years (with the intent of examining African geology, post European colonialism as well as other developments worldwide)
5. General Contributions on the history of geology

A History of Geology Field Trip to “Sea Point contact” has also been suggested.

### **Later scheduled INHIGEO Conferences 2017-2020**

- 2017 – 42<sup>nd</sup> INHIGEO Symposium – Yerevan, Armenia (50th Anniversary Conference)  
Contact INHIGEO member Arkadi Karakhanyan (Armenia)
- 2018 – 43<sup>rd</sup> INHIGEO Symposium – Mexico City, Mexico  
Contact INHIGEO member Luz Azuela (Mexico)
- 2019 – 44<sup>th</sup> INHIGEO Symposium – Como/Varese, Italy  
Contact INHIGEO member Ezio Vaccari (Italy)
- 2020 – 45<sup>th</sup> INHIGEO Symposium New Delhi, India (in association with the 36th International Geological Congress)

### **Liaison with other IUGS Commissions and Task Groups**

#### ***Heritage Stone Group (HSTG)***

Several INHIGEO Members are amongst the list of “Correspondents” for the Heritage Stone Task Group, so a brief report of its activities follows.

The objective of HSTG is to facilitate formal designation of those natural stone resources that have achieved widespread utilisation and thus have historical importance in human culture. Those stones having international importance are to be designated as a ‘Global Heritage Stone Resource’ (GHSR).

During 2013, HSTG news has been provided to all correspondents via Circulars 6 and 7 that were issued in March and October respectively. HSTG (as of April 2014) has 222 correspondents from 50 countries.

During the past year HSTG correspondents met in association with the European Geosciences Union (EGU) General Assembly, that was held in Vienna, Austria, 7-12 April 2013. As a consequence of this conference, the Geological Society of London (GSL) requested that HSTG submit a publication proposal based on the heritage stone presentations and a volume of 20 papers has been planned (with compilation currently in progress) under the title of “Global Heritage Stone: Towards international recognition of building and ornamental stones”. The book has been designed as the first of several that will discuss and document heritage stone.

HSTG Vice-President East Asia, Hirokazu Kato, also successfully initiated a publication proposal to produce a volume entitled “Stone Heritage in East and Southeast Asia” during the Coordinating Committee for Geoscience Programmes in East and Southeast Asia (CCOP) meeting, held in Sendai, Japan on 20-24 October 2013.

An important milestone was also reached with publication in the September 2013 issue of *Episodes* of a paper entitled “Portland Stone: A nomination for ‘Global Heritage Stone Resource’ from the United Kingdom”. It is hoped that this paper will provide a useful model for future GHSR nominations, the first of which are anticipated by the end of 2014. Check Lists for GHSR nomination, as well as for the proposed “Global Heritage Stone Province” category have also been approved.

The principal HSTG conference during 2014 will be held as a session of the XII International Association of Engineering Geology and the Environment (IAEG) conference in Turin, Italy, 15-18 September 2014. A session entitled: “Building stones & Ornamental rocks: Resource evaluation, technical assessment, heritage designation” has been accepted and more than 20 presentations have already been approved.

In 2015, it is planned that HSTG will meet as part of the Annual General Meeting of the Geological Society of America in Baltimore, Maryland USA, from 1-4 November 2015. Your INHIGEO Secretary-General has continued as HSTG Secretary-General. Interested INHIGEO Members are most welcome to contact him about the work of HSTG and to join the ranks of HSTG correspondents, if they have not already done so.

Up-to-date information about HSTG can also be found at the website [www.globalheritagestone.org](http://www.globalheritagestone.org).

Barry Cooper, Adelaide

### **Proposed introduction of an “INHIGEO Affiliated Association” category**

A proposal to establish an “INHIGEO Affiliated Association” category will be discussed at the coming INHIGEO Business Meeting in Asilomar.

This proposal arises because INHIGEO By-Law 5a states that “INHIGEO specifically encourages the formation of national and regional groups”. Following discussion during the Manchester conference, there was an opinion expressed that more could be done to promote this objective.

Consequently it has been proposed to and discussed by the INHIGEO Board that the Commission formally establish the category of “INHIGEO Affiliated Association” or “Affiliate” under the following conditions.

- An “INHIGEO Affiliated Association” is defined as an organisation, with similar objectives to the Commission, which has specifically been approved by the INHIGEO Board to have the status of “INHIGEO Affiliated Association”. National and regional history of geology groups are encouraged, in particular, to affiliate.
- The Secretary of Affiliated Associations shall receive all routine communications from INHIGEO with the expectation that similar information will be provided in exchange to either the INHIGEO Secretary-General or INHIGEO Editor or both.
- A summary annual report of an Affiliate shall, where possible, be published in the INHIGEO Annual Record together with a list of all INHIGEO Affiliated Associations.

- Affiliates are encouraged to report on INHIGEO activities as well as to advertise and promote INHIGEO, its conferences and publications, via their communication channels.
- Individual members of Affiliates shall receive no additional privileges from INHIGEO.
- Affiliated Associations will be permitted to state formally in their publications and official correspondence that they are “Affiliated with the International Commission on the History of Geological Sciences (INHIGEO)”.
- Prospective INHIGEO Affiliated Associations can approach the INHIGEO Board via the Secretary-General in order to gain affiliated status. Alternatively the INHIGEO Board may approach potentially suitable Affiliates.
- The status of “INHIGEO Affiliation Association” is ongoing unless terminated by the INHIGEO Board on recommendation from the Secretary General or by the Affiliate itself.

The “INHIGEO Affiliate Association” proposal is now open for discussion by the full INHIGEO Membership. Please forward any comments to the Secretary-General.

If acceptable at our 2014 Business Meeting it is suggested that the “Affiliated Association” guidelines provided here come into effect immediately with implementation in conjunction with the 2015 membership ballot. Future revision of the INHIGEO Terms of Reference could also include a statement regarding the proposed category.

Barry Cooper, Adelaide

### **INHIGEO Virtual Bibliography**

The first ‘request for bibliographies’ for inclusion in the ‘INHIGEO Virtual Bibliography Project’ was sent to members in last December’s issue of the INHIGEO Circular. In only four months, the project has received lists of publications from Australia, Bulgaria, Germany, Ireland, Italy, Portugal, Spain, United Kingdom and the USA. Some 547 references have been formatted, and organized alphabetically according to the name of the country and those of the authors. It was then ordered into the following categories:

- 1) Books
- 2) Articles in journals
- 3) Articles in Conference Proceedings
- 4) Edited Works
  - 4.1 Books
  - 4.2 Bibliographies in Journals
  - 4.3 Catalogues of collections in Journals
  - 4.4 Newsletters
- 5) Lexicon articles
  - 5.1 Biographical entries
  - 5.2 Encyclopedia Entries
- 6) Books reviews
- 7) Conference Reports
- 8) Book Presentation Reports
- 9) Obituaries
- 10) Abstracts
- 11) Article in a newspapers or popular magazines
- 12) Field Guides



## 13) Translations of books and articles

All of the entries are processed by software that is specific to bibliographic data management. This interface provides a final output that is edited in several bibliographic formats. For this bibliography, it has been decided to adopt the *Chicago Manual of Style 16<sup>th</sup> Edition* to achieve uniformity in referencing. The choice of the software and the format was made on the recommendation and under the supervision of Professor Stephen Weldon, who is a member of the Commission for Bibliography and Documentation of the IUHPS and Chief Editor of the ISIS Bibliography. He suggested that I develop the INHIGEO Bibliography in the same style as the forthcoming on-line bibliographic project of ISIS, which will be available in the northern summer of 2015. In the view of Professor Weldon, the INHIGEO Bibliography will have the required format to be merged into the new ISIS project as an independent section, devoted to the history of the Earth sciences.

The project aims to create a source of bibliographical information that can be circulated among members, and which will eventually be made available on-line through the INHIGEO website. In forming this association with ISIS, INHIGEO and its members have the chance to be part of an international project designed to reach a wide audience of historians. INHIGEO is already an accredited and recognized commission of professionals; this project will provide it with more visibility and attract new scholars. The project now has reached the stage of implementation, and needs the participation of all INHIGEO members.

Members may send in their bibliographies as a Word file, typed in the font of Time New Roman, 12pt and single spaced. Please, deactivate all the automatic format settings (numbering, bullet points, hanging indents, etc.). I would appreciate it if you would follow the sequence listed above (points 1 to 13), when ordering your references. Because each entry will be electronically processed and then re-edited to a common format, you can send in your references in the style you already use. However, you are welcome to edit your contribution according the *Chicago Manual of Style 16<sup>th</sup> Edition*. You may also send in your references to publications written in alphabets other than Latin, but it is mandatory to provide English translations of the title and of the publication details.

Adding a few keywords (not more than three) to each reference is strongly recommended. Please send in references to all of your publications related to the history of the Earth sciences, but not of work that has recently been accepted, is in press, is not available to the public (either in hard copy or on-line) or is a thesis.

There is no doubt that the contribution of each INHIGEO member will make this initiative stronger and more appreciated in the community of historians of science. It is my hope that I will be able to present the first stage of this bibliography, with listing of at least 1000 entries, at the INHIGEO meeting of Asilomar. I urge all the members, who have not already done so, to contact me in next few weeks with their contributions, in order to reach this aim.

If you have any questions or need more details on the project, and to send in your reference list, please write to me at [francesco.gerali@gmail.com](mailto:francesco.gerali@gmail.com).

Francesco Gerali, Project Coordinator

A MESSAGE ENCOURAGING INHIGEO MEMBERS

TO SUPPORT THE HISTORY OF EARTH SCIENCES SOCIETY (HESS)

While a number of us in INHIGEO are already members of HESS, which shares some of INHIGEO's basic aims, it would serve our common purposes if that number were to increase.

As many of you know, the journal *Earth Sciences History*, published by HESS, has on numerous occasions published articles from INHIGEO conferences. Enhancing the health of HESS and its journal through increased individual membership is in the interest of all who support vigorous pursuit of the history of geological sciences.

Yours sincerely,

Kenneth L. Taylor, INHIGEO President

Barry Cooper, INHIGEO Secretary-General

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HISTORY OF EARTH SCIENCES SOCIETY

PUBLISHER OF EARTH SCIENCES HISTORY

Founded in 1982

Dear Members of INHIGEO:

The journal *Earth Sciences History* is published twice a year by the History of Earth Sciences Society. Many of you have published in the journal, which is peer-reviewed and international in authorship. I am now writing to ask you to consider joining HESS if you are not already a member. Membership is \$50 (US) per year for a print subscription of two issues a year, \$50 for an online subscription, or \$65 for a combined print and online subscription. Students may pay \$25 for an online subscription. For those having an online subscription, the journal is now searchable back to its first issue published in 1982.

To join, go to the HESS website ([www.historyearthscience.org](http://www.historyearthscience.org)) and pay by credit card. If you would rather pay by check, send the amount drawn in U.S. dollars to our treasurer: Dr. Greg Good, 8301 Flower Avenue, Takoma Park, MD 20912, USA.

Please join us. Thank you.

Sandra Herbert

President, History of Earth Sciences Society

## CONFERENCE AND EXCURSION REPORTS

### **The International Commission on the History of Geological Sciences (INHIGEO) Meeting, Manchester, United Kingdom, 22 to 27 August 2013**

#### **With pre-, intra- and post-meeting field trips to Shropshire, Derbyshire and the Lake District**

As was the case with the 37<sup>th</sup> *INHIGEO Meeting* in Brisbane, in 2012, the 38<sup>th</sup> meeting in Manchester was also held in conjunction with a much larger gathering, the 24<sup>th</sup> *International Congress of the History of Science, Technology and Medicine (ICHSTM)*. The INHIGEO component was ably organised by the History of Geology Group (HOGG) of the Geological Society of London and included two geological symposia and three fieldtrips. In addition to the two symposia specific to INHIGEO – S112 *Geology in Art and Literature* and S113 *Geologists in the Field* – there were other sessions of interest to historians of geology. The fieldtrips took participants to Shropshire, Derbyshire and the Lake District.

As well as organising the INHIGEO meeting and the fieldtrips, HOGG did a very credible job with the weather. Contrary to what visitors had been led to believe about British summers, the weather was pleasantly hot and sunny, apart from a spectacular thunderstorm just prior to the start of one of the sessions. Drizzle fell sporadically on two of the three fieldtrips in districts that have, so participants were frequently reminded, the dubious distinction of being amongst the wettest places in England.

The venue was the University of Manchester, one of Britain's top-ranking tertiary institutions, founded in the 1820s, and coinciding with Manchester's rise to become the first industrial city in the world. Although some of the original university buildings remain, including a gothic-style museum and visitors centre, fronting Oxford Road, much of the campus consists of more modern buildings of utilitarian design. An exception was the circular University Place that, with its many lecture rooms and facilities, was the focus of ICHSTM.

The congress commenced with an Ice Breaker, held on the evening of 21 July in the Manchester Museum. The museum provided a good overview of the history and the natural history of the Greater Manchester area, as well as a glimpse into some of the research undertaken by the university. The following morning the congress was formally opened. The first plenary session lecture, titled *Putting science back into the history of science*, was delivered by Professor Hasock Chang, of the University of Cambridge, the President of the *British Society for the History of Science*. Although the INHIGEO sessions did not start until later in the week, a number of INHIGEO members presented papers in several of the preceding sessions:

#### **Monday 22 July: Symposium T163 – *Mapping, Geography and Geology***

Session T163-A – *The Politics of Mapping*. Chair: Paolo Brenni

Paul Mohr – Africa beckoning: geological exploration and mapping in nineteenth- and early twentieth-century Eritrea.

Shizuaki Shibuya – Modern, private maps of Korea and Seoul City influenced by older Korean maps: the influence of *Dae-dong-yo-ji-do*.

Sophie Brockmann – Colonial structures, independent policies: geographical and natural-historical knowledge in independent Central America.

Session T163-B – *Geological Travellers*. Chair: Leucha Veneer

Zoya Bessudnova – The mineralogist Nikolai Koksharov (1818-1892) and his field trips with Roderick Murchison in Russia, 1840-1841.

Renee Clary – The journey from elite society to government geologist: Henry De la Beche's powerful impact on the importance of observation within an emerging professional science.

John Diemer – Murchison in Sweden: an example of collaborative geologic mapping.

In the evening the Learned Societies Reception was held in the beautifully renovated Directors' Room of the former Refuge Assurance Company's building in central Manchester, now part of a hotel. This magnificent building was designed by the renowned Victorian Gothic Revival architect Alfred Waterhouse (1830-1905), who was also responsible for the design of the Natural History Museum in London.



*A well-attended INHIGEO Session at Manchester University*

**Tuesday 23 July: Symposium – S112 *Geology in art and literature***

Session S112-A – *The geological imagination*. Chair: Ralph O'Connor

Muriel Adrien – John Martin's scenes of deep time.

Pascale Manning – The Mental Traveller: Charles Lyell's geological imagination and the poetics of Romanticism.

Laurence Roussillon-Constanty – A world in stones: John Ruskin and geology.

Session S112-B – *Geology between Enlightenment and Romanticism*. Chair: Noah Heringham

Ernst Hamm – Caspar David Friedrich, geognosy and Romanticism.

Claudia Schweizer – The role of geology in the romantic concept of the junction of science and art: Novalis (1772–1801), notes for a romantic encyclopaedia.

Gabriel Sims – Unhomely nature: Giacomo Leopardi's *La Ginestra* (1836) as critique of the benevolent, progressivist theories of nature in the Enlightenment and Romanticism.

Melissa Bailes – Laughter and lava: Felicia Hemans, feminine propriety, and Romantic geology.

Session S112-C – *Geology and 19<sup>th</sup> century fiction*. Chair: Adelene Buckland

Gowan Dawson – Dickens, dinosaurs and design.

Stephen Rowland – The role of the writings of Mark Twain in shaping public perceptions of geology in the late nineteenth and early twentieth centuries.

Claudine Cohen – A few remarks on geology and palaeontology in nineteenth-century French literature.

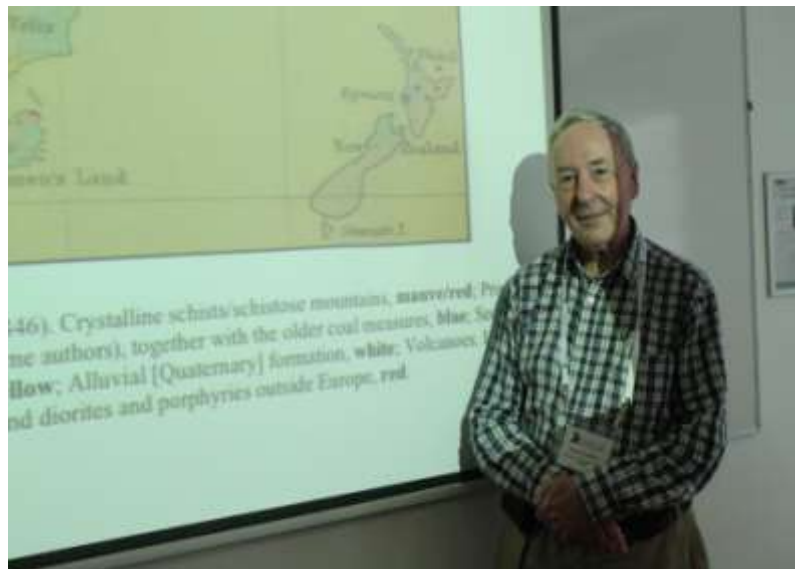
Philippe Taquet – The inspiration of the novelist Honoré de Balzac on Georges Cuvier's life and works.

Session S112-D – *The Art of geological Mapping*. Chair: Martin Rudwick

Karen Cook – The artistic rebirth and afterlife of George Bellas Greenough's *A geological map of England and Wales*, 1819/20 (1st ed.), 1839/40 (2nd ed.), and 1865 (3rd ed.).

Stefano Magnani – Painting geology: the Torquato Taramelli views.

David Oldroyd – The geological maps of the world by Ami Boué (1843) and Jules Marcou (1861): the Australasian portions.



*David Oldroyd (Australia) giving his talk to an INHIGEO Session, at Manchester University*

Session P121 *Men, knowledge and technologies in the development of the modern oil industry up to the early decades of the twentieth century* included a paper by INHIGEO member Francesco Gerali titled, Notes on the Mexican oil industry in the nineteenth century.

Wednesday 24 July

Session S112-E – *Communicating geological knowledge*. Chair: Ernst Hamm

Irena Malakhova – Dmitry I Sokolov: a pioneer of geology and an expert in literature.

Leonid Kolbantsev – Vladimir Obruchev: the first state geologist of Eastern Siberia, and the first Russian geologist-writer.

William Twycross – The many arts of the father of seismology [with contributions by William Twycross, Patrick Nott and Paul Kabrna] and the screening of the John Milne documentary.

**Friday 26 July: Symposium S113 – *Geologists in the Field***

Session S113-A – *Methodology of Fieldwork*. Chair: Leucha Veneer

Ken Taylor – Fieldwork avant la lettre: Desmarest's field investigations in the 1760s.

Ezio Vaccari – The role of fieldwork in Ami Boué's Guide du géologue voyageur (1835-36).

Marianne Klemun – Administering science: the paper form of scientific practice, and of geological fieldwork.

Session S113-B – *The Importance of Place*. Chair: Martina Kölbl-Ebert

Sue Turner – Thomas Sopwith's 1839 'Great Strata Section': Cross Fell Mountain to Hownes Gill. Giving authenticity to this presentation, the section itself was on display, the whole 42 feet (12.8 m) of it. Also on display, but not related to any specific paper was a cross section, a mere 11 feet (3.4 m) long, belonging to Cherry Lewis and depicting the Forest of Dean Coalfield in Gloucestershire.

Luz F. Azuela – Scientific and political meanings in William Gabb's journey in Baja California.

Beth Johnson – Glacial Lake Agassiz and its early researchers: from Noah's flood to Upham's bathtub and beyond.

Barry Cooper – A 'sense of place' in geology: the case history of four locations from South Australia.

Session S113-C – *Constraints on Fieldwork*. Chair: John Henry

Cynthia Burek – The role of women in geological fieldwork: case studies from Ireland and the UK.

Martina Kölbl-Ebert – No trespassing: field-geology at Ries Crater within the framework of 'German Geology' (1933 to 1945).

Teresa Salomé Mota – Spending some time in the field: fieldwork in the Portuguese Geological Survey during the twentieth century.

Leucha Veneer – Geological investigation or commercial exploration? State surveys of the British North Sea during the Cold War.

Session S113-D – *Fieldwork Case Studies*. Chair: Barry Cooper

Ermelinda Pataca –Philosophical travels in the Portuguese world: perceptions and experiences in fieldwork, 1777-1808.

Geir Hestmark – A tale of two moraines: Jens Esmark’s path to the Ice Age deciphered.

Mike Johnston – Thomas Ridge Hacket (1827-1884): New Zealand’s first geologist.

Christer Norlund – Peat bogs as archives: Lennart von Post and the development of pollen analysis during World War I.

Saturday 27 July

Session S113-E – *Travels and New Worlds*. Chair: Kenneth Taylor

George Vlahakis – Unearthing the earth: geology in eighteenth- and nineteenth-century Greece.

Tributes were paid to Bernhard Fritscher (1955 –2013), who died on 11 July, and was scheduled to present a paper in this session. Those who spoke in Bernhard’s memory were Cornelia Lüdecke, Ken Taylor, Peter Schimkat, Marianne Klemun, Martina Kölbl-Ebert, Irena Malakhova, Ernie Hamm and Ezio Vaccari.

Wolf Mayer – Perceptions of the landscape and geology of Australia as revealed in the accounts and images of explorers, travel writers, artists and early settlers.

Johannes Mattes – Fieldwork in the underground: cave cartography and surveying instruments at the beginning of the twentieth century.

Session S113-D – *Landscapes and meaning*. Chair: Cherry Lewis

Ros Westwood – Derbyshire: the geological tourist destination.

Paul Kabrna – John Milne, ‘Father of Modern Seismology’: his geological and anthropological field work from 1871 to 1886.

Michiko Yajima – Disasters come when all people forget.

In conclusion to the formal part of the meeting, Leucha Veneer and Cherry Lewis (the latter along with Martina Kölbl-Ebert being one of the symposium organisers) summarised what had been a very varied and instructive symposium.

Saturday afternoon – INHIGEO BUSINESS MEETING (see separate report in the next issue of the Circular)





*INHIGEO members enjoying the dinner that concluded the ICHSTM Congress, at Old Trafford*



*Michiko Yajima (Japan) and Zoya Bessudnova (Russia) in a merry mood, at Old Trafford*

**Pre-congress Field Trip: *The Silurian of 'Siluria' and the Idea of a Palaeozoic Era.***

**Leaders: Martin Rudwick and Hugh Torrens**

Participants in the pre-congress trip assembled late on 18 July at the Longmynd Hotel, located on the lower slopes of the range of hills known as Long Mynd, overlooking the picturesque Shropshire town of Church Stretton. After dinner, Martin Rudwick, Hugh and Shirley Torrens and John Henry introduced us to Shropshire geology and to the work of the geologists Roderick Impey Murchison and Adam Sedgwick, who had unravelled its stratigraphy. Our guides explained how the work of these geologists formed the basis for defining the Palaeozoic Era. Martin urged participants, when



following in the footsteps of Murchison and his colleagues, not to look at the rocks according to today's understanding of them but to imagine the challenges faced by those seeing them in the 19<sup>th</sup> century, and attempting to make sense of what they saw. The Cambrian-Silurian controversy, the foremost dispute in Victorian geology, arose from the belief that the packets of rocks they were observing did not represent real natural divisions of time. Instead they were, to quote the fieldtrip guide, "necessarily conventional and therefore matters to be settled by negotiation". Supplementing the verbal presentations was an excellent collection of maps, memoirs and books from the libraries of Martin, Hugh and John. We had also made available to us, well in advance, a very comprehensive trip guide, liberally illustrated with coloured maps and sections, compiled by Murchison, Buckland, Sedgwick and others.



*Participants in the Silurian of 'Siluria' field trip on Titterstone Clee Hill, in Shropshire*

The next day was devoted to the country to the south and southeast of Church Stretton. Setting off in two mini-buses, the first stop was on the upper slopes of Titterstone Clee Hill (one just has to love these English names). After a short scramble over an olivine dolerite sill within the Carboniferous coal measures, we were rewarded, in brilliant morning sunshine, with a 360 degree panoramic view over Shropshire and the surrounding counties. This view has been described as the best in England. The hill itself has been modified by humans starting in the Bronze Age, or even earlier, up to modern times, with the installation of radar stations and the excavation of quarries. Geologically, we were standing on the uppermost unit of a sequence dipping southeast and which we would progressively examine during the remainder of the trip.

From there it was a short trip to the town of Ludlow dominated by its ruined, but still imposing castle, where the heir apparent to Henry VII, Arthur, Prince of Wales, died in 1502. After a short walk through streets lined with 18<sup>th</sup> century buildings, we reached the museum with its

exhibitions of local history and, in particular, local geology, with an explanation of the part played by Murchison in elucidating it. From the museum it was a short stroll down to the stone-arched Dinham Bridge over the River Teme and, from there, to the famous bed of Devonian fish bones. Although the outcrop, the type locality for the bone bed, was still exposed, the thin fossiliferous horizon was not. In order to prevent the continuing onslaught from geologists and fossil collectors, the local authorities have allowed the actual bed to become covered in detritus.

Leaving Ludlow we headed northeast to a lunch stop and to see fossils in a quarry in the Amestry Limestone at Corve Dale, which marks the entrance to Hope Dale. This valley is flanked by the Clee Hills, mostly Old Red Sandstone, and in the east by the Wenlock Limestone. However, the impressive escarpment of the Wenlock Edge was not apparent until we climbed on to it at Major's Leap. This was so named after an officer in the King's Army who rode his horse over the edge to avoid capture by parliamentary troops, during the English Civil War. The horse was killed but the major apparently survived this impressive fall, ending up in an apple tree. At the nearby Stretton Westwood quarry we examined limestone crammed with Silurian fossils, such as *Orthis*, but particularly with corals and stromatolites.

One aspect of modern-day mapping compared to that carried out by Murchison and his colleagues, which repeatedly cropped up during the fieldtrip, was that in many respects the 19<sup>th</sup> century geologists were a lot better off. In addition to being pioneers in geological exploration, the sequences of strata they mapped, most of which contained fossils, were then better exposed than is the case today. Numerous small quarries existed for all manner of things and, in addition, canal banks and railway cuttings provided excellent outcrops. This was well shown by a visit to a long abandoned quarry on the side of Lodge Hill. After following a path up a forested hillside we were rewarded with a moss- and tree-covered depression with hardly a rock, let alone a fossil, to be seen. This prompted a debate as to how such geological features should be treated, for the quarry in its existing state was clearly of little value to present-day geologists. Several small quarries in rather non-descript Wenlock Shale, some with poorly preserved fossils, were then visited, before finally examining, at the foot of The Lawley, a little to the northeast Church Stretton, trap rocks in the Caradoc Hills.

In the evening at the hotel, we were treated to a film in which Hugh and Shirley Torrens impressively acted the parts of Murchison and his wife on a visit to Shropshire. The making of the film was recounted by Shirley and to encourage attention, not that this was necessary, the audience was asked to identify things in the film which, despite every attempt at authenticity, might not have been as they were during Murchison's rambles. The prize for winning this exercise was a bottle of beer from a local boutique brewery.

The next day was overcast with low cloud. Although it lifted, the distant hills remained murky as we headed into Ashes Hollow, one of the deep valleys in the Long Mynd, near Church Stretton. Along the creek, steeply dipping, quite well-bedded, sandstone and mudstone of the Lower Silurian Longmynd Formation are exposed and, despite some structural complexity, grading and other sedimentary criteria showed that they young to the southwest. A short, gently climbing, but overgrown track saw a line of heads moving in single file through shoulder-high fern to a small quarry in the same formation. Back on the buses we went south to the Onnay River and, after walking across fields, examined a gentle unconformity between Upper Silurian (Wenlock) and the Lower Silurian (Caradoc) sediments exposed in the river bank. The recognition of this unconformity was a turning point in the Cambrian-Silurian controversy.



*Excursionists following a track along a valley in the Long Mynd, in Shropshire*

After a longish drive towards the northwest we entered a former lead-mining area in Silurian rocks, as was shown by stone buildings that would have housed pumping and winding gear. Climbing on to the higher slopes, north of the igneous massif of Corndon Hill, we alighted and, after collecting a few Lower Silurian fossils from a roadside outcrop, set off on foot over a broad ridge to the Mitchell's Fold Stone Circle. While the stones, there are about 15 still remaining, are not of the size of those at Stonehenge, there were no crowds and this peaceful, reflective spot, was a pleasant place for lunch. Although a Bronze Age site, it acquired its name much later and, as Shirley Torrens recounted, involved a witch by the name of Mitchell and a cow that was turned to stone.



*The co-leaders of the 'Siluria' field trip, Hugh Torrens (UK, dark hat, on left) and Martin Rudwick (UK, right). Barry Cooper (Australia, center) has caught the group's attention*



Continuing on through the same mining field, we stopped at Stiperston village and walked up the side of Mytton Dingle, where uppermost Lower Silurian “greywackes” comprise a very well-bedded, and steeply dipping, sandstone-mudstone sequence. A short distance away we climbed a bleak ridge to see The Stiperstones, a line of quartzitic sandstone outcrops within Silurian sedimentary rocks.



*Three of our Russian INHIGEO members, Zoya Bessudnova, Tatiana Ivanova and Irena Malakhova, in fashionable field wear*

The highlight of the trip, well a very close second anyway, was afternoon tea at Martin’s 17<sup>th</sup> century house in the village of Bishop’s Castle, situated in a much more civilised countryside, not far from the River Onnay. The house itself nestled against the now ruined castle wall and it is possible that it and its neighbours were constructed from recycled stone. Inside his house Martin had on view items from his extensive library. It was also an appropriate location for INHIGEO President, Ken Taylor, to thank Martin, Hugh, Shirley and John for a fascinating and instructive fieldtrip.

On the final day participants had the morning to explore Church Stretton. Most visited the town and its medieval buildings and church, whereas a few climbed to the broad, bleak heather moor of the Long Mynd. After lunch we boarded the bus and, deviating slightly to the west towards Chester, avoided the worst of the Sunday traffic to reach Manchester with plenty of time to spare before a welcoming Ice Breaker in the evening.

### **Intra-congress field trip: *Buxton Spar and Buxton Spa.***

#### **Leaders: Tom and Sharron Hose**

The trip commenced at Manchester Piccadilly Station where, under the attentive gaze of our tour leaders, Tom and Sharron Hose, we boarded a train for Buxton in Derbyshire, the home of Blue John fluorite and a famous spa. We were to walk part of the same route, which members of the Geologists’ Association had followed, in 1904. These early geologists, before the advent of the internal combustion engine, must have been a lot fitter than their present-day counterparts, as we

only covered a fraction of the ground they walked over. The train climbed steadily and the views of the beautiful countryside became blurred as we entered the mist shrouding the hills, but this did provide time to read a comprehensive set of notes prepared by our guides.

Alighting at Buxton Station, we took shelter from the drizzle, while Tom summarised the geology of the town and mentioned some of the things we would see during the day. Disconcertingly, he also mentioned alternative arrangements if the drizzle, as was confidentially expected, gave way to rain later in the day. After appreciating a large semi-rose glass window in what had been the station of the London and Northwestern Railway, we walked into town and admired some of its grand old buildings. Although some, like The Crescent, built in the late 18<sup>th</sup> century, are the worse for wear, following the decline of the spa, others, like the spa building itself, are in good repair. One of the baths, but without water in it, is preserved with its elaborate interior, faced in Minton tiles. To get some idea of the spa water itself, we went to the nearby St Anne's Well, which discharges natural spring water. However, we had to wait in line before tasting, as a number of locals were busy filling large bottles to take home. The slightly sulphurous water emerges at a constant 27.8° C and is available free of charge, under a Parliamentary Act of 1772.



*Sampling the water from the St Anne's Well at Buxton Spa*

From the Old Hall Hotel, dating from late 16<sup>th</sup> century, we made our way up through a public park, once the preserve of the Dukes of Devonshire, to the Buxton Museum and Art Gallery, a former hotel. Inside, the manager, Ros Westwood, showed us some of the minerals Derbyshire is famous for. On display in the museum was a gallery full of beautiful Blue John objects, ranging from large elegant vases to jewellery. The museum also had a well organised section of rocks and fossils, as well as other displays relevant to Derbyshire. After a substantial meal of British cuisine in the Pavilion Café, formerly the Winter Gardens, and now incorporating a conservatory, shops, art galleries and restaurants, we walked in bright sunshine through the formal gardens, before tackling the steeper wooded slope above the town. On the forest floor, ample evidence of the remains of kilns indicated that we were traversing Carboniferous limestone. This was confirmed, when emerging from the woods, by the sight of large quarries, some abandoned, but others obviously still working, which were scattered across the landscape. The Gin Low quarry has now been rehabilitated by the local council. Its walls provide a perfect section through the gently dipping flaggy limestone, displaying sedimentary structures and fossils.

On the high point of the hill, the folly of Solomon's temple or Grinlow Tower is the site of a Bronze Age burial site. The tower itself provided a panoramic view of Buxton Spa, nestled amongst hills now brilliantly clear after the morning's drizzle. From the tower we descended the hill to Poole's Cavern, one of a number in the area. It is a popular tourist attraction, containing the usual types of speleothems. Emerging into the sun light, it was a brisk walk to the railway station to catch the train to Manchester.

**Post-congress fieldtrip: *Ruskin's Geology*.**

**Leaders: Alan Bowden and David Olyroyd**

Under the guidance of Alan Bowden and David Oldroyd, participants on the *Ruskin's Geology* trip left the University of Manchester after breakfast, on 28 July. During a fast bus trip north we were given a summary of the life of John Ruskin, the main focus of our attention over the next two days. Ruskin (1819-1900), an art critic, painter, observer of geology and much more besides, spent much of his later life in the Lake District. When arriving at the Lake District, Ruskin's attraction to this area became increasingly obvious, as rolling hills gave way to more robust mountains, crisscrossed by stone walls and scattered farm houses. On reaching Lake Windermere, which occupies a classic glaciated valley, low cloud was beginning to break up and patches of sunshine became increasingly more frequent.



*Excursion co-leader, Alan Bowden (UK, centre), with Mike Johnston (New Zealand, left) and Carol Bacon (Australia, right)*

Continuing north around the lake, and passing the very much smaller Lake Grassmere, our first stop was at Ambleside, which had nothing to do with Ruskin. Instead, a short walk brought us to the small, whitewashed and two-storied Dove Cottage, which had been the home of William Wordsworth. Built in the early 17<sup>th</sup> century, and formerly a public house, the 'Dove and Olive', it was from 1799 to 1808 occupied by Wordsworth, his sister Dorothy and, from 1802, also by Wordsworth's wife, Mary Hutchinson. Its dark cave-like small rooms with low ceilings, and a



nearby stream that threatened to flood its downstairs rooms, it was little wonder the great poet had a love for the outdoors and was inspired to write “I wandered lonely as a cloud...”, perhaps Britain’s best known poem. This authentically restored cottage certainly gave an insight into both Wordsworth’s life, his interest in geology – he was on friendly terms with Sedgwick and other geologists – and living conditions in the early 19th century. From Dove Cottage it was a short walk to Wordsworth’s grave in St Oswald’s Churchyard.

In the afternoon we visited Rydal Mount, built on a wooded hillside overlooking Rydal Water, which was Wordsworth’s home from 1813 until his death in 1850. This over 400 year-old house, with its extensive gardens, presents a marked contrast to the rather claustrophobic Dove Cottage. Like the cottage, it has been faithfully restored to reflect the period it was lived in by the Wordsworth family. At Rydal Mount, Alan elaborated on Wordsworth’s keen interest in geology and how it had shaped the very landscape the poet so greatly admired. Wordsworth was apprehensive about the impact which the district’s mineral wealth and the consequent mining of iron, lead, copper, arsenic and graphite, together with the frenzied building of railways, would have on his beloved countryside. He also had wanted to insure that farming continued in the Lake District, for without grazing, the high rainfall would see the fells quickly reclaimed by ferns and by woodland.



*Rydal Mount – Wordsworth’s family home from 1813 to 1850*

Adjacent to Wordsworth’s house is Rydal Hall, a much more grandiose manor house built of concrete with, in contrast to Rydal Mount, very formal gardens. However, a torrent, plunging over a small waterfall and flowing along the edge of the grounds, would have proved inspirational to Wordsworth. From Rydal Hall it was a relatively short journey over winding lanes, clogged with tourist vehicles, to the Hydro Hotel in Bowness-on-Windermere, so situated to take advantage of the fine views over the lake. This was country familiar to former INHIGEO Secretary-General David Oldroyd, as he had been evacuated to it as a child during the Second World War. This early experience may have served him as an inspiration, when in later life he came to write a definitive account of the history of the geology of the Lake District.

The next day’s weather was a repeat of the first day, with low cloud and drizzle that gave way to patches of blue sky and mountain views, by the time we had reached Brantwood, located on a wooded hillside sloping down into Coniston Water. Brantwood was from 1871 until his death, the

home of John Ruskin who, in the words of David Oldroyd, was a workaholic and one of the last great polymaths. According to Howard Hull, director of the Brantwood Trust, who gave us a talk on Ruskin the geologist, he was “from boyhood ...an artist, but a geologist from infancy”. He was taught geology at Oxford by William Buckland. In his art Ruskin made use of his interest and perceptive knowledge of geology and also recorded geological processes by means of the newly invented technique of photography. After exploring the house, much of the furnishing having been owned by Ruskin, and its extensive gardens and woodlands, and followed by lunch, we retraced our route to the head of the lake and on to Coniston. Here, at his grave in the local churchyard, we paid our respects to Ruskin. In the nearby Ruskin Museum curator Vicky Slow provided us with more details on Ruskin the geologist. The museum also afforded an excellent overview of the geology of the Lake District and its mineralisation, the latter displaying a classic example of mineral zoning.



*Participants in the post-congress fieldtrip – ‘Ruskin’s Geology’ – in front of ‘Brantwood’ House*

It was then a long drive north to the Aira Force Waterfall, on a stream flowing into Lake Ulleswater, which like Lake Windermere and Coniston Water, occupies a former glaciated valley. On the way, we were able to see how the major rock units influenced the formation of the landscape. The Skiddaw ‘slates’ crop out in more open country, whereas the considerably more variable Borrowdale Volcanics give rise to a more rugged landscape, as we noted at the waterfall. The waterfall itself was a favourite location of Wordsworth and may have been the inspiration for his ‘daffodil’ poem. It is specifically mentioned in two of his other poems.





*The Aira Force Waterfall*

The final day of the trip took us to libraries. The first of these was in Ambleside, and takes its name from the sisters Sophia, Anna Maria and Mary Louisa Armit. Mary founded the library in 1909, as was explained to us by one of its trustees, David Kilner. The library also acquired part of the collections of Wordsworth and Ruskin.

One other person closely associated with the library was Beatrice Potter (1866-1943). Of a family with Lancastrian origins, she was born into a well-to-do London family, which often travelled to the Lake District for their holidays. It was on these holidays that she developed her affinity with nature and became an accomplished amateur mycologist. Her ambition to join the staff at Kew Gardens was however thwarted. Although the reasons for this are not entirely clear, it appears that she was the unfortunate victim of a dispute between her sponsor and the director at Kew. At about this time, in 1902, she had published a short illustrated story, *A Tale of Peter Rabbit*, which she had written several years earlier for a friend. It was such a success that more books followed, allowing Potter to have sufficient money in her own right to purchase a farm in the Lake District and to become a successful breeder of grey-faced sheep. After inheriting her parents' wealth, she set about to conserve as much as possible of the culture of the Lake District, including the purchase of land which she bequeathed to the nation. Amongst the Potter material in the Armit Library are some of her original sketches of fungi. David Oldroyd was able to give us some personal recollections of Potter, having met her during his early childhood stay in the Lake District.

From Ambleside the trip headed back to Manchester, but not before one last stop at the ancient city of Lancaster. Here, at the University of Lancaster, on the outskirts of the city, we visited the Ruskin Library of eye-catching design, both inside and out. Although Ruskin had only a tenuous connection with Lancaster, the library now holds the largest collection of his material: paintings, sketches, geological notebooks, letters and the like. How that came about, was explained to us by the director of the library, Stephen Wildman. He also gave us further insights into Ruskin's work, and had arranged a display of further Ruskin material, in addition to that shown in the permanent exhibition. After depositing a number of participants at the railway station in Lancaster, the bus carried on to Manchester.



*Ruskin's Diaries – Volume on Alpine Travel*

In conclusion, this was a well organised congress with almost a full week in which there were symposia of direct relevance to the history of geology. The fieldtrips were equally well run and participants were provided with comprehensive and attractively illustrated field notes. The weather was generally benign, with only the odd thunderstorm and a few showers to contend with in Manchester. During the field trips, the celebrated rain districts of Derbyshire and the Lakes provided only patches of drizzle and, for the most part, sunny skies. Special thanks go to Cherry Lewis and Leucha Veneer of HOGG, to the field trip leaders Martin Rudwick, Hugh Torrens, Tom and Sharron Hose, David Oldroyd and Alan Bowden, and also to Shirley Torrens and John Henry, whose knowledge and input added immeasurably to the success of this INHIGEO meeting.

Mike Johnston, Nelson, New Zealand

### **International Congress of the History of Science, Technology and Medicine (ICHSTM), Manchester 2013**

'Knowledge at work' was the theme of the 24<sup>th</sup> International Congress of History of Science, Technology and Medicine this past July at the University of Manchester, UK. The Manchester conference was the largest ever of this quadrennial Congress with 1758 delegates from 58 countries presenting 1357 papers in 115 symposia. One would be forgiven for imagining that it would be a logistical nightmare, but the experience was anything but. That the congress worked like clockwork for seven days with as many as 23 symposia running in parallel and with associated events – civic reception, comedy club, dinner at Manchester United, an opera premier, bespoke brewed conference beers, excursions to several local and regional sites of history of science interest – is a tribute to the organisers' huge abilities, imagination and panache. The congress was a great success. Even the weather cooperated with an atypical run of hot dry days.

INHIGEO's annual conference was held under the parasol of this much larger congress and benefited from the numerous attractions provided beyond the history of geology. More about the INHIGEO events can be read in this annual report (above), but to sample the sheer breadth of the programme and knowledge at work, if you were not able to attend, please visit [www.ichstm2013.com/programme](http://www.ichstm2013.com/programme).

ICHSTM, while convened by the International Union of History and Philosophy of Science Division of the History of Science and Technology (DHST), is organised by the host country. The BSHS (British Society for the History of Science) determined to scale up a typical annual meeting (see *BSHS Viewpoint* ‘the Congress in Cottonopolis at <http://www.bshs.org.uk/wp-content/uploads/Viewpoint-iCHSTM-special-small.pdf>). The coordination of the conference itself and the organisation of events surrounding the congress was the responsibility of University of Manchester’s Centre for the History of Science, Technology and Medicine.

In the plenary session, BSHS Presidential address, Hasok Chang addressed a core issue in ‘Putting the science back into the history of science’, worrying that a generation of ‘impatient contextualists’ had turned away from historic scientific theory and its results. With a video of his replication of a chemistry experiment in which salt-water corroded gold under low voltage, Chang demonstrated that phenomena that have been by-passed but not disproved can present challenges to modern theory. His point being that history of science should be useful not only to historians but also to scientists. This was controversial, certainly generating much discussion, tweeting and blogging. The energy and interest of history of science comes from the creative tension between historians and scientists engaging in the subject.

As expected many congress symposia were organised by Commissions of the DHST, such as INHIGEO, on disciplinary lines. A feature of the Manchester Congress was that the majority of symposia were collaborative projects involving several disciplines, such as the Earth under Surveillance, Board of Ordnance, Sonic Skills, Securing the Scientific Heritage, Science in Museums, and Women in Science Research Network

Outside of the business of the congress session, numerous events were organised. There were daily half-day visits to the Jodrell Bank Observatory with its iconic 76m steerable radio telescope dish of the 1950s. Museums in Manchester – Natural History, Imperial War Museum North, Science and Industry – and further afield, the National Railway Museum in York and the National Media Museum in Bradford offered specially arranged tours. Cheetham’s Library (the oldest public library in the English-speaking world, founded in 1653) and John Ryland’s Library (home of U of M’s special collections) arranged tours for delegates. On Thursday, a day off from the conference, there were tours to Chatsworth Estate, Quarry Bank Mill and Buxton.

The full evenings included the UK première of the multimedia opera ‘Turing Machine’, which explored the life and work of the computer scientist Alan Turing by Ooppera Skaala of Helsinki, a Civic Reception in the opulent City Hall followed by a Victorian Science spectacular, a pub talk and performance by historian of brewing science and comedian James Sumner on the chemical techniques of ‘beer-doctoring’ in the nineteenth century, receptions at the Natural History Museum and the Museum of Science and Technology and a conference dinner at Old Trafford, the home of Manchester United football club. In addition, there were nightly conference-themed comedy acts at the student pub and night club, Jabez Clegg.

Throughout the conference, there was a well-stocked antiquarian and second hand book store entirely devoted to science, courtesy of Westwood Books of Sedbergh. Major publishers attended with an impressive spread of current and recent history of science books and journals.

Within the congress, INHIGEO organised two symposia over two and a half days: *Geologists in the Field* and *Geology in Art and Literature*. In addition there was a screening of a film about John Milne, father of seismology, *The Man Who Mapped the Shaking Earth* brought to the conference by its producer William Twycross, great nephew of Milne. Graham Carlisle brought his mammoth 11metre (42 feet) manuscript geological section by Thomas Sopwith of Cross Fell to Hownes Gill in County Durham, a distance of ‘28 miles, 12 chains, 60 links’. The section was longer than the lecture room and was last exhibited at the 1841 British Association for the Advancement of Science meeting, in Newcastle. For full description, see <http://www.geolsoc.org.uk/Geoscientist/Archive/March-2013/Sopwiths-Section>. The abstracts to the conference were published on- line; the alternative hard copy version was a 514 page door-

stopper at £25. It may still be downloaded from the conference website, see <http://www.ichstm2013.com/programme/full-programme-abstracts.pdf>. For INHIGEO members the key pages are 55-58 for Fossil Work and 266 to 281 for the other history of geology symposia.

Before, during and after the conference, members of HOGG (History of Geology Group) of the Geological Society of London organised field trips for INHIGEO delegates. Martin Rudwick and Hugh Torrens lead a 3-day trip, based in Church Stretton, tracking the controversial Cambrian-Silurian boundary as seen by Adam Sedgwick and Roderick Murchison in their day. Tom Hose lead a day trip in mid-conference, to the spa town of Buxton, famed for its waters, caves and mines. Post conference, Alan Bowden, with David Oldroyd lead us to the Lake District, based in Windermere, and visiting the sites connected with William Wordsworth, John Ruskin, Beatrix Potter and learning of their geological associations.

I would like to take this opportunity to thank the BSHS for their conception of the ICHSTM programme, the University of Manchester organising committee, headed by Jeff Hughes and James Sumner, for managing so successfully the demanding logistics and HOGG member, Cherry Lewis, who organised the field trip travel and accommodation for the Shropshire and Lake District field trips, and, with Leucha Veneer, organised the symposia, and the field trip leaders and guides, Alan Bowden, Tom Hose, Martin Rudwick and Hugh Torrens.

In the welcome to delegates, James Sumner wrote that

*the academic programme is the heart of ICHSTM, and we hope it will stimulate lively discussion and debate both within and about our field. But ICHSTM also offers an extensive formal and informal social programme, from official receptions to HSTM-related music and comedy, and a wide range of HSTM-themed walks, tours and visits. And ICHSTM will actively use social media to promote our field to the wider world. We hope that ICHSTM 2013 will be a Congress to remember, and that you enjoy your time in Manchester!*

We can confidently say that these aims were well and truly realised and that Manchester 2013 will set the benchmark for future ICHSTM meetings. An overarching memory of the whole congress experience was the great sense of civic and university pride and northern sense of humour that carried the congress along and made it such a success.

John Henry, London

**The Division of the History of Science and Technology (DHST) of the International Union of the History and Philosophy of Science and Technology (IUHPST), with which INHIGEO is affiliated, issued the following manifesto:**

#### **Manchester Manifesto**

On the occasion of the largest global meeting of historians of science, technology, and medicine we, the officers and members of the Division of the History of Science and Technology of the International Union of the History and Philosophy of Science and Technology affirm the following:

- (1) Science, technology, and medicine have been abiding features of humanity for millennia and are integral parts of society and culture throughout the globe.
- (2) Scientific, technical, and medical literacy is a public good.

(3) We support the study of nature and strive to render it comprehensible to the scientific community and to the wider public through conscientious scholarship and public outreach activities in the human family's many languages.

(4) Historical scholarship on science, technology, and medicine should seek a full and nuanced accounting of the growth, progress, problems, and prospects of these essential human activities. This supports awareness that science, technology and medicine, when rightly prosecuted, are a public good.

(5) Historians of science, technology, and medicine can build bridges between different cultures through collaboration and examination of different perspectives, heritages, and styles of thinking.

(6) An understanding of the history of science, technology, and medicine enhances the teaching of general history as well as the teaching of the methods and context of science, technology, and medicine.

(7) The artifacts of science, technology, and medicine constitute an essential material heritage of humankind. These materials must be preserved, interpreted, and further developed by professionals with a deep knowledge of their cultural significance.

Therefore, in the interests of global betterment and putting knowledge to work, the united participants of the 24th International Congress of History of Science, Technology, and Medicine held at Manchester, UK, in July 2013 declare:

1. The history of science, technology, and medicine should be supported and financed regularly and continuously by state and private institutions to ensure that younger generations are familiar with their scientific, technological, and medical heritage as interpreted by appropriately-trained historians.

2. The history of science, technology, and medicine merits prominent integration into the curricula of high schools, colleges, and universities. Local and national practices should guide this integration.

## **OTHER CONFERENCE REPORTS**

### **Past, present and future of human connections to the Antarctic**

A workshop of the SCAR History Expert Group and the Social Sciences Action Group Workshop  
British Antarctic Survey, Cambridge, United Kingdom  
1-5 July

For the first time, the *SCAR History Expert Group* organised a workshop jointly with the *SCAR Social Science Action Group*, at Cambridge (United Kingdom) on the invitation of the British Antarctic Survey. The program included 37 papers discussing various aspects of the workshop theme, "Past, present and future of human connections to the Antarctic". The talks were presented by historians, historians of science, and scholars of humanities and social scientists, among them retired professors, scientists, PhD students, and Masters' students.

The first session dealt with problems of polar heritage, which are of special interest to the

*International Polar Heritage Commission of the International Council of Monuments and Sites (ICOMOS)*. Louise Brown (United Kingdom) discussed the engagement with the 'heritage' of Antarctica, while Sherrie-Lee Evans (Australia) asked if Antarctic heritage is still at risk. Bryan Lintott (United Kingdom) explained basic criteria for proposing and approving Antarctic historic sites and monuments. In the second session, Andrew Atkin (Australia) evaluated the success of scientific research on Antarctic expeditions, 1898-1914, Ursula Rack (New Zealand) focussed on the importance of historic weather data in diaries and logbooks, of the period 1901-1904, for climate change analysis and John Cooper (South Africa) listed all visiting vessels of the sub-Antarctic Prince Edward Islands. The third session after lunch was dedicated to the first Russian expedition to Antarctica under the leadership of Bellingshausen. Erki Tammiksaar (Estonia) focussed on its context of political interests of the Russian Empire and the Soviet Union, while Rip Bulkeley showed why Bellingshausen did not discover Antarctica. The discussion between these two, the only Bellingshausen experts worldwide, was really fascinating and the audience learnt a lot about the early Russian explorer. In the fourth session Christel Misund Domaas (New Zealand) changed to science and politics in evaluating the Norwegian-British-Swedish Antarctic Expedition (NBSX), of 1949-1952. Alessandro Antonello (Australia) analysed nature conservation in Antarctica during the early Treaty Years (1958-1964). David Walton (United Kingdom) closed the day with his talk about the papers of the Antarctic Treaty Consultative Meetings as a treasure trove of new information.

The second day started with David Picard (Portugal), who shared his ideas about tourism performance and the modernity of nature. Angela Grosse (Germany) saw Antarctica under pressure by global climate change and global lifestyle change. Tina Tin (France) mapped out how different cultures and populations value the Antarctic wilderness and presented the *Consortium for Research on the Wilderness Values* of Antarctica, AntWild. In the sixth session Elias Barticevic (Chile) & Juan Salazar (Australia) described challenges for citizen science in Antarctica with an example of a case study in Chile. Then the focus turned to Malaysia, when Rohani Mohd Shah (Malaysia) presented her home country and Antarctica in the context of past perspective, present involvement, and future challenges, while her colleague Norha Abu Hanifah (Malaysia) focussed on the Malaysian style of waste control. Machiel Lamers (The Netherlands) informed us about the governance processes of area management in the Antarctic as science of zoning. The seventh session began with Sira Engelbertz's (New Zealand) talk about values in the discourse on topical issues in Antarctic politics. Andriy Fedchuk (Ukraine) discussed the hierarchy of research methods for the assessment of national interests in Antarctica. And Juan Francisco Salazar *et al.* (Australia) addressed the Antarctic problem in the 21st century referring to nationalism, geopolitics, and cultural futures. The eight sessions focussed on the social sciences. Mantopi Ephaphrus Mamabolo (South Africa) analysed the impact of social science research on policy in the *South African National Antarctic Program* and Daniela Liggett (New Zealand, chair of the SCAR Social Sciences Action Group) presented the role of the social sciences and humanities in Antarctic climate change research. In the evening Klaus Dodds (United Kingdom) held a public lecture at the Scott Polar Research Institute on "Royalty and Loyalty: Queen Elizabeth Land and British Antarctic Territory". Cornelia Lüdecke (Germany, chair of the SCAR History of Antarctic Research Expert Group) began the ninth session, on the third day, with a case study of Beriberi at Kerguelen in the Southern Indian Ocean during the international Antarctic co-operation (1901-1903). Bernadette Hince (Australia) offered self made cookies baked according an old traditional recipe from Antarctica, after her talk on the significance of food in human survival in Antarctica. Consuelo León Wöppke (Chile) followed with a talk on cooking and nursing at the Chilean Antarctic Base O'Higgins. In the tenth session after Aant Elzinga (Sweden) described early explorers and the politics of memory in constructing Antarctic gateway cities. Adrian Howkins (USA) de-centered perspectives on trans-polar historical scholarship in south-north visions. Peter Talbot (New Zealand) compared techniques used by the Ross Sea Committee to raise funds for New Zealand's part in the Trans-Antarctic



Expedition (1955-58), with other selected expeditions. Andres Zarankin (Brazil) introduced new advances of the *South American Research Project* (Brazil-Argentina-Chile) on historical archaeology in Antarctica. After lunch the eleventh session started with the special Lewander Lecture to commemorate a Swedish polar historian. It was given by Victoria Nuviala and Ximena Senature (Argentina) and showed new ways of telling the Antarctic whaler's history in the early 20th century. Then the topic changed cultural aspects. Hanne Nielsen (New Zealand) analysed three plays from Australia, Germany and USA written between 1929 and 1944 using the space and set of Antarctica to foreground heroism, nationalism and masculinity. Carolyn Philpott and Elizabeth Leane (Australia) interpreted the German opera "Das Opfer" ("The Sacrifice"), composed by Winfried Zillig's in 1937, which was based on Scott's last expedition. Jean de Pomereu (United Kingdom) opened the last and twelfth session with his image of the "inlandsis" as impenetrable surface. Rupert Summerson (Australia) described aesthetic responses to Antarctica from Captain Cook to Antarctica on a plate. Finally Pablo Wainschenker (Argentina) evaluated Antarctica in Spanish literature, late 1500s to early 1600s, when the unknown region was thought to be populated by godless warriors and plagued by natural disasters.

The fourth day was used for business meetings of the *SCAR History Expert Group* and the *SCAR Social Sciences Action Group*. We also had a very interesting tour of the British Antarctic Survey, during which we also visited its archives. In the afternoon a tour of the museum and archives of the Scott Polar Research Institute followed. The workshop dinner at an old traditional pub let us dip into former times, when Antarctic expeditions still were an adventure with an unknown end.

On the last day Bryan Lintott guided us on a wonderful historical tour through Cambridge.

42 authors and co-authors of papers submitted originated from 16 countries: Argentina (2), Australia (9), Brazil (1), Chile (4), Estonia (1), France (1), Germany (2), Malaysia (2), The Netherlands (1), New Zealand (7), Portugal (1), South Afrika (2), Sweden (1), Ukraine (1), United Kingdom (6), USA (1). Over 50 participants joined the workshop and its lively discussions, in which the connection of polar history with social sciences and humanities unveiled a lot of new aspects. Interesting arguments arose and continued until the end of the workshop, which was a great success.

Extended abstracts will be published at <http://www.scar.org/about/history/#SCARHistoryGroup>

Cornelia Lüdecke, Munich

## CONFERENCES THAT MAY BE OF INTEREST TO INHIGEO MEMBERS

**The BSHS Annual Conference will take place from Thursday 3 to Sunday 6 July 2014 at the University of St Andrews.**

**Registration is now OPEN.** To register use this link: <http://www.bsbs.org.uk/conferences/annual-conference/2014-standrews/registration-bsbs-annual-conf-2014>

Full details of the conference, including its draft programme, may be found here: <http://www.bsbs.org.uk/conferences/annual-conference/2014-StAndrews>.

The call for papers is CLOSED. Enquiries about the academic programme may be directed to [bsbs2014programme@bsbs.org.uk](mailto:bsbs2014programme@bsbs.org.uk).

Enquiries relating to the local arrangements may be directed to [bshsStAndrews2014@bshs.org.uk](mailto:bshsStAndrews2014@bshs.org.uk).

### **Venue and accommodation**

In St Andrews, you can enjoy five miles of award-winning beaches, the world-famous golf courses and a town that is rich in history. The conference will start on the evening of 3 July with a plenary lecture delivered by Professor Sally Shuttleworth (University of Oxford) and a reception in the Museum of the University of St Andrews. The majority of the conference will take place in the University's Gateway Building, opposite the Old Course. Our conference dinner will be held in the historic quadrangle of the United College of St Leonard and St Salvator, and there will – of course – be a ceilidh! The programme will include parallel themed sessions, plenary lectures, education and outreach activities, and an opportunity to explore the library, archival and museum resources available in St Andrews for historians of science, technology and medicine. An inclusive conference package is available, with en-suite accommodation provided in the modern Agnes Blackadder Hall near to the Gateway Building. Standard accommodation will also be available and twin/double rooms can be requested.

### **About the area**

St Andrews has celebrated its 600th anniversary in 2013. It is the oldest university in Scotland and the third oldest in the English-speaking world. Its large School of History, which recently topped the Guardian University Guide league table for History (jointly with Cambridge), includes a well-established Institute for Environmental History, and a brand new Institute for Intellectual History. It also hosts the AHRC-funded project 'Publishing the *Philosophical Transactions*', a history of the world's oldest scientific journal. Nineteenth-century science aficionados will be able to retrace the footsteps of David Brewster (Principal of the United College), Robert Chambers (town resident while writing *Vestiges* and again in retirement), and early photographers John and Robert Adamson. St Andrews is located on the picturesque east coast of Scotland and has excellent transport links to the major Scottish cities and international airports. Its local railway station is Leuchars, which is on the mainline between London King's Cross and Aberdeen. The station is about six miles from the university; buses run every ten minutes and take ten minutes. St Andrews is also served by a wide selection of intercity coach services, often via Edinburgh. The nearest major airport is Edinburgh which is about two hours away by public transport or an hour by car. Other international destinations can be reached via Glasgow airport. The attractions of St Andrews include the ruined castle and cathedral, the Bell-Pettigrew Museum of natural history, a lovely botanic garden, an aquarium with penguins and meerkats (!), and the beaches (including the West Sands where *Chariots of Fire* was filmed). St Andrews can easily be your stepping stone to a holiday in the Scottish highlands or a city-break in Edinburgh.

### **Transport and further information**

Further information on transport links is available at <http://www.st-andrews.ac.uk/visiting/gettingtostandrews/>. General tourist information for this part of Scotland is available at <http://www.visitscotland.com/destinations-maps/kingdom-fife/>. Specific information for St Andrews can be found at <http://www.visitstandrews.com/>.



**“Science as Profession” - 26th International Baltic Conference in the History of Science // 21st  
– 22nd August 2014, Helsinki**

Contact e-mail for information: bahps2014@gmail.com Information online at:  
http://www.oppihistoriainenseura.fi/balticconference2014/ and http://www.bahps.org/helsinki-2014

*How did science come to be a profession – and how were careers in science structured before professionalization in its modern sense? What kind of interaction does the formation of institutional structures have with the process of professionalization? What has the role of the public image of science and scientists been in various historical contexts? How has the changing gender ratio contributed to the professionalization of scientists? What kind of a role have non-professionals played in development of science? Have heretics added their valuable contributions or rather disturbed the “normal development” of the scientific world?*

Nearly one hundred years ago, in 1919 Max Weber published his article “Wissenschaft als Beruf”, Science as a Vocation. Indeed, scientists and engineers play a visible role in our society, and yet the desired ways to educate, enrol and employ these experts are still as much in constant negotiation in Western societies as they were in Weber’s time. Time has come to make sense of the corresponding developments in the countries of the Baltic Rim and beyond. Therefore, the 26th Baltic Conference in History of Science will focus on the multiple questions concerning the past processes of professionalization and career-building of scientists and engineers. The above questions and many other related aspects in their historical contexts will be discussed in close cooperation with the philosophers who add to their conceptual understanding.

The Science as Profession -Conference will take place from the 21st to 22nd of August, 2014 in Helsinki at the premises of the University of Helsinki. We welcome papers which address any relevant questions asked above from the point of view of history of natural and social sciences, mathematics, arts and humanities, technology and medicine as well as philosophy of science and science studies. The choice of topics is neither limited to any geographical area, although special interest will of course be paid to developments in countries in the Baltic Sea area.

The tradition of the Baltic Conferences on the History of Science is long, the first conference taking place in Riga in 1958. All 25 previous events have taken place in the three Baltic countries: Estonia, Latvia or Lithuania (www.bahps.org). This is the first time when the Baltic Conference in History of Science will be held outside of the borders of these three countries, and you are heartily welcome to Helsinki!

### **HISTORY OF GEOLOGY GROUP**

#### **“Geology and Medicine: Exploring the Historical Links and the Development of Public Health and Forensic Medicine”, November 3-4 2014**

Organisers: Dick Moody, Chris Duffin and Christopher Gardner Thorpe

Building on the success of the “History of Geology and Medicine” conference held in 2011 and the subsequent publication SP375 of the Geological Society of the same name, the History of Geology Group calls for written and poster contributions from medical and geoscientists on the topic(s) associated under the title of “*Geology and Medicine: Exploring the Historical Links and the origins of Public Health and Forensic Science*”.

The 2014 meeting will explore:

Founding Fathers of Geomedicine, recording the historical links established by individual scientists such as Darwin, Astley Cooper, Charles Daubeny, Gideon Mantell etc.

Geological Therapies, dealing with the evolution of treatments from primitive lithotherapies to the therapeutic use of geological materials in medicines and the advent of hydrotherapy.

The Origins of Public Health including Soil Chemistry, Water Quality, Health and Safety and the provision of the necessary infrastructure during the Victorian Era.

The Evolution of Forensic Medicine.

This call is for oral contributions from historians, medical professionals, geoscientists, including geochemists and civil engineers, whose work crosses subject boundaries. International contributions are most welcome.

It is hoped that the conference proceedings will be published as a book. Contributors of both oral presentations and posters will be registered at a reduced rate. No financial assistance can be given speakers but HOGG will provide a letter of invitation on request.

Associated visits in London to the Wellcome Institute, the Natural History Museum, the Royal Pharmaceutical Society Collections, and Society of Apothecaries are being planned.

History of Geology and Medicine walks relating to Gideon Mantell in Brighton and Lewes, James Parkinson in the east end of London and John Snow in Soho are intended.

Those wishing to contribute should contact Professor R. T. J. Moody [rtj.moody@virgin.net](mailto:rtj.moody@virgin.net). Extended abstracts of 500 words and a maximum of 3 figures should be submitted by the 31st of August 2014

We welcome abstracts of 300-500 words to be sent by 31st March, 2014 to the organizing committee. The language of the abstracts as well as the papers is English. A selection of papers presented in this conference will be published in the *Acta Baltica Historiae et Philosophiae Scientiarum*. The registration form which will be used for submitting abstracts is available at the conference website: <http://www.oppihistoriainenseura.fi/balticconference2014/>

The conference is co-organized by: Finnish Society for the History of Science and Learning (head organizer), University of Helsinki, University of Oulu, Society for the History of Technology, The Finnish Historical Society, Philosophical Society of Finland and The Baltic Association for the History and Philosophy of Science

## INHIGEO 50<sup>TH</sup> ANNIVERSARY HISTORY PROJECT

### The Anniversary volume

Most of our members will be aware that the INHIGEO Business Meeting, held at Manchester last July, approved a proposal to mark the 50<sup>th</sup> anniversary of the founding of the Commission, which falls due in 2017, with the issue of one or more special publications (see *INHIGEO Circular* 2013-3). The Board has agreed that, as editor of the *Annual Record*, I should also act as co-ordinator of this project.

There has been general support for a proposal to celebrate the Commission's 50<sup>th</sup> year with the publication of a book on the history of INHIGEO, which would highlight its achievements and pay tribute to those who have been involved in its work. A suggestion to prepare a series of articles on the history of geology for a thematic issue of *Episodes* is also a part of this project.

An approach to the Geological Society Publishing House, to have such a book considered for publication, as part of their 'Special Publication' series, has met with an encouraging response from the Commissioning Editor, Angharad Hills. It has also received the support of Brian Marker, the Chair of the IUGS Publication Committee. Angharad has replied to my initial approach as follows:

The information we need to consider a proposal is:

- Title
- Editors (names and postal + email addresses)
- Meeting date and organising body (where appropriate)
- A brief description of the aims of the book (150-200 words).
- List of provisional contributions and authors, including editorial introduction and/or review papers. Please list all authors of each article (and their affiliations if possible) – do not use 'et al' for multiple authors on a chapter.
- Names, affiliations and emails of 3 people who are not authors or close colleagues of the editors who would be able to comment on the proposal.

Once we have this information, it takes about 4 – 6 weeks to reach a decision.

I have indicated to Angharad that I hoped to present a book proposal to her by the end of this year (2014). This may seem an ambitious target but, with the cooperation of the membership, I am hopeful that it can be achieved. I would therefore much appreciate receiving suggestions from INHIGEO members on the potential contents of this book, as well as expressions of interest and firm commitments from individuals to contribute articles for this publication.

In *Circular* 2013-3, I listed a number of topics relating to the 50-year history of INHIGEO, which may be worthy of consideration for inclusion in such a publication. They were:

- Editor(s) introduction
- The story of the founding of INHIGEO
- The personalities involved in its establishment
- The evolution of INHIGEO as an organisation with the aim of promoting the history of geology
- Biographical sketches of some of its more eminent office-bearers
- Highlights of INHIGEO conferences and field excursions
- Interviews with members of long standing
- Reviews of the impact of significant publications written by INHIGEO members

- The relationship with INHIGEO's parent organisation (IUGS) and the likely future of the Commission.

I also suggested that the book should be richly illustrated with photographs and, where appropriate, with maps and drawings to supplement the text and that it should also contain appendices listing, among other data, the names of past board members and the locations and dates of all INHIGEO conferences.

On further reflection I have been wondering if such a book may not have greater appeal to the intended publisher and a future readership if it also contained articles on topics germane to the interests of INHIGEO, but seen in a wider context. For example:

- A broad review of writings on the history of geology over the past 200 (?) years
- In-depth biographical studies of eminent historians of geology – past and present (V. V. Tikhomirov would be a deserving candidate, but non-INHIGEO members might also be considered)
- Geologists versus historians as writers on the history of geology
- The teaching of the history of geology
- Research on the history of geology in individual member countries
- The relevance of historical studies in geology to present-day geological practice
- Benchmark papers on the history of geology
- Changes in geological thought and ideas since the founding of INHIGEO

I would very much welcome the views of members on the above suggestions and, above all, additional proposals of topics for consideration. It is clear that without wide support among the membership this project will not succeed. I therefore urge all members to set aside some time to consider how they may be able to contribute to this worthy endeavour, both in the form of advice and by active participation. I would greatly appreciate receiving comments, suggestion and offers to contribute to the book before the start of our conference at Asilomar. This would enable me to prepare a more refined plan for consideration at the meeting and, towards the end of the year, to write a book proposal for submission to Angharad Hills at the Geological Society.

### **INHIGEO history and recollections of the Commission's early meetings**

In an attempt to stimulate the minds of INHIGEO members on this subject, I insert below a number of items that are highly relevant to our anniversary project. Their contents may provide suitable source material to potential contributors to the book.

Many of our members will be aware that our Honorary Senior Member, David Oldroyd, has been suffering for some time from a debilitating illness. In spite of this severe handicap he made a valiant attempt to write a brief history of INHIGEO. Zoya Bessudnova has kindly sent David some additional material for inclusion in his article. While the writing of his contribution has not reached the completeness he had intended, it does provide us with some interesting information and comments.

A draft document (reproduced on p. 53), to which David Oldroyd refers in his article, is clearly relevant to the the writing of a history of INHIGEO. It records a decision reached at the 21<sup>st</sup> IGC at Copenhagen, in 1960, to establish a 'Commission on the History of Geological Sciences'. It would be interesting to learn of the reasons why this 'Decision' was not taken any further at the time. Instead, a fresh proposal was placed before the succeeding IGC Congress held at New Dehli, in 1964, where I. I. Gorski, on the initiative of V. V. Tikhomirov, called for the establishment of INHIGEO under the auspices of IUGS. The acceptance of his proposal led to the calling of the meeting at Yerevan in 1967. There the Commission was duly founded, with Tikhomirov as its first

President. IUGS, our parent organisation, was represented at the meeting by its Secretary-General, Willem van Leckwijck, from Belgium.

David Oldroyd's brief history is followed by references to and contributions from two of our founding members, Martin Guntau (Germany) and Cecil Schneer (USA). In a tribute to Martin, who celebrated his 80<sup>th</sup> birthday last year, our President, Ken Taylor, recalls his many contributions to INHIGEO in a number of capacities. Through the good offices of family members, Ken has also been able to conduct an interview with Martin Guntau, in which the latter shares with us some of his reminiscences of the early years that followed the founding of INHIGEO. In his brief article, Cecil Schneer gives us a fascinating account of the intrusion of world events into the daily conduct of the first INHIGEO meeting.

When reading their respective recollections of the founding of INHIGEO at Yerevan, in 1967, at a time when the so-called 'Cold War' was at its height, it may be imagined that the relationships between some of the attending scientists from opposing geopolitical parts of the world, may initially have been somewhat uneasy and reserved. It is clear however, that friendships soon developed and that the participants treated each other with mutual respect.

One of our members in Armenia, Gourgen Malkhasyan, whose father attended the Yerevan meeting, has recently sent us copies of the guidebook and abstract volume of this first INHIGEO Symposium. The front covers of these publications are reproduced below (p. 54). As our founding member Cecil Schneer mentions in his article, the proceedings of this meeting were published in both English and Russian, in 1970, with the title, *History of Geology*.

The second INHIGEO meeting had been scheduled to take place the following year in Prague, in conjunction with the 23<sup>rd</sup> International Geological Congress. However, it was close to the scheduled start of technical sessions at the Congress, when Soviet troops invaded the city. This led to the abandonment of formal Congress proceedings. Cecil Schneer, in material he has placed on a website "History of Geology on the International Scene", <http://www.unh.edu/esci/resources/history.html>, states that INHIGEO did not meet again until four years later, as part of the 24<sup>th</sup> IGC at Montreal. This may be technically correct. However a symposium was organised at Freiberg, in what was then East Germany, in 1970, in the preparation of which INHIGEO played a major role. The theme of the meeting was "History of concepts on mineral deposits" (INHIGEO Newsletter No. 5, 1971). Although organised in association with other institutions, the Newsletter refers to this event as an INHIGEO meeting. In his interview (see below) Martin Guntau does indeed regard it as the third INHIGEO Meeting. I would appreciate it if some of our members with long memories could clarify this.

We are fortunate to have a pictorial record of those who served on the first INHIGEO Committee and of others who were elected as Corresponding Members at Yerevan, in 1967. A similar photo montage shows a notable increase in the number of office-bearers and corresponding members who attended the INHIGEO meeting held at Montreal, in 1972, in conjunction with the 24<sup>th</sup> IGC (p. 55).

The inclusion of photographs of both individual members and of groups, who served on INHIGEO committees or attended meetings, will clearly increase the value and relevance of our planned publication on the Commission's history to future readers. I would therefore be grateful to members who have such images among their papers to send copies to me. It is my aim to build up a photo gallery of people and events to illustrate the history of INHIGEO from the time of its founding.

Wolf Mayer, Canberra

## A Brief History of INHIGEO David Oldroyd, Sydney

INHIGEO, the International Commission on the History of Geology, is the only international body that deals exclusively with the history of geology (broadly understood).

The organisation had its beginnings in Eastern Europe in 1960 [David refers here to the 21<sup>st</sup> IGC in Copenhagen], as recorded in a document held in the archives of the Department for the History of Geology, in the Vernadsky State Geological Museum, in Moscow.

The suggestion for the establishment of INHIGEO was chiefly due to the ideas and efforts of the distinguished Russian geologist Vladimir Tikhomirov (1915-1994). He was a remarkable man, who had a full academic career, despite being blinded in the Second World War. As a result of his blindness he was obliged to give up his fieldwork and concentrate on the history of geology. He used a number of assistants, who read to him, and he remembered what was said. (He must have had a phenomenal memory!)

Before World War II, in 1938, Tikhomirov had graduated from the Azerbaijan Industrial Institute in Baku, as a geologist-engineer and worked as a geologist in the Caucasus. His results there formed the basis of his PhD, which was awarded by the Mining Institute in Moscow, in 1950. He had a vast range of contacts and interests and was appointed a researcher at the Geological Institute of the Academy of Sciences. Later he became head of a small unit working on the history of geology in Russia, and founded a series (in Russian) titled *Essays on the History of Geological Sciences*, which he edited from 1953 to 1991 and which became widely known.

Professor Tikhomirov played a major role in initiating a meeting of interested historians of geology at Yerevan, in 1967, where INHIGEO, under the auspices of the IUGS, was formally founded. At this meeting Tikhomirov was elected as the first President of INHIGEO. In 1966, he became a member of the International Academy of the History of Science.

In 1955, on the initiative of the geologist, Academician Vladimir Obruchev, the Commission on the Geological Examination of the USSR was established. Tikhomirov joined this Commission and took on a leadership role in its scientific-methodological work. The Commission coordinated the work of special departments of 80 State institutions in the Ministry of Geology and the Academy of Sciences of the USSR. It recorded the studies of mineral resources in Russia over three centuries. This resulted in the publication of a unique reference edition on the regional geology of the USSR, in 1050 issues. From 1969 to 1992, Tikhomirov was its chief editor. Many issues were kept confidential.

From these brief remarks we can discern something of the characteristics of Russian history of geology. It was and still is relatively centralised and bureaucratically organised and to some extent it has served the goals of the various Soviet States as much as the intellectual interests of historians of geology, who may sometimes be critical of organizations, scientific procedures, or results. Praise and blame are generally eschewed. To an extent geology and history of geology are conceived as branches of the *same* enterprise. Thus it is conducted by people trained as *geologists* rather than as *historians of geology* or *historians of science*. This, I think, has produced somewhat significant outcomes in the East and West. In Russia today geo-historical work is largely conducted according to predetermined plans, rather than historians' *own* interests. The Directors of the various Russian Geological Surveys determine the general goals and procedures, but there is a somewhat higher level of 'control' by science ministers and bureaucrats than is usual in 'Western' countries.

In 'Western' geology there are officially organised Surveys that conduct their work in accordance with their governments' perceived requirements and instructions. (In the very early days, survey work was undertaken more by interested amateur observers.) In the 'East', work has been conducted similarly, but probably with the field observers themselves having less autonomy than in the West. The alternative organizational structures of the 'Eastern' and 'Western' geological surveys are significant. However, one can re-emphasize that 'Eastern' historians of geology have



been chiefly trained as geologists rather than historians and this leads to rather different historical works. However it should be noted here that lectures on the history of geology have been delivered by geology staff at Moscow University since the early 1960s.

INHIGEO collects information (supplied chiefly by the Commission's members) and distributes it worldwide via an annual newsletter, now renamed the *INHIGEO Annual Record*, and by a quarterly Circular. The product of the Commission's annual conferences or of its field activities in the history of geology, are generally published in books or in journal articles.

The development of INHIGEO is relevant to the social history and historical 'style' of history of geology in different parts of the world. When INHIGEO was founded 15 elected members could make up the 'Constituent Assembly' of each country. Also, each national group had 11 members, from whom one person was elected as the relevant country's President.

In time, the number of potential members increased and there was some competition for positions. The arrangements were unstable, as 11 national delegates was too small a number for large states such as the USA and the USSR and undemocratically large for small countries such as Australia; but none were permitted to increase the number of voting delegates beyond 11.

On top of this difficulty was the fact that there were political tensions within the ranks of geologists in the 1960s and '70s, such that there was competition between the USSR and the US as to who should be President of INHIGEO: a Russian or an American? This matter was never resolved formally and international tensions boiled over after 1968. The IGC that was being held in Prague that year largely collapsed and some delegates returned to their home countries before the meeting was over. Thus matters proceeded but after the termination of the Cold War there were no further *political* oppositions between historians of geology within INHIGEO's ranks.

A new administrative structure was reconsidered in 1994 when INHIGEO requested the IUGS's permission to modify the by-laws a second time so that there would be no limits to the number of members in the Commission. Membership was to be achieved by application to the Commission's Committee and could be acted on following evaluation by the Committee, followed by election at an annual postal vote. But the committee could recommend provisional membership at some future unspecified date. Thus INHIGEO became more 'democratic' and 'inclusive'. Its former sense of ('modest') status and 'privilege' has decreased but its members have increased in numbers. Becoming more inclusive and less exclusive has, I believe, been a 'good thing'.

Today, INHIGEO's main activity is organising an annual conference (in a different country each year) and (usually) an associated field meeting. Its papers are generally published with an INHIGEO Member or Members acting as editors. The resultant books are variously published by prestigious publishers and are a significant improvement compared with the former short cyclostyled pamphlets. There is also an annual Newsletter, now the Annual Record, for less formal materials and a variety of other items. The contents include Proceedings of the annual conferences, INHIGEO information, book reviews, and full articles, plus letters to the editor. IUGS pays most of the Commission's administrative costs but members mostly have to pay their own costs at the conferences.



*Martin Guntau*

**An INHIGEO Salute to Martin Guntau,  
Senior Honorary Member  
By Kenneth L. Taylor  
INHIGEO President, 2012–2016**

Martin Guntau has attained the age of 80, and it is fitting that a few words be said now in recognition of his work on behalf of the International Commission on the History of Geological Sciences (INHIGEO). Martin served as INHIGEO's second Secretary-General from 1976 to 1984, and he was the Commission's fourth President, from 1989 to 1992.

Martin was involved in INHIGEO from its official inception. He was in attendance in 1967 at the International Union of Geological Sciences (IUGS) constituent assembly at Yerevan, Armenia (then part of the USSR). This meeting resulted from a proposal made at the 1964 International Geological Congress in Delhi by the senior Soviet geologist I. I. Gorski, on the initiative of his compatriot V. V. Tikhomirov.

Martin was among the 19 inaugural Corresponding Members elected at Yerevan, in conjunction with a dozen Full Members, representing 16 countries. Until membership rules were changed in the early 1990s, participating countries could have only one Full Member (without counting the officers). Martin was elected to Full Membership at the meeting held in 1972 at the IGC in Montreal.

INHIGEO's main purpose was (and continues to be) to foster international co-operation in the study of the history of geosciences. During its first two decades, thematically-focused conferences were generally held every two years. Since 1989 they have been scheduled annually, with meetings at various locations in Europe, North and South America, Asia and Australia. In addition to the historical symposia, field excursions have provided opportunities to examine widely scattered localities of significance in geology's historical development.

The founding President, V. V. Tikhomirov, was seconded by R. Hooykaas, from The Netherlands, as Vice- President, and K. Maslankiewicz of Poland was the first Secretary-General. Martin Guntau was chosen to succeed Maslankiewicz, and was inaugurated in these duties under Tikhomirov's oversight. He then served as Secretary-General for eight years, with Hooykaas as the second President.

Martin and R. Hooykaas quickly found they got on together very well. Martin made annual trips to Amsterdam to confer with the President. In their final year as a team, Hooykaas journeyed to the GDR and gave a lecture at Greifswald, staying with Martin and his family at Rostock.

The annual INHIGEO *Newsletter*, which for its first ten issues (originating in Moscow) appeared in both English and Russian, was then (starting 1977) produced in Rostock by Martin. For the next five issues it was published in English and German. Under his supervision this policy was then changed, and starting with its 16<sup>th</sup> issue the *Newsletter* the text was entirely in English. Among his other contributions, Martin wrote many short book reviews in the *Newsletter*. (With the inception in 2012 of a quarterly Circular sent by email, the formal title of the *Newsletter* changes in 2014 to *INHIGEO Annual Record*.)

In 1985 the post of Secretary-General passed to E. Dudich of Budapest, and the INHIGEO presidency was assumed by G. Y. Craig of Edinburgh. At the 1989 International Geological Congress in Washington, D.C., Martin Guntau was elected President, and U. Marvin of Cambridge, Massachusetts, U.S.A., became Secretary-General. During the period of his presidency Martin was among the organizers (together with H.-J. Bautsch, G. Mathé, P. Schmidt, and W. Weber) of a memorable INHIGEO Symposium held in Dresden in 1991, on the theme “Museums and Collections in the History of Mineralogy, Geology, and Paleontology.” It was while Martin was President that steps were taken to abolish the distinction between Full and Corresponding INHIGEO membership, resulting in equal status for all members.

Over the course of several decades Martin Guntau has worked to foster international good will among scientists and scholars concerned with the history of the geosciences. Martin’s own fine work as historian of the geosciences has been recognized internationally by (in addition to awards within his own country) the silver medal of the Geology Ministry of the USSR (1984), the History of Geology Award (now the Mary C. Rabbitt Award) of the Geological Society of America (1993), and the Sue Tyler Friedman Medal of the Geological Society of London (1997).

I recall my first, brief personal encounter with Martin Guntau, at the INHIGEO Symposium organized within the Paris International Geological Congress in 1980. (The symposium, coordinated by François Ellenberger, had a quite appropriate theme concentrating on the development of francophone geology in its international relations, to the time of Cuvier.) But it was not until several years later, in the spring of 1987, that I had the opportunity really to become acquainted with Martin. This was during a period of several weeks that he spent at my own institution. Martin had a fellowship for research in the United States, and he divided his time between two research libraries with special collections in the history of the sciences, the University of Illinois and the University of Oklahoma. It was a real pleasure, then, to take the measure of this intelligent, hard-working, curious, kind, quietly witty, and gentlemanly fellow from so distant a part of the world.

So it has been my good fortune to be, for many years, one of Martin Guntau’s colleagues and friends. It has also fallen out that I follow in his footsteps as an officer of INHIGEO. He set an outstanding example. Martin has made great contributions to international activities in pursuit of the history of geological science. He richly merits our thanks for all he has done.

#### Sources:

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[<http://www.unh.edu/esci/resources/history.html>] (accessed 27 September 2013)]

### **Interview with Martin Guntau**

The following brief interview with the former Secretary-General and President of INHIGEO, with questions prepared by Ken Taylor, was conducted in September 2013, with corrections and additions later that year and in the spring of 2014. This was accomplished through the kind assistance of Martin’s daughter Dorothea Seeber and her husband Sebastian Seeber, as well as their daughter (thus Martin’s granddaughter) Lea Seeber. We are grateful to these members of Martin’s family for their generous help. In poor health, Martin was able to offer only a limited set of remarks in response to several questions.

KT: *Martin, would you please tell me when and how you first became involved in INHIGEO?*

MG: The 22<sup>nd</sup> International Geological Congress (IGC) took place at New Delhi in 1964. There, the Soviet delegation on behalf of Academy member Tikhomirov proposed the establishment of an international commission for the history of geological sciences. This proposal was accepted and a stand-alone meeting [the first meeting of INHIGEO] was planned for Yerevan in 1967. I was informed about this by a colleague who had been at New Delhi. At the Abraham-Gottlob-Werner Conference we organized in Freiberg, I was asked quite directly by Tikhomirov: “Are you coming to Yerevan?” He included me in the planning and the GDR Academy of Sciences supported my involvement.

At Yerevan I was surprised – I was only 34 years old at the time – to find myself lodged in the hotel where the great names associated with the history of geology were staying. I was treated in a very friendly way, since Tikhomirov strongly praised the Abraham-Gottlob-Werner Conference, and I gladly handed out some of the conference volumes. The American Cecil J. Schneer participated in the congress as well. Our initial cautious behavior towards each other developed later into an intensive and fruitful scientific dialog.

So INHIGEO was founded in Yerevan and I was elected a Corresponding Member.

The next IGC and the next INHIGEO Symposium were to take place in Prague in 1968. However on the third morning as we looked out of the window of the Hotel Ametyst, Russian tanks rolled through Prague. We returned to the GDR by bus by an indirect route.

In 1970 we organized a conference at the Bergakademie, in Freiberg, [the third INHIGEO meeting] on the history of mineralogy and the geological occurrences [of mineral deposits]. Due to the events in Prague only 40 to 50 participants came, with only one from the USA. The strong advice to boycott such meetings had apparently not reached him or, perhaps, he had no inclination to take any notice of it.

Then in 1972, in Canada {Montreal}, I was elected a Full Member.

KT: *You were Secretary-General for eight years. How did that come about? What are your memories from the work you did in this post?*

MG: I was nominated for the post, after an Englishman had declined it. I consulted with Tikhomirov of the USSR Academy of Sciences, who had served almost three terms as president, although, strictly speaking, a single individual was supposed to occupy the post no longer than two terms. The change to Hooykaas as President was to be completed with myself as Secretary-General. The election was unproblematic.

At home the responsible section of the ZK (Central Committee of the SED, *Sozialistische Einheitspartei Deutschlands*, Socialist Unity Party of Germany), under Kurt Hager, imposed no conditions of its own and merely confirmed the decision already made.

KT: *You were INHIGEO Secretary-General when Reijer Hooykaas was President. Can you tell us about the interactions between the two of you during that period?*

MG: Before the election I was a little apprehensive because Hooykaas was very strict. What was decisive in the end, and led to a good relationship between us, was that the attitude of Hooykaas towards Germans had been marked by the war, during which the occupiers wanted to arrest him. The unpunished careers of former Nazis in West Germany led him to adopt a rather better relationship with the East Germans than with the West Germans. He was very religious and spoke many languages. For seven years I flew every year to Amsterdam. Already on my second or third visit he took me into his own home, where we always conducted our meetings. There he showed me the closet under the stairs, in which he had hidden himself, when the Germans tried to arrest him.

Upon my remark, that I would have assumed him to have been there from the start, he only said that we were already more German than the Germans. While he slept in during the morning, I talked with his wife, a Hungarian, in German and in Dutch.

For the eighth of our annual [INHIGEO] meetings Hooykaas came to the GDR, and gave a guest lecture for the geologists at Greifswald University. He stayed with us in our home in Rostock for several days.

From the start our work together was very quickly marked by the shared wish to intensively promote the idea of INHIGEO. I learned a lot from him in this time.

KT: *What do you mainly remember from your term as INHIGEO President? What happened that was notable during that period?*

MG: The changes of 1989 affected not only the work of the Presidency, but above all my own work, as, in 1992, the abolition of the chair in the history of science, at the University of Rostock, deprived me of my professorship and forced me into early retirement.

It was important to me that my work was creative, aimed at achieving results and led to publications.

KT: *Has INHIGEO played any significant role in your own work as a scholar in the history of geological science?*

MG: At that time I worked many years as curator of the big mineral collection in the Museum of the Bergakademie Freiberg. Through contacts and travels, but also through purchase or exchange, it was possible to acquire many new specimens.

KT: *What are some of your perceptions about the development of INHIGEO over the years? What kinds of changes have occurred? What has remained the same? Are the changes mainly for the better, or not?*

MG: Since the founding of INHIGEO work in this area has become more active and more widely distributed among the member countries. Publications, meetings, excursions and so forth have gained in national and international support.

KT: *What are your views about the role INHIGEO plays in the international scene, for the history of the Earth sciences?*

MG: Geological work in the West and East was different. Geologists of the former GDR took up the suggestion of INHIGEO members to discuss this at a conference. (INHIGEO-East: Guntau, Daber, Krüger; West: Kölbl-Ebert.) The three-day conference at Magdeburg, with 80 participants, was a big success. It resulted in the publication of two large volumes, "On the history of the geosciences in the GDR", edited by M. Guntau, W. Paelchen, M. Störr and O. Hartmann, which appeared in *Schriften-Reihe für Geowissenschaften*, 2007, 16, 412 p. and 2011, 18, 644 p.

## Origin of INHIGEO Cecil Schneer

This organization was born out of the turmoil attendant on the death of the Soviet dictator Stalin. The vast Russian empire was still intact with all of its machinery for repression of the individual and of thought – tightened if anything; yet opening to the widening gap between Soviet technology and the West. INHIGEO was only one of numerous attempts to bridge the gap. Armenia was chosen for a small meeting such as ours. It was June, 1967. The Arab-Israeli war was about to begin and it did erupt on the night of the first meeting. Since we were all aware of the American nuclear missiles posted in Turkey, right across the border – Mt. Ararat (Turkish) is clearly visible from Yerevan – there was a certain amount of unease. Each day for the seven days of the war, we would eagerly examine the local newspaper – in Armenian script which none of us knew\* – but there was a score box on the front page with little symbols for planes and tanks. Each day the score box showed more and more Israeli tanks and planes X-ed out – until the abrupt end. I should mention that despite the warning that radios would be confiscated there was an abundance of small radios and ready access to news.

Meanwhile the conference proceeded with daily presentations of papers, numerous geological excursions, visits to an astronomical observatory (highly advanced if my memory serves me correctly), extensive field trips through the volcanic terrain, an audience with the Armenian Pope, quarries, the impressionist artist Sarian, early metallurgical sites, the caves carved as churches within volcanic rock, sort of negatives of churches marvelously carved – an overwhelming abundance of wonders.

The best part of this first meeting turned out to be the friendships and connections that were made and only strengthened on subsequent occasions. I had the good fortune to place the documents and photographs of the participants assembled by Tikhomirov on the UNH (University of New Hampshire) website. The papers that were read at the meetings were published in English and Russian in 1970, but are of only minor interest today. The volume is of more interest for the photographs of participants and gatherings.\*\*

\* A. Cailleux, (France) knew the language.

\*\*The complete volume was published in English and Russian in 1970 with the title in Russian of “History of Geology”. My copy is in the UNH library.

Cecil J. Schneer



12.1/ 1960

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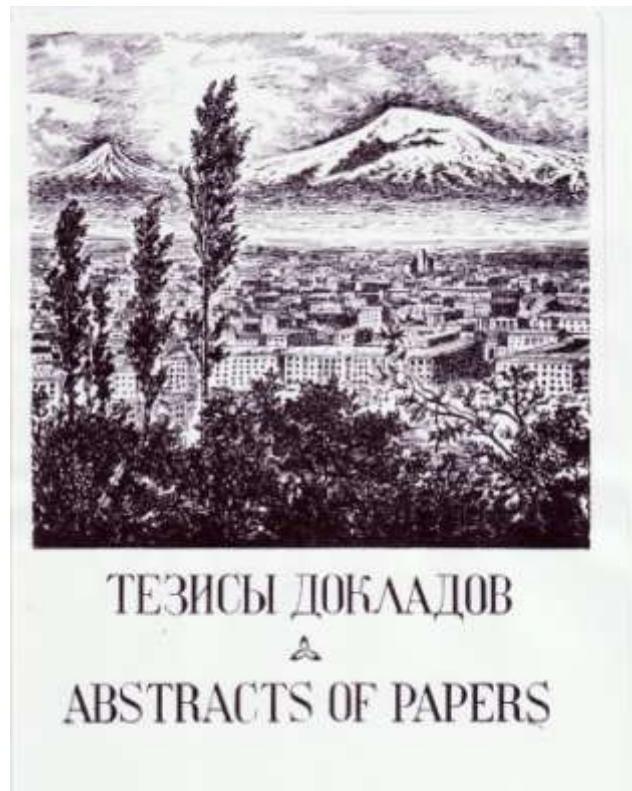
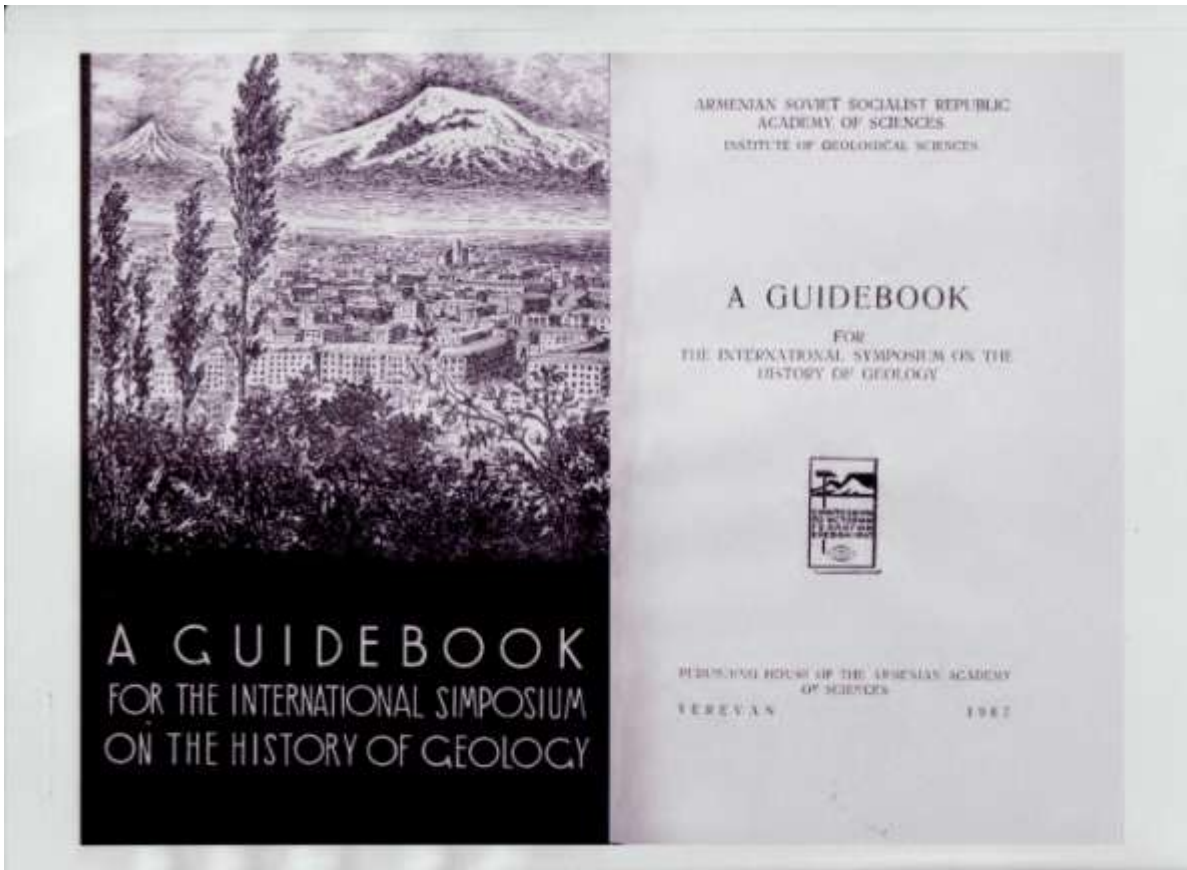
DECISION  
OF THE 21<sup>st</sup> SESSION OF THE INTERNATIONAL GEOLOGICAL  
CONGRESS ON THE ORGANIZATION OF A COMMISSION ON THE  
HISTORY OF GEOLOGICAL SCIENCES

Considering the considerable interest in wide circles of geologists of various countries in the study of the history of science determined by a great theoretical and applied importance of this problem, the International Geological Congress decides to institute a Commission on the history of geological sciences.

The aims of the Commission are to assist a wide development of researches in the history of geological knowledge, the compilation of surveys on the history of geology in separate countries. It is intended to achieve a systematization of the material and to establish a chronological sequence in the development of ideas and concepts to facilitate later the compilation of a General History of Geology, the history of the development of its separate branches and, finally, the establishment of the fundamental laws, which govern the process of the progress of geological sciences.

For this purpose the Commission : a) coordinates and directs researches on the history of geology carried out in various countries, b) facilitates personal contacts between the scientists engaged in the work on this problem, c) organizes symposiums and discussions on certain vital questions in the history of geological sciences, d) reviews and recommends for publication papers on the history of geology, which are submitted the Commission, e) keeps in touch with the International organizations on the history of allied sciences.





**INTERNATIONAL COMMITTEE ON THE HISTORY OF GEOLOGICAL SCIENCES**  **МЕЖДУНАРОДНЫЙ КОМИТЕТ ПО ИСТОРИИ ГЕОЛОГИЧЕСКИХ НАУК**  
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**INTERNATIONAL COMMITTEE ON THE HISTORY OF GEOLOGICAL SCIENCES**  **МЕЖДУНАРОДНЫЙ КОМИТЕТ ПО ИСТОРИИ ГЕОЛОГИЧЕСКИХ НАУК**  
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## AWARDS

**The Geological Society of America**  
**2013 Mary C. Rabbitt History And Philosophy of Geology Award,**  
**presented to Leonard G. Wilson**

*Citation by Robert H. Dott*



I am honored to present to the Division Professor Leonard G. Wilson, Emeritus Professor and Head of the Department of the History of Medicine of the University of Minnesota to receive the 2013 Mary C. Rabbit Award for his outstanding contributions to the history of geology.

Leonard is a native of Canada. He studied at Toronto, then London, and wisely chose the University of Wisconsin for the Ph.D., which he received in 1958. He has held positions at UC-Berkeley, Cornell, Yale and Minnesota, where he retired in 1998. Leonard Wilson has published extensively in the history of biology and medicine, but is best known to geologists for his biographical studies of Charles Lyell represented in three books and several articles.

*Leonard G. Wilson*

Not surprisingly, it was Charles Lyell who brought us together. Our Division's 1990 awardee, Gordon Y. Craig of Edinburgh University, presented me as Chair of the Division a copy of Lyell's handwritten notes for a lecture Number 9, which had been presented in Philadelphia in 1842. I mistakenly thought this an important find, but, alas, soon learned that twelve lectures had been presented and had been summarized in a newspaper account. Leonard cheered me up by urging that I do a study of all of Lyell's American lectures and offered to share copies of handwritten notes for all lectures. Moreover, in recent years, we have been together at several meetings dedicated to Lyell. Notable were the 1995 international meeting on *Volcanoes and History*, which included a field trip on Mount Etna, and the 1997 symposium celebrating the 200th anniversary of the death of Hutton and birth of Lyell. Besides the hallowed ground of Siccar Point, we visited Kinnordy, Scottish seat of the Lyell family where Leonard prepared a fine exhibit from the Kinnordy archives.

Besides his principal interest in Charles Lyell's geology, Leonard's publications include the emergence in the United States of science in general as well as geology, the antiquity of man, the species question, Archibald Geikie and the elevation of Scotland, and Lord Kelvin's estimates of the age of the Earth.

Leonard Wilson is one of the few professional historians of science who have reached across the unfortunate gap between professionally trained historians of science and practicing scientists interested in history. Furthermore, he has attended field trips and made excursions on his own to places important to his research. His career demonstrates the great value of such interactions.

*Response by Leonard G. Wilson*

It is an honor to receive the Mary C. Rabbitt Award and thereby to join the illustrious succession of recipients of that award. They began with Claude Albritton, who just fifty years ago organized a symposium on the principle of uniformity in geology for the seventy-fifth anniversary meeting of

the Geological Society of America, held at New York City, in November 1963. At the invitation of Claude Albritton, I participated in that symposium.

At the beginning of the symposium volume, which Albritton edited, he included conflicting statements about geological uniformity by various authors including the Dutch theologian Reijer Hooykaas. Hooykaas wrote that uniformity is not “a rule established after comparison of facts, but a methodological principle, preceding the observation of facts.” Albritton was troubled by Hooykaas’s opinion. It may have been a reason why he organized a symposium on uniformity. What Hooykaas wrote was just the opposite of the truth. The observation of many facts preceded Charles Lyell’s development of the principle of uniformity in geology and sustained that principle thereafter.

In 1963, my work on Charles Lyell was at an early stage, but I knew already that Lyell’s confidence in the continuity of the geological past with the present was based upon extensive field observation. In his *Principles of Geology*, published in 1830, and in eleven subsequent editions, Lyell introduced a profound change in geological thought. Most geologists then thought that the geological past was marked by violent change, in contrast to the relative calm of the modern world. Lyell demonstrated that the present Earth was undergoing constant change and that slow, relentless changes had occurred throughout the geological past. The Earth was in a constant state of dynamic activity.

Lyell’s view of Earth history grew out of his observations. In Scottish lakes he observed modern limestones of a type previously thought to occur only among Tertiary strata. In central France, he saw that volcanic eruptions had occurred there at intervals over long periods of time. Older than the volcanic rocks was a fresh-water formation of laminated marls, the paper-thin layer separated by myriads of the fossil crustacean *Cypris*, accumulated in former lakes over many thousands of years. From his familiarity with the life of ponds in the New Forest of Hampshire, and of lakes in Scotland, Lyell recognized not only *Cypris* but also *Caddis* fly larva cases and the green alga *Chara* as regular inhabitants of fresh water.

In Sicily, Lyell was astounded by a hard limestone containing only casts of shells, overlying soft blue marl full of fossil shells of living Mediterranean species. The ancient-appearing limestone was actually younger than the blue marl. Furthermore, the present marine life of the Mediterranean was older than the rocks of Sicily and they in turn were older than the great mass of the volcano of Etna, which rose above them. From such observations, Lyell perceived Earth history as extending back through an endless vista of past time.

Today the Earth is calculated to be some 4,650 million years old. Throughout almost all of that time, the Earth, though constantly active, has remained remarkably stable. In 1987, the geologist E. G. Nisbet commented: “the Archaean ocean was not necessarily hotter than today. In fact, it is one of the most remarkable aspects of life on Earth that the surface temperature has remained within the stability field of liquid water for perhaps  $4 \times 10^9$  years — uniformity indeed!” Since Nisbet wrote, the discovery in Greenland, northwestern Canada, and Western Australia of sedimentary rocks, even older than those he knew, has further lengthened the time in which liquid water has existed on the Earth’s surface.

Throughout his life, Lyell sought analogies between former geological features and their modern counterparts. In 1842 he was fascinated by the formation of rain-drop impressions at low tide on the tidal flats of the Bay of Fundy, in Nova Scotia.

When a shower of rain falls, the highest portion of the mud-covered flat is usually too hard to receive any impressions, while that recently uncovered by the tide near the water’s edge is too soft. Between these areas a zone occurs almost as smooth and even as a looking glass, on which every drop forms a cavity ... and if the shower be transient, these pits retain their shape, being dried by the sun....

Rain-drop impressions thus evoked a vision of sun and wind and large drops of rain from a passing cloud falling on an ancient beach at low tide. After Lyell drew attention to rain-drop impressions, William Redfield found them in Triassic strata in New Jersey and Richard Brown in Carboniferous strata in Cape Breton Island.

The exact observation of such facts as rain-drop impressions illuminated the similarity of the geological past to the present. That similarity was the basis for Charles Lyell's confidence in the uniformity of the geological past with the present.

**Earth Sciences History Group of the Geological Society of Australia**  
***The Tom Vallance Medal, to be awarded to David Oldroyd***

The Committee of ESHG has been pleased to announce that the second award of the *Tom Vallance Medal* is to be made to Professor David Oldroyd. Tom Vallance's widow, Hilary, has agreed to present the medal to David, or his representative, during next July's *Australian Earth Sciences Convention*. We believe that this arrangement is a very fitting one, as Hilary's husband acted as a mentor to David Oldroyd when he first arrived in Australia, in 1969, and guided him to many sources of Earth sciences history.

Professor David Oldroyd, FAHA, BA (Cantab), MA (Cantab), MSc (London), PhD (UNSW), DLitt (UNSW), has arguably been the most prominent historian of geology in Australia over the past 30 years. His MSc thesis, completed at the University of London, was entitled *Geology in New Zealand prior to 1900*, thus establishing David as an historian of geology in the Antipodes. David has been based in Sydney, following his appointment to the University of New South Wales, in 1969. Significantly for an Australian historian of geology, David's research became truly international and included several contributions on the development of concepts and ideas in geology. For these contributions David was elected a Fellow of the Australian Academy of the Humanities (FAHA). He is the first historian of science to have received this honour.

Amongst the many professional positions that David has held, have been those of Secretary-General of the International Commission on the History of Geological Sciences (INHIGEO), Editor of the only dedicated history of geology journal *Earth Sciences History* and President of the Australasian Association for the History, Philosophy, and Social Studies of Science. He is also one of a small number of members of the International Academy of the History of Science.

In 1994, David's contribution to the history of geology was recognised with the award of the *Sue Tyler Friedman Medal* of the Geological Society of London and, in 1999, the *History of Geology Award*, by the Geological Society of America. David Oldroyd will indeed be a most worthy recipient of the *Tom Vallance Medal*.

Extract from the *Bulletin of the Earth Sciences History Group*, based on information supplied by Barry Cooper.

*Medal of Honour of the Complutense University of Madrid*



Professor Emerita Mss. Carmina Virgili-Rodón was awarded the *Medal of Honour of the Complutense University of Madrid*, at her home in Barcelona. This award had been bestowed on her at the start of the academic year, but owing to poor health, Professor Virgili-Rodón was unable to travel to Madrid.

*Carmina Virgili-Rodón*

*Order of V. I. Vernadsky*

At a conference and exhibition organised in St. Petersburg, to mark the occasion of the 150<sup>th</sup> anniversary of the birth of V.I. Vernadsky, Andrei V. Lapo was awarded the *Order of V.I. Vernadsky*, by the V.I. Vernadsky Fund.



## OBITUARIES

**Bernhard Fritscher, 1954–2013**

*Bernhard Fritscher*

(Photo by Christine Lüdecke, taken at a 'History of the Geosciences' conference, Eichstätt, 1 Februar 2013.)

At the International Congress on History of Science, Technology and Medicine, in Manchester (UK), members of the International Commission on the History of Geological Sciences mourned its long-standing German member, Bernhard Fritscher, who died of lung cancer in Munich, on 11<sup>th</sup> July 2013, at the age of 58. He had submitted a paper on "Cultures of travelling and geological fieldwork: Heinrich Girard's geological wanderings", which Cornelia was to read, while he would be there to answer questions. Instead the international community was shocked by the loss of both a friend and an ever-competent partner in co-operation and discussion. Spontaneously, some colleagues used the opportunity to share their personal memories of Bernhard with the audience. The history of science community in Germany lost a leading figure in the history of the geosciences in the middle of an active research career. He still had so many plans: his

study on the global travellers, the Schlagintweit brothers, was still in progress, and was due to culminate in an exhibition with a catalogue about the Schlagintweit expedition to India and the Himalayas, at the Alpine Museum in Munich, in 2015. Another project was a transcription and critical edition of a script of Abraham Gottlob Werner's lectures, held in Munich. Many other projects were in progress or proposed. Only two weeks before his death he had discussed these projects with Cornelia and how she could help with them. With Martina, he was planning to recruit a PhD student to investigate the history of the natural history collection in Eichstätt, but death took its toll overnight.

Bernhard Fritscher was born in Bayreuth in 1954. He studied geography, geology and sociology at the Justus Liebig University in Giessen and then extended his studies to include the history of science at the Ludwig Maximilian University, in Munich (LMU), leading to the award of a diploma under the supervision of Dr Heribert Nobis. Nobis was then the only person to lecture on the history of Earth sciences at a West German university. Cornelia met him during Nobis's lectures in 1986, when she started her studies for a PhD thesis on the history of German polar research. Bernhard already had a great interest in Immanuel Kant and also in Abraham Gottlob Werner, to whom he devoted his first publication and who occupied him for the rest of his life, along with many other topics. His thesis on *Vulcanism dispute and geochemistry: The significance of chemistry and experimentation in the vulcanism-neptunism controversy* (published in 1991), secured him a place in international research. In this work Bernhard adopted a new approach in the analysis of a



topic that – representative of the beginnings of geology – had been evaluated in many contradictory ways in the history of science. By his further activities he established the history of earth sciences as a new research topic at the Institute of Natural Sciences in Munich, which in West Germany at that time was only being offered by Bernhard's and Cornelia's PhD supervisor, Nobis. Subsequently Bernhard became its most prominent representative, which led to him being integrated into the broader community of historians of science and historians in general. In March 1996, he was the major organiser of the International Symposium on the History of Mineralogy, Petrology and Geochemistry, in Munich (Fritscher and Henderson 1998). In the same year, he first met Martina, who had taken up a job as geological curator in Munich. He invited her to her very first INHIGEO meeting in Neuchâtel, in 1998, and in the course of the following year they organized together a special exhibition on Abraham Gottlob Werner, at the Geological Museum in Munich. In 2001 Bernhard and Martina organized the annual meeting of the "History of Geosciences" section of the Society for Geological Sciences in Munich, and in the following year they jointly organized a symposium on "Geology in Germany 1914 to 1945", at the Geo2002 Meeting, in Würzburg.

While the historical emphasis of Bernhard's work had long been on the 18<sup>th</sup> and early 19<sup>th</sup> centuries, he extended his reach with his 1998 *Habilitation* (= professorial thesis) on *Geoscience and Modernism: Studies on the Cultural History of Mineralogy and Chemical Geology (1848-1926)*, which unfortunately remained unpublished. In the same year, he was appointed as a Privatdozent for the history of science in the Faculty of History and Cultural Sciences at the LMU, and as a contract professor in 2008.

Many of his writings, indebted to the theory and philosophy of science, demonstrate both an explicitly reflective contextual dimension and an historical-political depth that is often absent in structural approaches. His openness to general topics of the humanities, studies in culture, and pictorial arts, show a preparedness to engage with new issues and methods in the history of science. As an example of this, we can take his work *Archives of the Earth: On the codification of the history of the Earth around 1800*, which, appearing in a collection of essays in *Archivologie*, confronts classic texts on modern archive theory (Foucault, Derrida) with new concepts (Assmann and Ricoeur) (Fritscher 2009). Furthermore, with the splendid introduction to his multi-volume edition of Leopold von Buch, he went well beyond the narrow confines of the history of science (Fritscher 2008). His publications include papers on Kant and Werner as well as on Georgius Agricola, Georg Forster, Victor Moritz Goldschmidt, Paul Groth, Georg Wilhelm Friedrich Hegel, Alexander von Humboldt, Friedrich Christian Lesser, Lorenz Oken, the brothers Schlagintweit and Gustav Tschermak.

Unfortunately, he never obtained an adequate position as professor, because he may have become too specialised for a typical chair on the history of science at a German university. Although highly overqualified he accepted an appointment at a library in Munich, to provide for his old age.

Bernhard's scientific work was mostly carried out in his leisure time, much to the displeasure of his wife Christine and his now 18-year-old daughter Susanne. However, he gladly contributed oral papers that, in recent times, had to be read out by one his colleagues, because of his illness, while he was in attendance to answer questions. In addition, he could also be persuaded to produce written papers.

Bernhard was always a very active member and participant at the meetings of the organisations that valued him and accepted him early in his career. He liked to maintain contact with his colleagues and was very pleased to meet them in Munich on various occasions. He was a long-standing member of the "History of Geosciences" section of the Society for Geological Sciences, which he chaired from 1999 to 2001. Having had long-standing contacts with INHIGEO members, he was himself elected a member during the INHIGEO conference held in Sydney, Australia, in July 1994. He not only became active in collecting information from German INHIGEO members for the newsletter, year by year, but also in delivering oral papers at various

meetings, where he always presented very interesting new aspects. In addition to this he also was a member of the German Society of the History of Science, to whose conferences he and Cornelia used to travel together by car. During these trips they enjoyed long discussions, only interrupted by short stops for a quick cigarette (“*Kippe*” as he called it). As Associate Editor of the journal *Earth Sciences History*, Bernhard was in charge of Mineralogy and Geology, History, Sociology and Philosophy of Geoscience and European Geology.

Bernhard’s great love was the history of Earth sciences. He also pursued this interest, nobly and continuously beyond the domain of this community, particularly so in the two German History of Science Associations, where he gave lectures and took part in panel discussions. He was very happy to contribute to three panels that were organized by Marianne Klemun for the Conferences of the “European Society for History of Science” in Vienna (2008), Barcelona (2010) and Athens (2012), and to deal with questions on specific topics. In Athens, of course, the effects of his serious disease were already clearly noticeable. The very great importance to him of research, in this last phase of his life, was manifested at this conference, to which he had had to drag himself, and which was physically so demanding for him: here he participated with assiduous interest in the concluding discussion.

The intensification of cordial intellectual exchanges between Munich and Vienna (Bernhard and Marianne) was based on a mutual willingness and a shared desire to take part in each other’s panels and to engage in and promote issues of mutual interest.

At the International Congress for Eighteenth Century Studies (held in Graz in 2011) Bernhard, on the topic of Kant, gave the most important lecture in any of the panels (“Historising Nature, Naturalising History”) organised by Marianne. Several members of INHIGEO, such as Ana Carneiro, Ezio Vaccari and Erny Hamm, were present at this wonderful lecture of Bernhard’s. At the conferences of the German Association for Medicine, Natural Sciences and Technology (in Darmstadt and Braunschweig, 2008 and 2009), Bernhard established many activities in which he included Marianne and many others.

Apart from his family, music was almost more important for Bernhard than science. He was a wonderful guitar player and Cornelia will never forget his performance with his twin brother during a PhD party of one of their colleagues. His contributions to church music during Advent will always be remembered. Another speciality was Bernhard's “Dampfnudel”, a sweet yeast dumpling cooked in milk and sugar. He really was an expert in its preparation.

We shall miss Bernhard greatly. But what we retain are good memories of him both as a person and a researcher, and of the many different ways in which the narratives of his writings tore down the barriers of a narrow view of the history of geology. He leaves a gap which cannot easily be filled, but he will not be forgotten on account of his publications. Because of his affection for the homeland of the guitar we will remember him in the words of an Andalusian poet:

*Words about earth were his topic. Now earth has the last word.* (Rafael Alberti)

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Cornelia Lüdecke, Munich; Marianne Klemun, Vienna and Martina Koelbl-Ebert, Eichstätt

### Stanislaw Czarniecki ((1921 – 2013)

*Geologist and paleontologist, historian of geology and science, bibliophile, educational and social activist, founder member of INHIGEO at Yerevan, in 1967, and an honorary senior member.*



*Stanislaw Czarniecki (second from left), is flanked by his Polish colleagues Zbigniew Wojcik, on his left, and by Alгимantas Grigelis (Lithuania) and Wojciech Narebski, on his right. (Photo: Leonora Živilė Gelumauskaitė, wife of Alгимantas).*

Stanislaw Czarniecki was born on 6 May 1921, in Lublin, and died on 27 November 2013, in Cracow. From his youth he was active in cooperative movements and in the years 1940-1949 was a manager of the editorial-educational cooperative "Czytelnik" (Reader). He graduated with a Master's degree in geology from the Jagellonian University in Cracow, in 1954. His first position was in the Geological Laboratory of the Polish Academy of Sciences, later transformed into the Cracovian Branch of the Institute of Geological Sciences of the Academy, the institution with which he was affiliated until his death. His scientific studies were devoted mainly to the Upper Carboniferous and Permian Series of the Holy Cross Mountains and to the Upper Silesian Coal Basin. His first paper, entitled "Lower Carboniferous fauna of the Culm Facies of the Eastern Upper Silesian Coal Basin" was published in 1955, and one of his last, "Conditions of sedimentation of the Carboniferous Series of Galezice", in 1991. In 1960 Czarniecki participated in the Polish Spitsbergen Expedition. The outcome of his studies there was his D.Sc. thesis "Sedimentary Environment and Stratigraphic Position of the Treskelodden Beds (Vestspitsbergen)", presented at the Faculty of Natural Sciences of the Jagellonian University in Cracow, in 1964. The rich collection of more than 6,000 brachiopods and corals from these beds is deposited in the Institute of

Geological Sciences of the Polish Academy of Sciences. It should be emphasized that Czarniecki was considered to be one of the foremost Polish specialists in this branch of paleontology.

Czarniecki's first contribution to the history of geology was published in 1955. It was the dictionary of old geological nomenclature used by Stanislaw Staszic (1755-1826), in his important work "On the geology of the Carpathians and other mountains and the lowlands of Poland". This dictionary, forming part of the reprint of this monumental work, issued in 1955, was the beginning of Czarniecki's scientific, museum and social activity. A very important event was the exhibition, presented in the Museum of the Earth, in 1958, and entitled "Stanislaw Staszic and his époque", prepared by Czarniecki and Stanislaw Malkowski (1889-1962). It was exhibited in several towns in Poland. Simultaneously he was researching the biography of another eminent Polish geologist, Ludwik Zejszner (1805-1871), who had been professor at the Jagellonian University in Cracow, for which he even collected archival material in Soviet Union. The results of these studies have been published in several papers and as part of a monograph, "Outline of a history of geology at the Jagellonian University" (Cracow, 1964, 145 pp.). In the following year, he participated in the Geological Section of the XIth International Congress of the History of Sciences in Warsaw, where he delivered a lecture, "Outline of a history of geological cartography in Poland (1762-1918)", in conjunction with an interesting exhibition in the Museum of the Earth.

Stanislaw Czarniecki attended the foundation meeting of INHIGEO in Yerevan, delivering a lecture on the Polish geoscientist of Armenian origin, Jan Jaskiewicz (1749-1809), the first lecturer of mineralogy at the Jagellonian University. He published his presentation privately in a limited edition but, in 2010, he republished it in Cracow, with a historical comment titled, "Dissertation on the Crown Main School". Czarniecki actively cooperated with the small Laboratory of History of Geology in the Museum of the Earth, the first in post-war Poland, founded by S. Malkowski. His passion was the collecting of archival materials and old publications. Consequently, he published in cooperation with Zofia Martini, "Editorial Materials of the Geological Atlas of Galicia" (1967) and "Retrospective Geological Bibliography of Poland 1750-1950, Supplements (1972)". In the same year, with co-author Janusz Wiltowski, he published a book, "The centenary of the Academy of Arts and Sciences". In this book he emphasized the problem of the rational organization of scientific researches. Czarniecki was paying particular attention to the achievements of geologists. For this reason he cooperated with the Polish Biographical Dictionary and with international specialist publications of this type. However, he selected these naturalists on the basis of their usefulness to their parent countries. His favorite personality was Stanislaw Staszic (1755 – 1826), whom Czarniecki referred to as the "Father of Polish geology", stressing his educational and industrial activity. The final results of his studies on this subject are presented in two books, published towards the end of his life: "Staszic's status commemorated in the nomenclature of the geosciences (Pila 1994) and "Staszic's outcome" (Pila 2009), as well as in the booklets, "Half age in the Cracow Geologic Institution of the Polish Academy of Sciences" (Krakow 2008) and "Our radices: Episodes from the history of Cracovian geology" (Cracow 2008). His opinions on this subject were expressed in the lectures he delivered during scientific sessions in September and November 2013, in which he presented the legacy of the scientific achievements of Staszic and Zejszner. The total amount of Czarniecki's publications is difficult to evaluate, but it exceeds 300 items. Some of them he published privately and donated to participants of scientific and educational sessions.

Dr. Czarniecki was very interested in old scientific books and archival materials, left by deceased researchers. Therefore, he was often visiting their families and waste paper collection centers. The found materials and books he usually donated to libraries (including the National Library in Warsaw) and museums (firstly to the Museum of the Earth in Warsaw, but also to the Stanislaw Staszic Museum in Pila). Sometimes these materials formed the basis of interesting exhibitions, always documented by catalogues. Moreover, he assembled collections of valuable books and offered them to schools in various regions of our country. Numerous of his friends in

Poland and abroad, as well as students from other countries, frequenting Polish universities, were supplied by our deceased colleague with publications that interested them. His private and rich archival-advisory Laboratory of History of the Polish Geology, was visited by many researchers interested in the problems in question. Similarly, like Staszic, Zejszner and Malkowski, Czarniecki tended to be socially helpful.

Stanislaw Czarniecki was unquestionably one of the most meritorious Polish historians of geology and social activists, always ready to help other researchers and institutions. His death is a painful loss, not only to his friends in INHIGEO, but also to all the people and institutions that benefited from his scientific and social help.

Zbigniew Wojcik, Warsaw and Wojciech Narebski, Cracow

### **Yasumoto Suzuki (1935-2013)**



*Yasumoto Suzuki*

Dr Yasumoto Suzuki has been a member of the Board of Management of the International Commission on the History of Geological Sciences (INHIGEO) since 1990, and was the 3<sup>rd</sup> President of the Japanese Association for the History of Geological Sciences (JAHIGEO) from 2003 to 2009. He also assumed the chair of the Organizing Committee of the Annual Conference of INHIGEO in Toyohashi, central Japan in 2011 and contributed greatly to the success of the conference. He was Japan's representative to the Association of New Concepts in Global Tectonics (NCGT), from 1996 to 2012. He has successfully led the first NCGT symposium held in Tsukuba, Japan, in 1998.

Although he was always very cheerful and co-operative in promoting these activities, he died suddenly and unexpectedly of a heart attack, on 12th May 2013, at his home in Ichikawa,

Chiba prefecture, to the east of Tokyo. He was 78 years old.

Yasumoto Suzuki was born in Tokyo, in 1935, and graduated from the Department of Geology, University of Tokyo in 1958. After that he worked mainly at the Fuel Geology Division of the Geological Survey of Japan, GSJ (1958-1995) and as a counselor of the Geothermal Energy Research & Development Co. Ltd. (1995-2002). After retirement, he continued to study diligently up to the night of his death.

He published more than 200 articles, several books and numerous reports etc. He also published seven geological maps, for example the 1:50,000 map sheet "Nako" for GSJ.

His special interests covered a broad range of fields in the Earth sciences, including stratigraphy, structural geology, geochemistry, geodesy and seismology. One of his excellent qualities was his leadership of projects in various geo-scientific fields. Some of the projects he was involved in are summarized below:

In the 1960s, together with co-workers, he carried out a trace study of thick Cenozoic flysch-type sediments in the Boso Peninsula, to the southeast of Tokyo, making a so-called 'layer-by-layer correlation', by using pyroclastic key beds, and also explored the pronounced features of turbidite sedimentation.

He used this precise correlation method, in the early 1970s, to place the thick Cenozoic sediments in the Niigata oil field on the backarc side of central Honshu, and found that the folding

was due to differential subsidence. He insisted on the important role of deep and vertical block movement and associated magmatism in the process of folding, from the start of sedimentation. Furthermore, he demonstrated that the distribution of epicenters in the sedimentary basin coincided with that of the crustal blocks in the basement, by sketching cross sections from the Earth surface to the Moho discontinuity. This idea was developed as early as the late 1970s, to explain the Meso-Cenozoic tectonic development of the East Asian continent and the western Pacific. He and his colleagues proposed numerically simulated deformation of the core-mantle boundary and concluded that the Wadati-Benioff zone was formed as a shear-concentrated zone. It was the earliest indication that tectonic movements, including earthquakes, are related to the deformation of the deep crust, mantle and core.

In the 1980s Suzuki and co-workers, by carrying out detailed field surveys on a regional scale and by modelling, using the Virtual Basement Displacement Method, demonstrated that the migration of the depocenter of the Kanto basin, the biggest Cenozoic basin in Japan, located on the forearc side of central Honshu, continued to develop, step by step, towards the backarc, to the present day. It showed that the sedimentary basins in the Japanese Islands were formed by the asymmetric and uneven uplift of the hanging wall of the Wadati-Benioff zone.

Since about the 1990s, he tended to concentrate on seismo-geological studies, as he was interested in the interrelationship between geology, topography, seismicity and geodetic movement. He can be said to be the pioneer of “Earthquake Geology” in Japan. He also stated repeatedly that many Japanese pioneers of seismology had used geological and geomorphological information, as they believed that seismic activities were strongly affected by geologic process. This also led him to take an interest in the history of the geological sciences and the activities of INHIGEO and JAHIGEO.

In addition, his contributions to the Geological Society of Japan are highly regarded. He served as a council member of the Geological Society of Japan from 1978 to 1990, and was the Director of Publication of the Society’s Journal (1978-80 and 1988-89). He was responsible for the Society’s International Affairs (1983 and 1987) and for its General Management (1984-85).

He wrote and edited the following books: *Earthquakes and Crustal Movements in the Kanto District* (1974), *Earthquakes in Japan* (1975), *Structural Geology* (1981), *Earthquakes in Japan* (New Edition, 1985,) and *Structure and Movement of the Earth's Interior* (1995). These titles reflect the development of his major interests. He was also the chief editor of *Japanese Geology in the last 100 years* (1992-93).

He was thoughtful in educating young scientists and students, including in the Association for the Geological Collaboration in Japan, the Association for the Study of Structural Geology, the Tectonic Colloquium, and the Shibaura Institute of Technology.

In his personal life, he was a singer of classical music, having a sophisticated baritone voice, and was a leader of one of the famous chorus groups in Tsukuba. He carried a sketch book during his journeys and enjoyed painting. He was a very likable person and was loved by everyone.

His memory, his name and his works will be remembered for a long time.

On behalf of JAHIGEO, I do pray: “Dr. Suzuki, please rest in peace forever.”

Hirokazu Kato, President of JAHIGEO, Higashi Tsukuba, Ibaraki



## ARTICLES

**Biblical deluge and creationism in eighteenth century Italy: an overview of the geological theory of Ermenegildo Pini (1739-1825)**

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### 1. Introduction

At the end of the eighteenth century, in the European scenario of the natural sciences, different scholars in ecclesiastical institutions, both Catholic and Protestant, adopted firm opinions about some geological issues relating to the history of the Earth's crust and the formation of mountains. The last decades of that century saw a significant renaissance of 'Diluvialist theories' (Page 1969, pp. 257–271; Morello 1982). The belief that a great, brief and extraordinary flood had occurred on the Earth, was not unusual among naturalists of the late eighteenth century, especially among those holding 'Neptunist' views, a term applied to a theory expounded by Abraham Gottlieb Werner (1749–1817), which held that the earliest rocks were formed by chemical processes of precipitation in water.

The resurgence of a belief in Diluvialism was prompted by the perceived need to re-establish the authority of the Holy Scriptures, and, in the main, to counter the contrary ideas expressed by Buffon in *Les Époques de la Nature* (Buffon 1778)<sup>1</sup>. For this reason, from the 1780s onward, Diluvialist theories gained wide support in various Italian States. For instance, in the Republic of Venice, the Earl Ludovico Barbieri (1719–1791) from Vicenza, wrote a history of the sea entitled *Storia del mare, e Confutazione della favola dove scopronsi insigni errori di varii scrittori e specialmente del signor de Buffon* [History of the sea, and refutation of the story in which great mistakes were made by various scholars, mainly by Mr. de Buffon, are disclosed] (Barbieri 1782). In the same year, Father Filippo Angelico Becchetti (1742–1814) in Rome, published a general theory of the Earth, based on lectures given at the Academy of Velletri, with the title of *Teoria generale della Terra* [General theory of the Earth] (Becchetti 1782). These works derived their inspiration from the Biblical Creation story as related in Genesis (Ciancio 1995, p. 157). They openly criticized the idea of the antiquity of the Earth based on a long geological time scale, which was upheld by advocates of the Volcanist's theory. The latter believed that magmatism and volcanic activity were closely related to orogeny, and played an essential role in the gradual formation of the Earth's surface due to the slow cooling of igneous rocks (Candela 2009b, pp. 89–93; Sigurdsson 1999, pp. 112–155; Den Tex 1996, pp. 37–48; Morello 1979, pp. 169–197). Contrary to that idea, Becchetti, for example, recalled the theories on the origin of the Earth by ancient and modern philosophers, and considered the action of volcanoes a mere local accident (Becchetti 1782, pp. 303–404).

Some years later, in Lombardy, the Abbot Vincenzo Rosa (1750–1819) published, in the Italian journal *Opuscoli scelti sulle scienze e sulle arti*, an essay on the same subject with the aim of outlining an empirical theory of the Deluge, entitled *Sul Diluvio Universale, Riflessioni*. [On the

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<sup>1</sup> On Buffon's theory of the Earth: Rudwick 2005, pp. 139–150; Duris and Gohau 1999, p. 76; Greene 1971, p. 91.



Great Flood. Reflections] (Rosa 1794). He believed that the Great Flood was caused by a variation in the inclination of the Earth's axis, a hypothesis widely supported in eighteenth-century Italy (Candela 2009a, pp. 152–189).

Though these writings are sometimes considered of lesser importance to the history of the Earth sciences, they are undoubtedly significant to an understanding of the historical and scientific background of Italian natural sciences, in the eighteenth and nineteenth centuries. They prove that ideas and empirical interpretations of Diluvialism had not yet been discarded. The need to re-establish the historical meaning and the importance of Noah's Flood was common among both Italian and other European savants, although finding evidence in support of their belief was not always the main aim of their fieldwork. Scientific explorations were frequently carried out to reconstruct the geological history of given regions (Candela 2009a).

According to Martin Rudwick:

Throughout the eighteenth century there was much discussion among savants –including both naturalists and biblical scholars – about how [the Deluge] should be interpreted; there was certainly no rigid line of orthodoxy in the matter. But it did constitute a supremely important point at which geohistory might be tied into human history: not just analogically or metaphorically, but substantively, as an event marked in both natural and human records. So it is hardly surprising that '*diluvial*' theories were prominent in debates about the earth: savants such as Buffon, who virtually denied that the Deluge had had any physical role at all, were very much in a minority. (Rudwick 2005, p. 185).<sup>2</sup>

'Diluvial explanations' often prevailed over other conjectures with regard to the formation of the Earth's crust, although the Flood wasn't necessarily considered 'global' in extent.

## 2. *The image of the Great Flood in the geological theory of Emernegildo Pini (1790–1793)*



*Emernegildo Pini*

From 1790 to 1807, within the historical context briefly described above, some savants working in Lombardy such as the Barnabite<sup>3</sup> Emernegildo Pini, the Abbot Carlo Amoretti (1741–1816) and the Piedmontese physician Giuseppe Gautieri (1769–1833), drew on the idea of a great flood in order to explain the geological structures of the Earth, especially the orogenic development of the Alps. But while the theories of Amoretti<sup>4</sup> and Gautieri were not closely based on either Neptunism or Volcanism (Amoretti 1794; Gautieri 1805, 1807; Corsi 2005, pp. 67–83), Pini's theories were directly inspired by Wernerian geognosy and by Genesis, as is evident in some of his work, published between 1790 and 1793.

<sup>2</sup> See also: Rappaport 1978, pp. 1–18

<sup>3</sup> A priest of the religious order named after the Church of St Barnabas, in Milan.

<sup>4</sup> On Amoretti's biography, see: Arato 1987, pp. 175–220.

Pini based his general theory of the Earth's geological changes on observations gathered during various scientific excursions<sup>5</sup>, mainly in Lombardy (Pini 1778, 1779, 1783, 1790a; Visconti 2004a, pp. 77–108 and 2004b, pp. 149–173). His ideas were initially published in the *Opuscoli scelti sulle scienze e sulle arti*, in 1790 (Pini 1790b, pp. 361–390), and later in his works of 1792 and 1793 (Pini 1792a, 1792b, 1793). In these writings, the biblical account of the Creation is presented, as Pini based his general theory of the Earth's geological changes on observations gathered during various scientific excursions<sup>6</sup>, mainly in Lombardy (Pini 1778, 1779, 1783, 1790a; Visconti 2004a, pp. 77–108, and 2004b, pp. 149–173). His ideas were initially published as being in accordance with scientific evidence. According to Pini there was a tangible connection between natural and Mosaic history, which could be observed in geological strata and in the fossil record. However, Pini did not have a detailed knowledge of palaeontology and of the fossil sites which he had examined (Ciancio 1995, p. 254). His historical theory of the Earth contributed to ideas on 'Natural Theology', which were spreading across the Italian peninsula during the last decade of the eighteenth century. Pini's major aim was to find empirical evidence for Noah's Flood in the geological record.

After exploratory work in the Alps and Prealps, he published his theory of the Earth, which included some fundamental points he believed to be in agreement with the biblical account of the Creation:

1. Before the Flood, the surface of the Earth was, like today, formed of land with mountains and of oceans. Therefore the sea-level would have been nearly the same as at present (Pini 1792b, p. 16);
2. The Great Flood was caused by a sudden acceleration of the Earth's rotation, itself caused by an extraordinary increase in terrestrial heat beneath the lithosphere (Pini 1792b, p. 106);
3. Several species of animals, identical to those found today, lived on the Earth's surface before the Deluge;
4. Floodwaters gushed out from the Earth, inundating the land and, augmented by heavy rainfall, rose to reach the tops of the highest mountains;
5. The flood would have been extraordinary, short-lasting and global in extent (Pini 1792b, p. 17).

Pini also distinguished two main 'revolutions' that affected the Earth. The first preceded the creation of living organisms and prepared the lithosphere for life. The second corresponded with the Great Flood of the Old Testament. This catastrophe was due to the sudden acceleration of the Earth's rotation. Rainfall increased the level of the oceans and floodwater gushed out from the bowels of the Earth. He rejected the idea that a comet or a variation in the inclination of the Earth's axis could have caused the Great Flood. The Deluge lasted only forty days, as reported in Genesis, and the oceans returned to their original level within a year.

Evidence for the 'geological deluge' also included the presence of human species, in the same way as in the story of the Biblical Flood. Some fossil bones, which had been discovered on the island of Cres and nearby Gibraltar, had been considered as proof of the existence of antediluvian man and as empirical evidence of Noah's Flood, although Dutch physician Petrus Camper (1722–1789) had already criticized that idea (Pini 1792b, p. 52).

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<sup>5</sup> On Pini's life and works: Rovida 1832.

<sup>6</sup> On Pini's life and works: Rovida 1832.

Pini distinguished four different stages for the two different floods, which were separated in time:

I<sup>a</sup> – heavy rainfalls, gradual melting of glaciers and volcanic eruptions increased the level of rivers, lakes and the oceans, generating several floods;

II<sup>a</sup> – eruption of subterranean waters were associated with earthquakes and violent storms (Pini 1792b, p. 23);

III<sup>a</sup> – seas rose to the highest peaks of mountains;

IV<sup>a</sup> – ocean waters returned to the present level (Pini 1792b, p. 20).

Moreover, at the beginning, the Earth would have been completely covered by water. Pini's geological theory was surely influenced by Wernerian geognosy and opposed the ideas of Leibniz and Buffon. He believed that matter of compound bodies was originally melted into a 'Primordial Ocean' (Pini 1790, p. 372). The Barnabite distinguished the 'Primary' mountains, of the primeval ocean, from the 'Secondary' ones, which followed the demolition of the first. This classification recalls those of Antonio Vallisneri (1661–1730) (Luzzini 2013), Luigi Ferdinando Marsili (1658–1730) and Giovanni Targioni Tozzetti (1712–1783), which had been introduced in the first half of the seventeenth century (Pini 1793, pp. 90–91; Vaccari 1999, pp. 47–80). It is also probable that Pini considered the 'Primary' mountains to have been created by God. His geological theory of the Earth, as expressed in his work of 1792, (Pini 1792b, p. 29), was clearly influenced by Creationist ideas:

[It.] L'origine degli animali non può derivarsi se non da creazione, o dal caso, cioè da un fortuito concorso di materia, e di forze indipendente da qualunque intelligenza, o causa finale. Questa seconda opinione [...], viene apertamente esclusa da un'ovvia osservazione, che io già produssi [...] contro la catena degli esseri fisici [...], tra [gli] animali terrestri forniti di piedi, nessuna specie se ne trova, che ne abbia un numero dispari, cioè 3, 5, 7, 9, ecc. [Ma] il caso è indifferente a qualunque numero [...]. Che cos'è dunque che impedisce le fortuite forze dal produrre [...] le specie a numero dispari di piedi [...]? Ciò non può ascriversi [...] ad una fortuita determinazione [...]; e se la determinazione non è fortuita devesi necessariamente derivare da un agente intelligente [...].

[Eng.] Animals can either be created or they originate from a happy coincidence of matter and forces, free from any intelligence or final reason. This second hypothesis [...], can surely be discarded in consequence of an obvious observation, which I have already suggested [...] as in living beings [...], there are no species with an odd number of legs – for instance 3, 5, 7, 9, etc. – among [...] terrestrial animals with paws. [But] blind chance is indifferent to any particular number [...]. Therefore, what is it that stops [those] fortuitous forces from creating [...] species with an odd number of legs [...]? It cannot be [...] a fortuitous occurrence [...], and if it is not fortuitous, it is necessarily the work of an intelligent agent [...] (Pini 1792b, p 50).

The Barnabite's beliefs in a relationship between living organisms and natural history led him to oppose the theory of the transmutation of species, which was then slowly gaining acceptance in Italy (Candela 2009b).

### 3. Conclusion

Pini's purpose was to collect different kinds of empirical data in order to prove that geohistory was in 'harmony' with Mosaic history. He rejected Buffon's time scale, which lacked scientific evidence, and he criticized the idea of a long geological time scale (Pini 1792b, p. 109).

Despite the fact that his work is considered of lesser importance in the history of Italian natural science, it was widely read, especially in the German States. Goethe himself owned a copy of Pini's work on the Earth's geological 'revolutions' produced by the action of water (Pini 1793; Visconti 2007, pp. 168–183).

During the first decades of the nineteenth century, the emergence of new geological ideas and the first use of biostratigraphy in the dating of sedimentary formations, revealed some clear difficulties with Neptunist theories.

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**Maksymilian Strasz:**  
**author of the first geological and mining maps**  
**of the mining district in the Kingdom of Poland (1846)**

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The creation of the Kingdom of Poland and the development of state mining and metallurgy provided the opportunity to engage a number of educated professionals, who took up many tasks for the first time. These activities included the development of the first maps of mining districts: The Eastern District - including the Holy Cross Mountains region, and the Western District - located in the south-western corner of the Kingdom of Poland, bordering on Prussia and Austria. One of these professionals was probably Maksymilian Strasz (1804-1885), architect and civil engineer, who was a man of extensive interests and an enthusiast of technical innovations.

*Maksymilian Stasz (1804-1885)*

***Biography of Maksymilian Strasz***

Maksymilian [Maxymilian] Edward Andrzej Strasz<sup>7</sup> was born on October 10, 1804 in Ojrzanowie, Błonie County<sup>8</sup>. He came from a family of impoverished nobles in Masovia. He received his early schooling in Warsaw and, although he did not finish high school, he enrolled in the School of Civil Engineering (from 1823 the Institute of Civil Engineering). During this period, he also worked on plans covering the Vistula River and the towns located near it<sup>9</sup>. At the same time (from November 7, 1820) he studied, as a “cadet of surveying” in the Government Commission for Internal Affairs

<sup>7</sup>He also published under the initials of M.S. and I.M.S. One of the few portraits, by Marszałkiewicz (1856), depicting Maksymilian Strasz is preserved in the Museum of Historic Interiors in Pszczyna, see L. Kruczek, *Miniatury. Płaskorzeźby i sylwetki XVI-XX wieku. Katalog zbiorów*. Muzeum Wnętrz Zabytkowych, Pszczyna, 1987, p. 83, where the following description of Strasz is given: “*Torso slightly to the left. Black frock coat, vest and tie; white shirt. Greenish eyes, yellowish skin with flushed cheeks, bright moustache, grey hair. Grey olive background*”.

<sup>8</sup>The place of his birth is sometimes erroneously given as: Białaczów or Białaczew, see M. Burdowicz-Nowicka, *Strasz Maksymilian Edward Andrzej*. [in:] “Polski Słownik Biograficzny”, 2006, vol. XLIV/2, no. 181, pp. 208-210.

<sup>9</sup>See M. Strasz, *Brulion wymiarów brzegów rzeki Wisły pod wsiami Podgórze, Potycz, Królewski Las, Borki, Brzunin, Radzanowska Kępa, woj. Mazowieckiego, obwód warszawski*. Arch. Główne Akt Dawnych, Warszawa, Cat. No. 266-269, 1822, pp. 1-308; idem J. E. Piasecka, *Dzieje hydrografii polskiej do 1850 roku*. Publishing Zakł. Nar. Ossolińskich, PAN, Wrocław-Warszawa-Kraków. “Monogr. z Dziejów Nauki i Techn.”, Vol. LXV, 1970, pp. 1-198, and especially the characteristic of documentary work carried out by the Vistula River (pp. 143). Strasz also worked in the years 1823-1826 on making the Kamienna River navigable, see M. Burdowicz-Nowicka, *Strasz Maksymilian.....*, 2006, p. 208.



and the Police, at the Faculty of Fine Arts and Surveying, Warsaw University<sup>10</sup>. In 1827, Strasz graduated from the Institute of Civil Engineering with Honours, and in 1828 received a surveyor's licence. On 2 March 1830, he passed the civil engineering examination and graduated with a degree in engineering<sup>11</sup>. He unsuccessfully tried to obtain financial support from the state to study and to increase his technical knowledge abroad. This plan did not come to fruition. Using his own money, Strasz went to Germany, Holland and England in August 1830. He became interested in various types of technical innovations, such as photography, railways, ocean sailing<sup>12</sup>. He returned to Poland after the outbreak of the November uprising. On May 20, 1831 Strasz was appointed principal director of the Polish Army Main Quartermaster's Department<sup>13</sup>. His involvement in the uprising did not stop Strasz's career. In 1833, he was appointed to the post of Deputy Engineer of the Augustów Province Commission and settled in Augustów. The following year, he was promoted to Engineer<sup>14</sup>. In August 1837, Strasz was appointed to the position of Engineer of Cracow Province (from 1841, the Kielce Province), based in Kielce. As part of his duties, he oversaw the maintenance and construction of roads and waterways. In addition, he drew up never implemented plans for a new Governor's office building in Kielce<sup>15</sup> and for the new headquarters of the Directorate of the Land Credit Society. He continued to work on the construction of the hospital of St. Alexander (1838-1843) and on changes to the city park. In 1840, he designed and built his own

<sup>10</sup> See M. Burdowicz-Nowicka, *Strasz Maksymilian...*, 2006, p. 208, where he says that Strasz showed artistic talent from an early age. He painted landscapes and made architectural drawings. See also the preserved painting of M. Strasz: 1820 (?) *Kościół ks. Pijarów przy ulicy Długiej w Warszawie*. Central Archives of Historical Records in Warsaw, Catalogue of architectural drawings from files of the Government-Committee of Internal Matters and the watercolour painting, and: M. Strasz: 1827: *Widok ogólny folwarku*. Central Archives of Historical Records in Warsaw, The office of Pictures, Warsaw, Cat. No. GR 3722.

<sup>11</sup> In this period, the article by M. Strasz, among others, was published, *O ubezpieczeniu piasków przeciw wiatrom*. "Gazeta Warszawska", 1830, No. 109.

<sup>12</sup> See especially the later articles: M. Strasz, *O kolejach żelaznych*. "Wiad. Handl. i Przem.", 1839, No. 278; idem, *O kolei żelaznej pod względem rachunkowym*. "Wiad. Handl. i Przem.", 1839, No. 326; idem, *Porównanie między kanałami splawnymi i drogami żelaznymi*. "Wiad. Handl. i Przem.", 1839, No. 331; idem, *Opisanie systemu budowy mostów, wynalezione go przez p. Néville inżyniera angielskiego*. "Wiad. Handl. i Przem.", 1840, No. 352. Strasz's interests were varied and went far beyond his training. Photography probably brought him the greatest fame. Many of his ideas and experiences related to this new invention took shape while he was working in the Kielce Government. Already during his stay in London in 1830, Strasz had his first contact with paper negatives, made using Talbot's method. After returning to his country, his interest in these new inventions did not weaken. He corresponded extensively, and received a number of magazines that discussed Talbot's research. This allowed him to publish the first Polish article about photography on July 13, 1839 (M. Strasz, *Sposób przenoszenia przedmiotów na papier za pomocą kamery obskurny, przez wpływ samego światła*. "Wiad. Handl. i Przem.", 1839, No. 308. The article was sent to the editors of the magazine on 9 June 1839). It carried a mysterious title, as for those times: "*How to move objects onto paper with a camera obscura by the effect of light itself*". The article discussed Talbot's invention, as well as further pioneering studies in France on the so-called daguerreotype, being developed by Louis Daguerre. The results of this work were the first photographs taken by Strasz in July 1839 (unfortunately not preserved) using Talbot's method, which he sent to the office of "Gazeta Codzienna", the publisher of the magazine "Wiadomości Handlowe i Przemysłowe". Maksymilian Strasz was also the author of the first photography book (M. Strasz, *Fotografia, czyli opisanie środków obecnie używanych do zdejmowania obrazów za pomocą światła, przy użyciu kolidionu, złożona podług najnowszych dzieł*. Publishing house M. Orgelbrandt, Warszawa, 1856 (the publication was not preserved and is only known from various excerpts). The culmination of this research appeared in further books (probably a continuation of the first study) published in the following years.

<sup>13</sup> M. Burdowicz-Nowicka M., *Strasz Maksymilian...*, 2006, p. 208, where he states, that M. Strasz between 28 August – 7 September 1831 also carried out observations of the movement of the Russian army.

<sup>14</sup> It should be noted that the literature erroneously attributes to Strasz participation in the work associated with the construction of the Augustów Canal. See: J. E. Piasecka, *Dzieje hydrografii...*, 1970, p. 143 and J. Płażewski, *Spojrzenie w przeszłość polskiej fotografii*. Państw. Inst. Wydaw., Warszawa, 1982, p. 98.

<sup>15</sup> M. Strasz, *Plan sytuacyjny położenia nowego gmachu zaprojektowanego na pomieszczenie władz Rządu Gubernialnego Krakowskiego w mieście Kielcach, z niwelacjami gruntu, na którym tenże gmach ma być wzniesionym oraz Plan pietra parterowego*. 1839, Central Archives of Historical Records in Warsaw, Cat. No. AD 160/8.37.

two-story family house with outbuildings, stables and coach houses, on Krakowska Street<sup>16</sup>. In 1844, Strasz and his family (wife Anna from Szczurowscy, formerly Kożuchowska, and his wife's children from her first marriage: Anna Kazimiera and Jan Nepomucen) left Kielce and moved to Warsaw. There he took up the position of Chief of the Construction Section in the Department of Mines of the Government Commission on Revenue and Treasury<sup>17</sup>, which he occupied until 1854. Before taking up the additional position of manager in the Solec Machine Factory (in Warsaw), he went abroad (England, France), at the expense of the Government Commission on Revenue and Treasury, to study new methods of decarbonising iron<sup>18</sup>. After the merger of the Construction Section with the Technical Section, in 1858, Strasz retired (1859). He died in obscurity after a long illness, on April 21, 1885, in Warsaw, and was buried (24 April) at the Powązki cemetery<sup>19</sup>.

### ***Geological and mining maps***

During his work in the Department of Mining, Strasz produced maps of industrial districts: Location Map of the State Mining Plants in the Kingdom of Poland, Eastern District<sup>20</sup>; and the General Location Map of the State Mining Plants in the Kingdom of Poland, Western District, with the approximate designation of land formations<sup>21</sup>. Unfortunately, descriptions or information with regard to the preparation of maps have not been preserved, nor has information about their publication<sup>22</sup>. It should be noted that the Western District map is signed by Maksymilian Strasz. In contrast, the map of the Eastern District does unfortunately not provide any information about its author. We assume that these maps were produced by the same author. This tends to be confirmed both by their thematic unity, presumably a requirements of the Department of Mines, and the similar scale of the maps (approximately 1:126 000). Strasz probably dealt with the production of maps during his work in the Construction Section in the Department of Mines of the Government Commission on Revenue and Treasury. Proof of this may be found, among other sources, in the

<sup>16</sup> M. Strasz, Dom własny Maksymiliana Strasza przy ulicy Krakowskiej w Kielcach. 1840. National Archive, Kielce, Cat. No. DU 135.

<sup>17</sup> A. J. Wójcik, Organizacja władz górniczych i hutniczych Królestwa Polskiego w pierwszej połowie XIX wieku. "Analecta", 2005, No. 1-2, pp. 227-308.

<sup>18</sup> The decarbonisation process itself consisted of refining pig iron, and has been used since the twelfth century. It consisted of welding by burning additives of carbon, phosphorus, sulphur and silicon at high temperatures in a special furnace. In the late eighteenth/early nineteenth century, the method was replaced by puddling, see W. Różański, A. Rembalski, Z. J. Wójcik, Księga wiadomości historyczno-statystycznych wielkiego pieca w Rejowie. Tow. Prz. Górn., Hutn. i Przem. Staropol. w Kielcach. Kielce, 1995, pp. 1-151, [1-13].

<sup>19</sup> M. Burdowicz-Nowicka, Strasz Maksymilian....., 2006, p. 209.

<sup>20</sup> M. Strasz, Karta położenia Zakładów Górniczych Rządowych w Królestwie Polskiem. Okręg Wschodni [Location map of the State Mining Plants in the Kingdom of Poland, Eastern District]. 1846. Scale about 1:126 000. Engraved by J. Dietrich, Lithograph of the Polish Bank, Warsaw (map dimensions: 68 x 40 cm). The area shown on the map covers approximately 5940 km<sup>2</sup> (76.7 x 77.4 km) and is located between coordinates: 50°45' and 51°14' north latitude and 20°13' and 21°24' east longitude, between the following locations: Chlewiska (north), Żerniki (south), Radoszyce (west) and Grabowiec (east).

<sup>21</sup> M. Strasz, Karta ogólna położenia Zakładów Górniczych Rządowych w Królestwie Polskiem. Okręgu Zachodnim z oznaczeniem utworów powierzchni ziemi w przybliżeniu [Location map of the State Mining Plants in the Kingdom of Poland, Western District with the approximate designation of land formations]. 1846. Scale about 1:126 000. Engraved by P. Kresse, Lithograph of the Polish Bank, Warsaw (map dimensions: 43 x 68 cm). The area shown on the map covers an area of approximately 7940 km<sup>2</sup> (76.7 x 77.4 km) and is located between coordinates: 50°10' and 51°04' north latitude and 18°36' and 19°45' east longitude, between the following locations: Radom (north), Nowa Góra (south), Wichrów (west) and Wolbrom (east). It should be noted that these maps, as well as the biography of their creator, have not yet been subject to any detailed studies and analyses.

<sup>22</sup> It should be noted that the Eastern District map was reproduced and published (in black and white) in 1953 by The State Enterprise of Geodesic Publisherses, Warsaw (No. C.W. 0164). Unfortunately, no details on the preparation of the reprint and the edition are available.

preserved archival work titled, “Examination of the rules given by...”<sup>23</sup>. Work on these maps leading up to their publication probably took several years. It could not have been completed without a thorough knowledge of the principles of surveying, mapping, and knowledge of the area covered<sup>24</sup>.

The map of the Eastern District has been drawn in detail, both in terms of elements of topography, as well as the mining and smelting content. Industrial plants and forests have been plotted. This is undoubtedly owing to Strasz’s detailed knowledge of the Holy Cross Mountains area. It enabled Strasz to refine the map’s content and to include all the information required by the Department of Mining. By contrast, the geological information shown on the map of the Western District is oversimplified and appears to be incomplete<sup>25</sup>. Despite the many shortcomings of a technical nature, it absolutely must be stressed that the maps of the mining districts of the Kingdom of Poland are the first comprehensive cartographic images of its industrial areas, which show both the mineral deposits occurring there, and the position and mutual relations of the various industrial plants.

<sup>23</sup> M. Strasz: *Rachunek zasad podanych przez...* 1844 (?). Archive Earth Museum, Warsaw, Cat. No. p 2/15.

<sup>24</sup> It is sufficient to name a few textbooks (in Polish), as without the knowledge they contain it would not have been possible to develop these maps: O. Lewocki, *Jeometrya dla szkół wydziałowych*. Publishing house Druk. Kom. R. W., Warszawa, 1828, pp. 1-218; A. Magier, *O używaniu barometrów, termometrów i innych narzędzi meteorologicznych*. Publishing house W. Dąbrowiecki, Warszawa, 1815, pp. 1-48; F. Paszkowski, *O topografii gór*. Publishing house J. Czech, Kraków, 1830, pp. 1-154; W. Wrześniewski, *Miernictwo niższe*. Publishing house J. Dietrich, Warszawa, 1841, pp. 1-259.

<sup>25</sup> The map of the Western District is mentioned in I. Gałęcka, Z. Kaczkowska, A. Kalniet, M. Sokołowska, *Bibliografia i rejestr map oraz materiałów kartograficznych z zakresu geologii Polski. Wiek XIX i XX*. Wyd. Geol., Warszawa, 1956, p. 259, item 96, idem J. A. Rzymelka, *Dzieje poznawania geologicznego Górnośląskiego Zagłębia Węglowego do 1870 roku*. “Pr. Nauk. Uniw. Śl.”, 1988, No. 898, p. 135. It should be noted that due to the fact that the map is not complete, and its geological data are not well displayed, it cannot be evaluated without a thorough knowledge of the region. The map contains colour-coded explanations: “3 - stone coal (grey colour), 6 - red sandstone, clay - Triassic cluster (brick colour), 7 - Muschelkalk, Triassic cluster (green colour), 8 - Muschelkalk, dolomite - Triassic cluster (cyan colour), 11 - Jurassic dolomitic limestone (light green), 12 - Jurassic limestone oolite breccia (purple colour), 13 - blue clay, wealdelay (light grey colour), 14 - ferruginous sandstone, iron sand (reddish colour), 15 - sandy deposits (indigo border).” Among the mines and plants were listed: a coal mine, a calamine mine, a calamine washing plant, an iron ore mine, a refractory clay mine, a zinc smelter, a blast furnace, a decarbonisation furnace, a decarbonisation furnace with two foci, an iron and zinc sheet rolling plant, a puddling plant. Typical topographical features and infrastructures include: a rail route, a macadam road (“chausée”), a highway, a plain road, a river, a pond, a town, a village and a forest office”.



*M. Strasz - 1846: Location map of the State Mining Plants in the Kingdom of Poland. Eastern District. Scale about 1:126000. Engraved by J. Dietrich, Lithograph of the Polish Bank, Warsaw (map dimensions: 68x40 cm)*

As was the case in other European countries, the development of mining and metallurgy in the Kingdom of Poland owed much to the support and protection of the government. These conditions worsened following the abolition of the Polish Bank Board. The loss of autonomy over the Kingdom of Poland, after the January uprising, coincided with the decline of the state mining and metallurgical industries. The separation of various industrial districts, in the first half of the nineteenth century, went hand in hand with the creation specialised industries. Cartographic documentation of industrial districts, including the maps produced by Strasz, were necessary for the planning and development of the country's economic policy. Unfortunately, the role and importance of many of the people who had produced these documents, is not well recognised and properly appreciated<sup>26</sup>.

<sup>26</sup> It should be noted that the activities of Strasz in the field of Polish photography has been noticed and commemorated in 1989 with the release (on 27 November) of a postage stamp, on the occasion of the 150th anniversary of the invention of photography. Stamp number 3084 features the effigy of M. Strasz. Unfortunately, no biographical entry for M. Strasz has yet appeared which fairly reflects his contribution to cartography.



## Geological Surveying of Madagascar: an overview

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Investigations of the geology of Madagascar can be divided into the following three chronological phases:

1. The geological study of Madagascar was organized by French geologists until the early 1970s, based on the pioneering work on the mineralogy of Madagascar by Lacroix (1921–1923). Under the auspices of Henri Bésairie, the excellent work of the national Geological Survey in the routine geological mapping of the island resulted in a series of 1:100 000 geological maps and smaller scale compilations maps that included 1:500 000 maps of the whole Island (Bésairie, 1967–1970), as well as a 1:1000 000 national map (Bésairie, 1964). Their work was synthesized in three main publications (Bésairie, 1967–1970; Jourde, 1971 and Hottin, 1976). This primary geological surveying culminated in the national geological maps of Bésairie (1967–1970) and Hottin (1976) and a tectonic map on a scale of 1: 2 000 000 (Hottin, 1972).
2. Subsequent research from the mid-1990s, into specific aspects of the geology of Madagascar, included attempts to incorporate the known Precambrian-Cambrian geology of Madagascar into plate tectonic models, especially the break-up of Rodinia during the Neoproterozoic, and the later (Pan African) amalgamation of continents along the East African Orogen, to form Gondwana. The term ‘Pan African’ is restricted to the final collisional event across the East African Orogeny that helped to create the Gondwana Supercontinent. This polycyclic event took place between about 580 and 500 Ma.
3. The last re-surveying of Madagascar was primarily funded by the World Bank. It includes the acquisition and interpretation of airborne magnetic and radiometric surveys over half of the island, together with significant amounts of geological fieldwork, laboratory investigations and interpretation of satellite imagery. The high quality of the airborne magnetic and radiometric data shows major ‘late’ tectonic domains (e.g. major vertical shear zones, and domains characterised by interference fold patterns) as well as ‘late’ granitic plutons.

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## BOOK REVIEWS

**Lucero Morelos Rodriguez 2013. *Antonio del Castillo (1820-1885) and his contribution to the knowledge of the Earth sciences in nineteenth century Mexico*, Universidad Michoacana de San Nicolás de Hidalgo, 220 pp.**

This work is the result of a bachelor thesis in history. Its special feature is the analytical thoroughness in analysing publications and newspapers of the time. The book covers the development of the geological discipline, from the perspective of mining engineer Antonio del Castillo, who is considered the architect of institutionalization and professionalization of earth science in nineteenth century Mexico.

Lucero Rodriguez Morelos' research received recognition in 2008, when it was named the best thesis submitted, at bachelor, masters and doctoral levels, to the General Faculty of Humanities of the Universidad Michoacana de San Nicolas de Hidalgo, Morelia, Michoacan, Mexico. The book is organized into three chapters: The political, economic and scientific environment during the lifetime of Antonio del Castillo; his life and scientific work and his contribution to the institutionalization of Earth Science in Mexico.

Antonio del Castillo (1820-1895) graduated as mining engineer in 1845, in what was then the Royal School of Mines, founded in 1792. He was the first Professor of Geology at the National Museum and a founding member, in 1868, of the Mexican Society of Natural History. He taught at the National School of Engineers and fought for the foundation of the Geological Institute of Mexico, of which he became the first director, in 1891. He was also the founder of the Practical Schools of Mines in Fresnillo, Zacatecas (1853) and Pachuca, Hidalgo (1861). In addition he was director of the Coinage House.

Antonio del Castillo succeeded Professor Andrés Manuel del Río as lecturer in mineralogy, one of the most traditional and important positions, from the time of the founding of the Royal School of Mines. Like his predecessor, he held the lectureship for a lengthy time, from 1846 to 1891. He also lectured in chemistry, between 1880 and 1886, and established the Cabinet of Mineralogy, Geology and Paleontology, which came to hold the most complete collection of Mexican rocks and minerals.

The book addresses the stages in the intellectual development of Antonio del Castillo, in the College of Mining, later the National School of Engineers, and his unquestionable support of professional practice during the second half of the nineteenth century. Such support would later be identified with nationalistic politics of knowledge and expertise in geology, mineralogy, meteorology and paleontology, in aid of the development of Mexico. The administrative, academic and scientific work carried out by Antonio del Castillo, also shows the influence of his spiritual mentor, Andrés Manuel del Río. This resulted in him adopting an intellectual position aimed at the introduction and promotion of various currents of scientific thought into the country, which placed natural phenomena such as "complex systems relationships" apart from pure and objective descriptions.

The life and work of Antonio del Castillo in the nineteenth century, reflects the political life of the fledgling State and made him a direct participant in the cultural and scientific life of the Mexican Nation. These are key elements to an understanding of the processes of institutionalization of the education system and science in Mexico. This man of science devoted his best years and efforts to provide the country with scientific knowledge about the variety and richness of its natural resources. He shared ideas and projects with friends and colleagues, and he was the architect of different institutions and scientific associations of great importance in the history of the country.

Lucero Morelos' book is essential reading to gain an understanding of del Castillo's character, but also of the functioning of the scientific community he belonged to, and of his



relationships and cultural practices that consolidated the disciplinary project of geoscience in Mexico.

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**Acad. Yu. M. Pushcharovsky (ed) 2013. *GEOLOGIST, in capital letters: Milestones in the scientific achievements of Academician Viktor Efimovich Khain – a man of outstanding abilities*. Moscow, GEOS, 263 pp.**



Who was Academician Victor Khain: an outstanding geologist, a brilliant lecturer, an encyclopedist? None of these descriptions do justice to the greatness of this versatile man.

The book *Geologist, in capital letters...* is dedicated to Khain on the occasion of the centenary of his birth. It has been compiled by his friends, colleagues, and disciples. Among the 33 authors are: Yu. Pushcharovsky, E. Galimov, Yu. Leonov, M. Kamaletdinov, Yu. Morozov, N. Koronovsky and many others (including his granddaughters).

Each of the authors discovers something new about Khain, but literally all of them refer to his broad scientific knowledge, that made him one of the most erudite and outstanding of modern geologists. A man with a unique memory, who knew the world's geological literature better than others did, and had an "ability to rank and organize massive amounts of knowledge" (Pushcharovsky, p. 11).

Everyone emphasized that Khain obtained his information, not only from books, but also directly from the geological evidence. Everybody was also amazed by his broad interests, and his ability to do several things at once. His fruitful work was also admired by the authors of the book. Khain couldn't imagine himself without his daily work, which he carried on to the end of his life.

We, of course, will never forget this brilliant talent as a lecturer. His appearances "always without any notes, often extempore, he charmed the audience with his erudition and excellent speech" (Koronovsky, p. 75). He never repeated his lectures and always offered something new. His lectures on the history of geology covered the entire field of this discipline, as well as that of the 'founding fathers' of geology. "If you were standing in the hallway and had not yet entered the lecture room where Khain was speaking, you could hear his sprightly, young and energetic voice, and you would have found it hard to believe that the speaker was well past his 80<sup>th</sup> year" (Vishnevskaya, p. 137).

Khain left an enormous scientific legacy: more than 1,000 papers, including 60 fundamental monographs. His start in geology was very successful, and he became well-known for his studies on petroleum geology and the tectonics of the Caucasus, as well as the founding father of the geology in Azerbaijan.

His five-volume *Regional Geotectonics* is "a titanic feat of work <...>, which could have been produced only by Victor Efimovich with his knowledge of world literature" (Garetsky, p. 17). He was the author of numerous papers on general geology, the tectonics of the Arctic region, and the history of geology. He participated in international work on the compilation of tectonic maps of continents and of the world (Leonov, pp. 30-36).

Geology was the business of his life. But Khain was also interested in many other things – arts, literature, and politics. The experience of Khain and his colleague Garetsky at the meeting of the Subcommittee on the ‘Tectonic Map of the World’, in Paris (1978), prompted the latter to write: “all of the 12 days were so busy that we almost went without sleep, as we had to participate in many meetings < ..> and to read books of the Soviet dissidents at night <...>, it was a very dangerous time” (Garetsky, p. 19).

All contributors to the book unanimously agree that Khain was a noble, friendly and kind-hearted man and “modest beyond limits” (Chekhovich, p. 101). “What differentiated him from many of his colleagues was that he freely shared his knowledge with others” (Belov, p. 119). However, “while he had a kind and friendly nature, he was also a man of principle, when it came to defending his own views” ( Garetsky, p. 17). At the same time, “it did not matter to him to lose the argument, whether the discussion took place in the family or in academic circles” (Somin, p. 142).

There was one other important quality which Khain possessed: he was able to influence the lives of many people. “I am proud to say that he was my first teacher” ( Rustamov, p. 63 ); “during all the seven years of our cooperation, I was a his grateful and careful disciple and continued to learn from him at every one of our meetings” (Filatova, p. 124); “Victor Efimovich helped me to find my place in life” (Wierzbicki, p. 198).

The book ends with one of the last papers of Khain “Main trends in the modern geosciences”. The editors have appropriately named it the “address of Victor Khain”.

About 80 photographs allow us to get a feel of the atmosphere in the ‘time of Khain’. Most of the contents of the book are published for the first time.

The book, compiled by Yu. Puscharovsky and N. Filatova, is a genuine tribute from all of Khain’s admirers. But this work is to be continued, and it would be appropriate to write a special monograph about Victor E. Khain.

George P. Khomizuri (transl. by Ivan. P. Vtorov), Department for History, Vernadsky State Geological Museum, Russian Academy of Sciences, Moscow, Russia.

**Minina, E.L. 2013. *The mineralogical collection of Lidiya P. Prokhorova. (from the 19<sup>th</sup> to the beginning of the 20<sup>th</sup> century)*. Edited by I.G. Malakhova, Moscow: Oleabook, 144 pp. (in Russian).**



The book was published with the financial support of the Russian RosEnergobank which occupies offices in the former house of Lidiya P. Prokhorova.

The monograph presents an interesting and deep study of the collector and of one of the richest mineralogical collections, which takes pride of place among the scientific holdings of the Vernadsky State Geological Museum of the Russian Academy of Sciences. The investigation contains valuable new historiographical information about the life and activity of outstanding Russian geoscientists – academicians Vladimir Vernadsky, Alexander Fersman and some others.

The author paid great attention to the persona of the collector and creator of the mineralogical collection, Lidiya Prokhorova, who was the daughter and the wife of prominent Russian industrialists. We are presented

with the image of an amazing woman who could have satisfied her interest in gems by buying them. Instead of this she developed not only an interest in the gathering of rarities of the mineral kingdom, but also a thirst for an understanding of the foundations of mineralogical knowledge. The results of her work as a collector was of great interest to many Russian geologists and mineralogists.

Lidiya Prokhorova was one of the first female mineralogists in Russia, and has made a huge contribution to the study and conservation of mineral diversity.

The size of Prokhorova's collection amazes us. Brief descriptions of the samples take up dozens of pages of the book. Its content makes the collection widely accessible to both readers and researchers. The book is illustrated by numerous colour photos of mineral specimens.

This book is an excellent example of an extremely conscientious, deep and considerate attitude on the part of the writer, to the subject of her research.

Alexey Ievlev, Head of the A.A. Chernov Geological Museum, Syktyvkar, the Republic of Komi, Russia.

**Yushkin, N.P. 2013. *Essays about Scientists*. Ekaterinburg: UB RAS, 368 pp.**



It was with great interest that I read the book by Nickolay Pavlovich Yushkin, about different people, including his closest assistants and partners, who, one way or another, are connected with science, but mainly with geology.

I have known Yushkin for 40 years and for more than 33 of them I have worked in Syktyvkar: first as a post-graduate student and, later, as a researcher and doctoral candidate. Earlier, when still a student at Kazan University, I took part in Yushkin's expeditions to the Yugor Peninsula and to Voigach Island. I can therefore totally identify with the contents of the essays he devoted to his colleagues and other scientists. Many of the people Yushkin wrote about I knew personally and even worked with, at the Institute of Geology in Syktyvkar. But belonging to another generation I could not even image how

interesting, versatile, hard-working and determined these people were in their youth.

In the stories about his contemporaries, Yushkin gives examples of their teamwork, scientific creativity and their adventures. By his inclusion of autobiographical details in his essays, we gain a better understanding of Yushkin's own personality, as a well-known mineralogist and an academician of the Russian Academy of Sciences.

Most of all, I was impressed by the stories about Yushkin's youth and his meetings with well-known mineralogists and crystallographers, who influenced his philosophy and contributed to his professional growth. Some of these stories I have heard from the author myself.

To my mind the book *Ocherki ob uchenih* (*Essays about scientists*) will be of interest to many people and will especially be helpful to the young generation, who are just stepping on to the thorny path of scientific research work.

The respect and recognition of my mentor's merits have influenced my desire to give the name 'Yushkinite' to a new mineral I have discovered during exploration with Moscow mineralogists. Together with this book and his published scientific works, the naming of a mineral after him will help to keep him in our memories and will assure that his name lives on.

Alexander B. Makeyev, Institute of the Geology of Ore Deposits, Russian Academy of Sciences

**Wojcik Andrzej J. 2013. *Carta Geologica. Geological maps of the Polish Kingdom published in the years 1815-1915*. Catalogue Ed. Municipal Museum „Szttygarka”, Dabrowa Gornicza, 180 pp. Copies of colour maps, CD, (in Polish).**

The Polish Kingdom existed within the Russian Empire in the years 1815-1915. Its Capital was Warsaw, where the university with its Faculty of Geology and Mining Management were located. Several dozen geologists were active in these times. As far as geological cartography is concerned the most merited were: Stanislaw Staszic (geological map of central Europe, 1815; Georg G. Pusch (geological map and cross-sections, 1837); Ludwik Zejszner (unpublished map of southern territory, 1868); J. Hempel (map of coal basins, 1856); J. Trejdosiewicz (coal basins, 1880); J. Siemiradzki (total territory of the Kingdom, 1888) and others. Some of these maps were prepared after 1882, within the framework of European cartography.

The bibliography contains 230 references. Fifty of these are presented by the author in total or in fragments, in a special appendix. One of them contains facsimiles of papers on geologic cartography published in the 19<sup>th</sup> century.

The reviewed book presents the first detailed catalogue of maps published separately, as appendices or within text, in Poland. There are some notes on geologic cross sections, as part of individual maps and information on their reprints.

As in any first edition of such an important work, some insufficiencies may be pointed out. Its book's title should be "The Polish Kingdom in geological maps". Many of the maps registered refer to the whole of Europe and the data from other countries are compiled in character. Sometimes this is due to the effect of political circumstances at the time. So, for example, the well known German geologist, C. Oeyhausen, published a map in 1819 with the title "Geognostische Karte von Ober-Schlesien und den angränzenden Ländern", because this region was then part of Prussia. However, the present author has cited Staszic's map. Moreover, in the catalogue mention is made of such works as Ch. Lyell's "Map showing the extent of the surface in Europe....." published in 1833, which does not document his original investigations in the Polish Kingdom. For the readers not familiar with Slavonic languages, the author presented information on the transliteration of Russian texts using standards COST 16876-71. However, in the text information is often written in Polish phonetics. Despite the lack of an English summary, the catalogue notes are in their title part rather legible or easy to understand using a dictionary.

Summing up, the catalogue, elaborated by A.J. Wojcik, is a valuable attempt to present the problem in question. In a subsequent version it should be enriched in published cross-sections, as an important element of geologic cartography.

Zbigniew Wojcik, Warsaw and Wojciech Narebski, Cracow

***The history of the geographic and geologic sciences at Poznan University. Vol. 1 History, Vol. 2 Biographies. Editor: Poznan Scientific Society, 2012 (printed 2013), 468 + 281 pp. CD (in Polish) (Janusz Skoczylas was on the editorial board).***

After Poland regained its independence in 1918, three new universities were formed: the universities of Vilna and Poznan and the Mining Academy in Cracow. In 1915, the Russian universities in Warsaw became Polish. All of these universities had Faculties of Geography and Geology.

This book is, unquestionably, the most complete of historical monographs of the Polish universities published up till now and gives accounts of the interrelationship between the geological and geographical sciences. In the 19<sup>th</sup> century and at the turn of 19<sup>th</sup> and 20<sup>th</sup> centuries geologists started to investigate older basement complexes, whilst geographers concerned themselves with the Quaternary period. After WWII, this subdivision was considered to be artificial. Therefore, at the

Poznan University these sciences were incorporated into the Mathematic-Natural Faculty and later into that of Biology and Geosciences. Finally, in 1984, an independent Faculty of the Geographic and Geologic Sciences was formed.

J. Skoczylas and other geologists of Poznan University are the main authors of the book. The first chapter, by J. Skoczylas, is devoted to the geological sciences before this University was formed. The following chapters deal with the development of the geological sciences between 1919-1939, 1945-1951 and 1951-1984. In 1951, a significant number of scientific staff was moved to Warsaw. Later, teaching in all the branches of geosciences was gradually restored. The following authors describe the most important branches taught at Poznan University: J. Skoczylas – general geology, S. Lorenc and A. Muszynski – mineralogy and petrography, W. Stankowski – Cenozoic geology, J. Fedorowski – palaeontology and J. Gorski and J. Przybylek – hydrogeology. Moreover, lectures in the elements of geology were also given by local geographers, B. Nowaczyk (general geomorphology) and A. Karczewski and G. Rachlewicz (glacial geomorphology), as well as in the faculties of geocology, Quaternary paleogeography and others. The material presented is supported by an extensive bibliography.

The second volume is devoted to biographies of deceased academic teachers and honorary doctors of Poznan University. They are presented in chronologic groups, corresponding to the structure of this University. J. Skoczylas is the author of biographies of F. Chlapowski, W. Friedberg, K. Wojcik, B. Swiderski, A. Czekalska and W. Grocholski; J. Przybylek presents the CV's of E.W. Passendorfer; J. Golab and J. Fedorowki, those of M. Rozkowska and J. Glazek; S. Lorenc writes about K. Smulikowski and Z. Baranowski and R. Radaszewski about J. Liszkowski. In the category of honorary doctors the biographies of E. Romer, A. Jahn and J. Fedorowski are presented.

It is a pity that the Polish language of this monograph is limiting the recognition of the often significant achievements of Poznan geoscientists by foreign historians of science. It should be stressed that their studies were devoted not only to the Greater Poland region (Poznan is its capital), but also to other regions. Poznan geoscientists were very active in the study of polar region, particularly of Spitsbergen.

Zbigniew Wojcik, Warsaw and Wojciech Narebski, Cracow

**Nolden, Sascha and Nolden, Sandy 2011-2013. *Hochstetter Collection Basel. Part 1 – New Zealand Paintings & Drawings*, 69 pp. (2011) \$124. Part 2 – *New Zealand Photographs & Prints*, 213 pp. (2012) \$188. Part 3 – *New Zealand Maps & Sketches* 127 pp. (2013) \$162. Mente Corde Manu Publishing, PO Box 31792, Milford, Auckland. (mente.corde.manu@gmail.com)**

A lot of material pertaining to Ferdinand von Hochstetter (1829-1884), the “Father of New Zealand Geology”, is held in Europe. This includes an important archive, in the keeping of his descendants in Basel, which has been documented by Sascha Nolden, assisted by his brother Sandy. The Basel archive includes hundreds of images comprising paintings, drawings, maps, sketches and photographs dating from the mid- to the late-19<sup>th</sup> century. Much of the material was collected when Hochstetter, as a scientist with the Austrian Novara Expedition, was in New Zealand for nine months, from late 1858. However, there are also images that were sent to him after he returned to Vienna, where until his death he was director of the Natural History Museum. The Basel material has over the past three years been published in three attractive hard cover volumes. While the published images mostly relate to the parts of New Zealand which Hochstetter visited, namely the Auckland and Nelson provinces and the towns of New Plymouth and Wellington, there are a significant number from elsewhere in New Zealand.

This is the first time that most of this material has been published, although a selection has recently been included in *Travels of Hochstetter and Haast in New Zealand 1858-1860*, by Mike Johnston and Sascha Nolden, published in 2011. In addition, some of the images were used to produce illustrations in Hochstetter's published works on New Zealand, including *New Zealand* (1863 and 1867, German and English editions respectively) and the *Geology of New Zealand* (1864), the latter forming part of the official record of the Novara Expedition. Many of the images, including a number by Heaphy, Haast and Augustus Koch (1834-1901), were completed during Hochstetter's field trips and are thus of great historical importance.

Part One contains 43 paintings and sketches, the work of eight artists of which some, like Charles Heaphy (1820-1881) and Julius von Haast (1822-1887), are well known, but others less so. Heaphy was also adept at producing several copies of the same sketch, so that a number of similar images of particular scenes have been known for some time. Each image is accompanied by a caption, some in Hochstetter's own handwriting, and there are brief biographies of each artist, along with additional explanatory text.

Part Two has a similar layout but is considerably larger with nearly 200 images of which all but four, showing Auckland street scenes, are photographs. There are 18 photographers represented and, compared to Part One, details of the subject matter are more comprehensive. Many of the photographs are unique, whereas others were commercially produced so that other copies, albeit rare, are known. The subject matter includes the Taupo Volcanic Zone, the Southern Alps and their glaciers, towns and Maori culture. On Hochstetter's journey of explorations of the volcanic zone he was accompanied by a photographer, Bruno Lancel Hamel (c.1837-?), thereby making this one of the first expeditions in the world of which a photographic record was made.

The content of the final part of this series is more varied. In it, almost 100 illustrations are grouped, from north to south, according to the major regions of New Zealand. The only regions missing are those in the far south of the country, although the east coast of the North Island is barely represented. Except for a few maps and sketches by Heaphy, Haast, Koch and William Mein Smith (1799-1869), the images in this volume are all Hochstetter's own work. They convincingly demonstrate what a truly outstanding observer and geologist he was. As with the earlier parts there are succinct and clearly written supplementary notes.

Although the cost of these volumes may seem high, they are also art books printed to a very high standard and with an attractive layout. The reproduction of the images is superb, particularly the many that are in colour, and notations on maps and sketches are readily readable. Undoubtedly, much of the success of this project is due to the thorough research by Sascha and the excellent photography of his brother Sandy. The resulting *Hochstetter Collection Basel* provides a fascinating, and hitherto largely unseen, pictorial glimpse into colonial New Zealand. The combination of its scientific, historical and artistic content makes these three volumes a highly attractive addition to any bookshelf.

Mike Johnston, Nelson, New Zealand

**Gurka, Dezső (ed.), 2013. *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). Budapest: Gondolat Kiadó, 226 pp. (In Hungarian with English summary)**

In Hungary, a research team of philosophers and historians of literature is active studying the early development of natural sciences and their interaction with the philosophy of nature, especially around the German intellectual centres Jena and Weimar, at the end of the 18<sup>th</sup> and beginning of the 19<sup>th</sup> centuries. They focus especially on the teaching of the philosophers Kant, Fichte and Schelling and on the naturalists Alexander von Humboldt, Werner, Lenz and others. They are also concerned



with writers like Goethe and Novalis, who greatly influenced the literature of that time. The interests of these historians coincided with those of mineralogists and geologists who are studying the development of the principles of their disciplines. A special Hungarian connection arose from the fact that during this period a high number of Hungarian students visited Jena University, where they studied philosophy, theology, as well as mineralogy. These students participated in the scientific life in Saxony and, when returning home, introduced these ideas to their homeland.

The present book arose from a meeting of these specialists, held in 2012, in Szarvas, and coordinated by Dezső Gurka, Professor of the Szarvas Pedagogical High School. Before the publication of the book, D. Gurka, T. Valastyán and M. H. Kakucska gave three lectures at the Szarvas conference, which were also presented in a session of the History of Science Section of the Hungarian Geological Society, in Budapest.

The book starts with an introductory article by Attila Vörös, President of the Section of Earth Sciences of the Hungarian Academy of Sciences. He gives a historical overview of ideas about the Earth, including citations from the Bible, such as the first sentences of the Book of Genesis and the description of an earthquake in Psalm 114. His overview ends at about the end of the 19<sup>th</sup> century.

In the volume, three papers deal with the neptunism-vulcanism/plutonism debate, which dominated the geo-sciences for decades. The philosophical background of the controversy is characterized by Vera Békés. She points out that the common aspect of the two contrasting opinions was the search for natural causes of phenomena, instead of considering them as signs of supra-natural effects. Péter Rózsa describes the life and activity of the two main representatives of these schools: the German, Abraham Gottlob Werner, and the Scotsman, James Hutton. Mária Both shows that the first investigators of Hungarian geology, the English traveller Townson and the Hungarian botanist Kitaibel, were less fanatical followers of the neptunistic or vulcanistic ideas. In their interpretations of, for example, the possible volcanic nature of the Mátra Mountains in northern Hungary, they were governed not only by their theoretical background knowledge but also by their previous field experience.

Béla Mester emphasizes that an important peculiarity of mineralogy, its historical character, was recognized in the period studied. In this respect minerals can be considered as documents of the historical development of the inanimate nature.

The rapid development of the natural sciences ran parallel with the establishment of institutions. This was demonstrated by the rapid growth of geoscientific collections (Tibor Kecskeméti) and by the construction of an international system of geodesy (József Ádám) at that time. A milestone of the development of geological sciences was the formation of the first Mineralogical Society in Jena, in 1797. István Viczián demonstrates the importance of the participation of Hungarian members in the foundation of the society. The young Hungarian Count Domokos Teleki was its first president. Dezső Gurka shows that 12 Hungarian members gave lectures in the first years of the society's existence and that the majority of these lectures appeared in the Annals of the society. The most important of these was Sámuel Bodó, a follower of the philosophical ideas of Schelling. Another interesting Hungarian member of the society was Baron György I. Orczy. We do not know about his interest in minerals, but the secret freemasonic connections of the leaders of the society can be suspected by his involvement (Mária H. Kakucska).

In Hungary the growth of mineralogical interest coincides with the language reform movement at the turn of 18<sup>th</sup> and 19<sup>th</sup> centuries. This led to innovations in Hungarian mineralogical nomenclature and terminology, sometimes with artificially created and extreme new names. The balance between the new Hungarian names and the traditional international expressions reached equilibrium around the years 1850-1860 (Gábor Papp).

The growing interest in geological phenomena and changes in the philosophical perception of the nature had a strong effect on literature. Minerals appeared partly as objects of mythic beauty, as in the work of the German poet Novalis (Tamás Valastyán), partly as objects of magic power

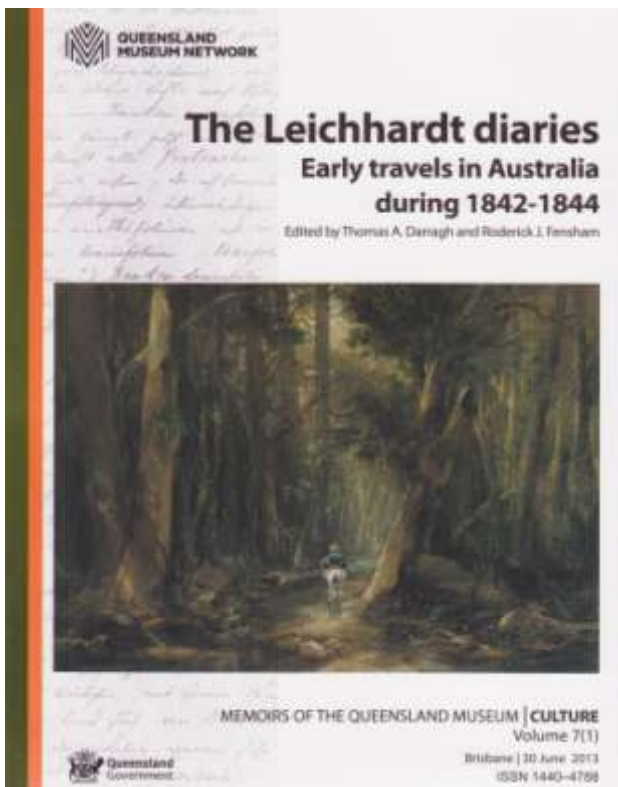


such as the “snake stones” in Hungarian folk lore, mentioned several times in the works of the great Hungarian novelist Jókai (József Háló). In the works of the Hungarian writers Kölcsey and Jókai the person of the mineralogist or geologist could take on an ambiguous character, sometimes portait as a mysterious man exploring the secret treasures of nature, sometimes as the hero of the modern, rational way of thinking (Piroska Balogh and Judith Bartha). Another rather practical connection between mineralogy and poetry lay in the need to write poems for festive events at the court of the Duke, who supported the activity of the Mineralogical Society in Jena (Benigna Carolin Kasztner).

The volume was presented to the public by István Viczián and Béla Mester in a session of the History of Science Section of the Hungarian Geological Society, in Budapest.

István Viczián, Budapest

**Darragh, T. A. Fensham, R. J. (eds.) 2013. *The Leichhardt Diaries: Early travels in Australia during 1842-1844*. Memoirs of the Queensland Museum – Culture, 7 (1), Brisbane, 540 pp.**



It seems extraordinary, considering the interest in Ludwig Leichhardt’s life and disappearance, and numerous publications on these topics, that these revealing diaries have remained relatively unexamined for nearly 170 years. The exceptions, of course, were historians Marcel Arousseau (*The Letters of F.W. Ludwig Leichhardt*, 3 vols, Hakluyt Society, Cambridge, 1968) and Colin Roderick, the latter, proclaiming his research, perhaps in a rather too self-congratulatory way, in his 1988 work *Leichhardt The Dauntless Explorer*, (Angus & Robertson, North Ryde) while, incidentally, essentially ignoring Leichhardt’s hard-won geological writings, notably the ‘*Beiträge...*’.

This was published through the efforts of William Nicholson and H. Girard by the Naturforschende Gesellschaft of Halle, in 1856, at the time of the publication by E.A. Zuchold of a biography of Leichhardt. The geology, written before 1845, was later translated into English by George Ulrich and published in the *Australian*

*Almanac* for 1867-68, as noted by Marcel Arousseau (see for instance his introduction, Arousseau 1968, vol. 1, xiii), and ignored for many years. Later researchers examining aspects of the diaries are Robert Sellick and Marlies Thiersch, who discussed them in Lamping, H. & Linke, M. (eds.) *Australia: Studies on the History of Discovery and Exploration (Frankfurter Wirtschafts- und Sozialgeographische Schriften, Heft 65, 1994, 139-148)*.

The present translation and editing by the joint authors, Darragh and Fensham, of these five diaries is a major triumph for them, and deserved praise must also to be given to the Queensland Museum which has produced a handsome, art-paper volume. A major feature for non-Germanic readers is the translation provided for the captions of the numerous sketches which adorn the pages of the diaries.

As one who glanced, uncounted years ago, at the originals in the Mitchell Library, in Sydney, and was 'terrified' by Leichhardt's 'Kurrent' (Gothic) German script, I have only praise for the perceptive and very readable translation the editors have produced, although the quality of Leichhardt's own prose surely contributed.

If anyone had doubts about Leichhardt's interest in and knowledge of geology, botany and zoology, they will be rapidly assuaged by these diaries. The self-assured young man, author of these pages, shows what I can only call an extraordinary knowledge, perhaps mastery of these subjects, even concerning earlier Australian research.

These published diaries cover Leichhardt's years in Sydney between 1<sup>st</sup> of April and 19<sup>th</sup> September 1842, then the period he spent in the Hunter region to March 1843, before continuing north through New England to Brisbane, and a little further north to Wide Bay, to July 1844.

In Sydney he had a brief 'lovesick' period, for Marianne Marlow, (there were a few other such 'European' interests at various times in his life) about which he writes quite frankly, as he does later about sexual matters among Europeans and Aborigines.

There are five diaries, (1<sup>st</sup>: 1 April – 27 December 1842, 106 pages; 2<sup>nd</sup>: 28 December 1842 – 24 July 1843, 157 pages; 3<sup>rd</sup>: 30 July – 26 November 1843, 97 pages; 4<sup>th</sup>: 23 November 1843 – March 1844; 5<sup>th</sup>: 8 April – 17 July 1844, 29 pages, with many original quick sketches of plants, geological exposures and topography.

The authors have provided five useful Appendices: 1- Geology terms used by Leichhardt, including some unusual ones ('thermantite' for one), but with one or two terms ('harmonophanistic') (p. 281), for instance, left partly to one's imagination; 2– brief biographies of most persons named in the diaries; 3 – co-ordinates of locations mentioned in the diaries, with 'modern variants' (more than 17 pages), useful for plotting Leichhardt's travels; 4 – Aboriginal names and words, an extensive list indeed, 32 pages in all; and 5 – a previously unpublished letter to the Archer family at Durundur, Queensland.

My only disappointment is the rather small map of the travels, which shows only a few of the many localities mentioned in the text. However, anyone diligent enough can locate much of Leichhardt's route on modern maps, using the details listed in Appendix 3 (see also the maps, particularly Figure 9 in volume 2 of *Leichhardt's Letters* (Hakluyt Society, 1968) which maps Marcel Arousseau called 'provisional', thanks to the then generally vague records of the boundaries of various pastoral 'holdings'). Arousseau noted that Leichhardt got a bit mixed in his naming of several New England rivers.

Leichhardt's interest in, and knowledge of geology, botany, and zoology is extraordinary, as is his interest in the world of the Aborigines, for whom he seems to have had strong sympathy. He certainly made considerable efforts to find the Aboriginal names for plants, animals and localities. In view of the considerable geological information recorded by Leichhardt, despite its uncertainty at times and his contacts with the Archer family at Durundur, just west of the Glasshouse Mountains, it is a pity that this information was almost certainly never passed on to the then Government Geological Surveyor, Samuel Stutchbury, when he travelled through much of the same region in Queensland, about ten years later. The Rev W.B. Clarke, a friend and supporter of Leichhardt, probably got to hear of at least some of the relevant geological studies.

The volume, all 540 pages of it, is packed with interest.

Overall, while this publication is an incomplete record of Leichhardt's travels in Australia, it essentially covers the breadth of his interests in Australian 'science'. Arousseau reminds us that "Leichhardt, as far as I know, never did a day's work for pay in his life; yet all his life he worked harder than do most of us, and he was a lonely spirit in everything he did in Australia". For instance, although E.M. Webster titles one of her Leichhardt works *An Explorer at Rest*, the story of Leichhardt's return trip to Sydney by ship after reaching Port Essington (1845-46), he was hardly resting, being very involved in drawing the maps of his exploration (10 sheets), to accompany about 400 pages of quarto text.

This fine volume leaves no doubt of the ability and quality of Leichhardt's contribution to a very broad spectrum of Australian science. I am delighted to have lived long enough to see Leichhardt's name and his achievements recognised and acclaimed in the last fifty years. Colin Roderick in 1988 briefly discussed the dismissive 'portrait' of Leichhardt written by Alec Chisholm, in his *Strange Journey* first published 1941, revised 1955, reprinted 1973, a volume which concentrated on John Gilbert rather than on Leichhardt. Roderick is generous in writing of such denigrating authors that these "Leichhardt's detractors have been portrayed as incorrigible villains rather than fallible human beings possessed of some admirable points". I note that my copy of *Strange Journey*, acquired in the 1970s, still retains an extra lurid dust jacket cover proclaiming: "It will provide the shock of their lives for those people who still believe the old myth that Leichhardt was a capable explorer", although this sentence, in quotes, is not attributed to any reviewer as far as I can see. Nevertheless such a statement might have had some influence on Russel Ward's ascerbic introduction to Daniel Bunce's *Travels with Dr. Leichhardt in Australia* (reprint 1979, first published 1859)]. However the volume under review clearly shows that the unidentified quotation above is just nonsense.

Of course, Leichhardt, like any human being, was far from perfect. There is a certain condescending tone at times in the diaries, when he has expected somewhat better treatment from pastoralists or their servants, many of the latter being illiterate, and he was clearly in his milieu among the educated and the well-off, but not always sympathetic to his fellow Germans, particularly the more rigid Lutheran pastors; however his feeling for the underdog generally prevails.

In relation to the Diary publication, and the possibly already published later Part 2: *The Leichhardt papers. Reflections on his life and legacy*, which I have not seen, readers of modern German might be interested in *Natur und Landschaft; in der Niederlausitz*, vol. 19 (196 pp.), issued by the Nature Conservation Society and Museum of Cottbus in 1998, commemorating Leichhardt's presumed death 150 years earlier. It is a handsome 196 page paperback issue devoted entirely to Leichhardt, with a fine, unattributed frontispiece portrait I have not previously seen. The volume is an intriguing melange, beginning with a 'research group' pondering the relationship between Humboldt and Leichhardt in a short verse play, which incorporates material derived from *Voss* (in English) by Patrick White. A few pages of fine photographs of an exhibition *Australia: the yearning and fate of Ludwig Leichhardt* held in Cottbus, September-October 1998 follow. There is a brief memorial of Leichhardt's first teacher, Ludwig Robelius.

A review of writings on Leichhardt in the 20<sup>th</sup> century, and Leichhardt the humanist 'conqueror of Australia', follow. A 42-page article by Bernd Marx, with numerous interesting photos, outlines Leichhardt's time in Australia, and another 20 page article, by geologist Rolf Striegler, with fine colour photos, plus an important stratigraphical section, tells of Leichhardt's geological researches around Newcastle. Botanist Ursula Striegler deals similarly with Leichhardt's botanical researches, again with fine photos, but the black and white illustration (p. 144) of the 'Beuple' nut and tree she attributes to an August 1843 page in a Leichhardt diary (Mitchell Library). However it appears in the Darragh and Fensham volume (p. 318) as a September 18 record!

The long search for Leichhardt, also by Bernd Marx, over many years, covers some fifty pages, including an interesting map, in the Cottbus volume, while Helmut Donner discusses F.A. Schmalfluss' nineteenth century part in keeping Leichhardt's heritage alive, and appends a biographical summary.

However, getting back to the primary review. Will Darragh and Fensham have the energy and support to work on other relatively unknown Leichhardt texts? I certainly hope so.

David Branagan, Sydney

**Baldwin, S.A 2013. *A Brief Bibliography of Sir Charles Lyell, FRS, Bt; Geologist*. Baldwin's Scientific Books, 36 pp. Available as a free pdf document by emailing [sbaldwin@fossilbooks.co.uk](mailto:sbaldwin@fossilbooks.co.uk)**



This 'brief' bibliography is much more than a list. Stuart Baldwin provides the publishing context of Lyell's numerous books with notes on editions, numbers published and descriptions of variants together with a listing of all of Lyell's articles, biographies of Lyell and scholarly articles discussing aspects of Lyell and his ideas. The author has delved into the John Murray (Lyell's publisher) archives and consulted leading scholars in preparing his commentaries. His familiarity with his own considerable Lyell collection and the many copies of Lyell's works that he has handled over the decades give substance and reliability to this work. Baldwin explains that this bibliography is brief in the sense that it is limited to publications of Lyell's works up to 1911 in the UK, and that subsequent reprints and translations are not included. The frontispiece is a colour portrait of a young-looking Lyell at age 43. The original, which I happen to know, was donated by the author and hangs in the Lyell room of the Geological Society. The short biographical introduction focuses on Lyell's publications in the context of other events in his life.

In Chapter 1, each of Lyell's books is described in terms of its appearance as published, and its significant revisions. The issue date, the number of volumes, the quantity printed and useful comments are tabulated for each edition of all his works. Numerous colour illustrations of embossed cover details reveal Lyell's input and help to tell quickly a book by its cover. For instance, Lyell's *Principles of Geology* went through 12 editions, each with significant revisions which effectively trace the progress of geological knowledge from 1830 to 1975. The component volumes were not always published in the same year, and the number of volumes varies with the edition. It is a bibliographer's nightmare to which the author has brought clarity and definition. The publication and revision histories of Lyell's other and later publications are not as complicated as that of *Principles*, but the benefit is still appreciable.

Chapter 2 lists all of Lyell's published papers, and notes where essentially the same article is published in more than one journal at approximately the same time. Excluding the latter, the prolific Lyell wrote 87 published papers and a further six jointly, a considerable number in addition to his books, lectures, GSL duties, correspondence and extensive travels. Chapter 3 covers biographies of Lyell and selected works with biographical content and runs to two pages. Chapter 4 lists selected articles, partly or entirely on Lyell and his ideas, including those found in journals and chapters within edited volumes ranging from Conybeare in 1830 to Fortey in 2011. As such, it includes much contemporary commentary as well as the historical view and runs to eight and a half pages.

Chapter 5, a single page, is a charming note on Arabella Buckley (1840-1929) who was Lyell's secretary and literary assistant from 1864 until his death. In addition to taking dictation for his correspondence, she drew illustrations, re-wrote passages, compiled tables and indices, précised new work and proof-read for him. She met the great and the good of science who visited Lyell and after his death became a science writer and populariser. It was the third edition of her *A Short History of Science* that was the young Baldwin's first serious book purchase and set his course.

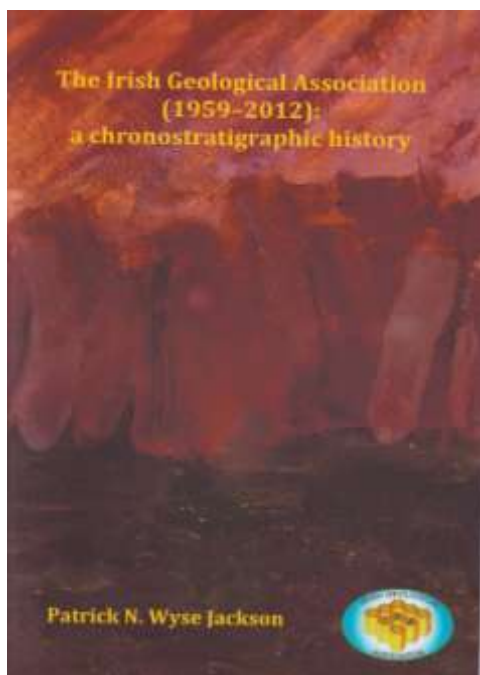
Finally the appendix outlines proposals for an expanded second edition – what will be included or what are under consideration for inclusion.

Baldwin's work will be an immensely valuable resource for scholars, bibliophiles, collectors and antiquarian book sellers. The author has made it available as a free pdf document which can be

obtained by emailing [sbaldwin@fossilbooks.co.uk](mailto:sbaldwin@fossilbooks.co.uk). Given the value of the content and the evident time and effort expended in its compilation and writing, this is a very generous offer.

John Henry, London

**Wyse Jackson, P. N. 2012. *The Irish Geological Association (1959-2012): a chronostratigraphic history*. Irish Geological Association, Dublin, 36 pp.**



Patrick Wyse Jackson provides the reader with an informative and, at times, entertaining account of the Irish Geological Association (IGA), since it was founded in Dublin, 1959. It was not the first geological organisation that had existed in Ireland. Its forerunners were the Geological Society of Dublin, established in 1831, which became the Royal Geological Society of Ireland, in 1864. Interest in geology seemed to wain in the country, leading to the demise of the RGS in 1894. A resurgence of interest and activity in the geological sciences led to the founding of the IGA, after an interval of 65 years. The declared aim of the new Association was “to promote interest in Irish geology in all its branches primarily through fieldwork”.

Wyse Jackson has chosen to tell the story of the Association in instalments, each covering a decade in time, from 1959 to 2009. The organisation’s membership was initially quite low and drawn mainly from a core of professional geologists and from students. With a growing interest in the country’s mineral resources and in geology in non-professional circles, numbers grew over the coming decades. What may surprise readers to learn is that in more recent years, in Wyse Jackson’s word, “IGA has moved away from its former academic-oriented base and has become an organisation that serves its amateur-dominated membership”.

True to its stated aim, with its emphasis on fieldwork, IGA offered few lectures to its members in its early years of its existence, but concentrated its activities mainly on the organisation of field excursions. In a manner that will be familiar to many of our older INHIGEO members, particularly those resident in Europe, participants travelled to the excursion area by public transport, alighted at the nearest railway station or bus stop, and walked the rest of the way. One of our Honorary Senior Members, Gordon Herries Davies, led one of these early excursions. Gradually over the years lecture programs were introduced, some of which toured the main population centres of the country.

The Association, from its early years, played a commendable role in providing geological education in schools, universities and to the general public. Its members engaged with teachers, provided teaching aids and, later, even grants to students. IGA also published a series of field guides.

The author concludes by stating that IGA has achieved a great deal in advancing geological knowledge and awareness. The reader of this booklet can only agree.

Wolf Mayer, Canberra



## COUNTRY REPORTS

### ARGENTINA

The most important activity on the history of geology that took place in Argentina during 2013 was the 3<sup>rd</sup> Argentinean Congress on the History of Geology (iicachgeo). The event was held in the city of Salta, northern Argentina, between August 29<sup>th</sup> and 31<sup>st</sup>, under the Presidency of R.N. Alonso.

This meeting was one of a series which began with the 1<sup>st</sup> and 2<sup>nd</sup> Congresses, organized respectively at Tucumán University (2007), by G. Aceñolaza, and at Buenos Aires University (2010), by G. Ottone. Works presented at these meetings were published in two special volumes by the “Instituto Superior de Correlación Geológica (INSUGEO)” (2008: Miscelánea 16) and the “Revista de la Asociación Geológica Argentina” (2010; vol. 68, 3). These congresses were initiated to offer the opportunity for specialists from Argentina, neighboring countries and from around the world to discuss the results of their research into various historical aspects of the history of geology. The next Congress will take place in La Plata, in 2016.

The iicachgeo Opening Ceremony was held on August 29<sup>th</sup> at the City of Salta’s Historical Town Council, in the presence of authorities from Salta National University. Scientific sessions continued there, and on August 30<sup>th</sup>, at the Uriburu Historical Museum. The Congress had about 50 participants, mostly from Argentina, but including a few representatives from Chile and Switzerland. Communications delivered during the sessions amounted to 24. Proceedings of the meeting were published as a book (Alonso, R.N., ed., 2013, *III Congreso Argentino de Historia de la Geología*, 248 pp., Mundo Gráfico Salta Editorial, Salta; free download from [http://www.insugeo.org.ar/novedades/iicachgeo\\_2013.pdf](http://www.insugeo.org.ar/novedades/iicachgeo_2013.pdf)), including 19 papers by 30 authors. The Congress was sponsored by the Salta National University, the National Research Council of Argentina, the High Institute of Geological Correlation (INSUGEO) of the Tucuman National University and the Province of Salta House of Representatives.

Presentations included a number of biographical accounts focused on geological contributions, e.g., by the geologists J.C. Turner (by R.N. Alonso), J. Keidel and A.L. du Toit (by V.A. Ramos), the paleobotanist H. Conwentz (by R. Herbst), the mineralogist E. Mórtola (by T. Montenegro & A. Concheyro), the naturalist J. Frenguelli (by A.C. Riccardi), and the member of the military M. J. Olascoaga (E.G. Ottone). The history of geological institutions was considered in relation to: the Geological and Mining Institute of Jujuy (by W. Chayle et al.), and its Italian geologists (by F.G. Aceñolaza), and the geologists that worked for the La Plata Museum (by C.A. Cingolani). The historical aspects of specific fields and/or areas were described with regard to, the mining history of the “La Carolina” gold district (by M.C. Gallard-Esquivel and A. Ortiz Suárez), the geology and hydrogeology of the Rio Medina Basin in Tucuman-Catamarca provinces (by N.H. Ramos), and the paleontological expeditions to collect fossils from the Santa Cruz Formation (Miocene) of Patagonia and the subsequent fate of the collected material (by S.F. Vizcaino et al.). Historical interpretations of some geological processes were presented on the origin of seismic activity, as understood by M. Dorlhiac in 1907 (by F. Hervé et al.), and on the 1861 earthquake that destroyed the city of Mendoza, as well as on the first interpretations of the “Campo del Cielo” meteorites (by J. Sellés Martínez).

Information submitted by the Argentinean Commission on the History of Geology

### ARMENIA

**Gourgen Malkhasyan** – Beside my normal activities in geophysics I was also busy working on the development of a geophysical map for one of the ore regions in Nagorno-Karabakh (electric and magnetic prospecting). The main aim of my work is to create a single database of both modern and

Soviet research works (though, in the case of the latter, documentary material is sometimes hard to find and can be difficult to interpret). Meanwhile, I continue working on recovering geophysical information of the territories of Nagorno-Karabakh, where, during the Soviet period, most geophysical records were held.

## AUSTRALIA

**David Branagan** – An invited interview was given on ABC Radio (12 January) on historical aspects of geological conservation.

An edited version of the *Field Guide for the History of Geology Field Trip (Sydney - Brisbane)* carried out in association with the 34th IGC meeting in Brisbane (2012) was produced as a DVD, in association with the ESHG of the Geological Society of Australia.

A brief notice was published (*The Australian Geologist*, March 2013) on the naming of Tenison Woods House, Australian Catholic University (North Sydney Campus) for the famous nineteenth - century clerical geologist.

A major study of the geology of the Jenolan Caves area, New South Wales, including an extensive historical review was presented (23 May) and later completed with two colleagues. This article is presently in press (Linnaean Society of New South Wales, 2014).

A letter discussing aspects of the history of the Snowy Mountains Scheme (Eastern Australia), in which I was briefly involved, was published in *TAG*, June, 2013, 10-11.

A half-day seminar and field excursion (26 August) was given on the Geology and History of Geology related to the study of the Lapstone Structural Complex at the Edmund Rice Centre, organised by Rev. Dr K. MacDonnell.

During 2013 presentations were given on aspects of the History of Geology, specifically Australian matters:

(1) Meeting of the Australasian Mining History Association (AMHA) at Beechworth, Victoria (October 2013), a review of the work of Uriah Dudley (ca. 1853- 1909), founder and first Secretary of the Australasian Institute of Mining Engineers (later Australasian Institute of Mining and Metallurgy)

(2) An illustrated talk was given to the Mapping Science Institute of Australia on the development of geological mapping (Sydney, October 24).

(3) A one-day seminar was given (5 November) at the University of Sydney to a visiting Chinese Geology-Mining group on the History of Australian Geology. All attending were supplied with DVD copies of the presentation.

A one-day field trip (2 November), was led, with several colleagues, to historical sites relevant to engineering and mining sites in the Newcastle region.

Work with two colleagues was completed on the translation, and commentary of the introductory Latin elegy, written by Adam Siber (1516 – 1584) for the Latin work *De Ortu et causis subterraneorum ...* by Georgius Agricola, first published in 1541, and not yet translated into English. This work has been accepted for publication by the Royal Society of New South Wales, in 2014.

Papers were completed on the Antarctic work of Carsten Borchgrevink and the Japanese Antarctic Expedition of 1911-12. The former work is now in press (*Earth Sciences History*). Several reviews were carried out at author's or editor's request on history of geology papers. A review of *Shaping a Nation: A Geology of Australia*, was published in *The Australian Geologist*, March, 2013. Editors of *TAG* (June 2013, 46!) noted an error and an important omission in this review.

An article on Hawkesbury Sandstone (*TAG*, September 2013, 25-28) relating to the Geological Society 'Australian National Rock Garden', in Canberra, Australian Capital Territory,



contains some historical material. Written contributions for a suitable caption for the Hawkesbury Sandstone block placed at the rock garden were made later.

**Barry Cooper** – remains fully occupied as Secretary- General of both INHIGEO and the Heritage Stone Task Group. He attended the 2013 INHIGEO conference in Manchester and gave a presentation on “A ‘sense of place’ in geology: the case history of four locations from South Australia”. Barry has plans to prepare this paper for publication. An obituary of local geologist, Silvia Whitehead 1921-2012, was prepared in co-ordination with R.K. Johns and C.R. Dalgarno and published in *The Australian Geologist* 166: 50. At year’s end Barry is working with David Branagan to prepare a long-promised review of the 25<sup>th</sup> International Geological Congress in Sydney, Australia, for publication in *Episodes*.

Contributions during 2013 with an historical and heritage stone emphasis include: The “Global Heritage Stone Resource”: Past, Present and Future. *Geophysical Research Abstracts* Vol. 15, EGU2013-1410-2, 2013, EGU General Assembly 2013. Portland Stone: A nomination for “Global Heritage Stone Resource” from the United Kingdom. *Episodes* 36: 221-226 (with T. Hughes, G.K. Lott & M.J. Poultney). The former publication, which is a historical review of the Global Heritage Stone Resource designation 2007-2013, will be published in an extended form in a coming Special Publication of the Geological Society of London, entitled “Global Heritage Stone: Towards international recognition of building and ornamental stones”, of which Barry is also co-editor.

Barry’s home city of Adelaide has also had a very active year in the history of geology. The locally based “History of Science, Technology and Ideas Group” continues to thrive with some meetings focussing on the history of geology. Barry is Vice-Chair of this group. A local branch of the “Australian Mining History Association” has also been established. The Royal Society of South Australia has published a 167-page Special Publication on “Charles Robert Darwin: His connection with South Australia”. Other significant history of geology publications that appeared during 2013 and relate to South Australia include:

#### Publications:

Kidman, B. 2013. Ralph Tate (1840–1901), Naturalist par excellence: Life and Work before Emigration to Australia. *Historical Records of Australian Science*, 24: 207–224.

McGowran, B. 2013. The scientific accomplishments of Reginald Claude Sprigg. *Transactions of the Royal Society of South Australia* 137: 1-52.

**Tom Darragh** – has been occupied with correcting proofs of the translation of the Leichhardt diaries, which were sent to the printer in late June. The diaries and the accompanying essays were launched on 22 October at the German Club, Brisbane. The transcription and translation of the five Australian diaries that Ludwig Leichhardt wrote in German started in 2005 so it is a great relief to see the project come to fruition. Copies can be obtained from the Roundhouse shop of the Queensland Museum. <http://www.shop.qm.qld.gov.au/theworkshops/books/the-leichhardt-diaries-vol-1.html> (See review in this volume, pp. 88-90)

Tom gave an address on 20 September at the launch of an exhibition of a series of natural history sketches from William Blandowski’s collections, held at Villa Caro, Gliwice, Poland. Gliwice (Gleiwitz) was Blandowski’s home town. The sketches are held in the Museum für Naturkunde, Berlin, and were exhibited for the first time outside Germany. Tom gave a paper on the scientific and cultural significance of Ludwig Leichhardt’s botanical collections at the Leichhardt Symposium held in Cottbus, Germany on 27-8 September. Tom is continuing with Leichhardt by transcribing some sections of Leichhardt’s European diaries.

## Publications:

- Darragh, T.A. 2013. Leichhardt as a geologist. *Memoirs of the Queensland Museum – Culture*, 7, 2, 575-597.
- Darragh, T.A. and Fensham, R.J. (Eds). 2013. The Leichhardt diaries: early travels in Australia during 1842-1844. *Memoirs of the Queensland Museum – Culture*, 7, 1, 540 pp.

**Ken McQueen** - was engaged in geological heritage activities within the Australian Capital Territory, providing advice and information on geological monuments in the Mount Ainslie and Mount Majura Nature Reserves. He also joined the Steering Committee for the National Rock Garden in the ACT, representing the Australian Institute of Geoscientists. Ken continued his mining history research and attended the 19<sup>th</sup> Australasian Mining History Conference held in September, in Beechworth, Victoria, where he presented a paper on pioneering developments in the mining and treatment of refractory gold ores in Victoria. He also participated in several excellent field trips to historic gold mining areas in north eastern Victoria. On the 5<sup>th</sup> April Ken presented an invited lecture on the history of mercury mining in Australia and New Zealand to the Mineralogical Society of New South Wales, at their annual general meeting. He reviewed the recent book ‘Boom’ by Malcolm Knox about the history of mining in Australia for *The Conversation*.

## Publications:

- McQueen, K.G., 2013. Victoria’s pioneering role in treating refractory gold ores. *Australasian Mining History Association 19<sup>th</sup> Annual Conference*, 28 September-4 October 2013, Beechworth, Victoria, Abstracts p. 20.
- McQueen, K.G. 2013. Geological Features. In: *Majura’s Treasures: A guide to interpreting the region’s heritage*. Conservation Council ACT Inc. Canberra, p. 10.
- McQueen, K.G. 2013. Book Review: ‘Mining: Our love and fear’. Review of ‘Boom’ by Malcolm Knox *The Conversation* <https://theconversation.com/mining-our-love-and-fear-18407>

**Wolf Mayer** – In his capacity as INHIGEO Editor, Wolf compiled, edited and distributed *INHIGEO Newsletter* No. 45 to all members. At the Manchester meeting he presented a talk titled, “Early European impressions of the Australian landscape and geology in art and literature”. He has continued his research on the scientific work of the French expedition of discovery to Australia, led by Nicolas Baudin, between 1801 and 1803.

Following his election as coordinator of the INHIGEO 50<sup>th</sup> Anniversary Project, which will mark the founding of the Commission at Yerevan, Armenia, in 1967, he commenced work on the planning a commemorative publication.

## Publications:

- Mayer, W. 2013. William Noel Benson (1885-1957): Insights into the life and work of an eminent geologist. *Earth Sciences History*, 32, 1, 55-85.
- Mayer, W. 2013. Book review: Kato, H., Inomata, M. and Suzuki, Y. (eds), *Visual images and geological concepts, Proceedings of INHIGEO 2011, Japan*. Japanese Association for the History of Geology, Tokyo, 223p. *INHIGEO Newsletter*, 45, 62-66.
- Mayer, W. 2013. Obituary: John George Martin Fuller (1926-2012). *INHIGEO Newsletter*, 45, 51-53.

**David Oldroyd** – attended the INHIGEO Meeting at Manchester and was co-leader of the post-conference “Ruskin’s Geology” excursion to the Lake District. At that meeting he gave a talk titled, “The geological maps of the world by Ami Boué (1843) and Jules Marcou (1861): the Australasian

portions”. David has submitted a paper based on this talk to a journal for consideration. He also has a large paper on early geological maps in press.

Last year David retired as editor of the journal *Earth Sciences History*, after the publication of volume 32. Number 1 of this volume contained articles based on many of the talks given at the INHIGEO meeting at Brisbane, in 2012.

(compiled by the editor)

**Susan Turner** – has had a 'gap' year but has tried to continue her research on the work of Thomas Sopwith. With Graham Carlisle, Independent Scholar, who serendipitously located a major original chart of Sopwith's on E-Bay in mid-2012, Sue wrote an article for *The Geoscientist*, entitled 'Sopwith's Surprise'. Sue, Graham and London-based mining geology historian, Dave Greenwood, then combined forces to make a presentation on Sopwith's work to ICHSTM 2013 at Manchester University, to which Graham brought the 1839 stratigraphical section and displayed it publicly for the first time in 150 years (as far as we know). Sue's lecture 'Thomas Sopwith's 1839 Great Strata Section: Cross Fell Mountain to Hownes Gill' was presented as part of S113, "Geologists in the Field"; S113-B: "The importance of place". Her talk made the front page of the last day's conference newsheet. See the demonstration on <http://www.flickr.com/photos/ichstm2013/with/9400788776/>

With colleague Joanne Wilkinson, of the Queensland Museum, Sue did some work on the history of vertebrate palaeontology collectors and collecting in the Pliocene of Queensland, which Jo presented as a talk to the 2013 CAVEPS meeting in Adelaide, in October.

Work on the Facebook page for the Thomas Sopwith Appreciation Society continues with nearly 100 likers: <https://www.facebook.com/ThomasSopwithAppreciationSociety>. Other Facebook pages include one for Friedrich & Erika von Huene (a Facebook page for people interested in this family at <https://www.facebook.com/FriedrichErikaVonHuene> and, in early November, a new one for Women in Geoscience, being prompted by the lack of any event on October 17th, supposedly International Day for Women in Geoscience, <https://www.facebook.com/WomeninGeoscience>. These venues allow her to continue research, particularly on women. One of these is Beverly Houston who prepared the first 'Geology of Brisbane' map. Having made contact with Bev, who retired some 30 years ago, Sue hopes to conduct an interview with her.

Sue has been English editor for the JHOST, chief editor Ana Carneiro, since 2012. This year she has helped with English editing of a forthcoming book: *European Universities, 19<sup>th</sup> and 20<sup>th</sup> centuries. History and Historiography*, edited by Ana Simões, Kostas Gavroglu, Maria Paula Diogo (Springer).

#### Publications:

Carlisle, G. & Turner, S. 2013. Sopwith's Surprise. *The Geoscientist*, March, 21-23  
<http://www.geolsoc.org.uk/en/Geoscientist>.

Turner, S. & Carlisle, G. 2013. Thomas Sopwith's 1839 Great Stratigraphic section. Handout poster.

Turner, S., Greenwood D. & Carlisle, G. 2013. Thomas Sopwith's 1839 Great Stratigraphic section.  
In: 24th ICSTM, Knowledge at Work, Manchester July 21-28, Abstracts, p. 275.

Wilkinson, J., Spring, K., Turner S., Dunn, T. and Louys, J. 2013. The Chinchilla Rifle Range Locality – honouring past collectors and presenting a new detailed digital map. CAVEPS Abstract, Flinders University, Adelaide, p. 89.

## AUSTRIA

### Report on the Austrian Working Group "History of Earth Sciences" (AWGHES)

In November, 2013, the annual meeting of the AWGHES was held in the Archive of Vienna University. The theme of the meeting was "Geology and Education". The lectures dealt with the

teaching of the Earth Sciences in various educational institutions and with permanent collections and their importance in supporting education in natural history. An additional topic dealt with PR-related activities, such as Geo-tourism. Biographical information on some important educators was presented in short talks and in posters. In addition, some participants presented their latest research results on a variety of general topics.

The next meeting of the AWGHES will be held on the 12<sup>th</sup> of December, 2014, in the Universalmuseum Joanneum, in Graz. It will celebrate the 15<sup>th</sup> anniversary of the founding of the working group.

Some members of the AWGHES participated in the 12<sup>th</sup> International ERBE-Symposium which took place from September, 30<sup>th</sup> to October, 4<sup>th</sup> 2013, in Bolzano (Italy). The symposium was dedicated to the millennia-old history of mining and metallurgical processing of ores in the Alps, but also worldwide, as well as to geo-scientific research in general. Special attention was paid to research on the analysis of historical sources and documents, but also to autographs and to existing buildings and utensils.

#### Publications of AWGHES members:

- Angetter, D., Hubmann, B., Seidl, J. 2013. Physicians and their contribution to the early history of Earth Sciences in Austria. In: Duffin C. J., R., Moody T. J. and Gardner-Thorpe, C. (eds), *A History of Geology and Medicine*. Geological Society Special Publication 375, London, pp.445-454.
- Angetter, D., Hubmann, B., Seidl, J. 2013. Geologie und Bildungswesen. 12<sup>th</sup> Wissenschaftshistorische Tagung der Österreichischen Arbeitsgruppe „Geschichte der Erdwissenschaften“, *Berichte der Geologischen Bundesanstalt*, 103, Wien, 107 pp. [Geology and education. 12<sup>th</sup> meeting of the Austrian Working Group "History of the Earth Sciences"].
- Baumarten, B., Kustatscher E., Hauser, Ch. (2013): 12<sup>th</sup> International Erbe Symposium Bozen/Bolzano Cultural Heritage Symposium in Geosciences, Mining and Metallurgy. Libraries – Archives – Collection. Abstract in: Das Kulturelle Erbe in den Montan- und Geowissenschaften Bibliotheken -Archive – Sammlungen, *Berichte der Geologischen Bundesanstalt*, 101, Wien, 151pp.
- Cernajsek, T. (2013): Biografische Materialien. Katharina Bukowska von Stolzenburg (1866 – 1936). In: *Berichte der Geologischen Bundesanstalt*, 98, Wien, 91 pp. [About biographical material of Catherine Bukowska of Stolzenburg (1866 - 1936)].
- Flügel, H. W., Johannes Seidl, J. (2013): Die Entdeckung des Tellurs, ein Beispiel für Wissenstransfer im 18. Jahrhundert. In: *Geohistorische Blätter* 23, 7-19, Berlin [The discovery of tellurium, an example of knowledge transfer in the 18th century].
- Häupl, I., Seidl, J. (2013): Werkverzeichnis von Ami Boué. In: Seidl, J. and Ende, A. (eds), *Ami Boué (1794-1881): Autobiographie (in deutscher Übersetzung) – Genealogie – Opus*. Unter Mitarbeit von Inge Häupler und Claudia Schweizer, 436-495, Melle [Catalog of publications by Ami Boué].
- Hubmann, B., Seidl, J. (2013): Carl Dieners Expedition in den Himalaya – ein internationales Forschungsprojekt aus dem Jahr 1892. In: *Mitteilungen der Österreichischen Geographischen Gesellschaft* 154, 322-334, Wien [Carl Diener's expedition to the Himalayas - an international research project from 1892].
- Hubman, B., Seidl, J. (2013): Der „steirische“ Geologe Artur Winkler-Hermaden: Biographische Skizze anlässlich seines 50. Todesjahres. In: *Mensch-Wissenschaft-Magie. Mitteilungen der österreichischen Gesellschaft für Wissenschaftsgeschichte*, 30, 157-187, Wien [The "Styrian" geologist Artur Winkler Hermaden: Biographical sketch on the occasion of his 50th anniversary of his death]
- Hubmann, B., Seidl, J. (2013): Zu Leben und Wirken eines österreichischen Pioniers der Grundgebirgsgeologie. Franz Eduard Suess (1867 bis 1941) zur 70. Wiederkehr seines Todestages. In: *Geohistorica*, 8, 14-22, Berlin [Biography and lifework of an Austrian pioneer of basement geology. Franz Eduard Suess (1867-1941) the 70th Anniversary of the anniversary of his death].
- Seidl, J. (2013): Zum Testament und zum wissenschaftlichen Nachlass von Ami Boué. In: Seidl, J. and

- Ende, A. (eds), *Ami Boué (1794-1881): Autobiographie (in deutscher Übersetzung) – Genealogie – Opus*. Unter Mitarbeit von Inge Häupler und Claudia Schweizer, 405-435, Melle [Testament and the scientific legacy of Ami Boué].
- Seidl, J. (2013): *Ami Boué (1794-1881). Autobiographie (in deutscher Übersetzung) – Genealogie – Opus*. Hrsg. gem. mit Angelika Ende; unter Mitarbeit von Inge Häupler und Claudia Schweizer. 569 pp, Melle [Autobiography (in German translation) - Genealogy - Opus].
- Svojtka, M. (2013): Der naturgeschichtliche Unterricht an der medicinisch-chirurgischen Josephs-Akademie (Josephinum) im Zeitraum von 1784 bis 1874. In: *Berichte der Geologischen Bundesanstalt*, 103, 85-95, Wien [Education in Natural History at the Joseph's Academy (Josephinum) for medicine and surgery during 1784-1874].
- Vavra, N. (2013): Leopold Schmid and Bachofen-Echt, two forgotten amber specialists from Austria: their studies and collections, 96 – 97. In: Kosmowska-Ceranowicz, B. (Ed.): *The International Amber Researcher Symposium. Amber. Deposits – Collections – The Market*, 138 pp., Gdańsk.
- Vavra, N. (2013): In memory of IBA'83 Vienna – 30 years ago ! In: *International Bryozoology Association Bulletin*, 9, 2, 12-13.

Daniela Angetter, Vienna

**Marianne Klemun** – In 2013 Marianne Klemun, together with Hubert Szemethy *et al.*, conceptualized and organized the exhibition “*Gelehrte Objekte – Wege zum Wissen*” [“Academic Objects – Pathways to Knowledge”] at the Volkskundemuseum in Vienna.

#### Publications:

- Szemethy, H., Klemun, M., Fuchs, M., Blakolmer, F. and Matthias Beitzl (Hrsg.) 2013. *Gelehrte Objekte – Wege zum Wissen*. Aus den Sammlungen der Historisch-Kulturwissenschaftlichen Fakultät (Kataloge des Österreichischen Museums für Volkskunde, 98).
- Klemun, M. 2013. Wissen im Gepäck?: Reisendes Bergpersonal zwischen den Bergbauorten in den habsburgischen Ländern (1765-1814) [Knowledge in the luggage: travelling miners and mining staff between different mining localities within the Habsburg territories ], In: Schleiff, H. und Konečný P. (eds) *Staat, Bergbau und Bergakademie. Montanexperten im 18. und frühen 19. Jahrhundert* [State, Mining and Mining Academy. Experts in Mining in the 18th and early 19th Centuries], hg. von (Vierteljahrsschrift für Sozial- und Wirtschaftsgeschichte – Beihefte, Stuttgart 2013, Bd. 223) 75-91.
- Klemun, M. 2013. ‘Living fossil’-‘fossilized life’? Reflections on biography in the history of science. *Earth Sciences History*, 32,121-131.
- Klemun, M. 2013. Erforschungsgeschichte: Ein Bergsturz im Wandel – gesehen aus unterschiedlichen Perspektiven und in diversen Kontexten [History of Exploration: A Landslide in Transformation]. In: *Natur & Mensch in der Schütt. Die Bergsturzlandschaft im Naturpark zwischen Dobratsch und Gail*. Naturwissenschaftlicher Verein für Kärnten, Klagenfurt 2013, 23-27.

#### Presentations at conferences and meetings:

- Klemun, M. 2013 (Keynote address). “Zeiträume: Vom Blick in die Tiefe zum Archiv der Erde“ [Time-spaces: from the view into the depths to the archive of the earth]“. *Tiefenzeit* [Deep time], Internationaler Nachwuchs-Workshop, Institut für Germanistik, Universität Wien.
- Klemun, M. 2013 (Keynote address). Historismus, interdisziplinär betrachtet: Praktiken – Episteme – Analogien [Historicism, an interdisciplinary approach: practices – epistemes – analogies]. *Wissenschaftspraxis in Österreich im 19. Jahrhundert: Interdisziplinäre Annäherungen*, Archiv der Universität Wien.
- Klemun, M. 2013. Geologenhammer – zur Geschichte eines „fossilen“ Werkzeugs, Equipments, Instruments und Zeichens [The geologist’s hammer – a history of a fossil

tool, equipment, instrument and symbol]. Geologische Bundesanstalt, Wien.

- Klemun, M. 2013. Instruments scientifiques et cognition: le cas du marteau du géologue [Scientific Instruments and cognition: The case of the geologist's hammer], à: *Biologie et société. Séminaire 2013-2014. Sciences cognitives, neurosciences et sciences sociales*, Maison des Sciences de L'Homme, Research Centre for Arts and Languages (EHES) /École des hautes études en sciences sociales, Paris.
- Klemun, M. 2013. Administering science: the paper form of scientific practice, and of geological fieldwork. Symposium Geologists in the field, 24<sup>th</sup> International Congress of the History of Science, Technology and Medicine: *Knowledge at work*, Manchester (UK), 26.
- Klemun, M. 2013. Erkenntnisinstrument Reisen: Reflexionen zu einem komplexen Phänomen [Travelling as Instruments of Recognition: Reflections on a complex phenomenon] *Erkunden, Sammeln, Notieren und Vermitteln – Wissenschaft im Gepäck von Handelsleuten, Diplomaten und Missionaren*. Europäische Wissenschaftsbeziehungen 7, org. von der Akademie Gemeinnützigler Wiss. zu Erfurt, Österr. Ges. für Wissenschaftsgeschichte und Fakultätszentrum Biodiversität, botanischer Garten und Archiv der Universität Wien, 2- 4 May 2013, Archiv der Universität Wien.
- Klemun, M. 2013. Erste naturgeschichtliche Sammlungen an der Wiener Universität im 18. Jahrhundert und die „Schulung der Einbildungskraft durch Naturkunde.“ [First natural collections at the University of Vienna and the training of the imagination through natural history]. *12. Internationales Symposium, Das kulturelle Erbe in den Geowissenschaften, im Bergbau und der Metallurgie. Bibliotheken – Archive – Sammlungen*. Bozen, Naturmuseum Südtirol, Museo Scienze Naturali alto adige, Museum Natora Südtirol.
- Klemun, M. 2013. Johann Christian Polykarp Erxlebens Lehrbuch „Anfangsgründe der Naturlehre“ – „wahres Compendium“ und kein „Register über die bekannten natürlichen Körper“? [J. Chr. P. Erxleben's handbook "Foundations of the Study of 'Naturlehre'" – "true compendium" and not a "register of known natural bodies"]. *12<sup>th</sup> Tagung der Österreichischen Arbeitsgruppe „Geschichte der Erdwissenschaften“: Geologie und Bildungswesen*, Festsaal des Archivs der Universität Wien.

**Johannes Mattes** – In 2013, Johannes completed and successfully defended his PhD thesis *Travelling into the Underground. A Cultural History of Speleology in Austria from Ancient Times to 1918 in an international context*, at the University of Vienna.

As co-editor of the peer-reviewed journal *Die Höhle. Zeitschrift für Karst- und Höhlenkunde* [Journal on Karst and Speleology], Johannes supported the publication of several articles on the history of geology.

#### Publications:

- Mattes, J. 2013. Alexander von Mörk and Poldi Fuhrich: The Conception of Heroes in Cave Exploration in the Early Twentieth Century. *Earth Sciences History*, 32, 132-149.
- Mattes, J. 2013. Giving us an Identity – The Construction of Memory in the History of Speleology. *Proceedings of the 16th International Congress of Speleology*, Brno, 1, 75-80.
- Mattes, J. 2013. Unter der Haut der Erde. Geschlechter- und Körperbilder des Unterirdischen von der Antike bis ins 20. Jahrhundert [Under the Skin of the Earth. Images of Body and Gender related to the underground from Ancient Times to the 20<sup>th</sup> Century]. *Mitteilungen des Verbands deutscher Karst- und Höhlenforscher*, 59, 2, 60-68.
- Mattes, J. 2013. Die Vermessung des Erdinneren – eine Geschichte der Höhlenforschung in Österreich vom 19. Jahrhundert bis zum Beginn der Ersten Republik [Surveying the interior of the Earth – a History of Speleology in Austria from 1800 to 1918]. *Mitteilungen der Österreichischen Gesellschaft für Wissenschaftsgeschichte*, 29, 107-132.

#### Presentations at conferences and meetings:

- Mattes, J. 2013. Giving us Identity – The Construction of Memory in the History of Speleology.

*Symposium History of Speleology. 16<sup>th</sup> International Congress of Speleology: Where History meets the Future*, organized by the International Union of Speleology in Brno (CZ).

- Mattes, J. 2013. Fieldwork in the Underground: Cave Cartography and Surveying Instruments at the beginning of the 20<sup>th</sup> Century. Symposium Geologists in the field. 24<sup>th</sup> International Congress of History of Science, Technology and Medicine: *Knowledge at work*, Manchester (UK).
- Mattes, J. 2013. Eine Forschungsgeschichte der Gassel-Tropfsteinhöhle in Ebensee seit 1918. Mikrohistorische Untersuchungen. [A History of the researches in the cave „Gassel-Tropfsteinhöhle“ in Ebensee (Upper Austria) since 1918. Studies in Microhistory]. *Klub Logischer Denker in Vienna* (A).

#### **Claudia Schweizer – Publications:**

- Schweizer, C. 2013. Ami Boués Reise in die Europäische Türkei in den Jahren 1836, 1837 und 1838 im Spiegel kulturräumlicher Aspekte: Erkenntnisgewinnung oder Interpretation? *Mensch, Wissenschaft, Magie. Mitteilungen der Österreichischen Gesellschaft für Wissenschaftsgeschichte*, 30, pp. 95-110.
- Schweizer, C. 2013. Ami Boués Beziehung zur Mineralogie in Verbindung zu seiner geologischen Forschung, *Geohistorische Blätter*, 23, pp. 71-83.

### **BELARUS**

In 2013, three important birthdays of eminent Belarusian geologists were celebrated.

Professor Alexei Matveyev, academician of the Academy of Sciences of Belarus, Doctor of Geological Sciences, and recipient of the State Prize of Belarus, celebrated his 75<sup>th</sup> birthday. He graduated from the Belarusian State University (1960), with a PhD, in 1966. In 1969 he became Head of the department of Quaternary geology. He was awarded a DSc. in 1975. The results of his thesis were published in the monograph *The glacial formation of the Anthropogene of Belarus*. In the Institute of Geology of the Belarusian Academy of Sciences Matveyev set up a landscape dynamics laboratory and published a number of monographs. From 1993 to 1998 Matveyev led the Institute of Geological Sciences of Belarus; in 1995 he became a member of the New York Academy, and in 1996-1997 he was voted ‘Man of the Year’ by the American Biographical Institute. He is the author of 400 publications, including 23 monographs and books.

Professor Roman Aizberg has turned 80. He is Doctor of Geological Sciences, Laureate of the State Prize of Belarus and a corresponding member of the Academy of Sciences of Belarus. After graduating from Novocherkassk Polytechnic Institute he worked first in Turkmenistan and since 1965, in Belarus. In the years 1972-1974, together with Academician Garetsky, Aizberg created tectonic maps of Belarus and adjacent territories on a scale of 1:500 000. In 1978, at Moscow University, Aizberg defended his doctoral dissertation on *Structures and formations of the cover of the western part of the Russian plate and their evolution*. In 1980-1984 he worked with a group of Soviet geologists in the Central Geological Institute of Germany (Berlin). Since the 1990s, Aizberg’s research has been focused on aspects of seismotectonics and neogeodynamics of the western part of the East European Platform, the results of which have been published in a number of monographs. The crucial part of his research in Belarus is related to the study of the country’s oil and gas potential. Aizberg is an active participant in research on several major international scientific projects, such as ‘Eurobrige’ and the ‘Neogeodynamics of the Baltic Sea depression and contiguous areas’, etc. He is the author of more than 400 published scientific works, including 26 monographs.

Professor Radim Garetski has celebrated his 85<sup>th</sup> birthday. He is a Doctor of Geology, an honored scientist of Belarus, academician of the National Academy of Sciences of Belarus, foreign member of the Russian Academy of Sciences (1994) and a member of the American Geophysical Union (1996). He was awarded the State Prize of the USSR (1969) and of Belarus (1978). Garetski is the founder of the Belarusian School of Tectonics. After graduating from the Moscow Oil and



Gas Academy, Garetski worked at the Geological Institute of the Academy of Sciences of the USSR, and later at the Institute of Geological Sciences, National Academy of Sciences, which he headed from 1972 to 1993. In 1992-1997 he was Vice-President of the National Academy of Sciences of Belarus. Garetski was one of the creators of the tectonic maps of Eurasia, Belarus, and the north western edge of the East European Platform. He was also the president of the Belarusian Geological Society and editor of the journal *Lithosphere*. Several species of fossils were named after him. Garetski is an active public figure with a great interest in the revival of national culture. In the 1990s Garetski participated in large international research projects, which brought together geologists from several European countries. For example, in 1993, during the UNESCO General Conference in Paris, Garetski proposed a comprehensive study of the recent geodynamics of Central Europe, in connection with research into the origin of the basin of the Baltic Sea (Special project number 346 of the International Program; led by Garetski and G. Schwab from Germany). In the years between 1994 and 1998 geologists from Belarus, Germany, Denmark, Lithuania, Latvia, Poland, Russia and the Ukraine worked on this project.

He has many research students – 28 geologists under his supervision defended masters' and doctoral theses.

An outstanding specialist in the field of geology and petrology of the Precambrian, Nina Aksamentova, passed away in 2013. She was the author of over 175 scientific articles, 11 books and three geological maps. Her articles and monographs, with their characteristically clear statements of the facts and interpretation, have been of great importance to several generations of geologists.

Valeri Ermolenko, Minsk

## BRAZIL

**Pedro Wagner Gonçalves** –

Publication:

Gonçalves, P. W., Sicca, N. A.L., Fernandes, M. C. da Silveira Galan, Alves, Maurílio A.R. and Fernandes, S. A. de Sousa 2013. Conception of nature and plate tectonics: which are their interrelations? *IX National Meeting for Research of Science Education*. Águas de Lindóia, SP, Brazil.

## BULGARIA

**Platon Tchoumatchenco** – is a retired Bulgarian geologist of Russian origin. The principal work carried out by myself and my fellow INHIGEO member **Bozhidar Mavrudchiev**, in the area of the history of geology, is concerned with the writing of biographies of Russian geologists who have worked in different counties around the world. We have prepared 700 pages of text, in Russian, containing biographical entries of about 400 Russian geologists. We have identified a further 200 persons in this category, about whom we have little information. Due to a lack of financial support, our work has not so far been published.

We have however started to publish selected parts of this material in 'local' languages, e.g., a paper about geologists of Russian origin in Bulgaria. (This publication has also been issued in Russian and Serbian). In December 2013, we presented a paper at a conference in Paris about geologists of Russian origin, who had worked in former French colonies as well as in France. This paper will be published in French in a western European Journal. We also intend to prepare for publication a work about geologists of Russian origin, who worked in English-speaking countries – Canada, USA, Australia, New Zealand, etc., about 160-170 pages in length, for which we are seeking a publisher.

## Publications:

- Editors of *Geologica Balcanica*, 2012. 75<sup>th</sup> Anniversary of Ivan Zagorchev – Corresponding Member of the Bulgarian Academy of Sciences, Editor-in-Chief of the *Geologica Balcanica* (1990-2008). *Geologica Balcanica*, 41, 1-3; 111-113.
- Koleva P. 2005. Stefan Bonchev. In: April Sky, *Bulgarian Encyclopaedia*, Bulgarian Academy of Sciences; p.1 (in Bulgarian).
- Kostov R., Bratanova F. 2013. *Academician Ivan Kostov. Planetary Impressions. – A Life dedicated to Science*, Marin Drinov Academic Publishing House, Sofia; 138 p. (in Bulgarian).
- Nikolov T. 2004. Ami Boué and George Zlatarski – two stars in the sky of Bulgarian geology. *Review of the Bulgarian Geological Society*, 65, 1-3; 5-18 (in Bulgarian).
- Nikolov T. and Mavrudchiev B. 2005. 80<sup>th</sup> Anniversary of the Bulgarian Geological Society – a remarkable history. *Review of the Bulgarian Geological Society*, 66, 1-3; 23-34 (in Bulgarian).
- Mavrudchiev B. 2005. Ivan Kostov. *Ann. Sofia University, GGF, 1, Geology*, 97; 5-33 (in Bulgarian).
- Mavrudchiev B. 2005. *Pages of the Calendar of Bulgarian geology (1828-2005)*. Bulgarian Geological Society; 135 p. (in Bulgarian).
- Mavrudchiev B. 2006. G. Bonchev – life and creative works (1866-1955). *Review of the Bulgarian Geological Society*, 67, 1-3; 159-165 (in Bulgarian).
- Mavrudchiev B. 2007. The contribution of Tz. Dimitrov in the area of metamorphism, metasomatism and metallogeny in Bulgaria. *Ann. Sofia University, GGF, 99, 1, Geology*, 103-120 (in Bulgarian).
- Mavrudchiev B. 2008. Memoirs of the well-known Bulgarian scientists/mineralogists Ivan Kostov Nikolov (1913-2004); Veselina Vassileva Breskovska (1928-1997) and Yordanka Mincheva-Stefanova (1923-2007). *Review of the Bulgarian Geological Society*, 69, 1-3; 107-117 (in Bulgarian).
- Mavrudchiev B. 2008. Ivan Assenov Velinov (1932 – 2008). *Review of the Bulgarian Geological Society*, 69, 1-3; 157-159 (in Bulgarian).
- Mavrudchiev B. 2008. Ivan Kolev Bonev (25.10.1932 – 29.09.2008). *Review of the Bulgarian Geological Society*, 69, 1-3; 155-157 (in Bulgarian).
- Mavrudchiev B. 2010. Vilko Nikolov Gergelchev – 75 years. *Nauka*, 5; 62-63 (in Bulgarian).
- Mavrudchiev B. 2011. Dimcho Jossifov – 80 years. In: Balance. – *NTS mining, geology and metallurgy*; 12-15 (in Bulgarian).
- Mavrudchiev B. 2011. The life of Todor Nikolov. *Journal of BAS, CXXIV*, 3; 80-83 (in Bulgarian).
- Mavrudchiev B. 2012. T. Nikolov – one of the builders of Bulgarian geology. In: *Scientific conference: 80<sup>th</sup> anniversary of T. Nikolov and Veliko Tirnovo*, 2011; 35-60 (in Bulgarian).
- Mavrudchiev B. 2013. Ivan Kostov. In: R. Kostov and P. Lazarova (contributors): Academician Ivan Kostov (1913-2004). Poetry, design – aquarelles; Sofia, *Club of young scientists*, 1-2 (in Bulgarian).
- Mavrudchiev B., Djurova E. 2005. Boyan Alexiev Stoyanov – 80 years old. *Ann. Sofia University, GGF, 1, Geology*, 98; 5-33 (in Bulgarian).
- Mavrudchiev B., Kunov A. 2008. Ivan A. Velinov (1932-2008). *Review of the Bulgarian Geological Society*, 69, 1-3; 157-159.
- Mavrudchiev B., Nikolov T. 2009. Str. Dimitrov – Eminent Bulgarian geologist. – *Nauka*, XIX, 4; 73-76.
- Mavrudchiev B., Nikolov T. 2009. Str. Dimitrov – great Bulgarian geologist and petrologist. *Hommo sapiens*; 3, 3; 12.
- Stavrakieva D. 2004. In Memoriam – Ivan Kostov (1913 – 2004). *Review of the Bulgarian Geological Society*, 65, 1-3; 211- 213 (in Bulgarian).
- Tchoumatchenco P., Dietl O., Petrussenko S., Yanev Y., Dimov G., Lissenko-Chehlarova I. 2012. Bulgarian geologists of Russian origin. *Bulgarian Geological Society, “Geosciences 2012”*, p. 159-160, (in Bulgarian).
- Tchoumatchenco P., Dietl O., Durand Delga M., Wiazemsky M. 2013. Geologists of Russian origin in the francophones countries. Les géologues d’origine russe dans les pays francophones. – Hommage au Professeur Michel Durand Delga – Journées scientifiques, Mardi 3 et Mercredi 4 décembre 2013, SGFrance, *COFRHIGEO*, p. 50 (Abstract) (in French).
- Tchoumatchenco P., Petrussenko S., Lissenko-Chehlarova I. 2013. Bulgarian geologists

of White Emigrant origin. In: V.V. Tchoumatchenko, P. V. Tchoumatchenco, S. Rozhkov (eds) *The White Emigrants in Bulgaria: Souvenirs*. Russian Academy Union in Bulgaria, Representation of the Rossotrudnichestva v Bulgaria., Moscow, Synergy, 385-411 (in Russian).

Tchoumatchenco P., Petrussenko S., Yanev Y., Dimov G., Lissenko-Chehlarova I. 2012.

Bulgarian geologists of Russian origin. *Review of the Bulgarian Geological Society*, 73, 1-3; 127-141 (in Bulgarian).

Tchoumatchenco P., Petrussenko S., Yanev Y., Dimov G., Lissenko-Chehlarova I. 2013. Bulgarian geologists of Russian origin. - Representation of the Rossotrudnichestva v Bulgaria, Russian Academy Union in Bulgaria, *Bulgarian Geological Society*, Sofia, 74 p. (in Russian).

## CANADA

**Ian Brookes** – I am currently revising a lengthy manuscript titled “Early Contributions to the Surficial Geology and Geomorphology of Canada, 1820-1920” for *Earth Science Reviews*, and have submitted a manuscript to *Geoscience Canada* titled “All that Glitters ... The Financial and Scientific Ambitions of Robert Bell at the Geological Survey of Canada”.

Members might be interested to know of an exhibition now showing at the National Gallery of Canada (in Ottawa) ([www.nationalgallery.ca](http://www.nationalgallery.ca)) of the artistic works of John Ruskin, including works illustrating geological features.

**Keynyn Brysse** – I did not have any paper publications or conference presentations in 2013. I continue to work at the University of Alberta, in the Science, Technology & Society Program within the Office of Interdisciplinary Studies, as a Killam Post-doctoral Fellow. I'm studying the reactions of (primarily vertebrate) palaeontologists to the 1980 Alvarez impact hypothesis and their role(s) within the subsequent interdisciplinary mass extinction debates. The outcome of this project will be a series of academic articles and (ideally) a book.

**Ernst Hamm** – In 2013 I enjoyed teaching a graduate seminar entitled “Earth, Time and History.” It was rewarding, after quite a few years of teaching many aspects of the history of science, to have the opportunity to teach a graduate-level course in the history of the Earth sciences. In June 2013 I had the pleasure of doing a geo-historical excursion in the Harz Mountains of Germany, accompanied by historian of science Andre Wakefield (Pitzer College, California), who has written widely on Leibniz’s theory of the earth and the history of mining in early modern Germany, Germanist and Goethe scholar Mario KumeKawa (Keio University, Tokyo) and historian of medicine Andrew Mendelsohn (University of London). Our aim was to examine, on foot when we could, sites of fundamental importance for the development of Leibniz’s and Goethe’s understanding of the earth and its history. We tramped through forests, hiked up mountains, descended into historic mines and enjoyed the storied landscapes and culture of the Harz. Later in the summer I had the pleasure of participating in another memorable geo-historical excursion, this one under the auspices of INHIGEO and HOGG (History of Geology Group, The Geological Society). Our incomparable guides, Martin Rudwick and Hugh Torrens, helped us see and experience “The Silurian of Siluria” and to enjoy the beauty of Shropshire, England. Following the field trip I presented a paper on geology and the work of the romantic painter Caspar David Friedrich, this as a part of the INHIGEO/ICHSTM meeting in Manchester, England.

**Gerard Middleton** – Last year marked a transition for me: my health has declined to the point where I now have to use a walker, and my wife and I have just moved out of our house into an apartment (the address is given below, email and telephone remain the same). In the process of moving I had to discard most of my files related to the history of geology and old stone buildings in Ontario. One last article was published online at *Raise the Hammer:*

Middleton, G.V. 2013. Chert in Southern Ontario: Its use in tools, millstones and as a building stone.  
*Arts and Architecture, Raise the Hammer.*

Gerard (Gerry) V. Middleton 210--980 Golf Links Rd, Ancaster, ON L9K 1J8 Canada

**Randall Miller** – Geoheritage continued to develop in the Atlantic Region of eastern Canada in 2013, in part due to the efforts of the Atlantic Geoscience Society. The Society has been engaged in geoheritage since its beginning in 1972. At the Atlantic Geoscience Society's 39th Colloquium, held in Dartmouth, Nova Scotia (February 1-2, 2013), Dr. John Calder organized a geoheritage symposium that filled the meeting room. Dr. Calder, a Senior Geologist in the Nova Scotia Department of Natural Resources, is known to many in the geoheritage community for his involvement in moving the Joggins Fossil Cliffs to UNESCO World Heritage status. Papers presented during the session included: The role of geology in the development of the International Appalachian Trail (Walter A. Anderson *et al.*); Recognition of geoheritage: a vital bridge between geoscientists and the public (John Calder); The geological collections of Dr. Abraham Gesner (1797-1864) (Randall Miller and Diane Buhay, 2013); and Geoheritage as permanent geoscience outreach (Howard Donohoe). In another session geoheritage appeared in a lecture titled: Burning rocks: the history of the petroleum industry in Canada and the Maritimes, by Grant Wach. Abstracts are accessible through *Atlantic Geology* the journal of the Society: <http://journals.hil.unb.ca/index.php/ag>

During a panel discussion at the end of the session Calder and participants were able to talk about many topics including the development of geoheritage sites in Nova Scotia and the process of compiling a list of geoheritage sites. With International Appalachian Trail members present, and Joggins Fossil Cliffs (Nova Scotia) and Stonehammer Geopark (New Brunswick) represented, there was a wide range of topics covered.

Plans to host the 6th International UNESCO Global Geoparks Conference in September 2014 in Stonehammer Geopark continued to develop during the year. The program is available to view at: [www.geoparks2014.com/main.html](http://www.geoparks2014.com/main.html). It is shaping up to be a very full program with Global Geopark Network (GGN) representatives from the Americas, Europe, Asia and Africa expected to be in attendance. Having the meeting in Canada has helped generate interest from aspiring geoparks in our country. One application was submitted for review to the GGN bureau at the end of 2013 and several others are in various stages of development.

The Geological Surveys Branch of the New Brunswick Department of Energy and Mines has produced some excellent geoheritage resources. In 2013 they added another book to the list. New Brunswick writer and geologist Gwen Martin produced: *The Granite Industry of Southwestern New Brunswick: An Historical Perspective*, published as New Brunswick Department of Energy and Mines Popular Geology Paper 2013-1, 104 pp. The book is available in pdf format from: [www.gnb.ca/0078/minerals/PDF/PG\\_2013-1.pdf](http://www.gnb.ca/0078/minerals/PDF/PG_2013-1.pdf). It is a very timely publication for a public audience as Sculpture Saint John is about to launch its second sculpture festival that makes use of granite dimension stone from the quarries featured in the book. The 2014 sculpture festival is timed to overlap the 6th International UNESCO Global Geoparks Conference in September. For more about the festival, to view the 2012 sculptures, and download the trail map visit: [www.sculpturesaintjohn.com/](http://www.sculpturesaintjohn.com/).

Recent publications concerning geological heritage:

Fullerton, J., Logan, A., Bremner, G., Miller R. and Buhay, D. 2013. North America's first geopark:

Education & communication in the geopark. *Rendiconti Online della Società Geologica Italiana*, 28:74-77.

Martin, G. 2013. The granite Industry of southwestern New Brunswick: An historical perspective.

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**David A. E. Spalding** – 2013 was a slow year for research and writing, largely as a result of illness. I continued on the editorial board of *Earth Sciences History*, for which I wrote a review, and provided editorial comments for a paper then in production.

I wrote an account of my student days (1956-1959) at the University of Sheffield Geology Department (UK), as raw material for a centennial history of the department that was published during the year. *Sorby's Legacy: Geology at the University of Sheffield* has been written and edited by Alison Hunter. (A few copies of the book are still available; check with <[illustrator@aditlevel.co.uk](mailto:illustrator@aditlevel.co.uk)>).

As my productivity has slowed, it has become necessary to give consideration to the appropriate disposal of a substantial personal technical library. I have for some time had an arrangement with a leading university library to which I intended to donate my history of science collection, and some material has already been deposited. Now, it appears, a change of policy and shortage of funds may reverse this arrangement, and I may have to search for a new repository.

It may seem unreasonable to be concerned about one private library in a country in which a number of Federal Government scientific libraries are being closed down (despite the concerns of researchers and the writing community, who not unreasonably feel that important research material should not end up in the trash). Nevertheless, the future availability of such collections should be a concern to the academic community and future students, as well as the current owners of such book collections.

**Darren H. Tanke** – 2013 was not a particularly good year. A sudden serious and subsequent long-standing illness of my father (still recovering) and my mother, a major house move, passing of 11 colleagues or acquaintances, and threatening flood waters (survived) prevented or mitigated some planned research and fieldwork this year. 2/3rds of my planned historical fieldwork were lost because of this. However, the following were achieved or continued:

In the spring, Patty Ralrick and I visited the Canadian Museum of Nature's (CMN) research facility in Alymer, Quebec. Funding for the trip was kindly provided by the Dinosaur Research Institute. There we did four days of historical research regarding the early collecting of Late Cretaceous fossil vertebrates from Alberta, Canada. We took 3,200+ digital images of old correspondence (previously believed lost), old maps showing whereabouts of fossil sites, historical photographs and their documentation, some field notes, and other historical items of interest. Information gleaned from these will be added to various ongoing historical projects. While there, I gave a 1 hour talk to staff of the CMN on my old (c. WWI – mid-1970's) and lost (or found but unidentified) dinosaur quarry relocation efforts in Alberta.

Among the letters and maps we found information on the first major dinosaur find in Alberta, an *Albertosaurus* (family Tyrannosauridae) skull collected in 1884. The finder and collector, J.B. Tyrrell, noted in a 1936 letter to Charles M. Sternberg the land description for the site (coordinates for which matched a previously unappreciated marking on an old map), and, importantly, he stated more of the specimen was likely to be there! This revelation spurred efforts to relocate the site and confirm Tyrrell's comments. Several attempts to relocate the site were made without success but we are certain we found the grassy flat where he camped (the small grassy flat next to a creek matches his map) and the same map indicates the quarry must be close by. We found persistent evidence of a hadrosaur (likely *Edmontosaurus*) bone bed in the area, but no headless tyrannosaur skeleton. We have not given up and may search more this summer.

Another old site relocation effort was for the source of the type specimen of a small Late Cretaceous shark called *Palaeospinax ejuncidus*, curated at the CMN and collected in 1915. When I was in Alymer, the lithology of the specimen was examined in detail and, later, rough whereabouts of quarry provenance elucidated from a map, catalogue records, and field notes. Field relocation efforts were first made on May 15th. The actual, precise site was not located, but comparable field area lithology, presence of same species leaf fossils seen and collected in 1915 and 2013 suggests we are quite close spatially (within 50 metres) and likely very accurate stratigraphically (within 1-2 metres). Results of this work were presented by the projects senior-most author at a conference in Vienna, Austria (Newbrey *et al.*, 2013) and a fuller paper is also in progress.

On April 20-23, 2013, the Royal Tyrrell Museum hosted the 6<sup>th</sup> Annual Fossil Preparation and Collections Symposium. There I was involved in a number of Earth Science history-related activities:

1. April 20<sup>th</sup>, 2013, I gave 4 mini-workshop talks to about 85 conference delegates on mystery quarry project-relocating and identifying old dinosaur quarries in DPP and Drumheller (Tanke, 2013).

2. April 21<sup>st</sup>, I was co-author on an oral presentation on the results of blogging of a *Gorgosaurus* dinosaur under preparation – a first which made history (Hone and Tanke, 2013). The fuller paper appears in Tanke and Hone (2013).

3. At the same conference I was lead author on a poster presentation (Tanke *et al.*, 2013) on the successful history of working relationships between professional vertebrate paleontology museums and industry in Alberta, where museums benefit from fossils found by excavations by companies and their assistance to help retrieve such fossils, often quite large in size.

After that conference there was a third effort at relocating the lost 1916 quarry in Dinosaur Provincial Park that yielded the new (several years ago) Late Cretaceous horned dinosaur *Spinops*. This fieldwork was conducted April 24-26. I was joined by British vertebrate paleontologist Dr David W.E. Hone (Queen's University, London) and Mr. Mark Graham (Natural History Museum, London); the latter recently reprepared the *Spinops* material and was thus best acquainted with the matrix/geology of the site. Unfortunately we did not rediscover the site despite an intensive search, making me wonder if we were perhaps on the wrong side of the river.

A long project, concluded in 2013, was the relocation of an armoured dinosaur quarry in Dinosaur Provincial Park and worked by William E. Cutler in 1914. This was the type specimen of *Scolosaurus cutleri*, the skeleton of which has been on display at the Natural History Museum in London, England since the 1920's. While the quarry was staked with a metal marker on site and mapped (both in 1936), relocation efforts (since about 1981) to find the stake and quarry had failed. We only had very poor multi-generation photocopies of a rare article (Cutler, 1922) showing topography. After a very long and fruitless search for the article, Dr Jordan Mallon of the CMN came to the rescue and found an original copy, the good photographs of which allowed a much better understanding of the terrain. Relocation efforts were attempted on May 22<sup>nd</sup>. The work was also filmed by film company "Cream Productions" for The History Channel. We confirmed the 1914 site of Cutler's camp and relocated and matched a fieldwork photograph taken immediately

adjacent to the quarry, but it can be seen now that the quarry site has collapsed into a highly erosive environment immediately adjacent to an ephemeral waterfall. An unmarked cave-like quarry a few hundred metres away, the author believed to be (since about 2007) the *Scolosaurus* site, but it cannot be and it is now reduced in stature to an unidentified site.

On May 3 at the annual Calgary Rock and Gem tradeshow, I contributed items to make a display case of old time historical paleontological tools and this exhibit tied for second place for the People's Choice Award for which it won a blue ribbon. I was personally unable to attend due to my father's illness.

I was a research assistant for a Royal Tyrrell Museum-hosted framed exhibit display *Perspectives: Canada's Dinosaur Capital*, a one year framed picture exhibit. 19 pictures featuring highlights of Drumheller, Alberta's dinosaur heritage and the role of some local citizens went on public display in late May. Some images from this and others were later used on the Royal Tyrrell Museum's Facebook page and I was used as a source for historical information and fact-checking on those.

Also at the museum, I was solely involved in an ongoing project going through many thousands of digital images and scans of old images taken from circa 1964 to the present. These images show fieldwork, laboratory work, personalities, exhibits, and other museum activities. They were taken by hundreds of people, many of whom felt it not important to identify the "who, what, where, and when" of what they photographed. With the retirement, passing of, or staff taking on other jobs, and fading memories, much of our older "corporate memory" is lost. Now the longest serving employee here (35 years) and having a keen interest in history, it has fallen on me to try to make sense of them all. I have to look at each image and identify who the people in it are, where they are, what they are doing and when it happened. Images have to be sorted into folders by year and site and a detailed "Read Me" Word document has to be placed within each folder explaining these facts in as much detail as possible and supplemented with specimen numbers, where known. A paper I helped review (and contribute some data and an image to), on the Chicago Field Museum fossil collecting expedition to Dinosaur Provincial Park, Alberta in 1922 was published in *Earth Sciences History* (Brinkman, 2013).

On March 22 at the 18<sup>th</sup> Annual Alberta Paleontological Society meeting in Calgary, I presented a paper entitled: "Personal, historical, and technical perspectives on the growing role of light and heavy industry on vertebrate paleontology in Alberta, Canada" (Tanke, 2014a).

At an early April Fossil Preparation & Collections Symposium in Salt Lake City, Utah, I co-presented a poster on the use of horses to carry bags of fossiliferous matrix out of the rugged badlands to prairie level, for transport by truck to the museum (Fotheringham *et al.*, 2014). This historical work was done in 2012 and 2013 and marks the first use of horses on a Late Cretaceous dig in the badlands since the Royal Ontario Museum did so in Dinosaur Provincial Park, in 1954. An online video of the 2013 work can be seen here:

<http://www.youtube.com/watch?v=DcdEsDxWSX4>

Also as part of the Utah meeting (Tanke, 2014b), I am currently wrapping up a larger paper on health and safety issues of angle grinder and gas-powered rock saws which are both widely used in the field and in laboratories. This work was inspired by a casual colleague who recently seriously cut his inner forearm wide open with an angle grinder. This paper includes the development and history of these machines, particularly their first use in vertebrate paleontology (at least c. 1966 for the rock saw in Baja California; c. 1971 in Alberta) and at least 1980 for the angle grinder (in Alberta).

I am now developing a tour of some historic dinosaur quarries (mostly early 20<sup>th</sup> Century vintage) for an upcoming field trip for the Society of Vertebrate Paleontology meeting in Calgary in the summer of 2017. Still years away but I like to get off to an early start! Concurrent with the meeting is a potential exhibit at the Glenbow Museum on the history of dinosaur collecting in Alberta, and I have been sourced as a "go to" person to help make this happen.



Though I was not involved in the following event, my institution was, and I include it here for INHIGEO member's interest as it has much history attached to it. On January 21, 2014 the Royal Tyrrell Museum acquired a *Chasmosaurus* horned dinosaur skull. It was collected from today's Dinosaur Provincial Park in southern Alberta by Charles H. Sternberg, in 1917, and sold to the San Diego Museum of Natural History (SDMNH) in California a short time later. In 2013, the SDMNH decided to auction off part of its vertebrate paleontology collection through an auction house in New York City. This auction caused quite an up roar in the paleontological community as the illegal removal and/or sale of important fossils has been an especially contentious issue of late. In response, the SDMNH decided not to auction off the fossils. I am not sure of the fate of the other material, but the *Chasmosaurus*, the only Albertan specimen in the original auction lot, was repatriated to Alberta, for only the cost of the shipping. I believe it is the only C.H. Sternberg-collected specimen in our collections and among one of the few collected in the early 20<sup>th</sup> Century in our collections. Being a composite and heavily restored it is therefore not a great specimen and has limited research utility, but does have much historical value. An online picture of the skull can be seen here:

<https://www.facebook.com/tyrrellmuseum/photos/pb.37946265171.-2207520000.1394997830./10151894493830172/?type=3&theater>

#### Publications:

- Brinkman, P.D. 2013. Red Deer River shakedown: A history of the Captain Marshall Field paleontological expedition to Alberta, 1922. *Earth Sciences History*, 32(2): 204-234.
- Cutler, W.E. 1922. The badlands of Alberta. *Canadian Illustrated Monthly*, 6(11):19-25, 50-52.
- Fotheringham, A., Tanke, D.H., Strilisky, L., and Newbrey, M.G. 2014. Use of horses in Alberta vertebrate paleontology and their recent utilization for transport of bulk microvertebrate matrix. p. X. In: *7<sup>th</sup> Annual Fossil Preparation & Collections Symposium*. April 4-6, 2014. Salt Lake City, Utah.
- Hone, D.W.E. and Tanke, D.H. 2013. Scientific communication of fossil preparation in the digital realm. pp. 48-49. In: *6<sup>th</sup> Annual Fossil Preparation & Collections Symposium*. Compiled and edited by A. Fotheringham, G. Housego, M. Laframboise, B. Strilisky, L. Strilisky, D.H. Tanke, and W. Taylor. April 20-22, 2013.
- Newbrey, M.G., Cook, T.C., Brinkman, D.B., Neuman, A.G., Sanchez, B., and Tanke, D.H. 2013. A partial orectolobiform skeleton from the freshwater Scollard Formation (Maastrichtian), Alberta, Canada. p. 53. In: *6<sup>th</sup> International Meeting on Mesozoic Fishes – Diversification and Diversity Patterns*. Abstracts. Vienna, Austria, August 4-10, 2013. Edited by C. Schwarz and J. Friwet.
- Tanke, D.H. 2013. Recognizing and solving the identity of dinosaur mystery quarries in Alberta. pp. 81-85. In: *6<sup>th</sup> Annual Fossil Preparation & Collections Symposium*. Compiled and edited by A. Fotheringham, G. Housego, M. Laframboise, B. Strilisky, L. Strilisky, D.H. Tanke, and W. Taylor. April 20-22, 2013.
- Tanke, D.H. 2014a. Personal, historical, and technical perspectives on the growing role of light and heavy industry on vertebrate paleontology in Alberta, Canada. pp. 49-56. In: *Alberta Palaeontological Society, 18th Annual Symposium*, Mount Royal University, Calgary, Alberta, March 22, 2013. Edited by H. Allen.
- Tanke, D.H. 2014b. Safe use of angle grinders and rock saw in the fossil preparation laboratory and field. p. X. In: *7<sup>th</sup> Annual Fossil Preparation & Collections Symposium*. April 4-6, 2014. Salt Lake City, Utah.
- Tanke, D.H., Bancescu, J., Spivak, D., and Jass, C. 2013. Professional palaeontology and industry in Alberta: A successful working relationship. pp. 86-89. In: *6<sup>th</sup> Annual Fossil Preparation & Collections Symposium*. Compiled and edited by A. Fotheringham, G. Housego, M. Laframboise, B. Strilisky, L. Strilisky, D.H. Tanke, and W. Taylor. April 20-22, 2013.
- Tanke, D.H. and Hone, D.W.E. 2013. Using the internet and social media to bring dinosaur preparation to a wider audience. *Geological Curator*, 9(8):433-440.

**Clinton Tippet** – I am a petroleum exploration geologist working for Shell Canada Energy. My current responsibilities lie in the central Mackenzie River Valley of the Northwest Territories, in the vicinity of the classic Norman Wells Field and Canol Pipeline, built during WWII. My focus on historical matters over the year has been primarily through the Calgary-based Petroleum History Society (P.H.S.) of which I am both President and Editor of our newsletter, *Archives*. In addition to this newsletter (back issues of which are accessible through our website at: [www.petroleumhistory.ca](http://www.petroleumhistory.ca)), the P.H.S. sponsors 6-7 luncheons with speakers each year. We have an annual awards program honouring the history of the Canadian Petroleum Industry and have in the past organized topical field trips and walking tours. A major initiative over the last couple of years has been a revival of our Petroleum Industry Oral History Project in the form of the Oil Sands Oral History Project which was completed late in 2013. Funds totalling \$216,000 were raised from a combination of industry and government sources with 119 interviews (some with video) recorded and transcribed to date. Permanent archiving is being provided by the Glenbow Archives and Museum in Calgary. Some of this material has already been used for public information sessions by researchers and a general release of the interview transcripts is pending. The P.H.S. is also co-operating with the Government of Alberta in the planning of the celebrations, in May 2014, for the 100<sup>th</sup> anniversary of the discovery of the Turner Valley Oil and Gas Field near Calgary.

Production of the *Archives* newsletter involves the use of articles summarizing presentations that have been given, news items from the media, photographs (current and historical) and excerpts from the publications of related organizations including the Leduc-Devon Historical Society, the Society for Industrial Archeology, the PetroPhilatelic Society, the Petroleum History Institute, the Canadian Rig Museum and various industry journals.

I am also the History and Archives Chair of the Canadian Society of Petroleum Geologists. I am, as well, the Chair of the C.S.P.G. Stanley Slipper Gold Medal Committee, which 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. I am a member of the History of Petroleum Geology Division of the American Association of Petroleum Geologists and of the History and Philosophy of Geology Division of the Geological Society of America.

The 2013 annual report was compiled and edited by Darren H. Tanke, Canadian editor for INHIGEO.

## CHILE

### IV Chilean Symposium on the History of Geology

The Geological Society of Chile organized the *IV Chilean Symposium on the History of Geology* at the Ignacio Domeyko Auditorium, Department of Geology, Faculty of Physical and Mathematical Sciences, Universidad de Chile. Nearly 60 persons attended, almost half of them geology students from different universities in the country.

The subjects discussed included the history of national institutions and the role of their founders, pioneering work in the field of geology in Chile and the developments of some geological concepts and theories. The basic research and teaching institutions in Chile were founded mainly during the second half of the 20<sup>th</sup> century. Talks were presented on the people responsible for their founding. These included the geographer Humberto Fuenzalida, the mineralogist Hector Flores and the mining engineer and petrologist Jorge Muñoz, who introduced a geology course in 1953, which led to the founding of the Geology Department at the Universidad de Chile. The Italian professor Giovanni Cecioni was an important collaborator in this program over 35 years. A critical analysis of the founding of many geology courses in several private and public universities during the last three years was presented in another talk. Also discussed was the contribution of the mining engineer, Carlos Ruiz, supported by a delegation of north-American geologists of the “Point Four”, to the

founding of the Instituto de Investigaciones Geológicas, which evolved into the present Servicio Nacional de Geología y Minería. This institution is now in charge of the geological mapping of the country. The foundation of the Chilean Antarctic Institute, in 1964, was also evoked, and it was recognized that Antarctic research started many years earlier at the Universidad de Chile.

Another topic was the contribution of foreign researchers in Chile, namely Charles Darwin and Captain Fitz Roy, for their description and observation of the Concepción earthquake in 1835, which had many similarities with the major earthquakes that occurred in Chile in 1960 and 2010. Also explained was the little known activity of the German Heuland brothers, sent by the King of Spain at the end of the 18<sup>th</sup> century to survey the mining potential in Chile. Charles Darwin's concept of the formation of cleavage and foliation as a metamorphic feature in rocks, in part inspired by his observations at Tierra del Fuego, formed the topic of a talk. The important early work on geological concepts of the Russian scientist Mikhail Lomonosov in the 18<sup>th</sup> century, were discussed and a presentation was given on the ideas of Charles Lyell in the 19<sup>th</sup> century, as expressed in his well known work *Principles of Geology*. In another presentation thoughts about volcanoes of Aborigines in Mexico and South America and their behavior in the face of eruptions, were compared with those of the Christian population in these regions at that time.

Philosophical aspects of geology as a historical science, and the implications this has in the characteristic methodology of our science, as well as the relationships between the Earth sciences and politics formed the topics of two talks. A detailed talk about the development of the theory of plate tectonics during its initial formulation ended the symposium.

Abstracts in Spanish can be downloaded from [www.sociedadgeologica.cl](http://www.sociedadgeologica.cl). The group decided to hold the next symposium in about one year's time. The Geological Society is planning presentations to be given by specific contributors on specific themes, and by others on general topics.

#### Presentations to the symposium:

Charrier, R. and Thiele, R. – Origen y creación de la Carrera de Geología de la Universidad de Chile.

Gajardo, A. and Ridelle, E. – Los iniciadores de la institucionalidad geológica en Chile en el siglo XX.

Ridelle, E. and Gajardo, A. – Los pioneros de la Geología en Chile en el siglo XX.

Ugalde, R., Charrier, R. and Hervé, F. – La gran aventura de Don Giovanni Cecioni por Magallanes y la Patagonia: un pionero de la geología austral.

Tapia, J. and Pereira, M. – El estado del arte de la carrera de geología en Chile.

Salas Olivares, R. – Crónicas de la creación del Instituto de Investigaciones Geológicas (IIG) y la profesión de geólogo en Chile.

Hervé, F. – 50 años de investigación geológica del Departamento de Geología de la Universidad de Chile en la Antártida.

Leyton, P. – El terremoto de 1835: Conocimiento científico y análisis geológico entre los años 1835 a 1858 en Chile.

Canut de Bon, C. – El viaje de los hermanos Heuland a Chile (1795).

Boyce, D. – Clivaje y esquistosidad entendidos por Charles Darwin como parte de un mismo proceso.

Reynaldo Charrier and Francisco Hervé, Santiago

## CHINA

In 2013, the Chinese Commission on the History of Geological Science (CHHIGEO) completed the following work:

### 1. *The 25<sup>th</sup> Academic Annual Meeting*

The 25<sup>th</sup> Academic Annual Meeting of CHHIGEO was held at the Geosciences International Conference Centre, from Oct.19 to 20, 2013.

The opening ceremony of the annual meeting was hosted by Professor Yu Guang. It was attended by 93 participants from the fields of geology, petroleum geology, metallurgy, and the nuclear industry. Also represented were the China University of Geosciences, Peking University and other colleges and universities. Forty-three papers were submitted to the meeting of which 32 were presented. The papers covered many areas, such as the history of geology, biographical accounts of geologists, the history of geological education, the history of geological investigation etc.

Yu Guang, Deputy Director of CHHIGEO, announced that Deng Jun would replace Zhai Yusheng as the new Director of CHHIGEO. In his speech, Zhai Yusheng, former Director of CHHIGEO, made some suggestions with regard to future research work of CHHIGEO and about professional committee work. Deng Jun, the new Director of CHHIGEO and President of the China University of Geosciences (Beijing), said that he would try to live up to his predecessors' great trust in the future and fulfil the expectation of all members of the committee. He said that he would work hard, to listen to the ideas of experts in the field of the history geology and do his best for the success of the INHIGEO conference to be held in China, in 2015.

Yu Guang, the Deputy Director of CHHIGEO, gave the concluding address to the annual meeting.

## *2. Symposium on Research and Development of Geological Science in China, and the promotion of the history of geological sciences*

A Seminar on the development the geological sciences in China (Hunan province) and a symposium on a review of the development of the geological science in Guizhou were held in June and September. The symposium has an important significance and facilitated academic exchanges on the law of development in Chinese geological science. The development of China's geological progress and the advancement of Chinese geological research are achieved by the hard work of geological workers, by on-the-spot investigations and intense study by geological scientific research workers. Only by fully understanding and grasping the processes involved in the study of the history of geological science in China can we gain a full understanding of this work and to explore further the objectives and the inherent law of geological development in China.

## *3. Preparing for the "2015 INHIGEO Meeting"*

A meeting of the International Commission on the History of Geological Sciences (INHIGEO) will be held in Beijing, in 2015. The Chinese Commission on the History of Geological Science (CHHIGEO) held meetings to discuss issues relating to the preparation for the conference, the proposed program and organizational matters. Members of the Chinese Commission contributed their ideas and experiences. The committee members are in constant communication with INHIGEO and are attentive to advice from its members. CHHIGEO will make every effort at the 2015 INHIGEO meeting to promote international research on the history of the geological sciences, to strengthen Chinese and foreign geological science communication and to improve and to expand the influence of Chinese research into the history of geology around the world.

Chen Baoguo, China University of Geosciences, Beijing

## COSTA RICA

**Gerardo J. Soto** – attended the “Coloquio de meteorítica” [Meteoritics Colloquium], held in the *Palacio de Minería* of Mexico D.F., Mexico, where he delivered one of the key lectures, on the history of meteoritics in Latin America during the 19<sup>th</sup> century.

He published a somehow related article on the history of meteoritics in Spanish Latin America during the 19<sup>th</sup> century and presented an abstract on the geology for the search of a route for the Panama Canal during the second half of the 19<sup>th</sup> century.

### Publications:

Soto, Gerardo J., 2013. Book Review: Morelos-Rodríguez, L. 2012. *La Geología mexicana en el siglo XIX. Una revisión histórica de la obra de Antonio del Castillo, Santiago Ramírez y Mariano Bárcena*” (Mexican Geology in the 19<sup>th</sup> century. A review of the work by Antonio del Castillo, Santiago Ramírez and Mariano Bárcena), Plaza y Valdés, Mexico, 356 pp. (in Spanish)], *Newsletter of the International Commission on the History of Geology (INHIGEO)*, 2013, 45, 74-76.

Soto, Gerardo J., ‘La geología en la búsqueda de una ruta para el Canal de Panamá durante la segunda mitad del siglo XIX’, *Conversatorio Geonaturalia: Territorio, recursos, naturales y ambiente: hacia una historia comparada, estudio a través de Argentina, México, Costa Rica, Haití, Paraguay, Uruguay y Venezuela. Primera Reunión Internacional*, 18-20 June 2013, Asunción, Paraguay, Resúmenes: <http://www.fepai.org.ar/images/stories/Geonaturalia/Conversatorio2013/Soto.pdf>..

Soto, Gerardo J., ‘Desarrollo de la meteorítica en América Latina española durante el siglo XIX’, in: Lértora, Celina A. (coord.): *Territorio, Recursos Naturales y Ambiente: hacia una historia comparada. Estudio a través de Argentina, México, Costa Rica, Haití, Paraguay, Uruguay y Venezuela*, 2012, Ediciones FEPAI, Buenos Aires: 233-249.

Gerardo J. Soto, San José

## CZECH REPUBLIC

In 2013, Czech members of INHIGEO began work on the preparation of an atlas of geological maps produced during the first third of the 19<sup>th</sup> century, in Central Europe. The atlas is based on the results of a project conducted at Visegrad in 2011. The authors of this work are currently seeking an appropriate publisher.

J. Kozák, as editor and co-author with Barbara Guterch from Poland, worked on the preparation of a monograph on *Seismicity of the Territory of Poland*.

*The 12th International Erbe Symposium Bozen/Bolzano 2014 - Cultural Heritage Symposium in Geosciences, Mining and Metallurgy - Libraries – Archives – Collections*

Twenty years ago Peter Schmidt, Freiberg/Saxony (1939-1999), Lieselotte Jontes, Librarian in the Mining University of Leoben and Tillfried Cernajsek, Librarian of the Geological Survey of Austria, came up with the idea of a series of “Erbe“ (Heritage) Symposia. This was at the time of the tearing down of the Berlin Wall and the opening of the borders between the eastern and the western countries in Europe. Although there had been contacts between scientists from both sides, these were limited. Only at the 10<sup>th</sup> INHIGEO meeting (1982, in Budapest) did E. Dudich, bring a larger group of international geoscientists and historians together; thereby facilitating contacts between ‘East’ and ‘West’.

The “Erbe” Symposia are held at historical locations connected to mining schools, mines and metallurgical processing plants, as well as to museums. Sadly the initiator of these symposia, Peter Schmidt, passed away in 1999. His health had already been failing in 1997, preventing him from participating in the 3<sup>rd</sup> Symposium in St. Petersburg.

The 12<sup>th</sup> International Erbe Symposium took place in Bolzano, Northern Italy, from 30th September to 4th October 2013. It was dedicated to the geo-scientific legacy, real and virtual, of the centuries-old history of mining and metallurgical processing of ores in the Alps and elsewhere, as well as to geo-scientific research in general. The location for the Symposium in South Tyrol was deliberately chosen, as it is situated in the center of one of the geologically most researched areas, that has attracted geologists from all over the world for over 200 years. The history of mining as an economic and cultural factor has played an important role in this region. The opening of old mines to visitors and the displays in many mining museums in South Tyrol has brought this history to public attention. The obligation to collect historical evidence is now higher than ever, especially as the ravages of time and human activity increasingly blur the traces of former mining activity.

The symposium was attended by experts from Europe and other parts of the world. They were from Austria, Germany, Russia, USA, Canada, China, Mexico, Slovenia, Slovakia and the Czech Republic. Two Czech participants presented lectures at the Symposium. Jan Kozák spoke on “Pictorial collection of pre-photo images of manifestations of the dynamic Earth”, while Karel Pošmourný gave a talk on “General information about the international project Geological mapping in Central Europe in the 18th and early 19th centuries, Visegrad Fund”.

The program also included excursions, both in Bolzano and in the neighborhood, in South Tyrol. These included:

An excursion to the Dolomites; a guided tour through the Museum of Nature, South Tyrol Archäologiemuseum “Ötzi”; an excursion to Klausen, Pfundererberg; a mine walk through Bolzano/Bozen with explanations of the use of natural stone in constructions; an invitation to a buffet at the Museum of Nature, South Tyrol; South Tyrolean farmers “Ollerhand Selbergmochts” and an excursion to the Mine Schneeberg, Vipiteno/Sterzing.

Interest from potential organizers of future meetings to be held in 2015, 2017 and 2019, is welcome. Candidates from the Mining Museum, Banská Štiavnica in Slovakia; University Beijing/China and Vernadsky State Geological Museum, Russian Academy of Sciences in Moscow, are expected to extend invitations. Other countries have expressed interest at earlier meetings. The tradition of these symposia will continue.

#### Publications:

Kozák, J. and Vaněk, J. 2013. Early macroseismic maps of Central Europe. *Journal of Earth Science Research*, 1, 2, 43-53.

(In presenting and commenting on an, as yet, unevaluated series of macroseismic maps, published in Central Europe, the authors demonstrate that in the course of the 19th century this part of the European continent became one of the important world centres for the macroseismic evaluation of seismic phenomena.)

Kozák, J. 2013. History of the relationship between man and planet. In: Barta, M. and Kovář, M. (eds), *Civilization and History; history of the world as seen by twenty Czech Researchers*, 550 p., Academia, Prague. ISBN 978-80200-2301-8.

(The topical subject of the present relationship between mankind and Earth's nature is considered from the view of point of the advancement and decay of the present civilization. The importance and influence of natural and anthropogenic disasters in this process are discussed and commented on.)

Kozák, J. 2013. Makroseismické informace na obrazech Komárnského zemětřesení 28. června 1763 (in Czech); Macroseismic information in the depiction of the Komárno earthquake of June 28th, 1763. In: *Proc. of contributions presented in the international seminar on the 1763 Komárno earthquake*, 5-22, State Archives of Slovak Republic, Bratislava.

(It can be demonstrated that the in-situ drawn images of earthquakes may contain important macroseismic data. The advantages and limitations of this approach are discussed.)

Opletal M., Pošmourný K., Pecina V., Večeřa J. and Aichler J. 2013. Jeseníky Mountains, the Geology of Protected Landscape Areas in the Czech Republic, 2 pp. Czech Geological Survey, Prague.

(This publication introduces the reader to the unique nature of the Jeseníky Mountains. The text is supplemented by photographs and a schematic map. It shows that it is geological processes which affect the development of the landscape and its nature.)

Cernajsek, T., Kukul, Z., Opletal, M., Pošmourný, K. (2013): On the death of Univ. - Doz. Dr. Ivan Cicha (1932-2013), Zum von Univ.-Doz. Dr. Ivan Cicha (1932-2013). – *Berichte der Geologische Bundesanstalt, 12th International Erbe Symposium*, September 30th – October 4th, 2013 Bolzano/Bozeno, ISSN 1017-8880, 101, 27-32 pps., Vienna 2013.

Sedláček, J. Ing. – Čejchanová, A. – Jirů, R. – Hrdlovicsová, M. (2013): Údržba a rozvoj digitálního archivu ČGS. Průběžná zpráva interního projektu. (in Czech) MS Archiv ČGS - Geofond.

(A publication on the internal project of the institution. The project focuses on the modern approach of scanned images of all sorts of maps, the accompanying texts of maps and manuscript reports, not only on Web applications, but also for detailed research in the study rooms of archives.)

Alena Čejchanová, Jan Kozák and Karel Pošmourný, Prague

## FRANCE

The customary three meetings were organized in 2013 by the French Committee on the History of Geology. Nine talks were presented:

Plaziat, J.-C. – La controverse sur l'âge des « Sables bleutés du Var » (1966-1980).

Plunder, A. – L'évolution du concept de faciès métamorphiques et son développement par Pentti Eskola entre 1915 et 1939.

Touret, J. – De granite à granulite : le retour du métasomatisme.

Balan, B. – La naissance de la tectonique moderne en Pennsylvanie au XIXe siècle.

Grandchamp, P. – Théodore-Hippolyte Lachat (1829-1901) et la géologie de la Maurienne.

Charvet, J. – L'étude géotectonique des Dinarides : évolution des idées et apport des équipes françaises.

Gaudant, J. – Jean-François d'Aubuisson de Voisins (1769-1841) et le basalte : de la Saxe à l'Auvergne.

Fluck P. – Un voyageur des Lumières dans le massif des Vosges : Antoine-Grimoald Monnet (1734-1817), géologue, ingénieur des mines et métallurgiste.

Additionally, a new book was published in 2013 by the Presses des Mines. Written by Claude Babin, it is entitled : "L'exploration géologique du Massif armoricain".

Jean Gaudant, Paris

## GERMANY

In 2013, the Working Group on the History of Earth Sciences of the Deutsche Gesellschaft für Geowissenschaften (DGG) held its annual meeting on February 1<sup>st</sup> and 2<sup>nd</sup> at the Bishop's Seminary



in Eichstätt. The meeting with the theme *Geology and the Public* was organized by INHIGEO-member Martina Kölbl-Ebert and her team at the Jura-Museum Eichstätt.

Papers were given by Kathrin Polenz (Jena) on geognostic lectures by Abraham Gottlob Werner, by Bernhard Fritscher (Munich) comparing geological societies and their class consciousness in 19<sup>th</sup> century Germany and the UK, by Cornelia Lüdecke (Munich) on the missing public appreciation of the German Antarctica Expedition under Erich von Drygalski, by Martina Kölbl-Ebert (Eichstätt) on the changing public perception of impact crater research in Germany between 1945 and 1975 and by Gottfried Hofbauer (Erlangen) on the role of geology in the discussion on “global change”.

On the second day of the meeting the delegates went on a fieldtrip to visit quarries around Eichstätt and to explore the historical significance of the Natural History Collection of the Bishop’s Seminary in Eichstätt.

This was Bernhard Fritscher’s last public meeting with his colleagues. He died in Munich on 11<sup>th</sup> July 2013 of lung cancer, at the age of 58. He is sorely missed by all of us. (See obituary, p. 60-63)

Cornelia Lüdecke organized a workshop of the SCAR History Expert Group on *Past, present and future of human connections to the Antarctic*, at the British Antarctic Survey, Cambridge, United Kingdom. She was also involved in organizing a symposium of the International Commission on the History of Oceanography about *Knowledge at work in the oceans of the World*, for the 24th International Congress of the IUHPST, in Manchester.

Martina Kölbl-Ebert was co-organizer of a symposium *Geologists in the Field* likewise at the IUHPST Congress, in Manchester.

In 2013, Cornelia Lüdecke participated at the 25<sup>th</sup> International polar meeting in Hamburg being co-author of a paper on Adolph Erman and his research of Earth magnetism. At the 8th SCAR History Expert Group and Social Sciences Action Group Workshop, British Antarctic Survey, Cambridge (UK) and at the Workshop on *Antarctica: A Continent for the Humanities*, in Stockholm, she reported on “Beriberi at Kerguelen: A case study during the international Antarctic co-operation 1901-1903”.

Cornelia Lüdecke also gave several popular lectures on the history of polar research in Hamburg, Göttingen, Friedrichshafen and Munich. Martina Kölbl-Ebert gave a public talk on the history of German impact crater research in Munich.

#### Publications:

- Drygalski, E. von 2013. *Zum Kontinent des eisigen Südens: Die erste deutsche Südpolarexpedition 1901-1903*. Herausgegeben von Cornelia Lüdecke, Edition Erdmann, marixverlag, Wiesbaden, 366 S.
- Kölbl-Ebert M. 2013. Vom Riesvulkan zum Mondlabor – Die geologische Riesforschung im Wandel der öffentlichen Wahrnehmung. *Geohistorische Blätter* 23: 141–162.
- Kölbl-Ebert M. 2013. No Trespassing: Field-geology at Ries Crater within the framework of “German Geology” (1933 to 1945). *International Congress for the History of Science, Technology and Medicine, Manchester*, Symposium S113: Abstract.
- Kölbl-Ebert M. 2013. The Geological Karl Marx – The Karl Marx/Friedrich Engels Gesamtausgabe (MEGA). Herausgegeben von der Internationalen Marx-Engels-Stiftung. Vierte Abteilung. Band 26. *INHIGEO Newsletter* 45: 69-70.
- Lüdecke, C. 2013. Vorwort. In: Erich von Drygalski, *Zum Kontinent des eisigen Südens: Die erste deutsche Südpolarexpedition 1901-1903*. Herausgegeben von Cornelia Lüdecke, Edition Erdmann, marixverlag, Wiesbaden, 7-25, 365-366.
- Lüdecke, C. 2013. Einleitung. In: Wilhelm Filchner, *Om mani padme hum. Meine China- und Tibetexpedition*. Edition Erdmann, marixverlag, Wiesbaden, 7-27, 415-417.
- Lüdecke, C. 2013. Einleitung. In: Sir Ernest Henry Shackleton, *Südwärts. Die Endurance Expedition*. Edition Erdmann, marixverlag, Wiesbaden, 7-22, 438-439.

- Lüdecke, C. and Summerhayes, C. 2013 German Echo-soundings of the South Atlantic Seabed, 1938-39. *International Congress for the History of Science, Technology and Medicine*, Manchester, Symposium S108: Abstract.
- Lüdecke, C. 2013. Zur Erhaltung der nötigen Gleichmäßigkeit – Das weitsichtige meteorologische Meßnetz der Societas Meteorologica Palatina (1780-1792). In: *Von Kometen, Windhosen, Hagelschlag und Wetterballons – Beiträge zur Geschichte der Meteorologie* (Europäische Wissenschaftsbeziehungen 8), Erfurt.
- Summerhayes, C and Lüdecke C. 2012. A German Contribution to South Atlantic Seabed Studies, 1938-39. *Polarforschung* 82 (2), 93-101. [http://epic.awi.de/34230/1/Polarforschung\\_82-2\\_93-101.pdf](http://epic.awi.de/34230/1/Polarforschung_82-2_93-101.pdf)

#### Other Activities:

University courses on the history of Earth sciences were given by Cornelia Luedecke, at the University of Hamburg on “‘Small’ and ‘Big Science’ – selected programmes of geoscience expeditions and experiments” (winter semester 2012/13) and “From Amundsen to Zeppelin - important people and their achievements in the geosciences” (summer semester 2013).

Sponsored by the EU adult education programme *Grundtvig*, Martina Kölbl-Ebert has presented a lecture series on the history of palaeontology, entitled *Fossils and World Views throughout the Ages*, within the Geovillages-project’s winter academy at the Bishop’s Seminary in Eichstätt.

A new issue (no. 23) of the *Geohistorische Blätter* has been edited by Ulrich Wutzke (Berlin). The volume is dedicated to INHIGEO member Martin Guntau (Rostock), who in 2013 celebrated his 80<sup>th</sup> birthday (The volume can be ordered via <http://www.geohistorische-blaetter.de/>).

The help of the German members of INHIGEO in the compilation of this report is much appreciated.

Martina Kölbl-Ebert, Eichstätt

#### **Peter Schimkat –**

##### Publications:

- Schimkat, P. 2008. *Geologie in Deutschland: Zur Etablierung einer naturwissenschaftlichen Disziplin im 19. Jahrhundert*. Augsburg, Erwin Rauner.
- Schimkat, P. 2013. Das mineralogische Lehrsystem von Abraham Gottlob Werner. In: Schleiff, H. and Konečný P. (eds.) *Staat, Bergbau und Bergakademie: Montanexperten im 18. und frühen 19. Jahrhundert*, 231-247. Stuttgart, Franz Steiner.

## HUNGARY

The Hungarian Geological Society (HGS) celebrated several anniversaries in 2013.

In April the Hungarian Geological Society held a meeting to commemorate its founding, in Vidfalva/Vidina (now in Slovakia), in 1848. It was only the third Geological Society to be formed in Europe. There were 40 participants from Hungary and 15 from Slovakia. The latter included the local Mayor, Jozsef Kucri; Milan Kohut, the Vice-President of the Slovakian Geological Society and Pavel Uher, the President of the Slovakian Mineralogical Society. Csaba Baksa, the President of the HGS, was the main speaker. Talks were also given by Álmos Tóth, President of the History of Geology Section of the HGS and Imre Szarvas, representing the Hungarian-Slovak Bükk National Park. The memorial tablet and the flower crowns were blessed jointly by Father Bertalan Baráth from Hungary and Father Peter Vagas from Slovakia. The representatives of the two societies also held informal talks on cooperation. The event attracted local press and TV coverage.

The Board of HGS held a meeting at Tápiószentmárton, in the Kubinyi Mansion. Ágoston Kubinyi, was the first President of HGS, who lived and is buried there. His grave is cared for by the school of the village which bears his name, and which has a bronze bust of him in its school hall. The Board of HGS decided to create a medal in memory of Ágoston Kubinyi, to be awarded each year.



*The Kubinyi Mansion at Videfalva / Vidina (now in Slovakia), where the Hungarian Geological Society was founded, in 1848.*

Presentation to outstanding scientists on the occasion of their anniversaries:

Károly Papp – Commemorative session at Tápióság and in Budapest – Péter Papp, Tiborné Kálmánchey.

György Dénes – Speleologist of international fame – full-day conference on his 90th birthday.

Béla Csath – Vilmos Zsigmondy, drilling engineer – discussion of his drilling technology.

József Hála – Loránd Eötvös became a member of HGS 145 years ago.

Review of the development in selected fields of research:

János Haas – Syntheses of the geology of Hungary.

Károly Brezsnýánszky – Synthesizing geological maps of Hungary.

Tibor Kecskeméti – Development and expansion of micropaleontology in Hungary.

Ferenc Wanek – Pioneers of micropaleontology in Transylvania.

Presentation of a recently discovered 200 year-old map:

Tibor Zelenka, Gábor Papp, Ferenc Síkhegyi – The Eperjes-Tokaj Range. The first comparative analysis of Mátyás Sennowitz' petrographic work.

A conference held at Szarvas Pedagogical Highschool, in 2012, was organized by Prof. Dezső Gurka. The theme was: *Interactions between the theory of geology, philosophy and literature in the 18th-19th centuries*. Some of the talks given were:

István Viczián – The intellectual impact and the Hungarian background of the Jena Mineralogical Society.

Dezső Gurka – The Jena Mineralogical Society and the Hungarian followers of Schelling. Tamás Valastyán – Orichtognosy as philosophy of nature in the poetry and thinking of Novalis.  
 Maria Kakucska: György I. Orczy and the Jena Mineralogical Society.

The full proceedings of the conference were published in: Gondolat (ed), 226 p. Budapest, 2012. The volume is reviewed by István Viczián in the Book Reviews of the present issue (p. 86-88).

Selected publications:

- Dobos, I., Marton, L. and Szlabóczky, P. 2012. History of Hungarian hydrogeology. (In: Howden, N. and Mather J. (eds.), *History of Hydrogeology*. CRC Press, London, 117-125.
- Dobos, I. 2013. History of the mineral waters of the Carpathian Basin. In: Borszéki, B. (ed.), *The mineral and medicinal waters of the Carpathian Basin*, Nagy and Tsa Kft, Budapest, 9-44.
- Kecskeméti T. 2013. A geogyűjtemények kialakulása és 18-19. századi fejlődése. Establishment and development of the geological collections in the 18th-19th centuries. In: Gurka D. (ed.), *Formations and metamorphoses. Interactions between geology, philosophy and literature in the 18 and 19th centuries*. Budapest, Gondolat, 73-81.
- Papp, G. 2013. A magyar ásványtani nyelvújítás főbb vonásai ( brief review of the development of Hungarian mineralogical nomenclature and terminology during the language reform movement ). In: Gurka, D. (ed.). *Formations and metamorphoses. Interactions between geology, philosophy and literature in the 18 and 19th centuries*. Budapest, Gondolat, 73-81.
- Tóth, Á. 2013. A magyar bauxitkutatás és bányászat története 1903-2013 (The history of the exploration and mining of bauxite in Hungary 1903- 2013 ). In: Szilárd ásványi nyersanyagok Magyarországon (ed.), *Pál-Molnár Elemér-Bíró Lóránt. Geolitra*. Szeged, 248 p.

Teresa Póka, Budapest



***Endre Dudich is 80! An extraordinary birthday party. Budapest, January 27, 2014.***

High spirits and a most friendly atmosphere characterized the event that occurred in the Ceremonial Hall of the Geological and Geophysical Institute of Hungary. About 100 colleagues and friends came together to congratulate a respected and prominent personality of the community of Hungarian geologists, Prof. Dr. Endre Dudich, “Andy” to all of us.

The Hungarian Geological Society (HGS) had prepared some agreeable surprises. It began with an artistic program presented by two young geologists of the Institute, Ágnes Makk (songs) and Zsolt Kercksmár (flute). The opening address was delivered by Csaba Baksa, president of HGS. Nine 5-10 minute congratulatory addresses were followed by several improvised short ones. All these invoked

*Endre Dudich*

joint missions, journeys etc., with E. Dudich. The only exception to this was the Director of the Institute, Tamás Fancsik, a geophysicist, who had never worked with Dr Dudich. Noneless he duly praised his achievements as the former Deputy-Director of the Institute (1981-1986).

Dudich's main fields of research included bauxite geology, bauxite geochemistry and Eocene (litho) stratigraphy. However he was also internationally recognised for his work on the history of geology. A member for 44 years of the History of Geology Section of HGS, he became successively Board Member, President, and Honorary President. Since the mid-70s he has been active in INHIGEO. He attended meetings, presented lectures, and in 1982 even organized an INHIGEO Conference in Budapest, on the history of geological mapping. Between 1984 and 1989 he was Secretary-General of INHIGEO, and later one of its Senior Members.

The speakers highlighted his human qualities and excellence in many fields, including philosophy and the auxiliary language Esperanto, his humane patriotism, and last but not least, his altruistic, unconditional helpfulness.

In response, Dr Dudich enumerated what he had been contributing to his mother-country. His favourite action was the formation of HUNGEO, the World Meetings of Hungarian Geoscientists, initiated in 1996. This year, its XIIth Meeting will be held in the eastern Hungarian town of Debrecen, with a field trip to Transylvania.

Among those present were his cousin Miklos Vendel from Los Angeles, Ferenc Wanek from Kolozsvár, Cluj Napoca (EMT). Letters of congratulation were received from the Countess Eva von Klebelsberg, President of the K. Klebelsberg Foundation; József Komlóssy, Vice-President of SENCE in Switzerland and his cousin Alexander Dudich, Professor of Ecology, in Selmecebánya, Banska Stiavnica, Slovakia.

The addresses were followed by a copious and hilarious reception. A co-student of E. Dudich, Árpád Juhász, sang a merry bauxite geologist's song, accompanying himself on guitar:

“ $\text{Al}_2\text{O}_3 \times \text{H}_2\text{O}$ , that is all a geologist about bauxite has to know.”

Csaba Baksa, President of HGS, Budapest

## IRELAND

It has been a time of commemorating significant past events in Ireland, historically, politically and geologically. In the last two years (a report was not submitted last year) Patrick Wyse Jackson has published a history of the Irish Geological Association that had just celebrated 50 years since its establishment. (See review, p. 92) The 175<sup>th</sup> anniversaries of the publication of Richard John Griffith's geological map of Ireland and Patrick Ganly's use of cross-stratification to determine way-up are recalled by Jean Archer.

### Publications:

Archer, Jean B. (2013) Anniversary of two significant events in Irish Geology. *Earth Science Ireland* 14, 8–9.

Blackstock, Allen (2013) *Science, politics and society in early nineteenth-century Ireland: The Reverend William Richardson*. Manchester University Press.

Herries Davies, Gordon L. (2012) Reply to Walsh. *Irish Journal of Earth Sciences* 30, 61.

Walsh, Peter (2012) Discussion of 'The Chalk Outlier at Ballydeenlea, Co. Kerry: A Story of Discovery' by Gordon L. Herries Davies (2011). *Irish Journal of Earth Sciences* 30, 59–60.

Wyse Jackson, Patrick N. (2012) Irish Rock 'Stars' - James Apjohn (1796-1886). *Earth Science Ireland* 11, 15.

Wyse Jackson, Patrick N. (2012) Ferdinand Canu's Gallery of Bryozoologists. *International Bryozoology Association Bulletin*, 8, 2, 12-13.

Wyse Jackson, Patrick N. (2012) Irish 'Rock Stars' – Richard Kirwan (1733–1812). *Earth Science Ireland* 12, 19–20.

Wyse Jackson, Patrick N. (2012) *The Irish Geological Association (1959–2012): a*

*chronostratigraphic history*. Dublin, Irish Geological Association, ii+40 pp.

Wyse Jackson, Patrick N. (2013). Irish 'Rock Stars': Michael Tuomey (1805–1857). *Earth Science Ireland* 13, 12.

Wyse Jackson, Patrick N. (2013) Irish 'Rock Stars': Edward Townley Hardman (1845–1887). *Earth Science Ireland* 14, 10–11.

Wyse Jackson, Patrick N. and Falkiner, Ninian (2013) *A Portrait of St Columba's College 1843-2013*. Old Columban Society, Dublin, pp. 176.

Patrick Wyse Jackson, Dublin

## ITALY

The activities of the Italian members included publications, participation in international symposia and national meetings, involvement in research projects, organization of exhibitions, as well as teaching in the field of the history of the Earth sciences.

**Andrea Candela** – University of Insubria, Varese, has just published a book on scientific imagery and history of public communication of science, entitled: *Dal sogno degli alchimisti agli incubi di Frankenstein. La scienza e il suo immaginario nei mass media* [From the dream of the alchemists to the nightmares of Frankenstein: Science and its imagery in the media]. One of the main issues discussed concerns the public perception of radioactive metals in the first half of the twentieth century. In September Candela took part in the 9<sup>th</sup> Italian Forum of the Earth Sciences held in Pisa (Italy), where he attended the workshop on *Earth Science Communication at Museums: Strategies and Tools*, discussing the topic: *Mining history and geoparks: a case study in the western area of the Lombard Prealps*. In 2013 he also wrote the biographical entries of the following Italian geologists: *Dante Pantanelli (1844-1913)* and *Carlo Fabrizio Parona (1855-1939)*. They will be published in the *Dizionario Biografico degli Italiani* [Italian Dictionary of Biography].

**Luca Ciancio** – University of Verona, continued his research on the 18<sup>th</sup> century history of geology in the Venetian region and on the relationship between natural sciences and antiquarian studies.

**Pietro Corsi** – University of Oxford, continued his research in 19<sup>th</sup> century Italian geology, with particular attention on the history of geological institutions, geological archives and correspondences, as well as national projects, such as the Italian Geological Survey and the geological map of Italy.

**Francesco Gerali** – worked until June 2013 as post-doctoral scholar at the Geography Institute of the National Autonomous University of Mexico (UNAM) with Luz Fernanda Azuela. His research on petroleum resources in Mexico focused on a series of activities that between 1864 and 1900 prejudiced the oil production in the country and left the industry in a stalemate; he made a preliminary assessment of early measures applied to the modern Mexican oil sector to address the 'problem' of producing oil in Mexico. Francesco then extended his inquiries to include the first two decades of the 20<sup>th</sup> century; he analyzed the influence of the geological, economic, and social conditions of Mexico on the new round of oil exploration that initiated a stable commercial-industrial cycle from the 1910s onwards. Francesco was invited to two public debates on the recently introduced Mexican energy reforms, to offer an historical review of the Mexican petroleum industry in the past.

In July Francesco attended the 24<sup>th</sup> International Congress of the History of Science, Medicine and Technology (ICHSTM), in Manchester. He was the organizer of session P121 – *Men, knowledge and technologies in the development of the modern oil industry up to the early decades of the XX century* – and presented the results of his recent investigation. At the Congress he was nominated Runner-up for the *Neu-Withrow Bibliography Prize*, awarded by the Commission on Bibliography and Documentation (CBD) of the International Union of History and Philosophy of Science, in recognition of his work on the archive of the Italian geologist Giovanni Capellini (1833



-1922). Francesco was appointed as a member of the Board of Advisors of the CBD. At the INHIGEO Business Meeting he expressed his ideas on the editing of a bibliography of publications on the history of geology, written by INHIGEO members. In the following months, his proposed project, an 'INHIGEO Virtual Bibliography', was approved by the Board.

From August to November Francesco was a Visiting Fellow at the Linda Hall Library of Science, Engineering and Technology in Kansas City. Thanks to a travel grant, awarded by the Fellowship Program of the Library, he could develop his research project, *Crossing the national boundaries: a study of foreign technological know-how in the maturation of the Mexican oil industry in the second half of the 19<sup>th</sup> century*. The richness of their collection on the history of mining made it possible to successfully investigate the interdependence between business and science in the promising oil play in the Mexican Golden Lane.

In December Francesco benefited from a new travel fellowship, granted by the Everett Lee DeGolyer Library at the Southern Methodist University in Dallas. In proposing the project *The geology and the art of prospecting for oil of Everette Lee DeGolyer*, he aimed to localize geological maps and technical reports for north east Mexico, of the early 1900s. His main aim was to find evidence in support of the thesis that the geologist E. L. DeGolyer was the most influential scientists in 'untying the knot' of the Mexican oil fields, at the beginning of the 20<sup>th</sup> century.

At the end of 2013 Francesco was awarded a one-year research grant by the Mexican Secretariat of Foreign Affairs, and appointed again as post-doctorial researcher at the Geography Institute of the UNAM for the year 2014.

**Francesco Luzzini** – finished his Research Fellowship in the History of Science at the University of East Piedmont in May 2013. Since December 2013 he has held the position of Adjunct Professor in the History of Biology at the University of Milan, where he also serves as Teaching Fellow.

Francesco's main research focuses on the development of medical and natural sciences in Europe during the early modern period. Since September 2009 he has been scientific manager of the electronic inventory of Antonio Vallisneri's correspondence ([www.vallisneri.it](http://www.vallisneri.it)), for the National Edition of Vallisneri's Works. In 2013 he was appointed a member of the Italian Society for the History of Science (Società Italiana di Storia della Scienza - SISS) and of the Lazzaro Spallanzani Studies Center (Centro Studi Lazzaro Spallanzani di Scandiano).

In September he published his first monograph, *Il miracolo inutile. Antonio Vallisneri e le scienze della Terra in Europa tra XVII e XVIII secolo* ('The unnecessary miracle. Antonio Vallisneri and the Earth Sciences in Europe from the seventeenth to the eighteenth century', Olschki, Florence). This book focuses on the studies of Vallisneri (1661-1730) in the field of the Earth Sciences, and is also examining the impact these investigations had on the European *Republic of Letters*. Relying on both naturalistic and historical competencies, Francesco analysed Vallisneri's field research and theories, which concerned several crucial topics, such as the genesis of mountains and fountains, the debate on the origin of fossils, diluvialism, and the discovery of deep-time in relation to geochronology.

In 2013, Luzzini continued to collaborate as column editor for «Acque Sotterranee», Italian Journal of Groundwater. His exhibition on Vallisneri (*Ostinate esperienze. Antonio Vallisneri e le Scienze della Terra: il viaggio montano del 1704*) moved from Milan to Scandiano, where it was hosted until April. During 2013 he took part in the following meetings and conferences: Conference *Lazzaro Spallanzani e Antonio Vallisneri. Le opere* (Reggio Emilia, February 7), Paper: *L'Edizione Nazionale delle Opere di Antonio Vallisneri*, (<http://www.youtube.com/watch?v=3m3nytNyY90>); Meeting *Scorci di un fiume. L'Adige come problema storiografico complesso* (Rovereto, February 21 to 22), Paper: *L'Itale terre a vagheggiare inteso. Il bacino dell'Adige nel XVIII secolo: tra storia e scienza* (<http://www.sperimentarea.tv/ondemand/ladige-scorci-di-un-fiume-intervento-di-fluzzini>); Conference *Antonio Vallisneri e l'arte di osservare* (Padua, November 19), Paper: *Le scienze della Terra nella ricerca vallisneriana*.



**Stefano Marabini** – Faenza, continued to study the history of seismic activities in the Romagna region (central Italy), the history of the "vena del gesso" in the northern Apennines and to collaborate with the Museum Capellini in Bologna.

**Claudia Principe** – Istituto di Geoscienze e Georisorse – CNR, National Research Council Pisa, continued her researches in the history of volcanology and geo-archaeology.

**Ezio Vaccari** – University of Insubria, Varese, continued his research on the history of the geological sciences in 18th-19th century. In March he was invited to the congress "The scientific knowledge in Italy during the 18th century", held at the Istituto Lombardo di Scienze, Lettere ed Arti in Milan (Italy), where he gave a paper (in Italian) on the topic "The Earth Sciences in 18<sup>th</sup> century Italy" (<http://www.youtube.com/watch?v=NOCnCT33BvM>). In April he was invited to give a paper (in Italian) at the conference "Towards hermeneutics of landscape" held in Varese (Italy) at the University of Insubria, with a paper (in Italian) on "The interpretations of the mountain landscape between science and history". In July Vaccari attended the 24th ICHSTM in Manchester (UK) where he presented a paper on "The role of fieldwork in Ami Boué's *Guide du géologue voyageur* (1835-36)" at the INHIGEO session "Geologists in the Field". He also continued to teach the history of geological sciences within some of his courses, in particular "History and resources of the mountains" at the University of Insubria.

**Gian Battista Vai** – University of Bologna, continued his research activity in the history of geology and paleontology, as director of the geological museum "Giovanni Capellini" in Bologna, organizing exhibitions and popular conferences, also on the history of geology.

#### Publications:

- Candela, A. 2013. *Dal sogno degli alchimisti agli incubi di Frankenstein. La scienza e il suo immaginario nei mass media*. Milano, Franco Angeli, 268 pp.
- Candela, A., [book review] F. Gerali, *L'Opera e L'Archivio Spezzino di Giovanni Capellini. Un geologo dell'Ottocento*. Museo Geologico Giovanni Capellini, Bologna 2012; Luca Ciancio, *Vulcan's Secret Forge: Explorations of the Verona area by British aristocrats and Veneto naturalists during the Eighteenth century*. Consorzio di Tutela Vini Soave e Recioto di Soave, Verona 2010. *Isis. Journal of the History of Science Society*, 104, 4, 821-822.
- Candela, A. (in press). The Radium Terrors»: science fiction and radioactivity before the Bomb, *Nuncius. Journal of the Material and Visual History of Science*, 29.
- Candela, A. 2013. *Onorato, Ettore (1899-1971)*. In: *Dizionario biografico degli Italiani*, Roma, Istituto della Enciclopedia Italiana, vol. 79. [http://www.treccani.it/enciclopedia/ettore-onorato\\_\(Dizionario-Biografico\)/](http://www.treccani.it/enciclopedia/ettore-onorato_(Dizionario-Biografico)/)
- Candela, A. (in press). *Parona, Carlo Fabrizio (1855-1939)*. In: *Dizionario biografico degli Italiani*, Roma, Istituto della Enciclopedia Italiana, vol. 81.
- Candela, A. (in press). *Pantaneli, Dante (1844-1913)*. In: *Dizionario biografico degli Italiani*, Roma, Istituto della Enciclopedia Italiana, vol. 81
- Candela, A. (in press). *Panichi, Ugo (1872-1966)*. In: *Dizionario biografico degli Italiani*, Roma, Istituto della Enciclopedia Italiana, vol. 80
- Ciancio, L. 2013. *I segni del tempo. Teorie e storie della Terra*. In: A. Clericuzio and S. Ricci, (eds.), *Il contributo italiano alla storia del pensiero*, Enciclopedia Italiana, Ottava Appendice, Roma, Istituto della Enciclopedia Italiana, 332-343.
- Ciancio, L. 2013. *Alberto Fortis*. In: A. Clericuzio and S. Ricci, (eds.), *Il contributo italiano alla storia del pensiero*, Enciclopedia Italiana, Ottava Appendice, Roma, Istituto della Enciclopedia Italiana, 405-408.
- Ciancio, L. 2013. *Alpinisti e scienziati*. In A. Audisio and A. Pastore, (eds.), *CAI 150. 1863-2013. Il libro*, Torino, Museo Nazionale della Montagna, 69-89.
- Corsi, P. 2013. *Leopoldo Pilla*. In: A. Clericuzio and S. Ricci, (eds.), *Il contributo italiano alla storia del pensiero*, Enciclopedia Italiana, Ottava Appendice, Roma, Istituto della Enciclopedia Italiana, 431-434.
- Corsi, P. 2013. *Quintino Sella e la Carta Geologica d'Italia*, In: *Quintino Sella. Scienziato e Statista per*

- l'Unita' d'Italia*, Proceedings of the International Conference, Roma, Accademia Nazionale dei Lincei, 177-205.
- Gerali, F. 2013. Environment, economy, politics and technology. A brief analysis on Mexican petroleum up to the early 20<sup>th</sup> century. *History of Oil Industry Journal*, 13, 1, 237-260.
- Gerali, F. 2013. Imprenditoria e scienza nell'industria petrolifera abruzzese del 19<sup>th</sup> secolo. *Energia*, 2, 50-55.
- Gerali, F. and Riguzzi, 2013. Los inicios de la actividad petrolera en México, 1863-1874: una nueva cronología y elementos de balance. *Boletín del Archivo Histórico de Petróleos Mexicanos*, 13, 63-87.
- Gerali, F. in press. Science and life of a geologist through his papers. The personal archive of Giovanni Capellini in La Spezia. *Earth Sciences History*.
- Gerali, F. in press. Book review. Leslie Tomory, *Progressive Enlightenment. The Origin of the Gaslight Industry, 1870 – 1820*. The MIT Press, Cambridge, USA, 2012. 348 pp. *Journal of the International Committee on the History of Technology*.
- Gerali, F. 2013. Report. One year of Ph.D. Corner. *ICOHTEC Newsletter*, 94, 3.  
URL: <http://www.icohtec.org/publications/newsletter/2013-02-icohtec-newsletter.pdf>
- Gerali, F. 2013. Report on the book presentation: *Metros, leguas y mecatres. Historia de los sistemas medición en México*. Centro de Investigaciones y Estudios Superiores en Antropología Social, Mexico City, June 2012. In: *ICOHTEC Newsletter*, 96, 2-3.  
URL: <http://www.icohtec.org/publications/newsletter/2013-04-icohtec-newsletter.pdf>;
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- Luzzini F. 2013. *Il miracolo inutile. Antonio Vallisneri e le scienze della Terra in Europa tra XVII e XVIII secolo*, Florence, Olschki, 278 p.
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- Luzzini F. 2013. La sofferta chiusura del cerchio. Il contributo di Edmond Halley all'idrologia, *Acque Sotterranee*, Italian Journal of Groundwater, 2, pp. 63-64.
- Luzzini F. 2013. Il paradosso di Kircher (che paradosso non è), *Acque Sotterranee*, Italian Journal of Groundwater, 3, pp. 65-66.
- Luzzini F. 2013. Archi in numero d'intorno a mille. L'acquedotto Mediceo di Asciano, *Acque Sotterranee*, Italian Journal of Groundwater, 4, pp. 81-82.
- Vaccari, E. 2013. *Tecnica, lavoro e natura nella storia del territorio: riflessioni per una rivalutazione della cultura materiale*. In: F. Minazzi, (ed.), *Insubria rurale. Pratiche agronomiche biologico-sostenibili e forme dell'imprenditoria rurale per una nuova immagine della natura*, Sesto San Giovanni, Mimesis / Centro Internazionale Insubrico, 99-104.
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- Vaccari, E. 2013. *La geologia e le conoscenze della Terra*. In: A. Clericuzio and S. Ricci, (eds.), *Il contributo italiano alla storia del pensiero*, Enciclopedia Italiana, Ottava Appendice, Roma, Istituto della Enciclopedia Italiana, 535-539.
- Vaccari, E. 2013. *Giuseppe Mercalli*. In: A. Clericuzio and S. Ricci, (eds.), *Il contributo italiano alla storia del pensiero*, Enciclopedia Italiana, Ottava Appendice, Roma, Istituto della Enciclopedia Italiana, 611-614.

Ezio Vaccari, Varese

## JAPAN

JAHIGEO (Japanese Association for the History of Geological Sciences) held three meetings in 2013. The first was held at the Hokutopia, Tokyo, on 23 June, where the following two talks were presented:

Tomomi Nakagawa – Lafcadio Hearn and Ichizo Hattori – Unacknowledged relationship found in the search of the Lafcadio Hearn Library.

Kenji Hirabayashi – Exploration of oil resources in North Sakhalin before and after the war.

Greece-born Patrick Lafcadio Hearn (1850–1904), the famous writer whose Japanese name was Koizumi Yakumo, wrote a tsunami story and Hattori Ichizo (1851–1929) was the first president of the Seismological Society of Japan.

The second meeting of JAHIGEO formed part of the annual meeting of the Geological Society of Japan (GSJ) and was held at Tohoku University, Sendai, on 15 September. Two lectures were given:

Satoshi Kanisawa – Places of poetical association and tsunami.

Masayuki Ehiro – Distinctive geologic characteristics of the Kitakami Massif, Northeast Japan.

The third meeting, serving as the annual general meeting, took place at the Hokutopia, on 23 December. Two following talks were presented:

Toshiaki Osada – Gordon Yamakawa and Katura Oyama, two excellent Japanese conchologists.

Shigeru Onoda – Kan Watanabe (1898–1974), a pioneer of geological engineering.

As part of the regular session of the GSJ meeting on the history of geology, held on 16 September, four oral and one poster presentation were given:

Michiko Yajima – The beginnings of the Geological Survey of Japan.

Kenji Ikuno and Hiromichi Hirano – Searching for the original descriptions of some ammonites: some interesting relationships between the heteromorph ammonite genus *Polyptychoceras* and Professor Hisakatsu Yabe.

Akinori Takahashi and Senji Tanaka – Paleontology strikes back: Re-evaluating punctuated equilibria.

Toshio Asano – History of Earth Science education using ‘Plate Tectonics’.

Kiminoi Taguchi, Mizuho Kobayashi, Naoko Niiyama, Yoko Sakai, Mitsuharu Oshima, Yasuji Saito, Satoshi Uchino and Naomi Iizawa – The offprints collection of the late Professor Shozo Hayasaka (1928–2007), held in the Kanagawa Prefectural Museum of Natural History (Poster).

Three meetings of the history of geosciences (*Chigaku-shi Kenkyu-kai*) were conducted by relatively younger members of the association on 9 March, 29 June, and 12 October. The March meeting was held at the Izu-Oshima Island, Tokyo, as the 50<sup>th</sup> anniversary symposium, in collaboration with the Committee of the Izu-Oshima Geopark, with about fifty participants. The main theme of the symposium was, *Living in the Volcanic Front: the history of volcanism, local history and science history at Izu-Oshima*. After the opening address by Mr. Shirai, three recollections of the eruptions of 1950 and 1986 were read by the following inhabitants of the island:

Moriyosi Omura, Nobuko Okiyama, and Kazumori Mita. Kiyoshi Kikuchi introduced a very interesting film of the 1950-51 eruption.

Arata Sugimura, a geologist and advocate of the ‘volcanic front’ conception gave a presentation titled, “My memory of the 1950-51 eruption of the Izu-Oshima Volcano” (read by T. Yamada).

Masashi Tsukui of Chiba University gave a talk on, “The eruption of Izu-Oshima Volcano during 1777-1792: Sequence of the eruption and the action of the local government for hazard mitigation and aid”.

Four historians presented the following talks:

Shuji Higuchi – A short history of the Oshima Island with regard to volcanic eruptions.  
 Kim Kwang-Nam – Geological survey of eruptions of Izu-Oshima Volcanic Island, by E. Naumann, T. Wada and J. Milne in 1877.  
 Toshifumi Yatsumimi – History of chemical studies of volcanoes.  
 Masumi Osawa – A personal recollection of the Centre for Volcanology, University of Oregon.

Questions and discussions about geological features and scientific communication or outreach activities followed these presentations.

The June and October meetings were held at the Waseda Service Garden, in Tokyo.

Masumi Osawa gave a lecture on “H. Schliemann's interest in the scientific studies on cultural properties”.  
 Yutaka Omura spoke about, “Seiichi Wajima's archaeological studies” at the June meeting.  
 Satoru Sugaya talked about, “The age of the Earth in 18<sup>th</sup> century France”. His presentation referred to the work of Gautier, de Maillet, Buffon and Lamarck.

At the 60<sup>th</sup> annual meeting of the History of Science Society of Japan (HSSJ) held at Nihon University, Tokyo, 25-26 May, twelve papers were read on the history of planetary and earth sciences:

Masahiro Kitabayashi – Science and politics in Plans of Studies on Prediction of Earthquakes, in Japan.  
 Kenichi Sato – Pre-modern Japanese land surveying and its arithmetic.  
 Ryuji Hiraoka – Surveying and military science in early Edo Japan: *Daien-bundo* [Big Circular Protractor] preserved in Saga and Edinburgh.  
 Toshihiro Yamada and Shigeyuki Aoki – Shinzo Shinjo (1870–1941) as precursor of Earth and planetary scientist.  
 Yasuo Saito – Development of modern astronomy in the late years of the Qing Dynasty, through the articles of the scientific magazines.  
 Katsunori Tanaka – The establishment of radio astronomy in Japan.  
 Tomoko Fukukawa – The geography books to which K. Kume referred when editing *Bei-o kairan jikki* (Part VI, The volume on Switzerland, Spain and Portugal).  
 Michiko Yajima – The beginnings of the Geological Survey of Japan.  
 Kazuo Gesi – On Nobuo Naora and ‘Akashi-genzin (early man of Akashi), cont.  
 Hirotaka Yamada – Present state of the industrial heritage in Taiwan and contribution of industrial makers and learned societies of Japan.  
 Akio Matsui – Origin of the modern steelmaking industry in Brazil.  
 Kazuyuki Ito – Galileo’s description of sunspots in *Istoria e dimonstrazioni intorno alle macchie solari*.

On 19 May, at the Makuhari Messe, Chiba, the Japan Geoscience Union (JpGU) provided sessions for geoscience studies: historical, philosophical and STS studies, in which thirteen papers were read and six posters presented. The first six papers on the history of geoscience were:

Michiko Yajima – The beginnings of the Geological Survey of Japan.  
 Jiro Tomari – The Seismological Society of Japan was established on March 11<sup>th</sup>, 1880.  
 Hiroo Mizuno – Misao Hirayama’s (1908–1999) achievement as a pioneer in magnetotellurics.  
 Yumiko Ohata and Mutsuko Inui – Changes in the structure of the building stone industry in Japan, as interpreted from back issues of business paper and trade statistics.  
 Shigeo Yoshida – The history of the study on the Earth's inner core with the aid of a scientometric method.

Shigeyuki Aoki and others – How to write the history of geoscience – the rights and wrongs of the Whig interpretation of history.

The next three papers discussed the history of geoscience education relevant to the roles of geoscientists:

Toshihiro Yamada – The process of the emergence of post-war Geoscience Education in Japan, with special reference to *Chikyu no kagaku* [Earth Sciences] (1946-1950).

Susumu Yamaga – Yasuo Shimazu's textbook of Earth science for high school students and the reorganization of the subject (*Chigaku*).

Shin-ichi Kawakami – Collaboration of elementary science education with the Earth and planetary sciences.

The last four papers focused on social and philosophical aspects of geoscience:

Yuko Murakami – Case study: research management in geosciences.

Kazuhisa Todayama – Risk and the central problems of philosophy of science.

Rei Nouchi and Mineo Kumazawa – The model of scientific activity: why is science so robust?

Hisashi Nakao, Akira Ota, Mineo Kumazawa and Shigeo Yoshida – The evolution of behavioural modernity and the evolution of science.

The themes of six posters were the following:

Mutsuko Inui – History and present of the building stones and the quarries around the Seto Inland Sea, southwest Japan. This poster dealt with the tendency presented by her oral in a specific region.

Miyoko Shibazaki – Acceptance of plate tectonics in Japan and ‘Sinking of Japan’ (*Nihon chinbotsu* [‘Sinking of the Japanese Islands’]) This was a successful and popular film, distributed in 1973, which used the plate tectonic theory in its story-telling.

Mineo Kumazawa and others – A model of modern science and its working: Dual Feedback-Loop Operator.

Takahiro Otani and others – A case study of the dFLO - Optimal designing of the data acquisition and the inverse problem on the structure estimation.

Fuki Ueno and others – A review of recent studies on ‘Collective Intelligence’ (these three posters resulted from a project of collaboration between scientists and philosophers at Nagoya University).

Kou Yamada – Framing of Japanese newspapers in reporting issues of seismic disasters. This poster focused on significant aspects of scientific communication.

These sessions, which started in 2008, have cultivated the domain of geoscience studies in the JpGU and revealed that its varied approaches made it very exciting and attractive. Some of the contributions presented at these sessions were published in the *Nagoya Journal of Philosophy*, No. 10 (2013), special issue on the history of earth and planetary science edited by K. Todayama (chief) and S. Aoki (guest).

In 2013, JAHIGEO issued its *Bulletin*, Numbers 40 and 41 (in Japanese), and the *JAHIGEO Newsletter*, Number 15 (in English). The *JAHIGEO Newsletter* contains an article by Hiro Hirai – Geocosmic quotations from Seneca’s *Natural Questions* in Lipsius’s *Natural Philosophy of the Stoics* (1604).

Hirokazu Kato and Michiko Yajima, Tokyo; Toshihiro Yamada, Chiba

## LITHUANIA

**Algimantas Grigelis** – spent considerable time during 2013 in completing a major academic monograph titled, *Academician Juozas Dalinkevičius' (1893-1980)*. This work is devoted to the scientific work and the life of this eminent geologist, stratigrapher, historian of geosciences and engineer. The book will be published in 2014 (Vilnius University Publisher, 842 p. (in Lithuanian).

A three-day scientific conference and geological excursion, to mark the 120<sup>th</sup> anniversary of the birth of Academician Dalinkevičius, was held at Vilnius, Kaunas and Naujoji Akmenė cities. It was organised by Professor Grigelis and attracted much interest from the scientific community.

An annual event in Vilnius is the conference *Scientia et Historia*. Some 25 reports were presented this year on topics that included the history of philosophy, education, and the physical and natural sciences.

A classic paper of the well-known German geologist Eugen Seibold (1918-2013), a former President of IUGS (1980-1984) and of the European Science Foundation (1984-1990), dealt with his pioneering work on the geology and sedimentology of the southern Baltic Sea. It has been re-published in 2013 in *Baltica: International Journal on Earth Sciences of the circum-Baltic States*, 26, 1, (Vilnius).

*Baltica*, an *International Journal on Earth Sciences*, edited and published by Acad. A. Grigelis, has celebrated the 50<sup>th</sup> anniversary of its founding.

Scientific papers on Academician Juozas Dalinkevičius' work in the St. Petersburg Mining Institute, in the universities of Kaunas and Vilnius and in the Lithuanian Academy of Sciences, were published in the Journal of the Geological Society of Lithuania *Horizons of Geology*, in Vilnius.

In 2013, Professor A. Grigelis took part in EU project meetings and in marine geology conferences in Paris, France, Klaipėda, in Lithuania and in Algarve in Portugal.

In the past year the anniversaries of two eminent Lithuanian Earth scientists were celebrated at a conference held at Vilnius University. It was the 250<sup>th</sup> anniversary of the birth of Adjunct Romanas Simonavicius – Roman Symonowicz (1763-1813) whose work is of special interest to Algimantas (see publications below). The year 2013 also marked the 150<sup>th</sup> anniversary of the birth of Professor Juozas Lukosevicius – Jozef Lukaszewicz – Иосиф Деметъевич Лукашевич (1863-1928). To honour the life and work of the latter, Lithuania Post has issued a special commemorative envelope.



## Publications:

Grigelis, A. 2013 (scientific editor). *Baltica*, An International Journal on Geosciences,

Nature Research Centre. Institute of Geology and Geography, Vilnius, 26, 1, 1–120; 26, 2, 121–210. ISI Web on Science, IF 0.529.

Grigelis, A. 2013. The Baltica Journal celebrates its 50th anniversary. *Baltica*, 26, 1, 1–4.

Grigelis, A. 2013. Juozas Dalinkevičius – palaeontologist of Devonian brachiopods.

Introduction and Facsimile. *Geologija*, 55, 2, 62–74.

Baltrūnas, V. and Grigelis, A. 2013. Academician Juozas Dalinkevičius – author of modern geology in Lithuania. *Horizons of Geology*, 3, 8–14 (in Lithuanian).

Grigelis, A. 2013. Roman Symonowicz – mineralogy adjunct of Vilnius university. *Horizons of Geology*, 4, 7–10 (in Lithuanian).

Grigelis, A. and Gelumbauskaite, L. Z. 2011. Development of Geological Studies in Lithuania: New Records on Roman Symonowicz's 1803 Mineralogical Travel. *Baltic Journal of European Studies*, 1, 9, 7–30.

Algimantas Grigelis, Vilnius

## MADAGASCAR

**Lala Andrianaivo** – See article titled “Overview of geological surveying in Madagascar” on page 79.

## MEXICO

During 2013 our local INHIGEO group has been working together in order to organize academic activities.

As we have been reporting in recent years, we hold periodical meetings, in which Italian INHIGEO member, Francesco Gerali, has been participating. Our activities included a symposium organized by Uribe-Salas. He has also coordinated the publication of articles, based on talks presented at the symposium.

In the meantime, Óscar Torres was accepted as a new member of INHIGEO. He has continued work on his thesis on North American geologist William M. Gabb, under Azuela's supervision.

During 2013 some papers relating to the history of geological sciences were read at scientific conferences:

Azuela, L. and Torres, Ó. – Scientific and Political Meanings in William Gabb's Journey in Baja California. *24th International Congress of the History of Science, Technology and Medicine*, Manchester, United Kingdom.

Azuela, L. – The French Scientific Commission Geological Survey. *Coloquio Geología para los historiadores*, Facultad de Historia, Universidad Michoacana de San Nicolás de Hidalgo.

Espinosa L. and Morelos, L. – History and Splendour of the Geology Museum. *64<sup>th</sup> Reunión de Ciencias, Artes y Humanidades*, Instituto de Geología, UNAM.

Morelos, L. – The Meteorite Museum. *Coloquio Geología para Historiadores*, Facultad de Historia, Universidad Michoacana de San Nicolás de Hidalgo.

Morelos, L. – Bacubirito Meteorite. *Coloquio de Meteorítica: 120 años de la Colección de Meteoritos del Palacio de Minería*.

Morelos, L. – Bosquejo biográfico de Ezequiel Ordóñez Aguilar, en la restauración de la escultura en honor del ingeniero Ezequiel Ordóñez. Instituto de Geología, UNAM.

Morelos, L. – The Meteorite Museum: 120 Years. *Coloquio La geografía y las ciencias naturales en algunas regiones y ciudades de México, 1787-1940*, Instituto de Geografía, UNAM.

Morelos, L. – Origins and Creation of Mexico's Geological Survey. *Coloquio Geología para Historiadores*, Facultad de Historia, Universidad Michoacana de San Nicolás de Hidalgo.

Morelos, R. L. – Stones Fallen from the Sky in the National School of Engineers. A Scientific Cabinet in Porfirian Mexico. *200 años del Palacio de Minería. Su historia a través de documentos originales, Palacio de Minería*.



## Publications:

- Azuela, L. and Rodríguez-Sala, M. L. (eds.), 2014. *Estudios históricos sobre la construcción social de la ciencia en América Latina* [Historical Studies on the Social Construction of Science in Latin America], Instituto de Investigaciones Sociales-UNAM.
- Azuela, L. 2013. Entre geografía, meteorología y astronomía, surgimiento de la geología en el siglo XIX [Geography, Meteorology and Astronomy in the Emergence of Nineteenth Century Geology in Mexico]. In: Kleiche-Dray, M., Zubieta, J. and Rodríguez-Sala, M. L. (eds), *La institucionalización de las disciplinas científicas en México*. (Siglos XVIII, XIX y XX), Instituto de Investigaciones Sociales. UNAM-Institut de Recherche pour le Developpement, México, p. 129-160.
- Azuela, L. 2014. Las relaciones internacionales en la creación del Instituto Geológico de México (1891) [International Relationships and the Creation of the Geological Institute in Mexico (1891)]. In: Azuela, L. and Rodríguez-Sala, M. L. (eds.), *Estudios históricos sobre la construcción social de la ciencia en América Latina* [Historical Studies on the Social Construction of Science in Latin America], Instituto de Investigaciones Sociales-UNAM FALTA ISBN Y PÁGINAS
- Cortes, M. T. and Uribe-Salas, J. A. 2012. The commitment to 'Guano' in Puerto Rico. Scientific explorations, business performance and international market. *Revista Brasileira do Caribe. Revista do Centro de Estudos do Caribe no Brasil*, CECAB, Goiânia.
- Morelos, L. 2012. *Mexican Geology in the nineteenth century. A historical review of the works of Antonio del Castillo, Santiago Ramírez and Mariano Bárcena*. Secretaría de Cultura de Michoacán-Plaza y Valdés, Mexico.
- Morelos, Lucero and Moncada, O. 2012. The geological survey during the 10<sup>th</sup> International Geology Congress in Mexico, 1906. In: Azuela L. F. and Vega, R. (eds.), *Naturaleza y territorio en la ciencia mexicana del siglo XIX*. Instituto de Geografía-Dirección General de Asuntos del Personal Académico, Mexico.
- Morelos, L. 2013. Stones Fallen From the Sky in the National School of Engineers (1893). In: González, F. O. E. (eds.), *200 años del Palacio de Minería. Su historia a través de documentos originales*. Facultad de Ingeniería, UNAM, México, 2013, p. 450-493.
- Uribe-Salas, J. A., 2012. Andres del Rio and Immanuel Kant in Mexico, Saber Más. *Journal of Scientific Communication*, Universidad Michoacana de San Nicolás de Hidalgo, 1, 6, 19-22.
- Uribe-Salas, J. A. 2013. La Naturaleza and Mexican Geologists in the second half of the nineteenth century. In: *De Re Metallica. Sociedad Española para la Defensa del Patrimonio Geológico y Minero*.
- Uribe-Salas, J. A. 2013. From Mineralogy's Acclimatization to Geology's Advancement in Knowledge Promotion from Mexico's Development in the XIXth Century. In: Calvo, L., Sierra, A. G. and Samper, M. A. P. (eds), *Naturaleza y Laboratorio*, Barcelona, España, CSIC, 117-142.
- Uribe-Salas, J. A. 2013. Book Review of Lucero Morelo's *La Geología Mexicana en el Siglo XIX. Una revisión histórica de la obra de Antonio del Castillo, Santiago Ramírez y Mariano Bárcena*, Tzintzun. *Revista de Estudios Históricos*, UMSNH, Morelia, 2013.

As a final note we would like to add that members of our group continue teaching three different courses in the National Autonomous University (UNAM) and Saint Nicholas University in Michoacan (UMSNH), which contain topics on the history of geological sciences and contribute to raise the interest of young students in this subject.

Luz F. Azuela, Instituto de Geografía, UNAM, Mexico City

**José Alfredo Uribe-Salas** – The colloquium for historians of geology was organized by the International Commission on the History of Geological Sciences (Chapter-Mexico) and the Faculty of History of the Universidad Michoacana de San Nicolás de Hidalgo, with the assistance of researchers, graduate and undergraduate students. Speakers discussed their research into the work of Mexican naturalists from the nineteenth century, in the fields of geography, botany, mineralogy,

geology, palaeontology, stratigraphy, astronomy, meteorology and statistics, in order to understand and explain the reality of their time.

The speakers, Luz Fernanda Bernal Azuela, Jose Alfredo Uribe Salas, Lucero Morelos Rodriguez, Laura Valdivia Moreno, Maria Guadalupe Tapia Olarra, José Omar Moncada Maya and Francesco Paolo Riguzzi Gerali, from the Universidad Nacional Autónoma de Mexico, El Colegio Mexiquense and Universidad Michoacana de San Nicolás de Hidalgo, had previously made an assessment of the history of science in Mexico in the fields of geography, geology and economics. Through books, book chapters, articles and theses, they have presented their work on the nineteenth century, concerning public policies in education and science, development of educational institutions and research centres, scientists, scientific associations, social networks, and processes of diffusion and dissemination of knowledge, among other topics of interest. Their writings, along with the papers discussed at the symposium, represent a primary source of historical knowledge of Mexico.

The colloquium offered an opportunity for reflection on various issues, problems and questions relating to the history of the Earth sciences. The papers presented at the colloquium discussed how historical knowledge of geological time has impacted different cultural and ideological conceptions about the origin of life and the history of mankind. They also addressed other issues relating to the institutionalization and professionalization of geological knowledge in Mexico, and suggested further research into the dissemination of knowledge and collaboration between various institutions and countries.

The symposium forms part of the annual activities of INHIGEO members in Mexico.

### **New Zealand**

The Historical Studies Group of the Geoscience Society of New Zealand (convenor Simon Nathan ([s.nathan@xtra.co.nz](mailto:s.nathan@xtra.co.nz)) published two issues (44 & 45) of its journal during the year, which also saw a change in editor. On the retirement of Heather Nicholson from this role, the new editor is INHIGEO member Rodney Grapes ([rodneygrapes@gmail.com](mailto:rodneygrapes@gmail.com)). Past issues of the journal are now online. Articles by New Zealand members of INHIGEO in the journals for 2013 include Simon Nathan's "Letters written by and about James Hector" and Rodney Grape's "William Lyon's Lecture and the beginning of a Geological Society".

Last year also saw the publication of the third and final volume of the *Hochstetter Collection*, Basel, Part 3 – *New Zealand Maps & Sketches*, by Sascha Nolden & Sandy B Nolden. These magnificent volumes contain images collected by Ferdinand von Hochstetter (1829-1884), the Father of New Zealand Geology, and now held at Basel. The maps and sketches are collated according to geographic location and are accompanied by explanatory notes. The publishers, Mente Corde Manu Publishing ([mente.corde.manu@gmail.com](mailto:mente.corde.manu@gmail.com)), have ensured that reproduction of the images is of an exceptionally high standard (see review on pp. 85-86).

The on-going project, initiated by Simon Nathan, to publish transcriptions of the correspondence and other material of 19<sup>th</sup> century scientists, held in various New Zealand archives, has resulted, in 2013, in the publication of another four volumes. They have been published by the Geoscience Society of New Zealand as miscellaneous publication 133, F to I, and are downloadable from the [GSNZ website](#) (or from the links below):

- [Transcriptions of selected letters from Frederick Wollaston Hutton to James Hector and Julius Haast](#) (MP-133F 2nd edition) by Esme Mildenhall, Rowan Burns & Simon Nathan.
- [James Hector in Northland](#) (MP-133G) by Rowan Burns & Simon Nathan.
- [The Correspondence of Julius Haast and Joseph Dalton Hooker, 1861-1866](#) (MP-133H) by Sascha Nolden, Simon Nathan & Esme Mildenhall.

- [Letters from James Farmer to James Hector, 1876-1891](#) (MP-133-1) by Esme Mildenhall & Simon Nathan.

Mike Johnston, Nelson

## POLAND

Modern geological studies in Poland, for some 250 years, have usually been accompanied by historical reflections. Initially these consisted mainly of critical appraisals of the achievements of earlier geologists. At the end of 19<sup>th</sup> century a special publication appeared on this subject (T. Wisniowski). In 1932, Stanislaw Malkowski, in Warsaw, founded the Social Museum of the Earth, which included a section on the history of the geosciences. While this department still exists today, it has not been very active. In recent years, most work on the history of the geosciences has been carried out by geologists of the State Geological Institute in Warsaw, who have published their papers mainly in the periodical *Przegląd Geologiczny* (Geological Review). Historians of the geosciences are also participating in the activities of the Institute of the History of Sciences of the Polish Academy of Sciences in Warsaw (A.J. Wojcik and Z. Wojcik) and the Commission on the History of Sciences of the Polish Academy of Arts and Sciences in Cracow (S.W. Alexandrowicz, A. Grodzicki, J. Skoczylas, R. Tarkowski, W. Narebski, A.J. Wojcik and Z. Wojcik). All of these scientists are experienced research workers. Among publications by researchers of the younger generation that are worth mentioning, is an article by Iwona Mikolajewska and Ewa Krzeszowska 2013. Geological specimens in the eighteenth century: The Naturalienkabinet of Father Leopold Jan Szersznik, in Cieszyn, *Przegląd Geologiczny*, 1, 25-29.

The most important book on the history of geosciences that appeared in Poland, in 2013, is in our opinion, a multi-author monograph titled, *History of geographic and geological sciences in the University of Poznan*. One of its main authors is Janusz Skoczylas, who wrote the chapter on the evolution of these sciences, from earliest times up to 2010 (See review, pp. 84-85). Also worth mentioning is the edition by Stefan W. Alexandrowicz, in cooperation with Cracow Radio, of a Compact Disc titled, *Memorable naturalists, known and unknown*, which contains 114 biographical sketches of meritorious naturalists. Their biographies were presented by him earlier in a special radio broadcast. One of these biographies is devoted to Stanislaw Zareczny (1848 – 1909), whose important researches are the subject of a monograph, prepared by S.W. Alexandrowicz. *Przegląd Geologiczny* is publishing articles about eminent geologists, edited by J.B. Miecznik. Some of these geologists were active in foreign countries, e.g. Stanislaw Jozef Thugutt, Ferdynand Rabowski, Boleslaw Bujalski and Marian Smoluchowski. Miecznik with other authors, e.g. S. Wolkowicz, was engaged in researching other subjects, including the geological maps of Silesia. As already mentioned, J. Skoczylas paid particular attention to the history of the geological sciences in Poznan University. His papers were published in various periodicals, such as *Przegląd Gorniczy* (Mining Review). He has written about such eminent geoscientists as Karol Bohdanowicz (1864-1947) and Pawel Edmund Strzelecki (1797-1873) and, for their contributions to local geology, has referred to Franciszek Chlapowski (1846-1923) and Wilhelm Friedberg (1873-1941). Radoslaw Tarkowski, usually cooperating with P. Daszkiewicz, continued his studies of Polish-French geological links and his investigations of Polish geoscientists in Latin America, mainly Konstanty Jelski, who was well known as a 19<sup>th</sup> century collector of natural specimens.

Andrzej J. Wojcik's studies were devoted predominantly to geological maps of Polish territories in the 19<sup>th</sup> and 20<sup>th</sup> centuries. His main publication, *Carta geologica: Geological Maps of the Polish Kingdom, in the years 1815-1915*, is reviewed above (p. 84). Because his scientific interests were directed to both geology and mining in the territory of the former Tsarist's Russian Empire, A.J. Wojcik has cooperated with specialists in Moscow, St. Petersburg and Novosibirsk. He participated in many international symposia and congresses, delivering lectures on the history of cartography and presenting biographical studies of outstanding researchers (Karol Bohdanowicz,

Hieronim Kondratowicz and Jan Mieroszewski), He was also very active in the documentation and the protection of industrial (mainly mining) heritage.

The main researches of Zbigniew Wojcik were focused on the contributions of Polish researchers to the geology of Siberia. In the 19<sup>th</sup> century they were mainly political exiles (Aleksander Czekanowski, Jan Czerski, Benedykt Dybowski and others), as well as Polish geologists employed by Russian institutions (eg. Leonard Jaczewski and Karol Bohdanowicz). The results of their work, particularly in the region of Lake Baikal, are still valid today. In addition, Z. Wojcik continued research on the works of Stanislaw Staszic, presenting his results, together with the late S. Czarniecki, at the specialist meeting organized by the Staszic Museum in Pila, where this “Father of Polish geology” was born.

A very important event was the celebration relating to the renovation of the tomb of the eminent geologist Ludwik Zejszner (1805-1871), at the Cracow monumental cemetery. This renovation owed much to the efforts of the late S. Czarniecki and, particularly, to the organizational activity of Piotr Krzywiec, who won the financial support of the petroleum companies: Chevron, Canadian International Oil Corporation and ION Geophysical. This event was accompanied by a scientific session organized by the Institute of Geological Sciences of the Polish Academy of Science, in Cracow. During this session S. Czarniecki delivered a lecture on the life and scientific achievements of Ludwik Zejszner, while P. Krzywiec gave a talk on selected aspects of the geological studies carried out by this eminent scientist.

The Polish group of historians of the geological sciences has suffered a heavy loss. The INHIGEO Honorary Senior Member, Stanislaw Czarniecki, died in Cracow on the 27<sup>th</sup> of November, 2013. He was one of the very few living founding members of our Commission, who participated in its first symposium in Yerevan. Despite his advanced age of 92 years, Czarniecki remained active until his final days. He participated in the scientific sessions in Pila and Cracow, as already mentioned, devoted to the work of Staszic and Zejszner. (See obituary, pp. 63-65)

Zigniew Wojcik, Warsaw and Wojciech Narebski, Cracow

## PORTUGAL

**Teresa Salomé Mota** – has been elected a member of the Nominating Committee of History of Earth Sciences Society (HESS), for the period 2013-2015. She was co-organisator and scientific coordinator, with Luís Carolino, of the HoST 6th annual workshop *The Polytechnic Experience*, at the Faculty of Sciences of the University of Lisbon. Teresa launched the book *A Outra face do Império: Ciência, Tecnologia e Medicina*, at the Institute of Social Sciences, Lisbon. She also taught classes on the theme *Visual language in geology*, in *La cultura material de la ciencia*, part of the Master of History of Science and Scientific Communication program, at the University of Valencia, in Spain.

### **Ana Carneiro and Teresa Salomé Mota –**

#### Publications :

- Simões, A., Carneiro, A., Diogo, M. P., Carolino, L. M. and Mota, T. S. 2013. *Uma História da Faculdade de Ciências de Lisboa (1911-1974)*. With the collaboration of Ana Romão, Catarina Teixeira and Conceição Tavares, Faculty of Sciences of the University of Lisbon.
- Carneiro, A., Simões, A., Diogo, M. P. and Mota, T. S. (2013). From sinner to saint: geology and religion in Portugal, *Notes and Records of the Royal Society*, 67, 331-354.
- Mota, T. S. and Carneiro, A. 2013. A time for engineers and a time for geologists: scientific lives

and different pathways in the history of Portuguese geology, *Earth Sciences History*, Special Issue, 32, 23-38.

Mota, T. S. 2013. Spending some time in the field. Fieldwork in the Portuguese Geological Survey during the twentieth century. Abstracts of the *24th International Congress on the History of Science, Technology and Medicine*, Manchester, 276.

## RUSSIA

Russian INHIGEO members presented a wide range of papers at international and national congresses and meetings. The year 2013 also marked the 150<sup>th</sup> anniversary of the birth of academician Vladimir I. Vernadsky (1863-1945). Russian historians of the geosciences commemorated this event at a number of organized meetings and at an exhibition.

*24<sup>th</sup> International Congress of the History of Science, Technology, and Medicine*, in Manchester, UK:

Bessudnova, Z. – The mineralogist Nikolai Koksharov (1818-1892) and his field trips with Roderick Murchison in Russia, 1840-1841”.

Ivanova, T. with co-author – The creation of the petroleum industry in Russia: the Apsheron Peninsula in the nineteenth century.

Kolbantsev, L. – Vladimir Obruchev: the first State Geologist of Eastern Siberia, and the first Russian geologist-writer.

Malakhova, I. – Dmitry I. Sokolov: a pioneer in geology and an expert in literature.

*12<sup>th</sup> International Erbe Symposium (Cultural Heritage Symposium in Geosciences, Mining and Metallurgy. Libraries-Archives-Collections)* in Bolzano, Italy:

Kolbantsev, L. – Collections of geological museums as a historic-cultural phenomenon.

Malakhova, I. – Information technology in the history of geology: the first Russian experience.

Minina, E. and Bryanchaninova N. – Lydia Prochorova’s minerals collection (19<sup>th</sup> – 20<sup>th</sup> century), in the Vernadsky State Geological Museum.

*23<sup>rd</sup> International Philosophical Congress*, in Athens, Greece:

Trifonov, G. – Geological maps as the object of theoretical knowledge.

*15<sup>th</sup> International Conference EVA-2013: Information society, culture and education*, in Moscow.

Malakhova, I. and co-authors – IT in the history of geology.

*International meeting of the working group on the state and the prospects of development of State geological mapping of the territory of the Russian Federation and its continental shelf, on a scale of 1:1 000 000 and 1:200 000*, in St. Petersburg:

Kolbantsev, L. – The first Russian map with geological contents.

Kolbantsev, L. – Geological Maps of Russia in the XIX century (Poster presentation).

*International Scientific Conference ‘The Vernadskys and the Russian diaspora’* in Moscow:

Minina, E. – Vernadsky and Princes Gagarine: minerals and collections.

*Conference on the concepts of Vernadsky in modern science in Russia: on the occasion of the 150<sup>th</sup> anniversary of the birth of V.I. Vernadsky*, at the Rosatom State Atomic Energy Corporation:

Lapo, A – V.I. Vernadsky and the Geological Committee – TsNIGRI – VSEGEI: radiogeological studies.

*Conference at the Federal State Unitary Enterprise 'A.P. Karpinsky Russian Geological Research Institute' (VSEGEI) to mark the 150<sup>th</sup> anniversary of the birth of V.I. Vernadsky*: with an exhibition in the All-Russian Geological Library, in St. Petersburg:

Lapo, A. – V.I. Vernadsky and the Geological Committee – TsNIGRI – VSEGEI.

An anniversary exhibition in honor of V.I. Vernadsky was organized in the All-Russian Geological Library in Saint-Petersburg with the participation of Andrei Lapo. The full list of scientific works published by Vernadsky was placed on the Website of the Vernadsky State Geological Museum of the Russian Academy of Sciences (RAS). On the occasion of the anniversary celebrations Lapo was awarded the *Order of V.I. Vernadsky*, by the V.I. Vernadsky Fund.

*Annual meeting of the Institute of Science and Technology, Russian Academy of Sciences*, in Moscow:

Bessudnova, Z. – G.E. Schurovsky (1803-1884) as the head of the mineralogical and geological cabinets of the Moscow University.

Khomizuri, G. – Geologists and miners under the terror in the USSR (1917-1939).

*Museum colloquium – Paleontological and geological milestones and collections: significance of museums for their study and preservation*, in Kungur, the Urals:

Kolbatsev, L. – Collections of the Th.N. Tschernyshev, Central Research Geological Prospecting Museum (TsNIGR Museum).

Other activities:

G. Khomizuri and I. Malakhova were appointed members of the Organizing Committee for the 2017 INHIGEO Meeting to be held in Yerevan, Armenia.

New digital publications and information on the history of geoscience were placed on the Digital Library *Scientific Heritage of Russia* (<http://nasledie.enip.ras.ru/index.html>) and the Data Base *History of Geology & Mining* (<http://scirus.benran.ru/higeo/>)

Publications:

Bessudnova, Z. 2013. Grigory (Gotthelf) Fischer von Waldheim (1771–1853): author of the first scientific works on Russian geology and palaeontology. *Earth Science History*, 32. 1, 102-120.

Bessudnova, Z. 2013. The work of Eugene V. Milanovsky in the history of geosciences. *Bull. Soc. natur. Moscou*. Ser. geol. 88, 4, 10-17. (in Russian)

Bulov, S.V., Malakhova, I.G. 2012. The Virtual Data Room – the project of the Vernadsky State Geological Museum. In: Kalenov, N.E., (ed), *Information maintenance of science: new technologies*, 106-109. Ekaterinburg, UIPC, Ltd. (in Russian)

Khomizuri, G.P. 2012. The 300<sup>th</sup> anniversary of the first corresponding member of the Imperial Academy of Sciences and Arts in St. Petersburg, Peter Ivanovich Rychkov. In: *The annual meeting: to the 80<sup>th</sup> anniversary of the Institute of the History of Science & Technology, RAS.*, 1, 490-493. Moscow, RTSOFT. (in Russian)

Kolbatsev, L.R. 2012. The 115<sup>th</sup> anniversary of the 7<sup>th</sup> session of the International geological



congress. St.Petersburg, 1897. *Mineral.* 1, 6.

<http://www.mineral-journal.ru/Article/kolbantsev.htm> (in Russian)

- Kolbantsev, L.R. 2013. Geology of the Northern Region in the Th.N. Tschernyshev Central Research Geological Prospecting Museum (the TsNIGR museum) collections. In: *Paleontological and geological monuments and collections: significance of museums for their study and preservation. Collection of scientific articles*, 113-114. Kungur: Kungur Museum of History, Architecture and Art. (in Russian)
- Lapo, A.V., Erinchek, Yu.M., Zhamoyda, A.I., Masaitis, V.L. 2013. On the occasion of the 85<sup>th</sup> anniversary of Oleg Nikolaevich Kabakov. *Regional Geology and Metallogeny.* 55, 111-122. (in Russian)
- Lapo, A.V. 2013. V.I. Vernadsky and GeolCom – TsNIGRI – VSEGEI. In: *Regional Geology and Metallogeny*, 55, 111-120. (in Russian) Ibid. In: *The concepts of Vernadsky in modern science in Russia: to the 150<sup>th</sup> anniversary of V.I. Vernadsky: Proceedings of the Conference*, 38-43. St. Petersburg.
- Lapo, A.V. 2013. V.I. Vernadsky and GeolCom – TsNIGRI – VSEGEI: radiogeological investigations. In: *The concepts of Vernadsky in modern science in Russia: to the 150<sup>th</sup> anniversary of the birth of V.I. Vernadsky: Proceedings of the Conference*, 38-44. St. Petersburg. (in Russian).
- Malakhova, I.G. 2013. He was interested in everything. In: Pushcharovsky, Yu.M. (ed), *Geologist in capital letters: Outstanding person and milestones of Academician Viktor Efimovich Khain's scientific activities*, 110-113. Moscow: GEOS. (in Russian)
- Malakhova, I.G. 2013. The Russian topic on the International geological congress in Australia. *Essays on the History of Science and Technology*, 2, 182-184. (in Russian)
- Minina, E.L. 2013. *The mineralogical collection of Lidiya P. Prokhorova at the 19<sup>th</sup> and the beginning of the 20<sup>th</sup> century*, edited by I.G. Malakhova. Moscow: Oleabook, 144 p. (in Russian)

Irena G. Malakhova, Moscow

## SERBIA

The Serbian National Commission of INHIGEO (INHIGEO SRB) is attached to the History of Geology Division of the Serbian Geological Society. More activities have been undertaken in 2013 than indicated in publications.

Serbia has three new INHIGEO members: Mladjen Jovanović, Ljupko Rundić and Tivadar Gaudenyi. In 2012, Lj. Rundić was elected President and T. Gaudenyi Secretary, of the History of Geology Division of the Serbian Geological Society. New activities planned are as follows:

1. Active collaboration with INHIGEO and the obligatory submission of annual reports for publication in the *Annual Record*.
2. Preparing a monograph to mark the 125th anniversary of the Serbian Geological Society, to be published in 2016.
3. Preparing for scanning all the publications of the Serbian Geological Society, as the Society's library has been almost destroyed. The Managing Board of the Serbian Geological Society has agreed to finance this project.
4. Organizing a meeting of the History of Geology Division of the Serbian Geological Society in 2014, with at least four oral presentations. One meeting was held in 2013, at which the contents and the contributing authors for the forthcoming monograph were discussed. Another matter considered was the task of completing of the bibliography of the Society's publications.
5. Lj. Rundić (Vice-President) and T. Gaudenyi (Secretary) will be members of the Organizing Committee of the forthcoming XVI Serbian Geological Congress (22-25 May, 2014).

On behalf of INHIGEO SRB, Ljupko Rundić and Tivadar Gaudenyi



## SPAIN

Many diversified activities can be reported from the Spanish INHIGEO group.

Professor Emerita, Carmina Virgili-Rodón, was awarded the *Medal of Honour of the Complutense University of Madrid*. Due to ill-health she was unable to attend the award ceremony and received the medal at her home in Barcelona.

*The XII Conference of Aragonese Palaeontology* was held from 19 to 21 April 2013, in Ricla (Zaragoza). This year, the theme was *Exceptional deposits. The 150<sup>th</sup> anniversary of the Cambrian Murero site*. At this conference, tribute was paid to the old geologist Dr Antonio Perejón. INHIGEO member Rodolfo Gozalo, who is the editor of the *Spanish Review of Palaeontology (Revista Española de Paleontología)*, gave a lecture on “The Cambrian biota of Murero”.

Dr Jaime Truyols Santonja died on August 28, 2013, after a long illness (b. Sabadell, 1921, d. Oviedo, 2013). He had been Professor of Geology at Oviedo University since 1961, and served as President of the Commission on the History of Geology of the Geological Society of Spain, from its foundation in 1994.

INHIGEO member, Emilio Pedrinaci, Professor of Biology and Geology, was invited to the *9th International Congress on Research in Didactics of the Sciences* (Gerona, September 2-12, 2013), where he gave a lecture on “Science education in context: Analysis of problems and justified decision-making”. He is the co-director of the magazine *Didactics of Experimental Sciences (Didáctica de las Ciencias Experimentales)* and a member of the Advisory Council of Education on Science in Schools.

In November, Isabel Rábano and Octavio Puche attended a roundtable discussion on *Casiano de Prado's collaboration (1849-1859), organised by the Commission for the Geological Map of Spain*, the predecessor institution of the Spanish Geological Survey. Isabel Rábano is the President of the Commission on the History of Geology of the Geological Society of Spain and the editor of the *Spanish Review of Micropaleontology (Revista Española de Micropaleontología)* and of *De Re Metallica Review*. Another INHIGEO member, Luis Felipe Mazadiego, is the director of this journal.

## Publications:

- Aragonès Valls, E. 2013. Los primeros mapas geológicos de España de Édouard de Verneuil (1850-1855). *Boletín Geológico y Minero*, 124, 1, 21-39.
- Carrasco, J., Liñán, E., Liñán, M., Gámez Vintaned, J.A. and Gozalo, R. 2013. Análisis criptopaleontológico del lapidario de Teofrasto (s. III a.C.). *Estudios Geológicos*, 69, 1, 115-122.
- Dies Álvarez, M.E., Gozalo, R. and Liñán, E. 2013. Revisión sistemática y bioestratigrafía del género *Alueva* Szuy, 1961 (Ellipsocephalidae, Trilobita, Cámbrico). *Boletín Geológico y Minero*, 124, 4, 573-588.
- De Nigris, M.R. and Puche Riart, O. 2013. Molinos mineros de tradición andina. *De Re Metallica*, 20, 3-14.
- Liñán Guijarro, E., Gámez Vintaned, J.A., Dies Álvarez, M.E., Chirivella Martorell Chirivella, J.B., Mayoral Alfaro, E., Yu Zuravlev, A., Andrés Moreno, J.A. and Gozalo Gutiérrez, R. 2013. 150 años del descubrimiento del yacimiento cámbrico de Murero (Cadenas Ibéricas, NE España), *Geogaceta*, 53, 25-28.
- Martín Scorza, C. 2013. Los primeros mapas del río Cidacos. *Kalakorikos*, 18, 17-25. ISSN: 1137-0572.
- Mazadiego-Martínez, L.F. and Puche-Riart, O. (translated by Malugani Guillet, L.) 2013. The 15th International Geological Congress, South Africa (1929): The Resurgence of Wegener's Continental Drift Theory. *Episodes (IUGS)*. Bangalore, India, 36, 2, 125-137.
- Pelayo, F. 2013. Sátiros, simios y neandertales. La imagen violenta y salvaje de los antropomorfos en la ciencia y la cultura occidental. En: *Imaginario del miedo. Estudios desde la historia* (Ette, O.; Naranjo Orovio, C.; Montero, I. eds) Verlag Walter Frey - edition tranvia, Berlín, pp. 45-66.

- Pelayo, F. 2013. La nueva biología y los fósiles humanos: el contexto y la difusión de la Paleontología en España durante el primer franquismo. En: *La tutela imperfecta. Biología y Farmacia en la España del primer franquismo* (González Bueno, A.; Baratas Díaz, A. (eds) Consejo Superior de Investigaciones Científicas, Madrid, pp. 17-54.
- Perejón, A. 2013. La fecunda etapa docente, investigadora y social de Eduardo Hernández-Pacheco en el Instituto de Córdoba, entre 1899 y 1910. Fruitful teaching, researching, and social phases of Eduardo Hernández-Pacheco at Cordova High School between 1899 and 1910. *Bol. R. Soc. Esp. Hist. Nat.* 107, 5-53.
- Puche Riart, O., Boixereu Vila, E. and Dueñas Molina, J. 2013. Custodia del territorio minero español. *De Re Metallica*, 21, 37-43.
- Puche Riart, O. 2013. Rafael Sánchez Lozano. *Diccionario Biográfico de la Real Academia de la Historia*. Vol. XLV.
- Puche Riart, O. 2013. Guillermo Schulz y Schweizer. *Diccionario Biográfico de la Real Academia de la Historia*. Vol. XLVI.
- Puche Riart, O. 2013. Encuadre histórico general. Cultura, ciencia y tecnología de las aguas subterráneas. En *Cien años de Hidrogeología en España* (López Geta, J.A. y Fornés Azcoiti, J.M., eds). Ed IGME, Madrid, 36-61.
- Rábano, I. 2013. Vicente Vázquez Queipo (1804-1893), un presidente poco conocido de la Comisión del Mapa Geológico de España. *Boletín Geológico y Minero*, 124, 1, 115-126.
- Rábano, I. 2013. Colecciones paleontológicas históricas de la provincia de Segovia en el Museo Geominero (IGME, Madrid). In: J. Vegas, A. Salazar, E. Díaz-Martínez & C. Marchán (eds), *Patrimonio geológico, un recurso para el desarrollo*. Cuadernos del Museo Geomino, 15. Instituto Geológico y Minero de España, Madrid, 617-622.
- Rábano, I. and Rodrigo, A. (eds) 2013. *XX Bienal de la Real Sociedad Española de Historia Natural. Libro de resúmenes*. Real Sociedad Española de Historia Natural, Madrid, 166 p.
- Sequeiros, L. 2013. Recensión de J. James Rose. Viaje a la Andalucía Inexplorada. *Enseñanza de las Ciencias de la Tierra*, 20.3, 310-311.
- Sequeiros, L. 2013. Recensión de J.M. Bermúdez de Castro. Exploradores. *Enseñanza de las Ciencias de la Tierra*, 20.3, 311-312.
- Sequeiros, L. 2013. *Athanasius Kircher (1601-1680). Sabio jesuita y ocultista*. <http://www.bubok.es/libros/223719/Athanasius-Kircher-16011680-Sabio-jesuita-y-ocultista> Bubok ediciones, 174 p.
- Sequeiros, L. 2013. Recensión de Bermúdez de Castro. Exploradores. *Revista de Fomento Social*, 67 726-727.
- Sequeiros, L. 2013. Recensión larga de Bermúdez de Castro, 2012. Exploradores. La historia del yacimiento de Atapuerca. *Burgense*, 52, 2, 515-516.
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- Virgili, C. 2014. Scientific premises of geology in the Encyclopèdie of Diderot and D'Alembert *Boletín Instituto Geológico y Minero de España*. Vol. homenaje Michel Durand Delga. Octavio Puche, Madrid

## Cándido Manuel García Cruz –

### Publications :

García Cruz, C. M. 2007. James Hutton (1726-1797) y el mito del eterno retorno: interpretación de la tierra en el siglo xviii, (from James Hutton's *Theory of the Earth* to James Lovelock's *Gaia Hypothesis*). *Asclepio. Revista de Historia de la Medicina y de la Ciencia*, 59, 1, 65-100.

Abstract – In order to understand to what extent James Hutton (1726-1797) can in fact be considered as one of the forerunners of the Gaia Hypothesis, his *Theory of the Earth* is analysed in the context of the three basic traditions of science: organismic, magical and mechanistic. In some authors' opinion, Hutton should have written his *Theory of the Earth* as a superorganism and its proper study should be by physiology. These supposed assertions are merely a misinterpretation of the Huttonian philosophy, since they were never held by this author. Hutton has nevertheless an holistic view which is closer to the Alfred N. Whitehead's organic mechanism than to James Lovelock's *Gaia Hypothesis*, being therefore a clear forerunner of Ludwig von Bertalanffy and his System.

García Cruz, C. M. 2013. James Hutton (1726-1797) y el mito del eterno retorno: interpretación de la tierra en el siglo xviii, (James Hutton (1726-1797) and the myth of eternal return: interpretation of the Earth in the eighteenth century). *Llull*, 36, 78, 259-282.

Abstract – James Hutton's (1726-1797) geological ideas, as expressed in his *Theory of the Earth* (1788, 1795) provided a rational understanding of geological processes and their causal relationships, using a mechanistic model based on Newton's system. On the basis of his Aristotelian roots, however, and unrelated to organicism, it is possible to establish a cultural relationship between Huttonian philosophy and the ancient tradition of the Myth of Eternal Return, allowing thus a consistent explanation of recurrence of the archetypes, chaos–disorder and cosmos–order, with no moral connotation, through natural phenomena of destruction–reconstruction of the terrestrial materials in the shape of endless cycles, with both regular and uniform changes, and wherein the responsible power is the internal heat of the Earth. These ideas also led Hutton to assume an unlimited time period for the age of the planet.

## UNITED KINGDOM

**Alan Bowden** – coedited a new history of foram micropalaeontology, published in December 2013 by the Geological Society, on behalf of the Micropalaeontological Society.

The book offers a conspectus of selected developments in foraminiferal studies from a global perspective, from the time of Alcide d'Orbigny and the founding of the Paris MNHN collections, in the mid-nineteenth century, to the use of foraminifera in industry, palaeoceanography, environmental and regional studies, as well as in the rise and fall of significant research schools. The volume does not claim to adopt a purist historical approach, as many of the authors are practising micropalaeontologists who have tackled various topics from their own perspective. As a result the papers presented range from purely historical topics to those of a more contemporary nature.

### Publication:

Bowden A.J., Gregory F.J. and Henderson, A.S. (eds) 2013. Landmarks in Foraminiferal Micropalaeontology: History and Development. The Micropalaeontological Society, Special Publications. Geological Society, London, 360 p.

**Gordon Craig** – The Earth Science Centre, *Our Dynamic Earth*, in Edinburgh, opened major new galleries on 31st March 2014 at a cost of about £1, 000 000. One gallery recreates the Scottish Time Lords, including 'live' discussions between James Hutton and Arthur Holmes and a lively, bang-up-to-date (sorry) account of the Big Bang, which led to the formation of Planet Earth.

**Trevor Ford** – has published several items of interest:

Ford, T. D. 2013. Vein cavities at Ashover and Crich, Derbyshire. *Cave and Karst Science*, 40, 1, 35-37.

Ford, T. D. 2013. Frederick William Bennett – surgeon and geologist. *Charnia* (May), 7-11.

Ford, T. D. 2013. A chromite ore crusher in the Shetland Isles. *Mining History*, 18, 5, 7-9.

Gamble, D. and Ford, T. D. 2013. An early geological map of part of Charnwood Forest. *Mercian Geologist* 18, 146-147.

Ford, T. D. 2013. Classic localities explained – Castleton, Derbyshire. *Geology Today*, 29, 229-237.

Ford, T. D., Burnett, D. and Quirk, D. 2013. *Geology of the Isle of Man*. Geologists' Association Guide no. 46, 3<sup>rd</sup> edition, 112 p.

Ford, T. D. 2014. Review of *Delving ever deeper: the Ecton mines through time*, by J. Barnatt, S. Timberlake and W. Whitehead. *Peak District Mines Historical Society Newsletter*, 149, 11.

Ford, T. D. 2014. Review of *A river in time: the story of a Peak District river*, by C. Gregory. *Peak District Mines Historical Society Newsletter*, 149, 16.

**Richard Howarth** – Following a serious accident in 2012, I have only just recovered to the extent that I have the concentration to undertake academic studies again. I have recently contributed to, and assisted in editing: Leake, B. E., Bishop, A.C. and Howarth, R. J. *The Wyley History of the Geologists' Association in the 50 years 1958-2008*. The Geologists' Association, London, 2013. (Copies are available from: The Executive Secretary, Geologists Association, Burlington House, Piccadilly, London W1J 0DU; e-mail: geol.assoc@btinternet.com.

I am currently researching the life of the geologist James Alfred Richardson (1914-2007) who, during his career, worked in England, Malaya, Venezuela and Australia.

**John Mather** – 2013 saw the culmination of two projects both of which had been initiated some years previously. At a Congress of the International Association of Hydrogeologists (IAH) in Cape Town, in 2000, I began a series of discussions intended to lead to the publication by IAH of a history of hydrogeology. After several false starts and other delays, this was finally published in 2013. Edited by Nicholas Howden from Bristol University and myself, the 21 chapters describe the history of groundwater development in selected countries, including a chapter on the UK. The second project, the seeds for which were sown at a meeting on mineral and thermal waters held in Romania in 1998, saw publication of a hydrogeological appraisal of Britain's historic spas. The peak of popularity of spas was reached in the 18th century, after which interest declined. Division into three types, on the basis of their hydrogeology, has implications for their management and protection. At the majority of British spas, hydrogeology turns out to be of secondary importance and locations owe more to chance and the endeavours of local entrepreneurs.

Research on the history of geology in south west England has continued with a publication on a famous ebb and flow spring at Brixham, in south Devon, which ceased its rhythmic oscillations about 1840. This was one of four such springs in England described by 18th century topographers. The travels of William George Maton (1774-1840) and two colleagues resulted in the publication of a mineralogical map in 1797, described as the first regional geological map of any part of England. A short article was published and work continues to describe Maton's geological contributions in more detail. The 1815 anniversary of William Smith's map provides an opportunity to examine the state of groundwater exploration at the turn of the 19th century and the changes brought about following the acceptance of Smith's stratigraphical framework."

**Publications:**

- Mather, J. D. 2013. The progress of hydrogeology in Britain: 1600 to 2000. In: Howden, N. & Mather, J. D (eds), *History of Hydrogeology. International Contributions to Hydrogeology*, 28. CRC Press/Balkema, Leiden, The Netherlands, 347-379.
- Mather, J. D. 2013. The history and hydrogeology of Laywell, a celebrated ebb and flow spring at Brixham, Devon. *Report and Transactions of the Devonshire Association for the Advancement of Science, Literature and Art*, 145, 107-128.
- Mather, J. D. 2013. Britain's spa heritage: a hydrogeological appraisal. In: Duffin, C. J., Moody, R. T. J. and Gardner-Thorpe, C. (eds), *A History of Geology and Medicine. Geological Society, London, Special Publications*, 375, 243-260.
- Mather, J. D. 2013. William George Maton (1774-1840) and his mineralogical map of the Western Counties of England. *Geoscience in South-West England*, 13, 160-165.

**Mike Taylor** – has been working on papers on Charles Davies Sherborn (1861-1942) and the significance of his little book of 1940, *Where is the – Collection?*, and on the rediscovery of an ichthyosaur sold by Mary Anning the younger (1799-1847), fossil collector of Lyme Regis, to the eminent surgeon Sir Astley Cooper (1768-1841). He continues to work with Ralph O'Connor on a reprint and associated analysis and appreciation of Hugh Miller's *The Old Red Sandstone*. Mike has been preparing, with Lyall Anderson, a follow-up to their previous work on Charles W. Peach (1800-1886), looking in particular at his relationship with Tennyson, the poet. Mike has also been finishing a batch of papers, some with Hugh Torrens, on certain mid-19th century accounts of Anning, seeking amongst other things to identify their anonymous authors and to get to the root of inaccuracies which continue to plague 'Anning literature' to this day.

**Hugh Torrens** – published the following articles:

- Torrens, H. 2013. A Cautionary Tale ("lost" Darwin letters), *Newsletter of the Society for the History of Natural History*, 104, 17-18.
- Torrens, H. 2013. A forgotten provincial English museums initiative of the 1830s: The Midland counties Natural History Societies, their museums and libraries. In: Wiegel, H. and Vickers, M. (eds), *Excalibur: Essays on Antiquity and the History of Collecting in Honour of Arthur MacGregor*, 159-181. Oxford, BAR International Series, 2512, Archaeopress.
- Torrens, H. 2013. Not so shady" (on the antiquaries dealer George Fabian Lawrence (1861-1930), *Times*, 6 September 2013, 35.
- Toland C., Ryder K. and Torrens, H. 2013. The life and works of James Alexander Knipe (?1803-1882), British itinerant geological map maker, *Earth Sciences History*, 32, 279-312.
- V.V. Tikhomirov History of Geology Award. For Citation see *Episodes*, 35, 4, 527, December 2012; for Response see *HOGG Newsletter*, 47, pp. 28-31, February 2013, and *INHIGEO Newsletter*, 45, pp. 36-40, 2013.

**UNITED STATES**

**Kenneth R. Aalto** is Professor Emeritus of Geology at Humboldt State University. His extensive published works cover such diverse topics as sedimentary tectonics, stratigraphy, igneous petrology and structural geology of the Franciscan Complex and Neogene rocks of northern California, Pleistocene geology of the Bahamas Platform, and history of geology. Among his contributions to the history of geology are, "Clarence King's geology", in *Earth Sciences History*, 23, 2004; "A Natural Order of Volcanic Succession: Mid-nineteenth-Century Field-based Models of Richthofen, King and Dutton", in *Earth Sciences History*, 27, 2008; "American contributions to the geological mapping of Hokkaido, late 19th Century", in *Earth Sciences History*, 30, 2011; "The *Grand Excursion* of the Fifth International Geological Congress (1891): Celebrating geological exploration

of the American West”, in *Rocky Mountain Geology*, 46, 2011; “Petrolia, California’s first oil field—A century of disappointment”, in *Oil-Industry History*, 12, 2011 and “Edwin James’ and John Hinton’s revisions of Maclure’s *Geologic Map of the United States*”, in *History of Geo- and Space Sciences*, 3, 2012. He served as Chair (2012), of the *GSA History & Philosophy of Geology Division*.

**Michele Aldrich** – Together with Alan Leviton, Michele organized and chaired a 25-paper technical session on great books in geology, for the 125<sup>th</sup> anniversary meeting of the Geological Society of America. They also presented a paper there on Kirtley Mather’s sourcebooks of geology. Michele served on the nominating committee of the History of Earth Sciences Society.

**Victor R. Baker** – The Geological Society of America (GSA) published my edited book on philosophy of Geology, *Rethinking the Fabric of Geology* (GSA Special Paper 502), as part of a series of special volumes to commemorate the 125<sup>th</sup> anniversary of the society. The book contains several papers that touch on historical themes, including a very well-illustrated history of geological maps by David Oldroyd.

My book *Paleohydrology* was published by the International Association of Hydrologists Press, Wallingford, UK, as part of their series *Benchmark Papers in Hydrology*. The commentary in the book provides some historical overviews of the science of paleohydrology.

At the 2013 Geological Society of America meeting in Denver, Colorado, I presented the invited paper “J Harlen Bretz: Doing Geology His Way” in the special session “In the Footsteps of Geology Giants.”

I served on the Scientific Committee for the International Association of Geomorphologists (IAG) Conference on Geomorphology, in Paris, France (August 2013), where I organized and chaired Session S1: “History and Epistemology of Geomorphology”.

I served on the Organizing Committee and as Co-Chair of the Program Committee for the International Union of Geological Sciences, International Commission on the History of Geological Sciences (INHIGEO) 2014 Symposium 39 on “Doing the History of the Earth Sciences: What, Why and How?” to be held at Pacific Grove California, in July 2014.

In 2013, I completed my 12 years of service as Book Review Editor for the journal *Earth Sciences History*. Paul Lucier is the new Book Review Editor for the journal.

**Kennard B. Bork** – is serving on the Organizing Committee for the INHIGEO annual meeting to be held in California (July 2014). Specific involvements include work on the Publicity Committee and corresponding with the team on evolving plans for the conference. All members of the Commission should applaud the exceptional leadership of President Ken Taylor. As a Past-Secretary-General, Bork continues as an ex-officio member of INHIGEO Board. His review of David Montgomery's *The Rocks Don't Lie: A Geologist Investigates Noah's Flood*, appeared in *ISIS* (December 2013). Kay and Ken moved to Sedona, Arizona, in late April 2013 (updated contacts are in this *Annual Record*). While enjoying the sunshine and Permian geology of the Red Rocks scenic area of Northern Arizona, he has taken numerous OLLI (Osher Lifelong Learning Institute) classes and presented a six-week course on "Darwin: His Life and Legacy."

**Robert H. Dott, Jr.** – My activities in the history of geology for 2013-14 were limited. I made an oral presentation at the annual 2013 Geological Society of America meetings in a special session devoted to Giants of Geology. I spoke about *Laurence L. Sloss and the Sequence Stratigraphy Revolution*. In the March, 2014, in *GSA Today* magazine, I published a short Rock Stars article on the same topic (*GSA Today*, March, 2014, 24-26). This represents the first article in the Rock Stars series to appear for several years and I hope that it will stimulate a revival.



Also at the annual GSA meeting I had the pleasure of being citationist for Professor Leonard Wilson, who received the annual Mary Rabbitt Award of the GSA's History and Philosophy of Geology Division. Wilson is well known as the leading Lyell Scholar and for other contributions to the history of geology.

**Greg Good** – began a three-year term as treasurer of History of the Earth Sciences Society in 2013. He also helped with organizing the 2014 INHIGEO conference in California. He published “Tales of a Magnetic Planet” in *Metascience*, an obituary of the atmospheric scientist Thomas Malone in *Eos*, and articles on Theodore von Kármán and Henry August Rowland in *The Oxford Encyclopedia of American Scientific, Medical, and Technological History*. He gave the keynote address “Rutherford’s Geophysicists” at a conference of the same name at the University of Cambridge, and presented talks on space weather at the American Society for Environmental History and on “John Herschel’s Cosmic View of Earth Science in his *Physical Geography*” at the Geological Society of America meeting.

**Mott Greene** – His biography of Alfred Wegener (*Alfred Wegener: A Scientific Life*) has passed in-house review at Johns Hopkins and thus is officially "forthcoming." It will be about 950 pages with ~100 b&w illustrations and will cover Wegener's life in meteorology, polar exploration, atmospheric physics and geophysics (pole wander and continental displacements). There are (currently) no other biographies in print and none in English (ever), beyond the early 1980's translation of Martin Schwarzbach's short book. Publication is likely in Spring 1915, the centennial of Wegener's first edition of *Die Entstehung der Kontinente und Ozeane*.

**Sandra Herbert** – became President of the History of Earth Sciences Society in 2013. Fortunately Greg Good, the retiring president, is remaining as treasurer. We have been happy to do what we could to support the editorship by David Oldroyd of the Society's journal *Earth Sciences History*.

John Diemer has now succeeded David as editor of the Society's journal, and we will again work to support the journal. Since 1982, *Earth Sciences History* has provided an important venue for publication in the history of the Earth sciences. The journal is now searchable. To join the Society consult our website: [www.historyearthscience.org](http://www.historyearthscience.org)

In 2013, Sandra presented a paper on Charles Lyell's masterwork *Principles of Geology*, at the annual meeting of the Geological Society of America. She is looking forward to attending the 2014 meeting of INHIGEO and will present a paper on the reception of evolutionary ideas within the American geological community, during the 1860s.

**Clifford M. Nelson** – published two articles in 2012–2013: The U.S. Geological Survey’s Military Geology Unit in World War II: “the Army’s pet prophets,” co-authored with Edward P. F. Rose (University of London), *Quarterly Journal of Engineering Geology and Hydrogeology*, 2012, 45, 349–367; and “The 28th International Geological Congress, Washington, 1989”, *Episodes: The Journal of International Geoscience*, 2013, 36, 58–65.

Production is nearly completed on *Minerals, Lands, and Geology “for the Common Defence and General Welfare”, v. 4, 1939–1961*, by Mary C. Rabbitt and Clifford Nelson; the e-book should be issued by the end of March 2014. Cliff has completed outlining Volume 5 (1961–1982) and also returned to writing his analysis, based on an extensive search of manuscript documents, of the founding of the USGS.

**Sally Newcomb** – 2013 and early 2014 saw a lot done in the home sphere and with family. However, Sally did organize a session on *Giants of Geology* with Bill Brice for the 125<sup>th</sup> anniversary meeting of the Geological Society of America in Denver, Colorado, in October. The paper, “Konrad Krauskopf, Geochemist Extraordinaire,” was included in the Pardee Symposium, *In*



*the Footsteps of Geological Giants*. Also, for some months she has been a member of the Program Committee for the INHIGEO meeting at Asilomar in California in July, 2014, ably led and chaired by Ken Taylor. The program is now well filled with interesting abstracts and we look forward to an excellent meeting.

**John A. Norris** – began a bibliographic study of the published works of the Freiberg mineral chemist, Johann Friedrich Henckel (1678-1744). A Mellon Travel Grant allowed him to begin this project at the University of Oklahoma’s History of Science Collections, in May and June. A similar travel grant from the Beckman Center for the History of Chemistry, at the Chemical Heritage Foundation in Philadelphia, allowed him to continue this project at the Foundation’s Othmer Library in October. Additionally, the final draft of his article, *Auß Quecksilber und Schwefel Rein: Johann Mathesius (1504–1565) and Sulfur-Mercurius in the Silver Mines of Joachimstal*, was prepared and submitted. It is scheduled to appear in an issue of the journal *Osiris* in 2014.

**Antony Orme** – All 14 volumes of the *Treatise in Geomorphology* (J. Shroder, Editor-in-Chief) were published simultaneously in print and on-line editions in 2013. Volume 1 on *The Foundations of Geomorphology*, edited by Antony Orme (University of California, Los Angeles, UCLA) and Dorothy Sack (Ohio University), contains 19 chapters of interest to historians of Earth science. While supplies last, on-line copies of these chapters may be obtained on application to lead authors. (The chapter headings for volume 1 are listed in Appendix C, pp. 161-162)

**Steve Rowland** – published a paper in *Earth Sciences History*, 32, 86-101 titled, “The life and geological writings of the ‘Father of Russian Science’: Mikhail Lomonosov”. He also became an associate editor of *Earth Sciences History*. He attended the INHIGEO meeting in Manchester and, in a session on Geology in Literature, and presented a paper titled, “The role of the writings of Mark Twain in shaping public perceptions of geology in the late nineteenth and early twentieth centuries”.

**David Sepkoski** – published an article on the history of databases and quantitative analysis of the fossil record, a book chapter on evolutionary paleobiology, and a historical review article on Punctuated Equilibria. He presented various papers at the History of Science Society annual meeting, the AAAS annual meeting, the International Society for History, Philosophy, and Social Studies of Biology biennial meeting, and at a conference on Historicizing Big Data, which he co-organized at the Max Planck Institute for the History of Science. He continued work on several projects, including a book about extinction and a study of 19th century historical understandings of the Earth.

#### Publications:

Sepkoski, D. 2013. Towards ‘A Natural History of Data’: The Fossil Record, the Database, and the Archive, 1800-2000. *Journal of the History of Biology*, 46, 3, 401-444.

Sepkoski, D. 2013. Paleontology and Evolutionary Interpretations of the Fossil Record. In: Ruse, M. (ed) *The Cambridge Encyclopedia of Darwin and Evolutionary Thought*. Cambridge, Cambridge University Press.

Sepkoski, D. Punctuated Equilibria. In: Losos, J. (ed) *Oxford Bibliographies in Evolutionary Biology*. New York, Oxford University Press.

**Kenneth Taylor** – participated in the 2013 INHIGEO conference within the 24th International Congress of History of Science, Technology & Medicine at Manchester, UK, and greatly enjoyed the pre-Congress “Silurian” field trip, expertly organized by Martin Rudwick and Hugh Torrens. At the Manchester meeting he presented a paper within the symposium “Geologists in the Field,”

entitled “Fieldwork avant la lettre: Desmarest’s field investigations in the 1760s.” His paper from the 2012 INHIGEO conference at Brisbane, “A Peculiarly Personal Encyclopedia: What Desmarest’s Géographie-Physique tells us about his life and work,” was published in *Earth Sciences History*, 32, 39–54. At the Geological Society of America’s Annual Meeting at Denver, Colorado, in October, he presented a paper in the Topical Session “Great Books in Geology” on H.-B. de Saussure’s *Voyages dans les Alpes*. Ken was rather busy throughout 2013 coordinating planning for the 2014 INHIGEO conference scheduled for July at Asilomar.

**Leonard Wilson** – received the 2013 *Mary C. Rabbitt History and Philosophy of Geology Award*, from the Geological Society of America (see Awards, p.?).

Publication:

Wilson, L. G. 2013. John Jeremiah Bigsby, British Army physician and pioneer North American geologist. In: Duffin, C. J., Moody, R. T. J., and Gardner-Thorpe, C. (eds), *A History of Geology and Medicine*. Geological Society, London, Special Publications, 375, 375-394.

**Davis A. Young** – I am currently working on editing a 530-page typescript written by Joseph Paxson Iddings (1857-1920), arguably America's leading igneous petrologist, prior to the time of Norman L. Bowen. The typescript is a professional autobiography entitled *Recollections of a Petrologist*. Iddings provides many insights into petrological questions of the late 19th century in which he was deeply involved, as well as the personalities of many of his petrographic contemporaries. I've been adding chapter headings, abundant footnotes, writing an introduction and translating letters to Iddings from Germany, Norway and France. I hope to be finished early next year.

## UZBEKISTAN

The most significant event in 2013 was the celebration of the 70th anniversary of the Academy of Sciences of the Republic of Uzbekistan, which was first established as a branch of the USSR Academy, in 1943. Representatives from many countries of former Soviet Republics – Azerbaijan, Kyrgyzstan and Russia attended the celebration, which extended over two days. On the first day, after the presentation of reports, the President of the Uzbek Academy of Sciences, Sh. I. Salihov, spoke about the success of scientists in the years following independence (1991-2013). On the second day a meeting for young scientists was held. During the event exhibitions and concerts were organized and a video was shown on television. A monograph was published titled, *The Academy of Sciences of the Republic of Uzbekistan in the years of Independence* (Fan, Tashkent, 2013, 574 p.). It provides biographical details of members of the Academy and the year of their election. The Academy has 137 active and 71 corresponding members.

Geologists published tributes to the Chairman of the State Committee on Geology and Mineral Resources of Uzbekistan, I.B. Turamuratov, in the journal *Geology and Mineral Resources*, 6, referring to his contributions to world science and to the development of the mineral resources base of the Republic. L. N. Lordkipanidze published a monograph titled, *The region of Turan in relation to the structure of the Asian continent, a historical and critical survey* (Tashkent: SE "NIIMR", 158p.), which was dedicated to the 100<sup>th</sup> anniversary of the birth of academician, Kh. M. Abdullaev, and to the 70th anniversary of the Academy of Sciences of the Republic of Uzbekistan. It examines the history of the study of the geology of Central Asia in the 19<sup>th</sup> and 20<sup>th</sup> centuries, from the standpoint of the geosynclinal and plate tectonics theories. A memoir of Kh. M. Abdullaev (1912-1962) in the Uzbek language, *Kol etmas chukka*, was compiled by R. Raupov (Tashkent: SE "NIIMR", 2013, 267 p.).

The 2<sup>nd</sup> Republican Conference was conducted in the National University of Uzbekistan, named after Mirzo Ulugbek. It was dedicated to the memory of Academician T. N. Dalimov, with the theme, *The main problems of the magmatic geology of western Tien Shan*. The proceedings of this meeting have since been published. (Tashkent: SE "NIIMR", 2013, 144p.). The articles deal with the development of T. N. Dalimov's views. They also provide historical information (M. M. Pirnazarov, etc.), about the opening of the Langar deposit (mining of molybdenum started there in 1927 and of scheelite, in 1934) and about the history of studies of the Muruntau gold deposit, discovered in the 1960s. The chronology of the introduction of various methods of prospecting for concealed mineral deposits, up to the time when an electronic database was created, in 2001, was also discussed. S. M. Koloskova presented the history of identifying gabbros and their gold-platinum ore content in the region of Shavazsay, in the Chatkal-Kurama region. A talk on theoretical aspect of their origin – rifting, plume tectonics – was given by Ya. M. Rafikov et al.

A conference on *Problems, development and innovative directions of geological sciences in Uzbekistan* was held at the Tashkent State Technical University, named after Abu Rayhan Biruni. Its proceedings were published under the editorship of Professor B. A. Isakhodjaev (Tashkent, TGTU, 2013, 424 p.). Its contents include valuable historical information. In the report of the Chairman of the Uzbekistan State Committee on Geology and Mineral Resources, I.B. Turamuratov presented data on the total number of mineral resource developments, with emphasis on those commenced since independence (1717/829), and listed them in their separate categories, in decreasing order: groundwater (617/362), construction materials (615/234), hydrocarbons (235/94), precious metals (89/56), etc. More than half of the deposits discovered during the years of independence were composed of radioactive metals, fewer of semi-precious materials. The reports presented by geologists provide information on the history of the study of various areas, including the mountains of Sultanuvays (V. K. Panasyuchenko, et al.) and South Nuratau (M. M. Pirnazarov, et al.). Ya. M. Rafikov presented the results of a historical analysis of the Upper Paleozoic volcanic and intrusive complexes of the Chatkal - Kurama region, based on geological information from geochronological data, collected 70 years and 40 years ago respectively. Their new age was determined on the basis of K-Ar, Rb-Sr and U-PB methods, in 1995-2005. Kh. U. Uzakov summarized the study of the basement rocks of the Eastern Ustyurt, from data provided by 3,000 holes, drilled since the late 1950s, which indicate the presence of mineralization of Au, Cu, V and Cr. A historical summary of metasomatic criteria used in the search for gold deposits was presented by T. Z. Shermuhamedov et al. The history of the connection between the Tien Shan and the Ural Mountains, and the separation of a magnetite belt was outlined by I.G. Kremnev et al.

A Republican Scientific-Practical Conference was held at the same Technical University with the theme, *Modern problems of rational mining*. Its proceedings have been published (Tashkent, TGTU, 2013, 304 p.). It contains articles that are also of interest to historians of geology. For example, the article of J. Inoyatov et al. on geophysical work in the Central Kyzyl - Kum in the search for gold, lists many ore deposits discovered in earlier years, and gives the results of mapping on the scale of 1:10,000, conducted in 1999-2005, involving airborne geophysical survey and gravity works, etc. The article by M. M. Khoshimov and others presents the results of long-term geomagnetic research on water reservoir studies in the Chorbog seismic area.

The following monographs will be of interest to historians of geology: *Water – geodynamics- faults – ore genesis*, by V. F. Protsenko (Tashkent : SE " NIIMR ", 2013, 64 p.); *Trace elements in Uzbekistan*, by Yu. B. Ezhkov et al. and *Rare Earth elements. The geochemistry, and mineralogy of deposits* (Tashkent: SE " NIIMR ", 2013), in which they present the history of the study of these deposits.

Much historical material is contained in an article by L. N. Lordkipanidze titled, "Prototypes of transform faults of the Tien Shan", which presents a summary of the information on the

transverse faults of the anti-Tien Shan trending plates and paleo-oceans (*Geology and Mineral Resources*, 3).

The History of the Department of Geochemistry, Mineralogy and Petrology published articles by E. A. Dunin-Barkovskaya, H. D. Ishbaev and A. Z. Umarov (*Journal of the National University*, 2013) and an article by H.A.Toychiev and others, on the search for rare southern mammoth burial sites, in Uzbekistan (pp. 297-298).

In 2013 several birthdays of celebrated and outstanding geologists of Uzbekistan were celebrated: the 80th birthday of Shayakubov Tulkun Shayakubovich, former Minister of Geology, honored geologist, President Emeritus of the National Committee of Geologists of Uzbekistan, winner of the State Prize, doctor of geological-mineralogical sciences, professor, author of 175 scientific papers, including 16 monographs. He attended many geological congresses (USA, UK , Germany, Japan , China, etc.), was awarded three orders and three medals, received gold medals from the Association for the Promotion of Industry of France, and from the American Biographical Institute, Cambridge. Djamalov Javlon Bahodirovich also turned 80. He was the Head of the Laboratory of stratigraphy, paleontology and tectonics of the Institute of Geology and Geophysics, Uzbek Academy of Sciences and a specialist in the field of neotectonics. Rafikov Yalkin Muhammedovich, a specialist in igneous geology, celebrated his 70<sup>th</sup> birthday.

Lora N. Lordkipanidze, Tashkent

## APPENDIX A

**Brief profiles of new INHIGEO Members and Associate Members who were elected at the Manchester Meeting, in 2013**

## MEMBERS

## Austria

**Thomas Hofmann** – MSc with major in palaeontology; University of Vienna. Head of Library, Publishing & Archive, Geological Survey of Austria.

Interested in: Geoheritage; public relations; the history of the Geological Survey of Austria, including its (former) staff members, and in Eduard Suess.

Published more than 300 short abstracts, articles and contributions.

**Karl Kadletz** – Doctorate from the University of Vienna. Self-employed; Co-Editor *Mitteilungen der Österreichischen Gesellschaft für Wissenschaftsgeschichte* (since 1995).

Interested in: Sedimentology, vulcanology, history of sciences in general; Austrian-Persian relations in the 19th and 20th centuries; history of the *Geologische Reichsanstalt*, including its predecessor, and biographies of its members.

Numerous publications in the mentioned areas of interest, including a book on Christian Doppler (together with H. Grössing), essays in scientific periodicals and encyclopedia (especially ÖBL, mostly on chemists).

**Johannes Mattes** – Awarded a PhD degree from the University of Vienna, in 2013; Co-editor of the scientific journal (peer reviewed), *Die Höhle. Zeitschrift für Karst- und Höhlenkunde*, since 2012.

Interested in: Speleology and karst research; history of geology in political and cultural contexts; popular use of geosciences; scientific institutions.

Publications include, *Festrede und Festspiel als Formen kollektiver Repräsentation*, (Peter Lang 2011); *Alexander von Mörk*, (Tandem 2011); several papers on the history of speleology and karst research; other scientific articles based on fieldwork as a speleologist.

## China

**Wan Li** – Ph.D. (Hydrogeology), China Geoscience University; Vice-president of China University of Geosciences (Beijing); in charge of scientific research in the history of geosciences.

Areas of geological interest include: Coupled effects between fluid flow and rock deformation, fluid flow and transport in fractured porous media; surface vegetation and groundwater interaction, micro-water cycle on the surface of the desert; lectured at many annual academic symposia of the Commission of History of Geology, Geological Society of China, with a focus on scientific researches and exchanges in the history of the disciplines of geological sciences.

He published more than 50 papers which are the results from funded research projects. These are mainly scientific publications on the subjects of eco-hydrology and eco-hydrogeology, as well as a research study on the effect of the change of temperature on the occurrence of water content in the unsaturated zone.

**Yun Xuemei** - PhD in history, Neolithic jade, School of Archaeology and Museology, Peking University; Vice-Secretary, the Commission of History of Geology, Geological Society of China; Vice-Secretary, Research Center of Chinese Ancient Jade and Jade Culture, Peking University.

Areas of interest include: ore petrography in the following focus areas: material compositions and

properties, colour, transparency and adsorptivity; quality evaluation of geological properties and origins of the deposits of jades, analysing various aspects of excavated jades such as typology, technology, chronology, archaeological background; the provenance and distribution of the raw materials; historical investigations of the scientific research and exchanges in the ancient history of geosciences ideas, history of geological undertakings, history of geological education, the history of disciplines of geological sciences; history of academic ideology, exploitation and utilization history of rocks and minerals.

Published more than 20 papers and books. The scientific publications focus on the following subjects: characteristics of material compositions and geological origin of green Hetian nephrite, Fe-rich serpentine jade and Xiu Yan jades in China.

### **Czech Republic**

**Karel Posmourny** – PhD, Charles University, Prague, Geochemistry and Economic Geology.

Worked as Senior Officer in the Ministry of the Environment; now retired.

Areas of interest include: economic geology, history of geosciences, landscape ecology, environmental geology, geochemistry; old geological maps of Central Europe; central European personalities in the geosciences.

Published more than 250 scientific papers in the fields of the history of geosciences, environmental geology, landscape evolution, economic geology, mineral exploration, geological mapping, application of mathematical methods in geology and geochemistry.

### **France**

**Claudine Cohen** – PhD, Paris III-Sorbonne Nouvelle; Associate Professor (Maître de Conférences), Ecole des Hautes Etudes en Sciences Sociales (Paris). Discipline : Philosophy and History of Science; Professor (Directeur d'Etudes cumulant) Ecole Pratique des Hautes Etudes (Paris) ; Associate Researcher at the Maison des Sciences de l'Homme (Paris).

Interested in: Vertebrate and Invertebrate Palaeontology – Palaeoanthropology - Prehistoric archaeology; early history of geosciences (Antiquity to 18<sup>th</sup> century); earth theories as a scientific genre; history of palaeontology (19<sup>th</sup> century to present); history of palaeoanthropology; discourse of the geosciences; geoscience and literature; science and art.

Author of many books, book chapters and articles on the above subjects.

### **Germany**

**Marita Huebner** - PhD, History of Science, Göttingen; Postdoctoral Instructor, California Institute of Technology, USA.

Interests include: Sedimentology, vulcanology, marine geology, astrogeology; the history of vulcanology, seismology, mineralogy, palaeontology, geodesy, hydrology and meteorology, 1600-1800.

Publications include a book and articles on subjects related to the history of science and the history of geology.

**Peter Schimkat** – PhD, History of Science; independent scholar, working as a freelance writer and museum consultant on science and technology topics; trained initially in physics and astronomy.

General interest in geology.

Publications on the history of science and geology.

### **Mexico**

**Óscar M. Torres-Montúfar** – MA, Philosophy of Science, Universidad Nacional Autónoma de

México; Master in Philosophy, Science and Values, Universidad del País Vasco/Euskal Herriko Unibertsitatea; Archaeologist's Assistant; Institutional liaison for the magazine *Mulier, Suplemento de Equidad de Género*, Colegio de Ciencias y Humanidades-Naucaipan, Universidad Nacional Autónoma de México.

General interest in geology; history of geological fieldwork.  
Published articles on subjects relating to the history of geology.

### Norway

**Allan Krill** – PhD, Geology and Geophysics, Yale University; Professor, Norwegian University of Science and Technology (NTNU), Trondheim Norway.

Interested in: Regional geology and tectonics of Norway; history of continental drift; history of mapping and tectonic interpretations in Norway.

Numerous publications on the Scandinavian Caledonides, and on the Precambrian of northernmost Norway.

### Serbia

**Tivadar Gaudenyi** – PhD, Geographical Sciences, Department of Geography, University of Novi Sad; Research Associate, Geographical Institute, Jovan Cvijic SASA; Secretary, History of Geology Division of the Serbian Geological Society.

Interests include: Quaternary geology, Quaternary non-marine malacology, geomorphology, history of geosciences of central Europe and the Balkans, history of Quaternary geology, area of interest in the history of geosciences

More than 10 publications related to Quaternary stratigraphy, Quaternary palaeoenvironmental dynamics and Quaternary geology, the history of Quaternary investigations (e.g. loess research), geological history of Serbia and the region.

**Mladjen Jovanovic** - PhD in Geography; Assistant Professor (March 2013) University of Novi Sad. Areas of interest: Rock- and Paleo magnetism of loess sediments, Quaternary stratigraphy, history of loess research, history of the geology of Serbia, history of mapping.

Numerous papers in international journals in the area of loess research, almost 100 abstracts and extended abstract at international scientific meetings. One article in an international monograph and in several monographs in Serbia.

**Ljupko Rundić** - PhD in geology; Professor, University of Belgrade, Faculty of Mining and Geology, Department of Geology.

Areas of interest: Regional geology, stratigraphy, geological mapping, ostracod palaeontology, geodiversity, geoheritage, history of geology in general, history of Serbian geology, history of ostracod investigations, history of geological mapping, IGC history, history of geological terminus.

Almost a hundred publications that deal with the stratigraphic, tectonic, palaeogeographic and paleontological features of the Tertiary and Quaternary in Serbia, Bosnia and Herzegovina, Croatia, and Libya.

### Switzerland

**Dominik Letsch** – MSc, Geology, ETH Zurich; geologist for the geological consulting company 'Dr. von Moos AGI', in Zurich.

Interests include: Alpine geology, sedimentology, Quaternary geology, applied geology, development of tectonic concepts in Alpine geology/tectonics in the nineteenth century, the history of Quaternary geology/geomorphology in middle Europe, and the precursors of plate tectonics/continental drift.

Apart from the publications concerning the history of geology, he published several articles on topics ranging from local geology (Switzerland), stable isotope geology, to



clastic sedimentology and Quaternary geology.

### United Kingdom

**Stuart Arnold Baldwin** - BSc, Open University; Director, Museum of Palaeontology & Zoology, 1981-1995, Proprietor Baldwin's Scientific Books specializing in geology, palaeontology & their history.

General interest in geology, general history, history of palaeontology, bibliography. Publications include a number of bibliographies of the history and philosophy of the earth sciences and Charles Lyell.

**John David Mather** – PhD, DSc, University of Liverpool, UK; Lyell Professor of Geology, Royal Holloway, University of London (ret.), Emeritus Professor of Geology, University of London. Areas of interest: Hydrogeology and environmental geochemistry, development of hydrogeology, particularly before 1900, hydrogeological aspects of balneology, history and hydrogeology of British spas and mineral springs, lives and achievements of eminent British hydrogeologists. Over 170 scientific papers and articles in the fields of hydrogeology, geochemistry and waste management, in a wide range of journals and technical literature.

### United States

**Kenneth R. Aalto** – PhD, Geology, Professor, University of Wisconsin-Madison; Humboldt State University (retired, 2009).

Areas of interest: sedimentary tectonics, stratigraphy, igneous petrology, structural geology of the Franciscan Complex and Neogene rocks of northern California, Pleistocene geology of the Bahamas Platform.

Author of over sixty published papers plus maps.

**Michele L. Aldrich** - PhD, History of Science, University of Texas, Austin; Consulting editor, Scientific Publications, California Academy of Sciences.

Interests include: Geochemistry, stratigraphy, geology in the USA, geology in India, women in geology, Geological Surveys, geo-biography.

Published articles, books, directories, and reports on women in science, science archives, and the history of science (often co-authored or co-edited with others).

**Karen Cook** - PhD, Geography, University of Wisconsin; Special Collections Librarian (Associate Librarian), Spencer Research Library, University of Kansas.

Interests include: Geological cartography, history of geological cartography history of cartography, geography, and exploration.

Many publications on topics in cartography and in the history of the Earth sciences.

**John A. Diemer** – PhD, SUNY Binghamton; Professor of Earth Sciences, University of North Carolina, Charlotte; Associate Director, Infrastructure & Environmental Systems, PhD Program. Editor of *Earth Sciences History*.

Areas of interest : Sedimentology, facies analysis, depositional environments, basin analysis, tectonics and sedimentation, environmental sedimentology, history of geology, the development of geology in the 19th century with an emphasis on the work of Roderick Murchison in Scotland, Russia, Scandinavia and Poland, and on the work of George Featherstonhaugh in the south eastern and mid-western United States.

Published 50 papers, open file reports, lab manuals, and field trip guidebooks, and >90 conference abstracts on scientific topics including sedimentology, basin analysis, geologic education, and environmental geology.

**Henry Frankel** – PhD, Ohio State University; Professor of Philosophy, University of Missouri, Kansas City.

Areas of interest: Sedimentology, vulcanology, controversy in geology over continental drift, palaeomagnetism and Pangea, views about changes in Earth's climate (controversy over pan-glaciation ('snowball earth'), no glaciations (green house earth) and some glaciation.

Published books and articles on topics including continental drift and plate tectonics.

**Sandra Herbert** – PhD, History of Ideas, Brandeis University; Visiting Scholar, University of California, Berkeley, President, History of Earth Sciences Society

Areas of interest: Tectonics, palaeontology, nineteenth century history of geology.

Published books and articles, mainly on the geological work of Charles Darwin.

**David Sepkoski** – PhD, History of Science and Technology, University of Minnesota; Senior Research Scholar, Max Planck Institute for the History of Science.

Interest in: History of geology, palaeontology, and palaeobiology, in the 18<sup>th</sup> to 20<sup>th</sup> centuries, especially collection and cataloging practices, quantitative analysis, and visual representations.

Publications include books and articles on topics in palaeontology and palaeobiology.

**Leonard G. Wilson** – PhD, University of Wisconsin; Professor, History of Medicine, University of Minnesota (1967-1998, ret.).

Area of interest: Uniformitarianism and evolution in the nineteenth and twentieth centuries.

Publications include: *Sir Charles Lyell's Scientific Journals on the Species Question* (1970); *Charles Lyell, the Years to 1841* (1972); *Lyell in America* (1998) *Sir Charles Lyell in Madeira and the Canary Islands 1853-54* (2007); *Religious assumptions in Lord Kelvin's estimates of the Earth's age* (2010).

## ASSOCIATE MEMBERS

### Algeria

**Ouahiba Bouzidi** - Higher degree study in petrography and structural geology, engineering geology, Diploma of Specialized Studies in Mining and Gemmology; Project Manager – Mineral Resources, the National Agency of Geology and Mining Control.

Areas of interest: Economic geology, geoheritage, mining history; collaborator and carrier of ideas for three documentary films made by ISPCOM, on behalf of Algerian television on the history of mining in Algeria, from 1832 to today.

Publications mainly relate to economic geology, including the geology and mineralogy of diamonds and their mineral indicators, also dimension stone. A joint contribution has been published on vertebrate palaeontology. In recent years, research on geoheritage has flourished.

### Kenya

**Beneah Daniel Onyango Odhiambo** – PhD, Geography, University of Waterloo, Ontario, Canada; Associate Professor, Department of Geography, Moi University, Kenya; Visiting Professor Indiana University-Purdue University, Indiana, USA (ret.).

A general interest in the history of geology and particular expertise in fields that include environmental biogeochemistry, exploration of economic mineral deposits, using biogeochemical and geobotanical techniques, applications and analysis of aerial photographs and satellite imagery, assessment of natural resources; also hydrogeological, hydrogeomorphological surveys and mapping, land capability studies, vegetation mapping, and animal habitat mapping, using remote sensing and GIS techniques.

Published 17 papers dealing with environmental geology, economic geology and coastal processes.

### Madagascar

**Lala Andrianaivo** – PhD, Metallurgy, University of Antananarivo; Professor, University of Antananarivo.

Interests relating to the history of geology include: Comoros Archipelago and Island of Madagascar: The plate-kinematic context of seismicity, volcanic activity and Miocene-Recent neotectonism; comprehensive risk assessment for both volcanic- and earthquake-related hazard along Somalia-Lwandle (SO-LW) margin between Comoros and Madagascar; geoheritage of the island of Madagascar: tools for sustainable development.

Publication on: Geothermal energy: resource assessment, reserves estimation; reservoir engineering; neotectonism in Madagascar: comprehensive risk assessment; geotechnical engineering: soil mechanics, risk assessment of mass movements.

### Morocco

**Nasser Ennih** – PhD, Geology, University of El Jadida, Morocco; Professor of Geology, University of El Jadida.

Areas of interest include: Geological history of research in petrology, geochemistry and structural geology of the West African Craton, with expertise in petrology, structural geology and Precambrian geology.

Published 27 papers in referred international journals; guest editor for three special volumes of the *Journal of African Earth Sciences* and of a book published by the Geological Society of London, SP297.

### Nigeria

**Mayen E. Adiuku-Brown** – PhD, Environmental Geology, University of Jos; Professor of Environmental Geology, University of Jos.

Areas of interest: Environmental, medical and historical geology, geology and religion.

More than 30 multidisciplinary publications covering such areas of applied geology as environmental geology of Jos and environs, medical geology associated with mining in north central Nigeria and the Benue Trough, as well as historical geology and relating geology and religion.

### Yemen

**Khaled Mohammed Thabet Al-Selwi** – PhD, Geology (Minerals, Rocks & Ore deposits), Zagazig University, Benha Branch, Cairo, Egypt; Chief of Department of Earth Sciences & Environment, Faculty of Sciences, Sana'a University, Yemen.

Interests in the history of geology include: Economic geology and geochemistry; expertise in minerals, rocks, ore deposits, volcanology, industrial minerals, environmental studies.

Publications include: *Principles of Physical Geology* (in Arabic); *Petrology and Geochemistry of Al-Heikal and Al-Bayda Granites, in Al-Bayda District, Republic of Yemen* and *Tectonic Evolution of the Archaean-Neoproterozoic Basement Complex of Dhi Na'im-Al Bayda District, Republic of Yemen*.

## APPENDIX B

**Bulgarian Publications in the area of the History of Geology**P. Tchoumatchenco, Sofia, Bulgaria; [platon@lark.tu-sofia.bg](mailto:platon@lark.tu-sofia.bg)

- Arnaudov V., Petroussenko S. 2014. 100 years from the birthday of the Academician Ivan Kostov. – *Minno delo i geologia*, 1-2, 2014; 16-17 (in Bulgarian).
- Bakalov P. 1940. Biographic notes about Professor Dr. Stefan Bonchev. - *Review Bulg. Geol. Soc.*, 11; 5-8 (in Bulgarian).
- Bakalov P. 1953. Profesor Georgui N. Zlatarski. – *Priroda*, 2, 1; 57-60 (in Bulgarian).
- Bonchev E. 1954. Prof. Georgui N. Zlatarski – the first Bulgarian geologist. – *Minno delo*, 9, 4; 63-64 (in Bulgarian).
- Bogdanov B. 1991. Jubilee of the Professor Dr. Slobodan Yankovic – Honorable Member of the Bulgarian geological society. - *Review Bulg. Geol. Soc.*, 52, 2; 108-109 (in Bulgarian).
- Bonchev E. 1964. *The geology of the Bulgaria*. - Sofia, Narodna prosveta; 1-225 (in Bulgarian).
- Bonchev E. 1965. Prof. Peter Nikolov Bakalov. – *Tr. Geol. Bulgaria*, 7; 7-13 (in Bulgarian).
- Bonchev G. 1910. Georgui N. Zlatarski. – *Letopis, Bulgarsko knizhovno drouzhestvo*, 10; 71-88 (in Bulgarian).
- Bonchev G. 1911. Memoirs for Prof. G. N. Zlatarski. II. Scientific activity of prof. G.N. Zlatarski. – *God. Sof. Univ., Official part.* 6; 80-102 (in Bulgarian).
- Bonev I. 1993. 60-th anniversary of Assoc. Prof. Dr. Peter Dragov. - *Review Bulg. Geol. Soc.*, 53, 3; 142-143 (in Bulgarian).
- Bonev I. 1984. 70-th anniversary of Academician Ivan Kostov. - *Review Bulg. Geol. Soc.*, 45, 1; 125 (in Bulgarian)..
- Bonev I. 1994. Academician Ivan Kostov's 80-th anniversary. - *Review Bulg. Geol. Soc.*, 55, 2; 1-7 (in Bulgarian).
- Bonev P. 1989. The Bulgarian geologists celebrated the 100-th anniversary of the University of Sofia. - *Review Bulg. Geol. Soc.*, 50, 2; 134-135 (in Bulgarian).
- Borissov I. 1957. *Our first geologists*. – Biology and geology. Sofia, 80 p. (in Bulgarian).
- Borissov I. 1981. *Outstanding Bulgarian geologists*. – Narodna prosveta, 99p. (in Bulgarian).
- Breskovska V., Kamenov B., Mavrudchiev B., Baltakov B., Psilokos A. 1989. History, and program of the scientific cooperation between the University of Thessaloniki and the University of Sofia in the geology and the geography. – *Geologica Rhodopica*, 1; 13 (in Bulgarian).
- Budurov K. 1994. The 100<sup>th</sup> anniversary of the geologist Atanas Stephanov. - *Review Bulg. Geol. Soc.*, 55, 3; 145-146 (in Bulgarian).
- Chechitev G. 1990. Professor Dimiter Atanassov Jaranov. - *Review Bulg. Geol. Soc.*, 51, 2; 113-114 (in Bulgarian).
- Cohen E.R. 1952. Dr. Rostislav Sergeevitch Beregov - 6<sup>th</sup> years of his death. – *Minno delo*, 7, 2; 126-128 (in Bulgarian).
- Cohen E.R. 1953. The geologist Atanas Stefanov. Life and activity. – *Minno delo*, 8, 1953; 381-383 (in Bulgarian).
- Cohen E. 1955. Academician Georgui Bonchev. – *Minno delo*. 10, 2; 107-108 (in Bulgarian).
- Dabovski H. 1990. XXVIII International Geological congress in Washington, 9-19 July 1989. - *Review Bulg. Geol. Soc.*, 51, 2; 110-113 (in Bulgarian).
- Dachev D. 1968. Twenty years without Prof. Dr. Stefan Bonchev. - *Ann. Sofia Univ., GGF.* 60, 1, Geology; V-VIII (in Bulgarian).
- Dimitrov S. 1956. Academician Dr. Georgui Bonchev. – *Rev. Bulg. Geol. Inst.*. 4; 251-254 (in Bulgarian).
- Dragov P. 1987. 60-th anniversary of senior research assoc. Lubomir Vassilev. - *Review Bulg. Geol. Soc.*, 48, 2; 131 (in Bulgarian).
- Evstatiev D. 1983. 60-th anniversary of the Prof. Dr. Minko Minkov. - *Review Bulg. Geol. Soc.*, 44, 1; 94 (in Bulgarian).

- Galabov J. 1961. Academician Strachimir Dimitrov (1892-1960). - *Bull. Geogr. Institute, BAS*, 5; 221-224 (in Bulgarian).
- Georguiev G.K. 1947-1948. 80<sup>th</sup> anniversary of one Bulgarian scientist – Prof. Dr. G. Bonchev. – *Prirodoznanie*, 3-4; 66-68 (in Bulgarian).
- Georguiev G.K. 1957. The 65<sup>th</sup> anniversary of Academician Prof. Strachimir Dimitrov. – *Priroda*, 6, 6; 96-98 (in Bulgarian).
- Georguiev G.K., Mandev P. 1989. 50-th anniversary of the death of Dr. P. Gochev (1902-1938). - *Review Bulg. Geol. Soc.*, 50, 1; 128 (in Bulgarian).
- Georguiev G. 1996. Prof. P. Mandev (1914-1996). - *Review Bulg. Geol. Soc.*, 57, 1; 92 (in Bulgarian).
- Iliev I., Nesheva L. 1995. Jubilees of outstanding Bulgarian geologists. - *Review Bulg. Geol. Soc.*, 56, 1; 120-124 (in Bulgarian).
- In Memoriam. 1910. Prof. Georgui Zlatarski. – *Tr. Bulg. Prirodoizp. D-vo*, 4; 3-8 (in Bulgarian).
- In Memoriam. 1946. Dr Rostislav Beregov (23.XII. 1908 – 13.VI.1946) – *Geologica Balcanica*, 4, 1; 47-48 (in Bulgarian).
- In memoriam. 1947. Professor Dr. St. Bonchev (1870-1947). - *Review Bulg. Geol. Soc.*, 15-19; 5 (in Bulgarian).
- In Memoriam. 1947. Professor Dr. Vassil Radev. - *Rev. Bulg. Geol. Soc.*, 15-19; 6 (in Bulgarian).
- In Memoriam. 1955. Memoirs about Prof. Georgui N. Zlatarski. – *Bull. Geol. Institute BAS*, 3; 216-244 (in Bulgarian).
- In Memoriam. 1956. Dr Elieser Raphael Cohen. – *Minno delo*, 11, 6; 84-85 (in Bulgarian).
- In Memoriam. 1959. Shtilian Todorov Zhelev. – *Minno delo*, 14, 3; 96 (in Bulgarian).
- In Memoriam. 1960. Acad. Strachimir Dimitrov. – *Minno delo i metalurgia*, 15, 5; 48 (in Bulgarian).
- In Memoriam. 1962. Prof. Dr. Dimitar Jaranov. - *Minno delo i metalurgia*, 17, 10; 47-48 (in Bulgarian).
- In Memoriam. 1963. Professor Dr. Dimitar Atanassov Jaranov. – *Dir. Geol. Recherches*, 13 ; 239-240 (in Bulgarian).
- In Memoriam. 1965. Prof. Peter Nikolov Bakalov (5.V.1879 – 14.XII.1964). - *Review Bulg. Geol. Soc.*, 26, 2; 232 (in Bulgarian).
- In Memoriam. 1965. Ing. Georgui Konyarov. – *Vaglishta*, 1; 18 (in Bulgarian).
- In Memoriam. 1970. Ing. Hristo Bakurdzhiev (1898-1969). - *Review Bulg. Geol. Soc.*, 31, 1; 132 (in Bulgarian).
- In Memoriam. 1972. Tamara Raphailovna Hissina (1935-1972). - *Review Bulg. Geol. Soc.*, 33, 3; 398 (in Bulgarian).
- In Memoriam. 1972. Svetozar Botev (1940-1971). - *Review Bulg. Geol. Soc.*, 33, 1; 122 (in Bulgarian).
- In Memoriam. 1980. Stefan Totev Bogdanov (1926-1980). - *Review Bulg. Geol. Soc.*, 41, 2; 208-209 (in Bulgarian).
- In Memoriam. 1980. Georgui Petrov Kulaksazov (1921-1980). - *Review Bulg. Geol. Soc.*, 41, 2; 209-210 (in Bulgarian).
- In Memoriam. 1980. Prof. Rashko Ivanov Rashkov (1920-1979). - *Review Bulg. Geol. Soc.*, 41, 2; 207-208 (in Bulgarian).
- In Memoriam. 1983. Ivan Marinov Nikolov (1927-1982). - *Review Bulg. Geol. Soc.*, 44, 2; 202. (in Bulgarian).
- In Memoriam. 1993. L. Vassilev (1927-1993). - *Review Bulg. Geol. Soc.*, 54, 2; 1-2 (in Bulgarian).
- In Memoriam. 1993. Stoyan Nokov (1954-1992). - *Review Bulg. Geol. Soc.*, 54, 2; 126 (in Bulgarian).
- In Memoriam. 1993. Peter Borissov Nozharov (1934-1992). - *Review Bulg. Geol. Soc.*, 54, 1; 150 (in Bulgarian).
- In Memoriam. 1993. D.V. Ager (1923-1993) – honorable member of the Bulgarian Geological Society. - *Review Bulg. Geol. Soc.*, 54, 1; 150 (in Bulgarian).

- In Memoriam. 1995. Peter Gochev (1931-1994). - *Review Bulg. Geol. Soc.*, 56, 3; 110 (in Bulgarian).
- In Memoriam. 1997. Dimatar P. Zidarov (1921-1993). - *Review Bulg. Geol. Soc.*, 58, 3; 226 (in Bulgarian).
- In Memoriam. 1999. Ilia Vesselinov (1942-1999). - *Review Bulg. Geol. Soc.*, 60, 1-3; 143-144 (in Bulgarian).
- In Memoriam. 1999. Georgui K. Kirov (1932-1999). - *Review Bulg. Geol. Soc.*, 60, 1-3; 145-146 (in Bulgarian).
- In Memoriam. 2000. Professor DSc Delcho Mollov (1932-2000). - *Review Bulg. Geol. Soc.*, 61, 1-3; 142 (in Bulgarian).
- In Memoriam. 2000. Assoc. Prof. Rossen Ivanov (06.06.1927-07.08.2000). - *Review Bulg. Geol. Soc.*, 61, 1-3; 157-160 (in Bulgarian).
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## APPENDIX C

**Orme A.R. and Sack D. (eds) 2013. *The Foundations of Geomorphology, Volume 1, of Treatise on Geomorphology*, Academic Press (Elsevier), San Diego, California, 410 pp.**

1. Introduction to the Foundations of Geomorphology.  
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15. Geomorphology and late Cenozoic climate change.  
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Cheryl McKenna Neuman (Trent University), Peter Ashmore (University of Western Ontario), and Sean J. Bennett (University of Buffalo)
18. Present research frontiers in geomorphology.  
Andrew J. Plater (University of Liverpool), Melinda D. Daniels (Kansas State University), and Takashi Oguchi (University of Tokyo)
19. Geomorphology for future societies.  
Antony R. Orme (UCLA)

In addition, other volumes of the *Treatise on Geomorphology* contain the following chapters of particular interest to historians of Earth science:

The development and history of glacial and periglacial geomorphology, by Hugh French and Jon Harbor, in Volume 8, *Glacial and Periglacial Geomorphology*, pp. 1-18.

The four traditions of coastal geomorphology, by Antony R. Orme, in Volume 10, *Coastal Geomorphology*, pp. 5-38.

Impacts of vegetation clearance on channel change: historical perspective, by Carol P. Harden, in Volume 13, *Geomorphology of human disturbances, climate change, and natural hazards*, pp. 14-27.

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