

**INTERNATIONAL UNION OF  
GEOLOGICAL SCIENCES**

**INTERNATIONAL UNION OF THE  
HISTORY AND  
PHILOSOPHY OF SCIENCES**

**INTERNATIONAL COMMISSION ON THE HISTORY  
OF  
GEOLOGICAL SCIENCES  
INHIGEO**

**NEWSLETTER 24**

**1992**



**Compiled and Edited by Ursula B. Marvin  
INHIGEO Secretary-General**

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## PREFACE

This Newsletter reports on INHIGEO activities in 1991. It also includes information on future INHIGEO symposia and other items of interest to historians of geology in addition to country reports.

1992 is an election year for members of the INHIGEO Board and for new Full and Corresponding Members of INHIGEO. Ballots were mailed to the Full Members in May. The election will take place on August 27th at the Commission Business meeting to be held at the 29th International Geological Congress at Kyoto, Japan. Also in 1992, Corresponding Members are required by our bylaws to reaffirm their interest in remaining in INHIGEO. Large numbers already have done so and we hope all others, *who were elected in 1989 or earlier*, will notify me of their intent to remain in INHIGEO by the July 15th deadline listed in my letter of January 27th, 1992, to all members.

This Newsletter lists our present members, including those who were elected at Dresden in September, 1991. INHIGEO now has 23 Full Members and 89 Corresponding Members in 33 countries. The election results at Kyoto will be sent to you early next fall.

Proposals to change the INHIGEO bylaws so as to establish a single level of membership and extend voting privileges to all members were discussed at the Dresden meeting. It will not be possible to alter the bylaws this year because full and free discussion must precede any such action. To start worldwide discussions on this important issue a preliminary draft was prepared and circulated to the full members in May along with the ballots. The draft proposals and the rationale for them are reprinted in this Newsletter. Comments will be very welcome from all members.

Please submit items for Newsletter 25 before April 1, 1993. This extends last year's deadline by three months and gives members a better opportunity to report on activities that occur late in 1992.

*Ursula B. Marvin*  
Secretary-General of INHIGEO  
June 1992

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## The XVIIth International INHIGEO Symposium, Dresden, September 9-15, 1991

This symposium on the theme *Museums and Collections in the History of Mineralogy, Geology and Paleontology* was organized by the Gesellschaft für Geologische Wissenschaften in Berlin, and hosted by the Staatliches Museum für Mineralogie und Geologie in Dresden. The success of the symposium owed much to the efforts of Dr. Gerhard Mathé of Dresden, who organized the meeting and accommodations, Dr. Peter Schmidt of Freiberg, who arranged for the printed matter and guided participants through the rare book room of the Bergakademie library and the A. G. Werner collections in Freiberg, and Doz. Dr. Wolfgang Weber who arranged for the field excursions.

The symposium attracted more than 60 registrants from 17 nations. Signatures of many of them are shown in Figure 1, from the sketchbook of Professor Kenzo Yagi. Lively discussions ensued between scientists, historians, curators, librarians, and archivists on the importance for current research and teaching of historical objects, such as rocks, minerals, fossils, and instruments, and of documents such as manuscripts, books, and maps. Publication of the symposium papers is expected in 1992.

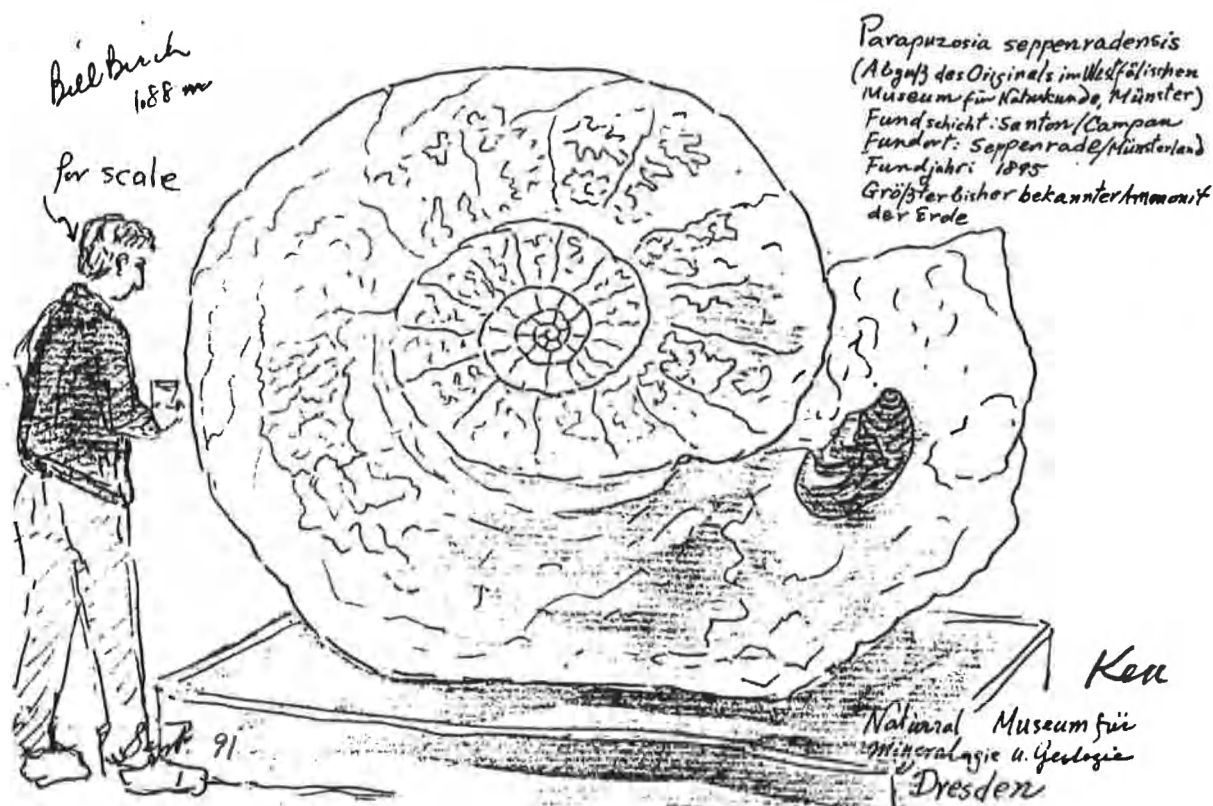
On the evening of September 9th, participants gathered among the exhibits at the Staatliches Museum für Mineralogie und Geologie (Figure 2). Words of welcome were expressed by President Guntau, H. Wussing, Vice President of IUHPS/DHS, W. Klausewitz, President of the Deutsches Nationalkomitee für ICOM, M. Schwab, Chairman of the Gesellschaft für Geologische Wissenschaften, Berlin, and G. Mathé, Director of the Staatliches Museum. After informal socializing, the party moved upstairs to view the film, *Mining for Science*, which was shown for the first time. This film, produced by the British Broadcasting Company for the Open University (UK), showed the connection between mining, geological knowledge, and trends in scientific investigations in the Saxon Erzgebirge at the end of the 18th century.

Three days of sessions followed in which forty papers were read and discussed, and excursions were made to the Grünes Gewölbe (Green Vault), which houses treasures assembled by the Saxon sovereigns beginning in the 16th century, and to the collection of early maps, terrestrial and celestial globes, clocks, and astronomical instruments at the reconstructed Zwinger Palace of Dresden. After the sessions ended, two one-day excursions were made to Freiberg and into the historic Erzgebirge.

A majority of contributions dealt with the history of particular museums and collections. Several speakers, including D.F. Branagan (Australia), C. M. Nelson (USA), W. Narebski (Poland), G. Regnéll (Sweden), R.F. Symes (UK), S. Szakál (Hungary) and M.M. Lopes (Brazil), discussed the role of natural history museums in the development of the geological sciences in their countries. Some of these early collections are still furnishing a wealth of new insights. This is true in Brazil, for example, where a major program of refurbishing and recataloging the national fossil collections is underway.

The present and future role of museums in educating the public on geology also was addressed. P.U. Rodda (USA) described "Life through Time," a new exhibit at the California Academy of Sciences which uses an innovative layout to present the evidence for evolution. K. Yagi (Japan) described ongoing excavations at Lake Nojiri where Pleistocene sediments are yielding fossil remains of elephants and giant deer together with artifacts of early humans. Publicity on these exciting finds has led to excavations conducted every third year by teams that include large numbers of school children. A museum constructed on the site to exhibit the finds is the first of its kind in Japan. Previously, samples have been kept in university laboratories or donated item by item to major museums.

H. S. Torrens (UK) challenged an opinion expressed by some historians that to study historical objects is a second rate pursuit in comparison with studying the written word. He showed pictures of several objects which, by their very existence, illustrate the purposes and priorities of scientists. One such object was a specimen of *Glossopteris flora*--the first to be collected in Antarctica--from among the 35 pounds of rocks which the members of R. F. Scott's expedition of 1912 were still carrying when they were stopped by a blizzard and overcome by starvation. This rock bears powerful testimony to the often overlooked fact that these men were engaged in



**Figure 2.** The world's largest known ammonite, with Australian Bill Birch (1.88 m tall) for scale. This is a plastic reproduction in the Staatliches Museum für Mineralogie und Geologie in Dresden of a fossil found at Seppenrade, Münsterland, in 1895. The original is now in the Westphalian Museum of Natural Sciences in Münster. The sketch is by Dr. Kenzo Yagi, who has kept a lifelong record of field localities, meeting events, and other items of interest sketched in real time.

geological pursuits and not simply traveling to the South Pole and back. D.R. Dean (USA) and W. A. S. Sarjeant (Canada) each spoke of the specimen collections of Gideon Mantell (1790-1852), who discovered the first dinosaur fossils and also pioneered the study of microfossils. Sarjeant made what he called the fluke rediscovery of one of Mantell's lost type specimens of *Xanthidia*.

Emphasis also was placed on the value of manuscripts and book collections. E. Vaccari (Italy) spoke of his own experiences with sorting and classifying six large boxes of seminal but totally disorganized notes and manuscripts by Giovanni Arduino (1714-1795). S. F. de M. Figueirôa (Brazil) discussed the contributions of the American geologist O. A. Derby (1851-1915), who devoted his career to field studies and the setting up of research institutions in Brazil. She has pieced together portions of his extensive correspondence found, by sheer chance, in Brazil, the USA, and Germany. B. M. Hamilton (UK) characterized the scientific papers of the paleontologist Ch. Lapworth (1842-1920), who introduced the term Ordovician, as a veritable time capsule of 19th century data and teaching methods. These documents recently were assembled from scattered brown paper parcels and integrated into the curriculum of the Earth Science Department at Birmingham.

Descriptions of books and papers in certain collections held surprises for many participants. Few were aware of the extent of the collection, described by K. L. Taylor (USA), originating from the donations of the

petroleum geologist E. L. DeGolyer to the University of Oklahoma in Norman. Even fewer realized that a sizeable collection of books assembled by George W. White (1903-1985), a founder and former vice president of INHIGEO, now resides at the University of Wisconsin. These books are in addition to those acquired on behalf of the University of Illinois or sold from his own collection during White's lifetime. An outstanding collection of manuscripts, letters and portraits in the State Museum of Mineralogy and Geology in Dresden was described by G. Mathé of that institution. It became clear during the sessions that too little is known about the stock of historically significant geological literature in libraries and museums around the world, and discussions were begun on ways of publicizing them for researchers. It was suggested, for example that the INHIGEO Newsletters and other circulars devoted to the history of geology should carry information on this subject on a regular basis. (A brief description of the DeGolyer Collection is given in a later section.)

P. Schmidt (Germany) addressed the related problem of persuading geoscientists to give or bequeath their lifetime collections of notes, letters, and working papers to archives and libraries equipped to preserve and catalog them. In order to achieve a more efficient use of these materials, it is imperative to publish posthumous surveys of scholars' works in the various archives and libraries of all countries. The cooperation of everyone is necessary, including scientists with private collections and dealers who handle collections of papers or specimens.

On display at the Grünes Gewölbe were remarkable objects made of local materials--silver, topaz, agate, amethyst, serpentine--together with diamonds and other precious stones from around the world. During the excursion to the historic mining town of Freiberg, in the district where silver was discovered about 1168, some of



Figure 3. The Memorial to Abraham Gottlob Werner by the cathedral at Freiberg. (Sketch by Kenzo Yagi.)

the participants climbed through the underground shafts of the Reiche Zeche and Alte Elisabeth mines while others visited the world-famous Bergakademie, founded in 1765. Manuscripts of A. G. Werner (80 folio volumes) were on view in a special room in the library, and exhibits honoring Georgius Agricola were displayed in the museum. In the cathedral of Freiberg, the visitors heard a prelude on the great organ built by Gerhard Silbermann between 1711-1714. In the afternoon, all participants visited the A. G. Werner Museum where portions of that scientist's rock and mineral collections are on display. The Museum is especially rich in exquisite specimens of hydrothermal minerals from the Erzgebirge. The memorial to Werner is shown in Figure 2.

The excursion to the Erzgebirge centered on the town of Annaberg where participants visited the Frohnauer Hammer, a water-driven hammer mill for treating iron ore which dates to 1436. In the recently restored church of St. Annen, the miners' altar, created by Hans Hessen in 1521, depicts the essential technological processes of mining and metallurgy employed in the 16th century.

A highlight of the trip was a stop on the Pöhlberg, near Annaberg, to see the exposure of columnar basalt from which Werner derived his belief in the aqueous origin of basalt (Figure 3). The basalt overlies friable sandstones and mudstones. Thermal metamorphism had cemented some of the uppermost sediments giving the contact a graded appearance. The direct contact between basalt and sandstone is not visible today but the sandstone is exposed about 200 meters away from this cliff.

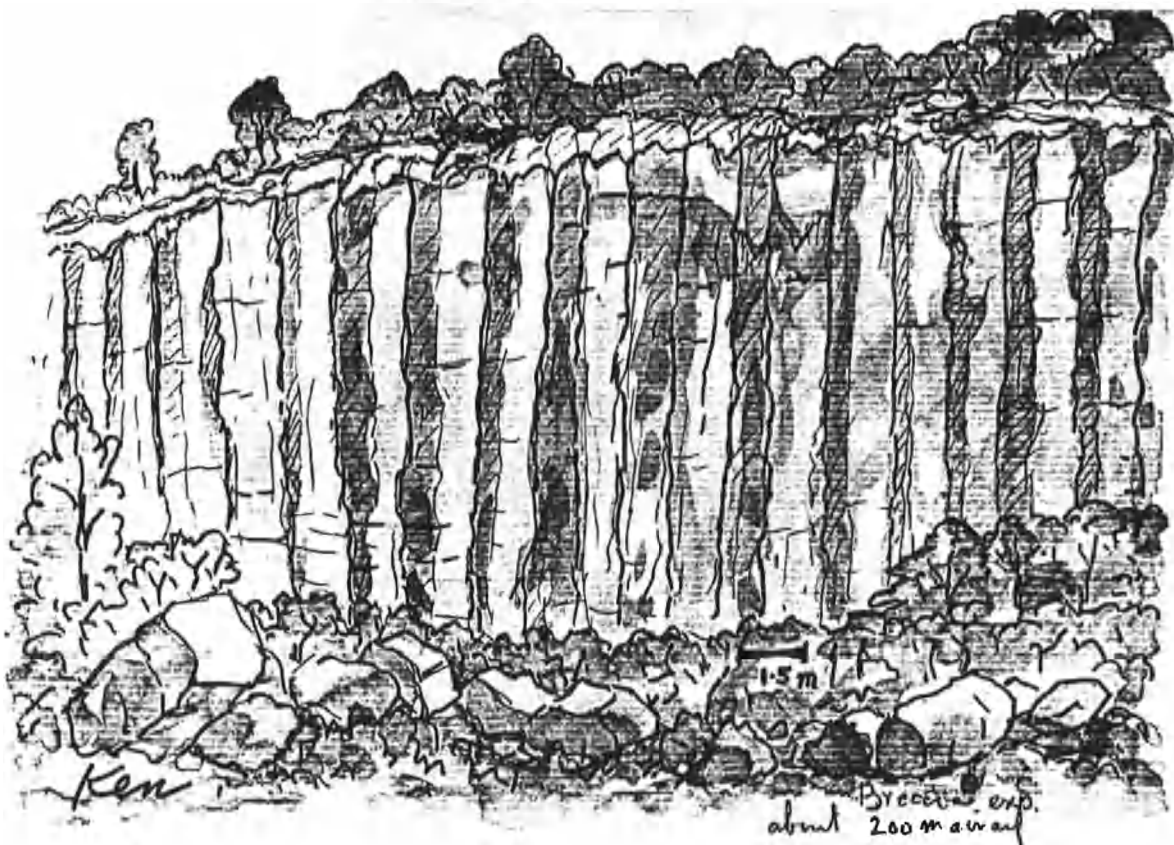


Figure 4. The columnar nepheline basalt on the Pöhlberg near Annaberg, which overlies sandstones in a sequence that persuaded A. G. Werner of the aqueous origin of basalt. (Sketch by Kenzo Yagi.)

## **INHIGEO Business Meeting at the XVth Symposium in Dresden, 1991**

The meeting opened at 8:00 pm on September 10, 1991, at the Staatliches Museum für Mineralogie und Geologie with twenty-four persons in attendance.

President Guntau expressed his pleasure at the large number of participants who had come to Dresden from many countries. On behalf of the INHIGEO Board he thanked the organizing committee and host institutions for their efforts in planning and making arrangements for such a successful symposium.

**Election of New Members.** Sixteen candidates had been nominated for corresponding memberships. Nineteen of the 24 full members returned their mail ballots or voted at the meeting. After counting the votes, Dr. Marvin announced the election of the following 16 new corresponding members:

### **Australia**

Neil W. Archbold  
David Corbett  
Thomas A. Darragh

### **Peoples Republic of China**

Tao Shi-long  
Yu Guang  
Yang Jing-yi  
Shi Baoheng

### **Japan**

Isao Imai  
Masae Omori  
Arata Sugimura

### **Federal Republic of Germany**

Otfried Wagenbreth

### **Malta**

George Zammit Maempel

### **Norway**

Geir Hestmark

### **South Africa**

Johan Look

### **United States of America**

Henry R. Frankel

### **Venezuela**

Aníbal Martínez

These members bring our total membership to 112, and add three new countries to INHIGEO: **Malta**, **Norway**, and **South Africa**. Two new members, George Zammit Maempel of Malta and Thomas A. Darragh of Australia participated in the symposium.

**INHIGEO Symposia in Kyoto, 1992.** Professor Kenzo Yagi reported on preparations for the 29th International Geological Congress in Japan in 1992. Two INHIGEO symposia will be presented and a Business meeting has been scheduled for August 27th.

**Future INHIGEO Symposia.** President Guntau reported that during 1991, invitations for future INHIGEO symposia were received from the full members in Austria, Brazil, and Italy. All three proposals were very attractive, making it difficult to choose which to accept in 1993. During general discussions the question was raised as to whether we might skip 1993 and hold our next symposium in 1994. However, it was pointed out that many members undoubtedly will have to skip the symposia in Japan in 1992 for lack of support for travel and living expenses. Finally, a consensus was reached in favor of holding the XVIIIth International INHIGEO symposium in Brazil in 1993. This will be the first such symposium in South America and the invitation was supported by INHIGEO members in Venezuela and Costa Rica. The president expressed thanks for all the invitations and remains hopeful that those from Italy and Austria will extend to future years.

**The Dresden Proclamation.** Discussions were opened on the so-called Dresden Proclamation, a proposal, drafted at the meeting by three members, who favored restructuring INHIGEO to bring the Commission into accord with modern developments in earth science and international politics. The decision was made to circulate the Proclamation to our worldwide membership and seek their responses.

As no additional items were introduced from the floor, the meeting was adjourned at 9:20 p.m.

## Appendix 1 to Business Meeting report:

### The Dresden Proclamation

*As concerned corresponding members of INHIGEO we feel strongly that some reconstruction of the basic constitution of INHIGEO is vital if we are to adjust satisfactorily to modern developments in earth science and international politics.*

*The existing situation, requiring the nomination of national representatives is counterproductive and inefficient.*

*The lack (or abandonment) of national commissions of geology in many countries make it unclear as to who should ratify these nominations: moreover, at a time when many new nations are emerging, it cannot be expected that they will give priority to the setting up of such commissions.*

*Furthermore, while it is evident some full members are enthusiastic and active, others have apparently now no interest in research in the history of the earth sciences. Consequently the subject is suffering in these countries, as there is apparently no contact between the full and corresponding members.*

*We suggest therefore that a single grade of membership is now desirable, with some means of choosing national representatives.*

*We feel that membership in INHIGEO should be limited to persons who demonstrate by publications and other activities their true commitment to the history of earth sciences, and who are not seeking a position merely because of the benefits or influence that it might bring.*

Signed: D. F. Branagan (Australia)  
H. S. Torrens (U.K.)  
W. A. S. Sarjeant (Canada)

Note: The Secretary-General included the Proclamation in a letter mailed to all INHIGEO members on January 27th, 1992. The response was so generally favorable that Drs. Marvin and Guntau drafted a set of proposed revisions to the INHIGEO bylaws that would accomplish the desired changes and remain within the IUGS and IUHPS statutes and bylaws. The proposed revisions and the rationale for them are printed below in the section on bylaws. All members are urged to send their comments, positive or negative, to the President or Secretary-General.

### PROPOSED CHANGES TO INHIGEO BYLAWS

Changes to the INHIGEO Bylaws are proposed for both technical and philosophical reasons. Certain technical changes are necessary at this time to bring the INHIGEO Bylaws into conformity with IUGS Statutes and Bylaws. More fundamental changes are proposed as a result of the strongly favorable response received by the Board to the principles expressed in the so-called "Dresden Manifesto."

The Manifesto proposed that INHIGEO should adjust to modern developments in earth science and international politics by establishing a single grade of membership in place of the present hierarchy of Full and Corresponding Members. Also, at a time when new nations are emerging and some old ones are abandoning their national committees of geology, INHIGEO should abolish its requirement that new members be endorsed by such national committees. We should take care to limit membership in INHIGEO to persons who demonstrate by publications and other activities their commitment to the history of earth sciences.

All the proposed changes in INHIGEO bylaws given below are fully in accord with current IUGS rules and with changes in those rules soon to be adopted.

The proposed changes would accomplish the following:

1. Extend to all INHIGEO members the rights to vote and to hold office by abolishing the distinction between Full and Corresponding Members. In this way we would involve our present large and talented group of Corresponding Members in the regular workings of the Commission.
2. Simplify procedures for nominating new members by abolishing the requirement of an endorsement by a national academy or other scientific organization.
3. A single grade of membership will give INHIGEO about 100 members eligible to vote. We propose to bring INHIGEO election rules into accordance with those of the IUGS Council by declaring that a quorum in a postal ballot shall constitute a response from one third of the members eligible to vote. Decisions would be made by affirmative votes of a simple majority of the quorum. Our present rule specifies that a decision requires a simple majority of the total number of (currently 25) Full Members. As a result, those Full Members who do not exercise their privilege of voting are, in effect, counted as voting in the negative. They have the potential of holding up elections and policy decisions to the detriment of INHIGEO.

In the following text, the INHIGEO Bylaws, as amended at Pisa in 1987, are printed below. Passages in brackets are those for which changes are proposed. Reasons for changes are listed, and the proposed new version of each item of the bylaws is printed in italics.

All Full and Corresponding Members are invited to send their comments and criticisms of these proposals to the Secretary-General. It would be especially helpful if they were to arrive by August 20th before she leaves for the IGC at Kyoto.

#### **Bylaws of the International Commission on the History of Geological Sciences**

1. INHIGEO is a Commission of the International Union of Geological Sciences (IUGS), and it is affiliated with the International Union of the History and Philosophy of Sciences (IUHPS). It is therefore bound by the rules set in the statutes, by-laws [and regulations] of IUGS for [Committees] of IUGS [(By-laws IUGS VI, 22; cf. Statutes IUGS VII, 24-28)].

Delete "and regulations." IUGS rules no longer include "regulations." Change "Committees" to "Commissions." Renumber the pertinent IUGS statutes and bylaws.

#### **Proposed new version:**

1. *INHIGEO is a Commission of the International Union of Geological Sciences (IUGS), and it is affiliated with the International Union of the History and Philosophy of Sciences (IUHPS). It is therefore bound by the IUGS statutes and bylaws for Commissions of the IUGS (IUGS Bylaws 23 to 26).*

2. The task of INHIGEO is to promote studies in the history of geological sciences and to stimulate and coordinate the activities of national and regional organizations that have the same purpose. It does so *inter alia* by promoting the holding of national, regional and international symposia and the publication of individual and collective works on the history of geological sciences [(cf. Statutes VII, 24)].

Change (cf. Statutes VII, 24) to *(cf. IUGS Statute 17)*.

3. Reports on the work performed and an evaluation of the fulfillment of working terms and the accounts are submitted [on the 1st of December] each year to the Secretary-General of the IUGS [(IUGS regulations, III Committees, p. 15)]. Reports on the work performed in the period between sessions of IUGS and IUHPS are submitted to the sessions of those organizations [(Statutes VII, 27)]. The budget for the following year is

submitted by the President and the Secretary-General to the Secretary-General of IUGS [before the 1st of October each year.]

Delete dates and rule numbers in brackets. IUGS has changed the dates and eliminated the statutes specifying them.

**Proposed new version:**

*3. Reports on the work performed by INHIGEO and the plans and budget for the following year are to be submitted annually to the IUGS at a date designated by the IUGS Secretary-General. Similar reports are submitted to the IUHPS.*

**Structure**

4a. INHIGEO consists of a convenient number of geographically representative members, kept at a practical minimum in relation to the nature of its work [(Statutes VII, 26)].

**Proposed new version:**

*4a. INHIGEO consists of a convenient number of geographically representative members, kept at a practical minimum in relation to the nature of its work (IUGS Bylaw 23).*

4b. [Full] Members are elected from among scientists active in the field of the history of geological sciences. [There should be only one Full Member from any given country.]

Delete words in brackets; insert "and other scholars."

**Proposed new version:**

*4b. Members are elected from among scientists and other scholars known for their publications and/or other activities in the field of the history of geological sciences.*

4c. [Full Members are elected by the Council of the IUGS, on a proposal voted by the acting Full Members, after nomination by the President and the Secretary-General of IUGS (cf. Statutes VII, 25).]

We propose to delete this passage. No current IUGS statute requires a Commission to distinguish between Full and Corresponding members or to seek approval for elected members (other than board members) from the IUGS Council.

4d. The Board of INHIGEO consists of the President, the Vice Presidents, the Secretary-General and the Past President. The members of the Board represent the major regions: [the Americas], Western Europe, Eastern Europe, Asia, Australia and Oceania, and Africa. They are elected by the [Full] Members of INHIGEO (subject to approval by the Council of the IUGS), from among the [Full] Members. The President and the other members of the Board remain in office until the next session of the Council of IUGS. The President and the Secretary-General are eligible for reelection to only one additional term; the other members are eligible for reappointment (Statutes IUGS VII, 25).

Change "the Americas" to "North America and South and Central America"; retain "Western Europe" and "Eastern Europe" to facilitate continued representation of both areas on the Board.

Referring to the IUGS Executive Committee and Council, IUGS Statute 42 states that "...officers of Commissions shall be elected by Commission members and their election approved by the Executive Committee and ratified by the Council. They shall remain in office until the end of the Executive Committee's term and be

immediately eligible for reappointment once only, or twice if their initial appointment was made between the installation of new Executive Committees." This refers to the IUGS Executive Committee and Council.

**Proposed new version:**

*4d. The Board of INHIGEO consists of the President, the Vice Presidents, the Secretary-General and the Past President. The members of the Board represent the major regions: North America, South and Central America, Western Europe, Eastern Europe, Asia, Australia and Oceania, and Africa. They are nominated by Board members and elected by the members of INHIGEO, subject to approval by the IUGS Executive Committee and ratification by the Council. The President and the other members of the Board remain in office until the next session of the IUGS Executive Committee and are immediately eligible for reappointment once only, or twice if their initial appointment was made between the installation of new Executive Committees.*

4e. It is recommended that membership of the Board should circulate among regions and countries as much as possible.

No change is proposed to Item 4e.

4f. [Corresponding] Members are elected by the [Full] Members of INHIGEO [from among scientists known by their publications and/or other activities in the field of the history of geological sciences.] They are elected until the next session of the IUGS Council, and may be reelected without restriction. [The initial nomination for a Corresponding Member must be endorsed by the National Committee of Geology, Geological Society, Academy of Sciences, or other competent scientific body of the country concerned. Corresponding] Members should be asked in writing half a year before the expiration of their terms whether they apply for reelection. Failure to apply results in cancellation of the [Corresponding] membership. After July, 1989, the number of [Corresponding] Members should not exceed ten from the same country.

Delete all references to Corresponding Members; the passage in brackets in the first sentence has been put into Item 4b (above). Delete the requirement for endorsement by a national organization because some countries have none that are involved with the geological sciences. Define a quorum for voting purposes.

**Proposed new version:**

*4f. New members may be nominated by at least one INHIGEO member and one member of the INHIGEO Board or by a national committee of geology. They will be elected by ballots cast by mail and at INHIGEO Commission meetings. A quorum for election of members or other decisions shall constitute a response from one third of INHIGEO members eligible to vote. Members are elected to serve until the next session of the IUGS Council, and may be reelected without restriction. Members should be asked in writing half a year before the expiration of their terms whether they apply for reelection. Failure to apply results in cancellation of membership. The number of members should not exceed ten from the same country.*

**Functions**

5. The Board directs the activities of INHIGEO. The President may delegate his or her powers to one of the Vice Presidents by mutual agreement. The President and the Secretary-General divide the management of organizational and financial matters between themselves.

Insert "or her," as above.

6. The Board sends annual information to the [Full Members and Corresponding] Members by means of a Newsletter in [the language of] the official text of IUGS Statutes (cf. Statutes VIII, 32), and, if convenient, in one of the other official languages of IUGS [(cf. Bylaws IUGS par. 25:] French, German, Italian, Russian and Spanish).

Delete phrases in brackets. No current IUGS statutes or bylaws specify languages to be used; however, IUGS statutes are printed in English.]

**Proposed new version:**

*6. The Board sends annual information to members by means of an annual Newsletter in English and, if convenient, in another widely read language such as French, German, Italian, Russian or Spanish.*

7. Regular Meetings of INHIGEO are held at the time of the sessions of the International Geological Congress, in order: a. to discuss reports on the work of INHIGEO and of national groups (which have been formed either by free association of historians of the geological sciences or by appointment by national Geological Societies or Academies of Science), and to consider plans for next term. b. [to make nominations of Full Members for election by the Council of IUGS and to elect (and reelect) Corresponding Members] and the Members of the Board for the next term.

Delete phrases in brackets. Add reference to subcommissions.

**Proposed new version:**

*7. Business meetings of INHIGEO are held at the time of the sessions of the International Geological Congress, in order: a. to discuss reports on the work of INHIGEO and of any subcommissions of INHIGEO that may be formed, or of other national groups (which have been formed either by free association of historians of the geological sciences or by appointment by national Geological Societies or Academies of Science), and to consider plans for next term. b. to elect Board members for confirmation by the Council of IUGS, and c. to carry on any other Commission that may come before the meeting.*

8. Business meetings of the Commission, or of its Board, can be convened at any time by decision of the Board. It is recommended that such a meeting be held at least once in two years.

No change proposed.

9. In the Business Meetings of INHIGEO each [Full] Member (including the Members of the Board) has a vote. [A decision is considered valid if it has been voted affirmatively by a simple majority of the total number of Full Members.] In case any one of them is not present at the meeting he has the right to vote by correspondence (on motions circulated by the Secretary-General before the meeting) or by a proxy, who shall be designated in advance in writing. [A proxy may be either a Full or a Corresponding Member of INHIGEO, each one being entitled to act as proxy for only one Full Member.]

Delete phrases in brackets and substitute the following:

**Proposed new version:**

*9. In the Business Meetings of INHIGEO each member present, including members of the Board, has a vote. Members not present at the meeting have the right to vote on mail ballots circulated by the Secretary-General before the meeting, or by a proxy, who shall be designated in advance in writing. A member attending the meeting may serve as a proxy for only one absent member. A motion is considered passed if it has received a simple majority of affirmative votes.*

10. The work of INHIGEO may be discontinued by decision of the Council of IUGS [(Statutes VII, 25)].

Change bracketed passage to IUGS (Statute 26)

**Proposed new version:**

*10. The work of INHIGEO may be discontinued by decision of the Council of IUGS (Statute 26).*

## **Future INHIGEO Symposia**

### **The XVIIth International INHIGEO Symposia at Kyoto, Japan, 1992**

INHIGEO will convene two symposiums, hold its Commission meeting, and report on its activities to the IUGS Council during the 29th International Geological Congress, August 24 to September 3, 1992.

**Symposium 25-1**, *The Development of Geology in Japan and the International Exchange of Ideas on Earth Sciences*, convened by Martin Guntau, Mitsuo Hashimoto, and Arata Sugimura, will be held on the morning of September 2nd.

**Symposium 25-3**, *The History of Meteorite Studies in Japan, and International Contributions to Advances in Meteoritics*, convened by Masatake Honda, Ursula B. Marvin, and Kenzo Yagi is scheduled for the afternoon of August 25th.

**Symposium 25-2**, *Fifty Years of Mathematical Geology: a Golden Anniversary*, of which INHIGEO is not a sponsor, will be of interest to historians of geology. It is scheduled for the morning of September 3rd.

The INHIGEO Commission meeting is scheduled for August 27th at 6 to 8 pm in Room 105 of the Convention Center. The agenda will include the election of new officers and members, discussion of proposed changes in the bylaws, and any additional items that may arise.

On August 31st, the President and Secretary-General will meet with the IUGS Council to report on INHIGEO activities since the last IGC in 1989. A text of our report (reprinted below) was submitted last May to the IUGS Secretariat. Copies of Newsletter 24 also will be submitted to the Secretariat as soon as they are printed.

At the IUGS Council meeting we will request confirmation of INHIGEO officers and full members who have been elected since 1989. These include:

Professor Wang Hongzhen, Peoples Republic of China, as Vice President (elected by INHIGEO in 1990)  
Professor Kenzo Yagi, Japan, as Full Member (elected by INHIGEO in 1990)

We also will request confirmation of those officers and full members who will be elected this summer by mail ballot and at the Commission meeting at Kyoto. The candidates are:

#### **Board Members**

David A. Branagan, Australia, for President  
Franco Urbani, Venezuela, for Vice President  
Vladimir V. Tikhomirov, Russia, for Vice President  
Ursula B. Marvin, U.S.A., for Secretary-General

#### **Full Members**

William A. S. Sarjeant, Canada, nominated by Walter Kupsch  
Peter Schmidt, Germany, nominated by Martin Guntau  
Hugh Torrens, United Kingdom, nominated by Gordon Craig  
Dov Ginsburg, Israel, nominated by Martin Guntau and Ursula Marvin

Thirteen candidates for Corresponding Memberships are on the ballot that was mailed in May. Those elected by the INHIGEO Full Members will need no confirmation by the IUGS Council.

### **XVIIIth International INHIGEO Symposium, Brazil, 1993**

The INHIGEO Board has accepted an invitation submitted by Full Member Silvia Figueirôa to hold its XVIIIth symposium in Brazil on the theme: *Geological Sciences in Latin America: scientific relations and*

*exchanges*. The dates will be July 19-25th. Opening sessions will be held in Campinas, São Paulo, and closing sessions in Ouro Preto, Minas Gerais. An excursion between these cities will stop at field localities, pegmatite mines (?), museums, and other places of historical interest. Ouro Preto is a gem of an old gold mining town with baroque churches and other buildings surviving from the colonial era. This will be INHIGEO's first symposium in Latin America and the plan has received enthusiastic support from our members in Venezuela and Costa Rica. We hope many of our worldwide members will plan to attend.

### **Invitations for 1994 and Beyond**

At the time of the Dresden Symposium in 1991, the Board had received invitations to hold INHIGEO symposia in 1994 in Austria and Italy. No additional invitations have been submitted this year and so a choice between these two will be made at the Commission meeting in Kyoto. Both of these proposals are very attractive, and, inasmuch as we can choose only one, we hope the host of the other will repeat the invitation for a later year.

#### **Austria**

Full Member Alexander Tollman, of the Geological Institute of the University of Vienna, invited INHIGEO to hold a symposium in 1994 at Albrechtsberg in lower Austria where his family has a Gothic castle surrounded by a Renaissance palace that includes a spacious lecture hall and rooms for exhibits and large and small gatherings. Groups of well over 100 participants hold meetings there. The International *Shallow Tethys Congress No. 4* will meet there in September, 1993. As a theme for the INHIGEO Symposium, Professor Tollman suggests: "The history of international investigations relating to the Tethys, and their implications for the earth sciences during the past century." For this event, Tollman would plan to supplement the collection of geological and historical works already assembled at the castle by bringing in an exhibit of original manuscripts, notebooks, sketches and early publications of Eduard Suess and pioneer Alpine geologists such as Escher von der Linth, Albert Heim and Marcel Bertrand. He suggests that inasmuch as most participants would fly to Vienna, pre-meeting excursions in Vienna could be planned to the collection of old maps and charts in the National Library and to the archives of the Geological Institute. A half-day excursion could be made to the geological collections at nearby Eggenburg and a two-day excursion could be made to the culturally interesting Salzburg region of Austria and Bavaria. Participants who wished could explore the ancient salt mines of Hallstatt or the castle at Dürnberg.

#### **Italy**

Full Member Nicoletta Morello, of the Institute for Modern and Contemporary History in Genoa, has invited INHIGEO to hold a Symposium in Italy in 1994 on the theme: "Volcanoes and History." The meeting would be held with the cooperation of Professor C. Luongo, Director of the Vesuviano Osservatorio in Naples. No details are available at this time.

### **Notices of General Interest to Historians of Geology**

#### **Meeting at Rensselaer Center of Applied Geology, Troy, New York, July 29 through August 1, 1992.**

A meeting jointly sponsored by the Northeastern Science Foundation and the History of Earth Science Society will follow a meeting in Toronto, Canada, of the British Society for the History of Science and its Canadian and U.S. counterparts July 25-28th. A flight of about 1 hour or a drive of a few hours will allow participants to attend both meetings. The program at Troy will address three subjects: the history of Canadian geology (as part of a celebration of the 150th anniversary of the Geological Society of Canada); geological exchanges between the U.S. and Canada; and trans-Atlantic links. Field trips will visit field localities, and wherever possible, work stations, and graves of geologic pioneers including Amos Eaton (1776-1842), Lardner Vanuxem (1792-1848), Charles Lyell (1797-1875), William Logan (1798-1875), William W. Mather (1804-1859), Louis Agassiz (1807-1873), and James Hall (1811-1898). For last minute information contact:

Professor Gerald M. Friedman, Northeastern Science Foundation, Inc., 15 3rd Street, P.O. Box 746, Troy, New York 12181-0746, Tel: (518) 273-3247; FAX: (518) 273-3249.

### History of Earth Science Society (HESS)

HESS is an international society founded in 1982 to help bridge the gap between the earth sciences and humanities. To this end it publishes a refereed journal *Earth Sciences History* for scholarly works on the history of earth sciences. It issues two numbers a year, in June and December, containing contributed or invited papers, book reviews, meeting announcements, and news items of interest to historians of geology. Several issues have been devoted to papers presented at INHIGEO Symposia or to special topics such as the recent Arctic Issue described in the Canada Report (below).

*Earth Sciences History* is a handsomely produced journal that remains relatively inexpensive. Even with increases in dues and library subscriptions expected in 1993, individuals will be able to join HESS and receive the journal for \$30.00 (\$35.00 non-U.S.) and libraries may subscribe for \$50.00 (\$55.00). Information on membership and library subscriptions may be obtained from the HESS Secretary, Kennard B. Bork, Denison University, Granville, Ohio 42023, U. S. A. Tel: (614) 587-6486.

### XIXth International Congress of History of Science, Zaragoza Spain, 1993

The first circular announces that this Congress, sponsored by the Division of History of Science of the International Union of History and Philosophy of Science will be held 22-29 August, 1993, at Zaragoza, Spain. The program will include scientific sessions, symposia, exhibitions, poster presentations of national committees and international commissions, tours, excursions, and receptions.

The following six sessions will relate to the history of geology:

- G1. Geology
- G2. Origins of earth sciences
- G3. Geographical thinking
- G4. Geophysics and geodesy
- G6. Cartography

Those wishing to participate can register for presenting a paper until **November 30th, 1992. Abstracts and preregistration fees, at a reduced rate, are due by February 28th, 1993.** For further information, contact the Congress Office, XIXth International Congress of History of Science, Facultad de Ciencias (Mathematicas), Ciudad Universitaria, 50009 Zaragoza, Spain. FAX: 76-565852. Telex: 58198 EDUCI-E. E-Mail: ICHS@cc.UNIZAR.ES.

### Cultural Heritage Collected in Libraries of Geoscience, Mining and Metallurgy Past, Present, and Strategy for the Next Millennium

The libraries of geoscience, mining and metallurgy in Europe (as well as on other continents) contain a rich cultural heritage consisting of "old" books, manuscripts, sketches, maps and unpublished works, sometimes also coins, medallions, pewter figures, carvings, etc. The importance of these collections is well known to librarians, historians, restorers, antiquarians, academies, scientific societies and associations, curators of monuments, and many more.

In September, 1993, an international symposium of several days will be held on the above subject in Freiberg, Saxony. This symposium is jointly organized by the Department of Reserve Precieuse of the Library of the Bergakademie at Freiberg and the University Library of Montanuniversität at Leoben. The first announcement is to be distributed in mid-1992. In order to efficiently prepare the symposium, we request all those interested to

send us their wishes, comments, and suggestions for papers as soon as possible. Write to Dr. Peter Schmidt, Bibliothek der Bergakademie Freiberg, Schliessfach 47, D-O-9200 Freiberg, Federal Republic of Germany.

### **New Publications Available on Order**

*Nachrichtenblatt zur Geschichte der Geowissenschaften*. Vol. 1, Editors: Ewald Kohler (Regensburg) and Peter Schmidt (Freiberg), about 40 pages.

This newsletter was established in response to German reunification and the wish to provide all German historians of geoscience with timely information on conferences, exhibitions, publications, activities of German associations, library acquisitions, archives available for research, and other items and events relating to their fields of interest.

Alexander von Humboldt: *Mineralogische Beobachtungen ueber einige Basalte am Rhein*. Braunschweig, 1790. Facsimile with brief commentary.

This facsimile was produced from a copy in the private library of Abraham Gottlob Werner with a handwritten dedication to Werner by Humboldt, who had been Werner's student at the Bergakademie at Freiberg. The commentary is written by Peter Kühn (Berlin), Wolfhart Langer (Bonn) and Peter Schmidt (Freiberg).

*Bibliographie der in der DDR 1983-1989 zur Geschichte der Geologie, Mineralogie, Geophysik und Paläontologie erschienenen Veröffentlichungen*. By Peter Schmidt. 250 pages.

This bibliography is an update of earlier publications on the same subject. More than 2300 items are listed. Cross-referenced.

*Zur Geschichte der Heimatgeologen und Heimatgeologie, besonders in Thüringen und Sachsen*.

Fifteen authors describe the life and work of well-known and less known local geologists in Thuringia and Saxony. There is information on the history of mineralogical and paleontological collections and on the role played by teachers in the geological description of Saxony. With illustrations and tables. About 120 pages.

Individuals and libraries interested in obtaining these four publications may order them at:

Bibliothek der Bergakademie Freiberg  
Abteilung Wissenschaftlicher Altbestand Schleissfach 47  
D-O-9200 Freiberg, Sachsen

Peter Schmidt

### **Geological Reprints of Historic Interest Available at the Bernhard Kummel Library, Harvard University**

Reprints of papers by nearly 550 geoscientists are available on request from the Kummel Library. Many of the reprints are bound in volumes inscribed with the name of the author. Others are available singly or in groups, often in protective envelopes. All of the papers were published in the late 19th and first half of the 20th centuries. The list is truly international. A hasty sampling of authors includes Giovanni Achiardi, Federico Ahlfeld, Claude C. Albritton, Jr., Ernst Antevs, George W. Bain, T.F.W. Barth, Dimitri Beliankin, Andre Callieux, Pierre Teilhard de Chardin, Pentti Eskola, Frantz Loewinson-Lessing, Martin A. Peacock, Eduard Suess, Vladimir Vernadsky, George F. Wright, Joseph Zähringer, and hundreds of others. For sizeable requests you may be requested to pay postage. For the list and further information contact: Mrs. Constance Wick, Bernhard Kummel Library of the Geological Sciences, Harvard University, 24 Oxford Street, Cambridge, MA 02138, U.S.A. TEL: 617-495-0791; FAX: 617-495-8839; Internet: CSWICK@HARVARD.HARVARD.EDU

### **Biography in Preparation of John Haller (1927-1984)**

A biographical study of structural geologist John Haller is in preparation for publication in the fall of 1992. Born in Basel, Haller received his doctorate at the University of Basel in 1952, joined the East Greenland Expeditions under Dr. Lauge Koch in 1949 and became their leader after Koch's last expedition in 1958. In 1964 he was appointed a Lecturer on Geology and Tectonics at Harvard University where he was promoted to the position of Full Professor in 1969. The book is being compiled by Fritz H. Schwarzenbach, a Swiss botanist who accompanied Haller in Greenland. Chapters will be written by Haller's colleagues, students, friends, and one of his early teachers. The book will consist of five parts: From Student to Lecturer at the University of Basel; In the Service of the Danish East Greenland Expeditions (1949-1964); Teacher in Academia at Harvard University (1964-1984); His Scientific Work; and John Haller the Person. It will include a complete bibliography of his works. The text, in English, will be about 90 pages with an additional 50 pages of Haller's drawings and photographs. Advance subscriptions may be ordered from the publisher: Verlag der Fachvereine, ETH, Zürich, approximately \$37.00.

### **The History of Science Collections at the University of Oklahoma**

In response to a discussion at the Dresden Symposium on a need for more information on the locations and contents of book collections and archives of interest to historians of geology, this Newsletter will carry brief descriptions, such as the following, of one or two such resources each year. Information of this kind will be very welcome for the next INHIGEO Newsletter.

The History of Science Collections at the University of Oklahoma Libraries constitute a particularly strong resource for the history of the geological sciences. In part this is because the initial nucleus of the collections was provided by E. L. DeGolyer (1886-1956), an alumnus of the University with a special interest in geology. DeGolyer, a leading figure in the development of geophysical techniques in petroleum prospecting, collected books referred to in standard histories of geology--A. Geikie, K. A. von Zittel, and especially F. D. Adams.

In the four decades since DeGolyer's gift of approximately 2,600 books created the Oklahoma collections, continuing acquisitions have built upon its strengths. The Collections now amount to over 80,000 volumes, housed separately within the main University Library. Facilities for visiting researchers are excellent.

While the Collections consist primarily of printed books, there are also some interesting manuscript holdings. These include a set of notes from Louis Agassiz's 1847 Boston lectures, a collection of over 100 letters written to the geomorphologist Joseph Beete Jukes, and a large collection of papers and letters that belonged to the American geologist Parker Cleaveland.

A catalog of the Collections' holdings was published in 1976 (D. H. D. Roller and M. M. Goodman, *The Catalogue of the History of Science Collections of the University of Oklahoma Libraries*, 2 volumes, London, Mansell). Since then the Collections have nearly doubled in size. Researchers interested in details on the Collections' current holdings are invited to request a microfiche copy of the updated short-title catalog; write to the Curator, History of Science Collections, University of Oklahoma, Norman, OK 73019, U.S.A.

Kenneth L. Taylor

### **History of the IUGS**

INHIGEO Corresponding Member Cecil Schneer reports that he has conducted numerous taped interviews and examined large numbers of documents in his effort to write a history of the IUGS. He has decided to divide the history into several self-contained segments each of which can be published separately as soon as it is completed. He has postponed writing Part I, which will report on the founding and the first eight years of the IUGS, and currently is working on Part II. Tentatively titled "Geologists at Prague," Part II will focus on IUGS activities at the 23rd IGC in Prague. He will complete Part II in advance of the 24th anniversary of the invasion of Prague on August 20th, 1968.

## COUNTRY REPORTS

Authors or coauthors are listed at the end of each country report or section thereof. Reports with no authors listed were compiled from news items or letters to the Secretary-General. All reports have been edited to achieve brevity and a common format.

### ARMENIA 1991

Corresponding Member E. G. Malkhassian prepared a report on "Geological-Archaeological Investigations of Methods of Prospecting for Ore Deposits" for the All-Union Symposium held in Dushanbe. He also published two articles on Leonid Afanas'evich Spendiarov, in whose honor the Spendiarov Prize has been awarded to a scientist at each International Geological Congress since 1900.

#### The Leonid Spendiarov Prize of the IGC

A brilliant career ended when the young geologist Leonid Spendiarov died suddenly at the age of 28 on the second day after the opening of the 7th IGC meeting at St. Petersburg in 1896. His father gave his son's geological collections, manuscripts, publications, and library to the University at Derpt (now Tartu), Estonia, where they are stored to this day. Simultaneously he presented 4,000 roubles (a large sum at that time) to the IGC to establish the prize named after Leonid Spendiarov. The IGC deposited the money in the State Bank at St. Petersburg with the stipulation that the principal should remain there in perpetuity. After the October Revolution, Lenin decreed that the deposit would be inviolate.

The first prize winner was A. P. Karpinsky, who received it at the 8th IGC at Paris in 1900. He accepted the honor but declined the money which the IGC transferred to the Portuguese geologist, P. Shaffa for his study of the geology and stratigraphy of Portugal. Since then, 18 scientists have received this international prize for outstanding contributions to geological science. At the 28th IGC in Washington in 1989, the recipient was Dr. Susan Kieffer, of the United States Geological Survey for her contributions of fundamental importance to physical mineralogy, meteoritics, and volcanology. Dr. Kieffer arranged for the money to be awarded to an American elementary school to be used partly for laboratory equipment and partly for an annual prize for the best student paper about Leonid Spendiarov or Armenia.

E. G. Malkhassian

### AUSTRALIA 1991

The past year has been an active one for historians of geology in Australia. Corresponding Members David Branagan and Tom Darragh presented papers at the INHIGEO symposium in Dresden. Branagan spoke on "19th century Australian geology collections: their educational and cultural significance;" Darragh spoke on "Significant European fossil collections in the Museum of Victoria." Corresponding Member Tom Vallance could not attend but submitted a paper for the *Proceedings*. William Birch, of the Museum of Victoria, spoke on "Early German influence on Australian mineralogy and museums." [He also served as scale for Kenzo Yagi's sketch of an ammonite (see Figure 2). UBM]

David Branagan has been particularly active as Chairman of the Australian Earth Sciences History Group and editor of its newsletter. During the year, he completed biographical articles on mining engineers A. B. Black and K. A. Cameron for the *Australian Dictionary of Biography*. He presented a paper "19th century Australasian geology collections: their educational and cultural significance," at the XVth International INHIGEO Symposium at Dresden and he also presented papers, now in press, at the International Breihaupt Symposium at Freiberg, the 17th Pacific Science Conference in Hawaii, the Fourth Edgeworth David Symposium in Sydney, the International Conference on Desert Landscapes at Perth, and the Australian Joint Mineralogical Societies Seminar at Sydney.

Branaghan edited the memoirs of the contemporary Australian geologist, A. H. Voisey, and he is continuing his work on Alfred Selwyn and H. Y. L. Brown for the Australian-Canadian joint history project.

Tom Vallance has recently returned to Sydney after an extended stay in the U.K. He continues his research on Robert Brown. During his sojourn in Europe he searched out information on all Australians who were members of the Geological Society of London during the 19th century.

Thomas Darragh, David Corbett, and Neil Archbold were elected to INHIGEO as Corresponding Members at the Commission meeting during the XVIth International INHIGEO Symposium at Dresden. Tom Darragh attended the Symposium and presented a paper entitled "Significant European fossil collections in the Museum of Victoria." He currently is undertaking a bio-bibliographical study of Frederick McCoy's "Prodromus of the Paleontology of Victoria". In October, 1991, he presented a progress report at a seminar on natural history books held at Monash University in Melbourne.

David Corbett is researching the papers of Sir Douglas Mawson, which are stored at the University of Adelaide.

Neil Archbold continues historical work, often in conjunction with his palaeontological research. In 1991, he collaborated with Pat Vickers-Rich on "Squatters, Priests and Professors: a brief history of Vertebrate Palaeontology in Terra Australis," in P. Vickers-Rich, J. M. Monaghan, R. F. Baird and T. H. Rich (eds.), *Vertebrate Palaeontology of Australasia*, pp. 1-44, issued by Pioneer Design Studios and Monash University Publications Committee, Melbourne. Neil also draws attention to the following papers published in the *Bulletin of the Fossil Collectors Association of Australasia* during 1990/1.

Archbold, N. W., 1990. Major T. L. Mitchell and Australian vertebrate palaeontology. *Bulletin* 30:33-37.

Corcoran, P., 1991. Remembering a pioneer: J. E. T. Woods - a nineteenth century naturalist. *Bulletin* 32/33:5-11.

Banks, M., 1991. Fossil Discoveries in Van Diemens Land. *Bulletin* 32/33:13-20.

Two publications may be of interest to historians of Australian geology. The recent volume of the *Australian Dictionary of Biography* is a comprehensive index with an entry under "Geologists". It is useful for researchers starting work on Australian geologists.

Archivist Margaret Innes has also compiled "Mawson's papers: a guide to the scientific, personal and business papers of Sir Douglas Mawson," which has just been published by the University of Adelaide.

The newsletter of the Earth Sciences History Group continued to appear during the year and provides copious news on Australian activities.

Barry Cooper

## AUSTRIA 1991

An exhibition honoring the life and work of Eduard Suess was assembled in Vienna to commemorate the 75th year since his death. It consists of 20 panels showing pictures, diagrams, manuscripts of *Das Antlitz der Erde*, and other documents as well as Suess' field notes and hammer. The exhibit has been shown in Austria, in Zurich, and Istanbul and there are plans to circulate it in various cities in Germany. A catalog with color prints is being assembled with the help of Dr. A. M. C. Sengör in Istanbul.

Alexander Tollman

Professor Tollman has invited INHIGEO to hold its international Symposium at Albrechtsburg, in lower Austria, in 1994 (for details see Page 14. *UBM*).

## BRAZIL 1991

The most important happening in 1991 was the attendance of four Brazilians who presented three papers at the XVth International Symposium "Museums and Collections in the History of Mineralogy, Geology and Paleontology" held at Dresden. This is the first time since Brazilian researchers got in touch with INHIGEO that more than a single participant from Brazil has attended a symposium. It is clear evidence of the growing interest in the history of the geological sciences in that country. The Brazilian participants presented the following papers:

*Latin American natural science museums and the geological sciences during the XIX and XX centuries*, by Maria Margaret Lopes.

*The writings of Orville Adelbert Derby (1851-1915) and its meaning to the history of geological sciences in Brazil*, by Silvia Figueirôa.

*The importance of the mineralogical museum at the Mining School in Ouro Preto as a research resource: the Au-Pd minerals of Central Brazil*, by Hubert Roeser (Brazil), Kay Schürmann (Germany) and Heinz Jürgen Tobschall (Germany).

### Additional Presentations and Publications:

Ferreira, C. M. (1991) The mineralogical museum of the School of Mines in Ouro Preto, Brazil. [Abstract] XVth International INHIGEO Symposium, Dresden, p. 18.

Figueirôa, S. F. de M. (1991) The Geological Commission of Brazil and the North American tradition in the Brazilian geological sciences. Caxambu, Minas Gerais, May 1991. In press: *Journal of the Brazilian Society on the History of Science*, in Portuguese.)

Figueirôa, S. F. de M. (1991) Asociacionismo científico en Brasil: el 'Instituto Histórico e Geográfico Brasileiro' como espacio institucional para las ciencias naturales en el siglo 19. Madrid, Congress "Science and Discoveries", June 1991 (oral presentation).

Figueirôa, S. F. de M. (1991) The writings of Orville A. Derby (1851-1915) and its meaning to the history of geological sciences in Brazil. [Abstract] XVth International INHIGEO Symposium, Dresden, p. 19-20.

Figueirôa, S. F. de M. (1991) Transatlantischer Austausch wissenschaftlicher Ideen im 19. Jahrhundert aus der Sicht Brasiliens. Universität Rostock, *Rostocker Wissenschaftshistorische Manuskripte*, num. 20, pp. 84-89.

Figueirôa, S. F. de M. (1991) Aspects of the history of geological sciences in Brazil. In Ruiz Z., A. (ed.) *Ciencia y tecnología: estudios del pasado y del futuro*. San Jose, Ed. Guayacan, pp. 143-154, 253-270 (in Portuguese).

Lopes, M. M. (1991) Latin American natural sciences museums and the geological sciences during the 19th and early 20th centuries. [Abstract] XVth International INHIGEO Symposium, Dresden, p. 28.

Lopes, M. M., Figueirôa, S. F. de M. (1991) Bibliographical publications related to geological sciences in Brazil during the 19th century. Campinas, *Cadernos IG-UNICAMP*, 1, no. 2:36-50. (in Portuguese).

Roeser, H., Schürmann, K., and Tobschall, H. (1991) The importance of the mineralogical museum of the Mining School in Ouro Preto as a research resource: the Au-Pd minerals of Central Brazil. [Abstract] XVth International INHIGEO Symposium, p. 52.

Vargas, M. (1991) Ch. Fred. Hartt and the beginning of Brazilian earth sciences and technology. HSS/SHOOT Joint Annual Meeting, Madison, WI, October, (oral presentation).

Silvia F. de M. Figueirôa

## **The XVIIIth International INHIGEO Symposium to be held in Brazil.**

At the Business Meeting in Dresden, Sylvia Figueirôa submitted an invitation to INHIGEO to hold its XVIIIth International Symposium in Brazil in 1993. That invitation has been accepted. For details see pages 13-14.

*UBM*

## **BULGARIA 1991**

The Geological-Geographic Section of the Union of Sciences in Bulgaria met at Sofia on February 13, 1991, to elect new officers and draw up a program for future work. These will include reviews of historical achievements and proposed new studies in Bulgarian geology, mineralogy, petrography, and metallogeny; investigations of the seismicity of the Sofia kettle and other tectonic problems; hydrothermal regimes, and problems relating to the territorial division of Bulgaria. A planning session was held in connection with the XVth Karpato-Balkan Geological Association to be held in Yugoslavia, September 13-21, 1993.

A monograph on lead-zinc deposits of Bulgaria was issued under the general editorship of Prof. Dr. Rajo Dimitrov. Such deposits, which actually are polymetallic, are common in the Rhodopean geological range. They occur as hydrothermal vein and contact-metamorphic deposits associated with Oligocene-Miocene magmatism. They currently are mined for Pb, Zn, Ag, and Cd.

These deposits were known in the first millennium B.C. when Thracian peoples recovered silver and some lead and copper from galena in these hydrothermal vein deposits. They avoided the contact-metamorphism deposits because they did not know how to work them. The remarkable silver treasure found near Rogozen in the Vrachansko area was created from materials derived from these mines in ancient times. Later, the Romans recovered metals from the vein deposits of the region.

Professor Dimitrov's book describes the metallogenic districts and many of the individual ore deposits of Bulgaria. The deposits are grouped into seven types of ore formations, connected with the Rhodopian geological region and the Balkan folding system. It represents years of effort on the part of numerous Bulgarian geologists. It could be used by exploration geologists and also as a college textbook.

*Georgi K. Georgiev  
Petko Mandev*

The INHIGEO Board is saddened to learn of the death of Professor Georgiev in February, 1992. We extend our deepest sympathies to his family and his colleagues. He served as a Full Member of INHIGEO for 16 years and his loss is felt far beyond his own country.

## **IN MEMORIAM**

**Georgi Kostov Georgiev  
1905-1992**

Born in Lovetch, Bulgaria, on October 3, 1905, Georgi Kostov Georgiev started his career as a Primary School teacher (1924-1927). Having studied Natural History at the Sofia University (1927-1932), he spent several years teaching in Secondary Schools in various regions of Bulgaria. In 1939, Professor S. Dimitrov offered him the post of Assistant Professor at his Department of Mineralogy and Petrography at the University of Sofia.

After World War II, G. K. Georgiev became Reader of Mineralogy and Petrography at the Institute of Technology (Polytechnic) of Varna (1946-1949). In 1949 he moved to the Sofia Institute of Technology where he was Reader (1949-1951) and later Professor of Mineralogy and Petrography.

G. K. Georgiev was one of the founders of the Sofia Institute of Mining and Geology (now the Geological University). He chaired its Department of Mineralogy and Petrology from 1953 until his retirement in 1974. In 1953 he was invited to serve as a Visiting Professor at the University of Prague in Czechoslovakia.

Professor Georgiev was elected a Corresponding Member of INHIGEO in 1972 during the International Geological Congress at Montreal, Canada, and a Full Member of INHIGEO at the IGC in 1976 at Sydney, Australia. He also was a member of the History of Science Society and an honorary member of the Bulgarian Geological Society.

He passed away in Varna, Bulgaria, on February 7, 1992.

G. K. Georgiev published over 220 scientific papers, including three monographs and four university textbooks. His scientific fields of study were plutonic and dike rocks, monzonites and basalts of Bulgaria, the igneous rocks and mineralization of the Rhodope Massif, the geomorphology, structure, and metamorphic rocks of the Pirin Mountains, post-Pliocene volcanism, and andesite petrology.

In the field of the history of geological and mining sciences, his publications dealt with mineral resources and mining and metallurgy in the Thracian epoch and the Middle Ages in Bulgaria and Greece, and the Bulgarian-Russian-German relations in geology before 1944. He did his best to coordinate and promote INHIGEO and related activities in the Balkan region.

#### Partial Bibliography of Georgi K. Georgiev

##### Monographs

*Petrography of Metamorphic Rocks.* Ed. Technika, 272 p., 1963.

*The Ancient Ore Mining Industry in Bulgaria.* Ed. Bulg. Acad. Sci., 206 p. Sofia, 1978.

*Mineral Resources in the Epoch of the Thracians.* Ed. Bulg. Acad. Sci., 114 p. Sofia, 1987.

##### University Textbooks

*Engineering Petrography.* Ed. Technika, 1949.

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*Mineralogy, Petrography and Mineral Resources.* 1960.

*Treatise on Geology.* (with coauthor), 1st ed. 1954, 5th ed. 1974.

##### Selected Papers on Historical Subjects

Second contribution to the study of the history of the iron ore mining industry in Alibotush Mountains and surroundings. *Ann. Varna University, Fac. of Techn.*, I, 1-22, Varna, 1946.

L'industrie de fer médiéval dans l'ancien arrondissement de Nevrokip (Bulgarie et Grèce). *14th Internat. Cong. Hist. Sci.*, Sect. VI, Tokyo-Kyoto, 1974.

L'habitat thraco-romain près du village de Paril, Département Blagoevgrad. *Thracia III*, 409-411, Serdicae (Sofia), 1974.

Die Verbindungen der bulgarischen Geologen zu den russischen, sowjetischen und deutschen Geologen bis zur Revolution vom 9 September 1944. *Zeitschrift für Geol. Wiss.*, 554-557, Berlin, 1976.

Neues zur Frage über die Bodenschätze Südwest-Thrakiens in der Antike. *Comm. Symp. rebus Spartaci gestis dedicati*, 20-50/128-137, Blagoevgrad, 1977.

L'industrie sidérurgique médiéval dans la région du pluton de Charlia (Oros vroudos) - Thermagora (Raraoros) en Grèce. *27th Int. Géol. Cong.*, Paris, 1980.

## **The XVIIIth International INHIGEO Symposium to be held in Brazil.**

At the Business Meeting in Dresden, Sylvia Figueirôa submitted an invitation to INHIGEO to hold its XVIIIth International Symposium in Brazil in 1993. That invitation has been accepted. For details see pages 13-14.

*UBM*

## **BULGARIA 1991**

The Geological-Geographic Section of the Union of Sciences in Bulgaria met at Sofia on February 13, 1991, to elect new officers and draw up a program for future work. These will include reviews of historical achievements and proposed new studies in Bulgarian geology, mineralogy, petrography, and metallogeny; investigations of the seismicity of the Sofia kettle and other tectonic problems; hydrothermal regimes, and problems relating to the territorial division of Bulgaria. A planning session was held in connection with the XVth Karpato-Balkan Geological Association to be held in Yugoslavia, September 13-21, 1993.

A monograph on lead-zinc deposits of Bulgaria was issued under the general editorship of Prof. Dr. Rajo Dimitrov. Such deposits, which actually are polymetallic, are common in the Rhodopean geological range. They occur as hydrothermal vein and contact-metamorphic deposits associated with Oligocene-Miocene magmatism. They currently are mined for Pb, Zn, Ag, and Cd.

These deposits were known in the first millennium B.C. when Thracian peoples recovered silver and some lead and copper from galena in these hydrothermal vein deposits. They avoided the contact-metamorphism deposits because they did not know how to work them. The remarkable silver treasure found near Rogozen in the Vrachansko area was created from materials derived from these mines in ancient times. Later, the Romans recovered metals from the vein deposits of the region.

Professor Dimitrov's book describes the metallogenic districts and many of the individual ore deposits of Bulgaria. The deposits are grouped into seven types of ore formations, connected with the Rhodopian geological region and the Balkan folding system. It represents years of effort on the part of numerous Bulgarian geologists. It could be used by exploration geologists and also as a college textbook.

*Georgi K. Georgiev  
Petko Mandev*

The INHIGEO Board is saddened to learn of the death of Professor Georgiev in February, 1992. We extend our deepest sympathies to his family and his colleagues. He served as a Full Member of INHIGEO for 16 years and his loss is felt far beyond his own country.

## **IN MEMORIAM**

**Georgi Kostov Georgiev  
1905-1992**

Born in Lovetch, Bulgaria, on October 3, 1905, Georgi Kostov Georgiev started his career as a Primary School teacher (1924-1927). Having studied Natural History at the Sofia University (1927-1932), he spent several years teaching in Secondary Schools in various regions of Bulgaria. In 1939, Professor S. Dimitrov offered him the post of Assistant Professor at his Department of Mineralogy and Petrography at the University of Sofia.

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L'habitat thraco-romain près du village de Paril, Département Blagoevgrad. *Thracia III*, 409-411, Serdicae (Sofia), 1974.

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L'industrie sidérurgique médiéval dans la région du pluton de Charlia (Oros vroudos) - Thermagora (Raraoros) en Grèce. *27th Int. Géol. Cong.*, Paris, 1980.

## CANADA 1991

A Special Arctic Issue of *Earth Sciences History*, Volume 10, Number 2, was published in 1991. It represents five years of dedicated editorial effort on the part of INHIGEO Full Member, Walter O. Kupsch and contains the following ten articles ranging over a wide variety of topics:

- William Barr, "Aleksandr Lavrent'yevich Chekanovskiy, Pioneer Geologist and Explorer of North Central Siberia, 1873-76."  
Peter Robert Dawes, "Lauge Koch: Pioneer Geo-explorer of Greenland's Far North."  
Gregory A. Good, "Seeking the Magnetic Poles."  
Geir Hestmark, "Fridtjof Nansen and the Geology of the Arctic."  
Trevor H. Levere, "Henry Wemyss Feilden (1838-1921) and the Geology of the Nares Strait Region: With a Note on Per Schei (1875-1905)."  
Li Di, "Some Records About the Arctic in Early Chinese Books."  
W. Schroder, "The First International Polar Year (1882-1883) and International Geophysical Cooperation."  
Jiri (George) Strand, "The Discovery of Diamonds in Siberia and Other Northern Regions: Explorational, Historical, and Personal Notes."  
Jorgen Taagholt, "The Early Exploration of Greenland."  
Curt Teichert, "A Geological Expedition to East Greenland 1931-1932."

## 150th Anniversary of the Geological Society of Canada in 1992.

A newsletter from CANHIGEO provides a tentative schedule of lectures, meetings, exhibitions, and commemorations that will be held in 1992 to celebrate the 150th Anniversary of the Geological Survey of Canada. Events to honor Sir William Logan, founder of the GSC, will include a symposium on "Future Research Trends in the Earth Sciences," a display featuring water colors, documents, and instruments of Logan's, and an ascent of Mt. Logan in April. Events will continue throughout the year and be held in many parts of Canada and at the annual meetings of several organizations such as the Geological Society of America, American Geophysical Union, American Association of Petroleum Geologists, and the American Association for the Advancement of Science. For information contact: Dr. Charles H. Smith, Coordinator, 150th Anniversary Coordination Office, Geological Survey of Canada, 601 Booth St. Ottawa ON, K1A 0E8 Canada.

Walter Kupsch, the editor of the CANHIGEO Report, concluded the issue with a page filler because "...to leave a page empty is unconscionable in our time." The filler is a letter from Kupsch to the editor of *Geolog*, where it appeared in vol. 10, pt. 3, p. 74, 1981. The letter includes an illustration from Agricola's *De Re Metallica* of 1556 showing busy miners operating a sluice box in the open air while a couple can be seen kissing inside the window of a small log cabin, which undoubtedly served as an office or counting house for the gold being recovered. Kupsch argues that this picture provides documentary evidence that sexual harassment has been an occupational hazard for female workers in offices of mining companies for at least 425 years.

[Note: The couple is in such close embrace that instead of harassment what we are witnessing could be a stolen moment of illicit bliss. Either way, however, it would seem such an odd activity to carry on at the window, in full view of contemporaries and posterity, that we suggest it may be a show of affection between partners in a two-career marriage. The picture is on page 343 of the 1950 Dover Publications reprint of *De Re Metallica*. Librarians may wonder at a sudden demand for Agricola's masterpiece. UBM]

## Triple Honors to William A. S. Sarjeant

Special congratulations are owed to INHIGEO member W.A.S. (Bill) Sarjeant of the University of Saskatchewan. Newsletter No. 23 reported that in 1990 he was awarded the Sue Tyler Friedman Medal of the Geological Society of London. In 1991, he was awarded two more honors: the Founder's Medal of the Society for the History of Natural History in London and the History of Geology Award of the Geological Society of America. For an abstracted version of the the GSA award ceremony see the USA Country Report.

Sarjeant attended the INHIGEO Symposium at Dresden where he not only coauthored the "Dresden Proclamation," (see Appendix I to Commission Meeting Report, above) but also presented a paper entitled: *Gideon Mantell and the "Xanthidia."*

## CHINA 1991

### Publication of XVth INHIGEO Symposium Proceedings

1991 saw publication of "Interchange of Geoscience Ideas Between the East and the West," *Proceedings of the XVth International Symposium of INHIGEO*, 1990. Beijing. Wang, Hong-zhen, Yang, Guang-rong, and Yang, Jing-yi, editors; China University of Geosciences Press, softbound, 273 pages.

The book, which is very attractively printed, has 32 chapters grouped under three main themes: 1) a general treatment of geoscience ideas, some going back to ancient times; 2) the contributions of distinguished geologists to the scientific exchange between east and west; and 3) the development, often with outside collaboration, of various geologic disciplines in China. This book contains a wealth of information that is available nowhere else. It makes fascinating reading and should become a standard reference for every geologist planning a visit to China. In itself, it constitutes a strong link between geoscientists of East and West.

### Planning for the 30th International Geological Congress, Beijing, 1996

A newsletter from the Preparatory Committee of the 30th IGC reports that 150,000 Chinese Geoscientists are going all out to make preparations for hosting the 1996 Congress in Beijing. A tentative title for the main theme of the meeting is "Continental Geology—natural resources, environmental protection, hazard reduction, social development." This meeting will expand the IGC's coverage of the Asian continent after the focus on the active margin of the continent with its volcanic chains and island arcs at the 29th IGC in Japan. Sessions are being planned on 24 main subjects subdivided into 170 topics. Routes have been worked out for 180 field excursions to cover the entire mainland and some offshore islands from the East China Sea to the Pamir Plateau including Tibet, Inner Mongolia, Yunnan, and all the other provinces, autonomous regions, and municipalities. We have no specific news on History of Geology activities, but we feel confident that our strong contingent of INHIGEO members in China will plan interesting sessions and excursions in this ancient land.

### A Decade of History of Geology In China.

The Geological Society of China will celebrate its 70th anniversary in 1992 with a series of meetings and symposia. The following information is taken from an abstract by Corresponding Member Tao Shilong entitled, *Research on History of Geology in China During the Last Decade*.

The Committee on History of Geology of the Geological Society of China was set up in 1980. Beginning with the first annual symposium of 1982, seven scientific conferences have been held during the past decade, including the XVth INHIGEO Symposium in Beijing in 1990. More than 200 papers and more than 10 books have been published on the history of geology, partly through efforts of members of the Committee.

Historical research has been carried out in a wide range of fields with special emphasis on the history of petroleum geology, geological education, hydrogeology, and engineering geology. Some outstanding geologists who have made great contributions to deciphering the geology of China have been granted proper recognition. Scientific cooperation and exchanges have begun between Taiwan Province and the Mainland, and coauthored papers have been published in their respective journals.

Compared with other scientific branches, the research group in history of geology is small and needs more support. Future aims include the following:

1. Collecting more accurate data

2. Summarizing more systematically, the history of development of the various geological disciplines
3. Carrying out more comprehensive research and making more objective assessments of historic personages in geology
4. Making geological achievements better known to the public, and encouraging and educating young geologists through research on the history of geology
5. Developing and strengthening scientific exchanges and cooperation at home and abroad

Tao Shilong

## COSTA RICA 1991

The IVth Central American and Caribbean Congress on the History of Science and Technology was held in San Jose, Costa Rica, on December 2-6. Thirteen Costa Rican geologists participated, including members of the Costa Rican Committee on History and Philosophy of Geosciences and Geotechnologies (COHIFIGEO). A highlight of the meeting was a talk by Ileana Boschini on "Women Geoscientists in Latin America," coauthored by I. Boschini, G. Alvarado, G. J. Soto, and S. Arredondo. A book *Ciencia Y Tecnologia. Estudios del Pasado y del Futuro* (Science and Technology. Studies from the Past and the Future), was published in connection with the Congress. It includes the paper "History of the Development of Geologic Sciences in Costa Rica," by INHIGEO Corresponding Members G. Alvarado, L. D. Morales and G. J. Soto. G. Alvarado and G. J. Soto submitted a paper entitled "Collections and Archives on Geology in Costa Rica and their History," for presentation at the INHIGEO Symposium at Dresden in September, 1991 but were unable to attend.

In discussions with Dr. Silvia Figueiroa (INHIGEO Full Member from Brazil) during the Congress at San Jose, the Costa Rican members expressed full support for the INHIGEO Symposium proposed for Brazil in 1993.

Gerardo J. Soto

During the last seven years, a great interest in the history of science and technology has arisen in Costa Rica. The newly-formed Congreso Centroamericano y del Caribe de Historia de la Ciencia y la Tecnología met in San José in 1986, 1987, 1989, and 1991.

The Central America Geology School and National Museum started a serious and important effort to restore fossils collected from 1911 to 1945 and geological archives dating from 1888 to 1960.

Some recent publications include:

Alvarado, G.E., and Soto, G.J. (1991) "Collections and archives on geology in Costa Rica and their history". [Abstract] XVIth International INHIGEO Symposium, Dresden.

Alvarado, G.E. (in press) "History of transamerican bridges, barriers, and biological filters." Chapter 3 in: *Reseña histórica de la paleontología de los vertebrados en America Central*. Ed. Tecn. Costa Rica.

Alvarado, G.E. and Morales, L. D. (1988) "Un siglo de estudios sismográficos." *Rev. Geol. Amér. Central*, 9:113-115.

Alvarado, G.E. (1989) "Historia de la Paleontología de los vertebrados en Costa Rica." In A. Ruiz *et al.*, eds. *Historia de la Ciencia y la Tecnología. El avance de una disciplina*. Ed. Tecnología de Costa Rica, pp. 273-289.

Alvarado, G. E. and Morales, L. D. (1989) "Historia de la Vulcanología en Costa Rica." *Ibid.* pp. 291-314.

Morales, L. D. (1989) "Historia del desarrollo de las disciplinas geofísicas en Costa Rica." *Ibid.* pp. 255-272.

Guillermo Alvarado

## CZECHSLOVAKIA 1991

Dr. Josef Haubelt, INHIGEO Full Member from Czechoslovakia, attended the Dresden Symposium and presented a paper entitled *Geological Collections of the Patriotic Museum of Bohemia after 1818*. Dr. Rudolf Musil also attended the Symposium. Corresponding Member, Dr. Jan Urban was unable to attend but submitted a paper for the Symposium Proceedings: *The setting-up of geoscientific writings and archives in the present*.

In 1991, Dr. Haubelt published a monograph on Radim Kettner (1891-1967). An English summary of the Czech text, written by P. H. Šilarová, describes Kettner as a leading personage in the geological sciences in this country from the time of his university studies until the years after World War II. He was an excellent teacher, wrote textbooks and many articles and created a scientific school of his own. His approach to teaching and research was polyhistorical—and he was possibly the last person of this type in the geoscience history of Czechoslovakia.

Haubelt, J., (1991) *Geolog Radim Kettner*. Vydavatelství Českého Geologického Ústavu, Prague, 103 pp. ISBN 80-7075-065-0.

UBM

## FRANCE 1990-1991

The French Committee for History of Geology (COFRIGEO) was very active during these years. The membership is steadily rising, amounting currently to 130 members, French and foreign. Every year, three scientific meetings are held, a full afternoon of lectures and debates, with attendance of 20 to 25. The range of topics is large, from the ancients to recent advances, including personal testimonies by senior colleagues. Every communication, of which most are oral presentations of half an hour to one hour, is written by the authors and edited with great care in *Travaux du Comité français d'Histoire de la Géologie*, printed every year as a volume of one hundred or more pages of original studies. One hundred and eighty copies are issued, to be sent to all members plus some main libraries. The ISSN number (1156-2919) recently awarded to us, covers the set of our *Travaux* from 1983 on, and attests to its international standard. We are considering their diffusion abroad in the form of microfiches, provided we get some support.

All of the articles edited in the 1990 issue are of value. Perhaps the more important are those of: Ch. Devillers on the Piltown hoax; J. Gaudant on overlooked pioneers of Parisian stratigraphy; F. Ellenberger on Johann Scheuchzer and his remarkable tectonic sections in central Switzerland; and M. Durand Delga, whose 96-page paper is a rather unique file of rehabilitation of a French geologist, Jacques Deprat, who, in the early 1820s was unjustly accused of scientific frauds and severely penalized in his career. The French scientific press published some reports of the case, as a significant event, but the only full account is the one given in the *Travaux*.

To conclude, even with limited means the Comité français d'Histoire de la Géologie does its best to promote the study of the history of geology as both an exacting and an attractive endeavour, open to all people of good will, French or foreign, amateurs or semi-professionals. And also to vindicate its usefulness among the earth sciences, which currently suffer too often from losing their roots and scorning the past. To receive the *Travaux*, the rule is to first apply for membership: candidates are heartily welcomed.

François Ellenberger

The 13th Series of the *Travaux*, for 1991, arrived in the mail the day this Newsletter for being prepared for the printer. It contains the following articles:

G. Castany, "Origine et évolution des concepts des eaux souterraines."

J. Gaudant, "Le puits artésien de Grenelle fête ses 150 ans."

F. Ellenberger, "Ovide et la géologie."

L. Ginsburg, "Gigantomachie et Gygantostéologie du début du XVIIIème siècle en France."

- F. Ellenberger, "La paléontologie britannique naissante et ses dilemmes."  
 C. Dunoyer de Segonzac, "Observation à la communication de F. Ellenberger."  
 L. Touret, "Un rare exemple de cabinet du XVIII<sup>ème</sup> siècle: le cabinet des Fossiles: du Musée Teyler de Haarlem (Pays-Bas)."  
 Ch. Devillers, "Quelques souvenirs en hommage à Jean Piveteau (1899-1991)."  
 G. Dunoyer de Segonzac, "Présentation d'ouvrage: Les chemins du sel."  
 J. Gaudant, "Les cent-cinquante ans de la première carte géologique de France."  
 J. Tricart, "Les concepts de "pénéplaine" et d'aplanissement chez les géographes français depuis un siècle."  
 B. Geze, "Présidents à gratter."  
 G. Bouillet, "Le vocabulaire latin en rapport avec la Géologie: relevés et observations."  
 J. Gaudant, "Analyse d'ouvrage: E. Buffetaut: "Des fossiles et des hommes."

In addition, Lydie Touret, of the Musée de l'E.W.S.M.P. in Paris, attended the INHIGEO Symposium at Dresden and presented a paper entitled: "The historical collections of crystallographic models in Teylers Museum of Haarlem."

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#### GERMANY 1991

The most important event of international significance was the XVth INHIGEO Symposium on *Museums and Collections in the History of Mineralogy, Geology and Palaeontology* held in September in Dresden. (Full report is given above). The proceedings are scheduled for publication in 1992.

Other activities on the history of geologic sciences included three colloquia in which the lives and works of eminent scholars of the past were recalled. In September, on the occasion of the 200th birthday of August Breithaupt (1791-1873), the Mining Academy of Freiberg in Saxony held an international colloquium on past and present ideas concerning mineral paragenesis. On the anniversary of the 250th birthday of Peter Simon Pallas (1741-1811), the Historical Commission of Berlin paid tribute to him for his fundamental contributions to development of the geosciences. A conference on the life and work of Alexander von Humboldt (1769-1859) was organized at Freiberg by Peter Schmidt and others. Participants presented thirty papers, took excursions in the Freiberg area, and visited an exhibit of books, papers and other von Humboldt memorabilia at the Bergakademie. A commemorative coin was struck bearing a portrait of von Humboldt, and a facsimile was issued of his small book of 1790 *Mineralogische Beobachtungen über einige Basalte am Rhein*.

An exposition of about 100 works on the history of geology and palaeontology from the period between 1542 and 1897 was shown in the Palaeontologic Museum at Bonn on the initiative of INHIGEO member Wolfhart Langer. These were works which had expressed and co-determined the fundamental geologic, palaeontologic and mineralogic ideas of that interval of history. For this exposition Professor Langer published a catalogue with detailed bibliographic and scientific-historical data.

In December, 1991, a celebration was held honoring Ferdinand Roemer on the 100th anniversary of his death. Roemer traveled in the United States and collected fossils from 1845 to 1847. His book *Texas*, published in Bonn in 1849, earned for him the nickname, "Father of Texas Geology." Nearly all the fossils he collected in the Cretaceous of Texas are preserved today in the University collection at Bonn. Some of those he collected in Missouri and Tennessee are at Humboldt University in Berlin. Professor Wolfhart Langer published a short paper and gave the opening lecture at a special exhibition dedicated to Roemer's memory.

Corresponding Member Wolf von Engelhardt is working on the manuscript for Volume II, 8 of the Leopoldina Edition *Goethes Schriften zur Naturwissenschaft*, which will include supplements and commentaries to his mineralogical and geological works from 1806 until 1832.

Numerous works on the history of geological sciences, published in 1991 in journals, proceedings, and volumes, are referred to in a "Nachrichtenblatt zur Geschichte der Geowissenschaften." Some historiographically important geology and mineralogy titles include:

Fritscher, Bernhard (1991) *Vulkanismusstreit und Geochemie. Die Bedeutung der Chemie und des Experiments in der Vulkanismus-Neptunismus-Kontroverse*. Franz Steiner Verlag Stuttgart. (Boethius Vol. 25), 346 pp., ISBN 3-5135-05865-6, (Dissertation at the Universität München).

Humboldt, Alexander von: *Mineralogische Betrachtungen über einige Basalte am Rhein*. Braunschweig 1790. Reprint of the Bergakademie Freiberg 1991, with commentary by P. Kühn, W. Langer and P. Schmidt, 136 p. (See also note on page 16. UBM)

Jung-Huttl, Angelika (1991) *Franz von Kobell (1803-1812) als Naturwissenschaftler. Ein Beitrag zur Geschichte der Mineralogie in Bayern*. München 228 p. (Dissertation at the Technische Universität München; Chemistry, Biology and Geology Faculty).

Wendland, Folkwart (1992) *Peter Simon Pallas (1741-1811)*. Verlag de Gruyter Berlin-New York, 2 vols., Part 1: XVIII, 1-833, Part 2: XII, p. 835-1177, ISBN 3-11-012997-3.

A conference on the "History of Geologic Sciences in the German Countries," is planned for September 1992. Thirty papers have been submitted. All INHIGEO members interested in this conference may contact Dr. Peter Schmidt (Bibliothek der Bergakademie, Schliessfach 47, O-9200 Freiberg, Germany).

Martin Guntau

## HUNGARY 1991

Four members of the History of Geology Section of the Hungarian Geological Society attended the XVIth INHIGEO Symposium in Dresden and gave three talks: Gábor Papp, of the Hungarian Natural History Museum at Budapest, spoke on "The role of the Hungarian Natural History Museum in the history of Hungarian mineralogy;" Sándor Szakál, of the Hermann Otto Museum at Miskolc, spoke on "The necessity of developing a national mineral collection on the basis of Hungarian collections;" and Tamás Weiszbürg, of Múzeum Körút at Eötvös University in Budapest asked: "Has anything changed in the last two centuries?" Gábor Csíky, serial editor of the *Annals of the History of Hungarian Geology*, exhibited a sample copy of Special Issue No. 3 devoted to "Museums and Collections in the History of Mineralogy, Geology and Paleontology in Hungary" (written in English, 440 p, Budapest 1991, eds. Gy. Vitéz and T. Kecskeméti).

Part I of the Special Issue consists of three introductory papers outlining the role of museums in public education in Hungary, a brief history of rock and mineral collections in Hungary, and the mutually beneficial roles of Hungarian naturalists in the Mineralogical Society of Jena and of that Society's influence on the development of earth sciences in Hungary. Part II, which takes up most of the book, provides a detailed review of collections in Hungarian institutions including the Hungarian Natural History Museum, Eötvös Loránd University, the Hungarian Geological Survey, and other major and minor collections. A final section reports on collections in the Carpathian Basin. Of the 41 papers in the Special Issue, 14 were presented orally at the VIIth Geohistorical Day of the Hungarian Geological Society on 18 November 1991.

### The following papers were read at the other meetings of the Section:

T. Póka: Hungarian geology as presented at national and international exhibitions in the 19th century.

G. Csíky: The impact on Hungarian science of the Hungarian Royal Society of Natural Sciences, founded in 1841.

\_\_\_\_\_: The life and oeuvre of Ignac von Born, on the bicentenary of his death.

\_\_\_\_\_: Twenty years of the Section on the History of Geology of the Hungarian Geological Society.

Gy. Vitéz: Commemoration of L. Telegdi-Roth, on the 150th anniversary of his birth.

M. Erdélyi: The life and oeuvre of L. Loczy Jr. on the centenary of his birth.

#### Other Recent publications:

- G. Csíky: The history and activities of the 140-year old Hungarian Geological Society. *Annals of the History of Hungarian Geology*, 12, 47-54, Budapest, 1990.
- \_\_\_\_\_: The history of the 18th century school of chemistry and metallurgy at Kolozsvár. --*Ibid.*, 37-46.
- L. Zsámboki: Teaching of paleontology and stratigraphy at Mining Schools in Hungary. *Ibid.*, 115-120.
- L. Bogsch, J. Boda: The history of teaching paleontology at the University of Budapest. *Ibid.*, 122-137.
- G. Csíky: The history of the Institute of mineralogy-Geology at the University of Kolozsvár (1872-1959). *Ibid.*, 138-150.
- V. Széky-Fux: History of teaching paleontology at the L. Kossuth University of Debrecen. *Ibid.*, 151-163.
- E. Krolopp: History of teaching paleontology at the A. József University of Szeged. *Ibid.*, 164-167.
- G. Csíky: In memoriam Professor K. Papp. *Ibid.* 92-114.
- \_\_\_\_\_: The importance and application of L. Eötvös' torsion balance, *MTESZ publication*, 144-148, Budapest, 1990.
- E. Lisztes: Geological education in Hungary between 1848 and 1945. *Földtani Kozlony*, 120/1-2, 103-107, Budapest, 1990.
- B. Nagy: Commemoration for the 100th anniversary of the birth of J. Krenner. *Földtani Kozlony*, 120/1-2, 109-120, Budapest, 1990.
- S. Szakáll: Ten years of the Department of Mineralogy of the O. Herman Museum in Miskolc. --*Miskolc-Rudabánya*, 1990.
- L. Zsámboki (ed.): Hungarian translation of I. Csiba's "Dissertatio historico-physica de montibus Hungariae (Tyrnaviae, MDCCXIV) Scriptorum rerum metallicarum VI. *Ibid.* 1991.

Gabor Csíky  
(Translated by E. Dudich)

#### ITALY 1990

At the beginning of the year the Dean of the Faculty of Sciences at Padova University founded the "Group of Curious People"--curious about the history of the faculty and in a more general way of the history of science. Outlines of scientific topics beginning with Aristotle's "Natural Philosophy" dealing with the "sublunar world" have been taught in Padova University since the XIIIth century. The University of Padova was founded in 1222, the second in Italy and in the world, after Bologna. The group is an informal organization, open also to curious people outside the university; earth science topics are, of course, included in the programme of activities.

In 1982 the "Shallow Tethys" International Symposium was founded in Padova; the second meeting took place in Wagga Wagga, New South Wales, Australia in 1986; the third one in Sendai, Japan in 1990; the next one is planned in Vienna, Austria, in 1993, and the fifth in Nanjing, China in 1997. The symposium has been invited to meet in Bangkok, Thailand, at an unspecified future date. A short history of this Symposium was published by Dr. K. G. McKenzie of Melbourne, Australia, in *Mare Cognitum*--the Shallow Tethys Newsletter.

Giuliano Piccolo

Dr. Ezio Vaccari, of Verona, attended the INHIGEO Symposium at Dresden and presented a paper: "The 'Giovanni Arduino' Collection of manuscripts in the Public Library of Verona (Italy): a case of recovery and reorganization of unpublished important sources for the history of geological sciences."

Dr. Nicoletta Morello has invited INHIGEO to hold its XIXth International Symposium in Italy in 1994 on the theme: "Volcanoes and History."

UBM

## **JAPAN 1991**

After the death of Professor Takeo Watanabe, who was a founder and an enthusiastic Full Member for many years, Japan's membership in INHIGEO lapsed for several years. Its membership was restored in 1990 when Kenzo Yagi was nominated as the Full Member by the Commission on Geology of the Science Council of Japan (JSC). Yagi was elected at the meeting of the INHIGEO Commission at Beijing in October 1990, together with Hideo Kobayashi, Kanenori Suwa, Daikichiro Shimizu and Yasumoto Suzuki as Corresponding Members.

### **First Meeting of Japanese INHIGEO**

The first meeting of the Japanese INHIGEO members was held at Ehime University during the 98th Annual Meeting of the Geological Society of Japan (GSJ) on April 4, 1991. The agenda included:

- 1) Professor Yagi reported his decision to attend the XVth INHIGEO Symposium in Dresden in September.
- 2) Japanese INHIGEO proposes to hold sessions on the history of earth sciences at GSJ meetings.
- 3) Japanese INHIGEO will cooperate in holding symposia on the history of geology at the 29th International Geological Congress to be held in Kyoto in August-September, 1992.
- 4) The nomination and endorsement of Masae Omori, Isao Imai, and Arata Sugimura for election as Corresponding Members at the INHIGEO meeting in Dresden.

### **Attendance at the XVth INHIGEO Symposium**

INHIGEO Full Member Kenzo Yagi attended the INHIGEO Symposium at Dresden and presented a paper entitled "The excavations at Lake Nojiri, Nagano Prefecture, Japan, and the Nojiri-ko Museum."

At the Commission meeting on September 10th, Yagi reported on the progress of preparations for INHIGEO activities at the 29th IGC in Kyoto. The Program Committee has accepted proposals for two symposia to be sponsored by INHIGEO: 25-1, "The development of geology in Japan and the international exchange of ideas on earth sciences," and 25-3, "The history of meteorite studies in Japan, and international contributions to advances in meteoritics."

He urged the members at Dresden to attend the IGC and, especially, to submit papers for Symposium 25-1, for which only a few papers had been sent from abroad at that time. He was pleased that D. F. Branagan (Australia) and M. Guntau (Germany) promised to submit papers for this symposium.

M. Omori, I. Imai and A. Sugimura were elected as Corresponding Members at the Commission meeting in Dresden. The Japanese INHIGEO now consists of Full Member, K. Yagi, and seven Corresponding Members: H. Kobayashi, K. Suwa, D. Shimizu, Y. Suzui, M. Omori, I. Imai and A. Sugimura.

### **Response to the Dresden Proclamation**

The proposal for a single grade of membership in INHIGEO by the "three wise men at Dresden" will be discussed by the Japanese INHIGEO on the occasion of 99th annual meeting of GSJ in the spring of 1992.

With respect to the issue of "scientists vs. historians," it would not seem necessary to us to change the relevant bylaw. In Japanese the term "scientists" is used in a broad sense that includes historians; the Japanese Science Council, for example, includes all types of scholars.

## Preparation of Symposia at the 29th IGC

By January, 1992, enough papers had been submitted to fill both INHIGEO symposia. There were 14 papers for No. 25-1, which probably will hold a poster session, and nine papers for Symposium 25-3. Both include many papers from abroad. The final program will be made up in February.

## 100th Anniversary of Geological Society of Japan in 1993

The Geological Society of Japan was founded in 1893, and now has more than 5,000 members, making it, by far, the largest earth sciences society in Japan.

The centennial will be held in Tokyo in April, 1993, with celebrations, lectures and symposia. A book, *The Geology of Japan for 100 years* will be published, describing the achievements of Japanese geoscientists in Japan and in other countries.

Kenzo Yagi  
Yasumoto Suzuki

## THE NETHERLANDS 1991

The Commission for the History of the Geological Sciences of the Royal Netherlands Academy of Arts and Sciences authorized Dr. D. R. de Vletter to write a "History of the Earth Sciences in Suriname" to cover the period up to the attainment of sovereignty in 1975.

Dr. E. W. A. Henssen, a noted historian of science, has agreed to write a book on "Earth Sciences in the Kingdom of the Netherlands, 1815-1990" in a general historical context. This project will be carried out under the auspices of the Royal Netherlands Geological and Mining Society, and will be sponsored by the Royal Academy and the National Geological Survey. Further funding is required to enable the project to be carried to completion.

Works in progress include:

*History of geology in the Netherlands' Antilles*, by the late Dr. J. H. Westerman, to be edited by Drs. J. L. Westerman-van der Steen *et al.*

*The Netherlands from poor to rich in mineral resources*, by W. A. Visser *et al.*

*A prehistory of volcanology with emphasis on contributions from the Republic of the Seven United Netherlands (ca 1600-1800)*, by Professor Emile den Tex.

R. Hooykaas

## POLAND 1991

The activity in the field of history of geological sciences, rather limited due to well known economic difficulties of our country, was focused mainly, as previously, in the Museum of the Earth and Institute of History of Science, Education and Technics in Warsaw, but geoscientists of some other institutions, universities and societies also contributed.

The most important event of 1991 was the XVth INHIGEO Symposium in Dresden. Thanks to the friendly support of the German Organizers, a Polish delegation consisting of INHIGEO Full Member Antoni S. Kleczkowski and Corresponding Members Wojciech Narębski and Josef Babicz participated in the conference. Professor Kleczkowski presented a paper entitled: *Geological collections and the founders of geology in Poland (Staszic, 1755-1826, and Pusch, 1790-1846)*. Professor W. Narębski presented a paper, co-authored with

Zbigniew Wójcik on *The Museum of the Earth--its role in geological museum management and collectorship in Poland*. Professor Babicz spoke on the educational significance of museums and collections in Poland.

The 10th anniversary of the death of Prof. K. Masłankiewicz (1902-1981), the first Secretary-General of INHIGEO, was celebrated by a scientific conference in Wrocław, 21-22 November 1991. Twenty-seven lectures of his coworkers and pupils were delivered, including those of A. Majerowicz, A. Jahn, K. Jakubowski, Z. Wójcik, M. Sachanbiński and W. Narębski, dealing with many-sided scientific and organizational activities of K. Masłankiewicz.

Polish historians of geosciences participated in several local scientific sessions, presenting papers on topics such as the role of Polish Cistercians in exploration for raw materials, early mining and metallurgy in the medieval Wąchock monastery, or the beginnings of Polish geology in the Enlightenment Period in Limanowa.

The Cracovian Branch of the Society of Friends of Earth Sciences, editing the periodical "*Kamienie*" (the Stones) published papers on the history of geology, written by S. Czarniecki and others.

### Publications

- Wójcik, Z., (1990) "History of Geology in Poland--important achievements and prospects of development." *Kwart. Hist. Nauki i Tech. R.* 35:603-624 (in Polish).
- Skoczylas, J., (1990) "Utilization of rock raw materials in the Early Middle Ages in NW Poland." *Uniwersytet A. Mickiewicza w Poznaniu, ser. geol.* Nr. 17, Poznań: pp. 138 (in Polish, English abstract).
- Kondracki, J., (1991) "Les Géographes de l'Université de Varsovie: S. Lencewicz, B. Zaborski, S. Pietkiewicz (memoires, lettres)." *Studia i Mat. z. Dziejów Nauki Polsk.* Ser. II, 4:41-105. (In Polish).
- Leszczycki, S., (1991) "Mes relations avec le professeur E. Romer." *Ibid.*:107-133. (In Polish).
- Czarniecki, S. (1991) "W. Pol and L. Zejszner - the first professors of geosciences at the Jagellonian University. *Lublin, Muzeum Lubelskie*, 26 pp. (In Polish).
- \_\_\_\_\_, (1991) On the significance of geological museums: commemoration of S. Małkowski. *Kamienie R.* II, 5, 3-5. (In Polish).
- \_\_\_\_\_, (1991) "Ludwig Zejszner--follower of Staszic's ideas." *Ibid.* Nr. II,7:3-4. (In Polish).
- Narębski, W. 1990: "I maestri italiani dell'industria mineraria di salgemma in Polonia." (Italian foremen in the Polish salt mines). *Boll. Studi. Ital. "Laudatio Bononiae"*, Univ. Bologna and Ist. Ital., Cultura Warsaw: 293-297. (In Italian).

### Biographies

*Polski Słownik Biograficzny* (Polish Biographical Dictionary) vol. 32, 1991. Biographies of Wojciech Rogala and Zygmunt Rozen by S. Czarniecki; Feliks Różycki and Klemens Rugiewicz by Z. Wójcik.

### Memorial Notes

*Annales Soc. Geol. Pol.* vol. 61, 1-2, 1991. Commemorations of: Wiesław Nowak (1928-1987), Afrykan Kisłowski (1908-1989), Krystyna Pozaryska (1914-1989), Anna Czekalska (1901-1990) and others.

Wojciech Narębski  
Zbigniew Wójcik

### PORTUGAL 1988-1990

In November 1988 a Symposium: "História e Desenvolvimento da Ciência em Portugal no Século XX" was held at the Academia das Ciências de Lisboa. It continued the theme of the one held in 1986, whose communications were published in 1987.

The 1988 Symposium included the following communications concerning the history of geosciences in the 20th century:

- L. Aires-Barros: *Petrologia e Geoquímica das Rochas vulcânicas.*
- C. M. Alves: *Petrologia e Geoquímica das Rochas Granitoides.*
- M. T. Antunes: *Paleontologia em Portugal no Século XX, desenvolvimento e perspectivas.*
- M. Portugal Ferreira: *Petrologia e Geoquímica das Rochas Metamórficas.*
- F. Gonçalves: *Subsídios para a História da Geologia em Portugal, desde 1900 a 1982.*
- J. M. Coteló Neiva: *Geologia Económica e Aplicada em Portugal no Século XX.*
- A. Ribeiro: *A Tectónica em Portugal durante a primeira metade do Século XX.*
- B. Rodrigues: *História da Geoquímica em Portugal no Século XX.*

Those will be published as "Memórias" by the Academy of Sciences.

Professor M. Portugal Ferreira undertook the task of preparing a series of papers about the former professors of mineralogy, geology and mining at the University of Coimbra. These included Dr. Manuel Pereira Jardim (*Memórias e Notícias*, Univ. Coimbra, v. 103:65-80, 1987); Dr. Roque Joaquim Fernandes Thomaz (*idem*, v. 105:117-139, 1988); and José Bonifácio as a mineralogist (*Ciência hoje*, v. 10, no. 56:21-24, Rio de Janeiro, 1989). The last paper concerns a remarkable politician, well-known as one of those who masterminded Brazil's independence; however, he was also an excellent mineralogist, geologist and teacher.

The same author (M. Portugal Ferreira) also contributed a paper on the History of Coimbra University's Natural History Museum from 1772 until 1910 (*Actas do Congresso da Universidade*, Março 1990, 15 p., in press).

A synthesis on the History of the Teaching of Geology in Portugal by M. T. Antunes is currently being published by the Comunicações dos Serviços Geológicos de Portugal.

M. Telles Antunes

## RUSSIA 1989-1991

### A History of Geological Sciences In the USSR (1965-1990)

INHIGEO Vice President, V. V. Tikhomirov, has written an overview of the history of the geological sciences in the USSR from 1965 to 1990 with an English summary under the title "Scientific researches of Russian geologists in the late years of the 20th century." In the first pages, Tikhomirov points out that there is a long tradition in Russia of historical studies of scientific disciplines. Numerous scientific treatises of the late 18th and the 19th centuries included historical sections. At the turn of our century, V. I. Vernadsky published an exhaustive study of M. V. Lomonosov's research and a discussion of Immanuel Kant's ideas on the natural sciences. Vernadsky frequently emphasized the impossibility of correct assessment of the contemporary scientific knowledge and its future progress without an insight into scientific achievements of the past. In 1926 Vernadsky organized a Commission for the History of Knowledge at the USSR Academy of Sciences.

The first half of the 20th century witnessed a rapid growth of knowledge of ancient geographical and meteorological environments. Paleogeography (a term first proposed in 1870 by Russian scientist, N. A. Golovkinsky) quickly evolved as an independent science. From 1966 to 1990, Yu. Ya. Soloviev published a series of papers tracing advances in paleogeographic methods of analysis and their applications to a wide spectrum of problems including prospecting for sedimentary mineral deposits.

Interest in the history of geological knowledge grew steadily from the beginning of this century and rose to a crescendo just after World War II. At that time, international unions were founded with commissions and committees representing many different disciplines. In 1967, Soviet geologists set up the International Committee

on the History of Geological Knowledge. This Committee, which later was transformed into the Commission we know as INHIGEO, stimulated an international interest in studies of the history of geological ideas. From the first, the Commission held a symposium at least once every second year and always participated in the International Geological Congresses. INHIGEO also has published a newsletter every year since 1967. This carries information on activities relating to the history of geology to members in 30 countries.

Russian geologists also have contributed to the organization of bilateral Soviet-Polish and Soviet-German (GDR) symposia. Ten symposia were held in the member countries from 1969 to 1990, each attracting 70 or more participants.

In the late 1980s publication of several collections of papers was initiated containing the reminiscences of geologists working in the USSR during the Great Patriotic War (1941-1945). The first two issues are now in press. Two series of histories have been published continuously over the last 30 years. The first one was initiated in the mid-1950s under the title "Sketches on the history of geological knowledge." Its separate volumes appeared on the average once every 1.5 years. To date, 26 books have been published. Special issues were prepared to mark the 100th anniversaries of prominent Russian geologists including N. I. Andrusov, V. I. Vernadsky, and V. A. Obruchev; another issue marked the 200th birthday of the USSR Academy of Sciences.

The second series entitled "Geological Studies of the USSR," comprises 52 bulky volumes, each covering a separate region and composed of 15 to 25 issues arranged in chronological order. This series includes abstracts of all publications and manuscripts stored in archives. Almost all the issues are preceded by reviews summing up the results of geological studies conducted during the relevant time period in a particular region. The data collected up to the present include the entire geological material available in the USSR for more than 200 years from the early XIX century to 1980.

*UBM (abstracted from a paper by V. V. Tikhomirov)*

From 1989 to 1991 Yu. Ya. Solov'yev was engaged in research on the history of the development of theoretical bases and methods of paleogeography. He took part in the plenums of the National Society of Historians of Natural Science and Technics at Moscow in 1989, 1990, and 1991. He participated in a seminar on the history of geological research and searches for mineral raw materials at Petrozavodsk in 1989, in the Vth Germany-Russian Symposium "Global problems of the history of geological sciences: past and present," at Holzau in 1990, and at the seminar "Ancient stages of the development of mining knowledge in Middle Asia" at Dyushambe in 1991.

He recently has been appointed as chief of the sector of the history of geology at Vernadsky State Geological Museum of the Russian Academy of Sciences. He also is a deputy chief of the Commission on the Geological Study of the Russia, and serves as a member of the central editorial office of the reference-informational edition "The Geological Study of Russia."

#### **Recent Publications**

Solov'yev, Yu.Ya. (1989) "Development of paleogeographical methods and searches of mineral raw materials." 28th IGC, Washington.

\_\_\_\_\_. (1990) "Meaning of the historical method for the formation of theoretical bases of paleogeography". In "Principles of the development and the historical method in geology and paleobiology." Novosibirsk: Science. Siberian Dept. p. 98-106. (in Russian).

\_\_\_\_\_. (1990) "The appearance of new and newest methods of paleogeographical analysis." DDR-USSR Symposium, Berlin S. 51 (in Russian).

Zasitsev, N.S., Solov'yev, Yu. Ya. and Tikhomirov, V.V. (1991) "Academician Alexander Leonidovich Yanshin - the most eminent naturalist of the present." News of Academy of Sciences of USSR, Geological Series, No. 3, p 153-155. (in Russian).

Yu. Ya. Solov'yev

## SOUTH AFRICA 1991

This is the first year that South Africa has been represented in INHIGEO by a Corresponding Member. Continued interest in the history of geology was shown by geologists who studied early concepts of continental drift, the early history of investigations of the Ventersdorp Supergroup, and the history of the discovery of certain minerals.

A set of four stamps honoring scientists was issued in October. The two earth scientists depicted on stamps are:

Dr. Alex du Toit (1878-1948), field geologist, theorist and author of *The Geology of South Africa and Our Wandering Continents: An Hypothesis of Continental Drifting*. Alex du Toit joined the Cape Geological Commission in 1903 and geologically mapped the entire Karoo System underlying South Africa within an exceptionally short time. He made a very significant contribution to the theory of the history of the earth's crust in terms of continental drift and plate tectonics through his book *Our Wandering Continents*, published in 1937.

Dr. Robert Broom (1866-1951), geologist and paleontologist who studied hominids and Karoo reptiles. Robert Broom published numerous research papers on fossilized remains of mammal-like reptiles which inhabited the Karoo more than 200 million years ago and showed that these fossils were a link between reptiles and the earliest mammals. While in the service of the Transvaal Museum, he undertook research on hominid fossils from Sterkfontein and other sites near Krugersdorp. The best-known fossil from Sterkfontein is probably a well-preserved skull, discovered in 1947 and nicknamed Mrs. Ples after the genus *Plesianthropus* (but not attributed to *Australopithecus africanus*).

## Publications

Levin, G. (1991) The metric carat and diamond-grade conversion factors. Government geologists of the Cape of Good Hope. Mineral rights in Griqualand West. *Geobulletin*, vol. 34, no. 1, 39-42.

\_\_\_\_\_: (1991) The Pretoria saltpan. The historical aspects. *Geobulletin*, vol. 34, no. 2, 13-14.

Plug, C. and Levin, G. (1991) The South African Geological Association (1888-1890). *Geobulletin*, vol. 34, no. 3, 10-13.

Worst, B. (1991) The discovery of platinum in South Africa. *Geobulletin*, vol. 34, no. 3, 20-21.

Johan Looek

## SPAIN 1991

Dr. Jose Moreno-Perez, of the Department of History of Science in the Faculty of Medicine at Granada, attended the INHIGEO symposium at Dresden and presented a paper entitled, *Collecting fossils and its influence in the development of the Spanish geological map*. A second paper from Spain, *The associated documentation of paleontological collections and the increase of its usage in non-taxonomic goals*, was submitted by Carmen Dieguez and A. Montero, but the authors were unable to attend.

UBM

## SWEDEN 1990-1991

Full Member Gerhard Regnéll attended the INHIGEO Symposium in Dresden in September, 1991, and presented a paper entitled *Palaeontological Research and Palaeontological Collections in Sweden*.

In 1990, the Office for History of Science and the Department of Quaternary Geology of the University of Uppsala, published the Proceedings of a Symposium on the "Development of Modern Geology in Norden" which took place at Uppsala, 1986, in a special issue of *Striae*, vol. 31, Uppsala, and in *Uppsala Studies in History of Sciences*, vol. 8, Uppsala. The contents are as follows:

- Granö, O. "Urban Hiärne and the development of science."  
Königsson, L.-K. "Urban Hiärne, the history of Nordic geology and its bearing for modern geology research."  
Frängsmayr, T. "Urban Hiärne and the problem of the land uplift."  
Mörner, N.-A. "Ideas and theories leading to the formulation of the Fennoscandian uplift paradigm."  
Regnéll, G. "Wilhelm Hisinger, geologist (1766-1852)."  
Broberg, G. "Geijer's geology."  
Backman, C. M. "Edvard Erdmann's description from 1860 of the chemical analysis of rocks and clays at the Geological Survey of Sweden."  
Backéus, I. "The cyclic regeneration of bogs - a hypothesis that became an established truth."  
Granö, O. "The spread of the peneplain concept to Finland. An example of a paradigm's relation to an institutional structure."  
Edelman, N. "When structural geology came to Finland."  
Vasari, Y. "The significance of Aarno Kalela and Mauno J. Kotilainen for Quaternary geological research in Finland."  
Sjöberg, R. "Speleological research in Sweden 1900-1986."  
Mörner, N.-A. "The history of nuclear waste deposition, the politization of geosciences, the application of Buchanan's philosophy, and the necessity of a general change."

## Publications

- Melhado, E. M. (1990) "Mineralogy and the autonomy of chemistry around 1800," *Lychnos*, Uppsala.  
Wahlström, R. (1990) "A catalogue of earthquakes in Sweden in 1375-1890", *Geologiska Föreningens i Stockholm Förhandlingar* 112, Stockholm.  
Wickman, F. E. (1990) "The supposed meteorite fall in 1912 at Tingsås, Sweden." *Ibid*.  
Regnéll, G. (1991) "An early observation of pot-holes containing remains of Cretaceous sediments." *Ibid*. 113.  
\_\_\_\_\_. (1991) "Sven Nilsson (1787--1883) on graptolites." *Ibid*.

Gerhard Regnéll

## SWITZERLAND 1991

Corresponding Member, Jean-Pierre Portmann, of the Institut de Géographie at Neuchâtel, is writing a biography of C. E. Wegmann with summaries of all his works.

One of his recent publications is on some aspects of the Swiss Jura in the history of science:

- Portmann, J.-P., (1990) "Le Jura Suisse dans L'Histoire des Sciences: Quelques Aspects." *Bull. Soc. Neuchâtel de Géogr.* No. 34, pp. 11-26.

Corresponding Member Rudolf Trümpy, of the ETH and University of Zürich, has published four recent articles on the history of geology:

Trümpy, R. (1988) Cent ans de Tectonique de nappes dans les Alpes. *La Vie des Sciences* (Acad. Sci. Paris), 5, 1, pp. 1-13.

\_\_\_\_\_. (1991) In the footsteps of Emile Argand: Rudolf Staub's Bau der Alpen (1924) and Bewegungsmechanismus der Erde (1928). *Eclogae geol. Helv.* 84, 3, 661-670.

\_\_\_\_\_. (1991) The Glarus nappes: a controversy of a century ago. In *Controversies in Modern Geology*, (J. Mckenzie & D. Müller, eds.) Academic Press Ltd., pp. 385-404.

\_\_\_\_\_. 1891-1991: One hundred years of Alpine tectonics. Veslnik, Prague. In press.

UBM

### UNITED KINGDOM 1991

The British Association for the Advancement of Science met at Plymouth, August 25th - 30th, 1991, to celebrate the 150th anniversary of the coining of the name "dinosaur." Hugh Torrens reports:

#### *149 Years On: The History of Dinosaurs.*

Lynn White called history "a bag of tricks which the dead have played upon historians." It has certainly been played on us historians of dinosaurs. As if to show they *are* the mysterious awesome animals that Richard Owen (1804-1892) had in mind when he coined the term, evidence shows we have been wrong about when they were invented. If we have been wrong about something only 149 years ago, perhaps we might feel less certain of their 'sudden' extinction 'one early June' day somewhere around 65 million years ago.

The BAAS returns to Plymouth this month to celebrate an event in the important field of the History of Science. This took place there on 2 August 1841 when Owen gave a long three hour report on Fossil Reptiles in which he supposedly coined the word *Dinosaur* - a concept which has fired the imaginations of young and old ever since. There are now over 800 books in print on Dinosaurs - just in English!

By 1841 improvements in printing technology were increasing the numbers of newspapers and lowering their prices. Improvements in education had also increased numbers of readers. Thanks entirely to the journalists who reported on Owen's speech that day, it is quite clear that Dinosaurs were not 'invented' during Owen's speech at Plymouth. Owen then spent the next eight months after his Plymouth lecture rewriting that speech. His reptilian research had been specially commissioned and funded by the BAAS. This later version was printed in the *Reports of the BAAS* but it bore little resemblance to the speech he had given at Plymouth. But it did invent *Dinosaurs*; but in London, in print and in April 1842.

This 'invention' of Dinosaurs had been inspired by Owen's discovery of a vital Isle of Wight fossil in a London Museum. The fossil showed a special structure that "Creative Wisdom had adopted to give strength to the spine of this gigantic species". The Museum however belonged to a radical Socialist who believed "that education is the most important of sciences" and that such species had evolved without God's help. The Museum's owner had opened it in 1833 in hopes that advancing the education of the working classes. Admission was free. The Victorian Establishment was much less certain of any value in educating the working classes. Owen was a member of that Establishment; a Tory Anglican who believed in God's Creation. Owen's 'creation' of the Dinosaurs was, as Adrian Desmond's fine book *The Politics of Evolution* (1989) has demonstrated, a political act to counter those who believed in such godless Evolution, and in Socialism and other equally dangerous precepts.

Politics and science are again uneasily close after 149 years. Politics now demand that scientists demonstrate the value of what they do and the wealth they create; major themes for this years BAAS meeting. History once again has lessons. We must hope for better press coverage in 1991 than the *West of England Conservative* newspaper gave BAAS in Plymouth in 1841. It "opposed the almost general expectation that man would be made wise by the fertilising overflow" of science. It did not report on the sectional meetings at which Owen spoke (but when he failed to invent Dinosaurs) "as we should be publishing that which our readers would not understand". Perhaps British science now suffers not only from financial problems but also from some long established cultural values which devalue science? After all Britain does have a Minister for the Arts but not one for Science.

Whatever the cause of these problems a sense of humour may help. The Plymouth [1841] BAAS meeting was the very first on which the new journal *Punch* reported. But *Punch* too was not very concerned with science:

Labours of the British Association for the Advancement of Science,  
A Day on the water, by way of excursion,  
A night at the play-house, by way of diversion,  
A morning assemblage of elegant ladies,  
A chemical lecture on lemon and kalis,  
A magnificent dinner--the venison so tender--  
Lots of wine, broken glasses--that's all I remember.

Fitzroy Fipps, F.R.G.S., Mem. Ass. Advt. Science, F.A.S., Plymouth, August 5.

But celebrations of events which never happened does open up a whole new field for humorists and historians. The centenary of Richard Owen's death falls next year. We must get that right.

All this and more on the history of dinosaurs will be revealed in a public lecture on the *History of 149 Years of Dinosaurs* to be given at 5:30 on Wednesday 28 August 1991 in one of Plymouth's centres of dissent - the Methodist Hall. Owen's lecture was in another very political institution there; the Mechanics Institute. It got pulled down. The Establishment were not happy that mere mechanics should have institutes. Politics and Science were clearly never far apart.

Hugh S. Torrens

INHIGEO Past-President Gordon Craig reports that the 3rd edition of his *Geology of Scotland* was published in October, 1991, under the auspices of the Geological Society of Scotland.

## UNITED STATES OF AMERICA 1991

### U. S. Participation In the INHIGEO Symposium at Dresden

Seven historians of geology from the U. S. A. attended the Symposium and presented the following papers:

Dennis R. Dean, University of Wisconsin, Parkside, Kenosha: *The museums and collections of Gideon Algernon Mantell (1790-1852)*.

Carl Francis, Mineralogical Museum, Harvard University, Cambridge, Massachusetts: *Uses of the Harvard University Mineral Collection*.

Ursula B. Marvin, Harvard-Smithsonian Center for Astrophysics, Cambridge, Massachusetts: *Meteorites in collections at the turn of the 19th century*.

Clifford M. Nelson, U. S. Geological Survey, Reston, Virginia: *National geological surveys and their museums: the American experience*.

Sally Newcomb, Prince George's Community College, Largo, Maryland: *The rare book collection of the U. S. Geological Survey, Reston, Virginia.*

Peter Rodda, California Academy of Sciences, San Francisco, California: *The Hall of Life through Time: presenting the evidence for evolution in a public museum.*

Kenneth Taylor, University of Oklahoma at Norman: *Resources for history of geology in the University of Oklahoma's history of science collections.*

The program also listed the following two abstracts by authors who were unable to attend the Symposium:

Ellis Yochelson, U. S. Geological Survey, Washington, D.C.: *Development of the United States paleontological collections, 1867-1896.*

David Lindberg and Jere Lipps, University of California, Berkeley: *The history of the Museum of Paleontology, University of California.*

### **The History of Geology Division, Geological Society of America**

On October 21, 1991, during the GSA meeting in San Diego, the Division held a symposium entitled: *Plate Tectonics, Continental Drift, and Biogeography--the History of a synthesis of Two Cultures.* The following eight papers were presented:

*Hooke's concept of polar wandering: its importance to biogeography, continental drift, and plate tectonics*, by Ellen T. Drake

*The origin of the notion of Gondwanaland: the Indian Geological Survey, 1851-1889*, by Alan E. Leviton and Michele L. Aldrich.

*Changing concepts of Tethys & their influence on biogeographic thought*, by Anthony L. Hallam.

*To reconcile historical geology with isostasy: the construction of isthmian links*, by Naomi Oreskes.

*Croizat, Darwin, and Simpson on biogeography: what makes a convincing argument (even if wrong)?* by Léo LaPorte.

*Biogeography, continental drift, and difficulty-free solutions*, by Henry Frankel.

*Thermal regimes: continental barriers and marine biogeography: 1850 to JOIDES*, by Peter U. Rodda.

*Fragmented tectonics and fragmented biogeographies*, by J. Thomas Dutro, Jr.

The following papers on geological subjects were presented during a joint technical session held with the Archaeology Division:

*The Italian contributions to early laboratory geology*, by Sally Newcomb.

*Leonardo da Vinci's tree and the law of channel widths: combining quantitative geomorphology and art in education*, by Russel B. Shepherd and Beverly N. Ellis.

*A uniformitarian world: the geological vision of Constant Prevost (1787-1856)*, by Kennard B. Bork.

*The gaze of the curious eye: the geological career of Mary Griffith, 1772-1846*, by Robert S. Cox.

*Clarence King as the Interior Department's Principal Geologist*, by Clifford M. Nelson.

*U. S. mining schools and the development of academic geology, 1865-1905*, by Carl-Henry Geschwind.

*The "Most Colossal Animal Ever on Earth Just Found Out West": the discovery of *Diplodocus carnegii* in 1899*, by Brent H. Breithaupt.

### **History of Geology Award to William A. S. Sarjeant, University of Saskatchewan**

At its annual luncheon and business meeting the Division presented its History of Geology Award, an inscribed pewter Paul Revere bowl and a certificate, to W. A. S. Sarjeant for "contributions of fundamental importance to our understanding of the history of the geological sciences." The citationist, Michele L. Aldrich, of the American Association for the Advancement of Science, remarked that although the Award was given particularly for Sarjeant's monumental-seven volume, 6,000-page bibliography, *Geologists and the History of*

*Geology: An International Bibliography from the Origins*, we also should pay tribute to his wide-ranging humanistic interests.

Sarjeant developed an abiding interest in things historical while growing up in Sheffield, England, in a household where both parents were interested in archaeology. During bouts with childhood illness, he read avidly, studied maps and islands, and became fascinated with dinosaurs and other extinct creatures. He published his first article on geology in his grammar school magazine. He graduated with honors in geology from the University of Sheffield and earned his PhD at the same institution with a thesis on microplankton. After leaving Sheffield he taught geology and earned a DSc. at Nottingham and then moved westward to the University of Saskatchewan.

All this time he was founding and editing journals. At school he persuaded the local Natural History Society to launch *The Sorby Record* and he served as its first editor. At the University of Sheffield he edited the university newspaper, an experience which, by his account, taught him to write under pressure on almost any topic. At Nottingham, Bill Sarjeant and a friend founded the East Midlands Geological Society and he became first editor of its journal, *The Mercian Geologist*. In Canada, he and his wife joined a campaign to save Saskatchewan's historic buildings and wrote papers and books on the subject including the "Saskatoon" entry for *The Canadian Encyclopaedia*. Sarjeant also is a dedicated student and performer of folk music. He has produced and narrated scores of radio programs on folk music, performed at numerous concerts and festivals, and served as President of the Canadian Folk Music Society. And he is an ardent reader of detective fiction and crime novels and has published extensively on them. His best known venture into this field is *Ms. Holmes of Baker Street: The Truth About Sherlock*, coauthored with C. Alan Bradley in 1989. It argues that Sherlock was a woman!

In 1990, writing under the pen name of Anthony Swithin (his two middle names) Sarjeant published *Princes of Sandastre*, the first book of a projected ten-volume series of science fantasy. Set in the 15th century on an imaginary island in the real world, it has achieved critical acclaim and great popularity. *The Lords of the Stoney Mountains* appeared in 1991, two more volumes are scheduled for 1992, and six more are in draft or the conceptual stage.

Back to geology: Sarjeant has published widely on geology and the history of geology. In 1979 he coedited, with Walter Kupsch, a widely cited volume on the history of concepts in Precambrian geology. However, his most outstanding contribution to the history of geology is his massive bibliography. For the first five volumes, issued in 1980 and covering the literature up through 1978, Sarjeant and his assistants entered mountains of data on a mainframe computer with programs they wrote themselves. To keep this project within bounds of the possible, Sarjeant limited the references to works in the Latin alphabet. This was a painful choice because it eliminated works in Russian, Japanese, Chinese, and several other languages. He also made the decision, clearly stated in his text, not to duplicate widely available and well-indexed sources such as the national biography series and the *Dictionary of Scientific Biography*. For the two supplementary volumes, published in 1987 and updating the references through 1984, they left the mainframe for an IBMXT. He plans to issue new supplements about once every five years and invites all historians of geology to send him references they think he should include. We are fortunate, indeed, that Sarjeant chose to compile his immensely valuable guide to research in our field; no counterpart exists for any other science.

Sarjeant has received awards from numerous organizations representing his wide ranging interests--for example, historic preservation, Sherlock Holmes, and bootmaking; he is a Master Bootmaker of Toronto. Most importantly, he received the Sue Tyler Friedman Medal from the Geological Society of London in June, 1990, the Founders' Medal from the Society for the History of Natural History in May, 1991, and now the Geological Society of America's History of Geology Award. "Every time you use his books," said Michele Aldrich, "you are awarding him this certificate and bowl again."

In his response, Sarjeant described how he turned to books and his imagination during a long series of illnesses when his father was away serving in the Royal Air Force and his mother was working full-time. At the age of five, he was being operated on in a hospital when a bombing raid interrupted the procedure with results

that came close to being fatal. He was immured in a hospital annex for the dying, surrounded by very elderly and sick people where beds suddenly would be shrouded with sheets and coffins frequently were brought in and his fellow sufferers were carried out. Hospital regulations allowed visits by parents only between 6 and 7 p.m. on Saturdays! However, as he put it, "I wasn't dying fast enough, so...I was sent home to do it," just in time for the greatest of Sheffield blitzes which deposited an unexploded bomb near their house and forced a temporary move across town to the home of a cousin. His recovery was very slow.

Being so much alone, Bill discovered books, haunted bookstalls, bought what he could afford and never stopped: today he possesses some 85,000 volumes. He wanted to write books and began scribbling stories in old exercise books, rarely progressing beyond a few chapters. He became fascinated with maps and began drawing them. His imagination took fire when he discovered an island called "Rockall" in the North Atlantic Ocean, apparently owned by no one. He drew maps of it, prepared an annotated Gazetteer, designed its heraldry and stamps, worked out its politics and cricket teams and began writing its history. Thirty-five years later he commenced writing novels about it and he is still happily doing so, with two books down and eight to go.

His early fascination with dinosaurs, led him to quest for fossils of which he found specimens in his own backyard, situated as it was on the Carboniferous Millstone Grit. He still keeps a superb *Stigamria* from his boyhood home in his office in Saskatoon. He was determined to be a geologist by the time he entered grammar school, but his deficiencies in standard science were so marked and his writing ability was so obvious that the headmaster twice attempted to persuade his parents to channel him into arts and languages. Bill says that he "...scraped into University with marks so low that my present University would never even consider me for entrance!"

After receiving his degree, he wanted to work on dinosaurs but could find no funding so he took on a research project on dinoflagellates. These were to become the main focus of his geological career. He quickly became interested in the pioneers of micropalaeontology, however, thus setting a course for his career in the history of geology. In his spare time, Sarjeant pursues a long list of hobbies including photography of landscapes and butterflies, public transport generally and streetcars in particular, and collecting strange objects such as matchbox labels and miners' lamps. As Michele observed: "...one senses that William Sarjeant's day must have more than 24 hours."

Ursula B. Marvin

(Freely adapted from the GSA History of Geology  
Division Newsletter V. 15, No. 2, March 1992)

## **History of Geology Symposium, Cincinnati, Ohio, 1992**

The Division Symposium at the 1992 Annual GSA meeting will focus on "The History of the Use of Art and Photography in Geological Literature." Donald M. Hoskins, of the Pennsylvania Geological Survey, is the Symposium organizer. His address is P.O. box 2357, Harrisburg, PA 17105. The GSA meeting will be held October 26-29th.

## **Report from Corresponding Member Albert Carozzi**

Albert and Marguerite Carozzi have published the following two works:

A revised translation from the French of Gabriel Gohau's *A History of Geology*, Rutgers University Press, 259 p., 1991. [See Book Review below]

A book entitled *Pallas' Theory of the Earth in German (1778)-Translation and Reevaluation-Reaction by a Contemporary: H.-B. de Saussure*, 105 p., reprinted from *Archives des Sciences Geneve*, 44, 1, 1991.

This work contains the first English translation of the theory of the earth of Pallas (1778) which is more representative of Pallas' thinking than the sometimes inaccurate French version of 1777. The immediate and important reaction of his contemporary H.-B. de Saussure, taken from his hitherto unpublished notes, is also

given in this work. Finally, Pallas' geological mapping techniques and detailed observations in the field are discussed and compared with our modern knowledge of the geology of the Urals.

In collaboration with Donald H. Zenger, of Pomona College in California, the following article was published to commemorate the 200th anniversary of the discovery of dolomite: "The Original Chemical Analysis of Dolomite by Nicolas-Theodore de Saussure (1792): A Laboratory Error and its Historical Consequences", *Archives Sciences Geneve*, 44, 2, 1991, 163-196.

The English translation of the article by N.-T. de Saussure in the *Journal de Physique...* (1792) giving the original chemical analysis of dolomite is presented and commented upon. His faulty chemical analysis assumed that dolomite was a double carbonate of calcium and aluminum. The history of the ensuing controversy, which lasted for 16 years, is traced in detail until 1808 when the correct chemical composition was demonstrated. The role played by Dolomieu himself in the controversy, as well as the history of another mineral substance dedicated to him, are also reviewed.

Carozzi is continuing his transcription of H.-B. de Saussure's manuscripts on his voyages in Italy and Auvergne in preparation for a work on his position in the basalt controversy.

### VENEZUELA 1991

All activities related to the history of geological sciences focused on the publications and events of the Sociedad Venezolana de Historia de las Geociencias, which for the period of 1991-1993 is directed by the following board: André Singer, President; Franco Urbani, Vice-President/Editor; Jose Rodríguez, Secretary; Henry Salas, Treasurer; and Miguel Lugo, board member.

The Society has published three issues of its *Newsletter*, Nos. 41 to 43, 150 pages. The more relevant publications treat the following subjects:

A history of petroleum recovery in Escuze, Trujillo. This article describes an early oil exploitation in 1883, and documents its use since Spanish colonial times. It includes much biographic information about C. Dacovich, from Serbia, and W. L. Lay, from Pennsylvania, U.S.A.

A bibliography of Vicente Marcano (1848-1891). In 1991, the Society commemorated the centennial of his death. He was the leading Venezuelan "geochemist" in the XIX century.

The history of the discovery of a deposit containing thorium and rare earth elements in the Guiana Shield.

Biographic material on several geoscientists: Brígido Natera (1924-1989), Víctor López (1905-1983), Carl Sachs (1853-1878), Stanislaw Maziarek (1910-1987).

An analysis of the Trujillo earthquakes of 1674 and 1775.

Two little-known ascents of the "Silla de Caracas", by Robert Stephenson (1824) and John Williamson (1840). This work was possible thanks to the help of Dr. Hugh Torrens.

A history of the German-Venezuelan Joint Stock Company for Sulfur Mines (1895-1904).

The publication of "*Historia de la Compañía MANOA en el Delta del Orinoco*" by J. Ugalde Olalde, (372 p.).

The first Venezuelan meeting on the history of geological sciences was held in November in the city of Maracaibo. It occupied a full day with 18 presentations, chaired by the undersigned. The papers will be published in 1992.

We appreciate the help given to several members of the Society from scholars and institutions in many countries. We extend special thanks to Dr. H. Pätz of the Bergakademie of Freiberg.

Franco Urbani

A monograph by Corresponding member Aníbal R. Martínez recounts the life and work of Clemente Gonzales de Juana (1906-1982), a distinguished petroleum geologist who held the position of Professor at the School of Geology of the Central University of Venezuela for 33 years. The work is handsomely-produced with a wealth of illustrations of geologic sites and outcrops, old field sketches and diagrams, early field operations, and photographs of Gonzales de Juana and his family. It concludes with a complete bibliography of his publications.

Martínez, Aníbal (1990) *Imagen y Huella de Clemente Gonzales de Juana* Publicaciones Intervep S.A. Centro de Investigación y Apoyo Tecnológico, filial de Petróleos de Venezuela, Caracas, 126 pp.

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### YUGOSLAVIA 1990-1991

In October 1990 the XIIth Congress of Yugoslav Geologists was held at Ohrid, Macedonia, where in the presence of 500 geologists from all over our country more than 250 papers covering different fields of geology were presented. Some plenary lectures discussing problems of general importance (personnel, education, raw material bases, geological map of the state, financing, etc.) also analysed the same from a historical viewpoint.

Publication of the LIVth issue of *Annales Géologiques de la Péninsule Balkanique* marks the centennial of the oldest geological journal in the Balkan Peninsula and southeastern Europe. J. Žujović, the founder of the geological school in Serbia, established this journal in 1889 and edited it for years. Today, the journal is prepared and published by the Institute for Regional Geology and Paleontology, at the Faculty of Mining and Geology, University of Belgrade.

Two important jubilees in geology were celebrated in April, 1991: 110 years since the founding of the school of geology and 45 years since the founding of the school of mining and science at the University of Belgrade. Festivities at the Faculty of Mining and Geology in Belgrade included formal sessions, convocations, the awarding of golden diplomas to geologists who graduated 50 years ago, and a lecture, *The Development of geology and mining at the University of Belgrade*, delivered by A. Gluščević, the former Dean of the Faculty.

A meeting was held in May 1991 to celebrate the 100th anniversary of the Serbian Geological Society, the oldest geological society in Yugoslavia. On that occasion Academician, N. Pantić gave an extensive and inspired speech on the path of this Society's development.

The most important event for our two Unions was the establishment on May 30, 1991 of a Section for Geological History within the framework of the Serbian Geological Society in Belgrade.

### Publications

About half of the latest number of the journal *Annales Géologiques de la Péninsule Balkanique* (LII/1, 1990) is dedicated to the symposium "History of Regional Geology and Paleontology in Serbia until the Second World War." The following papers are included:

Pešić, L. and Andjelković, D., Development of Paleozoic stratigraphy in Eastern Serbia until 1941. *Annal. Géol. Pénins. Balkan.*, LII, 1, 51-58, Beograd, 1990.

Andjelković, M. and Sudar, M., Development of the Triassic stratigraphy in Serbia before the Second World War. *Ibid.*, 59-64.

Andjelković, M., Development of the Jurassic stratigraphy in Serbia before the Second World War. *Ibid.*, 65-72.

Jankičević, J. and Rabrenović, D., Stratigraphy of Lower Cretaceous in Serbia before 1941. *Ibid.*, 73-76.

Andjelković, M., Development of the Upper Cretaceous stratigraphy in Eastern and Central Serbia before the Second World War. *Ibid.* 81-86.

Pavlović, M. and Eremija, M., Freshwater Tertiary of Serbia in works published before Second World War. *Ibid.* 93-100.

Pavlović, P., Contribution by foreign geologists and some related characteristics of the geological development of Serbia before 1920. *Ibid.* 101-110.

Pantić, N., Paleoclimatology and paleobotany in Serbia between the two World Wars. *Ibid.* 133-141.

Andjelković, M., Development of tectonics in Serbia before the Second World War. *Ibid.* 143-150.

Grubić, A., Establishment of the Paleontological Institute at Belgrade University. *Ibid.* 151-156.

#### **Memorial Notes**

Polšak, A., Bajraktarević, Z., Gušić, I., Sremec, J. and Magaš, B., 1990. Vanda Kochansky-Devidé (10/4/1915-26/2/1990). *Geološki vjesnik*, No. 43, 215-223. Zagreb.

Bahun, S., Bajraktarević Z. and Magaš, B. 1990. Prof. Dr. Ante Polšak. *Ibid.* 224-229. Zagreb.

*Aleksandar Grubić*

A paper entitled: *Baron Sigmund Zois von Edelstein, his work and mineralogical collection*, was presented at the INHIGEO Symposium in Dresden by Dr. Ernest Faininger of Ljubljana.

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## BOOK REVIEW

Gabriel Gohau, *A History of Geology*

Revised and translated from the French by Albert V. Carozzi and Margurite Carozzi, Rutgers University Press, New Brunswick, New Jersey, 1990, i-ix + 259 p.

From Plato to plate tectonics and, finally, to the potential significance of meteorite impact processes in geology, this book traces two and one-half millenia of ideas on the origin, modification, and ultimate fate of the earth. This prodigious feat is accomplished in only 269 pages that are lucidly written and fully accessible to students and general readers while thought-provoking to geologists.

As the only brief, up-to-date introduction to the history of geology available in English, the book fulfils a long-felt need. This version is more than a translation of Gabriel Gohau's highly praised French edition of 1987. Working closely with Gohau, Albert and Margurite Carozzi provided a new general emphasis toward American readers, updated some topics, sharpened discussions, and added copious bibliographical notes and references, most of which had been deleted by Gohau's French editor to simplify the text for general readers. In their own effort to aid non-specialists the Carozzis printed each newly-encountered geological term--outcrops, sediments, metamorphism, Mesozoic era--in boldface type and defined it in a ten-page glossary. This highlighting of familiar terms might tempt some geologists to pass up the book as being too elementary. To do so would be a great loss because this concise but authoritative history throws much fresh light on the ebb and flow of geological ideas.

Among the engrossing themes traced throughout the book are the implications of long versus short geologic time scales and of theories of reversible variations as opposed to irreversible changes. Among the savants favoring reversible (i.e. cyclic) changes of the earth were the Athenian Stoics of the 3rd century B.C. and the British fathers of uniformitarianism, James Hutton (1726-1797) and Charles Lyell (1797-1875). No lingering influence of the earlier school of thought on the latter is, or should be, implied. Indeed, the authors scrupulously avoid whiggish notions that only those past ideas should be included that led to later "successful" ones.

Observing the effects of erosion, the Stoics concluded that the earth decays until it perishes in a universal conflagration; it then is regenerated as a new earth identical to the last. "There shall be again a Socrates, a Plato...not only once but several times...all things shall be eternally restored," wrote Nemesis (ca 300 B.C.) (Gohau, p. 15). Such cyclic destruction and regeneration were totally unacceptable to the 19th century uniformitarians. In their view, our own earth maintains its equilibrium through endless cyclic changes. However, an eerie echo may be heard in Charles Lyell's speculations on the earth's climatic cycles. We are now in a great winter, wrote Lyell (1830, p. 123.), but when the summer comes around again: "...then the huge iguanodon might reappear in the woods, and the ichthyosaur in the sea, while the pterodactyl might flit again through umbrageous groves of tree-ferns." Lyell's cyclic restoration of the saurians would not extend to Plato, because Lyell, perforce, recognized mankind as a latecomer to the earth. However, these passages illustrate the survival of cyclic theories through two millenia and should serve to remind us that geology as we know it rests on what once was considered the catastrophic theory of irreversible changes, which grants the earth a narrative history that may be deciphered, albeit with difficulty, by reading the record in the rocks.

Early in the book, the authors describe uniformitarianism as the most important distinctive feature of historical geology--the necessity of assuming that the earth in the past submitted to the same natural laws as it does in the present. This reviewer would ask: when did uniformitarianism acquire so simple a definition? As indicated in the text, most of the controversies of the 18th and 19th century focused not on the workings of natural law, which everybody accepted (once the bonds of theology were loosened), but on whether the rates and intensities of geologic processes have varied or remained uniform, and whether the face of the earth has undergone irreversible change. Advocates of irreversible change included the 18th century Neptunists who believed that the newly-formed globe was covered by a primeval ocean which precipitated primary granites in a process that never could be repeated because it permanently altered the composition of ocean water. The uniformitarians rightly opposed this particular concept but they also opposed all other appeals to permanent change. Today, although the book does not emphasize this point, we see that the principles erected by Lyell and

the other uniformitarians were wrong. Rates of change have varied enormously. For one example, the moon's surface shows clear evidence of an early episode of intense bombardment by basin-forming impacts, which must equally have scarred the nearby earth, followed by a precipitous decline in the rate of impacts. But impacts did not cease entirely and, as pointed out in the final two pages of text, we now understand that meteorites and comets may be agents of mass destruction that have left their mark in the geologic record and must be reckoned with in the future. The authors conclude (p. 216) that "...Buffon's interplanetary catastrophes and Lyell's uniformitarian concepts are finally considered to be partners." Whether Lyell himself, who virtually ignored meteorites all his life, could have countenanced such a reconciliation might make an interesting topic for student essays.

Given the scholarly character and grand sweep of the subject matter, this book proceeds at a surprisingly leisurely pace. Clarity is enhanced by numerous subject headings in each chapter along with relevant quotations from original sources and a few diagrams, mostly modified from historic originals. The basic contribution of each luminary from ancient to modern times is summarized in a few paragraphs, and influential modes of thought are compared briefly and succinctly. On first reading, this reviewer wished for more than a page or two on Aristotle, a few words on Plato, short passages on Copernicus, Descartes, Soulvie, Werner, Hutton, Suess, Wegener, Holmes, Hess and a host of other famous and less famous figures who have shaped the history of geological thought. It quickly became clear, however, that more detail on each one would expand this short book to numerous volumes.

Gohau points out that as we approach modern science and the advent of plate tectonics, the historian's task becomes much more delicate: how to select and evaluate new discoveries that may not yet have been subject to mature scrutiny, especially while geology is undergoing a major revolution that challenges some of its major concepts. On the whole the author traces the highlights up to the present day very fairly and judiciously although any reader may find items to dispute. For example, Arthur Holmes introduced convection currents as a motor for continental drift, but he was far from the first to introduce them into geology, as seems to be implied in Gohau's passage beginning on page 197. Harry Hess' original explanation of guyots was not the currently accepted one that they had been beveled at sea level and then submerged under 2 km of water by subsidence of the ocean floor (Gohau, p. 202); he thought sea level had been raised by the accumulation of a 2-km thickness of pelagic sediments (Hess, 1946). This erroneous concept is especially interesting for the light it casts on our lack of knowledge of the ocean basins in the middle of this century.

Such quibbles aside, the book is highly informative and a pleasure to read. For those of us wishing for more information the requisite sources may be examined in libraries and archives. A most valuable usage of this book will be to serve as a guide to further research by geologists and students interested in pursuing particular aspects of the history of geology.

Hess, H.H., 1946, Drowned ancient islands of the Pacific Basin, *American Journal of Science*, v. 244, p. 772-791.  
Lyell, C., 1830, *Principles of geology*, London, John Murray, v. 1, 685 p.

Ursula B. Marvin  
(Review written for *Journal of Geological Education*)

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