

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

**INHIGEO**

***NEWSLETTER NO. 29 FOR 1996***

**Issued in 1997**



**INHIGEO is  
A Commission of the International Union of  
Geological Sciences**

**An Affiliate of the International Union of the  
History and Philosophy of Sciences**

**Compiled and edited by David R. Oldroyd  
INHIGEO Secretary-General**

**Printed at The University of New South Wales  
Australia**



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\* \* \*

**Presidential Ramblings**

We live in exciting times. This week saw the ruling political party in my own country suffer its worst electoral defeat since 1832, 165 years ago! People here are even comparing it, as a political event, to the release of Nelson Mandela, or the collapse of the Berlin Wall. It has thus been a week in which history has had real relevance. One single publication most brought home to me this relevance—the long paper by Michel Durand-Delga, 'L'affaire Deprat', first published in *Travaux du Comité Français d'Histoire de Géologie (COFRHIGEO)*, 3rd series, Vol. 4, No. 10, 1990, pp. 117–212, and reprinted in *Essais sur l'histoire de la géologie: En hommage à Eugene Wegmann (1898–1982)*, in *Mémoires de la Société Géologique de France (Nouvelle Série, No. 168)*, 1995 (reviewed in *INHIGEO Newsletter*, No. 28, 1997, pp. 57–58).

Durand-Delga's paper concerns the brilliant young French geologist, Jacques Deprat (1880–1935), who was accused of scientific fraud in Indo-China and found guilty by a Commission of 'Savants' in 1919, and then completely ostracized thereafter by the geological community. Deprat turned instead to writing, after 1925 under the pseudonym of Herbert Wild. One such work, entitled *Les Chiens Aboient*, of 1926, emerges as autobiographical, but no copy seemed to be available in Britain when I wanted to read it! Perhaps the only British library copy has been sold, as this same week saw the announcement that British libraries had made more than £4.3 million (= US \$7 million) from the sale of its 'old stock' . . .

Deprat was also a fine mountaineer, climbing 82 peaks in 1934, of which 29 were over 3000 metres, and dying on another in 1935, still protesting his innocence. Durand-Delga's fine work restores Deprat and demonstrates his innocence. To have brought such injustice to light for me justifies the study of the past and demonstrates the need to properly encourage its international diffusion, especially in a climate where so many 'scholars' are being inadequately and unfairly assessed, with the only criterion for their 'excellence' being the size of the grants awarded them.

This same week also found me consulting (i.e., being paid) to guide IBM petroleum geologists, engineers and computer specialists round the delights of southern English geology and its history, to fund my attendance at our next INHIGEO meeting in Liège. This demonstrates, if only to me, that formal funding for history of science in Britain is simply insufficient, because we have failed to get the importance of the history of geology across to those in charge of the purse strings here. But it shows how lateral thinking can help.

This is another major task for INHIGEO. We must somehow better justify the need to study the past. That this is a crisis in such a historical science as geology seems paradoxical, but the English polymath, C.P. Snow (1905–80), long ago pointed out that the main problem (at least in Western cultures) was the enormous gulf between the arts (e.g., history) and the sciences (e.g., geology). It has now become either dangerous or stupid to cross such demarcation lines.

My travels have given another crusade for INHIGEO. Immediately I graduated, I drove out to Iran, in a four-wheel-drive 'Land Rover'. I was there introduced to a new and very different culture and to new and unexpected kindnesses. To recall the wonderful welcome of unknown Iranians in remote mountain villages (who could only attempt slight conversation with me through slightly shared French) was a humbling experience, but one that I shall *never* forget. I then felt sure that this was a much more advanced culture than the one I had come from. So another task for INHIGEO is to try to cross such cultural and linguistic (and thus historical) divides as much as we can. That my own language should have since become so completely the world's language for communication has been another shock. INHIGEO would never in those days have elected such a monoglot as I to preside over it. This globalization of language has also put up a new barrier—one that I blame on the enormous strides made in technology, which must thus also have a vital role in our historical analyses.

INHIGEO has an enviable record as an international organization, with its many fine meetings organized for us all round the world, most recently in China (where I was amazed to discover that our Vice-President, Professor Wang Hongzhen, had been helped by the same Englishman who inspired and encouraged me as a schoolboy: Henry Dighton Thomas (1900–1966)). INHIGEO has always seemed to me to be one of the very best of organizations, because it is so truly international. But it needs fuller coverage from more nationalities. So please bring our slight activities to the attention of all those who may be interested, and record our thanks to all those who make, and help fund, the efforts that go into organizing our meetings, and servicing our thriving organization. These thanks apply to all past officers and helpers, and place a duty on all the present ones. I am already delighted to say what a devoted (and I hope enjoyable) job our new Secretary is doing. He even threatens to emulate the remarkable achievement of Ursula Marvin.

Hugh Torrens  
6 May, 1997

### Secretary-General's Message

I should like to thank all members of the Commission for honouring me by election to the position of Secretary-General for the next four years. I shall endeavour to fulfil the expectations of members in entrusting me with the position, and to further the interests and activities of the organization to the best of my abilities.

In taking on the position, I have already received a great deal of help and encouragement from my predecessor, Ursula Marvin. She has provided me with numerous 'tips' for the effective organization and smooth running of the Commission, and I am really most grateful to her for patiently answering my many queries by email over the last few months. Ursula handed over to me a 'well-oiled' organization, and I hope that by the end of my period of office it will be functioning no less smoothly. Perhaps I may use the present opportunity to express, on behalf of all members, our warm and grateful thanks to my predecessor for the tremendous amount of work that she has done on behalf of the Commission for a period of eight years, when she has had a large number of other important commitments. We hope to see more of her at our future meetings.

I have also been most fortunate to have the Past President, David Branagan, as a friend and neighbour, always willing and able to answer any query when needed, despite the extraordinary number of other activities in which he is constantly engaged. David, like Ursula, has earned the gratitude of members of INHIGEO for the great amount of work that he has put in on behalf of the activities of the Commission. Another former member of the Board, Martin Guntau, has also been extremely helpful to me.

I have also been delighted to establish a cordial working relationship with our new President, Hugh Torrens, and we are able to be in frequent contact, thanks to the email system.

On the vexed question of money, the Commission has limited funds in reserve, and it is regretted that the moneys made available to us from the IUGS have been reduced from previous levels over the last two years, owing to reduced funding available to the Union itself. In the official response that I received to the Annual Report that I submitted to the IUGS in 1996, there was a hint (perhaps) that it would be appreciated if INHIGEO held a significant international meeting at least once a year. When I took over the position of Secretary-General, it was my understanding that there was to be no Conference of the Commission in 1998; but reading between the lines of the response of the IUGS to my report last year the members of the Board reached the conclusion that it would be 'prudent' that 1998 should not be a 'fallow' year in any way, so far as INHIGEO was concerned. Accordingly, I wrote to members in Portugal, France, and Switzerland, to see if there were any possibilities of holding a meeting in one or other of these countries in 1998. I found a willingness to assist in one way or another on the part of all three countries; but our Swiss colleagues met in April and were able to submit a concrete proposal to host what promises to be an excellent meeting, centred on Neuchâtel, for September 1998. The Board has therefore been delighted to accept their gracious offer, particularly since Switzerland has been such an important country for the history of geology, with Neuchâtel having strong historical links to the science. Details of the proposed Swiss meeting are given elsewhere in this *Newsletter* (p. 17).

It is also most fortunate that the Swiss meeting will be neatly juxtaposed to the XVth Congress of the Carpathian-Balkan Geological Congress, to be held in Vienna in August/September, 1998. By the good offices of INHIGEO member, Endre Dudich, a history of geology section has been organized to form part of the Congress, and the Commission has been officially invited to act as sponsor to this section, which it is most pleased to do. For further details, see p. 17.

I have received indications of interest on the part of a number of countries to host future conferences. For the moment, these have all been 'lumped' into 2001 (!)—a year that currently stands vacant. Clearly, this matter will have to be sorted out at the business meetings in Liège and London. I shall, however, be pleased to receive further suggestions, either formally or informally at this stage. I may say, also, that it seems to me that any country contemplating organizing a conference should think about its membership, and might wish to consider seeking to increase it prior to the meeting, so that there will be plenty of willing hands able to assist with the organization. On the other side of the coin, I should be grateful if any members who wish to resign from the Commission for one reason or another would notify me at their earliest convenience.

On the question of the Commission's archives, it has been determined that the main body of them will, so far as they can be gathered together, be despatched to the headquarters of the IUGS in Trondheim, Norway, for permanent archival care. However, Ursula Marvin will be sending me the material that she has accumulated for the last four years of her office, and when I retire from the position I shall arrange for her papers to be sent to Trondheim likewise, with my own INHIGEO papers passing temporarily to my successor.

The Board members are somewhat concerned that our relations with the International Union of the History and Philosophy of Science are not as strong as they might be, and it is hoped that we may be able to establish closer links, both informally and perhaps formally, by the opportunity of the forthcoming international history of science congress to be held in Liège in July (see p. 15).

In a letter to members of the Commission distributed to members on February 20, 1997, I raised a number of questions as to possible future activities of the Commission, and I invited members to let me know of any suggestions that they might have in this regard. I have, I regret to say, received few responses to this letter; but if there are any matters that you would wish to have discussed at the Business Meetings of the Commission in Liège and at the immediately following Hutton/Lyell Conference in Britain, I should be most grateful if you would get in touch with me as soon as possible.

I have received a gratifying amount of material from members to put into the current *Newsletter*. I should mention, however, that in the future, to save myself a lot of typing, it would be appreciated if material is sent electronically, or by means of a diskette through the ordinary mail. I use a Macintosh machine, with a Word program (5.1), so it is easiest for me to read material prepared according to this system.

If this system is not convenient to you, sending material by email is quite satisfactory as that produces an automatic conversion to my system. But please do not send material in encoded form. (My Polish friends and I had a deal of trouble with an encoded message this year!)

In sending information for the next issue of the *Newsletter*, I request that members do not send in 'references' to works 'in press'. Please wait until the works are actually published. However, it will

certainly be of interest to know what work is in progress, which can be given in the descriptive parts of the country reports.

References to members' publications are being delivered in innumerable forms, and I have not tried to establish uniformity this year. For the future, I should be grateful if members would adopt the following simple conventions (but not in bold of course):

**For books:**

Author(s) or editor(s), *Full Title and Subtitle [Capitalized and Italicized]*, Publisher(s), Place(s) of publication, date. Number of pages.

Please place a colon between the title and the sub-title.

E.g.

Foster, Mike, *Strange Genius: The Life of Ferdinand Vandever Hayden*, Roberts Rinehart Publishers, Niwor (Colorado) and Schull (West Cork), 1994. xv + 443 pp.

**For journal articles:**

Author(s), 'Title [Capitalized]', *Journal Title [Not Abbreviated, Capitalized, Italicized]*, date, Volume number [italicized], page numbers.

E.g.

Rudwick, Martin, 'Cuvier and Brongniart, William Smith, and the Construction of Geohistory', *Earth Sciences History*, 1996, 15, 25-36.

(Note that volume numbers only, not issue numbers, are needed. Please use single inverted commas throughout.)

**For chapters in books:**

Author(s), 'Title [Capitalized]', in: Book editor(s), *Full Title and Subtitle [Capitalized and Italicized]*, Publisher, Place, date, page numbers.

E.g.

John C. Briggs, 'Mass Extinctions: Fact or Fallacy?', in: William Glen (d.), *The Mass-Extinction Debates: How Science Works in a Crisis*, Stanford, Stanford University Press, 1994, 230-236.

**For book reviews:**

Author of review. Review of: Author of Book, *Title of Book*, Publisher, Place of publication, date. Number of pages. Price (if known). In: *Title of Journal*, date, Volume number, pages.

E.g.

Sarjeant, William A.S. Review of: Jerry MacDonald, *Earth's First Steps: Tracking Life Before the Dinosaurs*, Johnson Books, Boulder (Colorado), 1994. xiv + 290 pp. US\$ 22.95. In: *Earth Sciences History*, 1996, 15, 84-85.

Please note that I like to have two spaces after a full-stop or a question mark, but only one after a comma, semi-colon, or colon. Please use hyphens (-), n-dashes (–), and m-dashes (—) as appropriate. n-dashes are recommended for page references. Given my very limited linguistic skills, I should prefer material to be submitted in English, insofar as this convenient to members.

\* \* \*

Members will note that the mailing list at the end of this *Newsletter* has been updated. I should be very grateful if people would inform me if any corrections and/or additions are required for next year's issue. Email addresses and fax numbers are *particularly useful*.

\* \* \*

Finally I should like to express my thanks to all those persons who have sent material for inclusion in *Newsletter* No. 29, and to all those that have assisted in its compilation in any other way (especially Jane



Oldroyd, who has updated the list of members and prepared the addresses for mailing). I should also mention that I shall be away from Australia from June 16 until September 8. During this period, I *hope* that I shall still be able to receive email messages (D.Oldroyd@unsw.edu.au). Or mail may be sent to me at the following address: c/o Mrs Anne Hedden, 92 Townsend Lane, Harpenden, Hertfordshire, AL5 2RQ, U.K. I look forward to meeting many INHIGEO members in Belgium and Britain.

David Oldroyd  
14 May, 1997

## THE INHIGEO BYLAWS

At the meeting of INHIGEO in Dresden in 1991, David Branagan (Australia), Hugh Torrens (United Kingdom), and William Sarjeant (Canada) issued what has come to be known as the 'Dresden Manifesto', which recommended certain significant changes to the Bylaws of the Commission. In response, the Secretary-General mailed a letter, prepared by Drs Marvin and Guntau, to all members of the Commission on January 27, 1992, which set out the changes recommended at the initiative of Branagan, Torrens and Sarjeant. The responses indicated general support for the changes, which with some emendations, were considered at the IUGC meeting in Kyoto in 1992 and further considered by the Executive Committee of the IUGS at its meeting in January, 1993, following a vote in favour of change by the Full Members earlier that month. The changes were approved in principle at that Executive meeting, and were finally ratified at the meeting of the Council of the IUGC held in Beijing in August, 1996. Notification of approval of the revised Bylaws was given in the form of a letter from the Secretary-General of the IUGS, Professor Attilio Boriani, dated 22 October, 1996, and addressed to Dr David Branagan, who was President of INHIGEO at the time of the Beijing Congress.

The revised by-laws were previously published in *Newsletter* No. 25 (1993 for 1992). They are republished here for the information of new members and following their final official ratification.

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.
2. The task of INHIGEO is to promote studies in the history of geological sciences and to stimulate and co-ordinate 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.
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. The number of members should not exceed eleven from the same country. INHIGEO encourages the formation of national and regional subcommissions.
- 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. The Board of INHIGEO consists of the President, the Vice Presidents, the Secretary-General, and the Past President. It is recommended that membership of the Board should circulate among regions and countries as much as possible. The major regions to be represented are: North America, South and Central America, Europe, Asia, Australia and Oceania, and Africa. Candidates 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 other members of the Board remain in office until the next session of the IUGS Council and are immediately eligible for reappointment once only, or twice if their initial appointment was made between the installation of the IUGS Councils.
- 4d. 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 or the history of science. They will be elected at INHIGEO business meetings by ballots cast in advance plus those submitted at the meeting. A quorum for election of members or other decisions shall constitute a response from one third of INHIGEO members. Members are elected to serve until the next session of the IUGS

Council, and may be re-elected without restriction provided that participation in INHIGEO activities continues. Members should be asked in writing half a year before the expiration of their terms whether they wish to apply for re-election. Failure to apply results in cancellation of membership. Failure to vote on two successive ballots also will result in cancellation of membership.

#### *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.
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. 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 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 the next term; b. to elect Board members for confirmation by the Council of the IUGS; and c. to carry on any other Commission business 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.
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 cast at the meeting.

\* \* \*

#### **Nominations for New Members of INHIGEO. (See 4d above.)**

Currently, elections are held biennially. Nominations for new members may, however, be made in writing at any time and sent to the Secretary-General. For the next round, an official call for new nominations will be made in October, 1997, and documents should be received by the Secretary-General by the end of February, 1998. A postal vote will then be organized by the Secretary-General, with the nominees' qualifications, etc., suitably summarized, and the formal elections will be completed at the Business Meeting of the Commission in Switzerland in September, 1998.

Nominations should contain the following information:

Name, address, telephone number, fax number, and email address (as applicable) of the nominee.  
Tertiary institutions attended, with names of degrees and dates.  
Major and minor specialities.  
Positions held.  
Honours received.  
Publications (as many as are thought appropriate to suit the application), with items relevant to the history of geology marked with asterisks, or otherwise highlighted.  
Name and address of the nominating person or national committee.

#### **Provisional Agenda for Business Meeting of the Commission, to be held at the Liège Congress, at precise time and venue to be determined**

1. Apologies
2. Minutes of previous meeting
3. Matters arising
4. Secretary-General's report
5. Discussion of activities and functions of the Commission

6. Publication of the Commission: reports from editors of volumes currently in preparation
7. Future conferences of the Commission: arrangement of schedule of meetings and consideration of proposals/offers
8. Proposals/suggestions for promotion of the Swiss conference
9. Relationship with the IUHPS
10. Arrangements for the transfer of archives to Trondheim
11. Business without notice
12. Arrangements for follow-up meeting in London

## MINUTES OF THE BUSINESS MEETING OF THE COMMISSION, HELD IN BEIJING, AUGUST, 1996

The meeting was held in Room B6 of the China World Trade Centre, Beijing, on Monday, 12 August, 1996, at 6.00 p.m. with the President, Dr David Branagan, in the chair. At the opening of the meeting twelve INHIGEO members were recorded as present, with five other persons in attendance.

### *Opening Remarks*

Dr. Branagan opened with expressions of thanks on behalf of the Commission to Professor Wang and all the Chinese convenors of the INHIGEO sessions. They have been working hard for more than a year to assure the success of the meeting. He also congratulated Professor Wang Hongzhen and his co-editors, Zhai Yusheng, Shi Baoheng and Wang Cansheng, for arranging the pre-publication of a volume of papers on the history of geology entitled: *Development of Geoscience Disciplines in China*, a volume published by The Council of History of Geology of the Geological Society of China and dedicated to the 30th International Geological Congress. [Copies were distributed to delegates during the course of the Congress. Ed.]

### *Apologies*

The President conveyed greetings from several members and colleagues who regretted that they could not be present. These included Martin Guntau, Barry Cooper, Endre Dudich, Kenneth Taylor, Gordon Craig, Thomas Darragh, William Jordan, and Zhai Yusheng.

### *Ratification of Bylaws*

The President reported that the Council of the IUGC had shortly before ratified the new Bylaws for the functioning of the Commission, which had been proposed at the previous meeting of the IUGC in Kyoto in 1992. [See p. 5.]

### *Forthcoming activities of INHIGEO*

- 1997: Dr. Torrens outlined plans for INHIGEO sessions at the 20th International Congress of the History of Science, to be held by the IUHPS at Liège, Belgium, in July, and at the Hutton-Lyell Bicentennial Symposia to be held in late July and early August in London and Edinburgh. The Bicentennial conferences are sponsored by the Geological Society of London and the Royal Society of Edinburgh. INHIGEO will co-sponsor some of the sessions. Also, the meeting was informed of a conference to be held in Strasbourg on the history of European Geosciences. This conference is not officially sponsored by INHIGEO, but several members of the Commission would be participating.
- 1998: The President explained that no INHIGEO symposium has been planned for this year. However symposia with field excursions will be held in 1998 by the Geological Societies of America and Canada to memorialize Charles Lyell's visits to North America. [And since the meeting in Beijing, a Conference has been scheduled to be held in Neuchâtel, Switzerland, in September, 1998, and INHIGEO will also be involved in a conference in Vienna, immediately preceding. Ed.]]
- 1999: Professor Martin Guntau and Dr Peter Schmidt have proposed that INHIGEO should co-sponsor a symposium in Freiberg, Germany, among the activities celebrating the 250th year of A.G. Werner's birth. It was understood that the emphasis would be chiefly on ideas and influences, rather than biographical matters, which have been dealt with in earlier meetings.
- 2000: INHIGEO will hold its symposia in connection with the 31st International Geological Congress in Rio de Janeiro, Brazil. [Since the meeting in Beijing, Dr Silvia Figueirôa has been nominated by the Board to act as the Commission's representative for the organization of the Congress. Ed.]
- 2001: No plans have been made.

- 2002: An invitation to INHIGEO to meet in Ireland in August, 1992, on the theme of 'Geological Travellers', has been submitted by Dr Patrick Wyse-Jackson, and was warmly supported by the members present.

#### *President's Report to the IUGS Council*

The President reported that he had submitted a brief report to the IUGS Council outlining INHIGEO's activities during the past four years and its plans for the next four. He had also presented to the Council the new INHIGEO Bylaws, which had been approved by the membership in 1992 and ratified, in principle, by the IUGS Executive Committee in 1993. The IUGS Council had duly ratified the Bylaws and also the newly elected membership of the INHIGEO Board.

#### *Publications Pending*

1. INHIGEO Newsletter No. 28.  
The Secretary-General (S-G), Dr Ursula Marvin, explained, with regret, that due to her preparation of a manuscript to be published in September and of talks for two conferences in July and August, she had been unable to complete the *Newsletter* for distribution at this year's Business Meeting — as had been her practice in the past. She expected, however, that the *Newsletter*, which would report on activities in 1995, would be ready for printing and mailing in the Fall of 1996.
2. Proceedings of the INHIGEO Symposium at Dresden, 1991.  
Dr Peter Schmidt had informed the S-G that this volume would be issued in the near future.
3. *Volcanoes in History*—The Proceedings of the 1995 INHIGEO Symposium in Italy.  
Professor Nicoletta Morello announced that manuscripts were due in mid-October and publication was planned for early 1997. Most papers were already received and were currently being edited.
4. Proceedings of the INHIGEO Symposia in Beijing, 1996.  
Professor Wang asked for manuscripts to be submitted by the end of October. He expected publication early 1997. He offered copies of his pre-published volume (*Development of Geoscience Disciplines in China*) to those present.
5. The Liège Congress and the Hutton-Lyell Symposium.  
Dr Torrens explained that no publication by the Commission was planned for papers presented at the Liège meeting, but Professor Oldroyd indicated that there was a possibility of their being published in *Annals of Science*. [Since the Beijing meeting, arrangements have been finalized for the invited papers to be published—after suitable peer-review—in *Annals of Science* (Ed).] For the Hutton-Lyell symposia, all speakers will be required to bring to the meetings manuscripts ready for publication.
6. The S-G made available copies of the paper by former Vice-President of the Commission, Professor Cecil Schneer, 'The Geologists at Prague: August 1968. History of the International Union of Geological Sciences', published in *Earth Sciences History* in 1995. This paper forms Part 2 of his study of the history of the IUGS. Part 1 is completed and Professor Schneer is currently working on Part 3.
7. Professor Oldroyd brought attention the attention of the meeting to a new series of monographs on the history of geology being published by the Athlone Press, London, and for which series he was acting as General Editor. He invited potential authors to contact him with any proposals that they might have.
8. The INHIGEO Newsletter.  
The S-G stated that she understood that many earlier issues of the *Newsletter* had been put on to fiche by Professor Guntau and his colleagues, but she did not have details of what had been completed. These earlier issues could be of great interest to historians. The President stated that it was his understanding that microfiche copies of issues 1–10 had been made and were available from Professor Guntau at the University of Rostock. It was suggested that the *Newsletter* be given an ISSN number, and that it be distributed to selected libraries.

#### *The History of INHIGEO.*

The President informed members that a proposal by Dr. Peter Schmidt for a compilation of bio-sketches of INHIGEO members. In advance of the meeting, Dr. Schmidt had faxed the following proposal to the S-G and had asked that it be added to the agenda. Dr Schmidt pointed out that in 1997 thirty years would have passed since the founding of the Commission, and he felt it appropriate to compile and publish a complete list of the INHIGEO membership with the following details:

1. A short history of INHIGEO.
  2. An account of changes in the INHIGEO Bylaws.
  3. A list of members by name, date, and place of birth, and where appropriate, the date and locality of death, with burial place and details of obituaries; the profession of each member together with a list of his or her major publications in the history of geosciences; editorships, and other activities in the field; the date of election to INHIGEO and activities as member; a photograph; the present address and phone, fax, and e-mail numbers.
- Dr. Schmidt believed that much of this data could be acquired by circulating a questionnaire, and he offered to help with the project.

All those present agreed that this would be a history of great interest to members, but that it would involve a monumental amount of work to compile it, with little prospect of getting the requisite information on many members—particularly the earlier ones. Arranging for its publication also would present problems, as INHIGEO had insufficient funds to support such a proposal, and no resources for storage of documents or for carrying out such work; and most researchers had other fields of interest. No volunteers came forward to assist in the task, so the proposal was tabled with no specific recommendations. [If any members feel able to assist Dr Schmidt in his proposed undertaking, they are warmly encouraged to contact him at Johann-Sebastian-Bach-Strasse 5, D-095999, Freiberg, Germany, and to inform the present S-G of their interest. Ed.]

#### *The INHIGEO Archives.*

The S-G introduced the question of where the INHIGEO archives should be deposited. She had ascertained that, as a Commission of the IUGS, INHIGEO could store its archives along with those of the IUGS at Trondheim, Norway. Unfortunately, however, it appears that the entire 30 years of INHIGEO archives are unlikely ever to be stored together. Many papers are presumed have been left in Moscow by the late Vladimir V. Tikhomirov, the first President and long-term Vice-President of INHIGEO. Some papers were deposited in archives in Rostock by Martin Guntau, and much material is thought to be in the possession of the family of Reijer Hooykaas, a former President from the Netherlands. Dr Marvin possesses letters and notes forwarded to her by Endre Dudich, the past secretary-general, and her own collection of papers from her two terms in office.

The President suggested that contact should be made with the family of Reijer Hooykaas and perhaps also of V.V. Tikhomirov.

Suggestions were made from the floor that other possibilities might be the archives on history of science at the University of Wyoming, the Smithsonian Institution, or in Freiberg. Drs Marvin and Torrens favoured Trondheim as a place where we know that the INHIGEO archives would be received and properly cared for. Professor Oldroyd felt at first that the site was too remote for scholars to visit, but remarked later that the proximity to the IUGS archives might add interest to both collections. No vote was taken, but the consensus favoured Trondheim. [Subsequent to the Meeting, the Board has determined that the archives that can be located should be transferred to Trondheim for permanent storage. Ed.]

#### *Business without Notice.*

The question was raised from the floor whether INHIGEO should on occasions meet in conjunction with the International Mineralogical Association. No one spoke strongly in favour of the idea.

#### *The 1996 Election.*

A motion was proposed by the S-G and seconded by the President that Viktor Khain of the Russian Academy of Sciences be reinstated as a member of INHIGEO. Professor Khain was elected to INHIGEO in 1984, but his name had disappeared from the membership list. The motion to reinstate Professor Khain was passed unanimously.

Election ballots for were cast by members who brought them to the meeting.

Results of the election:

Mail ballots were returned by 90 members, and 6 ballots were cast at the meeting, making a total of 96 votes from among 132 members. This is more than double the 33% of the membership the Bylaws require for a quorum. The bylaws further require that to be elected each candidate must receive a simple majority of votes cast. By that measure, every candidate for the Board and for new membership was elected by a very large majority, despite a small number of abstentions and nay votes. The President thereupon welcomed to INHIGEO the new members who were present at the meeting.

The newly elected Board members were:

President—Dr Hugh S. Torrens (U.K.)

Secretary-General—Professor David R. Oldroyd (Australia)  
Vice-Presidents—Professor Wang Hongzhen (Asia); Dr Ursula B. Marvin (North America); and Professor Franco Urbani (Latin America).

The 18 new members were:

Ms Carol Bacon (Australia); Dr Milos Zarybnicky (Czech Republic); Professor Michel Durand-Delga (France); Dr Cornelia Lüdecke (Germany); Dr Peter Kühn (Germany); Professor Gabriel Dengo (Guatemala); Professor Paul Mohr (Ireland); Professor Dan Y. Yaalon (Israel); Professor Giovanni Frazzetta (Italy); Dr Antonio Nazzaro (Italy); Dr Claudia Principe (Italy); Professor Toshio Kutsukake (Japan); Professor Janusz Skoczylas (Poland); Professor Manuel C. Serrano Pinto (Portugal); Professor Anatoly G. Ryabukin (Russia); Professor Nikolai P. Yushkin (Russia); and Dr Francisco Pelayo (Spain).

#### *Valedictory Remarks by the Retiring Secretary-General*

After announcing the election results, Dr. Marvin said that she had greatly enjoyed her two terms of service to INHIGEO. She remarked on the great changes that have taken place in the world at large—which has passed from cold war to warm peace—and within INHIGEO itself, which had evolved from a closed, tightly regulated organization in which only Full Members could nominate, vote, or hold office, and all nominations of new members had to be confirmed by a national committee. Today INHIGEO is an open society with only one level of membership and every member can nominate, vote, and hold office. This change was initiated by Drs Branagan, Torrens, and Sarjeant who gathered over lunch at the Dresden Symposium in 1991 and drew up a manifesto for a new INHIGEO. (Professor Kenzo Yagi named them: The Three Wise Men of Dresden'.)

To effect the change, INHIGEO had had to surmount two problems:

- Problem 1. A majority of the 24 Full Members of INHIGEO would have to vote for the change and thereby abolish their own offices. This option was placed on the ballot in 1993 and 16 of the Full Members, a strong majority, voted for the change. One abstained, and the rest remained silent.
- Problem 2. The IUGS Council had to approve the change. INHIGEO is a Commission of the IUGS, which had stated clearly that it favoured small commissions. However, the IUGS also was undergoing changes. In January, 1993, the IUGS Executive Committee ratified our proposed new structure in principle, and at the current IGC in Beijing the full Council had ratified the changes.

Today, INHIGEO is a new organization of great vitality. Our main support continues to come from annual stipends allocated by the IUGS and, in some years, from the IUHPS. Dr Marvin said that the best part of her experience has been meeting so many people from around the world who are working on the history of geology. She hoped that the new President and Secretary-General would have as much pleasure and good fun in serving INHIGEO as she had had.

#### *Induction of New Officers.*

The retiring President and Secretary-General left the podium and their successors Hugh Torrens and David Oldroyd took their places. On taking the chair, Dr Torrens thanked the outgoing Executive for their notable work on behalf of the Commission and the new incumbents spoke of their sense of pleasure at being elected to their new positions. They undertook to serve the interests of the Commission to the best of their abilities. As small tokens of their personal esteem for the outgoing officials they were pleased to present them each with a bottle of nutritious fluid [most of which was consumed later that evening, to the mutual benefit of those concerned [Ed.]].

The work of the retiring President and Secretary-General was appropriately acknowledged by the generous acclaim of those present at the meeting.

#### *Conclusion*

The new President, Hugh Torrens, closed the meeting at 7.15 p.m.

[The foregoing minutes are based upon notes taken by Drs Branagan and Marvin. Ed.]

## **The IUGS Congress, Beijing, 1996**

### **Some Personal Memories and Reflections**

The 30th International Geological Congress was held in the World Trade Centre in Beijing from 4–14 August, 1996. There were about seven thousand delegates from round the world, and a smallish number of persons specifically enrolled in the history of geology section, though the history papers were generally very well attended, with the historians' numbers being augmented by people 'dropping in' from other sections. All papers were presented in English.

The general organization of the Congress was first-class, with numerous interpreters with excellent English being constantly in attendance at the hotels and at the conference centre. Catering arrangements, transportation, postal services, information facilities, visual-aids arrangements, etc., were all likewise most satisfactory. There was also an enormous 'commercial' display, adjacent to the seminar rooms, where the latest technical tools appropriate to the earth sciences were exhibited. Various geological surveys also presented exhibits, and there was a large programme of films, constantly running, showing something of the geology and scenery of the more remote parts of China; and more general films of interest to geologists. Besides the papers presented orally, there were also hundreds of poster-papers on display.

There were two splendid receptions for delegates at the Great Hall of the People, with unlimited food, fascinating entertainment in the form of Chinese music, dancing, and acrobatics, and, on the first of the two evenings, high Chinese political figures present were present. Other cultural events were available for those who wished to avail themselves of the opportunities: visits to Peking Opera, Chinese acrobatics, museum visits, shopping, etc. The cultural highlight was perhaps the evening visit to the park of the cultural minorities in Beijing. This massive park, though possibly somewhat 'kitsch' in character, offers replicas of the architectural styles of the various regions of China, remote from the capital. People from each minority group were in attendance in or by the building appropriate to them, performing traditional music and dancing, or displaying their handicrafts. Each delegate was provided with a large 'nose-bag' of food, and could wander at will in the massive genial crowd, enjoying the many different sites and sights.

In addition, the old and new members of the INHIGEO Board were privileged to attend an excellent private dinner, with some senior Chinese historians of geology, by courtesy of our genial host, Professor Wang Hongzhen, and the China National Petroleum Board. I should like to acknowledge this agreeable occasion most gratefully here.

Besides the central meeting in Beijing, there was a large number of field-trips, some more technical than others. I participated in a one-day trip to the site of the caves of Peking Man and a cruise of several days up the Yangtze River, from Yichang to Chongqing, the capital of China during the War. We then flew to Guilin to visit the amazing karst country of southern China, before finally leaving with great regret from Hong Kong. I was also able to make private visits to the Geology Department of Peking University (where we paid homage to the memorial to Amadeus Grabau); and to the gorgeous Summer Palace.

There is little to see of the actual workings of the Peking Man site beyond some nondescript caves, and a 'hole on the ground', so to speak. But there is a good museum, with useful explanations of the history of the excavations, and replicas of the famous specimens, together with some dinosaur skeletons, brought in from elsewhere. It was interesting that while there is little visible evidence of the pure-Marxist tradition in China, other than the architecture of the post-War period, a most interesting book on the history of the investigations at Zhoukoudian by one of the main researchers, Jia Lanpo (*Early Man in China*, Foreign Languages Press, Beijing, 1980), is on sale in the museum and offers quotations from Engels and Mao in its introduction—though such ideas do not permeate the valuable and well-illustrated book. This was almost the only remaining 'intellectual' inheritance from that era that I was able to discern, though there is much in the form of bricks and mortar, and belching smoke-stacks.

The cruise up the Yangtze was one of great interest to me, as I was finally able to visit the locality about which I had recently written—in a paper co-authored with my INHIGEO colleague, Yang Jing-yi—on the work in China of the nineteenth-century American geologist Raphael Pumpelly, the first professionally-trained Western geologist to visit the country. I was eager to see the great anticline and its granitic core, cut through by the mighty river, on the first leg of our journey after leaving Yichang. But this pleasure was denied me as we started our cruise in the evening and passed the granite in the middle of the night. This was the only disappointment, however. The cruise-ship and its 'tucker' were excellent. There were fascinating side-trips up tributaries of the main river, and a visit to a 'ghost temple'. In the town where this temple was located, the people were enjoying a dance in the open, of the decorous ball-room style that we used to have in the West in the 1950s. For geologists, there was much to see, and my colleague Larry Harrington pointed out to me what he contended was one of the most important geological junctions in the



world—a line of suture where rocks like those from eastern Australia and those of the South China Platform abutted and the junction could be seen in section. (But most of the geologists, perhaps less concerned about Australia/China relationships than we were, did not seem to be on deck at the time to observe this splendid geological indication of the intimacy and longevity of such relationships.)

Some things were much as they would have been in Pumpelly's day, with hundreds of boats of ancient appearance (now engine-powered, but still serving as people's homes) plying the river. But the river itself has been largely tamed, with the installation of a dam at Yiching, so that the ever-yellow water maintains an approximately constant flow. At the western end of the gorges, as one enters the province of Szechwan, one comes to the coal-rich regions, described by Pumpelly. We saw swarms of labourers, each carrying a basket of coal, scrambling bare-footed down a steep bank, to add their mite to the loading of a coal-barge. The conditions looked bad, and one must fear that they are infinitely worse underground. I wonder how much things may have changed underground since Pumpelly's day?

But soon, all these things will be under water, as the new series of dams, at the 'granite-gorge'—construction of which is already under way—will transform the mighty river into a vast lake. No one knows yet whether it will be an engineering triumph or a disaster. Certainly it is going to tie up much of China's capital for development in the coming decades. One thing of great historical interest that will surely be lost will be the great series of square holes, chipped into the rocks on the side of the gorges, which formerly served to secure posts, on which a wooden walk-way used to be placed, and on which the labourers used to haul the barges through the gorges, sometimes with hundreds of men tugging at the ropes of each boat. Pumpelly recorded seeing several dead bodies floating downstream during the course of his journey—presumably people who fell off the walk-way or had other accidents. At least we saw nothing like that, though there were some deceased barges abandoned at the side of the river!

Chongqing is now a rapidly growing commercial and industrial centre at a great divide in the river, looking quite 'chic', though still with slums near the river bank. It was very hot there, and I believe that Chinese people call it one of the 'three ovens' of China in the summer. We visited an artists' colony in a garden above the river bank, where elderly men lived in their little 'cells' and did their painting, each in his own style. They made several successful sales!

Then on to Guilin, to the south, which was surprisingly cooler. From the air, the region looks like a great mass of giant sugar-cones. These are the mountains that have inspired generations of Chinese artists, and I realised that the odd shapes of the mountains in these pictures did represent actual topographic features, and were not merely the product of some bizarre artistic convention. The whole region is limestone, of course, and we had the opportunity to visit some quite magnificent caves; also some relatively 'unspoiled' villages. A visit to a Chinese hospital, which practised Chinese medicine, caused great amazement, as various members of the party had their medical problems diagnosed with extraordinary accuracy by simple examination of pulse and tongue. Several packages of herbal medicine were sold on the strength of the diagnoses; and there was a good deal of massaging done, to the delight of those watching the treatment!

Finally, for me, back to Hong Kong. The most noticeable thing there was that the people of the wealthy colony were less friendly than in mainland China, but I suppose their mood was not good with the future uncertain after the middle of 1997. They have found wealth, but not obviously happiness. No doubt they were thinking about the 'clock' in the centre of Beijing, ticking off the seconds until the reunification of Hong Kong with the rest of mainland China. Yet very likely the changes in China as a whole in the next decade will actually be greater than those that are about to take place in Hong Kong.

\* \* \*

What is the future for China? Its transformation is astonishing, and the pollution horrendous. (A girl of eighteen told me in Beijing that she used to see the stars when she was a twelve or thirteen; and now they are no longer visible.) The old factories and apartments are ugly, and very little of the old architecture is still to be seen in Beijing, except for the magnificent Summer Palace and the Forbidden City. In the countryside (much of which in the areas I visited is unbelievably green and fertile) the dwellings mostly look like enlarged versions of monopoly-board houses, and have no architectural graces. The new skyscrapers in the cities spring up like mushrooms, but I fear they may be jerry-built (as was our hotel). There is an assumption that I heard expressed by a number of people that new properties (apartments, etc.) are 'good' ones, but I have some doubt in my mind that they will remain 'good' for very long. (For example, the basement of the brand-new Geology Department building at Peking University had suffered flooding not long before we paid our visit there, and papers and specimens were getting damaged.) Thus, I am not convinced that the frenetic pace of change in China is desirable in the long-run, purely in practical terms,



quite apart from the social upheavals that the changes involve. One can well understand, however, why there should be such a precipitous rush towards modernisation, and it is wonderful to see that China is now integrating herself with the rest of the world. And I, just a fleeting visitor, with only the most hasty and superficial impressions, would like to thank her for all her kindnesses, and the warmth of her generous hospitality. There are grievous problems ahead for her (and everyone else for that matter, given that, according to the latest reports, overall world oil production will begin to decrease in about fifteen years). I only hope that she can overcome them; for what happens in China in the 21st century is of *fundamental* importance to the whole world.

David Oldroyd, Sydney

### **The History of Geology Section at the XXXth International Geological Congress** (See also the Country Report from China, p. 35.)

The following papers for Section 22 of the 30th International Geological Congress were published in the third volume of the Congress *Abstracts*. However, not all papers listed in the *Abstracts* were actually delivered. Those that will be published in Volume 26 of the Congress *Proceedings* (as *Comparative Palaeontology, Geological Education and History of Geology*), having been edited by Wang Hongzhen and David Branagan. Volume 26 is expected to appear in July, 1997, and will be available to authors at a 50% discount. The publication price is not known at present. (It is suggested that INHIGEO members who are not able to claim this discount, but who would like to purchase the volume at the concessional rate, should apply now to the Secretary-General, who may be able to obtain copies at the reduced price.) The names of INHIGEO members in the list of authors below are marked with asterisks.

#### *Section 22-1: History of Geology and International Communication of Geoscience Ideas*

- 'Ludwig Karl Brackebusch: Pioneer on Regional Geology in Argentina'. Daniel Rubiolo,\* Argentina.
- 'The Activity of Foreign Geologists in Siberia in X-XX Centuries'. Alexander Kovaleskii, Russia.
- 'In Memory of Prof. Peter Misch'. Li Wenda, China.
- 'Bicentenary of James Hutton's *Theory of the Earth* in 1995: Impact on Geological Study, Research and Development'. B.L. Sreenivas and M.B.S. Char, India.
- 'From Rensselaer to China: Amadeus Grabau on the Semcentennial of his Death'. Gerald Friedman, United States.
- 'Robert Logan Jack: Geologist in China'. D.F. Branagan,\* Australia.
- 'Engineering Geology and International Communication of Geoscience Ideas'. Valentina Shibakova, Russia.
- 'Science Across Cultures: The Case of Vertebrate Palaeontology in China'. P. Kamarower, Australia.
- 'Xu Xiake and his Geoscientific Contributions of Leading World'. Bai Tun, China.
- 'Geology: Towards a Critical Period to Establish a New Knowledge Framework'. Liu Shuchen, Xiao Qinghui, and J.I.A. Yueming, China.
- 'The 1669 Etna Eruption: The 1670 Borrelli Idea in the Light of the Modern Physical Vulcanology'. Giovanni Frazzetta\* and Nicoletta Morello,\* Italy.
- 'From the 1st Session of Chinese Geologists (1958) to the XXXth Session of the International Geological Congress in Beijing (1986)'. V.P. Fedortchuk, Russia.
- 'Earth Heritage Conservation: A New Branch on the Geo-Science Tree'. Patric Jacobs, Guy Martini, Anna Wilson and Chris Wilson, Belgium and the United Kingdom.
- 'Art, Cultural and Economic Development for the Promotion of a New Concept in the Earth Sciences: Our Geological Heritage'. Guy Martini, France.

#### *Section 22-2: Geological Concepts, Thinking and Philosophy*

- 'The Expansion of the Indian Ocean and its Control Effect on Continental Tectonics of China—One of the Demonstration of "Non-Globular Symmetrical Expansion of the Earth"'. Yang Huai, China.
- 'Noosphere: The Promising Geological and Philosophical Concept'. V.I. Budanov, Russia.
- 'New Concepts in Palaeontology and Early Life on Earth'. Wang Hongzhen,\* China.
- 'Geological Concepts in Ancient India'. K.S. Murty,\* India.
- 'The Flood: A Flandrian Transgression, in Jewish Traditional Literature'. Dov Ginsburg,\* Israel.
- 'From the Earth System to the Huge System of Cosmos—Earth—Man—Also from Earth System Science to Cosmos—Earth—Man System'. Liu Bo and Yang Guihe, China.
- 'The Fundamental Viewpoints of Geology of the Second Generation'. Li Tailai, China.

- 'The Role and Future of Geology in Modern Integrated Environmental Research and Decision Support'. Gyozo Jordan and Andrea Szucs, Hungary.
- 'The Philosophical Thoughts in the Hypothesis of the Crustal-Wave Mosaic Structure'. Wang Zhan, China.
- 'From Geological Movement to Globe's Movement'. Bau Tun, China.
- 'The Time Idea in Geology'. Hang Shaowen, China.
- 'Philosophical Thinking in a New Outlook on Global Structure—Hypothesis of the Crustal-Wave Mosaic Structure'. Zhang Mingding, Duan Lianhe, and Wang Zhan, China.
- 'The Thinking About Geoscience Philosophy'. Dun Tiejun, China.
- 'Philosophy in our Modern Geological Theories'. Wu Fengming, China.

*Section 22-3: Development of Geoscience Disciplines Since the 19th Century*

- 'The Development of Metamorphic Petrology in China'. You Zhengdong, China.
- 'The Development and Prospect for Geoscience Today'. Zhou Tianju, Jiang Fujian, and Zhou Zhaohui, China.
- 'S.S. Buckman (1860–1929), His World-Wide Jurassic Biochronology, and the Background of his Work on Chinese Ammonites'. H.S. Torrens,\* United Kingdom.
- 'The Development History of Chinese Engineering Geology'. Zhang Xiangong, China.
- 'Volcanic Craters on the Moon: An 18th-Century Concept Disproved in the 20th Century'. Ursula B. Marvin,\* United States.
- 'The Study of Invertebrate Palaeontology in China—A Retrospect'. Yang Zunyi and Li Fenglin, China.
- 'Development of Geoscience Disciplines in India since the 19th Century'. K.S. Murty,\* India.
- 'Tourism Geoscience: A New Field of Earth Science'. Chen Anze and Chen Maoxun, China.
- 'Palaeontology and Tectonic Mobilism in China'. Pan Yuntang and Gu Daoyuan, China.
- 'Advancement of the Mineralogical Sciences for Recent Decade in China'. Cui Yunhao and Pan Yuntang, China.
- 'Some Advancements on the Researches of Magmatic Rocks of China and their Interconnection with the West'. Dong Shen-bao, China.
- 'Development of Geochemistry in China and System and Methodology of Geochemistry'. Yu Chongwen, China.
- 'The Progress and Prospects for Precambrian Geology in China'. Du Rulin and Hu Huabin, China.
- 'Adam Sedgwick and Lakeland Geology'. David Roger Oldroyd,\* Australia.

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A volume—Wang Hongzhen, Zhai Yusheng, Shi Baoheng and Wang Cansheng (eds), *Development of Geoscience Disciplines in China*. The Council of History of Geology, Geological Society of China. Beijing: China University of Geosciences Press, 1996—was distributed during the course of the Congress. It is suggested that members wishing to obtain copies should write directly to Professor Wang.

## FUTURE MEETINGS OF THE COMMISSION

Some details of future meetings are given in the Minutes of the Business Meeting of the Commission, held in Beijing in 1996 (see p. 7). More detailed information is provided below.

1997  
Belgium

*The XXth International Congress of History of Science: 20–26 July, 1997. Liège, Belgium.*

Two sessions of invited papers have been organized on behalf of the Commission by members Kenneth Taylor (USA), Hugh Torrens (UK), and Silvia Figueirôa (Brazil)

1. *Geology and Mining in the Old and New Worlds*  
Donata Brianta: 'Academic Education in the Training of Mining Engineers in Europe, 1750–1850'.  
Carlos Contreras: 'La Sustitucion del Metodo de Medina en la Minería Peruana del Siglo XIX'.  
Carlos Serrano: 'Mining in the Cerro Rico of Potosi: Some Technological Considerations'.  
Hugh Torrens: 'New Science *versus* Old Iron: How Attempts to Rejuvenate the Sussex Iron Industry Confronted Science, 1787–1815'.  
Session Commentator: Roger Burt, University of Exeter, United Kingdom.
2. *Use of Non-Written Sources for History of Geological Sciences*  
David Oldroyd: 'The Uses and Abuses of Non-Written Sources in the Study of the History of Geology'.  
Martin Rudwick: '"Restaging" Early Geology Fieldwork'.  
Lydie Touret: 'Le Rayonnement de la Minéralogie Parisienne aux XVIIIe et XIX Siècles'.  
Patrick Wyse-Jackson: 'Geological Museums and their Collections: Neglected but Rich Sources for Historians of Geology'.  
Session Commentator: Tore Frängsmyr, Uppsala University, Sweden.

Arrangements have been made for these papers, and the commentaries, to be published (after suitable refereeing, in accordance with the standards of the journal) in *Annals of Science* in 1998. We are grateful to the editor, Professor G.L'E Turner, for providing the opportunity for the papers to be offered to the journal. Other papers on the history of geology, in addition to those named above will be presented at the Congress, but details are not available at the time that this *Newsletter* is being prepared.

Members wishing to attend the Congress should write as soon as possible to:

XXth International Congress of History of Science, Centre d'Histoire des Sciences et des Techniques, Université de Liège, Avenue de Tilleuls 15, B-4000 Liège, Belgium.

1997  
The United Kingdom

*The Bicentennial Conference: James Hutton—Charles Lyell*

The London Programme (The Geological Society)

\* = INHIGEO member

30 July, 1997    Excursion to Bartley Lodge (Lyell's boyhood home) and Barton (leader Margaret Collinson)

31 July

Session 1.

*Life and Times of Sir Charles Lyell*

Leonard Wilson: 'Lyell the Man and his Times'.

Martin Rudwick:\* 'Lyell and the 'Principles of Geology'.

Joe Burchfield: 'The Age of the Earth and the Invention of Geological Time'.

John Thackray:\* 'Lyell and the Geological Society'.

Session 2.

*Stratigraphy and Palaeoenvironments*

Tony Hallam: 'Historical Perspectives: Theories of Evolution and Extinction'.

- W.A. Berggren: 'Cenozoic Time and Stratigraphy'.  
 Andrew Scott: 'Coal and Environments'.  
 Session 3. *Regional Geology*  
 Ezio Vaccari:\* 'Historical Perspective: Lyell's Reception in Europe'.  
 John Dewey: 'Alpine and Appalachian Tectonics'.  
 John Calder: 'The Carboniferous Evolution of Nova Scotia'.
- 1 August  
 Session 4. *Surface Processes and Climate*  
 James Fleming: 'Historical Perspective: Lyell and Climatic Change'.  
 Chris Wilson: 'Sea-Level Change and the Growth of Sequence Stratigraphy'.  
 Mike Leeder: 'Erosion and Transport'.  
 Patrick Boylan: 'Climatic Change in the Quaternary'.  
 Session 5. *Active Tectonics*  
 Kenneth Taylor:\* 'Historical Perspective: Volcanoes and their Products'.  
 Hazel Rymer: 'Mount Etna: Monitoring for the Next Century'.  
 Chris Talbot: 'Salt Tectonics'.  
 Bruce Bolt: 'Earthquakes and Earth Structures'.  
 Session 6. *Man and the Environment*  
 Vic Baker: 'The New Catastrophism'.  
 John Mather: 'Water Purity'.  
 Claudine Cohen:\* 'The Antiquity of Man'.  
 Sir John Knill: 'Man and the Modern Environment'.  
 2 August Excursion to the Weald (leaders Hugh Torrens\* and John Cooper\*)  
 Or Excursion to Hampton Court
- The Edinburgh Programme (The Royal Society of Edinburgh)
- 5 August  
 Session 1. *James Hutton's Theory of the Earth—Past and Present*  
 Donald McIntyre: 'James Hutton and His Edinburgh'.  
 Don Anderson: 'A New Theory of the Earth'.  
 Session 2. *Fluxes of the Earth*  
 John Imbrie: 'Climatic Cycles of Astronomical Origin'.  
 Andrew Watson: 'Co-Evolution of the Earth Environment and Life: Who's Driving Who?'.
- 6 August  
 Session 3. *Kindling Fires in Little Crucibles*  
 Peter Wyllie: 'Hot Little Crucibles and Igneous Processes'.  
 Werner Schryer: 'High-Pressure Experiments and Metamorphism'.  
 Field Excursion: Classical Geological Sciences in Edinburgh
- 7 August  
 Session 5. *Catastrophism and Uniformitarianism—Ancient and Modern*  
 Gordon Herries Davies:\* 'Styles in Earth History'.  
 Ursula Marvin: 'Geology: The Impact of the Space Age'.  
 Ian Dalziel: '(Some) Vestiges of a Space Age'.  
 Session 6. *Hutton, Lyell and our Dynamic Earth*  
 Gelal Sengor:\* 'Is the Present the Key to the Past, or the Past the Key to the Present'.  
 Stuart Monro: 'The Dynamic Earth Project and the Next Millennium'.  
 8 August Field Excursion: Hutton Country—Siccar Point—The Abyss of Time  
 (leaders David McAdam and Stuart Monro)
- 9 August *Either*  
 Field Excursion: Lyell Country (leaders Gordon Craig\* and Ian Rolfe)  
 Or  
 Field Excursion: Hutton Country—Glen Tilt (leaders Donald McIntyre  
 and David Stephenson)

Members wishing to attend either or both these Meetings should write to: The Conference Department, The Geological Society, Burlington House, Piccadilly, London W1V 0JU, UK.

1998  
Switzerland

An INHIGEO Congress at Neuchâtel is currently being arranged by our Swiss colleagues for September, 1998. Provisional details are as follows:

September 4–6

Pre-Congress excursion to Vaud, Valais, and Savoy, considering the work of de Saussure, Venetz, de Charpentier, Schardt, Lugeon, Argand, etc.). Organizer: Henri Masson and colleagues from Lausanne and Geneva, and perhaps others.

September 7–9

Meeting in Neuchâtel, with short excursions to the Jura Mountains (Von Buch, Agassiz, etc.), organized by Jean-Paul Schaer and colleagues from Neuchâtel.

September 10–11

Post-Congress excursion to Glarus and Lake Lucerne (the two Scheuchzers, Goethe, the two Eschers, Murchison, the two Heims, Bertrand, Kaufmann, etc.), organized by Rudolf Trümpy with colleagues from Zurich.

The two general Congress themes will be (provisionally) 'History of Theories of Glaciation' and 'Orogenic Belts: From Folds to Nappes to Plates'.

Costs are not yet known precisely, but every effort will be made to keep them to a minimum. We are informed that accommodation is available at the University of Neuchâtel at about 33 Swiss Francs per night or 90 Francs for hotels (1 Franc is about US \$ 0.7). The hosts hope to be able to generate some money to assist members from less fortunate countries to attend, and will provide excursion guide-books and abstracts. INHIGEO will also provide financial support.

Professor Rudolf Trümpy will act as Congress President. The official languages for the meeting will be French and English. Members will be mailed full details of the meeting as soon as these are available. Meanwhile, please enter the dates in your diaries. At the time of going to press there are some uncertainties in the details of the Swiss programme in that the pre- and post-Congress excursions may be interchanged, so as to slot in with the Austrian meeting, described below.

Austria

Immediately preceding the Swiss meeting, there will be a conference in Vienna which will have a significant history of geology component: The XVI Congress of the Carpathian-Balkan Geological Association—August 30–September 2. This will have several field excursions preceding, the first beginning on August 23, and one following (details not yet announced); also an interesting social programme in Vienna and its vicinity.

The inclusion of a history of geology component of the Vienna Congress has been arranged at the initiative of Hungarian member, Endre Dudich, to whom we express our thanks. INHIGEO has been invited to sponsor the historical section, and has been delighted to accept. The proposed theme is 'Advancing Geological Knowledge of the Carpathian-Balkan Region in the 19th and 20th Centuries'. The co-sponsors of the Congress are the Geological Survey of Austria, the Austrian National Committee of Geology and the Geological Society of Austria. The Congress language will be English.

The anticipated registration fee will be US\$130, and accommodation costs are expected to range from \$25 per night (student-type accommodation) to \$200 per night (luxury hotels).

For further information, write to: Organizing Committee, XVI Congress of the CBGA, Geological Survey of Austria, Rasumofskygasse 23, POB 127, A-1031 Vienna, Austria (Fax 321 712567456).

**It should be remarked that the convenient juxtaposition of the Swiss and Austrian conferences in space and time should make a trip to Central Europe a very attractive proposition for INHIGEO members in the summer of 1998.**

1999

Germany and perhaps Austria.

An International Werner Symposium is being planned by the *Bergakademie* Freiberg, to be held in Freiberg, 19–23 September 1999, to commemorate the 250th year of the birth of Abraham Gottlob Werner (1749–1817). INHIGEO has been asked to co-sponsor this meeting and is delighted to do so.

A meeting is also being planned in Austria (not by INHIGEO) to commemorate the 150 years since the foundation of the Austrian Geological Survey. It is hoped that it may be possible to arrange the

dates so that people may be able to attend both meetings conveniently if they so wish. (We do not have further details at the time of preparation of this *Newsletter*.)

2000

Brazil

INHIGEO will sponsor a History of Geology Section for the 31st International Congress, which will be held in Rio de Janeiro, Brazil. The Commission's representative on the Organization Planning Committee will be Dr Silvia Figueirôa of Campinas, Brazil.

Members are cordially invited to offer suggestions for appropriate Congress themes and/or excursions.

2001

Poland, Portugal, The Czech Republic—elsewhere?

Tentative offers for future Congresses have been received from Poland (Cracow) and Portugal (Évora) and the Czech Republic (Brno). The year 2001 has not been allocated for conferences in these countries, but it is hoped that a meeting will be held in one or other of them in 2001, or at some future date.

**In due course, it is, of course, hoped that all member countries will host meetings of the Commission. The INHIGEO Board would be pleased to receive offers from other potential host countries as soon as possible. Please write to the President or the Secretary-General.**

2002

Ireland

A meeting is provisionally arranged, to be held at Trinity College, Dublin, Ireland, in August, 2002, organized by Dr Patrick Wyse-Jackson. The proposed theme is 'Geological Travellers'. It is proposed that field excursions will be made to, among other places, the Donegal granites, the Giant's Causeway, and Mussenden Temple.

**INHIGEO has very limited funds in 1997 to assist members to attend the Conferences in Liège, and/or London/Edinburgh. At the moment, it appears that no more than US \$300 can be made available per person. However, if such a sum would be useful to a member, will he or she please write to (or fax or telephone, telegram, or email!) the Secretary-General, or the President so that requests are received before June 30? The S-G will obtain the necessary cheques from the Commission's account in Australia and will give them to the participants when he sees them at the Congress. The results of applications will be notified as soon as possible. (N.B., After June 16, the S-G must be contacted at his forwarding address in England. See p. 5.)**

### **Future Work and Publications of the Commission**

In a letter distributed to members of INHIGEO, dated 20 February, 1997, the Secretary-General sought suggestions for ideas about future activities of the Commission, other than holding conferences and publishing their proceedings. The suggestions included facilitation of the publication and/or translation of works of major historical importance; promotion of the conservation of geological maps and papers; collation of lists of sites that are of importance in the history of geology and support of the work of the appropriate authorities to ensure that such sites are conserved; designation of appropriate libraries where work in the history of geology is, or could be, supported and concentrated.

Questions about length of papers at conferences, reviewing of publications, and ways of raising money to assist the work of young scholars (or help people get to conferences), were also canvassed.

Only a small number of responses have been received, but it is hoped that other members will have thoughts or suggestions about such matters. Please forward any matters of concern—or suggestions—for consideration at the business meetings of the Commission in Liège and London/Edinburgh to the Secretary-General or to the President as soon as possible. Or bring suggestions to the meetings.

(It may be mentioned here that David Branagan's essay on conference presentations [p. 20] was composed partly in response to the issues raised in the S-G's letter. Ed.)

## HISTORY OF GEOLOGY ON THE INTERNET

For those with the appropriate equipment, who are willing to spend a fair amount of time waiting for information to be down-loaded, the following Internet sites may prove useful or interesting. I have not explored the full resources if the Internet myself, but a fairly cursory search turned up the following:

Geoclio: <http://geoclio.st.usm.edu/>

This major sites has links to (among others):

Upcoming meetings in the history of geology

New in the literature

Friends of GeoClio (a list of persons interested in the history of geology, with information about their research interests, etc.)

E-mail discussion groups

Project announcements/assistance needed

Other histories of geoscience sources

History of Science Society

Geological Society of America Home Page

Geological Society of America History of Geology Division

American Geophysical Union Home Page

American Geophysical Union History of Geophysics Committee

American Association of Petroleum Geologists Home Page

Center for the History of Physics (American Institute of Physics)

Other Archives and Historical Collections

Usenet History of Science Unmoderated Discussion List

Mining Historical Network: <http://www.ex.ac.uk/~RBurt/MinHistNet/>

Bulletin Board on History of Mining: [Historical-Geology@uwyo.edu](mailto:Historical-Geology@uwyo.edu)

Geological Society of America: <http://www.geosociety.org/>

International Union of Geological Sciences: <http://www.iugs.org/>

The Geological Society: <http://www.geolsoc.org.uk>

Piltdown Man (History, etc), by Richard Hartner: <http://www.tiac.net/users/cr/piltdown.html>

Some histories of university geology departments (very useful):

Aberdeen University: <http://www.abdn.ac.uk/~gmi265/history/history.html>

Edinburgh University: <http://www.glg.ed.ac.uk/admin/history.html>

Union College: <http://kaibab.geology.union.edu/HISTORY.html>

The history of a State Survey:

The Geological Survey of Iowa:

<http://samuel.igsb.uiowa.edu/htmls/about/history/history.html>

The following message about the bulletin board mentioned above, taken off the internet, is also relevant:

The Historical-Geology listserv is a free e-mail discussion group administered by the University of Wyoming through its International Archive of Economic Geology. The listserv is intended to provide a forum for discussion on subjects related to the history of geology and the extractive minerals industries. It is the official e-mail channel of the Mining History Association and GeoClio and is freely available to all other interested parties. Historians and earth scientists interested in the history of the earth sciences and the minerals industries are encouraged to use this listserv to exchange ideas with other scholars, search for research materials, and discuss topics of interest in the field.

The listserv is moderated by Bradford Burton, Manager of the International Archive of Economic Geology at the University of Wyoming. To subscribe, send the one-line message:  
subscribe historical-geology

to: mailserv@uwyo.edu

Within a few minutes you should receive two messages. The first confirms that your e-mail address has been added to the listserv, the second gives you more information about the listserv. Send all messages to be posted to the list to:

historical-geology@uwyo.edu

To remove your name from the listserv, send the one line message:

unsubscribe historical-geology

to:

mailserv@uwyo.edu

An important data-base (called 'Eureka'), for information on the history of science, is to be found on the web at: <http://eureka.rlg.org/> However, this service is only available with the help of money (!). Your library will, therefore, need to be persuaded to become a subscriber. The system can be used on a trial basis, however, and you may think it worthwhile to take up the idea with your library authorities.

Regarding the institutional information on the internet pertaining to the history of geology, it seems to me that other universities or institutions, besides Aberdeen, Iowa, etc., could also provide most useful services by providing thumb-nail sketches of the histories of their institutions. I do hope, therefore, that others will, in time, follow their examples.

The list above is not, of course, exhaustive. It is just what I turned up after a little hunting with one of the web's 'search machines'. I am not yet a 'web aficionado'.

David Oldroyd

### **SPEAKING AT AN INHIGEO MEETING**

by David Branagan

INHIGEO is an international body, which has members of various nationalities, some of whom are geologists, others historians. Therefore meetings present a challenge to all speakers who present papers at our meetings, specially for those whose first language is not English.

The following notes are provided to encourage speakers to improve their presentations and to make our meetings more successful—and more particularly to enable you (the speaker) to get your message across.

1. The spoken word is NOT the same as the written word. The public speaker needs to stimulate the interest of the audience so that critical comment and discussion can eventuate. It is wasted effort to just sit and read through a paper without emphasis or change in tone. (It would be better to give each member of the audience a copy of your paper to read in silence and then have a discussion!)
2. Speaking in public requires as much preparation as the writing of the original paper, and preparation time is not time wasted if you wish your message to be understood and spread widely in the research community.
3. Make sure your speech has a clear introduction, a main body, and a conclusion. The last is specially important. Moreover the paper should be clear and finished on time—NOT after the Chairman has called on you to stop!! Abraham Lincoln's Gettysburg Address is an excellent example of a well-planned speech (a 30-word introduction, 209 words in the body, and 31 words of conclusion—the ratio 1:7:1 being ideal).
4. When preparing a talk, consider: 1. Subject matter; 2. Time available; 3. Type of audience; 4. Purpose of the talk. If you run over time you lose one of the main features of a talk, namely the opportunity for questions and discussion, which can help your own research.
5. In most talks there is not the opportunity to present involved arguments (keep these for your written paper). The rule should be to emphasize the highlights—SIMPLIFY. DON'T use masses of numbers. They only confuse.
6. You can be sure that the only time you have 100% attention from the audience is when you say your first word. Therefore the style and presentation of the introduction must be good. Spend time thinking about a good introduction and even memorise it for good effect. The conclusion should mirror the introduction and be quite strong. Don't let the talk just fade away!



7. Don't just read your paper. Reading aloud is a special skill and not many people do it well. Also, it makes the audience think you don't know your subject. If necessary, use small, numbered cue cards, containing single words, one for each main part of your talk, except for the introduction—you will lose your audience if you use one there!
8. To prepare a good talk you need about ten days (following your research, of course!): 1. Analyse the topic; 2. Decide purpose and framework of the presentation; 3. Gather any additional information that may be needed; 4. Decide on the sections of the talk; 5. Group the sections together; 6. Practise and prepare cards; 7-9. Forget about the whole thing for a few days; 10. Present the paper.
9. VISUAL AIDS. For INHIGEO members the use of visual aids often presents a problem. Old material is often difficult to copy and show effectively, but it can be very effective if well used. In general, slides have a greater impact than the use of overhead projection or blackboard; but each of these can be effective—a drawing often says more than 100 words, and more quickly.
10. However, many presenters do not think enough about their illustrations. You need to think about the likely size of the room where you will be speaking, and the facilities available. For an overhead projection, a simple copy of an A4 page of text is ABSOLUTELY UNSATISFACTORY. This material, when projected cannot be read even in the front row. You need to use a font-type about size 18 to be effective.
11. In figures, simple line drawings are often more effective than some of the smart computer drawn illustrations, which often use inappropriate colours and too much fussy detail, which cannot be seen clearly at the back of the room. It is an insult to the audience to present a figure and then say: 'You won't be able to read this at the back'. (MAKE SURE THEY CAN—always try yourself.) Also, do not try to present too much information one figure. If necessary, use two or more.
12. Don't forget that your illustrations need explanation. You know them well, but the audience does not. So keep it all simple. Blackboards can be used quite effectively, but, as previously, WRITE LARGE! Blackboards also have the advantage that the lights do not have to be turned off.
13. If you want to give hand-outs keep them till the end of the talk, or they will only distract your audience from your oral presentation.
14. Overall, remember that in presenting a paper sound is more important than sight; so make sure you can be heard, speak clearly and slowly. (This is particularly important where you are facing an international audience with different skills in English, and which may be used to slightly different ways of saying words.)
15. Before you speak, you should, if possible, check the hall for its sound, where the switches are, what projection equipment is available, and how to use it. If you don't, you are likely to lose a lot of the time that should go into your talk.
16. There are many other points that could be made, but potential speakers should go to hand-books on public speaking, and even training courses if they can. Public speaking is an art, but it can be learnt, and relearnt, as it is easy to fall into bad habits.

HERE'S TO GOOD RESEARCH, GOOD RESULTS, AND GOOD PRESENTATION!

**CITATIONS TO, AND REPLIES BY, GORDON HERRIES DAVIES**  
**on the Occasions of his Receipt in 1996 of the Sue Tyler Friedman Medal of the Geological Society,**  
**and the History of Geology Award of the Geological Society of America**

*The Sue Tyler Friedman Medal of the Geological Society, presented at the President's Evening, Burlington House, Piccadilly, 4 June, 1996.*

*Citation by the President of the Geological Society*

Gordon Herries Davies has for 40 years been a student of Ireland and Irish geology and geography. For much of that time he was a member of the staff of the Geography Department at Trinity College Dublin, retiring as Professor in the Department. He is now a Fellow Emeritus of Trinity College.

Gordon has been described as a colleague in his field as one of the founders of the modern historical study of earth sciences and, despite his retirement, he continues to be an active contributor. His pioneering work, *The Earth in Decay*, a history of British geomorphology published in 1969, remains a standard work, especially important for its account of the great debate about the Ice Age and in bridging the

gap between geography and geology. His second book, *Sheets of Many Colours*, traces in detail the story of the development of geological mapping by such workers as Ganly, Griffith, and the Geological Survey. Indeed he has demonstrated how Irish geology was sometimes well in advance of that in the rest of the British Isles. This book is both highly readable and scholarly in its presentation, and is an example of his outstanding skills as an excellent communicator, much in demand for public speaking engagements. His latest book, *North from the Hook*, a history of the Geological Survey of Ireland, is an example of two of his other characteristics: firstly, as an avid collector and reader of the books and papers which form the basis of the book, and secondly, the desire to reconstruct past geological communities which is the mark of an historian.

Gordon's achievements have been recognized by his membership of the Royal Irish Academy, as founder Chairman of the National Committee for the History and Philosophy of Science of the Royal Irish Academy, as a former member of the Board of *Annals of Science*, and as a member of the International Commission on the History of Geological Sciences (INHIGEO).

It states in the foreword to his history of the Geological Survey of Ireland that he now devotes himself to dreaming about the building of model ships and to writing the history of science. Gordon Herries Davies, in awarding you the Sue Tyler Friedman Medal for 1996 we look forward to your next book.

### *Reply*

It is 142 years since a Hibernian geologist first crossed the Irish sea in order to stand before this illustrious Society as the recipient of one of its medals. The Presidential Chair that day in 1854 was occupied by Edward Forbes, himself no stranger to the Emerald Isle, the medal being presented was the Wollaston, and the recipient was Richard John Griffith, the 'Father of Irish Geology'.

In presenting to me the Sue Tyler Friedman Medal, your President has alluded to my writings in the history of the earth sciences. For his kind comments—and for the favourable appraisal of my work by your Council—I am deeply grateful.

It so happens that in several of my writings I have been concerned with the career of your Wollaston medallist of 1854. I have pretended, in print, that I had achieved some understanding of the character of Griffith, one of the most talented Irishmen of his own or any other age. But in moments of cloistered confidentiality I often entertain doubts about my ability really to understand Griffith's complex character. How may I aspire to understand another when I possess so feeble an understanding of myself?

I am, for example, often asked whence came my interest in the history of geology. To that question I am able to offer no truly adequate answer. Nevertheless, here today, it seems appropriate that I should highlight one of the formative influences which I do recognize—my literary encounter with the geologist who was your Wollaston medallist of 1895 and twice President of your Society—my encounter with Sir Archibald Geikie, a man who happens to have harboured a deep affection for Trinity College, Dublin, my own College. Forty years ago I became an ardent admirer of Geikie's eloquent writings devoted to the history of geology. It was while reading his biography of Sir Roderick Murchison that I resolved to essay the preparation of that history of British geomorphology which in 1969 became my first book.

When, during the 1950s, my waxing interest in the history of the earth sciences became evident in academic circles, my colleagues were puzzled, amused, perhaps even shocked. At best they perceived the history of geology as a field for dilettanti of shallow intellect. At worst they saw it as a field devoid of all academic credibility. In those now far off days, before Harry Hess had felt inspired to pen geopoetry, and when grooves cut by the rolling stones were of interest to no one save the process geomorphologist, I never dreamed that I would one day see this, the world's senior geological society, add to its numismatic roster a medal bestowed in recognition of contribution to the history of the earth sciences. I never dreamed that one day I would stand within these hallowed precincts, myself the recipient of that medal. President, members of Council, Fellows of the Society, my humble thanks for the honour of this day conferred on me.

[Reproduced by permission from *Geoscientist*, 1996, 6 (5), p. 26.]

*GSA History of Geology Award, Denver, October 30, 1996.*

### *Citation by Ursula B. Marvin*

I feel that I first 'met' Gordon Davies one evening in the early 1970s when I came upon a book called *The Earth in Decay* in one of the 27 bookstores scattered about Harvard Square. I picked it up, leafed it through, and found I could scarcely put it down. Page after page captured my interest. Familiar figures from the distant past sprang into view and were placed squarely within the context of their times. The book

radiated authority of the sort one can depend on in one's own writing and teaching, but above all I realized I could hear a person talking—spinning the history of 300 years of British geomorphology, from 1578 to 1878, in his own, personal voice. It was the voice of a fair-minded, affable, thoroughly knowledgeable observer.

Needless to say, I bought the book and read it into the late hours of that very night. Since then, I have referred to it again and again, either to review Gordon's views on the evolution of geological ideas or to search out background materials for the light they might throw on the works of contemporary figures in other fields. I finally met Gordon in person in 1975 at the Charles Lyell Centennial Symposium held by International Commission on the History of Geology (INHIGEO) in England and Scotland. Once I had identified Gordon by his name-tag, I introduced myself and told him how much I had enjoyed his book. With his natural cordiality we soon became good friends and had long, enjoyable talks during the rest of the meeting.

Two years later, when my husband and I decided it was time to visit Ireland on our way to England, Gordon conducted us on a grand tour of Trinity College in Dublin, with its great library where a page always is open for viewing of the matchless Book of Kells. He then sat us down in his office to look at topographic maps. Gordon outlined a route for us, roughly counter-clockwise around the Republic, that would enable us to take in the historic, prehistoric, and geomorphologic wonders of Ireland that we especially wished to see. We could not have had better guidance—short of persuading Gordon to come along with us, which we failed to do.

On that visit I learned that, despite his positions as a Fellow of Trinity College and as the full member of INHIGEO from Ireland, Gordon is not Irish. He was born in England, near Manchester, to a mother trained as a musician and a father who presided over the family's household-furnishings business while maintaining interests in geology, the history of the Middle Ages, and a hobby of building models of 18th-century men-o'-war. In such a home, Gordon developed abiding interests in geology and the historical approach to things. He also began to feel a yearning toward the sea, which intensified during boyhood visits with his grandmother, Edith Herries, whom he describes as a true Victorian lady with a keen intellect and a fascination with ships and the sea.

When Gordon was 13 years old, his father brought home a copy of Arthur Holmes' *Principles of Physical Geology*, and he and Gordon read it avidly. This seemingly casual event sparked Gordon's life-long interest in geomorphology. He keeps that well-worn book on his desk to this day. Nevertheless, at 14 years of age Gordon resolved to follow a seafaring career, an ambition he nourished for three years before yielding it up—not, he remarks, without regrets that still linger. For our part we can only rejoice that he made this decision, else he might have been forever lost from the company of historians of geology.

When the time came for him to enter a University, Gordon chose the Honours School of Geography at Manchester, thinking that he would learn more about geomorphology in a Department of Geography than he would in a Department of Geology. He found the courses to be disappointing, but he remained at Manchester until he earned his BA and MA degrees in geography. While there, he opted to take a post-graduate seminar that met at 9 o'clock on Monday mornings. This was his first formal encounter with the history and philosophy of science, and he found it fascinating. Others were not so enthusiastic; after the first six weeks of assembling at that unpopular hour, Gordon was the only survivor of the nine students who had begun the course.

In 1954, Gordon crossed the Irish Sea to accept the post of Assistant Lecturer in Geography at Trinity College in the University of Dublin. He declares that his scholarly career really started at the moment he arrived in Dublin. With complete freedom to pursue whatever research problems took his fancy, and with full access to that magnificent Library, Gordon adopted Trinity College as his true alma mater. After three years, he acquired a second MA degree, from Trinity, and an appointment as Lecturer in Geography.

By 1959, Gordon felt it was time to begin a book on the history of geomorphology. He thought he could do it on the side—while carrying on a full program of work on the geomorphology of south-eastern Ireland. But things did not work out that way. Nine years passed between the time he sketched an outline for his book and the publication of *The Earth in Decay*. Meanwhile, he published his first papers on history of earth science, served three years as president of the Geographical Society of Ireland, earned his PhD degree from the University of Dublin with a dissertation on the history of British geomorphology from 1578 to 1797, and was elected a Fellow of Trinity College.

In 1964, Gordon became a TV and radio personality, presenting a series of commentaries on geological subjects. With one year off, he continued his appearances until 1973, becoming a popular source of scientific information on the U.S. Apollo missions to the Moon.

In 1967–68, Gordon spent his sabbatical year as a visiting professor in the University of Oregon at Eugene, where he gave his first full course on the history of earth sciences. There, he encountered the stupendous geomorphology of the great American West and fully understood for the first time why the central focus of geomorphology shifted from Europe to America after that region was opened toward the end of the 19th century. Gordon also discovered, to his astonishment, that students and faculty at Eugene thought nothing of driving 100 miles to the University at Portland for afternoon tea and a lecture—a distance almost equal to the width of Ireland. No one ever drives from Dublin to Galway for tea.

On his return home, Gordon began ten years of service as editor of *Irish Geography* and completed *The Earth in Decay*. The book proved to be the definitive volume on the history of British geomorphology and its role in the development of geomorphologic ideas throughout Europe. It sold out very quickly and today booksellers report long waiting lists for copies which, when found, bring high prices. I feel very fortunate to have bought mine early. For the past twenty years, Gordon has been collecting material for a second edition (or, more likely, a new version), but he has none in press at the moment.

During the 1970s, Gordon was appointed an Associate Professor of Geography at Trinity College, elected to INHIGEO as the full Member from Ireland, and as a member of the Royal Irish Academy. He began twenty years of service on the editorial board of *Annals of Science*, co-authored *Ireland*, a volume in the series *The Geomorphology of the British Isles*, and co-convened a symposium commemorating the life and work of Richard Griffith whom many call 'The Father of Irish Geology'. The symposium resulted in a volume of essays entitled: *Richard Griffith 1784–1878*.

In 1977, Gordon added Herries, his mother's maiden name, to his own in an effort to avoid confusion with Gordon Davies, a newly-appointed Professor of Modern History at Trinity College. Perhaps this simplified things at Trinity, but it caused near havoc among librarians, bibliographers, and friends. Most of us, at some time or other, have suffered a bad moment wondering whether Gordon L. Davies and Gordon L. Herries Davies are the same man.

In the 1980s, Gordon published *Sheets of Many Colours: The Mapping of Ireland's Rocks, 1750–1890*, a fascinating account of 18th and 19th-century approaches to geological mapping. He also founded and chaired the Irish National Committee for the History and Philosophy of Science, chaired a joint committee of the Royal Dublin Society and the Royal Irish Academy on Historic Scientific Instruments, and accepted a position as general editor of a proposed multi-volume *Dictionary of Irish Biography*. Gordon got the project started but resigned a few years later in part because he could not prevail upon the Royal Irish Society to publish the *Dictionary* in CD-ROM.

In 1988, Gordon took early retirement to devote himself wholeheartedly to writing on the history of earth science. In search of a tranquil ambience, he moved with Dr Jean Archer, his companion of 18 years, to a property in the Tipperary countryside that includes their house, built in 1703, the ruins of an Anglo-Norman castle (ca 1190), a Great Hall (ca 1300), and an Elizabethan house (ca 1500).

Although he can and sometimes does use a typewriter, and fully appreciates CD-ROM, Gordon informs me that he still writes his books and papers with a fountain pen—a technique which surely demands a greater focusing of attention on composition than is attained by any of us who blithely write and delete and cut and past on our word processors.

Gordon's most recent book *North from the Hook: 150 Years of the Geological Survey of Ireland*, appeared last year in recognition of the Survey's sesquicentennial year. A friend of mine from the University of Galway wrote to me: 'Beautifully produced, excellent illustrations, but above all written in Gordon's mellow, warm and inimitable style that leads the reader on seeking more. This is an international classic.' Many of us on both sides of the Atlantic share a great appreciation for Gordon's distinguished career. Earlier this year, the Geological Society of London presented him with its Sue Tyler Friedman Medal for his work on the history of geology.

Mr Chairman, I am honoured to present Gordon L. Herries Davies for the History of Geology Award of the Geological Society of America.

Ursula B. Marvin

#### Reply

The History Division has done me a great honour. You have placed me in the distinguished company of those notable figures who have been the previous recipients of this award. I can only be profoundly moved and deeply grateful. To my friend Ursula Marvin, I must express a very special debt of appreciation. I was delighted at the news that she was to be responsible for my citation, and I have just listened to her eloquent words with pleasure, if also with some modest embarrassment.

In August 1975, I attended the memorable Sir Charles Lyell Centenary Symposium held, in part, in Edinburgh. There, one morning, I became the focus for a little incident which, ever since, has been

influential with me. During the course of a visit to the Upper Library, in Robert Adam's Old College, I was approached by four American members of the party. 'We are all familiar with your recently published *Earth In Decay*,' observed their spokesman, 'but having now met you, we wish to report that in reality we find you to be entirely different from the author we had shaped in our imagination'.

I was startled! Ever since, I have striven to ensure that in my writing I did reveal what I hoped was the real me. In particular, I have sought to indicate that alongside my interest in the history of the earth sciences, I have an abiding passion for books, for the Victorians, for places as the scene of historical events, and for ships and the sea.

That little incident in Edinburgh more than twenty years ago becomes now my excuse for a few moments of introspection. In my teaching and my writing, I have so often confidently explained why this or that geologist thought as he did. I have explained how James Hutton's deism and the denudation dilemma led him to his *Theory of the Earth*. I have accounted for Charles Lyell's devotion to the marine erosion theory of topography. I have pretended to understand the pivotal significance of Richard Griffith's remarkable geologic map of Ireland in its author's nonagenarian life. I have traced what I supposed to be the formative influences bearing upon J.B. Jukes's seminal paper of 1862 on the rivers of southern Ireland. But to unravel the influences that have shaped one's own thought seems to be a far more daunting task.

At the Awards Ceremony on Monday evening I sat feeling as must an orphan when other children speak of their parents. I heard distinguished geologists express gratitude to their former teachers for scientific inspiration, and to their one-time supervisors for academic guidance. When I entered into the history of the earth sciences I was unaccompanied. I possessed no guardian angel. Jukes ever referred to Adam Sedgwick, his Cambridge professor, as 'my father in geology'. No such paternal figure lurks in my own intellectual story. I had published my earliest historical paper before I discovered that Victor Eyles, Joan Eyles, and John Challinor had for long been at work within my newly discovered historical garden. They made me most welcome, as, on this side of the Atlantic, did George White and Albert Carozzi when I visited them in Urbana, Illinois, during the fall of 1968. But there was no escaping the fact that our garden was then but thinly populated. In those days we never dreamed that this noble Society would come to possess a History of Geology Division, that the world's senior geological society would add to its numismatic treasures a medal awarded for contributions to the history of our science, or that there would be founded an international society and journal expressly devoted to studies in the development of the earth sciences.

Turning from negative facts to positive influences, I come to an impress which has shaped every facet of my life—the impress of Trinity College, the University of Dublin. As Ursula has explained, I had the good fortune to be appointed to the faculty of the college in 1954, and in three ways the college subsequently moulded my intellectual career.

First, within Trinity College I am surrounded by distinguished ghostly figures from the past. That famed chronologer, James Ussher, was one of the first students admitted to the college when it opened its doors for the first time in 1593. Across the square from my own department lie the chambers where lived William Smith, 'the father of English geology', when he was in Dublin in 1835 to enjoy that year's meeting of the British Association and to receive from the University the sole academic honour ever conferred upon him. His nephew, John Phillips, was our first professor of geology, and in our Museum Building are the rooms where, before the Geological Society of Dublin, Jukes first outlined his views on the southern Irish rivers, and where John Joly reflected upon the age of the earth and conducted his experiments with radioactive minerals.

Second, I have had at my disposal the magnificent library that since 1801 has enjoyed the privilege of receiving a copy of every volume published within the British Isles. Our copy of Nathaniel Carpenter's *Geography Delineated Forth in Two Bookes* is a presentation volume from the author to Ussher. Our copy of the 1912 translation of Georgius Agricola's *De Re Metallica* is signed by U.S. President Herbert Clark Hoover. It has been a thrill to find myself repeatedly handling such works. Finally, the College has allowed me the freedom to follow the gleam of my research interest wheresoever it might lead. A geomorphologist and geographer has been left free to devote himself to explorations in the history, philosophy, and sociology of science. Within my university we have a tradition of such intellectual liberty. It is a liberty for which I have always been profoundly grateful.

There is upon me one other very positive influence to which I must allude—the influence of the American West. The West is my second home. It is a portion of Earth's surface with which I enjoy a very special relationship. To come to the American West to receive this award is a doubly satisfying experience. To find myself, as I did upon my arrival in Denver, again looking out over the Great Plains toward the snow-capped Rockies was sufficient to bring to my eyes the tears of a joyful and emotional reunion. I first came to the West in 1967 when I accepted the offer of a visiting professorship in the University of Oregon

at Eugene. At that time, I do confess, I was woefully ignorant of the West. For example, it was not until my crossing to New York en route for Eugene that, in the library of the liner *United States*, I made my first and sadly delayed acquaintance with Meriwether Lewis and William Clark. That ignorance I speedily sought to dispel. I visited as many of the glories of the West as I was able. From the Scablands of Washington to Organ Pipe Cactus National Monument in Arizona, and from the Black Hills in the east to that "Incomparable Valley" in the west, I relished all those magnificent landscapes. The West, for any earth scientist, is at once both a superb laboratory and a breathtaking museum. Further than that, it offers a wealth of scenes associated with some of the great American fathers in our science.

It was during the 1860s that geological writings emanating from the American West began to command attention within the British Isles. At that time there was a deep interest in geomorphology among British and Irish geologists. A debate was raging over the nature of the processes responsible for the shaping of Earth's topography. Three of the most active participants in the debate were three senior members of the staff of the Geological Survey of Great Britain: Joseph Beete Jukes in Ireland, Andrew Crombie Ramsay in England, and Archibald Geikie in Scotland. Jukes died in a Dublin lunatic asylum in 1869 and Ramsay was in 1872 translated to administrative duties when he succeeded Sir Roderick Murchison as the Survey's director-general. That left Archibald Geikie to stand alone in the vestments of the high priest of British geomorphology.

In 1879 Geikie came to see the West for himself. He toured Colorado, Idaho, Utah, and Wyoming. He spent time with Clarence Edward Dutton. He met up with John Wesley Powell at Salt Lake City. He was vastly impressed by all he saw. He was excited—but he was saddened. He realized that the protracted debate over the nature of the processes responsible for shaping our continents would never have occurred had the West been discovered earlier. In the West—amidst landscapes uncomplicated by glaciation, vegetation, and human interference—there were instantly to be learned lessons which in Europe it had taken decades, if not centuries, to achieve. Perceptive man that he was, Geikie recognized that the future of geomorphology must lie with American geologists. Ambitious man that he was, Geikie had no wish to play second fiddle under an American baton. The man who in 1865 had devoted a whole volume—a delightful volume—to an explanation of the landscapes of his native Scotland now turned his back upon geomorphology.

The entire community of British geology, in ovine fashion, followed Geikie's lead. When geomorphology revived within the British Isles following World War I, that revival took place among geographers rather than among geologists. As Ursula has explained, my own origins were in a department of geography rather than in one of geology. Thus was my own career shaped by Geikie's experience of the American West at a time when Rutherford Birchard Hayes was the nineteenth President of the USA. Archibald Geikie died eight years before my own nativity, but, in a way, I do regard myself as his posthumous intellectual son. It was his eloquent writings that in large measure inspired my own interest in the history of our science. It was while reading his account of Murchison's 1860 tour of the Scottish Highlands that, exactly 100 years later, the idea of writing a history of geomorphology first gripped my imagination.

Earlier this month I was in Edinburgh, the city of Geikie's birth, and for a few minutes I stood reverently outside Ramsay Lodge, the house just below the Castle Esplanade which from 1871 until 1878 was Geikie's home. There, with Auld Reekie expanded before me, I reflected upon Geikie planning his excursion to the American West and upon the manner in which that excursion and the American West itself had both had their bearing upon my own career. That evening I addressed the Edinburgh Geological Society—a society with which Geikie was closely associated—and, following upon some kind remarks made by the President, I made to the Society a promise. I pledged that when, shortly, I appeared before the Geological Society of America in Denver to receive this honour, I would appear wearing the necktie that the Edinburgh society issued in 1984 to mark its sesquicentennial.

That promise I have kept, and it only remains for me again to express to this division and to the Geological Society of America my heartfelt thanks for the distinction just conferred upon me. The island whence I come is small, and there are few of us living there. It is profoundly satisfying to find that my humble contributions to the history of our great science have not passed unnoticed by one of the most eminent scientific societies within this great land of yours.

Gordon Herries Davies

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## BOOK REVIEWS

Ellen Tan Drake, *Restless Genius: Robert Hooke and his Earthly Thoughts*, Oxford University Press, New York and Oxford, 1996. Pp. xiv + 386. US\$ 55.00.

I have long been interested in the work of Robert Hooke, and especially his geology. Ellen Drake, too, has given much attention to Hooke's geology. But her new book reveals that she has gone much further than me, in making a detailed study of Hooke's life and work as a whole. And she is, perhaps, more interested than I have been in vindicating Hooke—in bringing him to light from the gloomy shadow cast by Newton. In addition, she is much concerned to contest the picture of Hooke that has been developing of late, particularly since the publication of Steven Shapin's study, 'Who Was Robert Hooke?', in Hunter and Schaffer's *Robert Hooke: New Studies* (1989).

Drake is a geologist, from the School of Oceanography of Oregon State University, but she has written some significant papers on the history of science and has co-edited an important volume, *Geologists and Ideas: A History of North American Geology* (1985). Writing on Hooke, she is a highly partisan historian, but I liked her book none the less for that. It delves into many aspects of Hooke's life and work, besides his geological writings, always seeking to argue that Hooke was in the right, that he suffered unjustifiably from the slings and arrows of his outrageous contemporaries, and that quite frequently he has been presented inaccurately by subsequent historians.

*Restless Genius* is divided into two parts. The first expounds and analyses Hooke's geological work (and much else besides). The second provides a convenient printed version of all Hooke's geological writings. This is much easier to use than the essays found in the original *Posthumous Works* edited by Richard Waller, which are laborious to read with their seventeenth/eighteenth-century typography.

As a geologist/historian, Drake has very sensibly made a trip to the Isle of Wight, where Hooke's ideas about the Earth were first formed, and she has looked at, and photographed for our inspection, such things as the kinds of fossil shells that he might have observed there as a lad; and a Roman road near Freshwater Bay, which has been partly carried away by erosion in historical times, indicative of the rates at which some geological processes may occur. Earth 'founderings' were mentioned by Hooke in his *Discourse of Earthquakes*, and it is good to see the empirical evidence that Hooke probably had in mind when he wrote of such matters.

But Drake's work proceeds far beyond such straightforward matters. She explains how Hooke's geological theory was constructed, and how it is to be understood, dependent as it was on the hypothesis of pole wandering, or secular shifts in the direction of the earth's axis of rotation relative to the body of the rotating globe. (This, Drake correctly observes, should *not* be confused with continental drift.) The hypothesised movement of the poles, relative to the earth's crust, caused stresses and strains in the crust, which were responsible for the occurrence of earthquakes, since the forces arising from the Earth's rotation are different at the poles and the equator; and the crustal movement, relative to the Earth's spheroidal envelope of water, would supposedly give rise to successive periods of erosion and deposition at given points on the crust. This bold hypothesis could be tested, Hooke suggested, by looking for alterations in the direction of the meridian at any particular place, using accurate instrument-aided astronomical observations for this purpose.

Drake's account of all this is well done, and she emphasises particularly the fact that Hooke was the first to develop a theory of the Earth (at least in the period of the modern scientific movement) that was wholly free of the notion of the Noachian Flood. Also, Hooke explicitly entertained the idea of changes in the forms of living organisms—evolution if you like; and of drawing up a history ('chronologie') of the globe on the basis of fossils, and by examining the strata in which the seemingly extinct organisms were contained. I was surprised, however, that in such a detailed study she omitted mention of how at least one empirical attempt was made to determine the meridian by Hooke's proposed new method (see Birch, *History of the Royal Society*, Vol. 4, p. 527); that she failed to discuss the interweaving of Hooke's geological ideas and his philosophy of science (which I discussed in detail in the *BJHS* back in 1972); and that she apparently overlooked the paper by Kirsten Birkett and yours truly (in Gaukroger's *Uses of Antiquity* [1991]), which claims that Hooke's later ideas about the Earth were developed in response to criticisms of his ideas presented by a group of Oxonians in 1687. In his later work, we argued, Hooke hoped to find support for his 'catastrophist' proposals by examining the works of the Ancients—both philosophical/scientific and mythological. I am not, then, persuaded that Drake is correct in following Yushi Ito (*British Journal for the History of Science*, 1988) in thinking that Hooke was responding chiefly to the work of Thomas Burnet.

But these are perhaps points of detail, of the kind that appeal pedants. Overall, greater interest will likely be found in other matters. First, Drake is able to show, convincingly I think, that Hooke's ideas were much in the mind of James Hutton, as he composed his celebrated *Theory of the Earth* (1788). For she shows how several of the things that Hutton wrote only make sense when seen as a 'response' to Hooke. For example, Hutton introduces, apparently gratuitously, a somewhat confused discussion of possible shifts in the Earth's axis of rotation. There was no need for such remarks *unless* Hutton had Hooke's theory in mind. Further, there are demonstrable textual similarities between Hutton and Hooke. These are too great to be coincidental but are perfectly intelligible if one thinks in terms of Hutton 'answering' the ideas of the long-deceased Hooke.

For the general historian of seventeenth-century science, Drake writes much about the whole body of Hooke's work as well as his geology: his inventions, his architecture, his optical and gravitational theories, his study of Chinese, his disputes with Newton and Hevelius, his life-style and personal character, and much else besides. A kind of unquestioning assumption has grown up that Hooke was cantankerous (a word that I have myself used in one of my papers in reference to Hooke), jealous of others, inclined to disputation, secretive, miserly, not really a gentleman, and though an inventive genius not quite in the first rank of scientists. It is this general picture that Drake has sought to contest, and successfully too, I rather think.

Specifically, Drake shows that Hooke was himself repeatedly the victim of plagiarism (by such white knights as John Ray or Nicolaus Steno), and it may well have been this kind of treatment that led to Hooke becoming 'difficult', and hence gaining a reputation for being cantankerous. Yet more specifically, Drake challenges one of the leading historians of seventeenth-century science, Steve Shapin, as to his representation of the social position of Hooke. Perhaps Shapin will be offering his rebuttal in some other place. Even so, I think readers may be interested in some of Drake's arguments.

Shapin, it may be recalled, has represented Hooke in the Hunter and Schaffer volume as a kind of 'philosophical servant' to the Royal Society, of uncertain social status. For the most part, he was not 'autonomous'—that is, he was not in a position to choose his own research activities. He worked 'at the behest of others'; and 'his contemporaries might not generally recognise Hooke as a gentleman'. Put bluntly, he exercised a concern over his financial arrangements that was hardly that of a Christian gentleman.

On the basis of such arguments and evidence (of which he has much), Shapin then develops an account of the way in which Hooke's ideas were received by his contemporaries, according to his social status as perceived at that time. On account of that status, Shapin argues, Hooke's ideas were not always received without question and the Royal Society's Fellows frequently felt it necessary to view his experiments rather than take them on trust. This was not how they dealt with Hooke's patron, (the honourable) Robert Boyle.

A rather different picture emerges from Drake's highly 'pro-Hooke' account. She points out that by the end of his life Hooke was a man of considerable wealth, as a result chiefly of the work that he undertook during the rebuilding of London after the Great Fire. (He bequeathed 9580 pounds 4 shillings and 8 pence to an illiterate relative, and was in possession of a large library.) More significant, I think, is an entry made by Hooke in his diary for 23 May, 1673: '[The] King seeing me [walking with Sir Christopher Wren in the park] cald me told me he was glad to see me recoverd asked for [measurement of] degre by water'. As Drake says: 'the king was cognizant of Hooke's state of health. No mere servant or tradesman would have evoked such royal attention in a public park'.

It is Drake's thesis, then, that Hooke has constantly been misrepresented and cast as 'cantankerous' and mistrustful by historians, who have been inclined to take the word of others on trust, without looking into the matter sufficiently. Perhaps it all goes back to Waller's original biographical account of Hooke. By Drake's picture, however, Hooke was 'a gregarious, friendly, and open man whose favourite pastime was good conversation over a beer or a hot cup of chocolate'; and she prefers Aubrey's description of Hooke as a person of 'great virtue and goodness' to Waller's picture of him as 'melancholy, mistrustful and jealous'.

Who to believe? Well, as the historian who used the word 'cantankerous' in a perhaps somewhat cavalier manner, I can say that I am at least persuaded that I should have chosen my word more carefully. And in fact the issue is not one of minor significance. Hooke is an important figure for Shapin in developing his arguments about 'a social history of truth' (which are to the effect that what is judged true or false for a scientific claim are intimately interwoven with questions of trust; and this was highly dependent on social status in the seventeenth century—and depends greatly on 'credentials' in the twentieth century one might add). Indeed, the arguments about 'civility and science' in seventeenth-century England constitute one of the major research sites in contemporary studies in the sociology of knowledge. It is



interesting, then, that a scientist-historian, Ellen Drake, can do so much to throw spanners in the works of such arguments. Her book is of considerably greater interest and significance than might (perhaps) be thought by the aficionados of the history of science. It certainly transcends the narrow interests of the internalist historian of geology.

David Oldroyd

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David Neeve and K.O. Emery, *The Destruction of Sodom, Gomorrah, and Jericho: Geological, Climatological and Archaeological Background*, Oxford University Press, New York and Oxford, 1995. Pp. 175. US\$ 35.00.

This is not a popular science book with religious connotations or new revelations on Sodom and Gomorrah. The subtitle more correctly indicates the content. The locations of Sodom and Gomorrah are still unknown. Based on much regional evidence of multidisciplinary nature and on some more specific indications from two sites on the eastern side of the Dead Sea rift, the 'Sodom and Gomorrah Event' is ascribed to the end of the Early Bronze III dry phase or more accurately to a major earthquake around 4350 BP, deduced from an abrupt cultural break at several sites in the Near East. The destruction of Jericho was probably concurrent, and thus not in accord with the Biblical sequence. The Noah's flood legend is rejected because no stratigraphic evidence supports it, but a long-term wet phase beginning 3900 BP could have revived older stories of wet phases with floods during the Chalcolithic period. This is the gist of the authors' conclusions.

The introductory, richly illustrated chapters review the physiography, hydrogeology, tectonics, seismicity, stratigraphy, and palaeoclimates of the Dead Sea region, a terminal basin along the Dead Sea Fault system. Stratigraphic details of several sites within the Dead Sea basin are included later. The authors summarize in a new table (p. 60) the four mainly dry climatic phases, with several wet interim subphases, of the last 24K years, which serves as framework for much of the subsequent interpretations. They correlate the proposed climatic pattern with adjacent regions. It would lead too far to discuss here their conclusion of direct climatic correlation with the European zones and inverse correlation with the Sahel to Ethiopia zone. But like in other recent writings, many of the massive migrations and significant cultural breaks of the Holocene stratigraphic records in the Near East, including some of the events identified in the Bible, are now ascribed to the effect of climatic fluctuations.

The authors' bibliography of over two hundred titles is extensive, bypassing writings trying to locate Sodom and Gomorrah and/or discussing other causes of destruction. They just missed including A. Nissenbaum (1994, *Climatic Change* 26: 435–46), which finds even stronger indications that a rapid climatic deterioration converted the 'richly watered and inhabited' cities of Sodom, Gomorrah, and the other 'cities of the plain' into an infertile salty playa even though not excluding the possibility of a major earthquake. Other interpretations will no doubt follow, once more archaeological excavations and detailed datings are reported.

The geological credentials of the authors are impeccable. David Neeve, of the Geological Survey of Israel, has worked for some thirty-five years on various aspects of the Dead Sea region, and K.O. Emory, of Woods Hole Oceanographic Institute, is the doyen of the American oceanographic and sedimentological community, with many contributions to both fields.

The synopsis in the final four pages will help to clarify to the reader points not always expressed in the previous sections. The book's prose does not make for easy reading. Some of the photos are of poor quality and the index is rather incomplete. Though not strictly a history of geology book, the broad integrative approach should be of interest to many earth scientists and history fans. It shows again that in this part of the world the reconstruction of the Holocene environmental history and events always becomes intimately interwoven with the biblical tales, one of the earliest narratives of 'primitive science' and collective memories.

Dan H. Yaalon, Jerusalem

'More instances of beneficent acts might be collected of him than perhaps any of his contemporaries'. John Tatlow, 1790.

John Whitehurst, Lunar Society Member and FRS, 1779, has long deserved full biographical study. Maxwell Craven has done this in a most attractive and well illustrated volume, from which I, at least, was glad to discover that John Robey is back in publishing. This book has eleven chapters. 'An Introduction' places Derby in its context for Whitehurst's arrival from Congleton. Then Whitehurst's 'Origins and Beginnings' are discussed. Other chapters consider Whitehurst's links with the 'Lunar Society' and the Derby painter-genius, Joseph Wright. More fine local history discusses 'Keddleston Hall and its Influence'; then Whitehurst's work in 'Geology and Ceramics' is considered. Whitehurst's move to London in 1775 as 'Stamper of the Money Weights' also allows a consideration of Whitehurst's wider interests. Finally, the important 'Clockmaking of Whitehurst and of his Descendants after 1780' is revealed in two fine chapters, which give detailed and finely illustrated syntheses, both of what is known and of what has survived. Whitehurst's 'Character and Heirs' forms a penultimate study, and another, 'His Legacy', concludes the volume, with genealogical tables and ten appendices. These list Derby clockmakers before Whitehurst, the Whitehurst firm's apprentices and employees, selected subscribers to his 1778 *Theory*, lists of his publications, and of his angle barometers, turret, church (one in my own village), and other clocks. Others transcribe his will and analyse typical features of Whitehurst clocks.

The volume highlights the real achievements of the local historian. Charles Hutton, a previous Whitehurst biographer, noted how little was known of his early life and work. Craven's volume fills many of these lacunae, although understandably there has been some rather conjectured history. Derby is certainly demonstrated to have been the centre of a highly enlightened society in the eighteenth century. The horologist and historian of technology will welcome this volume, a *tour de force* of documentation. The time-consuming scholarship of these aspects of the work are the highlight of this important book.

But the book also demonstrates the weaknesses of a local history approach. Whitehurst moved in 1775 from a provincial, local situation to a national, metropolitan position. Craven wants us to regard him as 'father of modern geology', on the basis of his most extensive publication, *The Theory of the Earth* (1778). Joseph Wright's fine portrait of Whitehurst 1782/83 (reproduced in colour on the jacket) celebrates these aspects of his work, showing Vesuvius, highlighting Whitehurst's work on ancient lavas, and a geological cross-section of Strata at Matlock High Tor, recording Whitehurst's work on Derbyshire strata.

But such a claim for modern geology cannot be a local matter and needs more than a Derbyshire focus to confirm or refute. Craven shows that Whitehurst's *Theory* was in progress in 1763, well before its first publication. But Craven wants us to think that Whitehurst's 1763 theorizing was fully-fledged, despite Josiah Wedgwood's comment on how the published *Theory* had suffered 'as many alterations since its first formation, as his [geological] world'. Whitehurst's work on Derbyshire strata was original, if derived from the mining community, and also well advanced by 1769 when another visitor with volcanic interests came to Derbyshire: J.J. Ferber (1743–90). But it was original only in a Derbyshire context.

Of Whitehurst's work on ancient lavas, we are told how he knew the Giant's Causeway 'very well indeed' by 1778, when he first visited it late in May 1783. His companion then noted it 'exceeded the ideas Whitehurst had formed of it; [but] the regularity of the columns appeared to him inexplicable'. Nicholas Desmarest suspected the volcanic origin of such French basalts and columns in 1763 and published confirmation in 1768. News soon reached the Royal Society via the rascally R.E. Raspe (1737–94), whose demonstration of the same phenomena in Germany in 1769, Goethe claimed, had introduced the volcanic origin of basaltic lava to Germany. So when Whitehurst started regular attendance at Royal Society meetings in June 1775, just after Presidential visits to Iceland and Staffa, it was a much discussed topic. There seems no evidence to support the claim that Whitehurst's work was independent of this earlier European work. It seems instead to have been inspired by it.

We are told that 'Whitehurst's pre-eminence [over James Hutton (1726–97) as geology's father] has long been restored among geologists'. This may be the local view but it is not one that is held elsewhere. Craven wants the paternity of 'modern geology' conceded to Whitehurst, but fails to take into account Hutton's work before the final, incomplete and death-bed publication of his *Theory*, between 1785 and 1797. This had included two visits to Derbyshire in 1774, of which we are told nothing. These must surely have included meetings with Whitehurst and may be another probable influence on him? What also of the influence of Raspe, a member of the London Club of 13 of 1775/76, to which Whitehurst also belonged? Dennis Dean's 1992 re-appraisal of Hutton confirms how Whitehurst's *Theory* should be

regarded as the last of 'old' geology. Only in a Derbyshire context can Whitehurst's be seen as 'new'. But this book has wonderfully illuminated that context.

Hugh Torrens, Keele University

I.I. Shafranovskii, *Kristallografija v SSSR: 1917-1991*, Nauka, St Petersburg, 1996 (in Russian). 191 pp.

This volume is a welcome addition to the author's 1962 work, *The History of Crystallography in Russia*, which gave an extensive survey of the field through the year 1917. Now, Shafranovskii (1907-1994) complements his earlier work by examining crystallography in the Soviet Union during the same time period in which he himself played such an important scientific role. This book has been published posthumously by N.P. Yushkin, with the support of the Russian Academy of Sciences and the Mineralogical Society of Russia (founded 1817).

The author focuses on describing crystallographical research, educational developments, and biographical information on scientists from different areas of the field of crystallography in the USSR during this century. The content is arranged to show the various important institutions of crystallography in the Russian Academy of Sciences, the Mining Institute and the University of Leningrad, various faculties at Moscow University, and other colleges in the capital, as well as crystallography organizations in other cities. It is quite obvious, however, that main the research and education centres were Moscow and Leningrad.

The author devotes much time and space to biographical sketches. From the important basic work by E.S. Federov (1853-1919), he moves on to honour the accomplishments of A.V. Shubnikov (1887-1970), G.G. Lemmlein (1901-1962), N.V. Belov (1891-1982), and many others. In all, the author presents biographical sketches on more than forty scientists who formed the core of Soviet crystallographical research in the 20th century. Shafranovsky himself belonged to this group, and therefore his insights are based not only on personal experience, but should also be seen in the light of his personal competence. The biographical information is largely restricted to professional achievements and personal facts, avoiding broader sweeps into the social or political realm. This is not to say he avoids these areas altogether, as is shown in his discussion of how the repression of the late 1930s affected A.K. Voldyrev (1883-1946), who lost his chair on crystallography at the Mining Institute in Leningrad. He was able to continue some of his scientific work in the Siberian Magadan, only to die later in a tragic car accident on the ice. The author captures these and other stories, which contributed to the different aspects of crystallography sciences, and he presents them in a vivid portrayal. He also honours important scientists and their achievements. The book itself ends with a fragment of I.I. Shafranovskii's autobiography.

Any reader looking for an honest, contemporary account of the history of crystallography in the Soviet Union be well advised to begin his search with Shafranovskii's book.

Martin Guntau (Rostock)

## COUNTRY REPORTS

### Argentina

A new history of science journal has been established in Argentina: *Saber y Tiempo: Revista de Historia de la Ciencia* (ISSN 0328-6584). Though not specifically devoted to the history of the earth sciences, it provides a likely outlet for the publication of papers in this field. For further information, contact Asociacion Biblioteca Jose Babini, Av. Santa Fe 1145, 3er. Piso, 1059, Buenos Aires, Argentina. (Fax: 10 541 962 6174.)

### Armenia

Professor E.G. Malkhassian reports that a book *The History of Armenian Geology and its Development* has been ready for publication for three years, but it has not been possible to get it printed for lack of financial support.

### Australia

The Earth Sciences History Group (ESHG) of the Geological Society of Australia continues to provide links between Australian researchers, with several newsletters issued each year listing events, publications and reviews. The Group Chairman is Ms. Carol Bacon, and *Newsletter* Editor Dr. Glyn Roberts.

ESHG played an important part in the 13th Australian Geological Convention, held in Canberra 19-23 February, 1996, hosting the keynote Mawson Lecture (which honours Sir Douglas Mawson [1882-1958], famous for his Antarctic and Precambrian researches), given by Professor George Seddon 'Thinking like a geologist: The culture of Geology', and a number of research papers.

Perhaps more significant was the preparation of an exhibition entitled 'Australian Earth Sciences History: the beginning of a biographic/ photographic index', which showed the life and work of some twenty pioneers of Australian Geology. The project was undertaken by David Branagan and Ian McLeod. It is proposed that this display will be followed by others at later conventions, ultimately providing a succinct statement of the work of prominent, former Australian geologists.

ESHG has also provided support for the transfer onto a computer data-base of the large card-index of former Australian geologists and miners, prepared by the late T.G. Vallance.

In September, 1996, ESHG provided further historical illustrative material for a successful display on the Antarctic, held in conjunction with the annual Selwyn Lecture (honouring Alfred Selwyn [1842-1906], who was Director of the Geological Survey of Victoria [1852-1868]), sponsored by the Victorian Division of the Geological Society of Australia.

Australians Oldroyd, Komaworer and Branagan presented papers at the INHIGEO sessions of 30th IGC in Beijing.

The Australian Mining History Association continues to grow, and had a successful meeting with a variety of interesting papers, in conjunction with the Australian Historical Association Biennial Conference Meeting at Ballarat, Victoria. A Prospectors and Miners Hall of Fame is planned for the Kalgoorlie region of Western Australia, to be opened in 2001. It will be concerned with Australia-wide past events and particularly people.

A successful meeting was held in Melbourne, October 1996 to commemorate the centenary of the death of Baron F. von Mueller (1825-1896). Famed as a botanist, von Mueller also published geological work (mainly palaeobotany). A biography is in preparation in Australia. To celebrate this centenary, the University of Rostock, Germany, Mueller's birthplace, held a symposium and display, while there was a simultaneous issuing of postage stamps in the two countries.

The University of Tasmania celebrated its first fifty years of geology teaching, honouring Emeritus Professor S. Warren Carey, its founding professor.

David Branagan, Sydney

Additionally, Dr Thomas Darragh of the Museum of Victoria has reported that he is continuing his work on the production of Frederick McCoy's *Prodromus of the Palaeontology and Geology of Victoria*, which will include biographical accounts of the artists involved as well as details of the costs of art work and printing. Dr Darragh also continues to supply information to the editorial team of the Ferdinand von Mueller correspondence project and is currently editing the correspondence between Robert Brough Smyth and

Adam Sedgwick. He has a paper in press with the *Historical Records of Australian Science* on 'Ludwig Becker, a scientific dilettante: his correspondence with J.J. Kaup and others'.

David Corbett reports that having retired from the University of Adelaide three years ago he has re-activated his association with the South Australian Museum, where he is an Honorary Research Associate in the Division of Natural Science. His work on Mawson (reported in *Newsletter* No. 28) has fitted in well with the recent establishment of a 'temporary' Mawson exhibition, which it is planned (funds permitting) will be expanded and become a permanent display.

#### *Publications by David Branagan*

1995

'Mineral search in the South-west Pacific region: a memorial to Ken Glasson'. *Eighth Edgeworth David Symposium*, September, 1995, edited by R.A. Facer & D.F. Branagan, pp. xxii + 161.

'Kenneth Roderick Glasson in Mineral Search', *ibid.*, xi-xx.

'The Broken Hill ore-body—the first ten years' *ibid.*, 65-82.

'Kenneth Roderick Glasson, 1921–1994', *Journal and Proceedings of the Royal Society of New South Wales*, 128, 63–66.

'The Sydney–Newcastle Railway: 19th Century Engineering Geology?', in Boyd, R.F. and McKenzie, G.A. (eds), *29th Sydney Basin Symposium*, Department of Geology, University of Newcastle, 1995, 125–132.

1996

'Some 1850s Geological Surveys, Official and Private'. Geological Society of Australia, Abstracts No. 41. 13th Australian Geological Convention, Canberra, February 1996, 55.

'Australian Earth Sciences History: The beginning of a biographic/Photographic Index'. Geological Society of Australia, Abstracts No. 41. 13th Australian Geological Convention, Canberra, February 1996, 56.

A century of coal research in the Department of Geology and Geophysics', in Boyd, R.F. and McKenzie, G.A. (eds), *30th Sydney Basin Symposium*, Department of Geology, University of Newcastle, 1996, 159–166.

'Bricks, brawn and brains—two hundred years of geology and engineering in the Sydney region'. *Journal and Proceedings of the Royal Society of New South Wales*, 129, 1-32.

'Julian Edmond Tenison Woods: late nineteenth-century geology in Asia', in Wang Hongzhen, Zhai Yusheng, Shi Baoheng and Wang Cansheng (eds), *Development of Geoscience Disciplines in China*. The Council of History of Geology, Geological society of China. China University of Geosciences Press, 54–62.

'R.L. Jack, Geologist in China'. 30th International Geological Congress Abstracts, 3, (22–1–6), 529, Beijing, China, 4–14 August, 1996.

*Science in a Sea of Commerce. The Journal of a South Seas Trading Venture (1825-27) by Samuel Stutchbury. Edited with an Introduction and Commentary by David Branagan.* Published by the author, Sydney. 246 pp. ISBN 0 646 28612 9.

'John Alexander Watt, geologist on the Horn Expedition', in S.R. Morton and D.J. Mulvaney (eds), *Exploring Central Australia: Society, the Environment and the 1894 Horn Expedition*. Surrey, Beatty and Son, Chipping Norton (NSW), 42–58.

#### *Publications by David Oldroyd*

1995

(with G. McKenna), 'A note on Andrew Ramsay's unpublished report and manuscript map of the St David's area, recently discovered', *Annals of Science*, 52, 193–196.

'Total' History', *The British Journal for the History of Science*, 28, 455–459.

Review of: D.P. Crook, *Darwinism, War, and History: The Debate over the Biology of War from the Origin of Species to the First World War*, Cambridge University Press, Cambridge, 1994. In: *Australian Journal of Politics and History*, 41, 167–168.

Review of: N. Rupke, *Richard Owen: Victorian Naturalist*, Yale University Press, New Haven and London, 1994. In: *Medical History*, 39, 101–102.

Review of: P. Champlin, *Raphael Pumpelly: Gentleman Geologist of the Gilded Age*, The University of Alabama Press, Tuscaloosa, 1994. In: *Earth Sciences History*, 14, 104–105.

Review of: Anon., *Vestiges of the Natural History of Creation, and other Evolutionary Writings. Robert Chambers*. 1994. Edited, with an Introduction, by James A. Secord [Facsimile of the first edition,

1844], The University of Chicago Press, Chicago and London, 1994. In: *Earth Sciences History*, 14, 108–109

1996

*Thinking About the Earth: A History of Ideas in Geology*, London and Cambridge (Mass): Athlone Press and Harvard University Press. xxx + 410 pp.

'[Hugh Miller:] The geologist from Cromarty', in Shortland M (ed.), *Hugh Miller and the Controversies of Victorian Science*, Oxford: Clarendon Press, 87–134.

(with Yang J-Y) 'On being the first Western geologist in China: the work of Raphael Pumpelly', *Annals of Science*, 53, 107–136.

(with J. Wodak) 'Ancient man: an iconoclastic view of palaeoanthropology', *Social Studies of Science*, 26, 192–213.

'Counting instruments', *Annals of Science*, 53, 297–300.

Review of: M. Collie and J. Diemer, *Murchison in Moray: A Geologist on Home Ground. With the Correspondence of Roderick Impey Murchison and the Rev. Dr. George Gordon of Birnie*, The American Philosophical Society, Philadelphia, 1995. In: *Annals of Science*, 53, 537–540.

Review of: J. Lester (ed. P.J. Bowler), *E. Ray Lankester and the Making of Modern British Biology*, The British Society for the History of Science, Faringdon, 1995. In: *Medical History*, 40, 527–528.

Review of: J. Roger, *Pour une Histoire de Science à Part Entière: Texte Etabli et Présenté par Claude Blanckaert. Avant-propos de Mme Marie-Louise Roger. Postface de Jean Gayon*, Albin Michel, Paris, 1995. In: *Medical History*, 40, 400–402

Review of: M. Shortland (ed.), *Hugh Miller's Memoir: From Stonemason to Geologist*, Edinburgh University Press, Edinburgh, 1995. In: *Metascience*, No. 9, 105–108

Review of: M. Shortland (ed.), *Hugh Miller and the Controversies of Victorian Science*, Clarendon Press, Oxford, 1996. In: *Metascience*, No. 10, 121–127.

Review of: G.W. Leibniz, *Protogaea: De l'Aspect Primitif de la Terre et des Traces d'une Histoire Très Ancienne que Renferment les Monuments Mêmes de la Nature*, Translated by Bertrand de Saint-Germain and Edited by Jean-Marie Barrande, Presses Universitaires de Mirail, Toulouse, 1993. In: *Metascience*, No. 10, 119–121.

Review of: P. Gerstner, *Henry Darwin Rogers, 1808–1866: American Geologist*, The University of Alabama Press, Tuscaloosa and London, 1994. In: *Metascience*, No. 10, 115–118.

Review of: E.T. Drake, *Restless genius: Robert Hooke and his Earthly Thoughts*, Oxford University Press, New York and Oxford, 1996. In: *Metascience*, No. 10, 88–91

Review of: J. Wyatt, *Wordsworth and the Geologists*, Cambridge University Press, Cambridge, New York and Melbourne, 1995. In: *Nature*, 384, 617–618.

#### *Additional Reported Publication*

A.E. Faggion, 'The Australian Groundwater Controversy, 1870–1910', *Historical Records of Australian Science*, 1995, 10, 337–348.

### **Bolivia**

Carlos Serrano, Julio Pelaez and Juan Luis Bouso have published 'La Ribera de la Ver Cruz de Potosi' in the Spanish journal *Rocas y Minerales* (May, 1996).

At the invitation of Alberto Gomis Blanco, President of the Society for the History of Science and Technology, INHIGEO member, Carlos Serrano, attended the 'Sexto Congreso de la Sociedad Española de Historia de las Ciencias y las Técnicas' in Segovia, Spain, in September, 1996 and presented a paper entitled 'Ejemplos de transferencia de Ciencia y Técnica entre América y Europa'. In addition to the scientific program participants visited the glass factory (Patronato de la Real Fabrica de vidrio de la Granja).

Thanks to the courtesy of Dr Luis Mancill Plaza, Director of the Almaden Mines School, Spain, it was possible for me to visit the mines and metallurgy installation for mercury recovery, in the famous mining centre still operating at the place formerly worked by the Romans.

The Coffe-museum, San Marcos, was inaugurated in November 1996. A plant for the recovery of silver by amalgamation operated there in colonial times. At the beginning of the twentieth century a gravity plant was installed there for the treatment of tin ores. One can now admire the superposition of technologies for the restoration work, many construction facts and details being taken from the exhibition that the Ore Dressing Laboratory put on under my direction.

In November, the Second Metallurgy Congress was organized in Oruro-Bolivia, by the National Faculty of Engineering. Serrano presented a paper 'Un ejemplo de reempleo: El ingenio San Marcos' ('An example of re-employment: the San Marcos preparation plant'). It was published by the Imprenta Universitaria (University Press) and spoke about earlier times.

He has also presented the paper 'Cronologia sobre la explotacion de las vetas del Cerro Rico' ('The chronology of exploitation of the Cerro Rico veins'), published in the 1996 Yearbook of the National Archive and Library of Bolivia of Sucre, under the direction of René Arze. The work contains papers from thirty-five historians, librarians, and archivists from Bolivia and elsewhere in the world.

Carlos Serrano, Potosi

### Canada

The following note referring to INHIGEO member, Professor W.A.S. Sarjeant, is reproduced from the *Newsletter* of the American Association of Stratigraphic Palynologists (1996, Vol. 29 (1)) [Ed.].

Canadian paleontologist and geological historian, Professor William Antony S. Sarjeant was one of two geologists elected this year to a Fellowship of the Royal Society of Canada. His citation read:

"William Sarjeant, University of Saskatchewan, has not only published numerous significant articles on fossil vertebrate footprints and fossilized microplankton but has also become a well-known authority on the history of geology. His book on fossil and living dinoflagellates is recognized as a leading text. Publications on acritarchs have received wide acclaim. His international bibliography covers all publications in the Latin alphabet pertinent to the history of geology from its beginnings to 1984. The only one of its kind, and one which has brief biographies of authors as well as references, it has become an invaluable research tool for geologists and historians alike."

Professor Sarjeant has been a member of the Faculty of the Department of Geological Sciences, University of Saskatchewan, since 1972. He was a joint recipient of a Golden Trilobite award from the Paleontological Society for his participation in the writing of *A Classification of Living and Fossil Dinoflagellates* and has also received the Sue Tyler Friedman medal of the Geological Society of London, the Founders' Medal of the Society of the History of Natural History, and the History of Geology Award of the Geological Society of America. Under the pen-name Antony Swithin, he has published four novels of historical fantasy, under the series title, 'The Perilous Quest for Lyonesse'. A second Supplement to his bibliography of *Geologists and the History of Geology*, in three further volumes, is scheduled for publication early in 1996.

[Professor Sarjeant's Supplement is referred to in the Canadian report of *Newsletter* No. 28 for 1995. Ed.]

### China

#### THE 30TH INTERNATIONAL GEOLOGICAL CONGRESS HELD IN BEIJING (AUGUST, 4-14, 1996)

In 1996, the Chinese members of INHIGEO were busy with the work both before and after the 30th International Geological Congress, held in Beijing (August 4-14).

The 30th IGC in Beijing was attended by some seven thousand participants, and was the largest ever gathering of geologists. Among the 11 special symposia, with 71 sessions and 22 symposia, with 152 sessions in the scientific programme, Symposium 22 was devoted to the History of Geology. Out of the four sessions in Symposium 22, three were co-sponsored by INHIGEO, comprising:

- 22-1. History of geology and international communication of geoscience ideas.  
Convenors: D.F. Branagan and Yusheng Zhai
- 22-2. Geological concepts, thinking, and philosophy.  
Convenors: G. F. Friedman and Hongzhen Wang.
- 22-3. Developments of geoscience disciplines since the 19th century.  
Convenors: U. B. Marvin and Baoheng Shi.

Altogether 42 abstracts were accepted, out of which 21 papers were read on the incorporated 2 sessions. The second session on August 14th morning was held in combination with the Grabau Semicentennial Memorial Meeting (see below). Both sessions were well attended, by about 80–100 people.

The planned publication of a book on the *Development of Geoscience Disciplines in China*, edited by Hongzhen Wang, Yusheng Zhai and others, in advance of the Congress, was effected in time. The book contains twenty articles in three parts: ancient ideas and geological thought; distinguished persons; and geoscience disciplines. Western authors include W.B. Harland, with several papers on geoscience philosophy, D.F. Branagan on Julian E. Tenison Woods and G.M. Friedman on Amadeus W. Grabau.

Early in 1996, the 30th IGC Secretariat concluded a contract with the VSP Publishers of the Netherlands to publish a serial proceedings for the 30th IGC. Altogether, there will be 26 volumes of the *Proceedings*, covering all the 11 special symposia and 22 symposia. All are scheduled to appear in 1997. Symposium 22 (History of geology) will form part of Volume 26, together with Symposium 20 (Comparative Planetology) and Symposium 21 (Geological Education). Hongzhen Wang will be the co-ordinating editor of the volume, and the content will come mainly from the papers presented at the symposium sessions.

#### AMADEUS W. GRABAU SEMICENTENNIAL MEMORIAL MEETING HELD IN ASSOCIATION WITH THE SYMPOSIUM 22 SESSIONS, 30TH IGC.

The year 1996 was the semicentennial of the death of Professor Amadeus William Grabau (1870–1946), the world-known stratigrapher and palaeontologist in the early half of the century. Grabau left Columbia University in 1920 and came to China to become Professor of Palaeontology of the National University of Peking and Chief Palaeontologist of the Geological Survey of China. In the following twenty years he contributed greatly to geological research in China. After 1937 he was detained in Beijing under the Japanese occupation and died in 1946 after a long illness. The Geological Society of China dedicated two volumes of its *Bulletin* to Grabau, one Jubilee volume on the occasion of his 60th birthday in 1930, and one memorial volume in 1947. In May 1996 the Palaeontological Society of China held a meeting in memory of the semicentennial of Grabau. Early this year seven institutions, including the Peking University, the GSC, and the PSC, planned to pay further tribute to Grabau during the 30th IGC, and it was decided to combine the Grabau Semicentennial Memorial with one of the History of Geology sessions.

The Grabau Memorial Meeting was held on August 14th morning and was co-chaired by Meeman Chang—then President of PSC and of IPA—and G. M. Friedman. Both Chang and Friedman expressed their high esteem of Grabau's career, especially of his advanced thinking in global geology. Several papers related to Grabau were presented, and those by U.B. Marvin, Friedman and Wang will be included in a *Proceedings* volume of 30th IGC to be edited by Wang and others. A special issue of the *Acta Palaeontologica Sinica* in memory of Grabau will also be published in 1997.

Hongzhen Wang, Yusheng Zhai, and Baoheng Shi

#### Czech Republic

In the last Number of *Newsletter* (No. 28, 1995) I announced the *Folia historica* magazine, with English articles on all the leading men of science at the Faculty of Science since the founding at Masaryk University in Brno (Czech Republic). Up till now, sixty-three numbers of this magazine have been published, each number being dedicated to a particular professional man. Altogether twenty numbers are concerned with specialists from the earth sciences (geology, palaeontology, mineralogy, petrology, and geography).

Rudolf Musil, Brno

#### France

On 12 June 1996, the Comité français d'Histoire de la Géologie (COFRIGÉO) celebrated its twentieth birthday in a meeting co-organized together with the Société géologique de France. Fourteen lectures were delivered. They were clustered into three sections: History of Geology; History of Palaeontology; and Valorization of unpublished manuscripts. At least three and possibly five of the papers submitted to the editorial council of the Société géologique de France were accepted for publication in its *Bulletin* (volumes 168 [1997] and probably 169 [1998]). This result may be analyzed as a significant success of our Committee in its constant effort towards the promotion of History of Geology through the French geological community.



The papers that were not submitted to the Société géologique de France will be published in the annual volume (3rd series, Vol. 10) of the *Travaux du Comité français d'Histoire de la Géologie*, together with the lectures delivered during the two other meetings held by our Committee on 20 March and 27 November 1996. The contents of this volume include:

1. René Letolle, 'Pour une histoire de la Géochimie'.
2. François Bourrouilh-le Jan, 'Dolomie, roches dolomitiques et dolomitisation: bilan de presque deux siècles de recherches français: 1791–1971'.
3. Gérard Bignot, 'Une recherche infructueuse de charbon de terre aux environs de Dieppe (Haute-Normandie) à la fin du dix-huitième siècle. Obstacles conceptuels et technologiques'.
4. Todor Nikolov, 'Ami Boué (1794–1881) et la naissance de la géologie bulgare'.
5. François Ellenberger, 'Le présent, clef du passé'.
6. Michel Angel, 'Structure de la matière et pétrogenèse au treizième siècle et sa contribution aux sciences de la terre'.
7. Ezio Vaccari, 'Lazzaro Spallanzani: un naturaliste italien du dix-huitième siècle et sa contribution aux sciences de la terre'.
8. Michel Durand-Delga, Todor Nikolov and Mircea Sandulescu, 'Ami Boué et la naissance de la géologie dans la sud-est de l'Europe' (summarised version).
9. Gabriel Gohau, 'Expériences sur la formation des roches cristallines—de Saussure à Daubrée' (summarised version)
10. Pierre Coulomb, 'Deux siècles d'évolution des idées sur le métamorphisme, notamment en France, dans le Massif Central'.
11. Goulven Laurent, 'Le rôle des fossiles "analogue" dans la naissance de la théorie de l'évolution'.
12. Pierre F. Burollet and F. Crouzel, 'Frédéric-Marie Bergougnieux (1900–1983), paléontologiste, géologue et théologien. Un précurseur d'une synthèse entre la science et la foi chrétienne'.
13. Gaston Godard, 'Peiresc, Gassendi, Menestrier, La Ferrière, Gilles de Loches . . . : un cercle méconnu de "géologues" au début du dix-septième siècle'.
14. Claudine Cohen, 'Un manuscrit inédit de Leibniz (1646–1716) sur la nature des "objets fossiles"' (summarised version).
15. Jean Gaudant, 'Les poissons pétrifiés du Monte Bolca (Italie) et leur influence sur les théories de la terre au milieu du siècle des Lumières, d'après un manuscrit inachevé de Jean-François Séguier (1703–1784)' (summarised version).
16. Philippe Grandchamp, 'Les appréciations savoureuses qu'un membre de la Société géologique de France portait sur ses confrères il y a plus de cent-cinquante ans'.
17. François Ellenberger, 'Les leçons toujours actuelles de l'Histoire de la Géologie' (Presidential Address).

In addition to the celebration of the twentieth birthday of our Committee, its Board finished the revision of the manuscripts to be included in the volume *De la Géologie à son Histoire*. They were submitted to the publisher (Comité des Travaux Historiques et Scientifiques, Paris.) in November. It is anticipated that the volume will be on sale in July, 1997.

Finally, a booklet, *Homage to François Ellenberger*, is ready for publication if the planned subscription is successful. It contains the following contributions:

Jean Gaudant, 'Avertissement'.

Albert V. Carozzi, 'Préface'.

Michel Durand-Delga, 'Du marteau à la plume: l'itinéraire scientifique de François Ellenberger'.

Gabriel Gohau, 'François Ellenberger: le retour aux sources'.

Bibliographie scientifique de François Ellenberger'.

Bernard Gèze, 'La Guerre des trois n'aura pas lieu (souvenirs)'.

François Ellenberger, 'Les leçons toujours actuelles de l'histoire de la géologie'.

Hugh S. Torrens, 'Pour prendre congé'.

To order copies of this booklet, apply to Jean Gaudant, 17 Rue du Docteur Magnan, F-75013, France. Please add a money order for 100 French Francs.

Jean Gaudant, Paris

## Germany

Wir haben den Tod von Hand Prescher sowie von Prof. Dr Ewald E. Kohler zu beklagen. Nekrologie auf beide Verstorbenen werden in verschiedenen Zeitschriften erscheinen.

On March 8–9, 1996, a symposium was held on the 'History of Mineralogy', Petrology, and Geochemistry' at the Bavarian State Mineralogical Collection at Munich. Thirty papers were given. Among the participants were INHIGEO members B. Hamilton, H. Torrens, E. Vaccari, N. Morello, M. Guntau, W. Langer, and others. The Proceedings of the symposium (ed. B. Fritscher and F. Henderson) will be published in 1997.

The German group of INHIGEO also participated in the 'Wissenschafts-Historikertag' (History of Science Meeting) on September 27–28 in Berlin (its main topic being 'Turns of Time—Science around 1600 and 1900'). In a section 'From classical to modern earth science—earth science about 1900' (chaired by B. Fritscher and U. Wardenga), nine papers were given on the history of geology and geography. At the same meeting, the specialist group, 'History of Meteorology', of the German Meteorological Society, together with the specialist group, 'History of Polar Research', held a meeting on 'The History of Meteorology and Polar Research at 1900'. Four papers were presented, and will be published by the authors in different journals.

Für den 28. September hatte der Arbeitskreis 'Geschichte der Geowissenschaften' der Gesellschaft für Geowissenschaften zu seiner Jahressitzung 1996 eingeladen. Ferdinand Damaschun (Berlin) hielt einen Vortrag 'Auf den Spuren Alexander von Humboldts in Russland', Analog zu den bisherigen Jahressitzungen wurde die Tätigkeit des Arbeitskreises in jüngster Vergangenheit und in den nächsten Jahren diskutiert. Für 1999 wird das im September 1999 in Freiberg (Sachsen) stattfindende internationale Symposium anlässlich des 250. Geburtstages von Abraham Gottlob Werner ein wichtiger Meilenstein sein. Von der Jahressitzung ist ferner zu berichten dass ein neuer Vorstand des Arbeitskreises 'Geschichte der Geowissenschaften' gewählt wurde. Diesen gehören an: die Herren Oskar Burghardt (Krefeld), Bernard Fritscher (München), Martin Guntau (Rostock), Peter Krüger (Berlin) und Peter Schmidt (Freiberg, Vorsitzender).

Bezüglich Vorlesungen sind anzuzeigen: INHIGEO-Mitglied Rudolf Daber (Berlin) las im Sommersemester 1996 'Geschichte der paläobotanischen Forschung 1804–1996'. Behandelt wurden die Problem- und Theorienentwicklung, die Funde und besonders wichtige Fundorte, die internationale Literatur dazu und die paläobotanischen Untersuchungsmethoden. Führungen im Museum für Naturkunde der Humboldt-Universität zu Berlin sowie eine Sommerexcursion ergänzten die Lehrveranstaltung. INHIGEO-Mitglied Wolfgang Langer (Bonn) las im Wintersemester 1996–97 'Geschichte der Geologie und Paläontologie im Rheinland'. Zwei Exkursionen begleiteten die Vorlesungen.

Über eine rege Vortragstätigkeit berichtete Martin Guntau: Er sprach am 8. März 1996 in München über die Entstehung der Geochemie als wissenschaftliche Disziplin, am 9. Juli 1996 in Berlin über die Wissenschaft und ihre organisierte Wirkung—geologische Dienste und geologische Karten am Ende des 19. Jahrhunderts sowie am 3. Dezember 1996 in Göttingen über deutsch-lateinamerikanische Beziehungen auf dem Gebiet der Montanwissenschaften—Historische Leistungen, Wirkungen und Probleme.

### Im Jahr 1996 erschienene Publikationen (Auswahl)

- Burkhardt, O. und Schmidt, P. (Hrsg.), *Nachrichtenblatt zur Geschichte der Geowissenschaften*, Bd. 6, Krefeld und Freiberg, 1996.
- Engelhardt, W. von, 'Goethe und die Geologie'. In: *Freiburger Universitätsblätter*—Freiburg i.Br. 133 (1996), 29–41.
- Fritscher, B., 'Quellen zur Geschichte der Geo- und Montanwissenschaften in Bibliotheken und Archiven der Oberpfalz'. In: T. Cernajsek, L. Jontes and P. Schmidt (eds), *Cultural Heritage Collected in Libraries of Geoscience, Mining and Metallurgy. International Symposium 1993 Freiberg, Saxony, Germany*, Vienna, 1996, 137–144 (*Berichte der Geologischen Bundesanstalt*, Bd. 35).
- Fritscher, B., *Tabellarische Übersicht der Geschichte der Geowissenschaften von Plinius bis auf Charles Lyell, nach Jahren geordnet. Ein Leitfaden zum Studium der Geschichte der Geowissenschaften*, München, 1996.
- Guntau, M. 'The Natural History of the Earth'. In: N. Jardine, J.A. Secord and E.C. Sperry (eds), *Cultures of Natural History*, Cambridge, 1996, 211–229.
- Guntau, M., 'Die geologischen Vorstellungen von Niels Stensen (1638–1686) über die erdgeschichtliche Vergangenheit von Versteinerungen'. In: F.J. von Obst (Hrsg.), *Beiträge zur Geologie und*

- Wissenschaftsgeschichte*, Dresden, 1996, 81–88 (*Abhandlungen des Staatlichen Museums für Mineralogie und Geologie zu Dresden*, Bd. 42).
- Guntau, M., 'Vom Wert der Geologiegeschichte und ihren Quellen in der Gegenwart'. In: T. Cernajsek, L. Jontes and P. Schmidt (Hrsg.), *Cultural Heritage Collected in Libraries of Geoscience, Mining and Metallurgy. International Symposium 1993 Freiberg, Saxony, Germany*, Vienna, 1996, 151–156 (*Berichte der Geologischen Bundesanstalt*, Bd. 35).
- Guntau, M., 'INHIGEO-Symposia Nos. X–XX (1982–1995). Themes and Publications', *INHIGEO Newsletter*, No. 28, 10–15.
- Hothy, K., Schmidt, P., and Thalheim, K., 'Christian Hieronymous Lommer und seine flächenkolorierte geologische Karte (1768)'. In: F.J. von Obst (Hrsg.), *Beiträge zur Geologie und Wissenschaftsgeschichte*, Dresden, 1996, 69–80 (*Abhandlungen des Staatlichen Museums für Mineralogie und Geologie zu Dresden*, Bd. 42).
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- Lüdecke, C., 'Johannes Georgi und die Filme der Wegenerexpedition nach Grönland', *Terra Nova*, 1996, 3, 46.
- Lüdecke, C., 'Initiation of High Mountain Observatories by the German and Austrian Alpine Club—For Example the Zugspitz Observatory, 2963 m.', *Proceedings of the 24th International Conference on Alpine Meteorology, September 9–13, 1996*, Bled Slovenia, 1996, 22–28.
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- Wagenbreth, O., 'Grubenrisse und geologische Karten als Hilfsmittel der Montanarchäologie'. In: T. Cernajsek, L. Jontes and P. Schmidt (Hrsg.), *Cultural Heritage Collected in Libraries of Geoscience, Mining and Metallurgy. International Symposium 1993 Freiberg, Saxony, Germany*, Vienna, 1996, 367–369 (*Berichte der Geologischen Bundesanstalt*, Bd. 35).
- Wagenbreth, O. und Schmidt, P., 'Das Freiburger Humboldt-Denkmal. Seine Einweihung und Vorgeschichte', *Zeitschrift für Freunde und Förderer der Technischen Universität Bergakademie Freiberg*, 1996, 3, 63–67.

Für Hinweise bei der Zusammenstellung dieses Berichtes danke ich herzlich Rudolf Daber (Berlin), Wolf von Engelhardt (Tübingen), Bernhard Fritscher (München), Martin Guntau (Rostock), Cornelia Lüdecke (München) und Otfried Wagenbreth (Freiberg).

Peter Schmidt (Freiberg)

### Hungary (1995–1996)

#### *Regular Meetings of the Historical Section of the Hungarian Geological Society*

1995

24 April

#### Commemorations

Elek Pávai-Vajna (1820–1874) by Gábor Csiky  
Zoltán Schreter (1882–1970) by Kálmán Balogh  
Elemér Vadász (1885–1970) by András Kaszap

2 October

- Commemorations  
 Lajos Lóczy Sr. (1849–1920) by Tamás Budai and Gábor Csillag  
 Horst von Bandat (1895–1982) by József Hála
- 30 October  
 Commemorations  
 Ferenc Benkó (1745–1816) by Gábor Csiky  
 Endre Dudich (1895–1971) by Tibor Kecskeméti
- 27 November  
 Commemoration of Simon Papp by Gábor Csiky  
 'Problems of studying the history of geoscientific collections' by Tibor Kecskeméti
- 18 December  
 'Review of 25 Years of the Historical Section of the Hungarian Geological Society' by Gábor Csiky  
 Celebration of the 80th Birthday of Gábor Csiky, Founder and President of the Section
- 1996
- 26 February  
 Commemorations  
 Mária Vendl (1890–1945) by Vilma Széky-Fux  
 Pál Kriván (1927–1985) by Viktor Dank  
 'Short Stenography'—Nicolaus Steno: Anatomist, Geologist, Saint', by Endre Dudich
- 25 March  
 Report on the activities of the Section for 1995, by Gábor Csiky  
 Contributions to the portrait of Zoltán Schréter, by Irma Dobos
- 23 April  
 'Commemoration of József Jónás, on the occasion of the 175th anniversary of his birth' by Gábor Csiky  
 'Domokos Teleki's Mineralogical-Geological Study Tours in Hungary at the End of the Eighteenth Century', by István Viczián
- 14 May  
 Commemorative Session on the Occasion of the 175th Anniversary of Vilmos Zsimondy's Birth: Joint session with the Hungarian Society of Mining and Metallurgy and the Hungarian Hydrological Society. Five lectures.
- 9 September  
 The Palaeontological Writings of István Vitális (On the Occasion of the 125th Anniversary of his Birth)' by György Vitális  
 'János Bányai—Geologist and Botanist (Commemoration on the 25th Anniversary of his Death), by Gábor Csiky and Csaba Horváth
- 17 October  
 'Past, Present and Future: Hungarian-Cuban Joint Geological Mapping and other Operations Before and After 1990', 8 Lectures, jointly organized with the Geological Institute of Hungary
- 11 November  
 'Commemoration on Ferenc Herbich, on the 175th Anniversary of his Birth', by Gábor Csiky  
 'Commemoration on Bálint Balkay, "The Detoured Comet"—who Died Ten Years Ago', by György Komlóssy  
 'Report on the Electoral Meeting and Symposia of INHIGEO, held at the 30th IGC in Beijing, China', by Endre Dudich
- 16 December  
 'New data about Robert Townson, Author of *Travels in Hungary*', by Péter Rózsa  
 Review of József Hála's *Minerals, Rocks, and Traditions*, by Endre Dudich  
 Comments on the publication describing the life and oeuvre of Professor Károly Papp, by József Hála

### Other Activities

16 October

Commemorative session on the 100th anniversary of Professor Miklós Vendel's birth, at Sopron University (organized jointly by several Hungarian and Austrian scientific societies and institutions). A bronze memorial tablet was unveiled on the wall the Vendel family home.

17 November

Commemorative scientific session on the 25th anniversary of the death of Professor Aladár Vendl at Ditró (Romania), organized by the Society of Hungarian Teachers of Romania. The commemorative speech was delivered by Endre Dudich. A memorial tablet and a bust were unveiled.

'Domokos Teleki's Mineralogical-Geological Study Tours in Hungary at the End of the 18th Century', by István Viczián

### Major Publications

- Barnabás Géczy, *A magyarországi óslénytan története (History of Palaeontology in Hungary)*, ed. Márton Tolnai, Akadémiai Kiadó, Budapest, 1995. 76 pp.
- József Hála and Csaba Horváth (eds), *Hat évtized a magyar földtan szolgálatában. A nyolcvabéves Dr Csiky Gábor kUoszUontése és irodalmi munkássága (Six Decades in the Service of Hungarian Geology. Honours to Dr Gábor Csiky on the Occasion of his 80th Birthday; and his Bibliography)*. Special Issue No 7 of *Annals of the History of Hungarian Geology*, Budapest, 1995. 60 pp.
- J. Hála, *Ásványok, kőzetek, hagyományok. Történeti és néprajzi dolgozatok (Minerals, Rocks, Traditions: Historical and Ethnographical Studies)*, Budapest, 1995. 400 pp.
- J. Hála (ed.), *Tápióságtól Tápióságig. Tisztelgés Papp Károly geológus emléke előtt (From the Village Tápióság to the Same Village Tápióság. Life and Works of Geologist Károly Papp)*, Tápióság Barátainak Köre, Tápióság, 1996.

### Selected Minor Papers

- Károly Brezsnýánszky, 'Austro-Hungarian Geological Mapping Before 1869', in *Advances in Austro-Hungarian Joint Geological Research*, MÁFI-GBA, Budapest, 1996.
- Irma Dobos, 'Évszázados tervek a Duna-Tisza csatorna megvalósítására' ('A Century of Planning the Danube-Tisza Channel'. M. Hidr. Társaság XIII. vándorgyűlése, Baja, I, 1995, 282–292
- I. Dobos, 'Halaváts Gyula száz évvel ezelőtt megjelent összefoglaló és értékelő munkája a magyarországi artézi kutakról' ('Gy. Halaváts' Summarizing and Assessing Work on Hungarian Artesian Wells — Published 100 Years Ago'), *Hidrológiai Tájékoztató*, 1996
- I. Dobos, 'Emlékezés Cholnoky Jenő, születése 125. évfordulóján' ('Commemoration of Jenő Cholnoky, on the 125th Anniversary of his Birth'), *Hidrológiai Tájékoztató*, October, 1995, 5–6
- Endre Dudich, 'Ups and Downs: The Hungarians in the Austrian Empire from 1740 through 1869', in *Advances in Austro-Hungarian Joint Geological Research*, MÁFI-GBA, Budapest, 1996, 11–18
- György Vitális, 'Emlékezés Vitális István ércteleptani munkásságára születésének 125. évfordulóján' ('The Ore Geological Works of I. Vitális — On the 125th Anniversary of his Birth') — BKL — Bányászat, 192/2, 178–184
- G. Vitális, 'Emlékezés Pálffy Mór hidrológiai munkásságára születése 125. évfordulóján' ('On the Hydrological Works of Mór Pálffy, on the 125th Anniversary of his Birth'), *Hidrológiai Tájékoztató*, April, 1996, 24–26
- István Zsáboki, 'The first hundred years of teaching geological sciences at the Selmechánya (Schemnitz) School (later Academy) of Mines', in *Advances in Austro-Hungarian Joint Geological Research*, MÁFI-GBA, Budapest, 1996, 19–24

Endre Dudich, Budapest

### India

Professor K.R. Murty has reported the publication of the following volume: Arun Kumar Biswas and Sulekha Biswas, *Minerals and Metals in Ancient India*, 2 vols., D.K. Printworld, New Delhi, 1995. ISBN: 81-246-0048-1.

## Ireland

The highlight of the year was the dual recognition, on either side of the Atlantic Ocean, of Gordon L. Herries Davies' major contribution to our understanding of the history of geology. In June he received the Sue Tyler Friedman Medal of the Geological Society of London, while in October he was presented with the History of Geology Award of the Geological Society of America at their meeting in Denver (see pages 21 and 22 for citations and responses).

In September 1996 Gordon Herries Davies delivered the Third John Jackson Lecture on the history of geological research in County Dublin.

### Publications

- Collins, T. 1996. The Museum, the College and the community, 58–67. In Harper, D.A.T. *An Irish Geological Time Capsule: The James Mitchell Museum, University College, Galway*. James Mitchell Museum, Galway.
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- Harper, D.A.T. and Parkes, M.A. 1996. Geological Survey donations to the Geological Museum in Queen's College Galway: 19th century inter-institutional collaboration in Ireland. *The Geological Curator* 6, 233–236.
- Harper, D.A.T. and Torrens, H.S. 1996. The James Mitchell Museum: history and setting, 5–16. In Harper, D.A.T. *An Irish Geological Time Capsule: The James Mitchell Museum, University College, Galway*. James Mitchell Museum, Galway.
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- McCaffrey, K. 1996. Dave Johnston: an appreciation. *Irish Journal of Earth Sciences* 15, 1–3.
- Mollan, R.C. 1995. *The Mind and the Hand: Instruments of Science 1685–1985*. Samton, Dublin, pp. 64.
- Naylor, D. 1995. An appreciation of the life and work of John Semple Jackson 1920–1971. *Occasional Papers in Irish Science and Technology* 9, 2–5. Royal Dublin Society, Dublin.
- Parkes, M.A. 1996. The fossil collections of the Geological Survey of Ireland. *Irish Naturalists' Journal* 25: 304–305.
- Wyse Jackson, P.N. 1996. Sir Charles Lewis Giesecke (1761–1833) and Greenland: a recently discovered mineral collection in Trinity College, Dublin. *Irish Journal of Earth Sciences* 15, 161–168.  
Patrick N. Wyse-Jackson, Dublin

## Israel

The most important event in 1996 was the publication of Leo Picard's autobiography: *Pioneering Geology of Erez Israel: Benchmarks in the Exploration of Groundwater and Natural Resources*, published by the Israel Academy of Sciences and Humanities (at present only available in Hebrew: 156 pp. and photos). [Copies may be obtained from The Israel Academy of Sciences and Humanities, PO Box 4040, Jerusalem, 91040. Ed.]

The Academy arranged a Symposium in honour of the 96-year old Academician and doyen of Israeli geologists to celebrate the occasion. Professor Picard published other papers on the history of geological exploration in Israel and received many honours during his long career, including honorary membership of INQUA.

Professor D.H. Yaalon has completed editing a book: *History of Soil Science: International Perspectives* (Catena Verlag, 1996) and has organized symposia on the history of ideas in soil science for the last two congresses of the International Society of Soil Science.

Dan H. Yaalon, Jerusalem

[Professor Yaalon has drawn my attention to the *Newsletter* of the Committee on the History, Philosophy, and Sociology of Soil Science of the International Society of Soil Science and the Council on the History, Philosophy, and Sociology of Soil Science of the Soil Science Society of America (Issue No. 6, December, 1996). For further information, contact Professor Yaalon. He has also indicated that he would be interested in INHIGEO being involved in a conference on the history of soil science on some future occasion. Ed.]

## Italy

In February 1996 the Accademia di Agricoltura Scienze e Lettere of Verona organized a symposium on the scientific and technical activities of the Veronese scientist Giovanni Arduino (1714–1795), as a celebration of the bicentenary of his death. Thirteen papers were read on topics such as the role of Arduino in the eighteenth-century geology (N. Morello); Arduino and the eighteenth-century Swedish mineralogy (F. Abbri); Arduino and his litho-stratigraphical classification (E. Vaccari); Arduino's agronomic compass (C. Maccagni); Arduino's relationship with the Academy of Agriculture of Verona (E. Curi); Arduino's relationship with the agronomic board of Venice (P. Del Negro); Arduino's relationship with Niccolò Tron (G. Gullino); Arduino's relationship with Alberto Fortis (L. Ciancio); Arduino's relationship with Girolamo Silvestri (G. Zalin). Other papers were read on his biography (V. S. Gondola); on Arduino's cartographical works (E. Filippi); and on Arduino's contribution to Venetian eighteenth-century mining (R. Vergani) and to the production of saltpetre (V. Giormani). The *Proceedings*, in Italian, will be published by the Accademia di Agricoltura in 1997. For further information please write to Dr Giuseppe Franco Viviani, Accademia di Agricoltura Scienze e Lettere, via Leoncino 6, 37121 Verona (Italy). Tel & Fax +39 45 8003668.

In November 1996, the Museum of Natural History of Milan (Museo Civico di Storia Naturale), in collaboration with the California Academy of Sciences of San Francisco, organized the 3rd workshop 'The culture of Natural History'. Some of the papers read in this meeting were related to the history of geology and palaeontology: C. Cohen, 'Objects of memory—Zoological and palaeontological collections at the Paris Museum of Natural History (1796–1996)'; E. Vaccari, 'The Museum and the Academy: Geology and palaeontology in the Accademia dei Fisiocritici of Siena between 18th and 19th centuries'; M.P. Winsor, 'On the issue of arrangement in the Agassiz Museum'; G. Pinna, 'A philosophy for Natural History Museums'. The *Proceedings*, in English, will be published by the Museum of Natural History of Milan. For further information, please contact Professor Giovanni Pinna, Museo Civico di Storia Naturale, corso Venezia 55, 20121 Milano (Italy). Fax +39 2 76022287.

Ezio Vaccari

### Publications

- Agricola G., 1994, *De re metallica* (1563), a cura di P. Macini, ed. E. Mesini. Edizioni ANIM, 542 pp. [facsimile reprint of *Opera di Giorgio Agricola. De l'arte de metalli partita in XII libri, tradotti in lingua toscana da m. Michelangelo Florio*. In Basilea, per Hieronimo Frobenio et Nicolao Episcopio, 1563].
- Cerbai, I. and Principe, C., *BIBV: Bibliography of Historic Activity on Italian Volcanoes*. Istituto di Geocronologia e Geochimica Isotopica—CNR Pisa. IGGI Internal Report n. 6/96, 1996. 687 pp.
- Vaccari E., 1996, Giovanni Arduino e lo sviluppo della moderna geologia stratigrafica [G. Arduino and the development of the modern stratigraphy]. In Lazzari C. & Bizzarrini F. (eds), *Giovanni Arduino e i geologi veneti del Settecento*. Venezia, Società Veneziana di Scienze Naturali—Museo Civico di Storia Naturale, pp. 37–54.
- Vaccari E., 1996, [Review of] From the Inside and from the outside: Interdisciplinary Perspectives on the History of the Earth Sciences (19–22 March 1994. San Diego, California, U.S.A., Geological Society of America). *Paleocronache*, 1996, 1, pp. 104–107.
- Vaccari E., 1996, Cultura scientifico-naturalistica ed esplorazione del territorio: Giovanni Arduino e Giovanni Targioni Tozzetti [Scientific-naturalistic culture and fieldwork: Giovanni Arduino and Giovanni Targioni Tozzetti]. In Barsanti G., Becagli V. and Pasta R. (eds), *La politica della scienza. Toscana e Stati italiani nel tardo Settecento*, Firenze, Olschki, pp. 243–263.
- Vaccari E., 1996, A review of some Italian collections of old books and manuscripts related to Earth Sciences. In Cernajsek T., Jontes L. & Schmidt P. (eds.), *Cultural Heritage Collected in Libraries of Geoscience, Mining and Metallurgy, International Symposium, Freiberg (Saxony) Germany. Berichte der Geologischen Bundesanstalt*, Bd. 35, Wien (Verlag der Geologischen Bundesanstalt), pp. 353–358 (4 figs).

Professor Giuliano Piccoli has written informing us of the publication at the end of 1996 of a volume containing biographies of 19th-century science teachers at Padova University. The geologists and geographers are: Nicolò Da Rio, geologist (1765–1845); Tomaso Antonio Catullo, geologist and palaeontologist (1782–1869); Raffaele Molin, Palaeontologist and zoologist (1825–1887); Francesco Nardi, geographer (1808–1877); Pietro Dodelein, geologist and zoologist (1809–1895); Giuseppe Meneghini, geologist and palaeontologist (1811–1889); Giovanni Omboni, geologist and mineralogist (1829–1910);

Giuseppe Dall Vedova, geographer (1846–1900); Arturo Negri, geologist and palaeontologist (1854–1896); Francesco Bassani, palaeontologist (1850–1916); Ruggero Panebianco, mineralogist (1848–1930). The volume is entitled *Professori di Materie Scientifiche all' Università di Padova*, ed. Lint, Trieste, 1996, 390 pp.

Professor Piccoli also writes that the work of the Istrian teacher of geography and nautical science at Padova, Gian Rinaldo Carli, was celebrated towards the end of 1995 in Trieste on the occasion of the bicentennial of his death (1795). The reports of the symposium appeared in *Acta Histriae*, Vol. 5, *Contributi dal Convegno Internazionale "Un Grande Riformatore del '700, Gian Rinaldo Carli tra l'Istria, Venezia e l'Impero"*, Capodistria/Koper, 1997.

Carli was born in Capodistria, at the time capital city of the Istria Province of the Republic of Venice, in 1720, from a noble family. He graduated at Padova University and then became a teacher of nautical science (1745–46) and nautical science plus geography (1746–1749). He left the Venetian Republic for Milan, where he became a counsellor of the Austrian Empress Maria Theresia for economic and monetary affairs. He died there in 1795, two years before the end of the Venetian Republic due to Napoleon.

## Japan

In 1996, the Japanese Association for the History of Geological Sciences (formerly the Gathering on the History of Geological Sciences) held two ordinary meetings in Tokyo and an evening meeting in Sendai, in association with the Annual Meeting of the Geological Society of Japan. The Association also published Newsletters Nos. 6 and 7. The following papers were presented at these meetings.

Evening meeting in Sendai, 3 April 1996

K. Yagi, 'Prof. S. Kozu's contribution to petrology and mineralogy, with special reference to his experimental work'.

'Prof. J. Takahashi's contribution to oil geology and sedimentary petrology'.

K. Masuda, 'On the financial support of the Saito-Hoonkai to geologists in the Taisho and early Showa eras, and the foundation of the museum'.

Ordinary meeting in Tokyo, 22 June 1996

D. Shimizu, 'History of the International Geological Congresses'.

'Report on INHIGEO in Brazil in 1993'.

S. Kurabayashi, 'Guide books and textbooks of natural sciences of the elementary, high and normal schools in early Meiji era'.

K. Hattori, 'On education for mutual understanding between Japan and USA'.

Ordinary meeting in Tokyo, 14 December 1996

D. Shimizu, 'On the geological survey of the Japanese islands by Edmund Naumann in the early Meiji era'.

R. Sugiyama, 'Some episodes of Prof. S. Tsuboi and other geologists in Japan and north-east China in the 1930s and 1940s'.

Y. Suzuki, 'Report on the 30th IGC in Beijing'.

Yasumoto Suzuki (Tokyo) and Kenzo Yagi (Sapporo)

## The Netherlands

The Commission for the History of Earth Sciences of the Royal Netherland's Academy of Arts and Sciences has made headway with its reconstitution. It now consists of three historians of earth science, one historian of economics and navigation, one university historian, one taxonomist, and six earth scientists. In 1996, E. den Tex stepped down from the chair and J. Touret took over. F.R. van Veen and E. den Tex were appointed temporary vice-chairmen.

The proceedings of the 13th Benelux Congress entitled 'Man and Earth', held at Echternach (Luxembourg) from 5 to 7 October 1995, have been published in December 1996 in *Actes du 13me Congrès Benelux d'Histoire des Sciences*, Luxembourg, Courrier de l'Éducation Nationale, 280 pp. They contain papers by four members of the Commission:

Emile W.A. Henssen, 'De eerste pogingen tot reorganisatie en concentratie der Nederlandse aardwetenschappen en de rol daarbi der Bataafsche Petroleum Maatschappij' (Shell Nederland), 1911–1934, pp. 251–260.



Emile den Tex, 'A prelude to modern volcanology in Western Europe, with emphasis on the Republic of the United Netherlands', pp. 251–260.

Geert Vanpaemel, 'Gustave Dewalque en de crisis van de Belgische geologie op het einde van de negentiende eeuw', pp. 171–184.

F.R. van Veen, 'Van Waterschoot van der Gracht en de Amerikaanse controverse over Wegeners continentverschuivingstheorie in 1926', pp. 221–230.

Publication of the Suriname Memoir is taking more time than anticipated. Dr A.J. van Loon is engaged as final editor. Its appearance is now expected late in 1997.

The Commission is concerned with the preservation of important earth science archives, notably that of the former Rijks Geologische Dienst, recently merged with TNO Groundwater and Geo-energy to form the newly established Netherlands Institute for Applied Geosciences TNO (NITG/TNO).

Emile den Tex, Leiden

### **New Zealand**

Membership of the Historical Studies Group of the Geological Society of New Zealand now stands at 58, and an additional twenty copies of the Group's Newsletter are sent to libraries and interested non-members of the Society.

The Historical Studies Group Newsletter has forty pages in each issue and is published twice a year. It is the main vehicle for publications on the history of geological research in New Zealand. In addition to reminiscences and obituaries, subjects covered in 1996 included the following:

The first recorded note on New Zealand geology (Cook's First Voyage, 1769)

The first geological map of New Zealand (Boué, 1845)

The Mantell papers and specimens held in New Zealand

The history of geothermal earth science research in New Zealand

Geology at Auckland Museum

Several of these research topics are on-going, with further papers in the pipe-line.

At the 1996 conference of the Geological Society of New Zealand Alan Mason presented a paper on John Robert Don who, as Headmaster of Waitaki Boys' High School a hundred years ago, introduced geology as a separate subject into his school's curriculum—the first and only time that this has been done in a New Zealand school.

An address about the Department of Geology at the University of Auckland was given to staff and students at that university. Further information on the early years of the Department was obtained in a recorded interview with Mrs Rose Wilson, who majored in geology seventy years ago.

Dr Bruce Hayward, a member of the Historical Studies Group and Convenor of the Geological Reserves Committee of the Geological Society of New Zealand has included several localities of historical importance in submissions made to local and national governments for preservation of important geological features.

Alan Mason, Auckland

### **Poland**

#### *General Information*

Polish INHIGEO members are working in tertiary institutions (A.S. Kleczkowski, J. Rzymelka, and J. Skoczylas) and in the institutes of the Polish Academy of Sciences (S. Czarniecki, J. Garbowska, W. Narębski, and Z. Wójcik). Their interests are focused mainly on the history of scientific ideas, various geological institutions and organizations, as well as on the research activity of Polish geoscientists in different countries.

In Warsaw there are sections of history of geology in two state institutions: Museum of the Earth, Polish Academy of Sciences (leader J. Garbowska; problems of geological ideas in the period from the 18th to the 20th century) and the State Geological Institute (leader Z. Kotański; history of state geological survey). Archival materials on the history of geosciences are stored e.g. in the Museum of the Earth, the archives of the Polish Academy of Sciences (particularly in Cracow and Warsaw), geological museums of tertiary institutions (e.g. of Jagellonian University and the University of Mining and Metallurgy in Cracow, of Universities of Wrocław and Poznań, as well as in private S. Czarniecki's Laboratory of History of Polish Geology in Cracow). S. Staszic's Museum in Pila has a collection of materials concerning this eminent scientist, author of the first synthetic geological description of Poland in 1815.

Under the auspices of the Committee on the History of Sciences and Technics of the Polish Academy of Sciences some historical-geological problems are being studied: e.g. on the Siberian Commission led by Z. Wójcik, author of several biographical books on Polish explorers in Siberia. Actually a Section of History of Geology is organized within this Committee by J. Garbowska. Among local organizations active in the field of history of geological and mining sciences is the Society of Friends of Mining, Metallurgy and Early-Polish Industry in Kielce, which organized two significant scientific sessions in 1966:

1. Staszic as the founder of professional schools in 19th century; and
  2. Cisterians in Lesser Poland as organizers of mediaeval precursors of the state geological survey.
- During these sessions several lectures were delivered by INHIGEO members: S. Czarniecki, A.S. Kleczkowski and Z. Wójcik.

Historical problems are also occasionally discussed at meetings, and in periodicals of the Polish Geological Society and the Mineralogical Society of Poland, as well as in some committees of the Polish Academy of Sciences.

#### *Publications*

In 1996 several important publications on the history of geosciences appeared in Poland. In voluminous memoirs entitled *My Life—My Work*, A. Bolewski presented rather subjectively some significant aspects of the history of geology in Poland after 1945. This book was edited in Polish by his parent University of Mining and Metallurgy in Cracow, to celebrate the 90th birthday of this distinguished doyen of Polish geoscientists and INHIGEO members.

Z. Wójcik has edited very well documented and up till now the most complete biographic study of the famous Polish mineralogist and ore geologist, I. Domeyko, entitled *Ignacy Domeyko: Lithuania—France—Chile* (Editorial Office—Polish Ethnographic Society, series *Exile's Library*, Wrocław 1996, pp. 636). Moreover, he has published an extensive paper on the contribution of Polish research workers to the exploration of mineral resources in Kazakhstan. A popular biography of outstanding ore geologists K. Bohdanowicz was published by J. Skoczylas.

In the Proceedings of the 13th INHIGEO symposium in Pisa-Padova (Italy) in 1987, published in 1996 and entitled *Rocks, Fossils and History*, several papers are contained concerning geological studies of Polish geoscientists in Italy: e.g. of paleontologists J. Grzybowski and Z. Bosniacki (by S. Czarniecki and W. Narębski respectively), and of geologist M. Limanowski (by Z. Wójcik, W. Narębski and J. Wieczorek). Worth emphasising is a collective volume, containing interesting materials of a scientific session organized to celebrate the 240th anniversary of birth and the 170th one of death of Stanisław Staszic. They document the diverse scientific and social activity of this 'Father of Polish geology'. The contributions of Polish INHIGEO members are significant. A.S. Kleczkowski characterized the role and importance of first Mining School in Kielce, organized by Staszic, whilst S. Czarniecki drew attention to the high moral standards and patriotic aspects of the activities of this eminent scientist. J. Skoczylas and Z. Wójcik presented papers on the history of geological studies in Greater Poland, Staszic's native land.

Finally, of particular importance is the edition of *Archival Materials on the Scientific Output of Polish Geologists in the Collections of the Museum of the Earth*, edited by J. Garbowska in co-operation with B. Studencka and M. Wasik. Particularly detailed in this book is the characteristics of rich archival materials on manifold activity of M. Limanowski, elaborated by M. Wasik.

Wojciech Narębski (Cracow) and Zbigniew Wójcik (Warsaw)

#### **Russia**

Professor Viktor Khain, who was 'reinstated' to INHIGEO at the Business Meeting of the Commission in Beijing in 1996 (see Minutes of the meeting), has kindly sent me off-prints of the following publications [Ed.]:

V.E. Khain, 'Mobilism and plate tectonics in the USSR', *Tectonophysics*, 1991, 199, 137–148.

V.E. Khain, 'N.S. Shatsky and world geological science', 1995 (in Russian).

V.E. Khain, 'International tectonic maps: a route forty years long', *Theoretical and Applied Problems of Geology*.

and

L.P. Zonenshain and A.M.C. Sengor, 'Laudatio auf Viktor Efimowitsch Chain', *Sonderdruck aus Geologische Rundschau*, 1992, 81, pp. 263–265.

Professor Anatoly Ryabukhin of Moscow State University, elected a member of INHIGEO in 1996, informs me that he is currently working on the following topics:

1. The history of geology as a part of general history and human culture; the significance of the teaching of history of geology in general education and in the education of geologists.
2. Fundamental geological ideas and universities.
3. Ideas on catastrophism in geology.
4. The history of geology in Russia and at the Moscow State University. [Ed.]

## Spain

### *Meetings & Anniversaries*

In February, the Spanish Club of Mining held a meeting on 'Mining Heritage', with three lectures by INHIGEO members: Drs Adaro, Puche, and del Valle.

On 15 March there was the official meeting commemorating the 125th Anniversary of the Spanish Society of Natural History. From its creation in 1871, this Society played an important role in promoting the progress of the Natural Sciences.

On 1–5 July was the 4th Geological Congress, which had a special section on the History of Geology.

In October, in the historical mining capital of quicksilver, Almadén, the Spanish Society for Defence of Geological and Mining Heritage held a Scientific Section on 'Mining Heritage', which provided a good opportunity to ideas exchange between the different groups working in most of the Spanish mining regions.

1996 was the 200th anniversary of the death of Juan-José de Elhúyar, a mining engineer trained in Freiberg (Germany). In 1783, he discovered wolfram with his brother Fausto, founder of the Mining School of México in 1790. He wrote, but did not publish, the first geological book written in America: the *Orygthología (Mineralogy)*.

### *Publications*

The Spanish Commission on the History of Geology and the Spanish Society for Defence of Geological and Mining Heritage have published several numbers of their respective Bulletins.

The Spanish Geological and Mining Survey (ITGE), published a facsimile edition of the Memory of the Survey in 1855, produced by Guillermo Schultz, a mining engineer and author of the first geological works in Galicia and Asturias regions.

### *Other publications:*

- ASTIBIA, H., DEL VALLE, J., MURELAGA, X. y SERRA-KIEL, J. coordinadores (1996). 'Homenaje a Máximo Ruiz de Gaona, naturalista y paleontólogo (1902–1971)' Príncipe de Viana, Suplemento de ciencias, año 16, números 14/15, 206 páginas.
- GOMIS, A. (1996) 'Real Sociedad Española de Historia Natural'. Mundo Científico, Barcelona, 166 (marzo), 228–239.
- GUTIERREZ, M., ALCALA, B. y MARTIN ESCORZA, C. (1996). 'Panorama de la investigación geológica en España a través de sus congresos nacionales (1984, 88,92)'. Congreso Geol. España.
- ORDAZ, J. (1996). 'Un ejemplo de Geología colonial: el reconocimiento de la isla de Panay (Filipinas), por Enrique Abella y Casariego'. Congr. Geol. España.
- ORDOÑEZ, S. y DE LA IGLESIA, A. (1996) 'Gabriel Martín Cardoso (1896–1954): El Nacimiento en España de la determinación de estructuras cristalinas de mineralogía mediante difracción de Rayos X'. Congr. Geol. España.
- PUCHE, O. (1996) 'Hace falta una legislación arqueológica industrial, como la de Cerdeña'. Bol. Inf. SEDPGYM, nº 3, 2. Madrid.
- PUCHE, O., MAZADIEGO, C.F. & MARTINEZ, C. (1996). 'Los procesos de amalgamación a través de los tiempos'. Bol. Geol. y Minero. 107–10, 90–99. Madrid.
- PUCHE, O. (1996) 'Historia de la Hidrogeología y de los sondeos de agua en España y en el Mundo, desde sus orígenes hasta finales del siglo XIX'. Bol. Geol. y Minero, 107–2, 90–110. Madrid.
- PUCHE, O. (1996) 'Cartografía oficial de conservación del patrimonio geológico y minero en Francia'. Bol. SEDPGYM, 4, 2. Madrid.
- PUCHE, O. (1996) 'La explotación de las esmeraldas de Muzo (Nueva Granada), en sus primeros tiempos'. XI congreso Historiadores Latinoamericanistas Europeos. Liverpool.

- PUCHE, O. & MAZADIEGO, C.F. 'Estado de conservación del Patrimonio Minero-metalúrgico español. Actuaciones recientes, propuestas y financiación de proyectos'. I Sesión Científica SEPGYM. Almadén.
- PUCHE, O. & MAZADIEGO, C.F. (1966). 'Del Gabinete Mineralógico y Paleontológico de la Academia de Minas de Almadén a la Mina Museo (1777-1996)'. I Sesión Científica SEPGYM. Almadén.
- PUCHE, O. (1996). 'La conservación del patrimonio minero en Gran Bretaña'. Bol. SEPGYM, 4, 2, Madrid.
- SEQUEIROS, L. (ed.) (1995). Boletín de la Comisión de Historia de la Geología de España. Año 2, No. 3. Sociedad Geológica de España, 24 pg.
- SEQUEIROS, L. (1995). La Historia de la Ciencia en la formación de profesores de Ciencias de la Tierra: Implicaciones para la Tectónica de Placas. V Simposio de historia de las Ciencias y Enseñanza de las Ciencias. Vigo, Sept. 1995.
- SEQUEIROS, L. (1995). Recensión de Gomez de Mendoza y otros Geógrafos y Naturalistas en la España Contemporánea. Lull, 35 (18), p. 696. y Bol. Com. Hist. Geolog. España, 4, p. 26 Enseñanza Ciencias de la Tierra, No. 3 (2), 112, 4 (2), 153.
- SEQUEIROS, L. (ed.) (1995). Boletín de la Comisión de Historia de la Geología de España. Soc. Geol. de España. Año 2, No. 4, 16 pp.
- SEQUEIROS, L., BERJILLOS, P., FERNANDEZ LOPEZ, S., GOY, A., LINARES, A., MELENDEZ, G., MONTERO, A., OLORIZ, F. y SANDOVAL, J. (1996). 'Historia del conocimiento de los Ammonites del Jurásico de España. I. Los tiempos de José Torrubia (1754)'. Congr. Geol. España.
- SEQUEIROS, L., BERJILLOS, P., DIEGUEZ, C., FERNANDEZ LOPEZ, S., GOY, A., LINARES, A., MELENDEZ, G., MONTERO, A., OLORIZ, F., SANDOVAL, J. y TAVERA, J.M. (1996). 'Historia del conocimiento de los Ammonites del Jurásico de España. II. Los Ammonites del Jurásico de España desde 1800 hasta 1900'. Congr. Geol. España.
- SEQUEIROS, L. (1996). Recension de: S. Figueirôa y M. Lopes, Org. Geological Sciences in Latin America, Lull, 19 (36), pp. 249-251, y Enseñ. Ciencias de la Tierra. Bolet. Comis. Hist. Geología España SGE. 5, 25.
- SEQUEIROS, L. (ed.) (1996). Boletín Comisión Historia de la Geología de España. No. 5, Sociedad Geología España, SGE, 26 pág.
- SEQUEIROS, L. (1996). Dos siglos del fallecimiento de Juan José Elhuyar (1754-1794). Bol. Com. Hist. Geología de España, SGE, 5, p. 3.
- SEQUEIROS, L. (1996). Darwin como geólogo: sugerencias para la enseñanza de las Ciencias de la Tierra. Enseñanza de las Ciencias de la Tierra, AEPECT, 4, 1, 21-29.
- SEQUEIROS, L. (ed.) (1996). Boletín Comisión Historia de la Geología de España. No. 6, Sociedad Geológica de España, 26 pág.
- SEQUEIROS, L. (1996). Recension de: Astibia et al. Homenaje de Ruiz de Gaona. Príncipe de Viana. Boletín Comisión Historia de la Geología de España. No. 6, Sociedad Geológica de España, pág. 16.
- SEQUEIROS, L. (1996). La última lección de Thomas Kuhn. Enseñanza de las Ciencias de la Tierra, AEPECT, 4, 1, p. 79-80.
- TRUYOLS, J. y SEGURA, M. (1966). 'La Enseñanza de la Geología en la Escuela de Magisterio de Guadalajara en los años 30: el profesor Bargalló'. Congr. Geol. España.
- Francisco J. Ayala-Carcedo, Madrid
- (with information about additional publications supplied by Leandros Sequeiros, Cordoba)

### Switzerland

Several Swiss historians and geologists (i.e. A.V. Carozzi, H. Masson, J.-P. Schaer, and M. Wiedmann) have written or will be writing articles for the new edition of the *Historical Lexicon of Switzerland*, planned at thirty-seven volumes. The volumes now in preparation will include biographies of Louis Agassiz, Emile Argand, Elie Bertrand, Louis Bourguet, Jean de Charpentier, and short notices on many other geologists.

#### *Publications*

- R. Trümpy, 'James Hutton und die Anfänge der modernen Geologie', in D. Brühlmeier, H. Holzhey and V. Murdoch, eds, *Schottisch Aufklärung*, Akademie Verlag, Berlin, 1996, pp. 75-89.
- R. Trümpy, 'Alpine geology: whence, whither?', *Eclogicae Helvetiae*, 1996, 89, 7-12.

R. Trümpy, 'Randbemerkungen zu den instabilen Hängen in der Schweiz (13000 v. Chr. bis 1932)', in B. Oddson (ed.), *Instabile Hänge und andere risikorelevante natürliche Prozesse*, Birkhäuser, Basel, 1996, pp. 17–22.

Rudolf Trümpy, Zürich

**[The Swiss members of INHIGEO have offered to host an INHIGEO Conference, to be held in Neuchâtel in September, 1998, and the INHIGEO Board has been pleased to accept this offer. See p. 17. Ed.]**

### United Kingdom

During 1996 the History of Geology Group of the Geological Society held two meetings. The first, on Geological Collectors and Collecting, was held in Burlington House, London, on 16 February, and consisted of papers by Michael G. Bassett, Patrick J. Boylan, Neville Haile, Hugh S. Torrens and John C. Thackray. The second, which was organised by R.G. Savage, was held in the Geology Department of the University of Bristol on 25 September. Papers were read on a variety of topics by Charles Copp, Michael Cooper, Norman Higham and Roger Vaughan. Two issues of the Group's Newsletter were edited by Peter Tandy. In 1997 the Group will be holding a one-day meeting in Cambridge on 24 September to celebrate the 150th anniversary of the foundation of The Palaeontographical Society.

The Group co-operated with the Geological Society and the British Geological Survey to celebrate the bicentennial of the death of Sir Henry De la Beche with a meeting at The Natural History Museum on 11th November. Historical papers were read by Stephen J. Gould and Jim Secord, and a display of archives was provided by John Thackray.

1996 saw continued research by a large number of scientists and historians preparing new articles for the *New Dictionary of National Biography* being published by Oxford University Press. Hugh Torrens is the Editor responsible for geology and mineralogy, some palaeontologists are included with zoologists and are the responsibility of Adrian Desmond, and other figures of interest to historians of geology are to be found among the chemists, botanists, geographers and elsewhere. The *Dictionary* as a whole has over 7,000 contributors

John Fuller organised the facsimile publication of seven of William Smith's horizontal cross-sections as a coloured poster, accompanied by a descriptive booklet. The poster is published jointly by the Geological Society and the American Association of Petroleum Geologists and is available from both organisations. The poster uses original sections from the Geological Society Archives.

Andrew Grout provided a poster for the 'Empires of Nature' conference of the Society for the History of Natural History at Wadham College, Oxford, April, 1996. The title of the poster was 'Fossil collecting in early nineteenth century India: the Siwalik vertebrates and other monsters of the deep'.

John Thackray prepared a 'Guide to the Official Archives of The Natural History Museum', which was ready for publication early in 1997. It includes details of the papers of the departments of Geology (later palaeontology) and Mineralogy, particularly in relation to collections acquired by the Museum over the last 200 years.

Hugh Torrens spent a visiting semester at the University of California, Santa Cruz, teaching a new course on the history of science and technology. He also went to Washington DC to celebrate the 150th anniversary of the Smithsonian Institution with a special lecture on its inspirer, James Smithson (1765–1829), and attended the International Geological Congress in Beijing, where he read a paper on 'S.S. Buckman (1860–1929), his world-wide Jurassic biochronology and work on Chinese ammonites (1926)' which will be published in the conference proceeding in 1997.

#### *1996 Publications by British INHIGEO Members:*

- Ford, T.D., *The Castleton Area, Derbyshire: Geologists' Association Guide*, The Geologists Association.  
Ford, T.D. & Brown, I.J. 'The Sado gold mines of Japan in the 17th century.' *Bulletin of the Peak District Mines Historical Society*, 12 (6): 1–17.  
Ford, T.D. & Pedley, H.M. 'A Review of Tufa Deposits of the World', *Earth Science Reviews*, 41: 117–175.  
Thackray, J.C. 'William Pengelly, a west country geologist on the national scene'. *Transactions and Proceedings of the Torquay Natural History Society*, 22 (10): 66–72, 1996.  
Tomlinson, J.M. & Ford, T.D. 'Derbyshire Black Marble' *Peak District Mines Historical Society Special Publication*, 4, 94 pp.

- Torrens, H.S. 'Joseph Harrison Fryer (1777–1855): geologist and mining engineer in England 1803–1825 and South America 1826–1828', in Lopes M.M. and Figueirôa, S.F. (eds), *Geological Sciences in Latin America: Scientific Relations and Exchanges*, pp. 29–46, Universidade Estadual: Campinas, Brazil, 1996.
- Torrens, H.S. 'Mineral engineer John Williams of Kerry (1732–1795): his work in Britain and his mineral surveys in the Veneto and North Italy', *Montgomeryshire Collections*, 84: 1–32, 1996.
- Torrens, H.S. 'An inspiring interface: geology and its connections with archaeology in Britain: 1780–1850' *Transactions and Proceedings of the Torquay Natural History Society*, 22 (10): 9–46, 1996.
- Torrens, H.S. 'The dinosaurs and dinomania over 150 years' in W.A.S. Sarjeant (ed.), *Vertebrate Fossils and Evolution of Scientific Concepts*, pp. 255–284, Gordon and Breach: New York, 1996.
- J.C. Thackray, Archivist, The Natural History Museum, London.

In addition, Trevor Ford reports having edited the Bulletin of the Peak District Mines Historical Society for over thirty years. The name of this publication has recently been changed to *Mining History*, in view of the increasing amount of material being submitted on areas other than the Peak District, and he has hopes that the publication will grow into a national or even an international journal. The Peak District Mines Historical Society will host its annual gathering in July 1997, and the papers presented will be published in a special issue of *Mining History*.

### United States

The annual meeting of the History of Geology Division of The Geological Society of America was held in Denver, Colorado, from 26 to 30 October 1996, with field excursions fore and aft. The meeting included the following forums/symposiums: 'History of Mining in the Rockies'; 'History of Geology Discipline Session'; and 'The Impact of the Western Surveys'.

The following publications have been specifically reported by members, or otherwise brought to the attention of the editor:

- K.B. Bork, 'Brongniart, Alexandre', in: E.J. Dasch (ed), *Macmillan Encyclopedia of Earth Sciences*, Simon and Schuster Macmillan, New York, 1996, 59–61.
- K.B. Bork, 'Kirtley Fletcher Mason (1888–1978) as "Rock Star"', *GSA Today*, 1996, 6, 8–10.
- A.V. Carozzi, 'New Historical Data on H.-B. de Saussure's Introduction of the Terms of *Moraine* (1764) and *Roches Moutonnées* (1776), and *Serac* (1788) to Geology', *Journal of Geological Education*, 1996, 4, 168–174.
- G.Y. Craig, 'Holmes Arthur', in: E.J. Dasch (ed.), *Macmillan Encyclopedia of Earth Sciences*, Simon and Schuster Macmillan, New York, 1996, 462–463.
- U.B. Marvin, 'Planetary Geoscience, History of', in: E.J. Dasch (ed.), *Macmillan Encyclopedia of Earth Sciences*, Simon and Schuster Macmillan, New York, 1996, 836–840.
- U.B. Marvin, 'Ernst Florens Friedrich Chladni (1756–1827) and the origins of modern meteorite research', *Meteorites and Planetary Science*, 1996, 31, 545–588.
- C.M. Nelson, 'Powell, John Wesley', in E.J. Dasch (ed.), *Macmillan Encyclopedia of Earth Sciences*, Simon and Schuster Macmillan, New York, 1996, 887–889.
- E.L. Yochelson, 'Discovery, Collection, and Description of the Middle Cambrian Burgess Shale Biota by Charles Doolittle Walcott', *Proceedings of the American Philosophical Society*, 1996, 140, 469–545.

The *Newsletter* of the History of Geology Division of The Geological Society of America provides extensive coverage of activities in the field in the United States. For further information, contact the editor, William M. Jordan, Department of Earth Sciences, Millersville University, Millersville, PA 17551. (Fax: 717 872 3985; email [wjordan@marauder.millersv.edu](mailto:wjordan@marauder.millersv.edu)).

[Many other publications by North American authors can readily be traced through the issues of *Earth Sciences History*. Ed.]

The American Geophysical Union has been presented with an exciting opportunity in the history area. The Sloan Foundation has invited the AGU, the American Institute of Physics, and the American Meteorological Society to submit a proposal for a 'history on the web' project. The (substantial) funding

would be used to establish three separate web sites, one for each organization (AGU, AIP, AMS). Each organization would identify three important scientific discoveries or areas of work from the last 30–40 years for their web site. Then the scientists or others who had a role in the work, as well as historians who are researching the area, would be invited to contribute signed articles and relevant documents to the web site. At the end of two years, the material would be edited and archived for historians. The basic premises of the proposal are that : 1. scientific work is outstripping any accompanying history of science efforts; and 2. new technology can be used to close or reduce the gap. It is anticipated that the History of Geophysics Committee of the AGU will be actively involved in this project.

Professor Bork informs us that his article on Mason (listed above) is one of a series being published by the Geological Society of America, to interest high-school and college students, as well as professionals, in the lives and early careers of well-known geologists. (Other items in the volume are also listed above. [Ed.])

Professor Carozzi reports that he spent much of 1996 on his work on de Saussure's ideas on volcanology and the origin of prismatic basalt (between 1768 and 1796), in preparation for a book on this subject to appear in 1999, the bicentennial of de Saussure's death. His study is based on the transcriptions in English, with comments and verification of the observations in the field, of manuscripts preserved at the University and Public Library of Geneva: *Voyage en Italie: Vesuvius, Campi Phlegraei, Etna* (1772–1773); *Voyage aux Volcans d'Auvergne* (1776); *Voyage aux Volcans de Provence* (1787); *Voyage aux Volcans de Brisgau* (1794); and other new documents on de Saussure's final ideas on basalt (1796).

Erich Yochelson reports that he has signed a contract with Kent State University Press for a biography of Charles Doolittle Walcott for the period 1850–1907. The book is scheduled for publication in the spring of 1998.

Ellen Drake's book on Robert Hooke, *Restless Genius* (reviewed elsewhere in this *Newsletter*), has received Honourable Mention in Geology and Earth Science from the Association of American Publishers, and from the Professional and Scholarly Publishing Division Annual Awards Competition.

\* \* \*

The American Association for the Advancement of Science will meet in Philadelphia from 13 to 18 February, 1998, and as it will be the 150th anniversary of the Association there will be considerable emphasis on the history of science. And since the AAAS grew out of an earlier geologists' association, history of geology is likely to be particularly prominent. Dallas Peck is serving as general co-ordinator and enquiries may be directed to him at: [dpeck@usgs.gov](mailto:dpeck@usgs.gov).

A symposium by the History of Geology Division of the Geological Society of America will be held at Charleston, West Virginia, in April, 1998. For further information contact Peter Lessing ([lessing@geoserv.wvnet.edu](mailto:lessing@geoserv.wvnet.edu)) or Gregory Good ([ggood@wvu.edu](mailto:ggood@wvu.edu)).

### Venezuela

The only known activities in the field of history of the geological sciences have been under the auspices of the "Venezuelan Society for the History of Geosciences (SVHGc)", which has maintained an active Newsletter since 1984. During 1996, issues 57, 58, and 59 have been published, and fifty copies distributed between our members and some selected libraries.

The main articles are as follows:

#### *Concerning Geological Events or Localities*

'Contributions to the study of the 1929 Cumana earthquake'. J.A. Rodriguez.

This 77-page essay features the retrieval of 168 previously unknown documents, which were deposited in the Historical Archive of the Miraflores Presidential Palace in Caracas. At that time the government was headed by the dictator J.V. Gomez. Many individuals and government officials sent him letters and telegrams with useful information about the earthquake, and made various requests. Being Venezuela, an earthquake-prone country, this shows the importance of historical sources to unravel the characteristics of a given earthquake. Now one of the members of the SVHGc is working with church archives to document the devastating 1812 earthquake.

'History of the studies and knowledge of the "volcanoes" of the State of Lara'. F. Urbani.

This work presents a chronological treatment of what is known about the so-called "volcanoes" in the State of Lara, western Venezuela, which are nothing else than the effects of the natural underground

burning of coal and coal rich rocks. The first reference is from 1578 making this early description the first one made in Venezuela about a geological phenomena, but it was only in 1987 that the nature of these phenomena came known.

'The gold of El Callao'. A. Fernandez and R. Salazar.

A short account of the development of the 19th-century gold works in the Guayana region in southern Venezuela.

'The cave of the Guaire river, south-east of Caracas'. F. Urbani.

This paper documents the existence of a cave that formerly completely conveyed the waters of the Guaire river—the one that flows through the present city of Caracas. The cave was filled with sediments and debris during the huge flood of October 7, 1892 and a few years later the remaining holes where water was sinking were filled with debris by the workers of a nearby hydroelectric plant.

### *Biographical Papers*

Victor M. Lopez, Carl Wiedenmayer, and Francisco de Paula Alamo. By F. Urbani.

Dr Lopez was the first Venezuelan to obtain a PhD in geology and in the years 1937 and 1938, established the Venezuelan Geological Survey and the Geology School. Dr Wiedenmayer, was a Swiss geologist who prior to World War II worked actively in the exploration and development of some oil fields in western Venezuela. Alamo on the other hand was an active publicizer of geological phenomena, mainly caves and hot springs.

Franco Urbani, Caracas

### **Yugoslavia (1995–96)**

Three symposia on the history of science in Serbia have been our most important events in the last two years:

1. 'Natural Sciences and Mathematics with the Serbs from the 18th century to the early 19th Century', 26–27 June, 1995, at Novi Sad;
2. 'A Half-century of Science and Technology in Renewed Serbia, 1804–1854', 25–26 October, 1995, at Kragujavac;
3. 'Science and Technology in Serbia in the Second Half of the 19th Century, 1854–1904', 7–8 May, 1996, at Kragujavac.

### *Publications*

- A. Grubic, 'Geology in Serbia in the 18th and the First Half of the 19th Century', in *Natural Sciences and Mathematics in Serbia in the 18th and Early 19th Centuries*, Serbian Academy of Sciences and Arts, University of Novi Sad, Matica Srpska, Novi sad, 1995, pp. 127–134.
- V. Jovic, 'Serbian Geological Collections in the Late 18th and the First Half of the Nineteenth Centuries', in *Natural Sciences and Mathematics in Serbia in the 18th and Early 19th Centuries*, Serbian Academy of Sciences and Arts, University of Novi Sad, Matica Srpska, Novi sad, 1995, pp. 223 – 228.
- V. Jovic, 'Serbian Geology in the First Half of the Nineteenth Century', in *Natural Sciences and Mathematics in Serbia in the 18th and Early 19th Centuries*, Serbian Academy of Sciences and Arts, University of Novi Sad, Matica Srpska, Novi sad, 1995, pp. 229–232.
- V. Jovic, 'Geological Issues in Vuk Stefanovic Karadzic's Correspondence', in *Natural Sciences and Mathematics in Serbia in the 18th and Early 19th Centuries*, Serbian Academy of Sciences and Arts, University of Novi Sad, Matica Srpska, Novi sad, 1995, pp. 233–238.
- V. Jovic, 'Geological Research in Renewed Serbia (1804–1854)', in *A Half Century of Science and Technology in Renewed Serbia, 1804–1854*, University of Kragujevac, Kragujevac, 1995, pp. 182–191.

In 1996, the Serbian Academy of Sciences and Arts began publication of a new and important edition: *Lives and Works of Serbian Scientists* (edited by M. Saric). The first volume includes an extensive biography and bibliography of Jovan Zujovic (1858–1938), the first Professor of Geology in the Faculty of Philosophy.

Aleksandar Grubic, Beograd



## ÉLOGES

### Italy—Indonesia

S. Sartoni:

#### In Memory of his Collaboration with Italian Palaeontologists

Sartono Sastrohamidjojo, Professor of Geology at the Bandung Polytechnic Institute (*Institut Teknologi Bandung—ITB*) in Indonesia, was born in Madiun, East Java, on 20 June, 1928. He studied geology in Bandung under the supervision of the Dutch professor, T.H.F. Klompé, and later succeeded him in the chair of geology at the Bandung Polytechnic.

Klompé loved Indonesia, a passion shared by many Europeans, and when the Dutch were expelled from the country he moved to nearby Malaysia, living there until his death. He requested—and his wish was fulfilled—that his ashes should be buried in the crater of the volcano Tangkuban Prahung (meaning 'upturned boat'), which rises north-west of Bandung.

Sartono rarely used his family name, which he shortened to 'S', followed by his first name, Sartono. Even in his passport he was registered as Sartono bin Amino, his father's name, the practice used by Muslim-Arabs. The variety of name formations in a country as large as Indonesia, with its complex traditions, allowed this freedom.

Sartono may be considered the 'father' of the Indonesian geology of the new generation: the majority of Indonesian geologists who graduated after the country's independence have been his students or students of his former students.

Sartono's principal field of study was Indonesian regional geology, with surveys in many parts of this huge country. He knew Indonesia as did few others, through his lengthy explorations and the large number of undergraduate theses involving geological mapping, which he supervised in many parts of the archipelago.

Sartono refined knowledge of Indonesian stratigraphy and tectonics. He discovered many new geological formations and interpreted the sequences and the correlations in little-known areas. He was particularly adept in structural design.

Another important field of Sartono's research was palaeoanthropology, with numerous discoveries in the classical areas of Sangiran-Krikilan and of Trinil in Central Java—places where 'Pithecanthropus' (*Homo erectus*) and fossil human ancestors such as *Meganthropus palaeojavanicus* have been discovered. To these studies he dedicated much attention and energy, and he achieved important results. He also studied the fossil mammals associated with the humanoid remains.

Sartono also had important cultural responsibilities in Indonesia. For instance, he advised on the stones to be used for the restoration of the temples of Borobodur (Buddhist) and Prambanan (Hindu), close to Yogyakarta. There he curated the specimens of the geological section of the 'Veteran' University.

We should particularly remember the on-going collaboration of Sartono with the Italian research group, with the 'Tethys-Indonesia' study-program; and 'From Tethys to the Mediterranean Sea'. This involved co-ordination with the present writer and participation of colleagues from the universities of Padua (Giampietro Braga), Milan (Elia Robba), Modena (Antonio Russo and Giampaolo Sighinolfi), Rome (Ruggero Matteucci and Federico Carbona), and Catania (Italo Sebastiano Di Geronimo). In this program, much research was done on Cenozoic Tethys and its palaeobiogeography. Large collections of molluscs, bryozoans, and foraminifera allowed comparison of Mediterranean faunas with their contemporaries at the opposite side of the Tethys. Thereby, important results in the field of Tethyan palaeogeography were achieved.

Sartono was always a willing guide for his Italian colleagues, even in difficult and remote areas, organizing their logistic arrangements and suggesting suitable areas for study; and he accompanied them in the field giving them the benefit of his expert knowledge. I like to remember the sunny excursions undertaken with him in several parts of Java, Sulawesi, Buton, the long car journeys for internal travel, the voyages by boat or plane among the many islands, the visits to his laboratories and to the scientific museums, and the geological discussions with his students. He organized seminars for Italian geologists in Bandung, in Yogyakarta, in Cepu (at the gas company MIGAS), and in Ujung Pandang. In Bandung he organized a workshop of the Italian-Indonesian study-group and edited its Proceedings.

Ten students from Padua University and one from Milan University, who carried out their research for their theses in Indonesian palaeontology had Sartono as their invaluable guide in Java and in Sulawesi.

Sartono visited Italy in 1987 and in 1993, invited by his Italian colleagues. He gave seminars in the places where he had had scientific collaboration, and enjoyed geological and palaeontological

excursions with his colleagues. He was in contact with the Centre for Study and Research *Ligabue* in Venice, visited the institution, and in 1994 led an excursion of these people to the classical sites of Pithecanthropine fossils.

The participation of Sartono in joint studies with his Italian colleagues was on-going and very important, even if few joint papers were published during his lifetime.

Sartono died in Leiden during a visit to the Netherlands, on 21 October 1995, but his body was returned to Indonesia for burial.

Giuliano Piccoli, Padova University.

[I am grateful to Dr Premonowati from Yogyakarta 'Veteran' University for her critical reading of my manuscript.]

### **The Life and Work of a Great Portuguese Geologist and Educator: Carlos Teixeira**

Following the renewal movement involving geological studies in Portugal during the second half of the twentieth century, there stands out a remarkable personality: Carlos Teixeira. The quantity and excellence of his scientific work, consisting of about five hundred titles on subjects relating to geology, makes him one of the greatest of Portuguese scientists.

Teixeira's *oeuvre* bears the unmistakable stamp of its author, namely his knowledge, his enthusiasm—in a word his total engagement towards the science of his motherland.

Teixeira had a passion for his country's geology, which he knew like no one else. He was, in fact, an ascetic in science. Absorbed in the realm of the spirit, he set aside any and every demand for welfare or rest, seeking his own personal goals throughout his lifetime.

One can scarcely imagine Teixeira's contribution to the development of geological studies this century. The role he played on behalf of geology was a leading one, from whatever point of view it is judged, be it in quantity, determination, or devotion to the cause of the science.

Teixeira's first published works dealt with anthropology, prehistory, and ethnography. Later, he decided to change to the fields of palaeobotany and geology, with special attention paid to the Carboniferous flora and other features of the Iberian massif. His contributions to this area of knowledge were decisive, chiefly because of the inventory he drew up regarding the existing fossil flora. Teixeira's work in palaeobotany was without doubt one of the most important aspects of his scientific career, for which he enjoyed both national and international recognition.

Teixeira did not, however, confine himself to the study of the flora of Portuguese Carboniferous, the synthesis of which he defended for his doctoral dissertation. He went much further, exhaustively studying the Mesozoic flora and publishing several major articles dealing with the Cenozoic vegetation. He also published studies of the Gondwana flora.

After many years, this remarkable scientist eventually became occupied with the study of the geology of the whole of Portugal. We can say that he visited all those places that can claim to have geological interest. This enabled him to gather together materials and collect observations, in which are found various revisions and the incorporation of up-to-date knowledge. In effect, it was his data-bank—patiently collected during his many years of research—that enabled him to accomplish his several works of synthesis on Portuguese geology.

Teixeira not only promoted and stimulated the revision of most of the country's geological problems, but also supported and helped towards the education of numerous geologists who, together with him, patronized and continue to patronize the development of Portuguese geology. He didn't just care about the scientific development of his students; he also assisted towards their professional advancement and provided employment for new graduates, both in the motherland and in Portuguese-speaking countries. He also visited Angola, Mozambique, and India, where he completed several important studies.

Teixeira also dealt with the geological problems that concern both Portugal and Spain; and he organized and actively participated in geological meetings relating to the western part of the peninsula. Moreover, confronted with the progressive deterioration of the environment, he did his utmost to protect and defend it. In addition, he promoted the teaching of geology in Portugal, both at the tertiary and secondary levels, where he joined forces and fought for geological education. He wrote numerous articles in which he recommended the introduction of geology teaching in secondary schools, and emphasized the relevance of the discipline.

Having reached the summit of his career, Teixeira also performed a number of public duties, always leaving the unmistakable mark of his personality. Let us mention just some of them: Official Collaborator of the Portuguese Geological Services; Member of the Nuclear Energy Board; Director of the

Geology Research Centre at Lisbon University's Science Faculty; responsibility for the India Geological Legation; Member for Petrologic and Palaeontological Studies, etc. He was also a Member of the Lisbon Science Academy and Consulting Member of its Spanish counterpart.

During his period at the Academy of Science, Teixeira endeavoured to promote the activities and reputation of this institution, by his regular presentation of communications, all remarkable for their originality. There, he strenuously defended the use of the Portuguese language.

Undoubtedly, Teixeira was a remarkable personality in Portuguese geology in the twentieth century: we are deeply indebted to him as regards the present geological studies in Portugal. Considering the magnitude of his accomplishments, the Academy decided to commemorate him and has created a prize named in his honour.

Francisco Gonçalves, Évora, Portugal

#### **Professor Teiichi Kobayashi**

Professor Teiichi Kobayashi, Professor Emeritus of the University of Tokyo and Member of the Japan Academy died of old age at 94 on 13 January 1996. He was a foundation member of INHIGEO.

Kobayashi was born in Osaka on 31 August, 1901. After graduating from the Geological Institute, University of Tokyo, in 1927, he spent most of his time in the Institute and was professor of geology and palaeontology from 1944 to 1962. After his retirement in 1962, he continued his studies in geology and palaeontology. In particular, he promoted the study of the geology and palaeontology of Southeast Asia with his students and collaborators since 1961, and published a non-periodical journal, *Geology and Palaeontology of Southeast Asia*. The type-specimens described by him attained 3500, and are stored in the museum of the University of Tokyo.

The Jubilee Volume dedicated to Professor Kobayashi on his 88th birthday in 1989 indicates that he wrote 426 papers in foreign languages, and 353 in Japanese, in addition to 17 books. This extraordinary production of papers was described as 'tremendous industry' by Dr W.J. Arkell of Cambridge in his book *Jurassic Geology of the World*.

Kobayashi's wide contributions may be divided into Early Palaeozoic stratigraphy and palaeontology in Korea and north-east China, Mesozoic stratigraphy and palaeontology in the Japanese islands and their surrounding regions, and geohistory and tectonics of the Japanese islands and Southeast Asia. For his work on the Sakawa orogenic cycle and its bearing on the origin of the Japanese islands, published in 1941, he was awarded the Japan Academy Prize. He was Vice-President of the International Union of Palaeontology from 1952 to 1955, and Vice-President of the International Union of Geological Sciences from 1961 to 1964. He was a member of the Japan Academy since 1970, and was elected honorary member of the Geological Society of Japan, the Paleontological Society of Japan, the Society of Geological Education of Japan, the Geological Society of Malaysia, the Geological Society of Thailand, the Royal Society of New Zealand, and the Geological Society of America. He was also awarded numerous prizes, including the Leopold von Buch Award of the Geological Society of Germany in 1956, and the Award of La Palter University in 1977.

Yasumoto Suzuki (Tokyo) and Kenzo Yagi (Sapporo)

#### **Professor Noboru Yamashita**

Professor Noboru Yamashita, Professor Emeritus of Shinshu University and former secretary general of the association died of cancer on 15 May, 1996 at the age of 73. He had been working on Edmund Naumann's contribution to the geological works of the Japanese islands in early Meiji era for the last ten years.

Naumann was the first professor of the Geological Institute, University of Tokyo, and recommended the establishment of the Geological Survey of Japan. He was regarded as one of the founders of Japanese geology by his extensive and excellent fieldwork during his sojourn in Japan from 1875 to 1885. He clarified the geological frameworks of the Japanese islands and established the *Fossa Magna* in the western end of Northeast Japan.

Yamashita and his collaborators published *Fossa Magna* from Tokai University Press in 1995. They reviewed the geology of *Fossa Magna* based on Naumann's contributions. Yamashita also translated Naumann's German papers into Japanese and published them as a book, *Research of Geology*, from the same Press after his death in 1996.

Yasumoto Suzuki (Tokyo) and Kenzo Yagi (Sapporo)

## Hans Prescher (1926–1996)

If one examines the history of the Agricola research the name of Hans Prescher is invariably and frequently encountered. For more than forty years his research stood at the centre of his scientific-historical interests. His results, within the framework of Agricola research, are of both national and international importance. But Prescher was not only head of the eleven-volume Georgius Agricola commemorative edition for the National Museum of Mineralogy at Dresden. He researched and published in other areas of the earth sciences and was also a member of the International Commission for the History of the Geological Sciences (INHIGEO) from 1980 to 1991.

Prescher was born in Strehla on the river Elbe on 8 May, 1926. After a humanist education he studied geology from 1946 until 1950 in Freiberg and Greifswald. The *Bergakademie Freiberg* conferred on him the *Dr. rer. nat.* for his work on the deposits of the Cretaceous of Saxony. From 1953 until 1985, he directed with both discretion and initiative the Dresden State Museum for Mineralogy and Geology.

Apart from the extensive scientific and organisational work in this tradition-rich museum, Prescher's special attention was always given to the history of geological sciences. Already in 1955 he conducted a large symposium in memory of the four hundredth anniversary of the death of Agricola. He also played a leading role in the international Agricola conference in commemoration of the five hundredth anniversary of that Renaissance scholar; and his initiative also led to a highly successful conference dealing with geology at the period of the Enlightenment (Görlitz 1978). In addition, he was responsible for the voluminous geo-scientific collections of Johann Wolfgang von Goethe, about which Prescher wrote a 700-page monograph that was published in 1978. This was also his *habilitation* thesis. We would also draw attention to a collection of biographies *Geologen der Goethezeit* (Leipzig 1979, Essen 1981) and *Leben und Wirken deutscher Geologen im 18. und 19. Jahrhundert* (Leipzig 1985), edited by Prescher.

Prescher's importance for biographically-oriented research came to the fore in his studies of the life and work of Johannes Kentmann (1518–1574), Lazarus Ercker (1530–1594), Johann Gottlob Lehmann (1719–1767), Nathanael Gottfried Leske (1751–1786), as well as other personalities in geology. Even in his last years, Prescher did not slow down. He almost finished the manuscript, *Ein halbes Jahrtausend Geowissenschaftler aus und in Sachsen, 1494–1994*, which contains about six hundred biographies of scholars and which will now appear posthumously. The total number of Prescher's scientific publications comprises, according to the National Museum for Geology and Mineralogy at Dresden, approximately two hundred and seventy titles.

Prescher also worked as a communicator in manifold ways. Skilfully, he brought authors together for co-operative publications. He was also successful in bringing colleagues together at conferences. Collaboration with him was always a joy. As a human being, Hans Prescher was held in high esteem and his scientific achievements were often honoured. Already in 1983 he was honoured with the title of *Museumsrat* for his distinguished museum work. In 1993, the University of Basel made him *Doctor philosophiae honoris causa* in appreciation for his researches on the life and work of Agricola. In 1995, the Federal President presented him with the *Verdienstkreuz am Bande des Verdienstordens der Bundesrepublik Deutschland*. On the occasion of his 70th birthday, Prescher was honoured with a commemorative publication, which will appear in the second half of 1997 as: *Abhandlungen des Staatlichen Museums für Mineralogie und Geologie zu Dresden*, Vol. 43, 1997.

Dr Prescher finally closed his eyes on 29 September, 1996. However, his work will live on and will have a permanent place in the study of the history of the geosciences.

Martin Guntau (Rostock) and Peter Schmidt (Freiberg)

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