

**INTERNATIONAL UNION OF
GEOLOGICAL SCIENCES**

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

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

NEWSLETTER 23

1991



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

**Printed at the Smithsonian Astrophysical Observatory
Cambridge, Massachusetts, U.S.A.**

CONTENTS

Preface	1
The INHIGEO Executive Board 1989-1992	1
INHIGEO Business meeting at the XVth International Symposium, Beijing, October 27, 1990	2
Future INHIGEO Symposia	3
A History of the IUGS	3
Activities of the International Union of the History and Philosophy of Sciences	4
Other organizations and events relating to historians of geology	4
The International Mineralogical Association's Commission on History and Teaching	4
The History of Earth Sciences Society	5
Meeting sponsored by the Northeast Science Foundation, Troy, New York, 1992	5
Country Reports	6
Australia	6
Brazil	7
Canada	8
China	9
Colombia	12
France	14
Federal Republic of Germany	15
German Democratic Republic	16
Hungary	18
India	19
Israel	20
Italy	20
Japan	21
Poland	21
Spain	23
Union of Soviet Socialist Republics	24
United Kingdom	25
United States of America	27
Venezuela	29
Yugoslavia	30
Book Reviews	32
INHIGEO Membership List	

PREFACE

This Newsletter reports on INHIGEO activities that occurred in the latter part of 1989, after the International Geological Congress in Washington, and all through 1990.

We have not reprinted the INHIGEO By-laws, which remain unchanged since they appeared last year in Newsletter 22. We have, however, included a complete up-to-date INHIGEO membership list because we feel that it is important for our members to have ready access to the names and addresses of other members. Next year we plan to add FAX and TELEX numbers to the addresses, so please list these in your letters to the Secretary-General. The current list includes several changes of address and all of the new members who were elected at the business meeting at Beijing, October 27, 1990. We now have 25 Full Members and 66 Corresponding Members in 30 countries. The Executive Board is especially pleased with the reinstatement of Japan as a member country and with the addition of Colombia and Costa Rica.

I urge every member to submit items for Newsletter 24 before January 1, 1992. It is customary for Corresponding Members to send news items to the Full Member from their country, and for the Full Member to write a country report and forward it, along with attached individual reports, to the Secretary-General. Some years ago the INHIGEO Board decided to print the Newsletters in English, and so I request that reports be sent to me in English.

Ursula B. Marvin
Secretary-General of INHIGEO
June 1991

The INHIGEO Board as confirmed by the IUGS Council for 1989-1992

President

Professor Martin Guntau
Universität Rostock
Rostock, Federal Republic of Germany
Fax: 37-81-34287

Secretary-General

Dr. Ursula B. Marvin
Harvard-Smithsonian
Center for Astrophysics
Cambridge, Massachusetts, U.S.A.
Fax: 617-495-7001

Vice President

Professor V. V. Tikhomirov
U.S.S.R. Academy of Sciences
Moscow, U.S.S.R.
Tel: 135-78-66

Past-President

Professor Gordon Y. Craig
University of Edinburgh
Scotland, U.K.
Telex 727442(UNIVED)

INHIGEO Business Meeting at the XVth Symposium In Beijing, 1990

President Martin Guntau opened the meeting at 7:30 p.m. on October 27, 1990. In his opening remarks, he expressed congratulations and thanks to Professor Wang Hongzhen and the Organizing Committee that planned the highly successful Beijing Symposium.

Dr. Guntau reported on plans for the XVIth INHIGEO Symposium to be held at Dresden in September, 1991, and on proposals that had been submitted for INHIGEO Symposia at the 29th International Geological Congress at Kyoto in 1992.

Dr. Marvin reported on the successful search among INHIGEO members for a person willing to write a history of the IUGS. Former Vice President Cecil Schnee, Professor Emeritus of the University of New Hampshire, expressed an interest and arrangements had been made with the IUGS.

The main item on the agenda was the election, for which ballots had been distributed to all Full Members. Those present, who had not returned their mail ballots, voted at the meeting. Dr. Marvin counted their votes, together with those returned on mail ballots, and announced election of the following new officer and members:

Vice President: Professor Wang Hongzhen, China University of the Geosciences and the Chinese Academy of Sciences.

Full Member: Professor Emeritus Kenzo Yagi, of Hokkaido and Tohoku Universities, Japan.

Corresponding Members:

Colombia	Armando Espinosa-Baquero
Costa Rica	Guillermo Alvarado
	Luis Morales
	Gerardo Soto
F. R. Germany	Peter Schmidt
Japan	Hideo Kobayashi
	Daikichiro Shimizu
	Kanenori Suwa
	Yasumoto Suzuki
United Kingdom	Beryl Hamilton

Note: Elections of the Vice President and Full Member are subject to approval by the IUGS Council, which will meet during the IGC in Kyoto, 1992.

After a discussion of possible future INHIGEO activities and symposia, the meeting adjourned at 9:00 p.m.

Future INHIGEO Symposia

XVth International Symposium of INHIGEO, on *Museums and Collections in the History of Mineralogy, Geology, and Paleontology*, in Dresden, September 9th -15th, 1991

More than 50 participants in 20 countries have preregistered and 50 abstracts have been submitted for this Symposium. We look forward to this opportunity to meet with INHIGEO members from around the world and carry on a very fruitful exchange of information and ideas.

For last minute information, please contact one of the organizers: Professor H.-J. Bartsch, Humboldt-University of Berlin, Museum of Natural History; Professor M. Guntau, Department of History, University of Rostock; Dr. G. Mathé, Director of the State Museum of Mineralogy and Geology in Dresden; Dr. Peter Schmidt, Mining College of Freiberg, Library; or Doz. Dr. W. Weber, Head of Geoscientific Collections, Mining College of Freiberg. Formal arrangements are made through:

Gesellschaft für Geologische Wissenschaften
Sekretariat/ INHIGEO
O-1040 Berlin, Germany

29th International Geological Congress, Kyoto, Japan, 1992

INHIGEO will sponsor the following two symposia at the IGC:

25-1. *The development of geology in Japan and the international exchange of ideas on earth sciences.* Convenors are Martin Guntau, Mitsuo Hashimoto, and Arata Sugimura.

25-3. *The history of meteorite studies in Japan, and international contributions to advances in meteoritics.* Convenors are Masatake Honda, Ursula B. Marvin, and Kenzo Yagi (INHIGEO's new Full Member from Japan).

Symposium, No. 25-2, is not sponsored by INHIGEO but should be of great interest to geologists and historians of geology. Its title is *Fifty years of mathematical geology: a golden anniversary*.

The INHIGEO symposia are scheduled for September 2nd and 3rd. Further information may be obtained by writing to:

29th IGC
P.O. Box 65
Tsukuba, Ibaraki 305, Japan

History of the International Union of Geological Sciences

In response to a request by the Bureau of IUGS, INHIGEO Corresponding Member and former Vice President Cecil Schneer is preparing a history of the Union. Professor Schneer sends the following appeal to all members of INHIGEO:

Any assistance that you can render would be much appreciated. Detailed information on the circumstances of the association of each of the member nations and affiliates of the IUGS would be particularly important. Who were the people involved--which organizations, agencies (government or private), societies, institutes, and universities? Who set the agenda for your organizational and personal involvement? Do you have any information on photographs, letters, or documents which are pertinent?

Many INHIGEO members have worked with the other IUGS commissions and related activities. Geologist-historians familiar with the problems, as well as the accomplishments of the IUGS affiliates, are in a particularly good position to help. Would you be willing to read critically the information that we have on these commissions and to recommend corrections and to supply additional information?

The history of the IUGS is the history of its relationship to the dramatic transformations that have taken place in geology in the crucial years from its inception in 1961 to the present--developments both reflecting and influencing social, political, economic and ideological change on an international scale. What were the relationships of the IUGS to the IGC, IUGG, UNESCO, ICSU and to other scientific unions?

Interested geologists/historians are urged to write directly to **Cecil Schneer, Newfields, NH USA 03856-0181**. For pertinent photographs or documents send **copies** only.

Activities of the International Union of the History and Philosophy of Science

The Division of History of Science of the IUHPS had a very active year that included the following activities.

The Commission of the History of Mathematics arranged a conference in Evora, Portugal, on the theme *L'histoire des mathématiques: la méthode des textes*, July 16-21, 1990. Organizers were Professor Jean Dhombres, CNRS, Paris, and Professor Luis Saraiva, Lisbon, Portugal.

A conference on scientific revolutions was arranged by the British Society of Science in Oxford, July 17-21, 1990.

A Joint Meeting of the Division of History of Science and the Division of Logic, Methodology and Philosophy of Science was held in Florence, December 12-14, 1991, under the title *History and Philosophy of Modern Science*. It was arranged by Florence Center for the History and Philosophy of Science and the Istituto de Museo di Storia della Scienza.

In 1991 a conference on *Non-verbal Communication in Science Prior to 1900* will be held in Trento, Italy, October 1-3. Organizers are the Commission of Bibliography and the Commission of Documentation.

The XIth International Scientific Instrument Symposium will be arranged in Bologna, Italy, on September 9-13, 1991.

A conference on *Institutions in Arabic Science* will be held in Turkey during 1991, as an arrangement by the Commission of Islamic Science and Technology.

Tore Frängsmyr

Notices of Other Organizations and Meetings of Interest to Historians of Geology

The International Mineralogical Association's Commission on History and Teaching

At a meeting of the IMA in Beijing in 1990, the Commission for History and Teaching (CHT) elected new officers and proposed a four-year program of activities, some of which they hope to carry out in cooperation with INHIGEO. Among the historical projects suggested were international meetings to celebrate the 175th anniversary of the founding of the Mineralogical Society of Russia (1992 in the USSR), the 250th anniversary of the birth of Ignaz von Born (1992 in Hungary), and the 500th anniversary of the birth of Georgius Agricola (1994 in Germany). In addition, the CHT proposed to encourage national societies to investigate the topic "Mineralogy in

the Age of Enlightenment," and to support studies of historical collections, personal relics of famous mineralogists, and old tools and pieces of equipment that played important roles in the development of mineralogy. The officers of the CHT stated their intention of taking part in the INHIGEO Symposium at Dresden and establishing regular contact with INHIGEO officers. We look forward to meeting them in Dresden. The CHT officers for 1990-1994 are:

Chair:

Professor Hugo Strunz
Institut für Mineralogie und Kristallographie
Technische Universität Berlin
Ernst Reuter Platz 1
D-1000 Berlin 12, F.R.G.

Secretary:

Dr. Támas Weiszbürg
Department of Mineralogy
Eötvös University, Budapest
Múzeum körút 4/A
H-1088 Budapest, Hungary

The History of Earth Sciences Society (HESS)

HESS is an international society founded in 1982 for the purposes of bridging the gap between the humanities and sciences, with specific relation to the earth sciences, and providing an outlet for scholarly works in the history of earth sciences. To this end, it publishes the refereed journal *Earth Sciences History*, of which two numbers are issued each year in June and December. Beginning in 1991, the journal will be printed by Allen Press, Inc. of Lawrence, Kansas.

The issues contain contributed papers, book reviews, meeting announcements, and news items of interest to historians of geology. Volume 8, No. 2, 1989, was a special issue commemorating the life and work of Claude C. Albritton, Jr. (1913-1988). The papers included those presented at the 28th International Geological Congress in a symposium entitled: *The Idea of Time: Changing Concepts of the Antiquity of Man and the Earth*. Volume 9, No. 2, 1990, contained the papers presented at the IGC symposium on *Trans-Atlantic Exchange of Geological Ideas in the 19th Century*.

Information on membership and subscriptions may be obtained from the Secretary, Kennard B. Bork, Denison University, Granville, Ohio 43023, USA.

Notice of Meeting Sponsored by the Northeastern Science Foundation, 1992

A meeting on the History of Geology will be held in the Northeastern Science Foundation's Center at Troy, New York in 1992. Preliminary plans call for a session of theme-oriented papers and posters to be combined with field trips comparable to the IGC History of Geology excursions held in that area in 1989. The meeting will precede or follow the meeting of the British Society for the History of Science which, jointly with its Canadian and U.S. counterparts, will meet in Toronto on July 25-28, 1992. For information write to:

Professor Gerald M. Friedman
Northeastern Science Foundation, Inc.
15 Third Street
P.O. Box 746
Troy, New York 12181-0746

COUNTRY REPORTS

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

AUSTRALIA 1989-1990

The wide ranging interest within the Australian community continues to lead many geologists to work on the history of geology. The most significant meeting during the period was a "mini-symposium" held in Sydney in September 1989 to commemorate the centenary of the death of J. E. Tennison Woods (1832-1889). From the mid 1850s until his death, Woods was a prolific author, especially on Cainozoic palaeontology and stratigraphy in SE Australia. Papers originating from the symposium by A. Player, N. W. Archbold, K. L. McDonnell and P. Martin, with an introduction by D. F. Branagan, have been published in the *Journal and Proceedings of the Royal Society of New South Wales* Vol. 122.

In Adelaide, a similar commemorative meeting was held to remember the birth of C. T. Madigan (1889-1947). Madigan was Lecturer in Geology at the University of Adelaide from 1922 and was one of Australia's last explorer-geologists. His work on desert landforms culminated in his leading the first crossing of the Simpson Desert in 1939. C. R. Twidale and L. W. Parkin have a paper on Madigan's contribution in press with the *Transactions of the Royal Society of South Australia*.

A significant historical publication by Tasmanian geologists is "History of Discovery, Study and Exploration of Coal in Tasmania" by C. A. Bacon and M. R. Banks (1989) in *Papers and Proceedings of the Royal Society of Tasmania* 123:137-189. Banks also completed an historical introduction to "Geology and Mineral Resources of Tasmania," *Geological Society of Australia, Special Publication 15* (1989).

Prominent South Australian geologist, R. C. Sprigg, has published an anecdotal and largely autobiographical account of his experiences as a geologist from 1930-1955. The book entitled *Geology is Fun*, has the stated philosophy of "never spoil a good story for the sake of unconfirmable fact," and cannot be classed as an academic study. However, this 349-page volume does contain numerous, previously unrecorded historical insights.

Corresponding Member, David Branagan, has been especially active in historical research, and continues to work on S. Stutchbury, A. R. C. Selwyn, T. W. E. David and the history of geological mapping in Australia. He presented papers on these topics at the 28th International Geological Congress, the 18th International Congress on the History of Science, and the recent Canada-Australia Workshop on Science and Technology. Branagan's recent publications include:

"History of Early Work" in R. W. Johnston (Ed.) *Intraplate Volcanism in Eastern Australia and New Zealand*. Cambridge University Press (1989).

"Geological maps of Australia in the nineteenth century and the search for mineral wealth." *Proceedings of the Pacific Rim Conference, Queensland* 2:179-182 (1990)

"A History of coal mining in New South Wales" in D. F. Branagan and K. L. Williams (Eds.) *Coal in Australia. Proceedings of the Third Edgeworth David Day Symposium, University of Sydney*, 1-16 (1990).

During 1989 and 1990 Barry Cooper completed a new historical review of South Australian geology to be published in an updated volume on *The Geology of South Australia*. Also in Adelaide, historian Bernard O'Neill has commenced preparing a history of the South Australian Department of Mines and Energy from 1943 to the present. Scheduled for completion in 1994, the centenary year of the Department, this study will complement O'Neill's book on the early history of the South Australian Mines Department.

In December, 1990, the Earth Sciences History Group of the Geological Society of Australia issued Newsletter No. 12 containing a feature article by Alistair Stewart, "Reminiscences of BMR Mapping in Central Australia," and a wealth of information on past and future meetings and other events.

Plans have been made for the following two historical events:

A centenary meeting to commemorate the foundation of the Geological Survey of New South Wales, August 14, 1991.

An historical session entitled *Old mines, old data, old ideas: what future?* at the 11th Australian Geological Convention, January 18-25, 1991, at Ballarat, Victoria, an historic 19th century gold-mining town.

Barry Cooper

The INHIGEO Executive Board expresses its special thanks and appreciation to Tom Vallance, who served as the Full Member from Australia for 22 years, from the founding of INHIGEO in 1967 to 1989, when he retired from his Professorship at the University of Sydney and yielded his Full Membership in favor of Barry Cooper. Tom spent 13 of his 22 years as a Vice President and continues his association with INHIGEO as a Corresponding Member. Tom, who is remembered as an outstanding teacher by his many students and associates, has a most impressive bibliography of writings on the history of geology. He also has participated in numerous INHIGEO symposia and field excursions, and was a leader of the memorable history of geology trip to the Orange Mountains and the gold fields of Ophir during the 1976 IGC in Sydney. We look forward to receiving news of his continuing research into the history of geology.

Ursula B. Marvin

BRAZIL 1989-1990

The Paleontological Department of the National Museum started a serious and important effort to recuperate its collections. Work on the invertebrates started in 1988 and was completed in 1990. The entire collection of about 45,000 specimens of invertebrates, including the fossils collected by the Imperial Geological Commission of 1875-1877, is now completely identified, catalogued, and available for studies. These historical specimens constitute a major part of the collection. Work is proceeding with the vertebrates.

Presentations and Publications

Figueirôa, S. F. de M. (1989). *Some methodological questions related to the history of scientific institutions*. III Centroamerican and Caribbean Congress on the History of Science and Technology, San Jose, Costa Rica, Abstracts, p. 25 (in Portuguese).

----- (1989) *Aspects of the history of geological sciences in Brasil*. III Centroamerican and Caribbean Congress on the History of Science and Technology, San Jose, Costa Rica. Abstracts, p. 36 (in Portuguese).

----- (1989) *Relations between Brazil and Germany in the field of Geological Sciences during 19th Century*. 28th International Geological Congress, Washington, D.C., U.S.A., Abstracts 1:485.

----- (1989) "Considerations about the role of the history of geology in geological education." *Rev. Bras. Geociencias*, 19(4):523-527 (in Portuguese).

Lopes, M. M. (1989). *Jose Bonifacio de Andrada e Silva's contribution to the exchange of scientific ideas between Europe and Brazil in the field of geological sciences*. 28th International Geological Congress, Washington, D.C., U.S.A., Abstracts 2:324-325.

Macedo, A.C.M., Fernandes, A.C.S., and Silva, V.G. (1989). *The paleontological collections of the National Museum: The Imperial Geological Commission invertebrates*. Southeastern Geological Symposium, Rio de Janeiro, RJ. Abstracts, pp. 72-73 (in Portuguese).

Paschoale, C. and Figueirôa, S.F. de M. (1989). *A study on the problem of geologic time: a semiotic approach*. 28th International Geological Congress, Washington, D.C., U.S.A., Abstracts 2:578.

-----, (1989) "Geologic time: a semiotic probing." *Earth Sciences History*, 8(2):116-122.

Two Masters dissertations and one PhD thesis presented strong historical approaches, with important compilations and syntheses:

Goncalves, P. W. (1989) *How space and time are interconnected in the knowledge of the Earth?* University of Campinas Faculty of Education (level: MSc). 138 p. (in Portuguese).

Martins, L. A. M. (1989). *State and mineral exploration in Brazil: a Basic Survey*. University of Sao Paulo/Politechnical School (level: Phd). vii +349 p, (in Portuguese).

Paschoale, C. (1989). *Geology as Semiotic of Nature*. Catholic University, SP (level: MSc). 180 p. (in Portuguese).

Silvia F. de M. Figueirôa

In 1989 INHIGEO welcomed Brazil as a member country and elected Silvia Fernanda de Mendonça Figueirôa as the Full Member during the 28th International Geological Congress in Washington, D.C.

1990 saw publication of *O Conhecimento Geológico na América Latina: Questões de História e Teoria*, a 325-page volume containing 24 papers presented at the First Brazilian Colloquium on the History and Theory of Geological Knowledge, held in Campinas, Sao Paulo, in 1988. The papers are organized in four sections focusing on the geological sciences in Latin America, the geological sciences in Brazil, geological sciences in general, and theory and methodology of geological knowledge. Three papers are in English and 21 are in Portuguese. The colloquium sparked a great deal of interest and attracted 83 participants from many parts of Brazil and also from Venezuela, Peru, Mexico, Costa Rica, the USA, UK, USSR, and GDR. The Proceedings volume was distributed to all participants and to many other interested persons and to institutions early in 1991. For any copies that remain available, requests may be addressed to Silvia Figueirôa.

Ursula Marvin

CANADA 1989-1990

In June, 1990, at the annual meeting of the Geological Society of London, Professor William A. S. Sarjeant was accorded a major international honor. He was presented with the Sue Tyler Friedman Medal for his distinguished work on the history of the earth sciences.

The Medal was given for his landmark seven volume *Geologists and the History of Geology: An International Bibliography from the Origins to 1984*. The work has been described as uniquely comprehensive and of inestimable value to geologists and historians (see Book Reviews, Page 38 of INHIGEO Newsletter 22). It brought together for the first time documentation on the history of geology from all references printed in the Latin alphabet. A display of Professor Sarjeant's work is featured in the Library of the Geological Society of London at Burlington House, Piccadilly.

American geologist, Gerald Friedman, of the Northeastern Science Foundation at Troy, New York, and

who serves as the editor of *Earth Sciences History*, established the medal in honor of his wife, who is also a scholar. It has been presented only rarely. Stephen Jay Gould, of Harvard University, was the previous recipient.

Walter Kupsch

From a University of Saskatchewan newspaper clipping submitted by Kupsch:

A four-volume historical science fantasy by Saskatoon author Antony Swithin is being enthusiastically received on both sides of the Atlantic. Entitled *The Perilous Quest for Lyonesse*, the tetralogy is being published by Fontana/Collins, of London England and Harper and Collins, of Toronto. The first volume, *Princes of Sandastre*, went on sale in England in late June and will appear in Canada in September. The other three volumes are in press, and will be available over the next three years.

Antony Swithin is the pen name of Professor William A. S. Sarjeant of the Department of Geological Sciences. Professor Sarjeant chose the pen name, actually his second and third given names, to distinguish his fiction from his other writing, which is mainly scientific.

He describes the tetralogy as science fantasy rather than science fiction because, although "everything in it is at least scientifically possible," it is set in the 15th century on an imaginary island in the real world. "So there are elements of real history as well as fiction," Professor Sarjeant said. The opening volume tells how in 1403 Simon Branthwaite sets sail from England in search of the lost realm of Lyonesse and reaches the island of Rockall. The island is described as "a land wreathed in legend, a land of weird beasts and wondrous happenings, of great beauties and terrible dangers." The fantasy has its origins in Professor Sarjeant's childhood in England, where he was fascinated with maps of the world and in particular with islands. All appeared to have been claimed by some nation or other, but Rockall, to the west of Ireland, seemed to belong to no one.

"I developed it in my imagination, produced detailed geological, botanical and other maps of it, and began weaving a story around it. Ten years ago, I decided it was time to begin writing the story, which I planned as a single book. But I soon realized I would need two books, and then four. Like the island in my imagination, which grew to a small continent, the story expanded from one book to a tetralogy," he said. But even four books are too confining for his prolific imagination. He now realizes that he needs eight books to tell the whole story, and the first volume of the second tetralogy is well along.

Literary critics in Canada such as Alberto Manguel and Geoffrey Ursell, both of whom read the book prior to publication, have praised the work highly. An English bookseller's representative found it superior to other writings in the same genre owing to its "fine use of language and imagery." He referred to it as an "expertly realized historical setting merging beautifully with a traditional journey into a knowledge-fantasy story."

Another bit of welcome news from Canada is that Walter Kupsch, is working on a special issue of *Earth Sciences History* to be devoted to Arctic studies. [UBM]

CHINA 1989-1990

The XVTH International Symposium Of INHIGEO

The XVth International Symposium of the International Commission on the History of Geological Sciences was held at the China University of Geosciences (Beijing) from October 25 to 31, 1990, in partial coincidence with the VIIth Annual Meeting of the Committee on History of Geology, the Geological Society of China. More than 120 scientists attended the Symposium. Among the foreign attendants were INHIGEO President, Professor Martin Guntau, Secretary-General, Dr. Ursula B. Marvin, Vice President, Professor Vladimir V. Tikhomirov, Corresponding Member, Professor Wolfhart Langer, and Professor Henry Frankel. The Chinese participants included Professor Zhang Bingxi, Vice President of the International Union of Geological Sciences, Professor Zhou Mingzhen, Vice President of the International Association of Palaeontologists, Professor Xia Guozhi, Vice

President of the Geological Society of China, Professors Tu Guangzhi, Xia Xiangrong, Cheng Yexun, and others. The main theme of the Symposium was *The Interchange of Geological Thought between the East and the West*. Altogether 83 papers were submitted to the Symposium. Among the 66 papers with abstracts in English, 34 were read at the scientific sessions.

At the opening session Professor Wang Hongzhen presented a general report on behalf of the Organizing Committee of the Symposium. Subsequently, Professors M. Guntau, Shang Bingxi and Xia Guozhi expressed congratulations to the Committee. The renowned veteran geologist, Professor Huang Jiqing (T. K. Huang), Member of the Advisory Committee of the Symposium, sent a telegram of congratulation from Hongzhou where he is on leave. Professor Guntau pointed out that this was the first INHIGEO Symposium held outside of Europe and North America, and marked the extension of INHIGEO activities to Asia and other areas of the world. He also remarked that the theme of the meeting was very interesting and bore a significance not only in geology, but also in science in general. Both Professor Zhang and Professor Xia expressed appreciation of the efficient activities of INHIGEO and the hope that the present Symposium will promote further understanding and cooperation between the Chinese and the international geological community. Professor Cheng Yexun, President of China University of Geosciences (Beijing), tendered his welcome to foreign colleagues and expressed the hope that the present Symposium will promote research on the history of geological science in China.

In the back part of the meeting room there was an exhibition on the founders of geology in China. These included Li Siguang (J. S. Lee), Zhang Hongzhao (H. T. Chang), Ding Wenjiang (V. K. Ting) Weng Wenhao (W. H. Wong), and Amadeus W. Grabau, who devoted the latter part of his life to the study and teaching of geology in China and who introduced Chinese geologists to palaeontology and stratigraphy, which became the two fundamental branches of science in China. Panels of pictures of historical value denoting the activities of these pioneer geologists were exhibited along with their important academic works.

The scientific sessions focused on three topics. The first included ancient geoscientific ideas and general geology. In his paper on the international exchanges of scientific ideas Professor Guntau presented a historical analysis of the propagation of scientific thinking and its social background. Professor Zhang Bingxi gave a very interesting talk about the theory of Yin and Yang applied by Chinese geomancers to the classification of landforms.

The second topic embraced the various disciplines of geology. Professor Zhou Mingzhen pointed out the international character of vertebrate palaeontology. In the field of tectonics, Professors He Guoqi and I.I. Milanovsky made a comprehensive review of the interaction of geotectonic ideas between China and the Soviet Union, especially in the 1950s and 1960s, while Professor Dong Shenbao analysed the historical development of metamorphic geology as a branch of geoscience. In regard to applied geology, the interchange of seismological investigations was reviewed by Professors Ma Zhongjin and Henry Frankel, that of hydrogeological ideas by Professor Chen Mengxiong, and that of petroleum geology by Professor Tian Zaiyi and Dr. Shi Baoheng.

The third topic dealt with distinguished geoscientists. Dr. Ursula Marvin appraised Amadeus W. Grabau's pulsation and polar control theories in the light of current tectonic theories. Professor V. V. Tikhomirov reviewed T. A. Obrutchev's geological work in China and Professor Langer summarized the German contributions to the geology of China, both accomplished in the late 19th century.

After the scientific sessions were completed, short excursions were made to the Great Wall, the Ming Tombs and the nearby exposure of the Archaen-Proterozoic boundary, the Peking Man Museum and the Caves at Zhoukoudian, which combined geological, historical and cultural interests.

On October 31, symposium participants visited the tomb of A. W. Grabau on the shore of Weiming Lake which lies within the grounds of Beijing University. It happened that this year is the 120th anniversary of Professor Grabau's birth. Professor Guntau and Dr. Marvin laid a basket of flowers before Grabau's tomb to pay tribute on behalf of INHIGEO and of the Symposium participants to this great student of natural science. Afterward there was a visit to the Department of Geology at Beijing University. Publication of the Proceedings of the XVth Symposium are expected in 1991.

The VIIth Symposium of the Committee on History of Geology of the Geological Society of China (HGGSC) in partial coincidence with the XVth Symposium of INHIGEO was held in the same place from October 28 to 31, 1990. It was organized by the HGGSC and the China University of Geoscience (Beijing). About 45 delegates from various universities and institutes attended the meeting.

Wang Hongzen, Wang Genyuan

As noted on Page 2, Professor Wang Hongzhen was elected as a Vice President of INHIGEO at the Business Meeting held during the Symposium. The INHIGEO Executive Board welcomes its first member from Asia for many years. [UBM]

Other Activities

A three day Symposium chaired Prof. Wang Hongzhen, President of HGGSC was held at China University of Geosciences from 6 to 8 September 1990. The Symposium was jointly sponsored by the HGGSC and the Petroleum Society of Hebei Province. More than 80 participants attended and 48 papers were read and discussed at the Symposium, in which emphasis was placed upon the history of geological investigation and exploration of modern Chinese oil fields. Prof. Huang Jiqing (T. K. Huang), a geologist renowned in China, gave a special lecture entitled "A Review of the Petroleum Geological Work in China." Another important paper concerning the historical significance of the Yumen Oil Field, the first modern oil field in China, was presented by Prof. Tian Zaiyi, who was one of the pioneer explorers of this oil field. All the contributed papers will be published in a special volume by the Publishing House of China University of Petroleum.

A forum was held on Sept. 15, 1989 to commemorate the 100th birthday of Dr. Weng Wenhao, one of the founders of the geology in China. "The historic attainments of and academic achievements of Dr. Weng Wenhao" was the topic of the forum.

A Symposium on the theoretical importance and historical significance of the academic ideas of Professor Li Siguang (J.S. Lee) was held in Beijing from Dec. 6 to 8, 1989, under the auspices of the Chinese Association of Science and Technology and the Geological Society of China. Prof. Wang Hongzhen, President of the Paleontological Society of China and of the HGGSC, offered congratulations and thanks to these organizations at the opening session.

A forum presided over by Prof. C. C. Big was held in the Department of Geology, Taiwan University, from Dec. 29 to 30, 1989, in commemoration of the 90th birthday of the late Professor T. Y. H. Ma.

Publications on the History of Geology in China 1989-1990

Papers of the History of Geology (2), HGGSC, 1989, 162 pp. Geological Publishing House, Beijing.

This contains twenty-one papers including research results in mineralogy, hydrogeology, and the history of development of the modern Chinese geological undertaking.

China Today: Geological Undertaking. Xia Guozhi and Cheng Yuqi (Eds.), 1990, 627 pp. Geological Publishing House, Beijing.

This book records mainly the development of geology in New China with a brief review of the historical development of geology in ancient and modern China before 1949.

The early history of geological undertaking in China. Wang Hongzhen, Sun Ronggui and Cui Guangzhen (Eds.), 1990. 294 pp. Peking University Press.

This book was published in commemoration of the 100th anniversary of Dr. V. K. Ting's birth and the 110th anniversary of Prof. Zhang Hongzhao's birth. It includes 36 papers with abstracts in English, dealing with the history of geological undertakings, geological education, and geological research respectively.

Yin Zhanxun Recalling the Past. 1988. 171pp. Oceanography Press.

A chronology of Dr. V. K. Ting. Wang Yangzhi (ed.), 1989, 116 pp. Jiangsu Education Press.

Selected works of Dr. Weng Wenhao (W. H. Wong). Huang Jiqing (T. K. Huang), Pan Yuntang (eds.), 1989, 359 pp. Metallurgy Engineering Press.

Li Siguang: A pioneer of Geological Undertaking in China. Duan Wanti and Zeng Wenqu (eds.), 1989. 81 pp. Geological Publishing House, Beijing.

This booklet is a very brief account of the main activities of Li Siguang.

Who's Who of Chinese Geologists. Wang Hengli, Wang Zixian and Lizhong Jun (eds.), 1989, 259 pp. China University of Geosciences Press.

A book containing brief biographic notes of 366 geologists, listing their main papers and works.

A Brief History of Geology. Wang Hongzhen, Xia Xiangrong and Tao Shilong, 1989, 85 pp. (in English). HGGSC.

Wu Ruitang, Wang Hongzhen

Memorial Notice

Professor Sun Ronggui of the Department of Geology, Beijing (Peking) University, Corresponding Member of INHIGEO, died June 18, 1989 in Beijing. Sun was graduated from the Beijing College of Geology in 1956, and had since worked in Beijing University. As a visiting scholar Sun studied in the Department of Geological Sciences, University of British Columbia, Vancouver, Canada from 1984 to 1985. He was Deputy Secretary-General of the Committee on History of Geology, Geological Society of China (HGGSC), and a member of the Editorial Board of the journal *Pacific Ocean*. His main works on the history of geological sciences are:

Problems of Dialectics in Earth Sciences, 1980. Publishing House of People's Education.

Development of the Earth and Earth Sciences, 1982, *ibid*.

An Outline of the History of Geological Science, 1984. Peking University Press.

Yu Guang

COLOMBIA 1990

This is the first year in which Columbia has been represented in INHIGEO, so it seems appropriate to give other members some idea of the main works which have been published about the history of geology in Colombia.

Before 1980, data on the history of geology in Colombia were to be found randomly in other works, except for the following two studies by L. G. Duran and G. Botero:

Duran, L. G., (1973). "Reseña histórica de la geología en Colombia." En *Historia extensa de Colombia*, vol. 20, p. 289-307, Bogotá.

Botero, G., (1978). "Apuntes para la historia de las investigaciones geológicas en Colombia." En *Ciencia y Tecnología en Colombia, Biblioteca Básica Colombiana* No. 37, p. 147-180, Inst. Col. Cult., Bogotá.

Studies on the history of mining are a little more numerous:

Caycedo, B., (1971). "D'Elhuyar y el siglo XVIII neogranadino." Edic. Rev. Jiménez de Quesada, 316 p., Bogotá.

Poveda Ramos, G., (1981). *Minas y mineros de Antioquia*. Ed. Banco de la Republica, 175 p., Bogotá.

Restrepo, V., (1883). *Estudio sobre las minas de oro y plata de Colombia*. Sexta edicion, FAES, 259 p., Medellín.

Ryden, S., (1954). *Don Juan José D'Elhuyer en Suecia y el descubrimiento del tungsteno*, Seg. ed., Ed. Insula, Madrid, 86 p.

Suescun, D., (1978). "Breve historia de la minería colombiana." En *Ciencia y Tecnología en Colombia, Biblioteca Básica Colombiana* No. 37, Inst. Col. Cult., p. 181-198.

Works which deal with the history of related sciences:

Bateman, A., (1953). *El Observatorio Astronómico de Bogotá 1803-1953*. Publ. Univ. Nacional, Bogotá, 189 p.

Bateman, A., (1970). "Páginas para la historia de la ingeniería colombiana," *Bibl. Hist. Nac.*, col CXIV, 643 p., Bogotá.

Perry Zubieta, G., (1973). "Apuntes para la historia de las ciencias básicas en Colombia." *Rev. Acad. Col. Ci.Ex. Fis. Nat.*, vol. XIV, p. 5-32, Bogotá.

Bibliographical compilations:

Ramirez, J.E., (1957). *Bibliografía de la biblioteca del Instituto Geofísico de los Andes Colombianos sobre geología y geofísica de Colombia*. Seg. Ed., Inst., Geof. Andes, serie C, geología, 521 p., Bogotá.

Ramirez, J.E., (1973). *Primer suplemento a la bibliografía de la biblioteca del Instituto Geofísico de los Andes Colombianos sobre geología y geofísica de Colombia*. Inst. Geof. Andes-COLCIENCIASC, 436 p., Bogotá.

Venegas, A., (1960). *Bibliografía de los informes del Instituto Geológico Nacional*. Comp. Est. Geol. Ofic. Col., tomo IX, 587 p., Bogotá.

During the last decade, a great interest on the history of science has been aroused in Colombia. An interdisciplinary group, sponsored by the Colombian Science Foundation (COLCIENCIAS), worked from 1983 to 1987 on the social aspects of Colombian history of science (mainly the development of scientific institutions). In the field of the history of geology the results were published in two papers:

Espinosa, A., (1984c). "Historia de la investigaciones geológicas en Colombia. Notas a partir de la segunda mita del siglo XIX." *Rev. Ciencia Tecnología y Desarrollo*, vol. 8, p. 211-252.

-----, (1988a). "José Maria Cabal, Alejandro Humboldt y Enrique Hubach, su obra geológica y su contribucion al desarrollo de Colombia." *Rev. Ciencia Tecnología y Desarrollo*, vol. 12, p. 223-251.

During the last years, some specific works were published by A. Espinosa:

Espinosa, A., (1984a). "Minería y mineralogía en la Expedición Botánica." *Rev. Acad. Col. Ci. Ex. Fis. Nat.*, vol XV, no. 59, p. 31-36.

-----, (1985a). "Nuevos datos sobre el descubrimiento del platino y su metalurgia en la Nueva Granada en el siglo XVII." *QUIPU, Rev. Asoc. Latinoam. Hist. Ci.*, vol. 2, p. 7-22, México.

-----, (1987c). "El descubrimiento del platino y su metalurgia en la Nueva Granada en el siglo XVIII. Nuevos documentos de los archivos colombianos." *QUIPU, Assoc. Latinoam. Hist. Ci.*, vol. 4(3), p. 401-411, México.

----- (1989a). "Panorama histórico de la geología colombiana entre 1880 y 1980." *Rev. Acad. Col. Ci. Ex. Fis. Nat.*, vol. XVII, No. 64, p. 133-136.

----- (1989b). "La obra de Pierre Bouguer en la Nueva Granada y el descubrimiento de la gravimetría." *Rev. Acad. Col. Ci. Ex. Fis. Nat.*, vol. XVII, No. 64, p. 137-141.

The COLCIENCIAS group is now preparing a new project which will probably start in the second half of 1991.

Armando Espinosa

FRANCE 1988-1989

As usual, the French Committee on the History of Geology held three annual meetings during the years 1988 and 1989.

Among the papers listed below, the most prominent contributions of 1988 were those by Kenneth Taylor, Corresponding Member from the USA, on *Natural laws in the geology of the XVIIIth century*, and the celebration by J. Roger of the bicentenary of the death of Buffon.

In 1989, papers of special interest for historians of geology included one by F. Ellenberger, Full Member of INHIGEO, on the first lithological description of the Stampian stratotype near Etampes, by Guettard and Lavoisier, and one by Hugh Torrens, a Corresponding Member from the UK, who commemorated the 150th anniversary of William Smith's death. Philosophers may take due note of the paper in which B. Guy uses his own scientific research work on the skarns from the Pyrenees in order to determine how it is possible to use the hypothetico-deductive method in the Earth sciences. Finally, one may notice an inquiry made by J. Gaudant among French geologists on the reception of continental drift in France from Wegener to the first advent of plate tectonics.

Gabriel Gohau's book *Histoire de la géologie*, (1987) is reviewed below by Albert and Marguerite Carozzi. A second book by Gohau appeared in 1990, *Naissance de la géologie* in the series, *Les Sciences de la Terre aux XVIIe et XVIIIe*, Albin Michel, S.A., ISBN 2-226-03451-X, ISSN 0755-1843.

Publications in *Travaux du Comité Français d'Histoire de la Géologie* (COFRIGEO)

Troisième Série, vol. II, 1988

K. Taylor, "Les Lois Naturelles dans la Géologie du XVIIIème siècle: Recherches Préliminaires." 1-28

C. Blanloeil, "Vie et oeuvre du Baron André de Férussac (1786-1836)." 29-44.

P. Grandchamp, "La vie quotidienne d'un élève de l'Ecole des Mines à la fin du premier Empire, d'après les carnets de Charles-Marie-Joseph Despine." 45-59.

K. Taylor, "Sur les origines minéralogiques de la géologie: une nouvelle analyse, par Rachel Laudan (1987), des fondements de la science géologique." 61-65.

F. Ellenberger, "Remarques additionnelles sur le livre de Rachel Laudan "From Mineralogy to Geology: the foundation of a Science, 1650-1830." 67-69.

J. Vogt, "Réflexions psychologiques et naturalistes au sujet d'un tremblement de terre mineur de la fin du XVIIIème siècle." 71-74.

F. Ellenberger, "Un remarquable texte arabe médiéval sur le cycle érosion-sédimentation, dans une traduction nouvelle." 75-80.

J. Roger, "La place de Buffon dans l'histoire des sciences de la Terre." 81-88.

S. Caillere, "Sur l'inauguration d'un monument à la mémoire de Dolomieu à Cortina d'Ampezzo (Italie), le 13 juillet 1958." 89-92.

J. Gaudant and M. Schwarzbach, "Wegener, le Père de la Dérive des Continents," traduit de l'allemand par E. Buffetaut (Berlin, Paris, 1985, 144p.), 93-94.

Troisième Serie, vol. III, 1989.

G. A. Deicha, "Quelques aspects de la commémoration du 125ème anniversaire de la naissance de A. Lacroix, V. Agafonoff et V. Vernadsky." 1-5.

F. Ellenberger, "La première coupe historique du stratotype d'Etampes dressée par Lavoisier en 1767." 7-20.

J. Gaudant, "Principaux résultats de l'enquête sur la dérive des continents." 21-36.

M. Angel, "Structure et composition des pierres et des métaux d'après le *De mineralibus* d'Albert le Grand." 37-48.

E. Dudich, "Observations à la communication de M. Angel." 49.

Ch. Pomerol, "L'interprétation par Lavoisier (1789) du cycle transgression-régression: l'opposition entre bancs littoraux et pélagiens." 51-55.

H. Torrens, "In Commemoration of the 150th anniversary of the death of William Smith (1769-1839)." 57-63.

B. Guy, "Réflexions sur la formation des skarns de Costabonne (Pyrénées). La compréhension des événements singuliers. Une épistémologie de la trace." 65-77.

P. Bordet, "A propos des 'lettres inédites de Teilhard de Chardin à l'Abbé Gaudefroy et à l'Abbé Breuil'" (Editions du Rocher, 1988, 220p). 79-82.

J. Sigal, "Présentation d'ouvrage: 'Les recherches sur les Foraminifères fossiles en France des environs de 1930 à l'immédiat après-guerre ou: avant l'oubli.'" (Société Géologique du Nord, Publication no. 16, Villeneuve-d'Ascq, 1989, 107 p.). 83-85.

J. Gaudant, Analyse d'ouvrage G. Gouhau: "Histoire de la Géologie." (Editions La Découverte, Paris, 1987, 1987, 259 p.) 87-88.

J. Gaudant, "Analyse d'ouvrage F. Ellenberger: 'Histoire de la géologie'" Tome I (Technique et Documentation Lavoisier, Paris, 1988, 352 p.) 89-90.

J. Gaudant

GERMANY (Federal Republic of Germany) 1989-1990

The 18th International Congress of the History of Sciences took place in August, 1989, in Hamburg and Munich. Ewald E. Kohler (University of Regensburg) and M. Büttner (University of Bochum) organized the sessions on the history of geological sciences at Munich. Papers were read by INHIGEO President M. Guntau

and by J. M. Kajander, A. Jung-Hüttl, E. E. Kohler, S. Sheets-Pyrnson, P. Lange, A. Negoita, K. Schulte, B. Fritscher, E. P. Hamm, and A. S. Kleczowski.

A colloquium on the relations between geological sciences and language during the 18th and 19th centuries, organized by the linguist, B. Naumann of the University of Erlangen, was held in Bad Homburg on October 2-5, 1989. Among others, the speakers included INHIGEO Past Presidents Gordon Y. Craig and R. Hooykaas, Corresponding Members H. Hölder and W. von Engelhardt, and B. Naumann, W. von Rahden, G. Hofbauer, O. Wagenbreth, Th. Craig Christi, Th. Frank, and C. Knobloch. The papers will be published in a proceedings volume.

In October, 1989, a commemorative session was held for the 100th anniversary of the death of Heinrich von Dechen at the Dechen Cave in the Rhenish Slate Mountains by the Association of German Cave Explorers. The papers, all of which addressed the history of cave explorations in Germany, will be published in a proceedings volume.

The 5th and final issue of the bulletin "Mitteilungen" of the Working Group on the History of Geological Sciences, edited by W. Langer, was published in 1989. It contains about 50 bibliographic references from the FRG.

Notable publications include:

Hölder, H., *Kurze Geschichte der Geologie und Paläeontologie*, Berlin, 1989, 244 p.

Carlé, W.E.H., "Werner-Beyrich von Koenen-Stille. Ein geistiger Stammbaum wegweisender Geologen." *Geol. Jahrbuch*, A - 108, 499 p. Hannover, 1989.

In this book, the author includes passages on Hans Stille, his pupils, and his friends.

Wolfhart Langer

INHIGEO Full Member W. Langer attended the XVth INHIGEO Symposium in Beijing in 1990, where he presented a paper entitled: *German Contributions to the Knowledge of the Geology of China During the 19th Century*. He returned to Bonn via railroad from Beijing through Manchuria and Siberia. He is currently working on a booklet about the mineralogical collections of the 17th and 18th centuries in western Germany, and preparing an exhibit and catalog on the history of "juvenile paleontology" for the International Symposium on Cnidaria (corals) to be held at Münster in September, 1991. [UBM]

Ideas for sessions, papers, and participants are solicited for a two- or three-day symposium on the theme: *The Earth and the Carnegie Institution of Washington: Historical Perspectives after 90 Years*. The symposium will be held in May, 1992, and will include presentations by historians, philosophers, research scientists, and others. The goal is to place the research in geosciences carried on at the Carnegie Institution of Washington in the context of the historical development of the relevant disciplines, institutions, philanthropic activities, science in America, and international cooperation. For further information, contact Prof. Dr. Gregory A. Good, Universität Hamburg, IGN, Bundesstrasse 55, W-2000 Hamburg 13, Germany.

Garland Publishing is producing a volume *History of the Geosciences: An Encyclopedia*, scheduled for release in 1993. Inquiries and proposals for articles should be addressed to Professor Dr. Gregory A. Good at the address given in the previous paragraph.

GERMANY (German Democratic Republic) 1989-1990

In the two years preceding the 1990 German unification, the working group "History" of the Geological Society of the GDR continued its work with an emphasis on preparing and hosting conferences as well as issuing publications on the history of geology. In May 1989 the working group had 127 members. Several major conferences on the history of geology were held in 1989 and 1990 as well as a number of specialized meetings.

Most of the latter were dedicated to the scientific achievements of various German geologists and mineralogists.

Approximately 50 scientists participated in a two-day colloquium in the Thuringian town of Gera in October 1989. It was held to discuss the lives, work, and scientific impact of "Heimatgeologen" (regional geologists) in a historical context. More than 20 papers recalled geologists and mineralogists who were locally or regionally active or were known as important collectors of minerals and fossils.

From April 16 through 21, 1989, the 5th GDR-USSR symposium on the history of the geological sciences took place in the Saxon town of Holzau in the Ore Mountains. Of the 60 participants, 40 came from the USSR. Thematically, the symposium focused on global geological problems in the past, present, and future. Papers dealt with theoretical questions and with the development of individual geological disciplines. There were papers on paleogeographical and paleomorphological topics. Seismological phenomena with large spatial dimensions were discussed, as was the problem of how geological formations are to be correlated in a global context. Twenty-four papers were presented and excursions visited sites of historical and cultural as well as geological interest. A future German-Soviet symposium, to be held in the USSR, is under consideration for 1993 or 1994.

The papers of the 4th GDR-USSR Symposium on the History of the geological sciences, held in Baku (USSR) from September 29 through October 4, 1986, were published in E. Fabian, M. Guntau, S. F. Mechtier, V. V. Tichomirov (eds.) (1989) *Erdölgeologie. Geschichte und Gegenwart*. Berlin: Akademie Verlag. 195 pp, 24 ill., 3 tab., series: Schriftenreihe für Geologische Wissenschaften 27. ISBN 3-05-500270-9, DM 38.00, (in German). In 1990, these papers also were published in Russian, in Baku.

On June 11, 1990, the 10th Georgius-Agricola-Colloquium was held in Freiberg to mark the 225th anniversary of the Freiberg Mining College that was founded in 1765. Discussing the history of mining and extractive metallurgy, the accent was on the impact of mining colleges on the development of the above two branches of the geosciences. On the same occasion INHIGEO Corresponding Member A. M. Ospovat (USA), was awarded an honorary doctorate for his important works on the history of geology and, in particular, on the life and work of Abraham Gottlob Werner (1749-1817).

Further colloquia were held in Freiberg, Gernrode, and Graz (Austria) to commemorate Carl Christian Friedrich Mohs (1773-1839) on the 150th anniversary of his death, and in Dresden on the 175th anniversary of Hans Bruno Geinitz (1814-1900) and the 100th anniversary of Herman Schwanecke (1889-1978). To mark the bicentennial of the discovery of uranium by M. H. Klaproth (1743-1817), a colloquium was held in Berlin.

In 1989 and 1990 more than 80 papers on topics related to the history of geology were published in periodicals and anthologies. Standing out among these publications is an extensive scientific documentary account of the geological and mineralogical works of Johann Wolfgang von Goethe from their beginning until 1805 by Wolf von Englehardt, Dorothea Kuhn (eds.) (1989); *Johann Wolfgang von Goethe, Schriften zur Naturwissenschaft*, 2nd part, vol. 7: *Von den Anfängen bis 1805*. Weimar. 673 pp, 15 ill., 2 tab., ISBN 3-7400-0024-4, DM 78.00; in German).

On November 17 and 18, 1990, representatives of the various working groups on the history of geology and geophysics from former West and East Germany met for the first time in Erfurt (Thuringia) to talk about future cooperation in a unified Germany. After an intensive exchange of information and constructive discussions about various projects, it was agreed to jointly publish a newsletter on the history of geology and to prepare a conference probably to be held in Freiberg (Saxony) in 1992. This conference, in which all geohistorical working groups will participate, will address the history of geology in the individual German 'Länder' (federal states). So fresh impetus was given to future work about the history of the geosciences in a unified Germany.

Martin Guntau

For information on the XVIth INHIGEO Symposium in Dresden, September, 1991, see Future INHIGEO Symposia, Page 3.

INHIGEO President Martin Guntau attended the XVth INHIGEO Symposium in Beijing, October 25 to 31,

1990, where he participated in the opening and closing ceremonies, chaired the INHIGEO Business Meeting (see Page 2), chaired a session, and presented a paper entitled *The international exchange of scientific ideas--some aspects of its history*. [UBM]

From leaflets sent by M. Guntau and Peter Schmidt:

An International colloquium to commemorate the 200th birthday of August Breithaupt (1791-1873) will be held in the Bergakademie at Freiberg, Saxony, September 16-18th, 1991. Discussions will focus on four topics: advances in theories of paragenesis; interactions between modern disciplines of mineralogy and the concept of paragenesis; Breithaupt's activities as a mineralogist, specialist in ore deposits and entrepreneur, and his role in establishing an environmentally acceptable heavy industry; and the history of the geological collections of the Bergakademie.

A colloquium to honor the life and works of Alexander von Humboldt will be held in Freiberg, November 8-10, 1991, to mark the the 200th anniversary of his graduation from the Bergakademie. Fourteen papers are listed for presentation, a walking tour around Freiberg will follow in the footsteps of von Humboldt, a trip will be made to the Old Elizabeth mine, and a film will be shown on Humboldt and the ascent of Mt. Chimborazo. For information, write to:

Alexander-von-Humboldt-Forschungsstelle
Leipziger Strasse 3-4
O-1086 Berlin
Telephon. Berlin 2236-283

HUNGARY 1989-1990

An English-language special issue (No. 2) of the *Annals of the History of Hungarian Geology* entitled "History of Mineral Exploration in Hungary until 1945" (eds. G. Csíky and Gy. Vitális) was prepared for and presented to the XIVth INHIGEO Symposium at the 28th International Geological Congress in Washington, D.C., U. S. A.

On that occasion, G. Csíky succeeded E. Dudich as Full Member of INHIGEO, and J. Hála and Gy. Vitális were elected Corresponding Members of INHIGEO. Several papers were published on the topic "Hungarian-American Interrelations in the Field of Earth Sciences" (by G. Csíky, J. Hála, S. Jaskó, T. Kecskeméti, B. Nagy, T. Póka, A. Rónai, V. Széky-Fux) in No. 7 of the *Studies of the Hungarian Geographical Museum*. Three of these were presented in Washington by E. Dudich.

June 15, 1990, was the twentieth anniversary of the Section (formerly, Commission) on the History of Geology of the Hungarian Geological Society. G. Csíky discussed the importance of the torsion balance invented by the Hungarian (geo)physicist L. Eötvös.

Publications

Csíky, G. (1986) "Ten Years' work of the Section for the History of Geology of the Hungarian Geological Society (1970-1980)." *Annals of the History of Hungarian Geology*, 10:281-293.

Faragó, M. (1988) "Paleobotanical research in Hungary from the beginnings till 1950." *Ibid.*, 11:75-89.

Csíky, G. (1988) "Simon Papp, founder of Hungarian oil mining." *Ibid.*, 11:121-135.

----- (1988) "Ferenc Benkő and the beginnings of mineralogy in Hungary." *Ibid.* 11:213-236.

----- (1988) "The discovery of natural gas in the Transylvanian Basin." *Ibid.*, 11:59-73.

----- (1989) "History of oil and natural gas exploration in Hungary from the beginning till 1918, Part II."
Földtani Kutatás 32/4:23-39.

----- (1990) "The formation and role of the Royal Hungarian Society for Natural Sciences in the evolution of Hungarian science." *MTESZ* publication, 135-139.

Koch, A. (1990) *Critical overview of the minerals of Transylvania*. Facsimile re-edition of the original published in 1885, Miskolc.

Lehmann, J. Ch. (1989) Beschreibung eines Bergbohrers-"*Scriptores rerum metallicarum*." V. (Ed. L. Zsámboki). Reprint of the original of 1750, published in Leipzig.

Memorial Notes

1989

K. Papp (1873-1963), Professor of Geology at the University of Budapest (by G. Csíky)

J. Krenner (1839-1920), Professor of Mineralogy at the Technical University of Budapest (by B. Nagy)

K. Hofmann (1839-1891), first Professor of Geology at the Technical University of Budapest (by G. Csíky)

1990

J. Böckh (1840-1909), former Director of the Hungarian Geological Institute, Hungarian Geological Survey
(by G. Hámor, Gy. Vitális and G. Csíky)

F. J. Müller (1740-1825), the discoverer of Tellurium (by G. Csíky and B. Nagy)

Maria Dudich-Vendl (1890-1945), the first Hungarian woman to become Professor of Mineralogy

Gabor Csíky

INDIA 1989-1990

Communications from Dr. S.R.N. Murthy, a member of the Core Committee for National Working Group for the History of Geology (INDHIGEO), list the following publications on historical subjects since 1988:

Murthy, S.R.N., *Gemmological Studies in Sanskrit Texts*, Vol. 1, 103 pp, Bangalore, India, 1990. (This is an English rendering with notes on gemmology in five Sanskrit texts).

----- "The Geological Aspects of Sanskrit Texts: the Brihatsamhita of Varahamihira", in *Records, Geological Survey of India*, 117, Parts 3 to 8, pp. 72-75, 1988.

----- "Geological Aspects of Sanskrit Texts: the Caraka Samhita", in *Records, Geological Survey of India*, 119, Parts 2-8, pp. 20-22, 1989.

----- "Geological Aspects of Sanskrit Texts: the Suryasiddhanta", in *Records, Geological Survey of India*, 116, Parts 3-8, pp. 156-158, 1988.

In 1987, Dr. Murthy's book *An Integrated Theory of the Earth, a Comparative Study of Eastern and Western Theories*, was published by Kalpatharu Research Academy, Bangalore, 127 pps.

ISRAEL 1989

INHIGEO Corresponding Member Dov Ginsburg spoke at several meetings in 1988 and 1989 on geological phenomena as described in Biblical or Jewish traditional literature. At the annual meeting of the Israeli Geological Society in 1988 his topic was *Sodom and Gomorrah, destruction by earthquake or volcanic eruption?* At the 1989 meeting it was *Lake Kinneret in Jewish Traditional Literature*.

In 1989 he published *Exploitation and Uses of Metals in Ancient Israel According to Biblical Sources and Commentaries*, *Earth Sciences History* 8, No.1:43-54. He cites verses from the Old Testament, their translations, and classical commentaries in an effort to find what was known about the places of origin, manufacture, trading and uses of gold silver, copper, tin, lead, and various alloys.

ITALY 1989-1990

The main event of 1989 that occurred in Italy was the International Congress *Le concezioni attualistiche a due secoli dalla Theory of the Earth di James Hutton*, held in Rome from the 26th to the 28th of June. It was organized by the Societa Geologica Italiana, Societa Italiana de Mineralogia e Petrologia, the Societa Paleontologica Italiana, and the Gruppo Nazionale di Geofisica della Terra Solida. The participants included numerous historians and geologists from outside Italy. The proceedings will be published in 1991.

The Osservatorio Vesuviano (Naples), directed by Prof. Giuseppe Luongo, introduced seminars at Naples University on the history of volcanology and historical eruptions, among the scientific courses offered at the 1989 summer-school in volcanology.

In 1990, the first inventory of the correspondence of Giovanni Arduino (1714-1795) by Dr. Ezio Vaccari was published in *Nuncius* (The Italian History of Science Review) Anno V, 126 pages. Dr. Vaccari also has edited the complete catalog of the Arduino manuscripts of the Public Library in Verona, and he is working on a book about this distinguished Venetian geomineralogist to be published in 1991.

Prof. Giuliano Piccoli is the coauthor with Dr. Luciana Sitranrea of a book on the history of the Faculty of Sciences at Padua University, from the beginning of the Faculty (1872) to the present day.

The following three activities were included in a History of Science and Technology Course presented by Professor Carlo Maccagni, of the Institute of Modern and Contemporary History at Genoa, in collaboration with the Department of Earth Sciences of the University of Genoa:

The organization of an exhibition entitled "Earth Sciences and Scientific Instruments"

The elaboration of software named EIDOS, devoted to the historical-scientific and historical-technical studies of the instruments used in earth sciences in the XIX Century.

The proposal of a Ph.D. program in "Historical sciences for Natural Sciences" where earth sciences play the main role.

Publications

Nicoletta Morello, 1989, "La geologia in Italia dal XVI al XIX secolo." In *Storia delle scienze in Italia*, Bramante Editore, Busto Arsizio, 587-632.

-----, 1989, "Giovanni Francesco Buonamici and the fossils: a flood of problems," *Atti del Convegno Italian Scientists in the Low Countries in the XVIIth and XVIIIth Centuries* (Utrecht, 25-27 Maggio 1988), Edited by Palm and Maffioli, Rodopi, Amsterdam, 1989, 131-145.

-----, 1989, "La geologia, la paleontologia, la chimica." In L. Bulferetti, "La storiografia relativa alla scienza e alla tecnica", *La storiografia italiana degli ultimi vent'anni, a cura di L. De Rosa*, vol. II Eta' moderna, Laterza, Bari, 1989, 398-400.

Carlo Maccagni, 1990, "Rilevamento topografico e suoi strumenti." In *L'Europa delle carte dal XV al XIX secolo. Autoritratti di un continente*, Mazzotta, Milano, 11-20.

Nicolette Morello, 1990, "Il Museum Metallicum di Ulisse Aldrovandi," In *Corso de Stampa* (Italian and French) presso la R. Coeckelberghs. Editrice, Ginevra.

-----, 1990, "La geologia nel 1839." In *La situazione delle Scienze al tempo della I Riunione degli Scienziati Italiani (1839)*, "pubblicato in Occasione del 150 anniversario della prima riunione degli scienziati italiani, Pisa.

Lucian Sitran Rea and Giuliano Piccoli, 1990, *La Facoltà di Scienze fisiche, matematiche e naturali dell'Università di Padova: origini e sviluppo*. Cleup Editore, Padova, 164, 21 ff., 11 tabb.

Ezio Vaccari 1990 "Primo contributo all'inventario del Carteggio di Giovanni Arduino." In *Nuncius Annali di Storia della Scienza*, Anno V, Fascicolo I, Olschki, Firenze, pp. 79-126.

The Proceedings of the XIIIth INHIGEO Symposium in Pisa in 1987 will be published in 1991.

Nicolette Morello

JAPAN 1990

Although Japan rejoined INHIGEO less than a year ago, the new members are showing an active interest in the organization. On April 4th, 1991, during a meeting at Ehime University, some of them held a caucus to discuss what they could do for INHIGEO. Soon afterward, the Secretary-General received a copy of their agenda and a group picture, which included Full Member, Dr. Yagi, Corresponding Members Drs. Suzuki, Shimizu, and Suwa, and nominees for membership, Drs. Omori and Imai. Such pictures of members at meetings and on excursions would be a most welcome addition to our Newsletters if our budget would allow for reproducing them. Dr. Yagi plans to participate in the Symposium in Dresden, and with the willing help and support of our Japanese members we look forward to convening two successful Symposia next year in Kyoto.

Ursula Marvin

POLAND 1989-1990

Studies on the history of geology are carried on mainly in two institutions of the Polish Academy of Sciences: The Museum of the Earth and The Institute of History of Science, Education and Technics in Warsaw. Valuable works were also prepared by pensioned scientists of the Academy of Mining and Metallurgy in Cracow. In addition, several historical conferences were organized by various schools and scientific societies.

Conferences and Exhibitions

In 1989, the Mineralogical Society of Poland organized a scientific session to commemorate Ignacy Domeyko (1802-1889), an eminent Polish mineralogist, on the centenary of his death. The Society also published a special volume of *Mineralogia Polonica* (vol.19-2); containing a biography of this scientist by Z. Wójcik, and several other papers including a description by E. Koszowska and A. Wolska of the mineralogical collection of I. Domeyko in the Geological Museum of the Jagellonian University in Cracow. This collection was exhibited to participants of the session.

Another conference was devoted to Polish naturalist J. K. Kluk (1739-1796) in which J. Garbowska

lectured on Kluk's geological activities. The Museum of the Earth celebrated the centenary of the birth of its founder and first director, S. Małkowski (1889-1962) with biographic lectures delivered by W. Narebski and K. Jakubowski.

Scientific sessions with exhibitions were organized to celebrate the 70th anniversary of the State Geological Institute, the centenary of the death of T. Chałubiński (1820-1889), and the 10th anniversary of the death of R. Kozłowski (1889-1977), founder of the modern paleontological school in Poland. The lectures from the latter conference were published (in Polish) in *Przegląd Geologiczny* (Geological Review).

In the Museum of Lublin, S. Czarniecki (INHIGEO Corresponding Member) organized an exhibition devoted to two outstanding professors of the Jagellonian University: L. Zejszner (1805-1871) and W. Pol (1807-1872). A solemn scientific session in October was devoted to the memory of K. Smulikowski (1900-1987), an outstanding Polish petrologist who held professorships at Lvov, Poznań and Warsaw Universities. It was accompanied by a biographic exposition and presentation of Prof. Smulikowski's memoirs, which are most interesting from an historical point of view.

Polish historians of science have participated in several international conferences, mainly in the USSR. In Minsk (Byelorussia), A. Urbanek and Z. Wójcik presented lectures on the activities of W. Dybowski (1838-1910). At an international symposium in Irkutsk, Z. Wójcik delivered a paper coauthored with D. Kozłowska on the activities of Polish geologists in Siberia in the 19th century. Z. Wójcik also participated in scientific sessions in Petropavlovsk (Kamchatsky) in October 1990, presenting a paper on the geological researches carried on in Kamchatka by K. Bohdanowicz (1864-1947) at the end of 19th century. Because of financial problems, none of the Polish INHIGEO members could participate in the XVth Symposium of INHIGEO in Beijing, China.

Publications

Bolewski, A. and H. Pierzchala, "Losy polskich pracowników nauki w latach 1939-1945," (The vicissitudes of Polish scientists in 1939-1945), *Ossolineum*, Wrocław, 1989.

Trudne lata Akademii Górniczej (Difficult years of the Mining Academy in Cracow), Wyd. Lit. Krakow 1989, containing the following two papers:

A. Bolewski, "Wojenne i powojenne dzieje Akademii Górniczej w Krakowie," (War and post-war history of the Mining Academy in Cracow).

A. S. Kleczkowski, "Stowarzyszenie Studentów Akademii Górniczej 1919-1948," (Association of students of the Mining Academy 1919-1948) (in Polish with English summary).

Wójcik Z. "Historia geologii w Polsce-dotychczasowe dokonania i perspektywy badawcze" (History of geology in Poland--achievements and perspectives). *Kwart. Hist. Nauki i Tech.*

Narebski W. "Prof. Antoni Gawel-his life and activity, with a complete list of his publications," *Arch.Mineral.* (in press).

Ryka W., Sylwestrzak H., "Antoni Gawel/1901-1989." *Przegl.Geol.* 1990/4/218-220.

Research In Progress

In the Museum of the Earth, research continues on the history of geology in Wilno (one of the main university centers in Poland from the 16th to the 20th century) and on the analysis of achievements of Polish geologists in Russia before 1917. Archival studies resulted in the finding of new materials concerning the activities of T. Zan (J. Garbowska), J. Łukaszewicz (Z. Wójcik) and L. Jaczewski (D. Kozłowska), as well as on the history of geology at the S. Batory University in 1919-1939 (Z. Wójcik). In addition, posthumous materials of ex-INHIGEO member, A. Łaskiewicz, and of S. Kontkiewicz senior and junior have been elaborated. W.

Narębski continued supplementary studies on the biography of Z. Bosniacki by collecting Polish and Italian materials. J. A. Rzymelka passed "cum laude" the habilitation colloquia at the Academy of Mining and Metallurgy in Cracow to obtain his Ph.D. degree in the History of Geology on the basis of a thesis: "*The history of geological exploration of the Upper Silesian Coalfield up to 1870.*"

W. Narebski, Z. Wójcik

For a review of a book on the life and work of Wladislaw Dybowski, see Book Reviews.

Commemoration

Antoni Gawel (1901-1989)

Antoni Gawel was one of the first Polish INHIGEO corresponding members. He was for many years an authority in the field of history of geological and mineralogical sciences in Poland.

Born on February 22, 1901, in Lazy (Cieszyn Silesia) in a miners' family, he attended the Jagellonian University in Cracow where, in 1923, he was employed as an assistant of the outstanding mineralogist, Prof. S. Kreutz (1883-1941). In 1928 A. Gawel obtained his Ph.D. degree, and in 1948 was nominated professor and head of the Department of Mineralogy and Petrography of Jagellonian University, the oldest Polish higher school. He remained in these positions until his retirement in 1971. During the period between the World Wars, his scientific researches were focused mainly on the diagenetic and metasomatic processes in rocks of the Carpathian Flysch and those of the environs of Cracow. In 1937 he participated in a Polish scientific expedition to Greenland.

At the beginning of the Nazi occupation, A. Gawel was imprisoned with a group of Cracovian scientists and he spent more than one year in the concentration camps of Sachsenhausen and Dachau. After liberation in 1941, he was employed in the Geological Institute, carrying out detailed geological and mineralogical studies in the 700 year-old Wieliczka salt mine. This resulted not only in an outstanding monograph on this deposit (1962) but also in increasing Professor Gawel's interests in historical problems, which he vigorously pursued in the post-war period. He presented numerous publications on these subjects. These included the first *Outline of geological history in Poland* (1962), *The evolution of geological ideas in the history of Wieliczka mine* (1958), and *Itinerary on ancient iron works in the Tatra Mountains* (1966). He also wrote many detailed papers dealing with the scientific ideas of famous naturalists, including J. Jonston, J. Kepler, N. Copernicus, J. Carosi, M. Laue, S. Kreutz, J. Morozewicz, S. Staszic, and others. Also worthy of mention are his publications on ancient methods of prospecting and exploration for ore and salt deposits, as well as on the history of the 200 years-old Mineralogical Department at the Jagellonian University.

In 1951, Professor Gawel presented the first lecture in Poland on the history of geology, at the Mining and Metallurgical Academy in Cracow. For many years he lead the Group of Historians of Geological Sciences affiliated to the Institute of History of Science and Technics of the Polish Academy of Sciences, in cooperation with the Museum of the Earth of this Academy. Consequently, the majority of his historical papers were published in periodicals of these institutions. A more detailed biography of Prof. A. Gawel, with a complete list of his publications, was presented by W. Narebski in "*Archiwum Mineralogiczne*", 1990. His death in Cracow on the 31st of August, 1989, was a painful loss to the many pupils, co-workers and friends of this outstanding, interdisciplinary scientist, and a man of deeply human personality.

Wojciech Narębski, Zbigniew Wójcik

SPAIN 1989-1990

In October and November, 1989, the Real Academia de Ciencias Exactas, Fisicas y Naturales of Madrid organized a series of lectures on the history of geology which were given by 13 lecturers. At the end of 1990 these lectures were published in a 338 page book with the following contents:

Primera parte: Geología básica

Bermudo Melendez Melendez: Orígenes de la Geología

Miguel Angel Hoyos Guerrero: Historia de la Mineralogía

Manuel Rodriguez Gallego: Historia de la Cristalografía

Jose Ma Furster Casas: Algunas consideraciones sobre la Historia de la Petrología endógena

Manuel Alia Medina: Aspectos históricos de la Geotectónica

Mateo Gutierrez Elorza: Historia de la Geomorfología

Emiliano Aguirre: Las escalas estratigráficas. El caso del Cenozoico final

Elisa Ibarrola: Geocronología: Consideraciones históricas

Segunda parte: Geología aplicada

Jose A. Jimenez Salas: El entorno geológico de las obras públicas

Javier Martinez Gil: Historia de la Hidrogeología española

Juan Manuel Lopez De Azcona: La Minería Hispana. Datos históricos

Adriano Garcia-Loygorri: Apuntes históricos sobre los comienzos del aprovechamiento del carbón y su primera evolución en España durante los siglos XVIII y XIX

Fernando Hevia Cangas: Aprovechamiento de los Hidrocarburos: Datos históricos

Telasco Garcia Castellanos

UNION OF SOVIET SOCIALIST REPUBLICS 1990

INHIGEO Vice President V. V. Tikhomirov attended the XVth International Symposium in Beijing in October, 1990, and presented a paper entitled *The Russian Academician V. A. Obruchev's contribution to geologic investigations of the then unstudied regions of China*.

Corresponding Member, T. Shafranovskii, is currently writing Volume III of *The history of crystallography in the 20th century*.

In 1990, Professor Shafranovskii published an article discussing the centenary of the deduction of 230 space groups by E. S. Fedorov and A. Schoenflies, and one on the centenary of N. V. Belov.

Corresponding Member E. G. Malkhassian published an article entitled, "The earthquake of Spitak in 1988 and a historical review on seismic activity in Armenia," in *Science and Technic* No. 12, 1989. He reported on the same topic in Petrozavodsk at the Annual Commission of Geological Investigations of the USSR.

UNITED KINGDOM 1989-1990

History of Geology Award to Gordon Craig

Gordon Y. Craig, Past-President of INHIGEO, received the *History of Geology Award* at the 1990 annual meeting of the Geological Society of America in Dallas, Texas. The citationist, William M. Jordan, recounted a long list of Gordon's achievements and pointed to his role as "keeper of the shrine," which he fills admirably and with most memorable elan in the land of Hutton, Lyell, Murchison, and Geike. Not for that, however, was the honor being bestowed. We were honoring Gordon most of all, said Jordan, as representing the spirit of international cooperation that is so characteristic and necessary for our science and for understanding the history of it. "Geology, and the other earth sciences," Jordan added, "have clearly demonstrated the necessity of reaching across borders, and into and between cultures and political systems, in order to achieve common goals and understanding." Jordan described how effectively Gordon had put this ideal into practice during his five-year term as President of INHIGEO, and in earlier years when he organized numerous international symposia and convocations, including the memorable Charles Lyell Centenary Symposium in 1975.

In a light-hearted response, Gordon used the occasion to talk about coincidence, fate, and a new science yet to be defined, "...which I name today as Geoastrology." Using, as an example, the career of the imperious Roderick Impey Murchison, author of the Silurian, Devonian, and Permian systems, and founder of the Department of Geology at the University of Edinburgh, Gordon traced unlikely linkages between a lecture by Charles Lyell on Murchison's Silurian system given in Philadelphia when one George Dallas was mayor of that city. Dallas went on to become a Vice-President of the United States, and Minister to Great Britain in 1856, the year after Murchison was appointed Director of the U. K. Geological Survey. Dallas has a city and a county in Texas named for him, and in the county is a town named Murchison! (Could there be a connection; could there not be one?) Today, the James Hutton Professor of Geology, Emeritus, of the University of Edinburgh was receiving a signal honor at Dallas!

[Geoastrology, indeed! The United States Geological Survey has an Astrogeology Branch which studies the moon, meteorites, and planets; it is difficult enough keep the "geo" in that one without adding a term farther down the slippery slope. UBM]

Ursula Marvin

Gordon Herries-Davies Honored at Trinity College, Dublin

On March 1st, 1990, Professor Gordon Herries-Davies, the Full Member of INHIGEO for Ireland, was honored on the occasion of his retirement from the Department of Geology at Trinity College. The day was organized in Gordon's ignorance by Fred Aalen of the Department of Geography, and this had been so effective that when Gordon came into the lecture room in the afternoon he was clearly unaware of what to expect. There were two lectures, one by Hugh Torrens, *Under Royal Patronage: The Early work of John Mawe (1766-1829)*, and one by Charles Holland, *As Time Goes By*, followed by a party and a presentation to Gordon by the Provost of the College. It was a very affectionate occasion which (as the son of a Trinity graduate forced to flee Ireland in the 1920s) I was delighted to have been involved with.

Hugh Torrens

Future International Arrangements for U. K. Geosciences

The British National Committee for Geology was disbanded in December 1989. The Geological Society of London was subsequently invited by the Royal Society to assume responsibility for certain of the National Committee's functions. The Geological Society accepted this responsibility in January 1991. The Society now acts through its Foreign Secretary as the channel for IUGS and some IUGG matters. Correspondence relevant to INHIGEO will now be forwarded by the Royal Society to the Geological Society which will also be responsible for the nomination of National Correspondents and delegates to Union and Association Assemblies.

Gideon Mantell Bicentenary Symposium

A symposium to celebrate the bicentenary of the birth of the English surgeon, geologist, and palaeontologist Gideon Algon Mantell (1790-1852) of *Iguanodon* fame, was held in Brighton in September 1990. The meeting was organized by the Society for the History of Natural History and was attended by 74 delegates. John Cooper of the Booth Museum of Natural History was the organizing secretary. In addition to two days of papers there was a field excursion, visits to local museums, and various social events.

The papers read included:

- Early History of the geology of the Weald (Hugh Torrens)
- Mantell's fossil collection (Ron Cleevely)
- Mantell's relationship with his son Walter (Jacob Gruber)
- The Maidstone *Iguanodon* (David Norman)
- G. F. Richardson, Curator of the Mantellian Museum (Hugh Torrens and John Cooper)
- The Geological Society and its museum (John Thackray and David Moore)

It is hoped that a number of speakers will submit their papers for future publication to the Society's Journal *Archives of Natural History*.

Gordon Craig

British Society for the History of Science

At a meeting on May 12th, 1990, Hugh Torrens, INHIGEO Corresponding Member, was appointed President of the Society for 1990-1991. Hugh delivered a speech he called *Presidential Ramblings*, in which he expressed dread of the cardinal sins of Whiggism and parochialism in historical activities and pointed out that the annual lists of anniversaries drawn up by most of us tend to perpetuate both. Hugh focused on a forgotten anniversary, the founding of the first British society dealing with the history of science, to see how things have changed in the past 160 years. The British Historical Society of Science (BHHS) was founded in 1840 through the energy and ambition of a 19-year old Cambridge undergraduate, described by Torrens as highly precocious and clearly dishonest, who persuaded the Duke of Sussex, the just-retired president of the Royal Society, to preside over the new Society. Several Fellows of the Royal Society agreed to serve as vice-presidents and a list of the officers and intended publications was published in *Gentleman's Magazine*. Nevertheless, the Society died from lack of support within two years, after only two papers had been published. Hugh drew comparisons between this venture and the present society, which has fared rather better but covers a narrower range of subject matter.

Hugh urged historians to show a greater interest in the history of technology, which, he said, seems to be nearing terminal extinction in Britain, and to perform research on objects, such as those valued by museums, instead of limiting themselves to the paper goods in libraries and archives. He concluded with a hope that we might devote more attention to the history of failure, to learn why some intellectual enterprises fail and some prosper. How was the nascent BHHS viewed by the fledgling British Association for the Advancement of Science? Was it seen as a competitor; as an exercise in futile antiquarianism; as unworthy of notice? Hugh felt that, "... answering such questions might help us address the problems we do now face as historians of science, trapped between the Scylla of science and the Charybdis of history; in a political climate which thinks big is best and which knows the price of everything but the value of nothing."

[From a leaflet submitted by Hugh Torrens]

UNITED STATES OF AMERICA 1989-1990

U. S. National Committee on the History of Geology (USHIGEO)

In 1990, Dr. Kenneth Taylor, Professor of the History of Science at the University of Oklahoma, was elected to serve as Chair of USHIGEO after Dr. Clifford Nelson, of the U. G. Geological Survey, completed his term in that office. Dr. Léo LaPorte was elected as the new Secretary.

1990 was a quiet year, after the enormous efforts USHIGEO put forward to assure the success of history of geology programs at the International Geological Congress in Washington in 1989. At the USHIGEO meeting of October 30, 1990, Dr. Michele Aldrich, of the American Association for the Advancement of Science, reported that a plan to publish a *Directory of Historians of Geology in North America* awaits the issue of a new directory of its members by the History of Science Society. A committee investigating the feasibility of establishing a Center for the History of Geology was expected to issue a draft report in late 1990 or early 1991.

History of Geology Division, Geological Society of America

For the 1989 GSA meeting at St. Louis, INHIGEO Corresponding Members Mary C. Rabbitt and Clifford M. Nelson, convenors of the History of Geology Symposium, chose as their topic the challenges that had been issued to the geological community 86 years earlier by George F. Becker and Charles R. Van Hise during the International Congress of Arts and Sciences at St. Louis in 1904. How have those challenges been met during the 20th century? Nine speakers addressed this topic and then convened as a speaker's panel to answer questions and enter into discussions with the audience. The following papers were presented:

Worlds to Conquer: "Problems" of Geology and Geophysics in 1904, by Mary C. Rabbitt and Clifford M. Nelson.
Evolution of Ideas on the Origin of the Earth and Solar System: 1904-1989, by Ursula B. Marvin
The Age of the Earth Since 1904: a Problem (Mostly) Solved, by G. Brent Dalrymple
Anything New in Tectonics Since 1904? by Robert H. Dott, Jr.
Geophysics Since 1904: Seismology, Earthquakes and the Interior of the Earth, by Carl Kisslinger.
Experimental Petrology: Challenges of 1904 met by Geophysical Laboratory and New Challenges Proposed, by H. S. Yoder, Jr.
Advances in Volcanology since 1904, by Thomas L. Wright
Remanent Magnetism: The Last Piece in the Plate-Tectonic Puzzle, by James R. Balsley
The Quantification of Geology, by D.F. Merriam

In addition to the Symposium, the Division held a joint technical session with the Archaeology Geology Division, and a Symposium on *The Legacy of Thomas C. Chamberlin* was presented by the Quarternary Geology and Geomorphology Division. Interest in historical subjects is spreading widely.

The 1989 History of Geology Award presented to Professor Albert V. Carozzi.

In his citation, Cecil J. Schneer wrote that throughout his career, which includes field investigations in 14 countries on five continents and consultations for 20 corporations or governments, Albert Carozzi always has pursued an interest in the origins and development of our science and its place in our society. Thirty years ago when most geologists and historians of geology had scarcely progressed beyond Lyell and Geike, Carozzi already had published annotated translations of Werner, Lamarck, Agassiz, Benoit de Maillet, and Raspe, and, in more recent years he has made accessible the major works of Leon Collet, J. W. Gregory, D. F. Hart, W. M. Davis, Emile Argand, Amadeus Grabau and Lucien Cayeux. With his collaborator, Marguerite Carozzi, who has influenced the contemporary evaluation of Voltaire's scientific thought, he is now recovering the geological ideas of Bertrand and Sulzer. The Division was bestowing its award on a gifted and prolific writer--a scholar who has illuminated our field of study.

Professor Carozzi referred to his childhood in Switzerland where his father, a physician and a pioneer in industrial and social medicine, kept his desk covered with galley proofs at all times as he authored many articles

and an encyclopedia of industrial diseases and their prevention, for which he traced the historical background back to Egypt and Sumeria. Carozzi grew up with the dictum that a scientist must understand languages and always return to primary sources. Early in his career, when 18th century field descriptions were generally dismissed as superficial and unreliable, Carozzi decided to check on the field observations of Louis Bourguet of Neuchâtel (1742). To his astonishment, he found them to be incredibly precise. This inspired Carozzi to reexamine outcrops all over Europe and North Africa. As a result, he has become convinced that fieldwork is critical to the history of geology, that meditating in front of an outcrop or scenery two centuries later is a moving and rewarding experience that only a professional geologist can feel. He said that the perennial question he keeps asking himself is: how did a given naturalist in the background of his time, with his education, concepts and prejudices, reach a certain set of conclusions, and start to build an encompassing theory of the earth?

In working through the field notes of Horace-Bénédict de Saussure, Carozzi has found it to be a great joy to "interpret past interpretations" in the context of their time. However, he feels that it also is necessary to relate past interpretations to our present knowledge so as to appreciate the progress which has been accomplished without naturally falling into the trap of attributing to ancient authors thoughts that they could not possibly have had. Carozzi said that he is fully aware that some historians disagree with such a position, feeling that it is better to start with no preconceived ideas (and perhaps with no geological knowledge either). This is a fallacy, in Carozzi's view; one that is amply demonstrated in numerous published works. Carozzi concluded with an observation he recently made in the Auvergne where he was following the footsteps of de Saussure in an effort to understand why that early geologist had changed his mind and accepted the aqueous origin of basalt after having previously been convinced of a volcanic origin. In the flows near St. Flour, where prismatic structure is poorly developed, there are numerous horizontal to lenticular joints that simulate bedding in the most striking manner in what could be interpreted as black limestones or fine siltstones. Neptunism struck me in the face, said Carozzi. He fully enjoyed the blow which together with presentation of his award made him eager to continue along his way.

History of Geology Division Symposium, 1990

At the 1990 GSA meeting in Dallas, the Division presented a *Symposium on Eustasy--The Ups and Downs of a Major Concept*, convened by Robert H. Dott, Jr. Dott gave an introductory paper describing the Ups and Downs. Additional papers included:

Glacial Eustasy, Arthur L. Bloom

Eduard Suess and European Thought on Phanerozoic Eustasy, Anthony L. Hallam

Chamberlin's Theory of Diastrophic Control of Natural Time Divisions by Worldwide Changes of Sea Level, Robert H. Dott, Jr.

A. W. Grabau's Embryonic Sequence Stratigraphy, Markes E. Johnson

Ulrich and Schuchert on Strandline Displacements Through Geologic Time, Clifford Nelson

The Cyclothems Concept in the Illinois Basin, W. John Nelson and Ralph L. Langenheim

R.C. Moore and Concepts of Sea-Level Change in the Midcontinent, Rex C. Buchanan and Christopher G. Maples

The Acceptance of Modern Sequence Stratigraphy and its Implications for Eustasy, Peter R. Vail

A Challenge: Is it possible to Determine Eustasy?, Christopher B. St. C. Kendall, Phil Moore, and Robert Cannon.

Seven historical papers were presented during the first half of a joint technical session with the Archaeology Division.

The Division's **History of Geology Award for 1990** was presented to INHIGEO Past President, Gordon Y. Craig. An outline of the citation and acceptance is given in the Country Report of the United Kingdom.

Personal Reports

INHIGEO Corresponding Member Albert V. Carozzi, 1990:

On the occasion of the bicentennial of the "Société de Physique et d'Histoire Naturelle of Genève" (1790-1990), Carozzi published a commissioned monograph, quarto, 411 p., 110 figures, index, entitled *Histoire des sciences de la Terre entre 1790 et 1815, vue à travers les documents inédits de la Société de Physique et d'Histoire Naturelle de Genève. Trois grands protagonistes: Marc-Auguste Pictet, Guillaume-Antoine Deluc, et Jean Tollot.*

This work contains a great number of previously unpublished papers from the Archives of the Society dealing with major controversies of the time such as: origin of meteorites, acceptance in Europe of James Hutton ideas, problem of the mastodons of Ohio, origin of columnar basalt, and several of the last theories of the earth.

Meanwhile, Carozzi is continuing his studies of the manuscripts of Horace-Benedict de Saussure preserved in Geneva. After having presented a reconstruction of his unpublished theory of the earth (*Earth Sciences History*, 1989, vol. 8, No. 2), he published in *Archives des Sciences*, 1990, two manuscripts. The first is a translation from the Latin and is entitled *De Montium Origine* (1774), a refutation of Lazzaro Moro's vulcanistic ideas; the second (1795) contains Saussure's ideas on snow and avalanches with a review of the evolution of the concepts on these subjects in the 18th century. Carozzi is now preparing a full study of Saussure's role on the basalt controversy based on newly-discovered documents.

Carozzi also edited the fall issue of *Earth Sciences History* which contains the papers presented at the INHIGEO Symposium "Trans-Atlantic Exchange of Ideas in the 19th Century" held at the 28th International Geological Congress in Washington, D.C., in July 1989.

On October 4, 1990 on the occasion of the ceremonies of the bicentennial of the "Société de Physique et d'Histoire Naturelle de Genève", he was the first recipient of the Marc-Auguste Pictet Medal for his outstanding contribution to the history of geology.

INHIGEO Secretary-General Ursula B. Marvin, 1989-1990:

At the XVth Symposium in Beijing, Dr. Marvin presented a paper entitled *Amadeus W. Grabau's Global Theories in the Light of Current Models.*

She reviewed the history of ideas on meteorite and comet impact as a geological process in "Impact and its Revolutionary Implications for Geology," in Sharpton, V. L. and Ward, P. D. eds., *Global Catastrophes in Earth History; an Interdisciplinary Conference on Impacts, Volcanism, and Mass Mortality: Geological Society of America Special Paper 247.*

In this paper and in an invited keynote address entitled *The History of Impact Cratering as a Geologic Concept*, presented to the 1990 meeting of The Meteoritical Society, in Perth, Australia, she expressed her concern about a yawning chasm which separates meteoriticists and planetary geologists from terrestrial geologists in their perceptions of impact as an important factor in shaping the earth.

VENEZUELA 1989-1990

All the activities related to the history of geological sciences have been developed by the members of the emerging *Sociedad Venezolana de Historia de las Geociencias* (SVHGC), being a major factor to promote activities in the field. Now, after two years from its foundation it has been firmly established and is slowly growing, with a steady flow of new members, most of them already involved in writing contributions for our Newsletter.

The Newsletter of the Society is published 3 times each year (April, August, and December), with an

average of 50 pages. The December issue is No. 40 since this publication started in 1984. In 1988 it became the responsibility of the Society. The main feature articles in this two year period were:

Geological materials from Venezuela presented in the international exhibitions of Vienna 1873, Bremen 1874, Philadelphia 1876, Boston 1883, Caracas 1883, New Orleans 1884 and Chicago 1893.

History of the discovery of the mineral gaylussite, $\text{CaNa}_2(\text{CO}_3)_2 \cdot 5\text{H}_2\text{O}$, made by the French mineralogist J.-B. Boussengault in 1824.

Exploration and studies of Venezuelan caves from the XVth to XVIIIth centuries (the colonial period).

The importance of historical research in geological hydrocarbon exploration methodology.

History of studies of the Urena hot springs.

Colombian data about the discovery of platinum.

History of Venezuelan seismographs.

Evolution of geological education in Venezuela.

A biography of the noted geologist Dr. Clemente Gonzalez de Juana will be launched by the end of 1990. Its author is Dr. Aníbal Martínez, a member of the SVHGC and the best known historian of the Venezuelan petroleum industry for his work *The Journey from Petrolea, Chronology of Venezuelan Petroleum*.

The Society has recently published the book: *The Venezuelan Petroleum Industry in 1945-1947 through the letters of Dr. Clemente Gonzalez de Juana to the Superior Oil Company*, (in Spanish), SVHGC, Spec. Public. 1, 368 p. This is facsimile compilation of letters from one of the best known Venezuelan geologists, containing reports he wrote every two weeks of developments in all aspects of the oil industry--exploration, drilling, legal aspects, and other topics--in the booming years after World War II. It is a good source of information for historians of the petroleum industry.

Franco Urbani

YUGOSLAVIA 1989-1990

The most important event in the past two years was the *Symposium on Development of Regional Geology and Palaeontology in Serbia since the Second World War*, organized by the Faculty of Mining and Geology (Department Regional Geology and Palaeontology), and held in Belgrade September 21-22, 1989. Twenty-four papers presented at the Symposium will soon be published in a book (in Serbian with an comprehensive summary in English). Proposals were made at the Symposium to establish a section for the History of Geological Science in the Serbian Geological Society, and to introduce a new course under the same name at the Faculty of Mining and Geology in Belgrade.

Also in 1989, the Nafta-Gas enterprise for oil exploration and production of Novi Sad celebrated its fortieth anniversary and published a special monograph on the enterprise with many articles on the history of the geological surveys in Vojvodina.

A meeting was held on the 26th of November, 1989, to mark the completion of the Base Geological Map of Yugoslavia, scale 1:100,000, and to review the history of this greatest national project of Yugoslavian geologists, which took thirty years to complete.

An article was written by Ž. Babić in recognition of the eightieth anniversary of the founding of the Geological Service in Croatia. It appeared in the Geological Bulletin of the Geological Institute (vol. 42, p. XI-

XVII), Zagreb.

In October, 1989, an exhibition *The Life and Work of Josif Pančić* was opened in the Museum of Natural History of Belgrade. It was 175 years after the birth of this polyhistorian, who taught natural sciences and also began teaching geology at Belgrade University in 1863.

In October 1990, a one-month exhibition *The Man and Stone*, organized by the Serbian Academy of Sciences and Arts and the Museum of Natural History of Belgrade, was opened in the Gallery of the Serbian Academy.

Publications

Milovanović, B., Rudists. *Choix des travaux, consacrée au quatre-vingtième anniversaire de naissance*. Redacteurs: M. Sladić-Trifunović and A. Grubić, 1-560, Beograd, 1988.

Stevanović, P.: "A Contribution to the Study of the History of Natural Sciences in the Serbian Academy of Sciences and Arts. Seismology." *Glas Serbian Academy of Sciences and Arts, Class. Sc. Nat. and Math.* No. 52, 31-37, Beograd, 1988.

Faninger, E. 1988-89. "Neue Daten über die Entdeckung des Zoisits." *Geologija*, No. 31-32, 609-615, Ljubljana, 1990.

Faninger, E. 1988-1989. "Palustorliche Mineralien- und Gesteins-sammlung." *Ibid*, p. 593-608. Ljubljana, 1990.

Milosavljević, S., Marinović, Dj., Stanković, S. and Aksin, V.: "Results of Petroleum Operations in SAP Vojvodina from 1949 to 1988 and Prospectives for Future Operations." *Journal DIT, Naftagas*, year VII(15-16):9-22, Novi Sad, 1989.

Stevanović, P.: "The Progress of Geological Sciences in the Serbian Academy of Sciences and Arts." *Serbian Academy of Sciences and Arts and History of Serbian Science and Arts*, 1:100-158, Beograd 1989.

Valeton, I.: "Twenty-five years of ICOBA Activities." *Travaux Comité Internat. d'étud. Bauxites, Alumina et Aluminium*, 14(22):1-10, Zagreb, 1989.

Zagorščak, O.: "On Vukotinović's 'Mineralogy and Geognosy'". *Geological Bulletin*, Geological Institute, Zagreb, 42:385-395, Zagreb, 1989.

Žgaljić, J.: Oil "Industry of Yugoslavia in Professional Publications and Journals." *Nafta*, 41(6):291-298, Zagreb, 1989.

Memorial Notes

Pantić, N.: Kosta Petković. Necrologue. *Godišnjak Serbian Academy of Sciences and Arts*, 1987, XLIV:443-446, Beograd, 1988.

Olujić, M.: "Milan Tonajec. In Memoriam." *Geological Bulletin*, Geological Institute, 42:409-410, Zagreb, 1989.

Polšak, A.: "A great Figure of National Paleontology. In Memoriam to the Academician Vanda Kochansky-Devidé (10 April 1915 to 26 February 1990)." *Priroda*, 80(1):30-31, Zagreb, 1990.

Bajraktarević, Z.: "Prof. Dr. Ante Polšak (1.9.1930-10.6.1990)." In Memoriam. *Priroda*, 80(2):37-38. Zagreb, 1990.

Aleksandar Grubić.

BOOK REVIEWS

Gabriel Gohau, *Histoire de la géologie*, Paris: Éditions La Découverte, 1987, 259 p.

Soon after reading Gohau's *Histoire de la géologie* we felt that such a book was sorely missing in the American literature. Martin Rudwick welcomed our idea of translating the book saying, "It is by far the best short introduction to the subject currently in print (or out of print, for that matter!). There is simply no other short one-volume introduction to the whole sweep of the history of geology that one can safely recommend to students." Indeed, this is all too clearly demonstrated in Gohau's bibliography which includes, as the only books on the history of geology, the first editions of Frank Dawson Adams, *The Birth and Development of Geological Sciences*, 1938; Archibald Geikie, *The Founders of Geology*, 1897; and Karl Alfred von Zittel, *Geschichte der Geologie und Paläeontology bis Ende des 19 Jarhunderts*, Oldenburg, Munich, Leipzig, 1899. Although Zittel was translated into English in 1962, Adams republished in 1954, and Geike in 1905 and 1962, neither changes nor updating were done in the three works.

Gohau's book is written for a wide audience because his language is clear, concise, and lively. In 232 pages, he covered the history of geology from Aristotle to Harry Hess, thus leaving out details, and focusing only on crucial facts and important contributors. When he lingered somewhat on astronomical factors in the first chapters, he excused himself and explained that these concepts were important for the understanding of the earth we live on. In fact, he dramatically built up Descartes' fundamental break with the past when he declared that "the stars are not all located on a spherical surface but are far away one from the other." "With these words," explained Gohau, "the world was opened and the closed universe of the ancients collapsed." Indeed, once the earth was removed from its central position--where it had been held since Ptolemy--it had a right to a personal history. This allowed the first geological inquiries by the British diluvialists (Burnet, Woodward, Winston) and later on the actual birth of geology through Steno's contribution.

The merits of the book are also shown in Gohau's unbiased approach toward scientists. While he explained carefully the work of French scientists such as Descartes, Dolomieu, Gautier, Cuvier, Brongniart, Lavoisier, Constant Prévost, Élie de Beaumont, Marcel Bertrand, and Xavier Le Pichon--who are sometimes ignored by American historians--he gave as much credit to Steno, Hooke, Leibniz, Saussure, Werner, Hutton, Deluc, Lyell, Sedgwick, Buckland, Murchison, Suess, Haug, Wegener, and the twentieth-century geologists who brought about the revolution of plate tectonics. In short, it is a history of geology with a refreshingly global perspective.

The book is chronologically held together by philosophical debates, from the ancients to modern geologists, about neptunism versus plutonism, cyclicity versus irreversibility, continuity versus discontinuity, and catastrophism versus equilibrium. (These debates were previously mentioned in Gohau's voluminous *thèse d'État* and he probably felt the need to repeat them in this book.) The philosophical debates do not in the least cloud Gohau's clear geological explanations on the origin of mountains, the use of fossils and rocks as archives, and progress through painstaking observations in the field. Gohau's philosophical side happily coexists with good geological explanations and a sense of gallic humour telling some weird stories here and there.

Some of the later sections--concerning problems of continuity versus discontinuity among present geologists, and the lost past--seem somewhat anticlimactic after the major synthesis. In our translation, we therefore proposed some changes which Gohau readily accepted. He agreed with many further changes which include: a new general emphasis toward the American reader; a more scholarly approach by providing complete bibliographical references (the editors of La Découverte had deleted, for the general public, Gohau's many scholarly references); a sharpening of discussions and concepts by updating topics, in particular plate tectonics and the future of geology as a planetary science; and finally the addition of new illustrations and an extensive glossary.

A History of Geology by Gabriel Gohau, revised and translated by us, is in press at Rutgers University Press, New Brunswick and London, scheduled for release in April, 1991, in paperback and hardbound editions.

The author and the translators hope that this English edition will provide the readers with a better understanding of the history of geology.

Albert and Marguerite Carozzi

Galaktihov, S. G. and Jatskievich, G. M., *Picar navuki z Niankova. Wladyslaw Dybowski*. Minsk, Nauka i Technika, 1989, 64 p.

Very little is known about the achievements of historians of science in Byelorussia. Their publications, including this one, are printed in Byelorussian and do not circulate abroad. Therefore, it is worthwhile to call attention to this very good sketch by Galaktionov and Jatskevich on W. Dybowski (1838-1910), an outstanding paleontologist and well-known specialist in Paleozoic corals of Estonia. Being crippled, Dybowski had to overcome many difficulties and, therefore, can be called a hero of science. After completing secondary school in Minsk he graduated from the University of Dorpath (actually Tartu in Estonia) and there he received the Ph.D. degree and was employed as a private docent. However, as a Pole he had no prospects of making a scientific career in Dorpath, which was situated within the Russian empire. Consequently, Dybowski settled in his native Niankow, near Novogrodek, and founded a private scientific laboratory. There, he examined paleontological collections from the Paleozoic deposits of Estonia and materials from Mesozoic sequences of the Byelorussian territory. He paid particular attention to zoological studies of recent invertebrate fauna from the environs of Baykal lake, brought to him by his famous brother Benedykt T. Dybowski (1833-1930), later a professor at Lvov University.

Wladyslaw Dybowski, working far from any scientific centres (Minsk was in this period a small provincial town), set up a center of physiographic studies. Its staff consisted mainly of Polish landlords, as well as Polish, Byelorussian and Russian teachers of secondary schools. The authors present not only Dybowski's achievements, but also a general review of physiographic studies in Minsk and its environs at the end of the 19th and the beginning of the 20th centuries.

Zbigniew Wójcik

INHIGEO MEMBERSHIP, OCTOBER 27, 1990

Full Members

- Dr. Barry Cooper
Department of Industry Trade and Technology
GPO Box 1264
Adelaide South Australia 5001
AUSTRALIA
- Prof. A. Tollmann
Geologisches Institut der Univ. Wien
Universitätsstrasse 7
A-1031 Wien
AUSTRIA
- Dr. Silvia F. de M. Figueiroa
Instituto de Geociências
Universidade de Campinas
C.P. 6152
13081 Campinas Sao Paulo
BRAZIL
- Prof. G. K. Georgiev
Bul. Chr. Smirnenski 16
1421 Sofia
BULGARIA
- Prof. W. O. Kupsch
Department of Geological Sciences
University of Saskatchewan
Saskatoon S7N 0W0
CANADA
- Prof. Wang Hongzhen
China University of Geosciences
Xueyuan Road 29
100083 Beijing
PEOPLE'S REPUBLIC OF CHINA
- Dr. J. Haubelt
14100 Svojsovická 10/2834
Praha 4 Sporilov II
CZECHOSLOVAKIA
- Prof. F. Ellenberger
7 rue du Font Garant
91440 Bures-sur-Yvette
FRANCE
- Prof. W. Langer
Institut für Paläontologie
Rhein. Friedrich-Wilhelm-Universität
Nussallee 8
D-5300 Bonn
FEDERAL REPUBLIC OF GERMANY
- Prof. M. Guntau
Universität Rostock
Fachbereich Geschichte
Wilhelm Külz-Platz 4
2500 Rostock-1
FEDERAL REPUBLIC OF GERMANY
- Dr. G. Csiky
Honvéd u. 40
Budapest H-1055
HUNGARY
- Dr. S. K. Mukerjee
Geological Survey of India
27 Jawaharlal Nehru Road
Calcutta 700016
INDIA
- Prof. Gordon Herries-Davies
University of Dublin
Trinity College
Department of Geology
Dublin 2
IRELAND
- Dr. Nicoletta Morello
Istituto di Storia Moderna e Con.
Via Balbi 6
16126 Genova
ITALY
- Prof. Kenzo Yagi
2-5-10 Moiwashita
Minamiku
Sapporo 005
JAPAN
- Prof. R. Hooykaas
Krullelaan 35
3701 TB ZEIST
THE NETHERLANDS
- Prof. A. S. Kleczkowski
Akademia Gorniczo-Hutnicza
Inst. Hydrogeologii i Geol. Inzynierskiej
Aleja Mickiewicza 30
30-059 Cracow
POLAND
- Prof. M. C. F. Telles-Antunes
Department of Geology
Fac. De Ciencias e Tecnologia
Quinta Torre
2825 Monte de Caparica
PORTUGAL

Prof. J. M. Lopez de Azcona
Joaquim Costa 51
Madrid
SPAIN

Prof. G. Regnéll
Department of Geology
University of Lund
Sölvegatan 13
SWEDEN

Prof. H. Masson
Institut de Geologie de l'Universite
CH-1000 Lausanne
Palais de Rumine
SWITZERLAND

Prof. Gordon Y. Craig
Grant Institute of Geology
University of Edinburgh
West Mains Road
Edinburgh EH9 3JW **SCOTLAND**
UNITED KINGDOM

Dr. Ursula B. Marvin
Harvard-Smithsonian Center for Astrophysics
60 Garden Street
Cambridge MA 02138
U.S.A.

Prof. V. V. Tikhomirov
Geological Institute
U.S.S.R. Academy of Sciences
Pyzhevsky per. 7
Moscow 109 017
U.S.S.R.

Dr. F. A. Urbani-Patat
Universidad Central de Venezuela
Apartado 47028
Caracas 1041/A
VENEZUELA

Prof. J. B. Waterhouse
Department of Geology and Mineralogy
University of Queensland
St. Lucia Queensland 4067
AUSTRALIA

Dr. T. Cernajsek
Geol. Bundesanstalt F.A.
Bibliothek und Verlag
Postfach 154
A-1031 Wien
AUSTRIA

Prof. H. Zapfe
Erdwissenschaftliche Komm. Österreich
Akademie der Wissenschaften
Ignaz Seipel Platz 2
A-1010 Wien
AUSTRIA

Prof. W. A. S. Sarjeant
Department of Geological Sciences
University of Saskatchewan
Saskatoon S7N 0W0 Saskatchewan
CANADA

Dr. Gerardo J. Soto B.
Instituto Costar. de Electric.
Apdo 130032-1000
San José
COSTA RICA

Sr. Guillermo E. Alvarado
Section of Seismology and Seismic Engineering
Costa Rica Institute of Electricity
San Jose
COSTA RICA

Prof. Luis D. Morales
Escuela de Geologia
Apdo. 35
Universidade de Costa Rica
San Jose
COSTA RICA

Corresponding Members

Prof. T. G. Castellanos
Academia Nacional de Ciencias de Cordoba
Casilla de Correo 36
Cordoba
ARGENTINA

Prof. D. F. Branagan
Department of Geology and Geophysics
University of Sydney
Sydney New South Wales 2006
AUSTRALIA

Prof. T. G. Vallance
3 Kelburn Road
Roseville New South Wales 2069
AUSTRALIA

Dr. Wen Guang
Institute of Geology
Chinese Academy of Geological Sciences
Baiwanzhuzang
Fuchenomenwai Road 26 Beijing
PEOPLE'S REPUBLIC OF CHINA

Prof. Wang Genyuan
Division of Mineralogy
China University of Geosciences
(Wuhan) Hubei Province
PEOPLE'S REPUBLIC OF CHINA

Prof. Xia Xiangrong
Hubei Geological Bureau
342 Liberation Ave. 5
Jiefang da dao
Hankou Hubei Province
PEOPLE'S REPUBLIC OF CHINA

Dr. Armando Espinosa-Baquero
Inst. Nac. de Invest. Geologico-Mineras
Calle 4a no.2-39
Apartado Aereo 695
Popayan
COLOMBIA

Dr. I. Hercko
Slovenské Banské Muzeum
969 000 Banska Stiavnica
CZECHOSLOVAKIA

Dr. J. Urban
Masarykova 582
28401 Kutná Hora
CZECHOSLOVAKIA

Prof. G. G. R. Gohau
2 av. Bernard Palissy
92 210 Saint Cloud
FRANCE

Prof. G. Laurent
Université Catholique
Institut Lettres-Histoire
3 place André Leroy
B.P. 808 49 005 Angers
FRANCE

Prof. H. Hölder
Geologisch-Paläontologisches Institut
der Universität
Gievenbecker Weg 61
D-4400 Münster
FEDERAL REPUBLIC OF GERMANY

Prof. W. von Engelhardt
Mineralogisches Inst. der Universität
Wilhelmstrasse 56
D-74 Tübingen
FEDERAL REPUBLIC OF GERMANY

Prof. R. Daber
Humboldt-Universität
Naturkundemuseum
Invalidenstr. 43
DDR-1040 Berlin
FEDERAL REPUBLIC OF GERMANY

Dr. E. Fabian
Schillerstrasse 12
O-2200 Greifswald
FEDERAL REPUBLIC OF GERMANY

Dr. G. Mathé
Staatliches Museum für Mineralogie und
Geologie zu Dresden
Augustusstr. 2
DDR-8010 Dresden
FEDERAL REPUBLIC OF GERMANY

Dr. H. Prescher
Münchner Strasse 27
0-8027 Dresden
FEDERAL REPUBLIC OF GERMANY

Dr. E. Dudich
UNESCO SC/GEO
1 rue Miollis
75015 Paris
FRANCE

Dr. J. Hála
Hungarian Geological Survey
Népstadión ut 14
Pf. 106
H-1442 Budapest XIV
HUNGARY

Dr. T. Póka
MTA GKL
Hungarian Academy of Sciences
Budaorsi ut 45
Budapest XI H-1112
HUNGARY

Dr. Gy. Vitális
Hungarian Geological Survey
Népstadión ut 14
Pf. 106
Budapest XIV H-1442
HUNGARY

Mr. Dov Ginzburg
Geological Survey of Israel
30 Malchei Yisrael St.
95 501 Jerusalem
ISRAEL

Prof. G. Piccoli
Dipartimento di Geologia Paleontol. e Geofis.
Via Giotto 1
I-35137 Padova
ITALY

Professor Hideo Kobayashi
Department of Geology
Shimane University
Shimane 690
JAPAN

Professor Kanenori Suwa
Department of Earth Sciences
Nagoya University
Nagoya 464
JAPAN

Dr. Daikichiro Shimizu
Department of Geology and Mineralogy
Kyoto University
Kyoto 606
JAPAN

Dr. Yasumoto Suzuki
Geological Information Center
Geological Survey of Japan
1-1-3 Higashi
Tsukuba Ibaraki 305
JAPAN

Prof. J. Babicz
Instytut Historii Nauki
Oswiaty i Tehniki PAN
Nowy Swiat 72 pok.19
80-330 Warszawa
POLAND

Dr. S. S. Czarniecki
Zespól Pracowni ZNG PAN
ul. Senacka 3
Cracow
POLAND

Prof. W. Narebski
Muzum Ziemi PAN
Collegium Geologicum UJ
ul. Oleandry 2a
30-063 Cracow
POLAND

Dr. Doc Z. Wójcik
Muzeum Ziemi Polska
Akademia Nauk al na Skarpie.20/26
Warszawa
POLAND

Mr. A. del Valle Menéndez
Jorge Juan 28 2nd dcha
Madrid 1
SPAIN

Prof. L. Sequeiros
Apartado 5
23400 UBEDA (JAEN)
SPAIN

Prof. T. Frängsmyr
Dept. of the History of Science
Uppsala University
Box 256
S-751 05 Uppsala
SWEDEN

Prof. R. Trümpy
Geologisches Institut
ETH-Zentrum
Sonneggstrasse 5
CH-8092 Zürich
SWITZERLAND

Prof. J. P. Portmann
3 Vy d'Etra
CH-2000 Neuchâtel
SWITZERLAND

Prof. T. Ford
Department of Geology
Bennett Building
University of Leicester
Leicester LE1 7RH
UNITED KINGDOM

Dr. Beryl M. Hamilton
2 Ash Grove
Rainford
St. Helens WA11 8DU
UNITED KINGDOM

Mr. J. Ch. Thackray
Department of Library Services
The Natural History Museum
Cromwell Road
London SW7 2DE
UNITED KINGDOM

Dr. Hugh Torrens
Center for the History of
Science and Technology
The University
Keele Staffordshire ST5 5BG
UNITED KINGDOM

Prof. K. B. Bork
Department of Geology and Geography
Denison University
Granville Ohio 43023
U.S.A.

Prof. A. V. Carozzi
Department of Geology
University of Illinois
245 Natural History Building
Urbana Illinois 61801
U.S.A.

Prof. R. H. Dott Jr.
Department of Geology and Geophysics
University of Wisconsin
Madison WI 53706
U.S.A.

Dr. C. M. Nelson
U.S. Geological Survey
904 National Center
Reston Virginia 22092
U.S.A.

Prof. A. M. Ospovat
Department of History
Oklahoma State University
Stillwater Oklahoma 74074
U.S.A.

Dr. Mary C. Rabbitt
U.S. Geological Survey
National Center Mail Stop 904
Reston Virginia 22092
U.S.A.

Prof. M. J. S. Rudwick
Dept. of History C-004
University of California/San Diego
La Jolla CA 92093
U.S.A.

Prof. Cecil J. Schneer
River Road
Newfields NH
U.S.A.

Prof. Kenneth L. Taylor
Department of the History of Science
University of Oklahoma
Norman Oklahoma 73019
U.S.A.

Dr. I. G. Malakhova
Geological Institute of the
U.S.S.R. Academy of Sciences
Pyzhevsky per. 7
Moscow 109 017
U.S.S.R.

Dr. E. G. Malkhassian
ul. Ter-Gabrielyana 4 kv. 31
375 010 Yerevan Armenian S.S.R.
U.S.S.R.

Prof. Sh. F. Mekhtiev
Geological Inst. of Azerbaidzhan Acad. of Sci.
Prospekt Marimanova 29a
Akademgorodok
370 143 Baku AzSSR
U.S.S.R.

Prof. E. E. Milanovsky
Department of Geology
Moscow State University
117 234 Moscow
U.S.S.R.

Prof. E. A. Radkevich
Far Eastern Geological Institute
Prospekt Stoletiya 159
690 022 Vladivostok
U.S.S.R.

Dr. S. I. Romanovsky
All-Union Geological Research Institute
(VSEGEI)
74 Sredny Prospekt
199 026 Leningrad
U.S.S.R.

Prof. I. I. Shafranovskii
Kirovski Prospekt 25 kv. 80
197061 Leningrad
U.S.S.R.

Dr. Y. Y. Soloviev
Geological Institute
U.S.S.R. Academy of Sciences
Pyzhevsky per. 7
109017 Moscow Zh-17
U.S.S.R.

Prof. A. Grubic
Rudarsko-Geoloski Fakultet
Djusina 7
11001 Beograd
YUGOSLAVIA

Contact Addresses for Formally Non-Represented Countries

Mrs. Ella Hoch
Geological Museum
Oster Voldgade 5-7
DK-1350 Copenhagen
DENMARK

Prof. M. Lotfi Abdel-Khalek
Faculty of Science
Cairo University
Giza
EGYPT

Prof. G. P. Marinos
University of Athens
Faculty of Geology
31 Arynandrou Strasse
Athens 401
GREECE

Prof. Abdulkader M. Abed
Department of Geology and Mineralogy
Faculty of Science
University of Jordan
Amman
JORDAN

Mr. I. R. V. Manuel
Universidade Eduardo Mondlane
Departamento de Geologia
Carte Postale 257
Maputo
MOZAMBIQUE

Prof. A. M. C. Sengor
I.T.U. Maden Fakultasi
Jeoloji Muhendisligi Bolumu
Ayazaga 80 626 Istanbul
TURKEY