INTERNATIONAL COMMITTEE ON THE HISTORY
OF GEOLOGICAL SCIENCES

INTERNATIONALES KOMITEE FÜR GESCHICHTE
DER GEOLOGISCHEN WISSENSCHAFTEN

# NEWSLETTER 14
# INFORMATIONSBRIEF 14

ROSTOCK (DDR) 1980

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INTERNATIONALE UNION FÜR GEOLOGISCHE WISSENSCHAFTEN
INTERNATIONALE UNION FÜR GESCHICHTE UND PHILOSOPHIE DER WISSENSCHAFTEN

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International Committee on the History of Geological Sciences (INHIGEO)

Internationales Komitee für Geschichte der Geologischen Wissenschaften (INHIGEO)

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# Newsletter No 14
# Informationsbrief Nr. 14

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DDR ROSTOCK 1980

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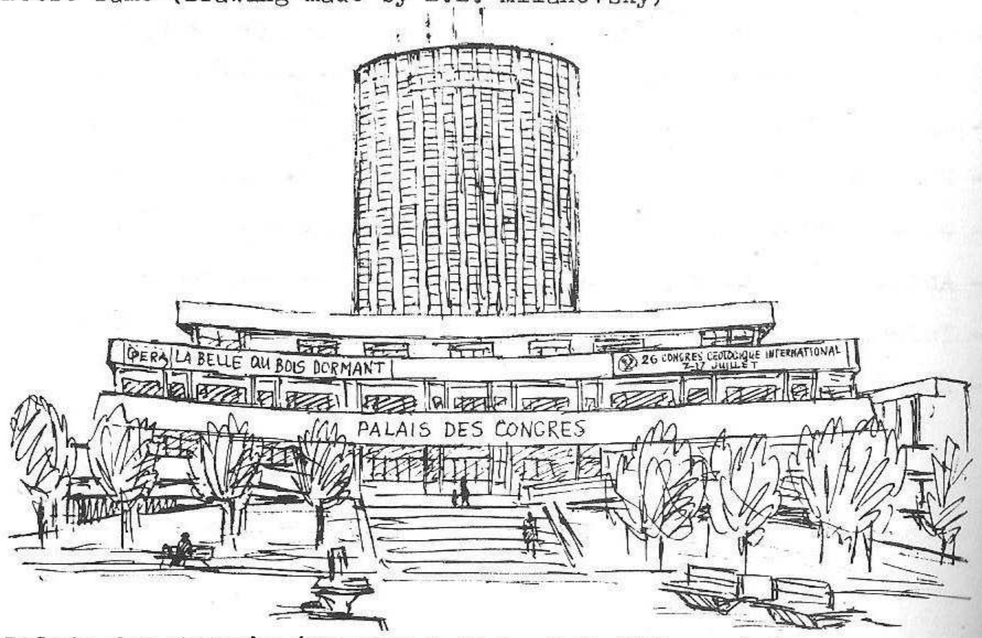
Notre Dame (Drawing made by E.E. Milanovsky)




Palais des Congrès (Drawing made by E.E. Milanovsky)



## History of Geology at the 26th International Geological Congress (Paris 1980)

A number of meetings on the history of geology was held at the 26th International Geological Congress (IGC) which took place in Paris between July 7 and 17, 1980. The meetings were supported by INHIGEO. Section 19 of the congress dealt with the history of geology. Hence it followed that some meetings on the history of geology coincided with the sessions of section 19, which caused a number of problems. It should be mentioned once again that INHIGEO is affiliated to the International Union of Geological Sciences (IUGS) under whose auspices this congress was held. This made it necessary for the members of INHIGEO to be participants in the 26th International Geological Congress and to pay relatively high fees. Therefore some members and corresponding members of INHIGEO were unable to participate in the meetings in Paris. On the other hand - and this seems important - it cannot be denied that the history of geology has gained respect in the international scientific community through this congress, and will henceforth be regarded as a recognized discipline of geological sciences. As the history of geology is practised by both historians and philosophers, it more and more tends to become an interdisciplinary science critically reviewing past developments as well as determinung the position of geology at the present time.
Apart from the big excursion, which will be mentioned below, the meetings in Paris included the regular meetings of section 19 held in the Congress Hall of the 26th International Geological Congress and a number of additional meetings held in a lecture-theatre of the University of Paris (9 rue Malher), which had been kindly made available by Prof. Jaques Roger. Furthermore, a guided visit to the Museum of Natural History and to the Botanical Garden was organized during the congress.

41 papers had been announced for section 19, out of which four could not be read during the meetings. Since these were not

enough rooms available to present the remaining number of papers, five of them were read in rue Malher. Additional activities organized in the same place, which was open to members as well as non-members of the 26th IGC, were as follows: papers read by Prof. R. Hooykaas ("Problems in the History of Geology") and by Prof. J. Roger ("Time, History and Energy in the Thought of Buffon"); two additional discussion meetings on the symposia of section 19 (see below); the business meetings of INHIGEO; a reception for the members of INHIGEO and the participants of section 19 arranged by the French Committee on the History of Geology (COFRHIGEO) and the French Committee on the History and Philosophy of Natural Sciences. We should like to add that the Saturday morning of July 12 was completely taken up by a detailed visit to the Botanical Garden with its greenhouses and historical buildings, the Museum of Natural History and the Gallery of Mineralogy (collections from Haüy etc.) and Paleontology (fossils described by Cuvier etc.).

The scientific programme of section 19 included two symposia and a few general papers.

The subject of symposium 19.2.1 (under the auspices of INHIGEO, COFRHIGEO and the French Committee on the History and Philosophy of Natural Sciences) was: "The Development of Geological Sciences up to the Death of Cuvier (1832): Works in the French Language in the International Exchange of Ideas". 13 papers were read on this subject which were all very interesting although they evaded problems concerning the role and kind of international exchange to a certain degree. This is, however, an essential problem: Science has always been international; therefore any historical study of the development of geology that confines itself to the narrow framework of an individual language or country (for reasens of convenience or unadmitted chauvinism) cannot but remain a distorted and mutilated history. The scope of the subject suggested was indeed comprehensive, and the symposium has clearly shown to what extent the study of development of geology in continental Europe has been neglected in recent decades (with the exception of some good monographs).



Symposium 19.2.2. "History of Tectonics up to the 13th International Geological Congress in Brussels (1932)" was presided over by Prof. John Dennis. 13 papers had been announced, out of which three could not be read at the symposium. The subject was of intenst to both historians of geology and those specializing in tectonics. In many cases the papers presented have shown to what extent the knowledge of past developments can help to understand present discussions on global tectonics. It became obvious that problems concerning mobilism and fixism or uniformitarianism and cyclical repetitions have been discussed controversially during the past 150 years. The views of past authors seem arbitrary to us today, but how will our present ideas be looked upon in future time? The positive role played by the apponents of any kind of dogmatism was particularly emphasized, and the danger of collective prejudices was made clear a contrario.

In addition to what has been mentioned, seven more papers were read at the meetings which dealt with a number of various subjects (topic 19.1.1.). Some of them were of great interest. Our report does not consider papers which were announced beforehand, but had been cancelled long before the congress began.

There is every hope that at least some of the papers read at the congress will be published, presumably in the periodical Geologische Rundschau. A final selection will be made by the editorial board of this periodical. This requires of the authors to hand in their manuscripts (in accordance with the printing regulations of the Geologische Rundschau) to Mr. Dennis (symposium 19.2.2.) and to Mr. Ellenberger or Mr. Gaudant (others) by December 31, 1980.

Apart from the activities mentioned a nine-day pre-Congress excursion ("To the Origins of French Geology") was organized from June 27 to July 5. The excursion was prepared by Prof. F. Ellenberger and the French Committee on the History of Geology. It was part of the official excursion programme of the 26 th International Geological Congress and organized by the travel agency. Although it was rather expensive (considering

the fact that it took place during the peak tourist season), the excursion included 21 participants from six countries. The very fact that the organizers succeeded in carrying out the excursion (about 75 per cent of the excursions originally planned for the congress by France and Europe had to be cancelled for lack of participants) was regardet as a great and unexpected success by the organizing committee of the 26th IGC. An illustrated guide-book (29 pages text written by F. Ellenberger plus 16 facsimile maps and route drawings prepared by Mrs. G. Legée) - a special edition of the periodical "Histoire et Natur" (address: c/o Bibliothèque centrale, Muséum d'histoire naturelle, 38 rue Geoffroy St. Hilaire, 75 005 Paris) - had been published beforehand and presented to those participating in the excursion. In addition to that, COFRHIGEO provided a collection of 52 pages which had been xeroxed by F. Ellenberger. This collection summarized original texts and tables referringto the areas that were visited during the excursion, and partly also included extracts from works of less known authors. The collection, whose detailed quotations were a useful supplement to the excursion guide-book, made two things evident: (1) descriptions of exact observations of the area in the middle of the 18th century preceded the theoretical ideas developed later; (2) the significance of uniformitarian and fluvial ideas in the south of France around 1770 - 1780. Scrope's and Lyell's fluvialism developed 50 years later has to be regarded as a rediscovery.

The route of the excursion (Paris to Marseille) led through Bourgogne, Auvergne, Velay, Vivarais, Bas-Languedoc and Camargue. It was possible to recall the observations and ideas of many scientists (from Astruo to Lyell) at the very places where they had worked. This often enabled the participants to estimate more clearly the value of their works and the problems connected with their fields of study (scarcity of fossils, lack of natural sections etc.) which still persist today. The great interest that was taken in the excursion by the participants may be regarded as a reward for the great effort made by Prof. F. Ellenberger and Mrs. G. Legée in preparing it. At least in



France it was a 'premiere' in the field of the history of geology.
In conclusion we should like to add that some members took part in the one-day-excursion organized during the congress, which led to the old underground quarries of Paris. The excursion was organized by Mr. Viré and Mr. Marvy. These quarries are of importance for the history of the stratigraphy of Paris.

F. Ellenberger
(Corresponding member of INHIGEO)

## R e p o r t

on the work of the International Committee on the History of Geological Sciences (INHIGEO) in the period between the 25th and 26th International Geological Congress (1976 - 1980)

In the past period the members of INHIGEO have done a great deal of work in preparing and holding international and bilateral scientific meetings and in publishing works on the history of geological sciences. Work in this field has also been greatly advanced by many national initiatives in various countries. The members and corresponding members of INHIGEO have produced a considerable number of publications dealing with various questions on the history of geological sciences.

1. Scientific meetings
The international symposia organized by INHIGEO were aimed at presenting and discussing papers on the history of geological sciences of general interest, thus advancing the exchange of opinions on fundamental issues. Two of the symposia were particularly successful:
- VIIth International INHIGEO Symposium on "The Growth of Geological Knowledge in the Age of Geographical Exploration", held during the 25th IGC in Sydney (Australia) in August 1976 (convened by T. G. Vallance).

- VIIIth International INHIGEO Symposium on "Regional Influences on the Origin and Development of Geological Theories", held in Münster and Bonn (FRG) in September 1978 (convened by H. Hölder).

Both symposia included instructive excursions related to the history of geological sciences.

INHIGEO also helped to prepare and hold the following meetings:

- "History of Earth Sciences since 1600" - section VII of the XVth International Congress on the History of Sciences held in Edinburg (Scotland) in August 1977.
- IIIrd Polish-Soviet Symposium on "The History of Soviet and Polish Polar Research" hold in Wroclaw (Poland) in October 1978.
- IInd GDR-USSR Symposium on the history of German-Soviet relations in the field of geological sciences held in Jerevan, Armenia (USSR) in October 1979.

2. Publications

In the past years, books, facsimile prints, papers and bibliographies on various problems on the history of geological sciences have been published by members and corresponding members of INHIGEO.

Some of the books published are as follows:

- W. O. Kupsch and W. A. S. Sargeant (eds.): History of Concepts in Precambrian Geology., Ontario 1979 (Contributions to the IVth International INHIGEO Symposium in Canada).
- J. C. Greene and J. G. Burke: The Science of Minerals in the Age of Jefferson, Philadelphia 1978.
- F. Ellenberger: A l'aube de la géologie moderne: Henri Gautier (1660 - 1737), Paris 1976/77.
- W. von Engelhardt and H. Hölder: Mineralogie, Geologie and Paläontologie an der Universität Tübingen von den Anfängen bis zur Gegenwart, Tübingen 1977.
- C. J. Schneer (ed.): Two Hundred Years of Geology in America, New Hampshire 1979.
- V. V. Tikhomirov: Geology in the Academy of Sciences from Lomonossov to Karpinskij (in Russian), Moscow 1979.



- G. K. Georgiev: Ancient Iron Industry in Bulgaria (in Bulgarian), Sofia 1978.
- I. I. Shafranovskij: History of Cristallography. Vol. 1, (in Russian), Leningrad 1978.
- H. Prescher (ed.): Geologen der Goethezeit, Leipzig 1979.
- M. Guntau (ed.): Biographien bedeutender Geowissenschaftler der Sowjetunion, Berlin 1979.
- O. I. Islamov: On the History of Geological Knowledge in Central Asia (in Russian), Taschkent 1976

Special mention should be made of the 37 volumes on the history of geology in the United States, to which C. C. Albritten, C. J. Schneer and C. W. White have contributed in an outstanding way. This collection comprises classical geological works (facsimile prints), historical presentations and bibliographies. W. A. S. Sargeant has published a bibliography on the works in the field of the history of geological sciences in eight volumes.

Altogether more than 150 papers on the history of geology were published by members and candidates of INHIGEO between 1976 and 1980.

3. National Groups

In the past years considerable support has been given by members of INHIGEO to set up further groups on the history of geological sciences in various countries. Being of a different character, their common goal is to investigate and promote the history of geology in these countries. The activities of the national groups are an important prerequisite for the successful work of INHIGEO.

The countries in which groups on the history of geological sciences are working actively are as follows: Bulgaria, Canada, Czechoslovakia, France, German Democratic Republic, Great Britain, Hungary, The Netherlands, Poland, United States, USSR.

4. Meeting planned

Extensive work has been done to prepare further meetings and symposia in the coming years:

- Two symposia will be held during the 26th International Geological Congress in Paris in July 1980 (section 19):

S. 19.2.1: The Development of Geology up to the Death of Cuvier (1832): the Works in French Language in International Exchange of Ideas.

S. 19.2.2: History of Tectonics up to the 13th International Geological Congress in Brussels in 1922.

There will also be an exkursion "To the sources of French geology" to be prepared by F. Ellenberger.

- INHIGEO is supporting the preparation of section 9 "History of Earth Sciences" of the 16th International Congress on the History of Sciences to be held in Bucharest (Romania) in the summer of 1981.
- International INHIGEO Symposium on "The Development of Geological Mapping and Geocartography in Connection with Progress in Geological Thought" to be held in Budapest (Hungary) in 1982 (preparation: E. Dudich).
- International INHIGEO Symposium on "The History of Mineralogy" to be held in Moscow (USSR) in 1984 (preparation: V. V. Tikhomirov).

5. Administrative work

In the period between 1976 and 1980 21 members and 45 corresponding members from 23 countries were represented in INHIGEO. There has been effective co-operation between the members of the Bureau of INHIGEO. The President, Prof. R. Hooykaas, and the General Secretary, Dr. M. Guntau, meet annually to discuss the work of the Committee.

In 1977, an informal meeting of the Committee was held in Edinburgh (chairmann: T.G. Vallance); in 1978, a business meeting was held in Münster (chairman: R. Hooykaas). The latter meeting continued and concluded the discussion on the change and concretization of the bye-laws valid since 1968 by adopting an new bye-laws are in strict accordance with the corresponding documents of the IUGS and are confined to the essential stipulations of the work of INHIGEO. The bye-laws were aggreed unanimously.

With a few exceptions all members and corresponding members of the Committee have been in contact with the President or General Secretary reporting on their scientific activities. Reports on the annual work of INHIGEO were regularly conveyed to the



General Secretary of the IUGS. In 1979, the Executive Committee of the IUGS made a request to INHIGEO to outline its general aims and future plans. The report written by the President of INHIGEO was approved by the Executive Committee of the IUGS at its meeting in Mexico City in February 1980.

INHIGEO newsletters were published in 1977, 1978 and 1979 (900 copies each year). The newsletter for 1980 is in preparation. Reports and communications on meetings on the history of geological sciences, announcements of conferences, reports on the activities of national groups, publications on the history of geology, information about personnel etc. made it possible to maintain informal contact with all members and corresponding members of the Committee as well as with other scholars interested in the history of geology.

6. Financies

Considerable financial support was given to INHIGEO between 1976 and 1980. The bodies involved were as follows:

| | | |
|---|---|---|
| - International Union of Geological Sciences (IUGS): | 1950 | US-dollars |
| - International Union on the History and Philosophy of Sciences (IUHPS): | 1100 | US-dollars |
| - GDR Academy of Sciences: | 4000 | GDR marks |

The money was used

- to support scientific meetings
- to help finance fares of members of the Bureau and the Committee
- to print newsletters
- to cover administrative expenses (e.g. pastage, printing of circulars, programmes etc.)

July 1980

R. Hooykaas

M. Guntau

## The AIMS of INHIGEO

The Secretary General of the International Union of Geological Sciences, Dr. W.W. Hutchison, wrote a letter (March 7, 1979) to the chairman of INHIGEO from which the following lines are quoted:
"At the Executive Committee meeting in Zürich, in early February, the annual report of INHIGEO was reviewed and discussed. The Committee was pleased with the progress summarized in your report and recognized in particular the results of the meeting held in Münster last year. Some members of the Executive Committee expressed personal interest in the activities of INHIGEO. Nevertheless, there appeared to be an element of confusion about the specific objectives and current themes of INHIGEO, and I was requested to contact you for clarification of and information on this. It would be helpful to the Executive Committee if your current terms of reference and specific future plans could be forwarded to me at your convenience ..."

In reply to this request, I wrote (Nov. 12, 1979):
"..... In the enclosed exposé I have tried to give information based on the Newsletters of INHIGEO, which have been edited, first by Prof. Tikhomirov (in English and Russian), next by Dr. Guntau (in English and German). Besides, you will find in this report a plea for the history of geology, into which I involuntarily fell, as I often meet with some scepsis about the usefulness of the historiography and their disciplines for the work of present-day geologists.
Our Committee will always highly appreciate any advice and direction the Executive Committee of IUGS could give us for our further activities.....".

Dr. Hutchison replied on February 19, 1980:
"Dear Professor Hooykaas. At the XXIst Executive Committee Meeting held in Mexico City, from February 6-8, 1980, the annual report of INHIGEO was reviewed and discussed. It commended particularly INHIGEO's efforts to foster studies of regional and/or national nature. Special reference was made



to the major publications compiled and/or edited by members of INHIGEO. Finally, the terms of reference compiled by you were evaluated by the Executive Committee and it was felt that they provide an appropriate framework for INHIGEO's activities....".

The Editor of the Newsletter deemed it useful to inform our readers of this correspondence and to publish the exposé that was sent to the Executive Committee.

## THE INTERNATIONAL COMMITTEE ON THE HISTORY OF GEOLOGICAL SCIENCES

The 22nd International Geological Congress (Dec. 1964, New Delhi) charged the USSR-delegation to form an International Committee on the History of the Geological Sciences (INHIGEO). The Russian colleagues who had taken the initiative for this plan, organized a constituent assembly under the presidency of Prof. V.V. Tikhomirov in Yerevan (Armenia), 6 - 8 June 1967, ir which 34 delegates from 15 countries participated.
The International Union of Geological Sciences entrusted the Committee then founded with the task of establishing personal contacts between scientists engaged in studies in the history of geology and with the coordination of studies on this subject carried out in various countries.
The activity of INHIGEO has stimulated the formation of national committees on the History of Geological Sciences (USSR, DDR, Poland, the Netherlands, USA, Britain, France, Hungary, etc.), some of them independent, others working under the auspices of a Geological Society or a national Academy of Sciences. Moreover, many individual historians of geology have received encouragement and support from INHIGEO.

I. At first one of the main aims was the composition of a General History of the Geological Sciences as a collective work of geologists of various countries. This "collective" character has receded into the background; as many members

deem it rather unpractical in the present circumstances, and as practically nowhere a systematic effort has been made in this direction, the realization of such a plan cannot be near.

The Commission of the Royal Netherlands Acad. of Science for the History of Geological Sciences has as its main task to collect materials on the history of geology in the Netherlands and its former territories in the East- and West-Indies, in order to compose a work on it, which may serve as a contribution to the more ambitious plan of INHIGEO. Though progress has been made, even this enterprise will ask much time.

Yet, in most cases, historical research will concentrate on the geological work performed in an author's own country and this happens not only for linguistic reasons but above all because the data are available there. At any rate, in this way these data become also accessible to scholars from other countries, who may use them for writing a "general history of geology" and thus help to realize our original plan to a certain extent.

It might be objected that geological maps show no national borders, and of course, this is true. It cannot be denied that, often unwittingly, books on the general history of geology are tinged by nationalism. An almost inevitable provincialism leads to an over-emphasis on the achievements of compatriots. In this respect INHIGEO may perhaps serve to correct this by its meetings which are held in a critical spirit and may prevent reasonable national feelings to degenerate into nationalistic errors. At any rate, INHIGEO will stimulate as much as possible the publication of monographs, whether written in a national or an international context.

II. An important aim of INHIGEO is the stimulation of international symposia on subjects of fundamental interest to all geologists, leaving more detailed subjects to the national symposia. The problems of importance to our purpose, are in the first place those of geology in the proper sense and those of palaeontology, but also those of mineralogy, crystallography, geophysics, cartography, whereas problems



of methodology, economics and teaching are equally taken into consideration. Several symposia have been organized by national groups under the auspices of INHIGEO (Yerevan, Freiberg, London, Münster). Our future plans are: cooperation with the French committee in the organization of a symposium on "French geology until 1832" and one in Budapest on cartography in geology and mining (1982) and one on the history of the mineralogical sciences in Moscow and Kiev (1984).

In order to maintain contact between the members of the Committee and the numerous corresponding members a "Newsletter" gives information about what is going on in the field of the history of geological sciences in various countries and an the main publications.

It might be asked: why a committee on the history of geology as part of IUGS? Shouldn't this subject be left to organizations that occupy themselves with the history of science in general?

In answer to this question we point out that the historiography of science is dominated by the physical disciplines (physics, chemistry, astronomy) and biology. Up till quite recently, geology, - though a totally different kind of discipline - was rather neglected in that company. Precisely because of its special (historical) character and because it is based on research in the field, a geological-historical meeting requires a special kind of organization. Symposia of INHIGEO attract more professional geologists than a geological section of a congress on the history of science. It seems more important to arouse the interest of geologists than to cultivate the history of geology only for its own sake.

I realize that this last sentence expresses a private opinion. I believe more strongly in history of science in the service of scientists in the proper sense (in its educational usefulness for students as well as professionals, in order to make them more critical and more profound in the cultivation of their work), than in "historiography of science for its own sake".

This brings me to the question:

Why History of Geology?

A. Factual information. One of the arguments put forward for cultivating the history of geology (mining included) is that much research of the past has been forgotten and that the observations of our forebears, and often also their ideas, are still of great value today. This point has in particular been stressed by our Russian colleagues. In Czecho-Slovakia one of our members is head of an institute which has as one of its tasks to give information about the situation of old mines in that country. But not only almost forgotten geological data are brought again to the light, but also theories discarded in the past turn out to contain valuable elements.

B. The education to a "complete" scientist. Science in general, and geology in particular, may try to be as objective as possible, nevertheless it remains but a human activity, determined not only by its objects but also by a priori conceptions of the investigator. Not only are we influenced by the scientific education received at the university, but also, unwittingly, we let ourselves be guided by concepts of simplicity, analogy, unity, and by the prevailing theories. These may be indispensable at most times, but on other occasions they become blinkers. In most cases analogical reasoning helps us to insert new discoveries into the existing body of doctrine, but the great steps forward have been made by breaking through the barrier of similarity and boldly admitting unorthodox explanations. The Lyell-symposium in London excelled by the critical evaluation of Lyell's uniformitarianism and by showing the great value of the opinions of his opponents. The history of geology may help us to avoid a facile orthodoxy in geological theory.

History of geology also demonstrates the extra-scientific (religious, philosophical, political,economical)influences on science, in particular on the problems tackled and the solutions given. We may try to free ourselves from them in our method, but a methodological separation does not always imply a psychological one; it is wellnigh impossible to keep our mind



divided in watertight compartments. And though we (rightly!) try to maintain scientific purity in our method, we hardly realize how much we remain liable to such extra-scientific influences, unless we recognize them by locking back into the past, and thus may admit the possibility that posterity may discover such time-bound influences in our present work.
The symposium in Münster (Prof. H. Hölder ) on the influence of the geologist's geographical environment on his theorestical views, was to all participants (who, for the major part, were field geologists) very illuminating. In particular visits to the sites that gave rise to a certain theory, caused lively discussions, e.g. when in the Nördlinger Ries diverse problems of a methodological character (actualism) as well as physico-chemical issues (crystal formation) were discussed. This latter problem brings me to the next point.

C. The interconnection of geological disciplines. The students of the history of geology are from widely different origin. Some of them are historians of science (either with a scientific, or with a more "humanistic" background); others are practical geologists interested in the philosophical and historical background of their work. As the latter are palaeontologists, mineralogists, geophysicists, etc., we have again and again an exchange of views of a width of scope that is often lacking in highly specialized groups. The comparison with the ancient conceptions makes them more aware of the significance of the modern ones.

D. The "humanization" of science. Geology bears a specific character in that it is not in the first place a laboratory discipline and in that it reconstructs the past from its relics found in the present. To many geologists geology is not just a job, but a "dialogue with the earth", often held in remote regions, far from "civilization". All this gives geology a character of its own, quite distinct from that of the classificatory, experimental and physico-mathematical sciences and it puts a stamp on its cultivators. It seems desirable that geologists are fully conscious of what they are doing and how they do it and that they recognize that their science is not just a

working to the rules taught in the university and that they are aware of their methodology and realize how far their certainties reach. INHIGEO, which is itself a result of this growing consciousness amongst geologists, has something contributed to its further growth by stimulating research in the history of geology in order to contribute to the welfare of geology itself and to the pleasure geologists have in their work.

It should be emphasized that INHIGEO is just a committee within IUGS and that it is neither a society embracing all geologists interested in the history of geology, nor a body supervising national groups. Our task is a stimulating and coordinating one.
We would be grateful to the IUGS if it can advise us on ways to make the work of the committee more effective and to point out the shortcomings. It is true that much so-calles "Historical" work has but an antiquarian interest and that much writing on the geology of the past is "chronicle-writing" rather than historiography. You may be assured, however, that we try to avoid these pitfalls as much as possible and that we are convinced that a historiography of geology that has nothing to say to geology of the present is as dead as a doornail. Our ideal is a revivification of the past in order that it may be a source of inspiration to the present.

R. Hooykaas



THE PANEL OF
THE INTERNATIONAL COMMITTEE ON THE HISTORY OF
GEOLOGICAL SCIENCES (INHIGEO)
TERM 1980 - 1984

(approved by IUGS Council, July 1980 in Paris)

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| 11. Dr. E. Dudich | MTA Geokémiai Kutato Laboratorium<br>Budaörsi ut. 45<br>H - 1112 Budapest<br>Hungary |
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| 13. Prof. A.S. Kleczkowski | Akademia Gorniczo-Hutnicza<br>Institut Hydrogeologii i Geologii Inzynierskij<br>Aleja Mickiewicza 30<br>30 - 059 Kraków<br>Poland |



| | |
|---|---|
| 14. Prof. W.O. Kupsch | Department of Geological Sciences<br>University of Saskatchewan<br>Saskatoon, S7N OWO<br>Canada |
| 15. Prof. W. Langer | Institut für Paläontologie<br>Rhein. Friedrich-Wilhelm-Universität<br>Nußallee 8<br>D - 5300 Bonn 1<br>FRG |
| 16. Dr. J.P. Portmann | Université de Neuchatel<br>Institut de Géographie<br>Coq-d'lnde 10<br>CH 2000 Neuchatel<br>Switzerland |
| 17. Prof. G. Regnell | Department of Geology<br>University of Lund<br>S - 22 362 Lund<br>Sweden |
| 18. Dr. J. Urban | Geofond Kutná Hora<br>Dacického námesti 11<br>Kutna Hora<br>CSSR |
| 19. Mr. Xia Xiangrong | Hubei Geological Bureau<br>192 Liberation Ave.<br>(Jiefang da dao)<br>Hankou, Hubei<br>People's Republic of China |

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(elected at the INHIGEO meeting on 10 July 1980 in Paris)

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29. Prof. W. von Engelhardt
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30. Prof. H. Hölder
Geologisch-Paläontologisches Institut der Universität
Gievenbecker Weg 61
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German Democratic Republik

31. Prof. R. Daber
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DDR - 104 Berlin

32. Dr. H. Prescher
Staatliches Museum für Mineralogie und Geologie
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Kraków

45. Prof. A. Gawel
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i Petrografii
Universytetu Jagellonskiego
Oleandry 2
Kraków

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47. Prof. W. Narebski
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55. Prof. S.J. Gould
Museum of Comparative Zoology
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57. Prof. H.D. Hedberg
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University of Illinois
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62. Prof. L.G. Wilson
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63. Mrs. Dr. I.V. Batushkova
Institute for the History of Natural Sciences and Technics
Staropansky per. 1/5
Moscow 103 012

USSR

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| 64. Prof. D.I. Gordeev | Department of Geology<br>Moscow State University<br>Moscow 117 234 |
| 65. Dr. E.G. Malchassian | ul. Ter-Gabrielyana 4, kv. 31<br>Yerevan 375 010 |
| 66. Prof. E.E. Milanovsky | Department of Geology<br>Moscow State University<br>Moscow 117 234 |
| 67. Prof. A.S. Povarennykh | Institute of Geochemistry and Physics of Minerals<br>Academy of Sciences of the Ukranian SSR<br>Novo - Belichanskaya 34<br>Kiev 252 068 |
| 68. Mrs. Prof. E.A.Radkevich | Far Eastern Geological Institute<br>Propect Stoletia 159<br>Vladivostok 690 022 |
| 69. Mrs. Dr. A.I. Ravikovich | Geological Institute of the USSR Academy of Sciences<br>Pyzhevsky 7<br>Moscow 109 017 |
| 70. Prof. I.I. Shafranovsky | Department of Crystallographie<br>Leningrad Mining Institute<br>Vasilevsky Ostrow 21 Linia<br>Leningrad 199 026 |



## New Members of INHIGEO

(elected in Paris, July 1980)

- Antoni Stanislaw Kleczkowski (approved by the Polish National Committee of Geologists), born in 1922. Graduate of the Akademia Górniczo-Hutnicza Kraków (1950) and the Jagellonian University of Kraków (1951), Dr. (1958), Dr. sc. (1963); Professor, Director of the Institute of Hydrogeology of the Akademia Górniczo-Hutnicza, Corresponding member of the Polish Academy of Sciences. His field of research is stratigraphy, hydrogeology and history of geology. He has published about 40 papers on historical problems of earth sciences.

- Wolfhart Langer (approved by the FRG National Committee of Geologists), born in 1933. Graduate of the University of Münster (1963), Dr. rer. nat. (1964). Assistant Lecturer Geolog.-Palaeont. Inst. University of Bonn (1965), Dr. habil. (1973), Prof. University of Bonn (1975). His field of research is palaeontology and biostratigraphy (foraminiferes and microbiostratigraphy of the miocene, microstructures of ostracodes , microfacies and microfossils of devonian); about 20 publications on the history of geology, especially biographies and problems of the history of geological sciences in West-Germany.

- Xia Xiangrong (S. Y. Hsia - name used formerly) (approved by the Geological Society of China), born in 1910. B. S., Tsing Hua University Beijing (1934). Assistant lecturer on petrology and mineral deposits.Tsing Hua University (1934 - 1937); Sen. geologist Geol. Survey of Kiangsi (1937 - 1947); Director of the Geol. Survey of Kiangsi (1947 - 1952); Head of the Department of Geology, Geological Bureau of Centre-South China, Hankou (1953 - 1955); Chief Geologist in the Geological Repository of the Ministry of Geology, Beijing (1956 - 1959); Chief Geologist in the Hubei Geological Bureau, Hubei (1959 - 1979). Ed. of "Geological Review" Geolog. Soc.

of China (1956 - 1958); Councilor of the Geological Society of China (1962-); Chairman of the History of Geological Sciences Committee of the Geological Society of China (1980-). He has published papers in the field of stratigraphy, mineral resources, metallogeny and the history of geological sciences. In 1980 his book "Historical Development of the Ancient Chinese Mining Industry" (with Li Zhongjun and Wang Genyuan) will appear pp. 1 - 412 (in Chinese), 84 figs. Geological Press, Beijing.

## New Corresponding Members of INHIGEO

(elected in Paris, July 1980)

- John G. Burke (approved by the U. S. National Committee on the History of Geology), born in 1917. B. S., Mass. Inst. Tech. (1938); M. A., Stanford Univ. (1960); Ph. D., Stanford Univ. (1962). - Asst. Prof. History, Univ. Calif. Los Angeles (1962 - 1967); Assoc. Prof. (1967 - 1971); Prof. 1971-. Recipient Abbott Payson Usher Award (1967); National Science Foundation grantee (1965 - 1968); National Endowment for the Humanities grantee (1973, 1974, 1978); Professor, William Andrews Clark Memorial Library (1978 - 1979); Guggenheim Fellow (1979 - 1980). Fellow, Amer. Assoc. Advancement Science; member, History of Science Society (treas. 1971-1975); member Soc. History Technology (member exec. council 1974 - 1978); member, Brit. Soc. History Science. He has published the book "Origins of the Science of Crystals" (1966) and other books and articles in the field of history of mineralogy, crystallography and geology.

- Gordon Younger Craig (approved by the History of Geological Sciences Subcommittee of the Royal Society), born in 1925. B. Sc. (1st class Hons) Glasgow (1946), Ph. D. Edinburgh (1951), F.R.S.E. (1964); 1947 - 1958 Lecturer in Palaeontolo-



gy and 1960 - 1967 Senior Lecturer and Reader (University of Edinburgh), since 1967 James Hutton Professor of Geology, 1971 - 1977 Head of Department of Geology (University of Edinburgh). Author of books and papers on Palaeontology, Palaeoclimatology, the Geology of Scotland an the History of Geology (1978 James Hutton's Theory of the Earth: The Lost Drawings)

- Stephen Jay Gould (approved by the U.S. National Committee on the History of Geology), born in 1941. A.B. Antioch College (1963), Ph. D. Columbia University (1967); 1967 - 1971 Assistant Professor of Geology and Assistant Curator of Invertebrate Palaeontology, Harvard University; 1971 - 1973 Associate Professor of Geology, Harvard University; since 1973 Professor of Geology, Harvard University and Curator of Invertebrate Palaeontology, Museum of Comparative, Zoology. Also, member of the Committee of Professors, Department of Biology, Adjunct Member, Dept. of the History of Science; since 1976 member of the Council of Society for the Study of Evolution. He was published quite a few papers to various questions on the history of geological sciences.

- Evgenij Evgenjevich Milanovsky (approved by the USSR National Committee of Geologists), born in 1923. Graduate of the Geological Faculty of the Moscow State University (1949, Cand. geol. sciences (1953), Dr. sc. (1965); 1952 Assistant, Lecturer 1955 Ass. Prof., 1967 Professor, since 1972 Head of the Chair on historical and regional geology (Geological Faculty of the Moscow State University; Corresp. Member of the USSR Academy of Sciences, Member of the USSR National Committee of Geologists; he has published about 300 scientific works including 8 books (regional geology of the Caucasus, rift zones of continents, Iceland and the median-oceanic ridge etc.); about 25 papers are devoted to problems of the history of geology.

- Wojciech Narebski (approved by the Geological Society of Poland), born in 1925. Graduate of the Nicolaus Copernicus University Torun (1952), D. Sc. Cracow (1957), 1956 senior assistant in the Museum of the Earth (Polish Academy of Sciences), 1965 assistant professor, 1973 professor. Since 1968 secretary of the Working Group on the History of Geological Sciences affiliated to the Institute of History of Science and Technology (Polish Academy of Sciences). In 1975 elected vicepresident of the Mineralogical Society of Poland, responsible for contacts with other countries and international organisations. Author of more than 50 publications, including some monographs on mineralogy, geochemistry and petrology. 11 publications on historical and related problems in Earth sciences.

- Rhoda Rappaport (approved by the U.S. National Committee on the History of Geology), born in 1935. Bachelor of Arts, Goucher College, Baltimore (1955); Master of Arts, Cornell University (1958); Doctor of Philosophy, Cornell University (1964). Membership in the History of Science Society, the British Society on the History of Science, USHIGEO. Since 1962 she has taught history of science. She has published about 20 papers in the field of the history of geology, especially on France in the 18th and 19th centuries.

- John Christopher Thackray (approved by the Geological Society of London), born in 1948. Graduate of the University College London 1969 (geology), B. Sc. (Hons.) in 1969; joined the exhibition staff of the Geological Museum London in 1969. His historical work at the museum includes exhibitions on R. I. Murchison, the early days of geology in Britain, the founding of the Devonian System, and the history of the Geological Survey of Scotland. In 1975 he was the secretary of the organizing committee of the 6th INHIGEO-Symposium - the Charles Lyell Centenary Symposium in London. He published papers on the history of geology in Great Britain.



- Leopard Gilchrist Wilson (approved by the U. S. National Committee on the History of Geology) born in 1928. B. A., University of Toronto (1949), M. Sc., University of London (1955), Ph. D., University of Wisconsin (1958); 1958 - 59 Visiting instructor, Dept. of History, University of California, Berkeley; 1959 - 60 Ass. Prof., Dept. of History Cornell University, Ithaca, N. Y.; 1960 - 1965 Ass. Prof., 1965 -1967 Ass. Prof., Dept. of History of Science and Medicine, Yale University School of Medicine; since 1967 Prof., Dept. of the History of Medicine, University of Minnesota. Membership in the History of Science Society, the American Association on the History of Medicine, the Geological Society of America. He has published about 25 articles and 4 books in the field of the history of science. 12 publications are devoted to problems of the history of geology, especially 2 books on Charles Lyell.

## Willem Nieuwenkamp

Willem Nieuwenkamp (1.1.1903 - 12.11.1979) inherited from his father - the famous painter W.O.J. Nieuwenkamp - the artistic temperament, which revealed itself also in his approach to science. Sensitive to the beauty of nature and of human thought (in particular its mathematical aspects), it is small wonder that after his geological studies he felt attracted by crystallography. In his doctoral thesis (Amsterdamm 19.12.1932) he dealt with his determination of the structure of lead bromide and lead fluorbromides and with the problem of the classification of the structures of bihalogenides in general.

After many years of various university functions in Amsterdam and Utrecht, he became professor of mineralogy, crystallography and petrography at the University of Utrecht (1948; inaugural address on "actualism and catastrophism"). In the mean time he had closely cooperated with Vening Meinesz in the latter's geophysical investigations of the bottom of the oceans. His geochemical interest led him to his "pansedimentary hypothesis", which he styled also "neo-huttonism". This implied a strict uniformitarianism in petrography: during the whole of geological time the same materials have been going through perpetual cycles without juvenile addition.

Prof. Nieuwenkamp was a man of great erudition, a "homo universalis", well versed in the literature written in the modern and classical languages and greatly interested in the methodology, epistemology and history of the sciences of nature (cf. e.g. his "Geschichtliche Entwicklung zu heutigen petrogenetischen Vorstellungen", Geologische Rundschau 55, 460 - 478 and his study on L. v. Buch in Dict. Sci. Biogr.). He was one of the foundation members of INHIGEO.

He took a great personal interest in his students and co-workers, who liked him for his good humour and his unselfish helpfulness, but he was less interested in publishing his scientific achievements. He was a not so common example of a freethinker but really a free thinker, and thus he could tolerate and understand opinions he did not share himself, a quality also indispensable for a historian of science.

R. Hooykaas



## Antoni Laszkiewicz

Prof. Dr. Antoni Laszkiewicz, corresponding member of INHIGEO, died in Warsaw on April 21, 1980 at the age of seventy five.

He was born in Zakataly (Caucasus) on September 28, 1904. He spent his youth in Gori (Georgia/Russia) and Zytomierz. In 1920, after being repatriated with his family, Laszkiewicz finished grammar school in Warsaw and soon graduated in mineralogy and crystallography from the University of Warsaw where he was a disciple of the outstanding Polish mineralogists S. J. Thuggut and T. J. Woyno. In 1923, he started working as an assistant at the Department of Mineralogy and Petrography of this University. After taking his Ph. D. in 1929 he qualified as a university lecturer in crystallography in 1931 and received a scholarship to work in Heidelberg and Zürich under the guidance of V. Goldschmidt and P. Niggli. At the University of Warsaw Laszkiewicz worked as a lecturer in mineralogy and crystallography and wrote a number of valuable handbooks.

During World War II he was first a lecturer in crystallography in Wilno (1940/41), but then moved to Warsaw where he participated actively in underground teaching. He took part in the Warsaw uprising in 1944. After the war Laszkiewicz spared no pains to restore the heavily damaged building of the Mineralogical Department of the University and its mineralogical collections. In 1946 he was appointed associate professor at the University of Warsaw. In 1956 he become head of the Department of Petrography and Geochemistry at the State Geological Institute of Warsaw where he was appointed full professor in 1964.

In the inter-war period (1926 - 1939) Prof. Laszkiewicz's scientific activity was mainly devoted to investigations in the field of crystal morphology of Polish minerals and to the problem of its dependence on the conditions of their origin. Apart from this he studied crystal structures using special X-ray technique and applied thermal methods to examining salt minerals. Prof. Laszkiewicz's interest in museology and the history of mineralogical and geological sciences developed particularly in the post-war period when he co-operated closely with the Museum of the Earth of the Polish Academy of Sciences. Consequently 26 of his 123 publications are dedicated to various problems of the history of geological sciences.
Laszkiewicz was very active in numerous scientific associations and committees and was one of the founders and an honorary member of the Mineralogical Society of Poland and the Polish Philatelistic Society. He became widely known as an expert in this field. His work as a member of the editorial board of several scientific periodicals is also worth mentioning.
Paying homage to the memory of Prof. A. Laszkiewicz we feel to have lost an outstanding scientist and a man of great human personality.

W. Narebski

## Information

- INHIGEO Symposium Budapest 1982
At the meeting in Paris on July 10, 1980 INHIGEO decided to hold the 9th International Symposium on the history of geology in Budapest (Hungary) between September 21 and 26, 1982. The topic of the symposium will be "Development of Geological Mapping and Geocartography in Connection with Progress in Geological Thought". Two or three days of lectures are planned for the symposium. A one-day and a two-day excursion to geo-



logical sections and to monuments of the history of civilization in Hungary is also included in the programme. In addition to this, a complementary session will be held on the occasion of the 100th anniversary of the Department of Paleontology of Lajos Eötvös University Budapest.
The symposium will take place in the headquarters of the Hungarian Geological Institute. Official languages are English, Russian, French and German. The symposium will be spensored and supported by the following Hungarian institutions: Hungarian Academy of Sciences, Hungarian Geological Society (Sections "History of Geology" and "Paleontology and Stratigraphy"), Central Geological Office of Hungary, Hungarian Geological Institute, Faculty of Sciences of Lajos Eötvös University Budapest.
The members of the organizing committee set up in Budapest are as follows: L. Alföldi (chairman), E. Dudich (secretary), G. Csiky, B. Géczy, T. Kecskeméti, T. Póka and A. Varga.
Postal address of the committee:

Hungarian Geological Society (MFT)
" INHIGEO '82 "
H - 1061 Budapest VI
Anker Köz 1

All those interested in the symposium are kindly requested to contact the organizing committee in Budapest.

E. Dudich

- INHIGEO-Symposium Moscow 1984
The International Committee on the History of Geological Sciences (INHIGEO) with the participation of the USSR Academy of Sciences intends to organize the International Symposium on "History of Mineralogy". This Symposium is to be held in 1984 in Moscow within the framework of the 27th Session of IGC.

It is planned to discuss at the Symposium a wide range of questions related to development of mineralogy as a significant branch of geological sciences. The early period of the history (before XX century) is to incorporate problems of

crystallography and crystallochemistry of minerals.
With the aim of specification of the Programme and possible number of participants of the Symposium you are kindly requested to tell us your consideration and suggestions on details of the measure under question.
The letters should be adressed to

Prof. V. V. Tikhomirov,
Geological Institute of the USSR Academy of Sciences,
Pyzhevsky per., 7,
Moscow Zh-17, 109017, USSR

The first circular with more detailed information of the Symposium will be distributed among the person who respond to this information.

V. V. Tichomirov

- Alfred Wegener 1880 - 1930

On the occasion of Alfred Wegner's 100th birthday (November 1, 1880) and his death in Greenland 50 years ago (November 1930) many scientific conferences have been held to remember his scientific work. Among others, conferences were held in Berlin (capital of the GDR), West Berlin, Graz and Moscow which were dedicated to the significance of Wegner's ideas and works for modern science. It is hardly possible to enumerate all the articles in scientific journals, publications for the general public and daily newspapers or the contributions on the radio and on television dedicated to Alfred Wegener and his theory of the continental drift. Special stamps have been issued in the GDR, FRG and Austria on the occasion of this anniversary.
The 27th annual meeting of the GDR Society for Geological Sciences, which was held in Berlin between November 11 and 14, 1980, dealt with the topic "Alfred Wegener - from the theory of the continental drift to new global tectonics". Within the framework of this meeting an excursion was organized which led to the Alfred Wegener memorial place in Zechliner Hütte (north of Berlin). In addition to this, a facsimile print of



Wegener's works on the theory of the continental drift (1912 - 1921) has been published recently. Earlier in February 1980, a memorial tablet was unveiled at the building of the former Cöllnisches Gymnasium in Berlin (GDR) which Alfred Wegener attended as a pupil.
The Geological Faculty of Moscow Lomonossow University and the Moscow Society of Naturalists held a scientific meeting between November 17 and 24, 1980 on the occasion of Alfred Wegener's 100th birthday. Outstanding Soviet scientists read papers on the influence of Wegner's ideas on present-day geology.
In February 1980, an international symposium in remembrance of Alfred Wegener was held in West Berlin. An Alfred Wegener Foundation to sponsor common research in the field of earth sciences was established at this symposium (cf. "Episodes", vol. 80, no. 2, p. 31; Ottawa, July 1980).

M. G.

- Prof. G. W. White

On 12-XII-1979 at the university of Illinois a plaque was unveiled in the Geological Library "in recognition of over 30 years of inspired leadership" to honour prof. George White. Through his efforts the library became one of the best of its kind, excelling by its source materials on USA geology. Prof. White is one of the foundations-members of INHIGEO (vice-president for America 1967 - 1976).

R. H.

- Geology and Enlightenment

In October 1978, a conference on Geology and the Time of Enlightenment was held in Görlitz (GDR). The papers read there have been compiled in two volumes in the Zeitschrift für Geologische Wissenschaften (Heft 1 - 2, Akademie-Verlag Berlin 1980). The 19 papers touch upon interesting aspects of this subject and are mainly of two kinds. One of them refers to geologists and geological problems per se in the 18th century.

The other aspect is about the conflict between empirical geology and biblical ideas. Geology (the term was coined in the end of the 18th century) played a principal part in this conflict because it seemed to contradict the story of Genesis. One question, for instance, pertained to the age of the world, and without revolting against the Bible many geologists began to give the history of the Earth a much wider time span than the biblical 6000 years; this was the starting point for the emancipation process of Geology during the next century. In this respect I should like to mention S. Wollgast, "Gedanken zur Aufklärungszeit", H. Ley, "Aufklärung und Naturwissenschaft in Westeuropa", R. Porter, "Die Geologie Großbritanniens im Zeitalter der Aufklärung", and M. Guntau, "Physikotheologie und Aufklärung in ihren Beziehungen zur geologischen Erkenntnis im 18. Jahrhundert".

T. Frängsmyr

- History of Geomagnetism and Aeronomy

The Commission for the History of the International Association of Geomagnetism and Aeronomy (IAGA) will hold its next meeting in Edinburgh in 1981. The chairman of this commission is seeking contact with scientists interested in the history of geophysics who wish to contribute to the work in this field.

All those interested are requested to forward their correspondence to:

Dr. Henry B. Garrett
Mail Code 144 - 218
Jet Propulsion Laboratory
4800 Oak Grove Drive
Pasadena, CA 91 103, USA

Dr. Garrett is interested in proposals of how to organize and implement work on the history of geophysics. He is seeking co-operation with representatives of other geoscientific disciplines who are engaged in the history of their sciences.

M. G.



- History of Geography

The Commission for the History of Geographical Thought of the International Geographical Union (IGU) and the International Union of the History and Philosophy of Sciences (IUHPS) is planning to write a book on "Historical and Epistomological Vocabulary in Geography". The book is intended to be a contribution to further clarifying concepts of geography in the past and present. The chairman of the commission has prepared a first draught of this project which discusses various possibilities of its implementation. All those interested in this project are requested to contact:

Prof. Dr. Ph. Pinchemel
Institut de Géographie
191 rue Saint-Jacques
Paris 75 005, France

Several books on the history of geography have been written and published at the instigation of the Commission for the History of Geological Thought, among them the "Bibliography of International Geographical Congresses, 1871 - 1976", Boston (USA) 1979 and "Geographers: Biobliographical Studies". The third volume of the bibliographies was published by Mansell, London 1979. It contains articles about 20 European and American geographers.

M. G.

- History of Museums and Collections of Natural History

An international conference on the history of museums and collections of natural history was held in London between April 3 and 6, 1979. The papers of this symposium have been published in the "Journal of the Society for the Bibliography of Natural History", vol. 9, part 4 (£ 20, $ 50). The volume is available from the following adress:
Society for the Bibliography of Natural History, British Museum (Natural History), Cromwell Road, London SW7 5BD, England.
The 25 papers deal with collectors and collections in Europe

and North America, explorers and their collections, zoological gardens and museum libraries. Some of the papers deal with the history of geological and paleontological museums and collections.

M. G.

## Annotations

- G. Zirnstein: Charles Lyell, Biographien hervorragender Naturwissenschaftler, Techniker und Mediziner, Vol. 48. BSG Teubner Verlagsgesellschaft, 96 pp., 14 ill., Leipzig 1980 (in German)

There are certain scholars in the history of science who attract attention time and again. This is for the simple reason that they developed basic ideas that are not liable to get out of date. We know today that we have to form an exact estimate of such ideas and of the limits of their applicability. A given situation leads to continuous efforts in research with various generations of scholars, and therefore they will inevitably look back to their ancestors. One of those ancestors is Charles Lyell. His fundamental idea - the uniformitarian theory with its principles, methods and empirical generalizations - has preserved its significance up to the present, in spite of certain necessary corrections.
At the end of the past century (1895), when the first scientific biographical outline on Lyell came out (T. G. Bonney), a considerable number of monographs and articles was published in several languages which - from the 20th - century position of science - tried to show the significance of the outstanding English scholar's generalizations for the development of sciences. Now G. Zirnstein's book has been made available to the German reader. It analyzes all aspects of Lyell's work (geological Dynamics, evolution of the organie world, origin



of man, the problem of glaciation, etc.) in a popular way and at an appropiate scientific level, using the generally valid system of concepts and terms. In particular the author deals with the problem of actualism and with Lyell 's contribution to the foundation of the actualistic method in geology. In his book Zirnstein portrays Lyell with his moral-philosophical principles and social views in the English Victorian society.
The book also provides a picture of Lyell and his wife Mary who supported her husband's work for forty years. Several drawings from Lyell's works underline his scientific argumentation with respect to the ideas developed by him. The book concludes with a bibliography of his most important works and those written about him as well as an index of names of scholars who have written articles about the great English naturalist.

A. I. Ravikovich

- M. Guntau (Hrsg.): Biographien bedeutender Geowissenschaftler der Sowjetunion. 19 biographische Darstellungen zu bedeutenden Gelehrten der russischen und sowjetischen Geologiegeschichte. Schriftenreihe für geologische Wissenschaften, vol. 14; Akademieverlag Berlin 1979, 199 pp. (in German)

The Editor has brought together essays written by 8 geologists from the USSR and 8 from the DDR about 19 Russian geologists, palaeontologists, mineralogists and geophysicists. Each contribution starts with the scientist's biography, nexts deals with his work and finally adds a bibliography. All articles are informative and well-written in a truly historical spirit, without condescension towards the forebears.
On a few occasions, however, a contributor goes too far in his ideological zeal, e. g. when Lomonosov's typically 18th century deism is not regarded as his personal conviction, but interpreted as a consequence of the impossibility to criticize religious ideology from "an openly atheistical position" under the absolute demination of the church (17). Another writer represents Fedorov (who shared the ideals of the February re-

volution) as "not disillusioned in his ideals by the October revolution" (74), whereas Vernadskij and Obruchev, though they did not regard themselves as dialectical materialists, are represented as more or less belonging to them ("objectively" full of it (110); "though he was not conscious of this fact himself" (121).
The book shows that Russian and German geology and mineralogy have been closely connected since the 18th century. It shows also the great stimulus the mineral riches of the Russian soil gave to mineralogy and geology. Yet, this did not lead the Russian geologists to a narrow utilitarianism; both practice and theory got their due, as becomes evident e. g. with Lomonosov (Guntau, pp. 7 - 18), Koksharov (Shafranovskij and Grigoriev, 37 - 44) and the great crystallographer Fedorov (P. Krüger, 63 - 77). With a particular pleasure I read the contribution on Koksharov and Mme Ravikovich's articles on Kovalevskij and Pavlov. They give evidence of the philosophical spirit characteristic of many Russian scientists and of which D. I. Mendeléev is the great exemple.
The book is a testimony of a good cooperation between scholars of different nationalities. It is a reason for satisfaction that several members of INHIGEO have contributed to it (Guntau, Shafranovskij, Ravikovich, Batjushkova, Gordeev, Daber). The Editor has rendered a great service to the historians of science by making accessible to a wider circle the too much neglected share of the Russians in the development of the Earth Sciences; neither Koksharov, nor even Fedorov figure in the recent Distionary of Scientific Biography.
This publication is another proof of the solid support the "Gesellschaft für Geologische Wissenschaften der DDR" gives to historical-geological publications.

R. Hooykaas



- M. Schwarzbach: Alfred Wegener and the continental drift. Great Naturalists vol. 42, 160 pp. Wissenschaftliche Verlagsgesellschaft mbH, Stuttgart 1980 (in German).

Within the framework of a well-written biography of Wegener the author presents an outline of the history of ideas on the continental drift. In this connection he also deals with Wegener's works on climatology, meteorology and geophysics as well as with his achievements as a balloonist and explorer of Greenland. The main emphasis is, however, on the analysis of the development of ideas about the continental drift and the arguments provided bypaleoclimatological studies.It is shown which of the elements of Wegener's scientific heritage are still useful in present-day geology and which of his views may be regarded as outdatet. It should be pointed out that many books about Wegener and a number of new sources have been used in this biography. Alfred Wegener is portrayed in this book as an outstanding, versatile and enthusiastic scholar.

M. Guntau

- H. G. Körber: Alfred Wegener. Biographien hervorragender Naturwissenschaftler, Techniker und Mediziner, vol. 46. BSG Teubner Verlagsgesellschaft, 97 pp., 8 ill., Leipzig 1980 (in German)

This book deals with the life and work of the outstanding German scholar Alfred Wegener. After short biographical notes the author gives a detailed description of Wegener's four expeditions to Greenland. The book also touches upon his scientific and pedagogical work at the Universities of Marburg, Hamburg and Graz. The author analyzes Wegener's comprehensive scientific work in various fields: polar research, paleoclimatology, meteorology, glaciology, the theory of continental drift and the origin of the continents and oceans.
The book also contains eight illustrations, a chronological table of his life and a bibliography including his most important works as well as those written about him.

I. V. Batushkova

- V. V. Tikhomirov, Ju. Ja. Solovjev, L. B. Panjutina, I. A. Gordina, I. G. Malachova, L. V. Bugelskaja: History of the geological Institute of the USSR Academy of Sciences: Development of the Institute, its scientific schools, bibliography of works, Moscow: Nauka 1980, 223 pp., 23 illustrations (in Russian).

This book shows that the geological institute, which was founded in 1930, has developed into a leading institution in the field of earth sciences in the Soviet Union during the50 years of its existence. Three major schools have developed in the institute, the stratigraphic, lithological and tectonic schools. Apart from them there is one more specific scientific discipline that deals with the study of the history of geological knowledge. All these schools have gained a good reputation in the Soviet Union and abroad. The information provided in this book about the development of the institute, the analysis of the works of its staff and the bibliography of the most important publications clearly demonstrates the main lines of research as well as the most important achievements made by the members of the geological institute of the USSR Academy of Sciences.

Author

- Vernadskij, V. I.: Problems of biogeochemistry: works of the biogeochemical laboratory. Ed. by B. M. Kedrov. Moscow: Nauka 1980, vol. XVI, 320 pp. (in Russian).

This book comprises those of Vernadskij's works which were published between 1922 and 1944 and which have been of great value to the present day. They deal with questions concerning the importance of biogeochemistry, studies on phenomena of life, conditions of its origin, the autotrophy of mankind and many other problems that have not been solved so far. As in all his other works, V. I. Vernadskij follows his particular way of thinking and makes use of extensive historical material to prove the conclusions drawn by him.

A. I. Ravikovich



- Documental bequest of the Member of the Academy A. A. Polkanov in the archives of the USSR Academy of Sciences: scientific presentation, Compiled by N. N. Barkhatov and T. J. Lysenko, Leningrad: Nauka, Leningrad section, 1980. 174 pp., 8 illustrations (in Russian).

The book provides a presentation of the records of the outstanding geologist and petrologist A. A. Polkanov. The presentation of the documents, which are compiled chronologically according to subjects, gives evidence about his extensive scientific, scientific-organizational, pedagocigal and expeditionary activities, his extensive professional and personal contacts, and displays step by step the expansion of his scientific works, starting from studies on individual issues to the eloberation of significant problems of the geology of the Pre-Cambrian period. In the appendix a number of unknown earlier documents has been published for the first time.

A. I. Ravikovich

- Mikulinskij, S. R.: Karl Franzevich Rouillier: Scientist, man and teacher, 1814 - 1858. Moscow: Nauka 1979, 335 pp., (USSR Academy of Sciences, scientific-biographical series), Bibliography: pp. 315 - 329 (in Russian).

This analysis of the life and work of the outstanding zoologist and geologist K. F. Rouillier, professor at the University of Moscow, is not only based on his works published but also on many records. The author accurately presents Rouillier's theoretical views, who, for the first time in Russia, organized a school of those biologists of the ecological directions who were in favour of a pre-Darwinist variant of the evolutionary explanation of the development of the organic world. In chapter 3, Rouillier's geological works are broadly discussedin which he postulates a four-part division of the Jurassic sediments near Moscow. This idea was later adopted for the Russian Plain. In the forties of the 19th century, K. F. Rouillier elaborated the idea of paleoclimatic zonation of the Jura seas and also expressed the

idea that the glacier sediments of European Russia would be of continental origin.

A. I. Ravikovich

- Nalivkin, O. V.: Our first female geologists. Leningrad: Nauka, Leningrad section, 1979, 215 pp., (in Russian).

This book presents the life and work of 19 female geologists who worked from the end of the 19th until the first quarter of the 20ieth century. Among them are such outstanding scholars as M. V. Pavlova, A. B. Missuna, V. A. Varsanovjeva, D. M. Rauser-Tschernousova and E. D. Soshkina. Their geological and paleontological works played a decisive role in the development of world science. In his presentation the author makes use of original works and records as well as of personal memories. The book not only evaluates scientific results; it provides a picture of living people with their enthusiasm, urge to scholarly research and their failures.

A. I. Ravikovich

- Krupenikov, I. A.: Nikolai Michailovich Sibirzev. 1860 - 1900. Moscow: Nauka 1979, 110 pp., (USSR Academy of Sciences, Scientific-biographical series), (in Russian).

N. M. Sibirzev, who was a disciple and collaborator of V. V. Dokuchaev, contributed through his field and laboratory research to the foundation of scientific pedology. He brought into being the first teaching course on pedology in which he expounded his views about the soil. He also proposed a classification of the soils and elaborated a scientific method of soil cartography. Sibirzev's regional studies of the soil were based on thorough investigations of the geological structure of the territory. He wrote several articles on the geology of the Oksko- Kljazmenski-Basin and other regions of Central Russia.

A. I. Ravikovich



- Romanovski, S. I.: Nikolai Aleksejevich Golovkinski. 1834 - 1897, Leningrad: Nauka 1979, 191 pp., (USSR Academy of Sciences, Scientific-biographical series), Bibliography : pp. 190 - 191, (in Russian).

N. A. Golovkinski was an expert on the stratigraphy of the Permian strata in the Volga area, the geological structure of the Crimea peninsular and the Quarternary history of the Volga Basin. He put forward the idea about the relation between the formation of strata and the movements of the earth's crust from which the law of the migration of phases can be derived, which was later elaborated by J. Walther. Golovkinski made an important contribution to the formulation of the laws of the formation of river terraces in relation to regional tectonic movements. On the basis of his generalizations he proved the synchronism of the oscillation of the European continent in the Quarternary period. Golovkinski played an essential part in the foundation of the society of naturalists in Kasan and participated in the organization of congresses of Russian naturalists and physicians.

A. I. Ravikovich

- Shafranovski, I. I. and V. F. Aljardin: Anatoli Kapitonovich Boldyrev, 1883 - 1946. Leningrad: Nauka 1978. 256 pp. (USSR Academy of Sciences, Scientific-biographical series), Bibliography: pp. 243 - 256 (in Russian).

The outstanding crystallographer and mineralogist A. K. Boldyrev, who was a disciple and collaborator of E. S. Fedorov, employed exact methods of logical analysis which he skilfully combined with (crystallographic and X-ray) laboratory techniques. Owing to this synthesis Boldyrev was able to develop a number of useful ideas on classification and nomenclature in the fields of crystallography and mineralogy. His works include comprehensive manuals and textbooks which are still being used by geologists in their practical work, among them such famous books as "Determination of crystals", Vol. 1 (1937 - 1939), "Course on descriptive mineralogy" (1935$^3$) and others.

A. I. Ravikovich

- Paramonov, I. V., Korobochkin, N. P.: Nikolai Michailovich Fedorovski, 1886 - 1956. Moscow: Nauka 1979, 166 pp., (USSR Academy of Sciences, Scientific-biographical series), Bibliography: pp. 159 - 166,(in Russian).

N. M. Fedorovski has become known as a mineralogist, pedagogue, scientific organizer, public figure and traveller. One of the salient features of his work was his continuous endeavour to put the results of scientific research into practice. In order to implement this aim he founded the institute of applied mineralogy. Fedorovski has become known as the author of a textbook on mineralogy (five editions have been published so far) which is based on the genetic principle. His books dealing with the travels in the Ural (1926), South Africa (1935) and Middle Asia (1937) have preserved their general value up to the present.

A. I. Ravikovich

- A. S. Kleczkowski et al.: Stanislaw Staszic, Geologia - Górnictwo - Hutnictwo (Stanislaw Staszic. Geology-Mining Industry-Metallurgy). 196 pp. Wydawnictwa Geologiczne, Warszawa 1979 (in Polish / English).

The Academy of Mining Industry and Metallurgy in Kraków is named after Stanislaw Staszic (1755 - 1826). In 1816,Poland's first high school of mines was founded in Kielce at his instigation. This book by Z. Wójcik, A. S. Kleczkowski, F. Szwagrzyk, I. Rybicka and S. Czarniecki is dedicated to Staszic's geological works as well as to his efforts to produce geological maps of Poland. It gives an account of his contribution to the development of mining industry in Poland (1784 - 1824) and touches upon problems of iron production at that time. The book provides a good insight into Staszic's scientific work and into various ideas about geology, mining industry and metallurgy in Poland at the turn of the 19th century. It should be mentioned that three of the authors are members and corresponding members of INHIGEO.

M. Guntau



- Anals of the History of Hungarian Geology, 1977, published by the Section on the History of Geology of the Hungarian Geological Society, Budapest 1978; 150 pp. (in Hungarian)

This issue contains an introduction by Dr. G. Csiky, biographies of outstanding Hungarian geologists (J. Szabo, M. Hantken, K. Hofmann, A. Koch, L. Lóczy, J. Krenner, B. Inkey, F. Noposa) and an article by Dr. Csiky which, after a long general introduction, gives information on the trends of Hungarian science up till 1825. The Annals are in Hungarian with succinct summeries in English.

R. Hooykaas

- E. F. F. Chladni: On the cosmic origin of meteorites and bolides (1794). Ostwald's classical authors of exact sciences no. 258. Akademische Verlagsgesellschaft Geest u. Portig K.-G. Leipzig 1979, 103 pp. (in German)

E. F. F. Chladni (1756 - 1827) worked in the field of acoustics and became known by the sound figures named after him (Chladni figures). He also belongs to the founders of meteorics. This book reprints his article written in 1794 (Riga or Leipzig, reprint 1974 Tempe, U.S.A.) which was first published under the title "Über den Ursprung der von Pallas gefundenen und anderer ihr ähnlicher Eisenmassen und über einige damit in Verbindung stehende Naturerscheinungen". Within the framework of a comprehensive theory Chladni explains the cosmic origin of the lump of iron found by P. S. Pallas in Siberia. E. Hoppe (Berlin) has prepared the publication of this article. He added an article about the origin, fate and significance of Cladni's work and a short biography of the author.

M. Guntau