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INTERNATIONAL COMMISSION ON THE HISTORY OF GEOLOGICAL SCIENCES

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International Commission on the History of Geological Sciences (INHIGEO)	Internationale Kommission für Geschichte der Geologischen Wissenschaften (INHIGEO)

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International INHIGEO Symposia 1967 - 1982

The areas of work of the International Commission on the History of Geological Sciences (INHIGEO) are based on a resolution passed at the 22nd International Geological Congress in New Dehli in 1964. There it was determined to generally intensify and coordinate activities in the field of historical research in geological sciences between various countries. There can be no doubt that, since the foundation of INHIGEO, considerable efforts have been made in many countries to intensify work on the history of geology, and that more and more geologists have taken an active part in this work. The number of publications on historical topics related to geological sciences has been incrassed as well as that of national, bilateral and international symposia and conferences in this field. Scholars of earth sciences have taken a growing interest in the history of their disciplines and in the scientific thinking of the past with regard to the topics investigated by them from a current point of view. At an international level, this development has been effectively supported by the International Union of Geological Sciences (IUGS) and the International Union of the History and Philosophy of Sciences/ Division History of Science (IUHPS/DHS). In most case the results achieved are due to a thorough scientific and organizational base work done at national levels by the individual countries concerned. This holds also true for a number of symposia organized by INHIGEO in Europe, America and Australia during the past years.

"An important aim of INHIGEO in the stimulation of international symposia on subjects to 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."[1]

The topics chosen for international symposia in the past were indeed those which, above all, met the interests of scholars of earth sciences in historical questions. We can say that all symposia got a good response, were attended by a great number of scholars and offered stimulating programmes. In addition to that they were accompanied by geological and historico-cultural excursions. The results of the symposia were published in various kinds of publications.

Following a request for more detailed information about the international symposia held in the past we give a short survey below. It is confined to the topics, dates and places of the symposia, the conveners authorized by INHIGEO and some publications. Information about the publication of papers and about reports on the symposia is, however, not complete.

Ith Symposium - Foundation of INHIGEO

Topic: "History of Geology"

6 - 10 June 1967, Yerevan, Armenia, Soviet Union

Convener: V.V. Tikhomirov

Public.: - Programme and Summaries of the papers

- A Guidebook for the International Symposium on the History of Geology, Yerevan 1967, 98 pp.

* History of Geology, Yerevan 1970, 363 pp. (Material of the Constituent Assembly of INHIGEO and Papers of the Symposium; in English and Russian)

IInd Symposium - XXIIIrd International Geological Congress, Section 13

Topic.: "History of Geology"

August 1968, Prague, Czechoslovakia

Convener: V.V. Tikhomirov, K. Zapletal

Public.: - History of Geology, In: Report of the 23rd Session IGC, Prague 1968, Proceedings of Section 13 "Other Subjects", pp. 319 - 354, (in English)

- Problems of the History of Geological Sciences. IGC, 23rd Session; Reports of Soviet Geologists, Problem 13 V, Moscow 1968, 135 pp. (in Russian)

IIIrd Symposium.

Topic: "History of Concepts on Mineral Deposits"

14 - 20 September 1970, Freiberg, German Democratic Republic

Convener: M. Guntau

Public.: - Summaries of the Papers, Freiberg (Saxony, GDR) 1970, (in English 168 pp., in German 172 pp., in Russian 164 pp.)

- Guide for Excursions, Freiberg (Saxony, GDR) 1970 (in English 80 pp., in German 80 pp., in Russian 74 pp.)

+ Proceedings of the Symposium, in: Geologie, Vol. 20, 4 - 7, 327 - 810 pp. Berlin 1971 (in German, English and French)

- D. Wolf: Geschichte der Lagerstättenlehre. Bericht über das INHIGEO-Symposium, Zeitschrift für angewandte Geologie, Vol. 17, 4, 146 - 155, Berlin 1971.

IVth Symposium - XXIVth International Geological Congress,

Symposium 106

Topic: "History of Concepts of Precambrian Geology"

23 - 28 August 1972, Montreal, Canada

Convener: J.B. Waterhouse

Public.: + W.O. Kupsch and W.A.S. Sarjeant (Eds.): History of Concepts in Precambrian Geology. The Geological Association of Canada, Special Paper 19, Toronto 1979, 292 pp., ISBN 0-919216 - 13 - 7. (Papers presented at the INHIGEO-Symposium in Montreal, August 23 - 24, 1972)

- V.V. Tikhomirov: Simpoziumy "Razvitie predstavlenij o dokembrijskoj istorii zemei" i "Istorija mineralogii" 24. Sessii MGK, in: Zap. Vsecojuz. miner. ob-va., 1973, Vol. 102, 4, 504 - 506 (in Russian)

Vth Symposium.

Topic: "History of Teaching Geological Sciences"

1 - 6 July 1974, Madrid and Cordoba, Spain

Convener: J.M. Lopez de Azcona

Public.: - General Programme V ^{o} Reunion Cientifica, Madrid 1974, 28 pp. (in English and Spanish)

- Resumenes / Abstracts V ^{o} Reunion Cientifica, Madrid 1974, 94 pp. (in English and Spanish)

+ Comunicationes Cientificas / Papers V° Reunion Cientifics, Madrid 1974, 324 pp. (in English, Spanish, German, French)

- J.M. Lopez de Azcona and J.H. Sampelayo: La Geologia y Mineria Espanolas, Madrid 1974, 100 pp., ISBN 84 - 400 - 7768 - 8 (in Spanish)

VIth Symposium.

Topic: "Charles Lyell Centenary Symposium"

1 - 5 September 1975, London and Oxford, Great Britain

Convener: D.A. Bassett

Public.: - Programme and Summaries - Charles Lyell Centenary Symposium, London 1975.

- D.A. Bassett: An annotated chronology of some of the significant dates in the development of geology and its allied subjects in Britain during the first half of the nineteenth century. Prepared for the Charles Lyell Centenary Symposium, Cardiff 1975, 11 pp., 2 ill.

+ Lyell Centenary Issue, In: The British Journal for the History of Science, Vol.II, Part 2, No. 32, pp. 89 - 242, London July 1976 (Proceedings of the Symposium)

- Reports on the Symposium in "Nature" CCLVII (9 October 1975), pp. 444 - 446 and "Geotimes", XXI (March 1976), pp. 16 - 17.

VIIth Symposium.- XXVth International Geological Congress,

Section 17 B, Symposium 117.2

Topic: "The Growth of Geological Knowledge in the Age of Geographical Exploration"

23 August 1976, Sydney, Australia

Convener: T.G. Vallance

Public.: - 25th IGC, Abstracts Vol. 2, pp. 644 - 646; Vol. 3, pp. 921 - 931, Symposium 117,2, Sydney 1976 (in English)

- 25th IGC, General Proceedings, p. 124 Canberra 1977

- T.G. Vallance: History of Geology at the 25th International Geological Congress, Sydney Australia. INHIGEO-Newsletter No 11, pp. 4 - 6, 23 - 25. Rostock 1977.

- Geological Education and History of Geology. 25th IGC Papers of Soviet Geologists, Moscow 1976, 91 pp. (in Russian)
- V.V. Tikhomirov: Istorija geologiceskich znanij na XXV. sessii MGK, In: Voprosy istorii estestvoznanija i technika, Vol. I (58), pp. 125 - 126, Moscow 1978 (in Russian)

VIIIth Symposium.

Topic: "Regional Influences on the Origin and Development of Geological Theories"

12 - 23 September 1978, Münster and Bonn, Federal Republic of Germany

Convener: H. Hölder

Public.:
- INHIGEO, VIIIth Symposium, Münster and Bonn, Zusammenfassungen / Abstracts, Münster 1978, 260 pp. (in German, English, Russian and French).
- H. Hölder: VIIIth INHIGEO-Symposium Münster - Bonn (FRG), In: INHIGEO-Newsletter No 12, pp. 4 - 9, 30 - 34, Rostock 1978 (in English and German)
- E.E. Milanovskij and V.V. Tikhomirov: Mezdunarodny simpozium po istorii i metodologii geologiceskich nauk v FRG, In: Izv. AN CCCP, Ser. geol., 1979, No 12, pp. 132 - 135, Moscow 1979 (in Russian)
- H. Hölder (Ed.): Regionale Einflüsse auf Ursprung und Entwicklung geologischer Theorien, In: Münsterische Forschungen zur Geologie und Paläontologie, Heft 58, Münster 1983, 123 pp., 5 ill. (in German and English)

IXth Symposium - XXVIth International Geological Congress

Topic: "The Development of Geological Sciences up to the Death of Cuvier (1832); Works in the French Language in the International Exchange of Ideas"

7 - 17 July 1980, Paris, France

Convener: F. Ellenberger

Public.:
- F. Ellenberger, J. Gaudant and R.Hooykaas (Eds.): Résumés des Communications, 26th IGC, Symposium 19.2.1 and 19.2.2, Paris 1980, 96 pp. (COFRIGEO)

- F. Ellenberger and G. Legée: "Aux Sources de la Geologie Francaise". Guide de voyage à l'usage de l'historien des Science de la Terre sur l'itinéraire Paris-Auvergne-Marseille, In: Histoire et Nature, No 15, Paris 1979, 29 pp., 23 ill. (in French)
- + Le développement de la géologie de langue francaise dans ses relations internationales des origines à la mort de Cuvier (1832), In: Histoire et Nature, No 19 - 20, Paris 1981 - 82, 147 pp. (in English, French and German)
- M. Guntau: Komise INHIGEO Pariž 1980, In: Dějiny Věd a Techniky, Praha, Vol. 15 (1982), 3, pp. 185 - 186
- V.V. Tikhomirov: Istorija nauki na MGK, Paris 1980, In: Voprosy istorii estestvoznanija i techniki, No 2, 1981, pp. 186 - 187, Moscow 1981 (in Russian)

Xth Symposium.

Topic: "Development of Geological Mapping and Geocartography in Connection with Progress in Geological Thought"

16 - 23 August 1982, Budapest, Hungary

Convener: E. Dudich

Public.:
- Xth INHIGEO Symposium Programme, Budapest 1982, 41 pp. (in English)
- Xth INHIGEO Symposium Abstracts, Budapest 1982, 103 pp. (in English, German, French)
- T. Cernajsek: Xth INHIGEO Symposium in Budapest, 16 - 22 August 1982, In: Mitt. Österr. Gesellschaft , Geschichte der Naturwissenschaften, 2, H. 4, pp. 128 - 129, Wien 1982, (in German)
- E. Dudich: Report on the Xth Symposium of INHIGEO, Budapest (Hungary), 16 - 23 August 1982, In: INHIGEO Newsletter No 16, pp. 7-10, Rostock 1983
- J. Urban: Xth Symposium INHIGEO v Budapesti, In: Geologický Pruzkum, 24, 12 (288) p. 262, Praha 1982
- V.V. Tikhomirov (Ed.): The Story of Geological Map. (Papers of Soviet Geologists), Moscow 1982, pp. 279, Essays on the history of geological knowledge Vol. 2 (in Russian with English summaries).

- Yu.Ya. Solovev and I.G. Malachova: Xth Symposium meždunarodnoj komissii no istorii geologičeskich nauk v Vengrii, In: Izv. Akad. Nauk SSSR, Ser. geolog., No 6 / 1983, pp. 137 - 139, Moscow 1983 (in Russian)

+ Xth INHIGEO Symposium, Proceedings, Akademia: Kiadó Budapest 1984 (in English) (in print!)

(publications marked by an asterik contain most of the papers delivered at the symposia)

The series of symposia will be continued in the near future. In the summer of 1984, the XIth INHIGEO symposium on the history of mineralogy will be held in Moscow as part of the 27th International Geological Congress. Judging by the papers announced so far, it can again be expected that many interesting aspects of the history of geological sciences will be discussed at this symposium.

As concerns previous symposia, it may also be said that those meetings were of particular value which tried to combine historical aspects with questions relevant to current geological work. They were attended not only by scholars who take a particular interest in historical questions but also by professional colleagues doing research in modern fields of geological sciences. In many cases these scholars delivered papers, thus taking an active part in the symposia. Meetings of this kind have proved that the discussion of modern as well as historical aspects has a stimulating effect on the work in either field.

As far as future symposia are concerned, there are a number of topics which are of particular relevance to current research, and which have hardly been touched upon at previous symposia:

- ideas of catastrophism in geological thinking of the past and present,
- history of palaeontology,
- problems of the genesis of basalt and granite in the history of geological sciences,
- the recognition of geological time in the history of science (the character of geological changes in time;

rhythms and cycles in geological processes; methods of determining geological time),
- history of stratigraphy,
- the relationship between geological knowledge and mining in history,
- history of the geology of mineral oil and natural gas,
- the foundation, development and effectiveness of Geological Surveys in history.

These topics are simply meant to be suggestions for future symposia. Possibilities of holding meetings on these or other topics in the coming years are currently being considered by a number of countries. It may also be said that symposia with a limited number of participants, which were held independent of big congresses, have proved to be very successful, for this made it possible to concentrate the papers on the subject of the symposium. Personal contacts between scholars also helped to make the discussions more effective. Apart from many other activities of INHIGEO[2], international symposia will undoubtedly continue to play an important role in the future because they yield many concrete scientific results. In eddition to that they serve the important purpose of promoting understanding and fruitful discussions between historians of geological sciences at an international level.

Martin Guntau

1. R. Hooykaas: The Aims of INHIGEO. In: INHIGEO-Newsletter No 14, pp. 16 - 17, Rostock 1980.
2. Cf. Yu.Ya. Solovjev: O mezdunarodnoj organisazii istorikov geologii. In: Isvestija Akademii Nauk SSSR, Serija geologii, No 2, 1984, Moscow (in Russian).

IIIrd GDR-USSR Symposium on the History of Geological Sciences (15 - 27 October 1983, Greifswald, German Democratic Republik)

After the first two GDR-Soviet symposia on the history of geological sciences held in Berlin/GDR (1975) and Jerevan/Armenia (1979) scholars of earth sciences, historians of science and philosophers of both countries met for their third symposium in October 1983. The topic of the symposium was "The evolution of philosophical and methodological ideas in earth sciences".

The symposium was organized by the study group "History and Philosophy of Geological Sciences' of the GDR Society of Geological Sciences and the School of Geological Sciences of the Ernst Moritz Arndt University Greifswald. It was supported by the USSR and GDR Academies of Sciences. The symposium was dedicated to the centenary of the death of Karl Marx. 20 scholars from the Soviet Union and 67 from the GDR participated in the meeting. The number of papers totalled 35, among them six main papers; 12 papers were read by participants from the Soviet Union, 23 by GDR representatives. On the occasion of the centenary of the birth of Aleksandr Evgenevic Fersman a small colloquium was held which included three papers and a Soviet documentary about Fersman. Two historico-cultural and geological excursions were organized after the symposium, which took the participants to Stralsund and the Island of Rügen.

In accordance with the subject of the symposium the papers delivered dealt with the following questions:

- dialectics of natural geological processes
- evolution of geological theories and concepts
- methodology of geological thinking (relationship between theory and practice, investigations of systems etc. in geological sciences)
- mechanisms of the development of knowledge in geological sciences

- philosophico-methodological interpretations of viéws about earth sciences

The papers clearly showed that there are many possibilities for scholars of earth sciences, philosophers and historians of science to promote a fruitful exchange of ideas from an interdisciplinary point of view. The ideas presented in the main papers of A. Watzauer ("Validity and limitations of geological laws"), V.V. Tikhomirov and V.V. Gerbova ("On the question of the division into periods of individual branches of geology"), F. Richter ("Dialectics in geological research") and H. Hörz ("Questions of philosophers to scholars of earth sciences") were taken up in other papers in various ways. It should also be mentioned that, for the first time, geographers took part in the symposium, for example J.F. Gellert, who delivered one of the main papers entitled "Object and system of earth sciences".

Many interesting results and ideas related to the topic of the meeting were presented in the papers read. They have given new impetus to further research in this field. Of particular value were comments on the concept of law in geology, remarks about models in geological work, ideas about the development of theories in earth sciences, statements about the historical and actualistic methods, the philosophical interpretation of the work of important scholars of earth sciences in the past and contributions aimed at determining the subject matter of individual disciplines of earth sciences.

The IIIrd GDR-Soviet symposium was a further step towards successful cooperation between scholars of earth sciences from the GDR and the Soviet Union. The series of bilateral symposia will be continued in Baku/Aserbaidzhan in the autumn of 1985. The topic of this meeting will be "Development of ideas about the structure of the Earth".

E. Fabian (GDR)
Ju.Ja. Solov'ov (USSR)

History of Geology in the Federal Republic of Germany (October 1982 - October 1983)

The appeal published in several periodicals to form a "Work group on the history of geology" has been met with general approval. The first meeting of the group will be held in 1984. It seems to be an adventage that non-professional geologists and paleontologists have been included in the work of the group.
W. Langer participated in a geologico-historical excursion in southern France. He published a small report on the mineralogist Karl Wilhelm Nose (1783 - 1835). Two more articles on the history of geology and paleontology of West Germany have been submitted for publication.
In Münster/Westfalia, H. Hölder delivered a paper on the historical significance of Franz Lotze.
The work group "History of Geophysics in the German Geophysical Society" has published the second volume of its announcements (no. 1 and no. 2). No. 1, among other things, contains comments on historically-oriented articles in the Zeitschrift für Geophysik (1927 - 1971);no.2, among other things, includes first short comments on the historical papers delivered at the IUGG conference in Hamburg (1983).

W. Langer

Notes on the History of Geology in Bulgaria

The first records of the history of geology in Bulgaria can be found in the "Shestodnev" (Hexaemeron) of Yoan Exarch (about 900). It mentions precious stones, gold an decorative rocks kept at the king's court in the capital Veliki Preslav of the first Bulgarian state (681 - 1014). Between 1014 and 1185 Bulgaria was under Byzantine rule. Information about Bulgarian geology of that time is given in the geography treatise of Ydrissi (12th century) and in Hystoria,

vol. 2 by another Byzantine author, Yoannes Scylitzes (12th-13th centuries). As far as the time of the second Bulgarian state is concerned (1185 - 1393), the Trilission (Tarlis-Kataphita) reports about iron mining in 1347 and 1361. We also know that marble was used for sculptures and that methods used in ore mining and metal processing in Saxony were applied in Bulgaria.

Between 1393 and 1878 Bulgaria was under Ottoman rule. Some information about geology in Bulgaria of that time can be found in the works of Hadji Kalfa (1812), F. Hammer (1838), A. Boué (1840) and F. Hochstetter (1872).

First geological information about the time of the third Bulgarian state (since 1878) also came from foreigners (the French and Germans). First Bulgarian contributions to the history of geology were made by G.N. Zlatarski (Notes on the life, journeys and works of A. Boué - 1902) and Chr. Markov (Iron mines and madans (automotive forges) in the Samokov region - 1898). G. Bonchev wrote his works on the prehistory of Bulgaria (1900), on megalithic monuments in the Sakar mountains (1901) and on the scientific work of G.N. Zlatarski (1909/10). After World War I the following works were published: Iv. Trifonov: Iron metallurgy in Bulgaria (1924); G. Bonchev: Ancient mining in Bulgaria and Macedonia (1925) and The Kratovo region and its relation to geology (1936); O. Davies: Roman mines in Europe (1935), which contains many historical comments about Bulgaria; G.K. Georgiev: Iron industry in Pirin, Alibotush-Kitka montains and the neighbouring mountains (1938); G. Konjarov: Iron ore deposits in Bulgaria (1940).

The works published after the 1944 Revolution are as follows: G.K. Georgiev: (a) A second contribution to the study of iron industry in Alibotush and the neighbouring mountains (1946), (b) Iron industry in Marvashko (1953); G. Konjarov: A contribution to the history of mining and metallurgy in Bulgaria; G.K. Georgiev: (c) On the history of knowledge about rocks and the development of petrographical sciences

(1964), (d) Die alte Eisengewinnungsindustrie in Bulgarien (Berlin 1971), (e) L'industrie de fer medievals dans l'ansien arrondissement de Nevrokop (Bulgarie et Grece) (Tokyo 1974), (f) L'habitat thraco-romain pres du village de Paryl, dep. de Blagoevgrad/Bulgarie (1974), (g) L'enseignement des sciences geologigues dans les hautes ecoles en Bulgarie (Madrid 1974), (h) Die Verbindungen der bulgarischen Geologen zu russischen, sowjetischen und deutschen Geologen bis zur Revolution vom 9. September 1944 (1976), (i) Neues zur Frage über die Bodenschätze Südwestthrakiens in der Antike - Symposium rebus Spartaci gestis dedicatum 2050/a, 1977 (in print), (j) Ancient iron industry in Bulgaria (1978) - monograph; G.K. Georgiev and R. Rashkov: (a) Bemerkungen zur Entwicklung der Kenntnisse über die nutzbaren Bodenschätze in Bulgarien vor seiner Befreiung von der Türkenherrschaft (im Jahre 1878) (Berlin 1971), (b) Les ressources naturelles de l'epoque de Thraces (1974); G.K. Georgiev and Iv. Zhelev: Ancient gold mining in the region of the Govedarzska Valley, Rila Mountains (1975); G.K. Georgiev: (a) Furnaces for iron smelting ("Vidny") near Samokov, Bulgaria (1982), (b) Mineral products in the Thracian epoch (monograph - in print).

Ek. Bonchev wrote some articles about G.N. Zlatarski. Further contributions to the history of geology are as follows: P. Mandev: 50th anniversary of the Bulgarian Geological Society and 100 years Bulgarian geology (1880-1980) (1981); D. Dimov: 30 years geological sciences at the Kliment Ochridski University Sofia (1976).

A work group "History of geological sciences" was foundes in the Bulgarian Geological Society (chairman: Prof. G.K. Georgiev).

G.K. Georgiev

History of Geology in Austria

Work on the history of geological sciences is only weakly developed in Austria. Austrian scholars have generally shown relatively little interest in the history of earth sciences and hardly any notice has been taken of works in this field. Even the lists of Austrian works on geology published by the Geologische Bundesanstalt every year have not helped to overcome this situation. The efforts made by Leopold Kober at the University of Vienna in the beginning of the fifties, which were aimed at stimulating research in the history of geological sciences in Austria, have unfortunately not been continued. Nevertheless, there are a number of minor activities related to the history of geology, particularly in connection with anniversaries of the birth or death of important scholars in this field.

Since 1945, major contributions to the history of geology in Austria have been made by Prof. Hamann (Vienna), Prof. Tollmann (Vienna), Prof. Flügel (Graz), Prof. Thenius (Vienna) and Prof. Zapfe (Vienna). Prof. Zapfe is the author of the Index Palaeontologicorum Austriae (Fossilium catalogus Austria, vol. 15), which is also of importance for geology. T. Cernajsek has written a bibliography of Austrian scholars of earth sciences (18th - 20th centuries) which may serve as a reference book necessary for research in the history of geological sciences.

The following Austrian institutions are at least partly involved in works on the history of earth sciences:

1. Commission for the Compilation of an Austrian Biographical Lexicon of the Austrian Academy of Sciences (founded in 1946; head: Prof. Zöllner). The lexicon compiled by this commission includes many biographies of coal and steel experts and scholars of earth sciences. Unfortunately the lexicon is incomplete due to lack of collaborators in the project.
2. Commission on the History of Natural Sciences, Medicine

and Mathematics of the Austrian Academy of Sciendes (founded in 1961; head: Prof. Hamann).

3. Austrian Association of the History of Coal and Steel Industry (headquarters in Leoben). This association is currently engaged in the history of industry.

Unfortunately we have not succeeded in setting up a work group on the history of geology within the Austrian Geological Society (ÖGG), although many mambers expressed their interest in such a group. The idea did not materialize because all those interested seem to be under too great a strain with respect to their own professional tasks.

In 1981, the Austrian Geological Society remembered the geologist Ami Boué on the occasion of the 100th anniversary of his death. A commemorative speech was given by T. Cernajsek. An excursion to the surroundings of Vöslau was also organized. On the occasion of the 150th anniversary of Eduard Suess' birth the Austrian Geological Society held a symposium and published a festschrift and e special volume. In October 1983, the Austrian Geological Society held a meeting devoted to the 75th anniversary of its foundation which was combined with a commemorative exhibition in the Geologische Bundesanstalt.

That there is an interest in the history of geology in Austria can be seen from the growing number of publications in this field (1978: 3; 1979: 16; 1980: 25; 1981: 30; 1982: 23). This gives rise to the hope that the interest in the history of geology may even increase in the future.

Tillfried Cernajsek

History of Geology in Poland (1983)

In 1983 Polish members of INHIGEO continued their work on the history of geology which was mainly devoted to the development of geological sciences in Poland and in neighbouring countries.

Special mention should be made of A.K. Kleczkowski's work on the history of the foundation of the Mining Academy in Kielce (1816), which was supported by experts from Saxony. The monograph will be published in Travaux du Musée de la Terre. A book on Jan Czerski, a Polish explorer of Siberia in the second half on the 19th century, has been submitted to the publishers by Z. Wojcik. Several posthumous biographies have been prepared for print. Z. Wojcik wrote a biography of the late corresponding member of INHIGEO, Antoni Laszkiewicz, and Antoni Gawel and Wojciech Narebski of the late expert in salt mineralogy, Karol Prochazke, and the former secretary of the Polish Geological Society, Marie Langie (to be published in the Annals Soc. Geol. Polon., vol. 54, 3/4 (1983-84) and in Mineral. Polonica, vol. 14).

Historical lectures were delivered by members of INHIGEO at several scientific meetings. At a meeting held on the occasion of the 200th anniversary of the Jagellonian University of Cracow, Antoni Gawel and Stanislaw Czerniecki gave lectures on the history of mineralogy and the history of geological sciences at this Department. Z. Wojcik lectured at a meeting in Zakopane (September 1983) which was held to remember the late speleologist and expert in the history of mining and metallurgy in the Tatra Mountains, Stefan Zwolinski (to be published in "Wiercica"). He was also the guide of an excursion organized in connection with this meeting. In October 1983, a meeting was held in Kielce which was devoted to the marbles of the Góry Swietokrzyskie (Holy Cross) Mountains. Among others, S. Czarniecki gave a lecture on a collection of marbles of the 19th century which was given to the Academy of Sciences in Cracow.

Z. Wojcik lectured on the history of the study of the geology of marble in this region.
At a symposium on the contribution of Gdansk Pomerania to the development of science and education held in Gdansk in November 1983, Z. Wojcik spoke about the history of natural sciences in Gdansk in the 18th century, and Jozef Babicz gave a lecture on the development of geography in this town. In his speach Z. Wojcik emphasized Polish-German scientific relations, especially with the universities of Königsberg, Frankfurt/Oder, Rostock and Berlin. The lectures are intended to be published.
The Group of Students on the History of Paleontology held a meeting devoted to the 50th anniversary of the death of the two outstanding Polish paleontologists Jozef Siemiradzki and Tadeusz Wisniowski. The former is the author of fundamental monographs on ammonites, whereas the letter wrote classical papers on micropaleontology and on the history of geological sciences. The lectures were given by W. Brochwicz-Lewinski, H. Tomczyk, J. Wieczorek and Z. Wojcik.
It should also be mentioned that a special issue of the quarterly 'Journal of the History of Science and Technology' has come out (no. 1, 1983) which is devoted to G. Cuvier and Ch. Darwin. Among others, J. Garbowska wrote an article on "Theory of catastrophes on the background of geological conceptions at the end of the 18th and the beginning of the 19th centuries".

W. Narebski, Z. Wojcik

History of Geology in China (1983)

The second national congress of the Chinese Society of the History of Science and Technology was held in Xian, Shaanxi Province, between October 28 and November 1, 1983. About 150 delegates from institutes, universities and colleges attended the meeting. A section dealing with the history of earth sciences , Li Erong, secretary-general of the HGGSC-Committee, and two other members participated in this section and delivered their papers.

The second symposium of the History Division of the Geological Society of China (HGGSC) was held at Nanjing University, Nanjing (Nanking), between November 24 and 30, 1983. A total of 64 people, including 8 members of the HGGSC-Committee, participated in the meeting. At the opening session on November 24, Prof. Guo Lingxhi, President of Nanjing University, Prof. Muenzhi, director of the Nanjing Palaeontological Institute, Academia Sinica, and Prof. Zhou Taixin, President of the Jiangsu Geological Society, delivered short speeches and conveyed their congratulations to the second HGGSC-Symposium. 51 papers had been announced. 43 of them were presented and discussed in two divisions: One in the lecture hall of the university library, and the other in the Department of geology. As regards subject matters, the papers delivered fall into four main groups:

1. Studies on the knowledge of minerals, fossils, hydrogeology and ore prospecting etc. in ancient China.
2. History of petroleum geology in China.
3. Development of the theory of continental drift, plate tectonics and saltatory evolution etc..
4. Geological education in China from the Revolution of 1911 up to the liberation in 1949.

It should be mentioned that one volume contains 17 papers which were presented at the second HGGSC-Symposium by scholars from the Department of Geology, Nanjing University.

On the suggestion of Huang Jiqing, President of the GSC, a special meeting was arranged on November 27 in order to discuss the preparation of a volume entitled "Chinese History of Geology". Xia Xiangrong took the chair. The majority of the participants were of the opinion that an editorial board should be set up so that a text book on the history of geology could be compiled and published in a short time.

On November 26 a field trip to Chihsiashan was organized. The excursion familiarized the participants with the stratigraphy of Permocarboniferous limestones with strata-bound lead-zinc deposits. The geology of Chihsiashan had been described by von Richthofen about 100 years ago and was then thoroughly studied by the, late professor J. S. Lee (Li Siguang) in the thirties.

The proceedings of the second HGGSC-Symposium will be published in the Department of Geology, Nanjing University, under the editorship of Prof. Zhang Zuhuan and his colleagues.

Xia Xiangrong

XI th INHIGEO Symposium, Moscow, 1984

The international committee in Charge of the programme held a meeting in Moscow between November 14 and 19, 1983. It selected the papers to be read at the 27th International Geological Congress and made a proposal for the programme. The XIth International INHIGEO Symposium "History of Mineralogy" will be held in Moscow between August 7 and 9, 1984. This symposium is, at the same time, registered as the international symposium "S. 21.2.1." of the 27th International Geological Congress. Members and corresponding members of INHIGEO have the opportunity of participating in this symposium under special conditions provided they are prepared to dispense with other sections and excursions of the 27th International Geological Congress (cf. Prof. Tikhomirov's letter of April 1983). 21 papers from 12 countries have been included in the programme so far. The following proposal for the programme has been made:

7.8.84, 15,00 - 16,40, Chairman: G.P. Barsanov (SU)

Hooykas , R. (NL) - Opening address of the President of INHIGEO,

Guntau, M. (GDR) - The emergence of mineralogy as a scientific discipline in history.

Yushkin, N.P. (SU) - The history of mineralogy and the evolution of fundamental mineralogical ideas.

Bouillet, G., Cailleux, A. (FR) - Diversity of minerals on the Earth and the Moon.

Kazurov, B.K. (SU) - The development of gemmology Historical review.

7.8.84, 17,00 - 18,00, Chairman: G. Wang (China)

Durant, G.P., Rolfe, W.D.I., R. (Britain) - The mineral collection of William Hunter (1718-1783) as an illustration of early mineralogy.

Barsanov, G.P. (SU) - The establishment of scalemician V.L.

Vernadsky's mineralogical school in the Moscow University.

Torrens, H.S. (Britain) - J.B. Longmire (1786 - 1858) - an English practical mineralogist in Russia 1877 - 1822.

8.8.84, 15,00 - 16,20, Chairman: M. Guntau (GDR)

Hooykaas, R. (NL) - The historical, philosophical and scientific implication of the Haüy's crystal theory.

Shafranovsky I.I. (SU) - Les grandes dates du development de la cristallomorphologie mineralogique en URSS.

Nagy D. (HU) - Development of ideas on Symmetry in mineralogy and other sciences.

Fabian E. (GDR) - Die Antizipation der morphologischen Erkenntnisweise der Kristallographie in Nikolaus Stenos "De solido intra solidum naturaliter contento. Dissertationia prodromus." von 1669.

8.8.84, 17,00 - 18,00, Chairman: N.P. Yushkin (SU)

Wen G. (China) - Jade - The sign of ancient Chinese culture.

Melkumian A.M. (SU) - Obsidian and transformation of its role in the history of the material culture.

Ginzburg D. (Israel) - The mineralogical identification of the Biblical saphiros stone.

9.8.84, 15,00 - 16,40, Chairman: R. Hooykaas (NL)

Wang G. (China) - A review of the history of mineralogical studies in China.

Vallance T.G. (AU) - Sydney Earth and after: mineralogy of colonial Australia 1788 - 1901.

Stojnov S.Kh., Starikova L.V. (BUL) - The history of mineralogical studies in Bulgaria.

Csiky G. (HU) - The history and development of mineralogy in Hungary till 1825.

Poka T. (HU) - Development of mineralogy in Hungary in the 19th century.

9.8.84, 17,00 - 17,40, Chairman: E. Dudich (HU)

Figueirosa S. (BRA) - La Commission Geographique et Geologique de Sao Paulo: un travail a peine commencé.

Langer W. (FRG) - Early studies in volcanic mineralogy and petrography in the Rhenish Slate Mountains (West Germany)

The meetings of the XIth INHIGEO Symposium will be held in the afternoon.

Business meetings of INHIGEO (election, report on the work of INHIGEO 1980 - 84, further tasks of the Commission 1984 - 88, etc.) may be held on August 6 and 10, 1984, in the afternoon.

Two further meetings on the history of geology will be held within section 21 of the 27th International Congress. They have been organized separately from the XIth INHIGEO Symposium.

C. 21.1.1. Development of concepts of the Earth's composition (lithology, mineralogy, petrography, geochemistry, mineral resources, hydrogeology, etc.)

14 papers by scholars from Australia, Czechoslovakia, the FRG, Hungary, the United States, Spain and the Soviet Union have been included in the programme so far, among them papers by T.G. Vallance, E. Dudich, Yu.Ya. Solovyev and J. Urban.

C. 21.1.2. Evolution of concepts of the dynamics and structure of the Earth's crust and upper mantle

16 papers by scholars from Canada, Czechoslovakia, France, Great Britain, Japan, the United States, Switzerland and the Soviet Union have been included in the programme, among them papers by F. Ellenberger, E.E. Milanovsky, V.V. Tikhomirov and T. Watanabe.

The excursion on the history of geology in the Soviet Union, Exc. No. 099 A and C, (Moscow - Leningrad - Petrosavodsk) will be carried out as planned.

For further questions about the XIth INHIGEO symposium "History of Mineralogy", the other meetings on the history of geology of the 27th International Geological Congress as well as the excursions on the history of geology contact please:

Prof. V.V. Tikhomirov, Geological Institute of the USSR Academy of Sciences, Pyzhevsky 7, Moscow 109 017, USSR.

Information

- History of Geographical Thought

The 25th International Geographical Congress will be held between August 27 and 31, 1984. The committee organizing the Conference represents the five Alpine countries: Austria, France, the FRG, Italy and Switzerland. Symposium 27 will be held by the Commission "History of Geographical Thought". The following topics are included:
The image and role of geography in different countries - history and outlook
a. Biographies of outstanding scholars
b. Preoccupation with "dead-end" theories and methods
c. Competition and cross-fertilization with other disciplines

Symposium 27 will take place in Geneva (Switzerland). The number of people participating in the meeting is supposed to be 30. The conference fee is 245 Swiss franc. For further information contact Prof. Cl. Raffestin, Département de Géographie, Route des Acadias 18, 1227 Carouge, Geneve, Switzerland.

- A.E. Fersman's 100th birthday

The centenary of the birth of the Soviet mineralogist and geochemist Alexander Evgenevic Fersman (1883 - 1945) was commemorated in 1983. Several meetings were held to honour the memory of this scholar who made great contributions to various fields of earth sciences. The Division of Geology, Geochemistry and Geophysics of the USSR Academy of Sciences held a special meeting in Moscow on November 16, 1983. The four papers read at this meeting dealt with A.E. Fersman's ideas about mineralogy and their development, his contribution to to modern geochemistry and cosmochemistry, his views about mineral genesis and his contribution to the development of mining industry on the Kola peninsula. On November 24, 1983, a second meeting in honour of A.E. Fersman was held at the Institute of the History of Natural Sciences and Technology of the USSR Academy of Sciences.

In the GDR, a colloquium was organized by the Society of Geological Sciences and the Ernst-Moritz-Arndt-University in Greifswald on October 27, 1983. The papers read and the films shown at this meeting paid tribute to Fersman's life and his great scientific achievements. A small collection of minerals found in the Soviet Union was also shown in Greifswald. Fersman had presented this collection to the Museum of Natural History of Humboldt University on the occasion of the German-Russian Week of Natural Scientists in Berlin in 1927.

Books with Fersman's biography have been published in the Soviet Union and the GDR.

- History of the Evolution of Geological, Knowledge in Venezuela

This is the title of a project carried out by the School of Geology at the Universidad Central de Venezuela. In connection with this, we would very much appreciate the cooperation of all readers on the following points:

1) Any biographical or bibliographical information about any of your national geoscientists who may have visited Venezuela in the 19th and 29th centuries up to 1940.
2) Information about minig enterprises carried out by your nations in Venezuela (gold, coal, oil, etc.)
3) Any further information available that may serve to continue the search for more details.
4) Names and addresses of persons, institutions, universities or companies that may keep files of related matters, so that we could write them directly

Please send any information to:

Prof. Dr. Franco Urbani
Apartado 47.028, Caracas 1041A, Venezuela

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Appendix:

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Annotations

- Gordon L. Herries Davies: Sheets of Many Colours. The Mapping of Ireland's Rocks 1750 - 1890. - Royal Dublin Society, Dublin 1983, 242 pp., 45 figs., 4 col. maps, ISBN 0-86027 - 014.9 (in English)

The geological mapping of Ireland is a scientific achievement which was made by geologists of this country independent of the development in this field in England or Scotland during the 18th and 19th centuries. G.L.H. Davies in a convincing manner describes the history of geological thinking in Ireland using a lot of material from archives and libraries. He shows the close connection between the development of geological mapping in Ireland and geological thinking in general, and makes particular reference to the foundation and work of the Geological Survey of Ireland. Altogether, this well-written book gives an excellent insight into the history of geology in Ireland and pays due tribute to the work of several outstanding geologists, such as W.H. Baily, De la Beche, G.V. Du Noyer, P. Gamly, A. Geikie, R. Griffith, E. Hull, H. James, J.B. Jukes, G.H. Kinahan, A. McHenry, R. Murchison, Th. Oldham, J.E. Portlock and A.C.Ramsay. The book is a welcome additional contribution to the topic of the Xth INHIGEO symposium "Development of Geological Mapping in Connection with Progress in Geological Thinking" held in Budapest in 1982. Historians of geology will appreciate the "late" publication of Davies' book, for it contains not only valuable information about the history of mapping but also about the history of geology in Ireland which not many scholars have been familiar with so far.

M. Guntau

- F. Kirchheimer: Die Einführung des Naturselbstdruckes und der Photographie in die erdwissenschaftliche Dokumentation.- Zeitschrift d. Deutsch. Geol. Gesellschaft, Bd. 133, Teil 1, 117 S., 43 Abb., Hannover 1982 (Im Buchhandel bei Ferdinand Enke, Stuttgart) (in German)

  Photography was introduced into Earth scientific documentation already in its very beginnings, a period lasting about three decades (1839 - 1870). It is testified, that a daguerreotype of fossils was made in the spring of 1840. Steel-engravings after daguerreotypes were published in 1852. Since that time there have been papers containing platemounted copies of the negative-positive-process. A specification of the ascertained incunabula in the Earth scientific photographical illustration is given. Photomechanical printing methods, which were already known before 1870, increased in use after this year. The late 19th century, however, saw a renaissance of the original photographs, whose works illustrated with mounted papercopies are also listed. Preceding the photohistoric presentation, the author given a record of nature-printing, another but almost forgotten procedure for the true copy of Earth scientific objects.

  F. Kirchheimer

- E. Kajdański: Fort Grochowski. Olsztyn. Edit. Pojezierze, 1982. 220 pp., illustr., map (in Polish)

  This book is a monograph on Kazimierz Grochowski (1873 - 1937), an outstanding explorer for gold in Siberia, the Far East and Alaska. He studied in Vienna, Leoben, Příbram and Freiberg/Saxony from where he graduated as a mining engineer. He then went to work in the mines of Westphalia, Alsace and the Donetsk Basin. In the Far East he worked as a geologist for international companies. Grochowski operated on a vast territory, e.g. along the Aldan and Amur rivers, on the Čukotsk peninsula and on Sakhalin. He spent some time in

Kharbin where he taught at a Polish school. This is the place where the author of this book met Grochowski. The monograph is based on his memoire and on more than 80 geological field books written by Grochowski which are kept in the Warsaw National Library. Some of his notes are likely to be published separately in Warsaw.

Z. Wojcik

- Z. Wojcik: Aleksander Czekanowski - Szkice o ludziach, nauce i przygodzie na Syberii. Edit. Wydawnictwa Lubelskie, 1982. 316 pp., illustr. (in Polish)

A. Czekanowski (1830 - 1876) did his geological studies in Siberia where he was staying in political exile. He gave a geological description of the Irkutsk region, which includes a map, and organized three expeditions to northern Siberia, including one to the Arctic Ocean. Some of Czekanowski's findings are even today stratigraphic key horizons. His collections are kept and investigated in the museums of Leningrad, London, etc. Czekanowski was the first to determine the Jurassic age of coal-bearing beds in the environment of Irkutsk (since Humboldt considered to be of Carboniferous age).

The book deals with the activities of Czekanowski and other Polish naturalists sent into Siberian exile after the 1863 insurrection. The author also gives an account of the achievements of Polish, Russian and German geologists who continued Czekanowski's work (e.g. J. Czerski, L. Jaczewski, K. Bohdanowicz, W.A. Obručev and E. von Toll).

On the basis of documents available in archives, the author comes to the conclusion that Czekanowski's death was caused by internal infection (nephritis). He did not commit suicide as maintained by some other biographers.

W. Narebski

- Z. Wojcik: Zarys dziejów polskich towarzystw nauk o Ziemi 1932 - 1981. Warszawa. Edit. Pol. Tow. Przyjaciol Nauk o Ziemi, 1982. 298 pp. (in Polish)

The book deals with the history of three Polish societies which were ideologically related to each other; the Society of the Museum of the Earth (1932-1948), the Polish Society of Lovers of Earth Sciences (1957-1972) and the Polish Society of Friends of Earth Sciences (existing since 1972).

The principal aims of these societies were as follows: popularization of geology, protection of nature (later of natural environment), and stimulation of studies on subjects considered to be of secondary importance by scientists of higher schools and institutes. One of their activities consisted in collecting and elaborating material on the history of geological sciences in Poland as well as in keeping and studying paleontological and mineralogical collections. Due to the efforts of the first Society, the Museum of the Earth was founded in Warsaw in 1946 as the main geological museum in Poland. The Polish Society of Lovers of Earth Sciences had gathered both professionalists and amateurs tending to support the Museum of the Earth in its activities and in protecting regional geological museums in our country. The Polish Society of Friends of Earth Sciences enlarged this programme of activities by doing large-scale scientific studies, predominantly in the field of the protection of natural environment, speleology, scientific expeditions, etc. In addition to that it stimulated the widespread and popular movement of collecting mineralogical specimens. Every year the Society organizes an exchange market of mineralogical specimens visited by collectors from Poland and abroad, above all from similar organizations in the GDR and Czechoslovakia.

It should be pointed out that the book also contains some important documents on the history of the societies which played an important role in popularizing earth sciences in Poland.

W. Narebski

- "United Kingdom Research on the History of Geological Sciences". A Directory 1981. (Prepared on behalf of the History of the Geological Sciences Subcommittee. The Royal Society, 6 Carlton House Terrace, London SW1Y 5AG) 32 pp., ISBN: 0 85403 2185, (in English)

  All members and corresponding members of INHIGEO are much indebted to Dr. H. Torrens for the compilation of this valuable Directory, prepared on behalf of the History of the Geological Sciences Subcommittee of the Royal Society's British National Committee for Geology. On 32 large pages it contains, in alphabetical order, altogether 86 names (with addresses) of British scientists active in the field of the history of geological sciences. (For me personally it was a very pleasant surprise to learn that so many British colleagues are interested in this topic.) For each of them the particular field(s) of interest and the research in progress are indicated, and a relevant bibliography has been added.
  This Directory is very useful indeed for everybody looking for contact with people of common interests, and especially in finding papers published in less widely known periodicals.
  It would be highly desirable to have similar directories of other countries as well.

  E. Dudich

- Földtani tudománytörtẽneti évkänyv 1979 / Annals of the History of Hungarian Geology, Vol. 8, Budapest 1981. 238 pp., ill. (in Hungarian with English summaries)

  The annals of the Section on the History of Geology of the Hungarian Geological Society start with a review of the year 1978 given by G. Csiky. The contributions following are devoted to jubilees and are mainly of a biographical character. They are, however, not only devoted to outstanding scholars of geological sciences, such as Ferenc Nopcsa and Vilmos

Zsigmondy, but also include representatives of other disciplines whose work was of relevance to geology, e.g. the geographer and politician Pál Teleki.
The articles about the first thermal spring in Budapest (1878) and the participation of Hungarian geologists in international geological congresses were also written in connection with particular jubilees.
Two papers read by members of the Hungarian delegation (T. Poka and E. Dudich) at the VIIIth INHIGEO symposium have been included in this volume. The annals conclude with a chronicle of the activities of the Section on the History of Geology.

G. Pàpay

- F. Ellenberger (Ed.): Le développment de la géologie de langue francaise dans ses relations internationales des origines à la mort de Cuvier (1832). - Histoire et Nature, No 19-20, Paris 1981-1982, 147 pp. (in French, English and German)

  This volume contains most of the papers read at the IXth International INHIGEO Symposium which was held during the 26th International Geological Congress in Paris in July 1980 and which was prepared by the French Committee on the History of Geology (COFRHIGEO).
  In an introductory article, the editor deals with the topic of the symposium outlining the essentails of the history of geology in France up to the beginning of the 19th century. In what follows, R. Hooykaas discusses some problems of the historiography of geological sciences in his article "Pitfalls in the historiography of geological science". In particular, he comes out against chauvinistic views, hero-worship and a feeling of superiority towards the predecessors. Altogether, the articles give a good insight into the level of development of French geology and its effects on other countries as well as into the mutual relations between scholars of different countries. Connections between

geological ideas in France and other countries, such as Britain, Germany, Hungary or Australia, are taken into consideration and skilfully presented in this well-prepared edition. It shows the achievements of French geology which so far have not been presented in a systematic way from a historical point of view.

M. Guntau

- A.P. Markovskij (ed.): Outstanding Scholars of the Geological Committee - VSEGEI. 1882 - 1982. Leningrad: Nauka 1982, 264pp. (in Russian)

This volume contains a number of short essays on the life and scientific as well as social work of important Russian geologists who worked within the first state-run Russian geological institution during the first 100 years of its existence. The essays deal with the scientific and administrative work of two founders of the Geological Committee, V.G. Erofejev and S.N. Nikitin, and with the contribution of the Committee to the development of geology and the emergence of new geological disciplines. Particular mention is made of the main ideas of the scientific schools of Ja.S. Edelstein, A.N. Rjabinin, S.F. Maljavkin, A.N. Zavaritzkij, Ju.A. Zemcuznikov, S.S. Smirnov, P.M. Tatarinov and Ju.A. Bilibin. The book also contains a great number of hitherto unknown photographs.

V.V. Tikhomirov

- Garmonov, I.V., Kiseljev, P.A., Tolstoj, M.P.: Grigorij Nikolajevic Kamenskij (1892 - 1959). Moskva: Nauka 1982, 112 pp. (USSR Academy of Sciences, Scientific-biographical Series) (in Russian)

This book deals with the life and work of the talented Soviet scholar and corresponding member of the USSR Academy of Sciences G.N. Kamenskij, an outstanding pedagogue, author of important monographs and textbooks and one of the founders of the Soviet hydrogeological school. Particular attention is paid to his works on the basic laws underlying the distribution, genesis and conditions of formation of under-

ground waters, to his works on the development of engineering geology as well as to his contribution to the methodology of hydrogeological research.
The book includes basic facts about G.N. Kamenskij's life and work, a chronological bibliography of his publications and of books about the scholar.

V.V. Tikhomirov

- Gordejev, D.I., Melnikova, K.P., Prjachin, A.I.: Oktavij Konstantinovič Lange (1883 - 1975). Moskva/ Izdatelstvo Moskovsgogo Universiteta 1982, 94 pp. (in Russian)

This book appeared as issue 51 of the series "Outstanding scholars of the University of Moscow" and is devoted to the scientific, educational and administrative work of the prominent Soviet geologist Oktavij Konstantinovič Lange. His extensive studies in the Fields of hydrogeology and engineering geology were closely connected with the establishment of scientific schools and disciplines in the Middle Asian Republics.
The book is very well illustrated and contains a lot of informative material.

V.V. Tikhomirov

- Earth Sciences History. Journal of the History of the Earth Sciences Society (HESS). Vol. 1, 1982, 63 pp.; Vol. 2, No. 1, 1983, 90 pp. - ISSN 0736 - 6234 (in English)

For subscription contact Ellis L. Yochelson, Secretary HESS, Room E - 501, Museum of Natural History, Washington, D.C. 20560, USA

In addition to the "Essays on the History of Geological Knowledge" (in Russian, Vol. 21, 1981), which have been published in Moscow since 1953, "Earth Sciences History" now represents a second independent series on the history of earth sciences, a fact which can only find our general approval.
The first volume of this new series was edited by **Kennard** B. Bork. The articles deal with methodological questions of

geological thinking, the history of paleontology, and several interesting questions about the history of geology in the United States in the 19th century. Particular mention should be made of the articles by D.B. Kitts "The Logic of Discovery in Geology" and by R. Laudan "Tensions in the Concept of Geology: Natural History or Natural Philosophy?". They both take up and discuss basic questions about the history of geological thinking. M.L. Aldrich's article "Women in Palaeontology in the United States 1840 - 1960" is not just a matter of courtesy. It appreciates the scientific work of those women who have rendered outstanding services to the history of geology.

The second volume is dedicated to George W. White who has made a great contribution to the historiography of the United States and of other countries. The articles deal with questions of the history of geology of the 17th and 18th centuries. J.E. Force discusses geological speculations of some Newtonians. Robert Hooke's article deals with ideas about the Earth in the 17th century. M. Carozzi touches upon reactions to the Lisbon earthquake (1755) in the British colonies and in Europe. Of particular interest is A.V. Carozzi's article about Heinrich Wettstein (1831-1895) whom A. Wegener described as one of the first scholars who brought up the idea of the continental drift. Other articles, for example, deal with seismometry in California in the 19th century, the discovery of middle ordivician vertebrates by C.D. Walcott (1890) and lectures on geology and paleontology delivered by Louis Agassiz (1807-1873).

The articles lay particular emphasis on fundamental statements, touch upon interesting topics and are highly informative. Both volumes include a considerable number of reviews of books on the history of geology, information about the international organization HESS and a calender of scientific meetings on the history of geolgical sciences. It is to be hoped that the first volumes of this excellent new series will find a broad readership. And yet one cannot overlook the fact that the topics of the articles are con-

centrated on the history of geology in the United States and other Anglo-Saxon areas. Since HESS is an international organization, it would be a good idea if this fact was more adequately reflected in the make-up of "Earth Sciences History". This, of course, would require to get authors from other countries as well.

M. Guntau

- H. Hölder (Ed.): Regionale Einflüsse auf Ursprung und Entwicklung geologischer Theorien. VIIIth INHIGEO Symposium, Münster-Bonn, September 1978 (FRG), Münstersche Forschungen zur Geologie und Paläontologie, Heft 58, 123 pp., 5 ill., Münster 1983 (in German).

This volume contains the most important contributions to the VIIIth INHIGEO symposium as well as the summaries of the remaining papers, both of which have been published elsewhere before. Also included are the basic statements of those papers relevant to the general topic of the symposium. In a convincing way, F. Ellenberger points out how the geological environment influences human thinking, "either by being conducive to the way of thinking or by being a hindrance to its advancement, thus inflicting short-sightedness on the mind's eye." (p. 27). The author deals with two schools in 18th-century France "which differed according to the places where their adherents lived, viz. in the north or south of France."
(p. 29). H. Hölder, E.E. Milanovsky, M. Schwarzbach and V.V. Tikhomirov also discuss interesting aspects of the relationship between certain geological regions and the formation of geological theories. A.M. Ospovat, on the other hand, has "serious doubts about regional influences on the origin and development of geological ideas" (p. 88), which he manages to prove with a number of examples from the history of science. Altogether, this volume gives a good insight into the different views about the topic of the symposium. It shows that the lively discussion of a scientific meeting can be adequately presented in a publication of limited size.

M. Guntau

- M.Neumann van Padang; History of the Volcanology in the former Netherlands East Indies. 76 pp.; 25 figs.; 4 pls.; enclosure. Leiden 1983 (Scripta Geologica of Rijksmuseum Geologie en Mineralogie).

After a list of active volcanoes of the region (pp. 3-6) follows the description of the volcanoes in the order of their becoming-known by publication: 1°. in old Javanese sources and travel accounts of the 16th-18th centuries, 2° scientific reports of the 19th century, 3° organised volcanological research in the 20th century. In this last part also special topics are discussed: the Volcanological Sturvey, the Krakatau, temperatures in the crater region, the caldeira problem, etc. Each chapter begins with scientists who carried out volcanological research. The work ends with an extensive bibliography (ca 300 titles). The plates show 8 coloured pictures; two of them are reproductions of paintings by the Javanese artist and geological assistant Raden Saleh.
In his foreword the author relates how this monograph has been written at the request of the Commission on the History of Geological Sciences of the Royal Netherlands Academy of Sciences., instituted after the participation of Nieuwenkamp and Hooykaas in the Congress of History of Geol. Sciences in Yerewan (1967), and that this work is a contribution to the "History of Geology of the Netherlands and their former Overseas Territories" planned by that Commission.
It is gratifying that the author, who has had a large share in volcanological research in this region (38 items in the bibliography are his), sees at least part of the work he prepared for the Commission published in such an excellent way.

R. Hooykaas

- W. Schröder: Disziplingeschichte als wissenschaftliche Selbstreflektion der historischen Wissenschaftsforschung. Eine Darstellung unter Heranziehung von Fallstudien der Wissenschaftsgeschichte der Geophysik. - European University Studies,, Series XII, Physics, vol. 7, 86 pp., ISBN 3-8204-5960-X (in German)

From the point of view of science history, the author analyzes several questions of the development of science, such as the role of particular scholars, disciplines, journals and research programmes in the course of history. He also touches upon the emergence of new disciplines and discusses this question with respect to geophysics and meteorology. Of particular interest is the fact that Schröder takes the social character of the scientific process of cognition into account (p. 68). According to him, the genesis of new disciplines is not solely connected with the formation of particular institutions (organizations and observatories) (p. 74). He expressly emphasizes practical demands in connection with the emergence of new disciplines (p. 58f., p. 76f.). In this way reference is made to the essential aspects of this process in the history of science. Schröder's book touches upon many current problems and provides valuable stimuli. The bibliography includes a great number of interesting publications.
The book will certainly not only stimulate further work on the history of the physics of the Earth. Historians of other disciplines will undoubtedly also gain a great deal from this book.

M. Guntau

- Xia Xiangrong and Wang Genyuan: History of the Geological Society of China - Geological Publishing House. Baijing 1982, 254 pp., 17 fig. (in Chinese).

The three chapters of this book deal with the historical development of the Geological Society of China (HGS) from its foundation in 1922 up to 1981. Starting with a short

review of the early stage of geological work in China after the revolution of 1911, the book then gives a thorough account of the foundation of the GSC in 1922. The history of the Society can be divided into two periods:
1) Initial and mature period (1922-1951);
2) Period of reforming and great development (1952-1981)
The aim, task, structure and function of the Society in these two periods are described with reference to a series of past constitutious of the GSC.
Based on the proceedings of all previous annual meetings, including special symposium and other kinds of material, the book gives a detailed chronological survey of the scientific activities of the GSC at home and abroad (pp. 55-213).
The book contains five appendices of historical significance.

Xia Xiangrong

- M. Carozzi: Voltaire's Attitude toward Geology.-Extrait des "Archives des Sciences", vol. 36, Pasc. 1, 1983, éditées par la Société de Physique et d' Histoire naturelle. Geneva 1983, 146 pp., 6 fig. (in English)

Voltaire, who played an outstanding role among the thinkers of the Enlightenment in the 18th century, among other things also devoted himself to geological studies. Although this fact has been generally known for a long time, Voltaire's work in this field has not been analyzed so far. The present study is an attempt to fill this gap. The author first discusses some fundamental geological ideas of the 18th century, such as the coming into existence of fossils and the formation of mountains. Taking present-day research results into account, she presents Voltaire's views about these and other questions. Voltaire, for example, rejected diluvianistic interpretations of the genesis of fossils and tried to explain this phenomenon from his own point of view; his ideas on this issue did, however, not directly influence geological thinking at that time. It seems to be of particular importance that Voltaire's philosophical beliefs and the

conclusions he draw from direct observation of nature were the main reasons for his criticism of religiously-based diluvianism. At that time, philosophical thinking and cognition of nature were more closely related to each other than, for example, in the present. During Voltaire's life-time geology was still in its early stages and using concrete facts for theoretical generalization was only weakly developed.

The author above all discusses his "Dissertation sur les changements arrivés dans notre globe et sur les pétrifications qu'on prétend en être encore les témoignages" (1746) and "Les Singulartiés de la nature" (1768).

The present study is an exceptionally stimulating publication, and it is to be hoped that it wäll find a broad readership. Those who intend to deal with the history of geological knowledge in the 18th century should not leave this book out of consideration.

M. Guntau