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International Association of Geochemistry and Cosmochemistry

NEWSLETTER

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No. 9

August, 1978

Edited by G.M. Anderson

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ContentsPage

Report on Liege Council Meeting	2
Prepublication book offer	4
Geochemical Prospecting Meeting	4
Notice of Novosibirsk Council Meeting	5
Financial Report	6
Treasurer's Report	7

COUNCIL MEETING HELD IN LIEGE

With the very kind cooperation of Dr. N. Grevesse, director of the Institute, a meeting of IAGC council was held at the Institut d' Astrophysique in Liege, Belgium on June 19-20, 1978. Present were President Wetherill, Vice Presidents Goni and Pacal, Secretary Anderson and Councillor Ryabchikov. Treasurer Binns was unable to attend but sent complete details of the finances by Telex to the Institute.

President Wetherill began the meeting by expressing the opinion that at the present stage of IAGC development, there is a danger of attempting to do too much. We need to decide on a finite program of activity and do it well. In the immediate future this program should consist of:

- 1. Planning for the geochemical program and representation at IGC in 1980.
- 2. Identifying vigorous leaders to succeed present officers in 1980.

At IGC, Section 10 is the main geochemical session, with Tissot, Treuil and Wetherill as organizers. The session is presently divided as follows:

- Section 10.1.1 Geochemistry of sediments
- 10.1.2 Geochemical Prospecting
- 10.1.3 Geochemistry of the Environment
- 10.2.1 Crust-Mantle Interaction
 (IAGC Symposium - Wetherill and Allegre organizers)
- 10.2.2 Special Geochemistry (to be eliminated or included
 with 10.2.1)
- 10.3.1 Organic Geochemistry
- 10.3.2 Geochemistry and Planetology
 (Wasserburg, Allegre and Minster are planning a
 joint session with Section 18.)

Section 10.2.1 is the only section under direct IAGC control, but IAGC input into the other sessions is expected through its working groups.

Wetherill announced that a proposal for financing travel for U.S. Geochemists to IGC has been discussed with the U.S. National Committee for Geochemistry and will be submitted to the U.S. National Academy. The importance of good IAGC representation at IGC was stressed, and ways of achieving it were discussed.

The problem of increasing national memberships was discussed. Anderson said correspondence was continuing with both prospective individual and national members. Wetherill stressed the need to increase income by increasing the dues. After some discussion, it was

agreed by majority vote to propose an increase in individual and national dues by a factor of two. This proposal will be presented to the General Assembly in 1980.

The status of all working groups, commissions, and committee was reviewed and the following were considered to have completed their work, or were inactive, and were dissolved:

Working Group on Sediments and Sedimentary Rocks
" " on Nomenclature and Documentation
Publications Committee
Committee on Revision of Statutes
" " Program and Budget
" " Membership and Directory

Several aspects of IAGC journals and other publications were also discussed.

Professors Ingerson, Sugawara and Tugarinov (in memorium) were unanimously named as Honorary Fellows of IAGC in accordance with Section I.C.4 of the statutes, in recognition of their long and valuable contribution to IAGC.

Statute revisions were also decided upon, having to do mainly with achieving some continuity between successive council memberships and with the nominating procedure. These will be published in the Newsletter after the full Council has agreed to them.

Also discussed were suggested responses to a letter from Dr. J. Harrison, who has been appointed by IUGS as chairman of a committee to review the current status and the future scope of the IUGS scientific program. The aims and membership of this committee are detailed in the IUGS journal Episodes volume 1978, no. 2, June 1978 (p. 29). Of particular concern to IAGC is the formal relationship between IUGS and its affiliated organizations, and ways of strengthening this relationship.

Following the council meeting, Vice President Goni and Secretary Anderson met with UNESCO officials Drs. Braun and Kitizawa at UNESCO headquarters in Paris to discuss various details of financial arrangements between UNESCO and IAGC.

IAGC PARIS SYMPOSIUM PROCEEDINGS
AVAILABLE FROM PERGAMON PRESS

The Proceedings of the Second International Symposium on the Origin and Distribution of the Elements, which was held in Paris in May 1977, will be published this fall by Pergamon Press. The symposium was organized by IAGC and supported financially by UNESCO.

The symposium volume contains 79 papers and over 1000 pages. Its regular price will be U.S.\$80, but a special prepublication price of U.S.\$50 will be available to IAGC members until September 30, 1978.

Orders should be sent to:

Pergamon Press Limited
Headlington Hill Hall
Oxford, England OX3 0BW

INTERNATIONAL SYMPOSIUM ON GEOCHEMICAL PROSPECTING

The IAGC working group on Geochemical Prospecting is organizing an Internal Symposium on Geochemical Prospecting to be held September 4-7, 1979 at Spa Jeseník in Czechoslovakia. The following are the subjects to be discussed:

1. Geochemical processes of weathering and geochemical prospecting methods using secondary dispersion aureoles.
2. Geochemical methods of exploration for hidden deposits
3. Geochemical prospecting in contaminated areas.

It is expected that 120-140 geochemists will participate. Before and after the symposium three-day excursions with a limited number of participants will be held to areas where geochemical exploration methods have been applied on a regional scale.

Papers for printing (up to five typewritten pages) will be accepted. The head of the Organizing Committee is Dr. F. Mrna, Dr. Sc. ÚÚG, Praha.

Further information can be obtained from:

Z. Pacal, Vice President IAGC
Geological Survey (ÚÚG)
118 21 Praha 1
Malostranske nam. 19

INTERNATIONAL MINERALOGICAL ASSOCIATION
MEETING IN NOVOSIBIRSK

The forthcoming IMA meeting in Novosibirsk promises to be very interesting to many IAGC Members.

IAGC council members are hereby notified that it is intended to hold a council meeting during the meeting at Novosibirsk if at all possible. It is not known at present how many council members plan to attend the meeting, but Vice Presidents Goni and Pacal and Councillor Ryabchikov will be there. Other council members who attend the meeting should arrange to meet with these three.

INTERNATIONAL ASSOCIATION OF GEOCHEMISTRY
AND COSMOCHEMISTRY

FINANCIAL STATEMENT FOR THE PERIOD 23 JULY 1977 TO 30 JUNE 1978

(AUSTRALIAN DOLLARS)

BALANCE BROUGHT FORWARD as shown on statement
for period 14 August 1976 to 22 July 1977

5686.89

RECEIPTS

Dues : Corporate Members : arrears	211.28	
1977	294.63	
1978	799.49	
Individual Members : arrears	34.82	
1977	134.29	
1978	502.33	
advances	53.52	
Donations	2.68	
Interest	163.81	
UNESCO Contract SC/RP 251.021	<u>440.53</u>	
	<u>2637.38</u>	<u>8324.27</u>

PAYMENTS

Secretary : Office expenses, printing, newsletters	866.42	
Treasurer : Postage, phone	123.09	
E. Underwood : Travel to London, Symposium "Geochemistry and Health"	406.00	
Refunds of overpayments	<u>47.22</u>	
	1442.73	

BALANCE IN HAND at 30 June 1978 as per bank statement 6881.54

8324.27

8324.27

(\$A = \$US 1.145 at 30/6/78)

R. A. Binns

R.A. Binns
Treasurer

I A G C TREASURER'S REPORT

1977 - 78

Current membership of the Association includes 187 individuals paid to 1978. Corporate Members financial at 30 June 1978 are Australia, Britain, Canada, Italy, Japan, Netherlands, Norway, South Africa, Switzerland, U.S.S.R., West Germany, and The Geochemical Society. Czechoslovakia pays its dues to the East European Treasury maintained by Dr Z. Pacal.

The Financial Statement for the period since I took over the Treasury to June 30 1978 shows that income consisted mainly of membership dues, together with a final payment from UNESCO to support publication of "Review of Research on Modern Problems in Geochemistry". Dues in arrears amounting to \$A246.10 were also collected. Expenditure was dominated by processing of membership applications and subscriptions, printing and distribution of newsletters, and the Secretary's office expenses. A further grant was made to allow Professor E. Underwood to attend the symposium on "Environmental Geochemistry and Health" in London. Expenses associated with the IAGC Council Meeting in Liege will appear in next year's accounts. Reserves increased during the year by A\$1194.65 to A\$6881.54 (US\$7880). Provided accounts submitted to UNESCO are approved, there is no outstanding liability in these reserves to UNESCO research contracts. In previous years, UNESCO funds have represented a substantial contribution to the activities of IAGC.

The apparently sound state of the Treasury conceals the fact that many operating expenses have been met by the respective institutions of the Executive Committee. I particularly acknowledge assistance from CSIRO and the personal help of Pamela A. Garlick, Stephen J. Craven, and Anthony R. Ramsden during the year. The true cost of maintaining the Treasury alone would exceed the total subscriptions received. An increase in dues is essential if IAGC is to expand its activities.



R.A. Binns

IAGC Treasurer

ORIGIN AND DISTRIBUTION OF THE ELEMENTS

Proceedings of the Second Symposium, Paris - UNESCO, May 1977

Editor-in-Chief: L. H. AHRENS, University of Cape Town, South Africa

Aims & Scope

The Proceedings are a complete synopsis of recent progress and present trends in organic geochemistry following the impetus produced by studies of lunar rocks, by global tectonics and the increasing interaction of geochemistry with health and the environment. The wide international participation makes this volume a benchmark and a useful bibliographical reference source. The Conference, which was held to mark the 10th anniversary of the International Association of Geochemistry and Cosmochemistry, included 79 contributions divided into nine sections. It was sponsored by both IAGC and UNESCO

Contents: COSMOCHEMISTRY: Study of some processes of nucleosynthesis in the evolving galaxy (A. K. Lavrukina and R. I. Kuznetsova). Some long-lived and stable nuclides produced by nuclear reactions (R. Gensho et al.). Origin of differentiated meteorites (G. W. Wetherill). Halogens in meteorites and their primordial abundances (G. Dreibus et al.). Noble gases in chondritic polymic breccias: clues to their origin (L. Schultz). Solar wind nitrogen and indigenous nitrogen in lunar material (O. Muller). Solar wind carbon chemistry as revealed by lunar sample analysis (C. T. Pillinger). Search for ^{59}Ni of extraterrestrial origin in deep sea sediments (K. Yamakoshi and S. Yanagita). Solar abundances. A new table (October 1976). (B. E. J. Pagel).

PLANETOLOGY: The chemical evolution of the galaxy and isotopic ratios in the solar system (J. Audouze). Lunar Highland chronology (T. Kirsten). The earth-moon-system. Chemistry and origin (H. Wanke and G. Dreibus). Sondage à distance de l'atmosphère des planètes géantes par spectroscopie de Fourier (M. Combes). Isotopic anomalies in the early solar system (R. N. Clayton). Main features of the geochemistry of lunar rocks (V. L. Barsukov and L. V. Dmitriev).

HYDROSPHERE, ATMOSPHERE: The Archean atmosphere of the earth (E. A. Kulish). Chemical model for origin and distribution of elements in salts and brines during evaporation of waters. Application to some saline lakes of Tibesti, Chad. (J. Y. Gac et al.).

DISTRIBUTION AND BEHAVIOUR OF TRACE ELEMENTS: Trace element distribution in rock forming silicates-The alkali and alkaline earths (J. T. Iiyama). On rare-earth element behavior in igneous rocks (L. A. Haskin). Variation in trace element partition (crystal/magma) as a function of crystal growth rate (P. Henderson and C. T. Williams). Rare-earth elements in apatite from layered norites and iron-titanium oxide ore-bodies related to anorthosites (Rogaland, S. W. Norway) (I. Roelandts and J. C. Duchesne). Progress in the knowledge of indicator elements (E. Schroll). Microcomponents as indicators of the differentiation of alkaline magmatic series (L. N. Rogarko). Strontium isotope geochemistry in alkaline syenite-granite complexes (Ph., Vidal et al.). Aspects of platinum elements distribution in some ultramafic and related rocks (G. Agiorgitis et al.). The distribution of some elements in the direct contact aureole of the Krusne hory Mts granite (Bohemia) (E. Roos). The distribution of zirconium and hafnium in terrestrial rocks, meteorites and the moon (W. D. Ehmann et al.).

GEOCHEMISTRY OF THE SURFACE: Secular variations in chemical composition of sediments: a review (J. Veizer). Kinetics of nutrient regeneration in anoxic marine sediments (R. A. Berner). Répartitions des éléments traces dans les phosphorites marines (L. Prevot et al.). The major element geochemistry and the mineralogical evolution of granitic rocks during weathering (W. Chesworth). Éléments traces dans quelques argiles des altérations et des sédiments (Ch. Mosser). Mise en évidence d'une certaine mobilité du titane dans les podzols ainsi qu'au laboratoire sous l'influence d'agents organiques (J. C. Dumon and M. Vigneaux). Distribution of diastrophic elements in saline deposits in their relation to the evolution of saliferous basins, and their application for correlation and differentiation of saline series (D. P. Khrushshov). The behaviour of some rare elements in sedimentation processes (I. P. Adamchuck et al.). Minor elements in clay rocks, indicators of the sedimentation environment (V. A. Kuznetsov et al.).

GEOCHEMISTRY OF THE OCEANIC AND CONTINENTAL CRUST: Geochemistry of effusive rocks of Rift zones (V. I. Gerasimovsky). Review of the geochemistry of Indian and other oceanic rocks (K. V. Subbarao et al.). The lower continental crust of the Massif Central (Bournac, France) (C. Dupuy et al.). Trace element variations and isotopic composition of charnockitic acidic rocks related to anorthosites (Rogaland, S. W. Norway) (D. Demaiffe et al.). Comparative petrogenesis of Archean and modern low-K tholeites. A critical review of some geochemical aspects (R. C. O. Gill).

Rare earth element geochemistry of regional metamorphic rocks (G.K. Muecke et al.). Abundance of lithium in spilites and its implications for the spilitization process (N. Vatin-Perignon et al.). Rare earths in Nigerian mesozoic granites and related rocks (P. Bowden et al.). Apport de la géochimie-majeurs-a la reconstitution antémétamorphique de la série du Bas-Limousin (Massif Central, France). (P.L. Guillot et al.). Chemical evolution in an old area (sistema central espanoi) (A. Aparicio et al.). The chemical composition and origin of the primeval continental crust (A.A. Beus). Geochemical investigation of permian andesites from central Europe (F.J. Eckhardt). Geochemistry of the carbonatite complexes in East Africa (I.O. Nyambok). Hydrogen, Carbon, Nitrogen and Helium in gases of igneous rocks (I.A. Petersilje and W.A. Pripachkin). Distribution regularities of trace elements in rocks and minerals of the ultrametamorphism zone (Z.I. Petrova). Evolution of the ore formation in the history of the earth (A.I. Tugarinov). Ore element accumulation in the earth's crust evolution (Yu.K. Burkov and D.V. Rundquist).

GEOCHEMISTRY OF THE UPPER MANTLE: Trace element melting models (D.M. Shaw). Chemical differentiation of the lower lithosphere as represented by the Ronda ultramafic massif, Southern Spain (J.S. Dickey et al.). Trace element distribution and isotopic composition of Archean Greenstones (B.M. Jahn and S.S. Sun). The role on partial melting of mantle diapirism, CO₂ and H₂O from the study of Iherzolite nodules of intracontinental alkali basalts: example of the French Massif Central (E. Berger). Inclusions in diamond and the mineral chemistry of the upper mantle (H.O.A. Meyer and H.M. Tsai).

GEOCHEMISTRY AND DETECTION OF MINERAL DEPOSITS: Introductory remarks on geochemistry in discovering ore deposits with particular reference to U (S.H.U. Bowie and J. Plant). The redox potential field of the earth (B. Bolviken). Relative behaviour of uranium and lead in some acidic and chelating environments (C. Granier et al.). Eléments en traces dans les pyrites de la province de Huelva (Espagne) (A.M. de Kersabiec and G. Roger). Problèmes posés par l'insertion de la géochimie en méthodologie des recherches minières (C. Granier). The distribution of elements in the geochemical provinces and ore deposits (Y.G. Shcherbakov). Prospection géochimique en France: évolution et tendances de la dernière décennie (J. Barbier et al). Quelques applications de la géochimie des éléments en traces en exploration pétrolière et minière (B. Porthault and P. Sauvan). Distribution du manganèse dans les séries volcaniques: un guide de la genèse des gisements manganésifères volcanogènes (H. Guerin). Geochemical distribution of uranium in soils and vegetation of the "Fe 3" Mines, Saelices Salamanca, Spain (A. Arribas and J. Herrero-Payo). Fe and Zn partitioning between stannite and sphalerite and its application in geothermometry (I.J. Nekrasov et al.) La distribution globale des principaux éléments métalliques dans l'écorce terrestre des continents (I.G. Magakian). Zur Geochemie der Sedimentite des Permosiles im Sudteil der D.D.R. (J. Rentzsch and A. Kampe). Pyrite-pyrhotite geothermometer. Distribution of cobalt, nickel and tin (I. Ja Nekrasov and N.I. Besmen).

GEOCHEMISTRY AND HEALTH: Geochemistry and-physics of plutonium migration (A.T. Jakubick). Aspects of Geochemistry and health in the United Kingdom (I. Thornton and J.S. Webb). Photoelectron spectroscopy analysis of asbestos dissolution in acidic media of biological interest (J. Goni et al.). Biogeochemical distribution of rare earths and other trace elements in plants and soils (J.C. Laul et al.). Research in the United States relative to geochemistry and health (W.L. Petrie and H.L. Cannon). Sources and sediment associations of heavy metals in polluted coastal regions (U. Forstner).

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