

AIPEA

NEWSLETTER

MARCH 1975

NO. 11

Final Announcement 1975 INTERNATIONAL CLAY CONFERENCE

The 1975 International Clay Conference is to be held in Mexico City, Mexico, July 16-23, 1975. The Conference has been organized by the Instituto de Geologia, Universidad Nacional Autonoma de Mexico, under the auspices of the Association Internationale pour l'Etude des Argiles (AIPEA). The U.S. Clay Minerals Society will hold its 1975 meeting jointly with the International Clay Conference.

The Third Circular containing final details about the technical sessions, presentation of papers, field trips, accommodations and registration have been mailed to all those indicating an interest in attending the Conference.

Authors whose manuscripts have been accepted for oral presentation at the 1975 International Clay Conference have been notified by the General Secretary of the Organizing Committee.

The following statement concerning publication of the Proceedings has been issued by Prof. S. W. Bailey, Editor-in-Chief:

PUBLICATION OF PROCEEDINGS VOLUME: The Proceedings of the 1975 International Clay Conference will be published by Applied Publishing Ltd. of Canada as a single volume approximately 9 months after the Conference is held. In accordance with the decision of the AIPEA Council, the Proceedings will contain 60 papers plus the Chairmen's Introductory Lectures and will total 800-850 pages. Discussions of papers will not be published. Because the number of papers to be published is smaller than the number to be presented orally and because the publishing contract calls for penalties for nonadherence to deadlines, the following editing procedures will be necessary. The cooperation of all authors is requested.

1. No papers will be published in the Proceedings that previously have been published elsewhere, wholly or in large part.

2. No author is obligated to publish a paper that has been presented orally at the Conference. If the author wishes to publish elsewhere, permission to do so should be requested from the Editor-in-Chief.

3. Authors who wish their papers to be considered for publication in the Proceedings should send their manuscripts directly to the Editor-in-Chief:

Dr. S. W. Bailey
Dept. of Geology & Geophysics
315 Weeks Hall
University of Wisconsin-Madison
Madison, Wisconsin 53706 USA

ASSOCIATION INTERNATIONALE POUR L'ETUDE DES ARGILES
INTERNATIONAL ASSOCIATION FOR THE STUDY OF CLAYS
INTERNATIONALE VEREINIGUNG ZUM STUDIUM DER TONE
МЕЖДУНАРОДНАЯ АССОЦИАЦИЯ ПО ИЗУЧЕНИЮ ГЛИН

Manuscripts should be prepared in accordance with the instructions sent to each author and should be sent VIA AIR MAIL in order to arrive not later than May 15, 1975. Earlier manuscripts will be appreciated.

4. A Board of Editors will review the manuscripts, will make constructive comments for the authors, and will recommend acceptance or rejection of each paper to the Editor-in-Chief. The Editor-in-Chief will return the manuscripts and comments to the authors either prior to the Conference or at the Conference.

5. Authors whose papers have been accepted for publication in the Proceedings should make any necessary changes and then should return the revised manuscripts to the Editor-in-Chief VIA AIR MAIL in order to arrive not later than August 15, 1975. Because of the penalty clause in the publishing contract, this must be considered a firm deadline. Earlier manuscripts will be appreciated.

6. The Editor-in-Chief will do the technical editing necessary to prepare each paper for printing and will send all copy to the publisher not later than November 1, 1975. The publisher will send galley proofs to each author, to be returned within 3 days of receipt, and final distribution of the volume should occur by May 1, 1976. No reprints will be available, but authors automatically have the right to reproduce their own articles from the published volume in any quantity.

CORRESPONDENCE: All correspondence concerning details of the program, field trips, accommodations, etc. should be addressed to:

1975 International Clay Conference
The Organizing Committee
Instituto de Geologia
Universidad Nacional A. de Mexico
Aptdo. 70296
Mexico 20, D. F. Mexico

RECENT DEATHS

William T. Granquist
1923-1974

On 30 September 1974 the scientific community lost a good friend, an esteemed colleague and Editor-in-Chief of the journal "Clays and Clay Minerals". Dr. William T. (Bill) Granquist lost an eighteen month battle with cancer during part of which time he participated in the experimental program of the M. D. Anderson Institute for Tumor Research of the University of Texas. In typical fashion Bill referred to himself as an extension of the Anderson laboratory apparatus. He leaves wife, Norine, and three children, Beth, Victor and Erik, as well as a host of close personal friends and associates.

Dr. Granquist, by education a physical chemist, had devoted his entire career to the clay minerals field, first with attapulgite at the Floridin Co. laboratories; later with the smectite group at Mellon Institute as Baroid Fellow and at Baroid Division, N. L. Industries, laboratories as Assistant Technical Director. He was an ingenious experimenter and a prolific and most articulate idea man, as attested by numerous publications and patents primarily in the field of clay mineral synthesis. A working tribute to his ingenuity is the unique high temperature-high pressure clay mineral manufacturing plant currently operating in Houston, Texas.

Born and raised in Warren, Pennsylvania, Bill remained in that area through a portion of his professional career. He received a B.S. degree in Chemistry at the Case Institute in Cleveland, Ohio, then joined the Floridin Co. in Warren as a research chemist. He became Technical Director in 1949. He was involved in work on adsorption of methane and other hydrocarbons on fullers earth and rheological studies of attapulgite suspensions.

In 1954 Bill migrated to Pittsburgh to continue his research in the clay field by investigating the idea of synthesizing clay minerals, this time as Fellow on the Baroid Division (National Lead Co.) fellowship at Mellon Institute of Industrial Research. While his goal was the controlled synthesis of high purity montmorillonite as a substrate for organo-clay gellants, Granquist was quick to recognize the potential of these synthetic clay minerals in hydrocarbon catalysis, and with Bob Capell of the Gulf fellowship he collaborated in the patenting of a new family of fluid cracking catalysts. While a Fellow at Mellon Institute he enrolled in graduate work at the University of Pittsburgh and received

a Ph.D. in Physical Chemistry in 1962.

In 1969 Bill was transferred to Houston, Texas to become Assistant Technical Director of the Baroid Division, N. L. Industries, Inc. In this capacity he directed the work of a group involved in development of catalytic materials based on a randomly stratified synthetic montmorillonite-mica through lab, pilot plant and plant operations. Some twenty-seven publications and five patents resulted from his work in the clay minerals field.

Bill's wide professional interests are indicated in his professional associations which included memberships in AAAS, American Chemical Society, American Institute of Chemists (fellow), Mineralogical Society of America, Society of Rheology, New York Academy of Sciences (fellow), American Ceramic Society, the Clay Minerals Society (Editor), and AIPEA. In his off-hours he was an avid outdoorsman which generally involved packing the family and family dog into the bus, along with a canoe or two, and heading for the nearest or farthest navigable waters. As an old Pennsylvanian, the northern waters often won the toss whereby he headed for Minnesota lakes, Maine's backwoods or a forest preserve in Canada.

Bill Granquist was well known in his chosen field (and at a height of 6'6" easily spotted), and well regarded. As editor of Clays and Clay Minerals he was conversant with practically the entire membership, including professional activities. He will be remembered as a good friend, an entertaining conversationalist, a brilliant researcher and a warm, interesting person.

--J. W. Jordan

Anna O. Shepard
1903-1973

Anna Oster Shepard died on July 19, 1973 in Boulder, Colorado. She had been in poor health for the previous year as the result of a stroke. Her friends will recall that an earlier, milder stroke had caused her some speech difficulty, but otherwise hadn't slowed her down one bit.

Anna was born May 9, 1903 in Merchantville, New Jersey. Her mother died when she was a young girl, and she was brought up in San Diego, California, by her father to whom she became very attached. She received her B.A. degree in Anthropology in 1926 from the University of Nebraska. Subsequent studies in optical crystallography, chemistry, physics, geology, mineralogy and spectroscopy at Claremont College, New York University and M.I.T. uniquely qualified her in her chosen field of ceramic technology as applied to pottery and archeology in the southwestern U.S., Mexico and Central America. In the meantime, her father had moved to Boulder, Colorado which Anna called home for the rest of her life. Anna became closely associated with the University of Colorado at Boulder first as a student and later as an instructor and mentor of students. The University granted Anna an Honorary Doctor of Science degree in 1942. She lectured at Jerusalem and Tel Aviv in 1962-1963 and at the University of Missouri in 1969. Also, from 1936 until her death Anna was associated in one way or another with the Carnegie Institution of Washington.

Anna began a new phase in her career in 1957 when she came to work for the U. S. Geological Survey. Her first project was studying hydrothermal alteration at Tintic, Utah, with T. S. Lovering. Subsequently she investigated the argillic and zeolitic components of rock at the Nevada Test Site, in connection with which she became an authority on the clinoptilolite-heulandite group. However, she never was quite able to reconcile the NTS connection with her peaceful inclinations. Concurrently, as a second unofficial job, she continued her archeological investigations that led into fruitful work on the crystallography of palygorskite and on the mineralogy of mixed-layer kaolinite-smectite in Yucatan. Both of these clays were used as ceramic materials by ancient and contemporary Mayan potters. One of Anna's particular strengths was her understanding and respect for the native cultures that she was studying, in addition to rigorous application of science to those studies.

Anna's many friends in this country and in the international community of clay mineralogists will miss this gentle, shy, but very determined lady.

--L. G. Schultz

CALENDAR OF MEETINGS

- May 12, 1975 CLAY MINERALS GROUP (in conjunction with the Colloid and Surface Chemistry and other groups of the Society of Chemical Industry and with the British Society of Soil Science): Meeting on "Pore structure of clays, soils and cements" at the Cement and Concrete Association, Slough.
- July 16-23, 1975 1975 INTERNATIONAL CLAY CONFERENCE, Mexico City, Mexico. The Conference is being organized by the Instituto de Geología de la Universidad Nacional Autónoma de México under the auspices of AIPEA. The Clay Minerals Society (USA) will hold its national meeting jointly with AIPEA. (Dr. Liberto de Pablo, Secretary General, 1975 Intl. Clay Conference, The Organizing Committee, c/o Instituto de Geología, Universidad Nacional Autónoma de México, Apartado Postal 70-296, México 20, D. F. México).
- Sept. 8-14, 1975 REGIONAL CENTRAL-EUROPEAN SYMPOSIUM ON KAOLINIZATION OF THE BOHEMIAN MASSIF, Dresden, German Democratic Republic. Two-day conference with papers on kaolin deposits of GDR and other countries and excursion to visit most important deposits of GDR. (International Geological Correlation Program, Working Group--Genesis of Kaolins, Dr. M. Kužvart, Secretary, Institute of Geological Sciences, Charles University, Albertov 6, Prague 2, Czechoslovakia)
- Sept. 10-11, 1975 SOUTH AFRICA CERAMIC SOCIETY, Pretoria, S.A. Symposium on theme of "Conservation in the ceramics industry".
- Nov. 7, 1975 CLAY MINERALS GROUP, London, England. Meeting on "Environmental aspects of clay mineralogy".

NEWS OF NATIONAL CLAY GROUPS

CLAY RESEARCH IN BRAZIL

The major groups engaged in clay research in Brazil are in the cities of Campina Grande, Recife, Salvador, Aracaju, Rio de Janeiro, São Paulo, Campinas and Porto Alegre.

Geological studies of clays are being made in the north of Brazil (Amazon region) on two large kaolin clay deposits in the Jari and Capim rivers under the sponsorship of SUDAM (Dr. C. Pandolfo) and CPRM-MME (Dr. M. Helena Falabella). In the Northeast, the "Clay Project" is being conducted by SUDENE (Dr. E. R. H. Oliveira e Silva) on sedimentary clays, kaolins and montmorillonites in several States. A survey of the sedimentary clays is being carried out around the city of Salvador by the Instituto de Geociências of the University of Bahia; "Condese" is making a similar survey in the sedimentary region of the State of Sergipe.

Rock weathering is being studied by several groups: granite and basic rocks by Dr. A. Melfi; manganese rocks by Dr. S. A. Valarelli at the Instituto de Geociências of the University of São Paulo; basalt weathering by Dr. J. E. S. Farjallat at the Instituto de Pesquisas Tecnológicas, São Paulo, and by Dr. M. M. L. Formoso at the Instituto de Geociências of the University of Rio Grande do Sul; bauxite, high aluminum clays and halloysites, as well as soil clay mineralogy and soil formation by Dr. A. C. Moniz at the Instituto Agrônomico in Campinas, State of São Paulo.

Clay technological studies, particularly on regional clays are being conducted at the Escola Politécnica of the University of Paraíba on montmorillonites for soil impermeabilization (Dr. H. C. Ferreira); at the Instituto Tecnológico de Pernambuco on clays for ceramics by Dr. A. Padua; at the Instituto Nacional de Tecnologia on kaolin and montmorillonite clays for several industrial purposes by Dr. Y. S. Visconti; at the Instituto de Pesquisas Tecnológicas and Escola Politécnica of the University of São Paulo, industrial clays and chrysotile asbestos for several industrial uses by Dr. P. Souza Santos, J. V. Souza and A. R. Zandonadi.

Clay mineralogical studies are being made on kaolinite-halloysites, antigorites and nontronites by Dr. P. Souza Santos; on nickel-clays by Dr. J. V. Souza; on halloysites by Dr. A. C. Moniz at the Instituto Agrônomico; on kaolinite, halloysites and montmorillonites by Dr. M. L. L. Formoso at the Instituto de Geociências in Porto Alegre; high resolution electron microscopy of Brazilian chrysotile asbestos, palygorskite-sepiolite clays and mullite formation from halloysite is being conducted by Dr. H. Souza Santos at the Instituto de Física of the University of São Paulo, and on the amorphous components of soils from basalts (Dr. A. Melfi).

Clay mineralogy courses (graduate and undergraduate) are taught every year at the Universities of Bahia, São Paulo and Rio Grande do Sul. A clay technology graduate course is taught in the Department of Chemical Engineering of Escola Politécnica of USP; mimeographed notes are used as texts; a book on "Clay Technology" in Portuguese is being printed and will appear in the first semester of 1975; research on characterization and industrial utilization of clays from several States of Brazil serves as the basis for M.S. and Ph.D. theses in several departments at the Universities of São Paulo and Rio Grande do Sul.

Bibliographies on clay research in Brazil, especially for kaolins and montmorillonites, were published in 1961, 1965, and 1971; a symposium on Brazilian clays was organized in 1966; 29 papers by 36 authors were presented and published. A second symposium is being planned for early 1975 in which a proposal for a Brazilian Clay Group will be discussed. Papers on Brazilian clays are generally published in Portuguese in the journals Cerâmica, Boletim Brasileiro de Geociências, Mineração e Metalurgia, Ciência e Cultura and Anais da Academia Brasileira de Ciências. Papers on clays are presented in the annual meetings of the following societies: ceramics, geology, soil science and geology applied to civil engineering.

Kaolin clay production in Brazil in 1972 was 571,000 long tons per year, which places the country among the ten largest producers in the world, according to the data of the 1973 U. S. Bureau of Mines Yearbook. Ceramic industries, including Portland cement, are still the major consumer of clays in Brazil. Ceramic industries such as Celite (Dr. F. B. Angeleri) (sanitary ware); Magnesita - São Caetano (Dr. I. Menezes) (refractories and floor tiles); Klabin (Dr. H. Hirsch) and IASA-Brennand (wall tiles); paper industries such as Klabin (Dr. C. Sanchez) and Simão (Dr. A. P. Ribeiro Filho) and bentonite industries (Dr. A. Mendes) have good research laboratories in which an appreciable amount of research is being conducted on Brazilian clays.

--Dr. P. Souza Santos

GROUP FOR CLAY MINERALOGY AND PETROLOGY IN CZECHOSLOVAKIA

The Group held four working meetings in 1974. The dates and programs were as follows:

- Feb. 21, 1974
V. Sirový (Institute of Soil Science, Prague) "The research on soil clay minerals in the Institute of Soil Science, Prague."
- J. Konta and M. Reichelt (Institute of Petrology, Charles University, Prague) An exhibition of brochures on the new equipment used in research on minerals and rocks.
- May 16, 1974
J. Konta (Institute of Petrology, Charles University, Prague) "Refractories and their beneficiation techniques".
- Preliminary discussion on the 7th Conference on Clay Mineralogy and Petrology in Czechoslovakia. An exhibition of new literature on clay minerals and rocks was displayed.
- Oct. 24, 1974
K. H. Henning (Institute of Geology, University of Greifswald) "Size analysis of kaolinite particles by means of the electron microscope". "The relation between mineralogical and technological properties of Tertiary clays from the north of the German Democratic Republic".
- Nov. 21, 1974
K. Melka (Central Geological Survey, Prague) "Adaptation of the Unicam high-temperature camera to research on layer silicates".

Discussion on the program of the Group's activities in 1975.

The nation-wide conferences on clay mineralogy and petrology in Czechoslovakia are held every third year. The 7th Conference will take place in Karlovy Vary at the end of August 1976. The details will be given in the first circular which will be distributed in the spring of 1975.

--Jiří Konta
Dept. of Petrology
Charles University
Albertov 6
Prague 2, Czechoslovakia

CLAY MINERALS GROUP OF GREAT BRITAIN AND IRELAND

The Spring Meeting of the Group will be held April 3-4, 1975 at the Macaulay Institute for Soil Research, Aberdeen, Scotland. The following papers have been accepted for presentation in the scientific sessions on April 3:

- M. J. Wilson "Some aspects of the chemical weathering of primary rock-forming minerals - review paper"
- J. D. Russell and B. A. Goodman "Experimental conversion of nontronite to mica-like phases"
- E. A. Fitzpatrick "Deeply weathered rock in North East Scotland"
- M. Hornung and A. A. Hatton "The mineralogy of a deeply weathered section in the Great Whin Sill, Northern England"
- C. D. Curtis "Preliminary findings from the application of ion-beam thinning to clay sediments"
- H. G. Rueslatten and P. Jørgensen "Mineralogical composition and changes due to podzol weathering on a till from Numedal, S. Norway"
- F. P. Glasser "Chemical and mineralogical changes in high-alumina cements"
- M. C. van Oosterwyck-Gastuche "Synthesis of clay minerals as compared to their genesis"
- B. A. Goodman and M. J. Wilson "A Mössbauer study of the weathering of hornblende"
- M. Rezk and D. A. Jenkins "Chlorite in soils derived from Silurian mudstones in Clwyd, Wales"

Participants will receive a set of abstracts and full details of program arrangements. The latter will include a field excursion on April 4 to visit sites illustrating particular aspects of clay alteration, with emphasis on deep weathering of rocks.

"Pore Structure of Clays, Soils and Cements". The Clay Minerals Group and the British Society of Soil Science have been invited to participate in a meeting on the above topic with constituent groups of the Society of Chemical Industry. This is to be held on Monday, May 12, 1975 at the Cement and Concrete Association, Slough. After an introductory lecture by Prof. R. M. Barrer of Imperial College, London, papers will be presented on the effect of drying on the porosities of soil clays, pore structure formation during drying of clay/starch films, adsorption of water and gases on calcium silicate hydrates, and pore structure of hardened cement pastes.

European "Clay Minerals" Journal. Agreement has been reached with other West European Clay Groups on the formation of a common journal for the publication of scientific papers. The periodical will be handled by the Mineralogical Society as managers and based on an extension of the present "Clay Minerals" to create a quarterly journal. Tenders have been received from possible publishing firms and arrangements are being made to meet a deadline of March 1976 for the issue of the first number.

Clay Minerals Group Committee. Dr. V. C. Farmer has been co-opted to fill the vacancy created by Prof. D. Greenland's resignation from the Committee, necessitated by his appointment to a post overseas.

GROUPE FRANCAIS DES ARGILES

The Proceedings of the 2nd Meeting of the European Clay Groups are now available and may be ordered from the Secretariat at the address given below. The price is 20 F (normal mail) and 25 F (air mail).

A special issue of the Bulletin du Groupe Francais des Argiles devoted to the scientific work of Jacques MERING has been published.

- Summary** J. MERING (1904-1973) by J. WYART
The scientific work of J. MERING in crystallography: study of imperfect crystals by A. GUINIER
Structure and reactivity of clays by G. PEDRO
Structural aspects of graphitization by J. MAIRE
The Centre de Recherches sur les Solides à Organisation cristalline imparfaite (C.N.R.S.), Orleans la Source, Mission, programs and perspectives by L. GATINEAU and D. TCHOUBAR
List of publications of J. MERING
Price: 15 F (normal mail) and 20 F (air mail)

Order and payment for the two publications listed above must be sent to the Secrétariat du Groupe Francais des Argiles, C.N.R.A., Rte de St. Cyr, 78000 VERSAILLES, France.

- Payment by: - Check payable to the Groupe Francais des Argiles
- Bank transfer to the account number 040859 of the Banque Nationale de Paris, VERSAILLES, France

CLAY SCIENCE SOCIETY OF JAPAN

Activities in clay research in Japan were last reported in the Newsletter of January 1974.

There were about 300 participants in the 18th general annual meeting (1974) held at Okayama University with presentation of papers concerning general subjects and one symposium on "Clay Minerals and Water". Forty papers were presented.

The Shirozu cooperative research project (page 9, APEA Newsletter No. 9, January 1974) was closed in 1974. The final report was published as a group of sixteen papers (written in Japanese) in Kobutsugakuzasshi (Journal of the Mineralogical Society of Japan), Vol. 11, Special Issue, No. 1, March 1974. The general title of the final report is "Interstratified structures in layer silicates and their geneses". The groupings of the papers are as follows: problems for study on interstratified minerals (one paper), weathering products of montmorillonite (one paper), montmorillonite interstratified with a kaolin mineral (three papers), computer simulation of lattice images (one paper), treatment with NH_4^+ (one paper), chlorite-smectite interstratification (three papers), chlorite-vermiculite interstratification (one paper), synthesis (two papers), origin and mode of occurrence (three papers).

In 1974 a cooperative research project in the mineralogy branch (Chairman: Professor K. Henmi, Okayama University) was selected to receive a 3-year Grant-in-Aid for Science Research of the Ministry of Education of the Japanese Government. The first meeting of the Henmi cooperative research project was held at Hiroshima University in October, 1974.

--Professor Toshio Sudo
Geological and Mineralogical Institute
Faculty of Science, Tokyo University
of Education
Tokyo, Japan

SOUTH AFRICA CERAMIC SOCIETY

The 1975 program of the South Africa Ceramic Society includes five ordinary evening meetings and three works visits. The main event of the year will be a two-day Symposium on Sept. 10 and 11. The theme for the Symposium will be "Conservation in the ceramics industry" and plans include papers on slag cement, recycling of materials such as glass and refractories, conservation of clay deposits and the use of mine dump sand, fly-ash and lightweight aggregates.

--E. R. Schmidt
S. A. Ceramic Society
c/o N.B.R.I., P. O. Box 395
Pretoria, South Africa

SPANISH CLAY SOCIETY

The new Council of the Spanish Clay Society is as follows:

J. M. Serratosa, President	Members:	
J. D. López-González, Vice President	A. Hidalgo	F. Mingarro
F. Lopez-Aguayo, Secretary	F. Aragón	J. M. Fernández-Navarro
R. Campos-Guinart, Treasurer		

The new address of the Spanish Clay Society is:

Instituto de Edafología y Biología Vegetal, C.S.I.C.
Serrano, 115 dpdo.
Madrid 6, Spain

A meeting in memory of Prof. J. L. Martín-Vivaldi, Past President of the Spanish Clay Society, was held in Granada, Dec. 13, 1974. The program for the meeting was as follows:

Scientific Session I. Chairman: Dr. J. M. Martin Pozas

- 9:30 A. de la Iglesia and J. L. Martin-Vivaldi. "Low temperature synthesis of smectites, kaolinite and mica from feldspars".
- 9:50 F. Soggetti, A. del Negro and F. Veniale. "Effect of the sea currents on dispersion of the clay minerals in the sediments of the Adriatic Sea".
- 10:10 M. Rodriguez Gallego, A. Garcia-Cervigón and E. Sebastián Pardo. "Mineralogical study of the fine fraction of neogenic and Quaternary sediments of the Gorafe Huelago (Granada) formation".
- 10:30 M. Rodriguez Gallego and A. Garcia Cervigón. "Study of a chlorite of detrital origin in the Subbetico of NW Murcia province".
- 10:50 E. Reyes Camacho, E. Barahona and J. Linares. "Chemical composition of the montmorillonites of the Cape of Gata (Almeria)".

Scientific Session II. Chairman: Prof. F. Veniale

- 11:30 R. Arana Castillo and M. Ortega Huertas. "Mineralogical observations on the "Estrella" deposits (Sierra Nevada, Béticas mountain range)".
- 11:50 A. Dal Negro, G. Giuseppetti and J. M. Martin Pozas. "The crystal structure of sarkinite ($Mn_2AsO_4(OH)$ ".
- 12:10 M. Fernández, J. F. Alcover, J. A. Rousell-Colom and J. M. Serratos. "Localization of interlamellar cations in vermiculite".
- 12:30 M. J. Garcia Degano and A. Ruiz Amil. "Chlorite-montmorillonite interstratification in Triassic sediments".
- 12:50 E. Aragón de la Cruz and N. Evole Martil. "Polymerization in the interlamellar space of a sodium montmorillonite of Almeria".

The scientific sessions were held in the Zaidin Experimental Station.

At 6:00 p.m. a session honoring Prof. Martin-Vivaldi was held in the conference room of the Faculty of Sciences, University of Granada. Participants in this session included: Prof. D. Enrique Gutierrez Rios, Professor of Inorganic Chemistry, University of Madrid, Prof. D. Juan de Dios López González, President of the University of Granada, and Prof. D. Manuel Rodriguez Gallego, Professor of Crystallography and Mineralogy, Faculty of Science, University of Granada.

The Spanish Clay Society has a number of publications which are available for purchase. These include:

"Anales de la Reunión Hispano-belga de Minerales de la Arcilla", Madrid, 1970, Price \$12 (US). This publication contains 35 papers (English, French and Spanish) presented at that meeting. The two main topics of the conference were: a. Clay-water interaction, and b. Organic complexes of silicates. Introductory lectures on these subjects by Prof. J. J. Fripiat and Prof. G. W. Brindley are also included.

"Kaolin Symposium", Madrid, 1972, Price \$8 (US). This publication contains 12 papers and 15 abstracts presented at the Kaolin Symposium held in Madrid during the 1972 International Clay Conference.

"Symposium on K-Exchange in Micaceous", Madrid, 1973, Price \$3 (US). This publication is a reprint of the symposium included in the Proceedings of the 1972 International Clay Conference.

"Symposium on Quantitative Analysis of Clays by X-ray Diffraction", Madrid, 1973, Price \$3 (US). This publication is a reprint of the symposium included in the Proceedings of the 1972 International Clay Conference.

Order from: Spanish Clay Society
Instituto de Edafología y Biología Vegetal, C.S.I.C.
Serrano, 115 dpdo.
Madrid 6, Spain

Make check payable to: Editorial Committee, International Clay Conference.

THE CLAY MINERALS SOCIETY (USA)

The officers of The Clay Minerals Society for 1975 are:

John C. Hathaway, President	B. L. Sawhney, Secretary
Stanley B. McCaleb, Vice President	Finis Turner, Treasurer
Richards A. Rowland, Editor	Esther M. Stuchell, Central Office Manager

The Twelfth Meeting of the Clay Minerals Society and the 24TH ANNUAL CLAY MINERALS CONFERENCE will be held simultaneously with the (AIPEA) INTERNATIONAL CLAY CONFERENCE on July 16-23, 1975 in Mexico City, Mexico.

Dr. R. A. Rowland, P.O. Box 42286, Houston, Texas 77042, is chairman of the CMS local committee for the conference. Other members of the committee are Dr. E. C. Jonas, Dept. of Geology, University of Texas and Dr. Liberto de Pablo of the Institute of Geology, University of Mexico. CMS members may contact Dr. de Pablo for information concerning transportation, tours, etc. Third and final circular (AIPEA) is scheduled for publication in February 1975.

"Clay Minerals and Environmental Problems" and "Quantitative Techniques in Clay Mineralogy" were symposia held during the 23rd Clay Minerals Conference at the Cleveland Museum of Natural History, Cleveland, Ohio, Oct. 6-10, 1974. The co-chairmen, Dr. Samuel Savin and Dr. John Hower, along with Ms. Janet Hoffman, are to be congratulated for their work in making this an interesting and successful conference.

In addition to the more than 50 papers presented at the conference, a short course on the "Interpretation of Clay Mineral X-ray Diffraction Patterns" was conducted by Dr. R. C. Reynolds of Dartmouth College. The course was well attended. Other attractions enjoyed by the 164 registrants consisted of a field trip to study Lake Erie shore erosion and tours to several points of interest in the Cleveland area.

It is not possible to review all of the papers presented at the conference in this summary but a few of the highlights will be abstracted.

M. W. Bodine used the microprobe to analyze clays found in a rock salt deposit at Retsof, New York. Talc and serpentine were essentially stoichiometric in composition. Chlorite compositions appeared to remain remarkably constant throughout the deposit and were characterized by high magnesium, low iron, and moderately low aluminum values. He concluded that, in general, talc, potash feldspar, and poorly crystallized chlorite formed in the primary hypersaline environment; euhedral quartz, serpentine, and the improved crystallinity of chlorite formed during stages of diagenesis; and the mica-clay includes detrital illite and sericite as well as secondary authigenic mica-clay.

C. L. Blatter studied the diagenesis of montmorillonite and illite in natural and artificial sea water at 200° C for up to six weeks. Very little alteration of montmorillonite was found except for a product that was believed to be halloysite. However, where 2% potassium chloride was present, a mixed layer illite/montmorillonite developed rapidly in two weeks. Natural sea water does not contain enough potassium for this reaction to take place. In addition, where potassium concentration was low, the presence of magnesium and calcium effectively retarded this transformation. In natural sea water, halloysite and kaolinite were detected from the illite sample. In general, it is believed that alterations would be very slow and probably would not occur above 6,000 ft of burial.

Magnesium is constantly being transported to oceans by rivers but its concentration in the ocean remains relatively constant. Edward Perry examined cores (to a mineral depth of 274 meters) from the ocean off the coast of Venezuela and found that dolomite development was essentially nil. He determined that magnesium reacted with the deposited ash to form montmorillonite which could be an explanation of why the magnesium concentration in oceans does not vary significantly.

W. E. Parham, G. R. Thompson and M. J. Behan pointed out that clearing of land by slash-and-burn practices has been a major procedure in many developing nations. Nutrients are temporarily supplied to the soil but the low cation exchange capacity of many soils does not retain these nutrients effectively. Soil deterioration is rapid with a resulting decrease in food production. Clay content of soils is a measure of nutrient retention and the resulting food productivity of the soil over a period of time. Where clay content is low, fertilizer must be used to maintain adequate food production. Since fertilizer is not readily available in these countries, more land is cut and burned with the result that food production is not materially increased and more and more land becomes useless.

Dr. G. W. Brindley reviewed the subject of quantitative analysis of clays and indicated the almost

insurmountable difficulties in choosing suitable "standard minerals". Dr. R. L. Burtner reported on studies of the use of a specific aluminum powder (Alcoa 140) as an internal standard; results from three laboratories were remarkably consistent when the same internal standard was used. Working curves prepared from standard minerals have to be adjusted to give satisfactory results for soil clays. K. M. Towe criticized the procedure of using less than 2 micron solids for clay analysis as a significant quantity of some clays will have a particle size greater than 2 microns. Burtner asked that the Society appoint a committee to investigate quantitative methods in the hope that an adequate procedure can be developed to use as a standard.

Two papers reported on studies of the adsorption of amino acids on montmorillonite. Shimoyama, Blair and Ponnampereuma reacted methane and nitrogen by means of an electric discharge and reported that the yield of amino acids was greater when clay was present. Jaffe, Shimoyama and Ponnampereuma found that the adsorption of a mixture of amino acids by montmorillonite was greater at a low pH (below their isoelectric point). The amount adsorbed depended on the amino acid and usually did not approach the CEC of the clay except for glycine. They concluded that clay minerals suspended in a primitive ocean would have adsorbed amino acids leading to their polymerization.

R. F. Conley and C. H. Kim believe that the affinity of phosphate for a clay varies with pH, the isoelectric point of the surface, the length of the metaphosphate chain, the geometric compatibility of the mineral surface, the crystallinity of the clay, and the presence of polyvalent cations in the solution environment. For the system kaolinite-phosphate-water, a series of chemical scission reactions occur which shorten the metaphosphate chain length to generate orthophosphate and to cause desorption. Orthophosphate is more subject to ionic transport than the metaphosphates. Thus, it is readily elutriated into waterways to cause eutrophication. J. R. Kramer and Paula Tyrola found that kaolinite and ferruginous bauxite irreversibly adsorbed phosphates. Adsorption depends upon time of exposure, pH, surface area, and initial phosphate concentration. Both minerals showed a maximum uptake and retention at a pH of 7.

Dr. W. D. Keller and R. F. Hanson found that the fabric of kaolinite depended upon the environment during diagenesis. Water-laid kaolinite tended to develop coarse, open-textured, well-preserved books while hydrothermal kaolins tend to be more tightly compacted crystals of either kaolinite flakes or elongates.

T. P. Goldstein discussed possible modes of formation of petroleum. Theory has long suggested that petroleum was formed by catalytic reactions. There are many acid activated catalysts that can cause polymerization of organic molecules to form petroleum from biologically synthesized organic compounds. Some of these are quite active at temperatures below 100°C. For clays, aluminum montmorillonite is an active catalyst under acid conditions. To support the theory, many core samples were evaluated for catalytic activity. Those showing a relatively high pH were relatively ineffective but those having a pH of 4 to 5 were quite active. Water in the system reduced catalytic activity but a significant amount of catalytic activity remained. With time not a factor, catalytic formation of petroleum in buried sediments is believed to be a reasonable event.

--Wayne Hower

NEWS OF INTERNATIONAL CLAY ACTIVITIES

NORDIC SOCIETY FOR CLAY RESEARCH

The 1974 spring meeting was held on Bornholm on May 13-14. The guest speakers for the meeting were Professor Jacques Esteoule and his wife Dr. Janine Esteoule-Choux, both working at Rennes, France. Madame Esteoule gave a paper on "Les kaolins du massif Armoricaïn"; Monsieur Esteoule presented a paper entitled "Synthese et genese de la kaolinite". There followed a general discussion on the formation of kaolin.

Contributions for the Nordic group included the following:

Birger Larsen (Danmarks Tekn. Højskole) "Late Quaternary clay sediments in the Baltic, north of Bornholm".

Heino Roosaar (Bergkonsult, Stockholm) "Sericitization of quartz and clay alteration in Precambrian rocks under Stockholm".

Nils Foged (Danmarks Tekn. Højskole) "Better techniques in X-ray diffraction demonstrated on clay minerals from Denmark and Greenland".

There followed a general discussion on clay formation, clay deposits and methods for determination of clay minerals. Some discussions continued at the banquet afterwards.

On May 14 there was a full day's excursion to outcrops of interest. The group observed outcrops of granitic rock which had altered to kaolinite whereas diabase sill had changed to smectite. Other localities examined included the lower Cambrian sandstone with glauconite, bentonite in Ordovician shales, montmorillonitic Keuper clay and limnic clay coal seams from Jura. Guides for the excursion were Jan Bondam and Poul Graff-Petersen who were kindly acting as the local committee for the whole meeting. Industrial use of the Bornholm kaolin at the Hasle Klinker-Chamottestens Manufacturing Co. was kindly shown by the director, Mr. J. Damgaard. Approximately 30 persons took part in the meeting.

The annual meeting of the Nordic Society for Clay Research was held Nov. 26, 1974 in Stockholm. The following new board was elected:

Chairman:	Ivan Th. Rosenqvist, Norway
Secretary:	Tom Lundgren, Sweden
Treasurer:	Gunnar Jacks, Sweden (new nomination)
Members of the Council:	Ann Marie Byström-Brusewitz, Sweden Poul Graff-Petersen, Denmark Kalevi Punakivi, Finland Hrefna Kristmansdóttir, Iceland
Proxying members:	Per Jørgensen, Norge Jan Bondam, Denmark Raimo Uusinoka, Finland Sven Snäll, Sweden

The following scientific papers were given:

K. P. Tomar (Indian Agri. Research Inst., New Delhi) "Mineralogical composition of a deep black soil profile of India. Cation saturation effect on DTA curves of smectite minerals".

Tor M. Rønningland (Geological Inst., Oslo) "A mineralogical study of recent clay sediments in Skagerak".

Gunnar Jacks (Inst. of Royal Techn., Stockholm) "Short report on the International Symposium on 'Water-Rock Interaction' in Prague".

Tom Lundgren (Geotechnical Inst., Stockholm) "Altered rock studied in tunnels in the Gothenburg district".

Ann Marie Byström-Brusewitz (Geol. Survey of Sweden, Stockholm) "Smectite minerals in samples collected from altered rocks in tunnels in the Gothenburg district". (See preceding paper).

The address of the present Chairman: Professor Ivan Th. Rosenqvist
Geological Institute
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Oslo 3, Norge
tel. 00947-2466800

The address of the Secretary: Mr. Tom Lundgren
S. G. I.
Banérgatan 16
115 26 Stockholm, Sweden

The spring meeting is planned for Uppsala in March 1975 in collaboration with the Institute of Quaternary Geology of the University of Uppsala. The theme is simply "Clay".

For the Oslo meeting in 1977 the first circular will be sent out from the organizing committee in Oslo.

--Ann Marie Brusewitz
SGU, FACK S-10405
Stockholm 50, Sweden

--Tom Lundgren
SGI, Banérgatan 16
115 26 Stockholm, Sweden

INTERNATIONAL GEOLOGICAL CORRELATION PROGRAM: WORKING GROUP-"GENESIS OF KAOLINS"

The Third Kaolin Symposium took place in Exeter, England on Sept. 6-7, 1974. Forty-eight participants from Czechoslovakia, Denmark, France, Federal Republic of Germany, German Democratic Republic, Japan, Mexico, Portugal, Romania, Spain, Taiwan, United Kingdom, USSR and the USA attended the Symposium. Seventeen members of the Working Group on "Genesis of Kaolins" (IGCP) were present. The following papers were presented:

- J. Esteoule-Choux (France) "Les kaolins Tertiaires du Massif Armoricaïn".
J. France (ČSSR) "Kaolin deposits of the Republic of Niger".
O. Anton and G. H. Neacsu (Romania) "Kaolin deposits of Romania".
H. Minato (Japan) "A mode of occurrence of halloysite from Japan (Okuchi Clay Mine, south part of Kyushu)".
J. Šindelár (ČSSR) "Kaolinitic clays of the Cheb Basin (Western Bohemia)".
J. Esteoule and J. Esteoule-Choux (France) "Les gisements Triassique de Fleury sur Loire: Etude sedimentologique et mineralogique".
J. Kraus (ČSSR) "Kaolinization in the W. Carpathians".
H. Köster (FRG) "A contribution to the geochemistry and to the genesis of the kaolin-feldspar deposits in Eastern Bavaria".
J. Neuzil, M. Kužvart and V. Mátl (ČSSR) "A two-phase kaolin profile on the SE margin of the Bohemian massif".
W. H. Huang and E. C. Freshney (USA, UK) "Clay mineralogy of the Westbear Pit, N. Devon Ball Clay Basin".
W. D. Keller (USA) "Scanning electron microscopy of some Cornwall clays".
E. Galan (Spain) "Mineralogy of some refractory clay deposits in Pontevedra, Galicia (Spain)".
H. Murray (USA) "Genesis of Georgia kaolins - a review".
B. R. Angel, P. Jones and K. Richards (UK) "Doped synthetic kaolinites, general comments".
C. M. Bristow (UK) "The trinities associated with primary deposits of hydrothermal origin".

The papers will be published in the Institute of Geological Sciences Report Series (UK).

Two guides for the excursions in Cornwall and Brittany were prepared by Mr. C. M. Bristow, Mr. A. Vincent and Dr. E. C. Freshney and by Dr. Janine Esteoule-Choux and Prof. J. Esteoule.

The symposium was opened by Prof. W. D. Keller who paid homage to the late Prof. J. Martin-Vivaldi. The sessions were chaired successively by Prof. Keller, Dr. Freshney, Prof. Chukhrov, Prof. Minato, Dr. Bondam and Prof. Köster. From the discussions that followed individual lectures it became clear that closer cooperation in all aspects of kaolin investigation is necessary.

During the five days of excursions in Cornwall and Devon (Melbur-Meledor kaolin pit, Goonbarrow kaolin pit, Wooladon ball clay pit, Preston Manor ball clay pit) and in Brittany (Quessoy-kaolin pit, Kerrouat - kaolinized granite, Le Paz - laterite profile, Floemeur, Kergantic, Kerhan - two kaolin pits, La Freslonnière near Rennes - tropical profile on shales, Chateaubriant - kaolinized Ordovician shales) no conclusive evidence for either hydrothermal or supergene genesis of kaolin was found. Possible criteria for distinguishing of these two genetic types were discussed later in Rennes with field evidence in mind. The discussion was introduced by Prof. Keller. Results of this discussion were summarized in a table; a table of possible geological and mineralogical guidelines in the search for kaolin deposits and a tentative proposal of classification of kaolin deposits have been prepared and distributed to members of the Working Group.

Plans for future activities of the Working Group on "Genesis of Kaolins" include:

- 1975 4th Kaolin Symposium in Mexico, July 16 to 23, 1975, with a 5-day excursion to hydrothermal kaolin deposits (concurrently with the 1975 International Clay Conference of AIPEA).
1975 Regional Central-European Symposium on Kaolinization of the Bohemian Massif in the German Democratic Republic, Sept. 8-14. Two days of conferences with papers on kaolin deposits of GDR and others will be held in Dresden. The excursion will visit the most important deposits of GDR.

1976 5th Kaolin Symposium in Sydney, Australia, Aug. 16-25, 1976. "Paleoclimatological, paleogeographical and geochemical conditions of kaolinization and related phenomena" with an excursion to flint clay & tonstein deposits near Sydney (Permian to Jurassic). This will be followed by a six-day excursion and one-day technical session in Japan.

It is proposed to change the subject of investigation of the Working Group in 1978 to: Correlation between mineralogical composition and technological properties of kaolins.

--M. Kužvart, Secretary
IGCP Working Group
Institute of Geological Sciences
Charles University
Albertov 6
Prague 2, Czechoslovakia

NEW AND FORTHCOMING BOOKS

"The Infrared Spectra of Minerals" edited by V. C. Farmer, Mineralogical Society, London, 1974. \$38 (US) postage free; order from the Publications Manager, Mineralogical Society, 41 Queen's Gate, London, S.W. 7 5HR, England. Dr. Farmer and his twelve co-authors have produced a truly magnificent monograph on the roles that vibrational spectroscopy (infrared and Raman) has played in mineral chemistry. For each mineral group treated, the factors which control their vibrational spectra are assessed, and applications of spectroscopy to characterizing these minerals and their reactions are reviewed. The last three chapters deal with the role played by infrared spectroscopy in the applied fields of cements, ceramics and glasses. Earlier chapters provide an introduction to practical and theoretical aspects of general significance for mineral spectroscopy. Of particular interest to clay mineralogists will be Chapt. 15, "The Layer Silicates" by V. C. Farmer, and Chapt. 9, "The Vibrations of Protons in Minerals: Hydroxyl, Water and Ammonium" by Ya. I. Ryskin.

"Kvantitativni System Rezidualnich Hornin, Sedimentu a Vulkanoklastickych Usazenin" (A Quantitative System of Residual Rocks, Sediments and Volcanoclastic Deposits) by Jiří Kouta, Charles University, Acta Universitatis Carolinae, series Geologica, Prague, Czechoslovakia, 1973, 375 pp. (In Czech.) This book represents the first quantitative system of sediments, residual rocks and volcanoclastic deposits. The system is analytical, being based on the most important petrographical properties and features; it has been elaborated so as to correspond to scientific requirements, as well as to the needs of practical work in the respective branches of geology. It aids the investigator in proceeding in an analytical way in studying the genesis of the sediment, i.e. the elucidation of its source, weathering conditions, mode of transport, sedimentation, diagenesis and epigenesis. The text is arranged to enable any geologist or other specialist engaged in the field of natural accumulations of residual, sedimentary or volcanoclastic character to be easily and rapidly oriented in this quantitative system.

"Nedo-Kobutsu-Gaku" (Clay Mineralogy) by Toshio Sudo, published by Iwanami-Shoten Mitotsubashi, Kanda-ku, Tokyo, Japan. 498 pp. (In Japanese). Prof. Sudo deals comprehensively with the structures, compositions, properties, occurrence and formation of clay minerals. Excellent coverage of the literature is evidenced by the comprehensive list of references.

"Contribution to Clay Mineralogy--Dedicated to Professor Toshio Sudo on the Occasion of His Retirement", 261 pages. This monograph is dedicated by his colleagues and students to Professor Toshio Sudo upon his retirement from active duty in Tokyo University of Education, in deep appreciation of his contribution to clay mineralogy and his service as an investigator and a teacher. Forty-six papers are included: twenty papers are written in English and the others are in Japanese with English summaries. The contents may be divided as follows: clay mineral structures (seven papers), interstratified clay minerals (seven papers), occurrences and properties of clay minerals (seventeen papers), clay organic compounds (two papers), volcanic ash and soil clay minerals (seven papers), landslide clay (three papers), and general (three papers). More information concerning this monograph may be obtained by writing to Dr. Susumu Shimoda at the following address:

Dr. Susumu Shimoda
Geological and Mineralogical Institute
Faculty of Science, Tokyo University of
Education
Otsuka, Bunkyo-ku, Tokyo, Japan

"The Chemistry of Clay-Organic Reactions" by B. K. G. Theng, Adam Hilger Ltd., London, England, 1974. 356 pages. 16 British pounds. This book won the Adam Hilger prize for the best previously unpublished book submitted to them for publication in the subject matter area including geochemistry and geophysics. Dr. Theng's book deals with topics of fundamental importance to soil scientists, surface and colloid chemists, organic geochemists, and mineralogists. A large proportion of the work was done at the Division of Applied Mineralogy, C.S.I.R.O., Melbourne, in the laboratory of the late Dr. G. F. Walker, with whom Dr. Theng collaborated, who suggested the writing of the book, and who had intended to be its co-author. After a brief introduction to clay mineral structures the author gives detailed treatments of the following topics: interactions with uncharged polar organic compounds, interactions with organic compounds of biological importance, interactions with positively charged organic species, complexes with the kaolinite group of minerals, and organic reactions catalyzed by clay minerals. Dr. Theng is now associated with the Soil Bureau, D.S.I.R., Lower Hutt, New Zealand.

"Phyllosilicates and Clay Minerals--A Laboratory Handbook for Their X-ray Diffraction Analysis" by J. Thorez, G. Lelotte, Editor, rue Pisseroule 109, B-4820 Dison, Belgium, 1975. 558 pages. Subscription price (before June 1, 1975) 2,500 Belgian Francs. This Laboratory Handbook is intended for clay analysts whose main or secondary topic of research is concerned with the identification of phyllosilicates and clay minerals by X-ray diffraction analysis. The objective of the Handbook is to provide data for an accurate recognition of the nature of clay minerals at different levels of the analysis; this is achieved with the help of colored hemicyclic diagrams (111), lists of (00 ℓ) and (hk ℓ) reflections (420 tables), and schematic presentations of X-ray diffraction patterns (190 schematic diffraction patterns) where the position, shape and intensity of the different (00 ℓ) reflections are provided for various saturations and heat treatments. The evaluation of the basal spacing of clay minerals is provided through a mnemotechnical system of symbols; these symbols are used in combination with a four-color chart system of presentation of the range in d (A) of the basal spacing. More than 2800 selected bibliographical references are also provided; these deal with problems of identification of clay minerals and different techniques used in clay mineralogy. Jacques Thorez is Doctor in Geology and Mineralogy, University of Liège, Belgium, and is Lecturer in the Institute of Mineralogy of the University. He has been responsible for the Clay Laboratory in the Institute; his main topics of research are lithostratigraphy, sedimentology and petrography of detrital sediments, and geology and mineralogy of clays. He is Secretary of the Belgian Clay Group and of the Centre of Quaternary Stratigraphy (Fonds de la Recherche Fondamentale Collective F.R.F.C.) and a founder member of the Centre of Devonian Biostratigraphy (F.R.F.C.).

AVAILABILITY OF PROCEEDINGS OF INTERNATIONAL CLAY CONFERENCES 1963, 1966, 1969, 1972

Proceedings of previous International Clay Conferences may be obtained from offices indicated below.

Proc. Intl. Clay Conference 1963, Stockholm, Vol. I & II
Pergamon Press, Headington Hill Hall, Oxford OX3 0BW, England

Proc. Intl. Clay Conference 1966, Jerusalem, Vol. I & II
Israel Program for Scientific Translations, Kiryat Moshe P.O.B. 7145, Jerusalem, Israel

Proc. Intl. Clay Conference 1969, Tokyo, Vol. I & II
Israel Program for Scientific Translations, Kiryat Moshe P.O.B. 7145, Jerusalem, Israel

Proc. Intl. Clay Conference 1972, Madrid, Vol. I (\$45)
Division de Ciencias, C.S.I.C., Serrano 113, Madrid, Spain

NEWS OF MEMBERS

Dr. S. W. Bailey delivered the Presidential Address at the 1974 annual meeting of the Mineralogical Society of America in Miami, Florida, Nov. 18-20, 1974. His address was entitled "Cation Ordering and Pseudosymmetry in Layer Silicates".

Prof. Ralph E. Grim received the Roebling Medal at the annual meeting of the Mineralogical Society of America, Nov. 18-20, 1974 in Miami Beach, Florida. Prof. Grim was honored for his pioneering contributions to the development of the science and technology of clay minerals. He was introduced by Dr. Haydn Murray.

Dr. C. I. Rich, until recently Secretary of the Clay Minerals Society (USA), underwent surgery for a brain tumor in January. Our best wishes go to Dr. Rich for a rapid and complete recovery.

Prof. J. P. Quirk, formerly Head, Dept. of Soil Science and Plant Nutrition, University of Western Australia, Nedlands, has been appointed Director, the Waite Agricultural Research Institute, Glen Osmond, South Australia.

Dr. Silviu Radan, Institute of Geology and Geophysics, Bucarest, Romania, has been working in the Laboratory of Marine Geology, Bologna, Italy for several months.

Dr. Carlos Serna who recently completed a doctoral program in the laboratory of Dr. J. M. Serratosa, Instituto de Edafologia y Biologia Vegetal, C.S.I.C., Madrid, was awarded a Fulbright fellowship and is working at Purdue University, West Lafayette, Indiana, with Dr. J. L. Ahlrichs, Dept. of Agronomy, as well as with Dr. Charles Roth and J. L. White.

R. M. Taylor, Division of Soils, C.S.I.R.O., Glen Osmond, South Australia, has encouraged a number of his colleagues to join AIPEA. New Australian members include: Dr. David G. Lewis, Waite Agricultural Research Inst., Glen Osmond; Dr. J. M. Oades, Waite Agricultural Research Inst.; Dr. Phillip G. Slade, C.S.I.R.O., Division of Soils, Urrbrae, South Australia; Dr. D. A. Farrell, C.S.I.R.O. Division of Soils, Glen Osmond; Mr. R. M. McKenzie, C.S.I.R.O., Division of Soils, Glen Osmond; Dr. W. Emerson, C.S.I.R.O., Division of Soils, Glen Osmond.

As the result of action taken at the Anniversary Meeting on January 9, 1974 of the Officers and Council of the Mineralogical Society, Dr. R. C. Mackenzie continues as Chairman of the Clay Minerals Group and Dr. J. L. M. Lambert as Editor of Clay Minerals.

Katharine Mather, chief of the petrography and X-ray branch, Waterways Experiment Station of the U. S. Army Corps of Engineers, Vicksburg, Miss. was named W.E.S. Woman of the Year; Mather's specialty is concrete. She was a founding member of the Clay Minerals Society and served as President of CMS in 1973.

Professor W. D. Keller recently participated in an experimental program of presenting research findings in poster sessions rather than in the conventional oral presentation of a paper before an assembled audience. Prof. Keller arranged a display of photographs, maps, charts, etc. in a booth to illustrate his communication on "Dissimilar fabrics by scan electron microscopy of kaolins from diverse origins". During the display at the 1974 meeting of the Mineralogical and Geological Society of America Keller found that many persons stopped by his booth, many to discuss his findings with him and not merely to listen.

MEMBERSHIP DRIVE IN AIPEA CONTINUED

There are many workers in clay science and technology who are not members of AIPEA. The cost of membership in AIPEA is very low and is within the reach of most workers. If your colleagues are not members of AIPEA please encourage them to complete an AIPEA Membership Application Form and return it to the Treasurer along with dues (\$2.30 per year) payment.

Aim of AIPEA

The aim of AIPEA is to promote international cooperation in clay research and technology. To this end the activities of AIPEA include: the organization of meetings--such as the International Clay Conferences every three years--of field excursions, and of visits to centers of clay research and technology; the issue of publications on clay research and technology and of discussions thereon; cooperation with other organizations having an interest in clay research and technology.

Brief History

During the 18th International Geological Congress, London, 1948, Comité international pour l'étude des argiles (CIPEA) was established. Professor Ralph E. Grim, University of Illinois, USA, was elected the first president of the executive committee. Scientific sessions were arranged by CIPEA at the International Geological Congresses in Algiers 1952, Mexico City 1956, and Copenhagen 1960. In cooperation with other organizations scientific sessions were arranged in Amsterdam 1950, Paris 1954, and Brussels 1958.

In 1960 Professor Ivan Th. Rosenqvist, Oslo, Norway, was elected president. CIPEA arranged the 1963 International Clay Conference in Stockholm, Sweden, and the 1966 International Clay Conference in Jerusalem, Israel.

At the conference in Jerusalem the Association internationale pour l'étude des argiles (AIPEA) was founded. The 1969 International Clay Conference was arranged in Tokyo, Japan. This was followed by the 1972 International Clay Conference in Madrid, Spain.

The 1975 International Clay Conference will be held in Mexico City July 16-23, 1975.

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Membership

AIPEA accepts as members clay scientists, institutions, and companies. Members may join individually or through cooperating national scientific societies. Please fill in the attached form for joining AIPEA and send it along with your dues payment to the Treasurer.

The annual membership fee is as follows:

Individual membership \$2.30
 Institutional membership \$5.75
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 Patron membership \$1,150

Your cooperation in observing the following suggestions in paying your membership fee will be appreciated:

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3. Make check or money order payable to AIPEA and mail to:

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