The Geochemical News

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NEW MEMBERS OF THE GEOCHEMICAL SOCIETY

W. G. Aldershoff
Warmonderweg 46
Oegstgeest
The Netherlands

Gregor M. Anderson
Dept. of Geophysics and Geochemistry
College of Mineral Industries
Pennsylvania State Univ.
University Park, Pa.

Jean Appert
1 Rue Francois Mouthon
Paris XV, France

Floyd Woodrow Beghtel
264-A Chemical Laboratories
Phillips Research Center
Bartlesville, Okla.

Albert C. Bettiga
1693 Kentfield Ave., Apt. 5
Redwood City, Cal.

T. Beugeling
Burggravenlaan 244
Leiden, The Netherlands

Francois Luc Bienner
5 Rue Fragonard
Paris XVIII, France

Margaretha Brongersma-Sanders
Houtlaan 3
Leiden, The Netherlands

Roger George Burns
Box 608
International House
Berkeley 4, Cal.

Dr. E. M. Cameron
Economic Geology Div.
Geological Survey of Canada
Booth Street
Ottawa, Ontario, Canada

Charles E. Chapin
Bradford Hall
Colorado School of Mines
Golden, Colo.

Jacques Debyser
2 Square Montenisto
Marly-le-Roi (Seine and Oise)
France

Sáad el Din Hamad
Geological Survey
P. O. Box 410
Khartoum
The Republic of the Sudan

David W. Elliott
Geology Dept.
The University
Glasgow W.2, Scotland

E. D. Engelhardt
Cromhoutlaan 38
Rijswijk (Z.H.), The Netherlands

William David Evans
Dept. of Geology
The University
Nottingham, England

Francisco Jose Fabregat
Niños Heroes 139
Mexico City, Mexico

Robert O. Fournier
Naval Weapons Plant
U. S. Geological Survey
Washington 25, D. C.

K.E.H. Göhring
c/o fam. Thijssen
v. Soutelandelaan 43
The Hague, The Netherlands

László Gráf
Budapest, V. Szent István körut 11
Hungary

J. A. Gransch
Populierlaan 87
Rijswijk (Z.H.), The Netherlands

Giovanni Guazzone
Piazza della Rinascita 18
Pescara, Italia

Yvonne Gubler
60 Avenue d'Iéna
Paris XVI°, France

Anthony Hall
Geology Dept.
King's College, Strand
London WC2, England

Bruce B. Hanshaw
Laboratory of Mining Geology
R.O.T.C. Building
Harvard University
Cambridge, Mass.

K. Heyns
Chemisches Staatsinstitut
Hamburg, Germany

Andre Hubaux
Euratom
Section Minéralogie-Géochimie
C.C.R., Ispra prov. Varese
Italy

F. J. Huntjens
Central Laboratory Staatsmijnen
Geleen (L), The Netherlands

I. R. Kaplan
Div. of Geological Sciences
California Institute of Technology
Pasadena, Cal.

Ing. Stevan Karamata
Rudarsko-geoloski fakultet
Djusina 7
Beograd, Jugoslavija

Conrad A. Key
Geological Survey
Rehov Malhei Israel
Jerusalem, Israel

Yolanda Khalifeh
1 Rue Pottier
Le Chesnay (Seine and Oise)
France

Bernard Kubler
C.F.P. Laboratoire de Groupe
114, crs Galliéni
Bordeaux, France

Georges Louis Kulbicki
Chemin Montardon
Pau (B-F), France

André Pierre Letullier
Soc. des Petroles de Madagascar
BE1150
Tananarive, Madagascar

Richard Leutner
Wien XIV
Penzingerstr. 50/6, Austria

William Michael Lobjoit
Geological Survey
P. O. Box M.80
Accra, Ghana

Charles A. Mardirosian
620 Dooly Building
Salt Lake City 1, Utah

Donald E. Michels
304 East Street
Golden, Colorado

Adam Miller
E. 802 Pacific Avenue
Spokane 3, Washington

John Joseph Musser
U. S. Geological Survey
2822 E. Main Street
Columbus 9, Ohio

Takeshi Nakamura
Faculty of Science
Osaka City University
191 Sugimoto-cho
Sumiyoshi-ku, Osaka, Japan

Thomas S. Oakwood
Whitmore Laboratory
Pennsylvania State University
University Park, Pennsylvania

Carlo Padovani
Via Ampere
15 Milano, Italy

Paul C. Ragland
Geology Dept.
Rice University
Houston 1, Texas

Erwin Rose
P. O. Box 2583
Lima, Peru

Janine Roucaché
41 Avenue de Verdun
Croissy-sur-Seine(Seine and Oise)
France

Charles A. Salotti
Geology Department
University of Georgia
Athens, Georgia

P. A. Schenck
Polpulierlaan 97
Rijswijk (Z.H.), The Netherlands

Wilhelm Schwartz
Institut für Mikrobiologie
Ludwig-Jahn-Str. 15
Greifswald, Germany

William Cullen Sherwood
1626 Rose Hill Drive
Charlottesville, Virginia

Ram Chandra Sinha
Dept. of Geology
Geochemical Laboratory
Banaras Hindu University
Banaras, India

Harold Allen Taylor, Jr.
147 Northern Boulevard
Riverhead, L.I., New York

Kevin G. Tiller
Division of Soils
C.S.I.R.C.
Private Bag No. 1
Adelaide, South Australia

Robert S. Timmins
503 N. Central Expressway
Richardson, Texas

G. H. van der Poel
Populierlaan 133
Rijswijk (Z.H.), The Netherlands

André Van Eggelpoel
6 Rue des Terres Rouges
Rueil-Malmaison (Seine and Oise)
France

James Karl Van Peteghem
c/o Geological Survey of Canada
601 Booth Street
Ottawa, Ontario, Canada

Kenneth Ridley Walker
Bureau of Mineral Resources
Childers Street
Canberra City, A.C.T., Australia

CHEMICAL ABSTRACTS, SEC. 8, IN 1961

Michael Fleischer

Continuing the custom of summarizing the work of Sec. 8, Mineralogical and Geological Chemistry, of Chemical Abstracts, I present data for Vol. 55 (1961). Reports for previous years have been published in Geochemical News Nos. 9, 14, 20, and 26.

In 1961, CA published 26 issues containing abstracts, in place of the previous 22. This extended the "abstracting year" by about three weeks so that the figures are not strictly comparable with those of previous years, but there was still a large increase. The total number of papers abstracted was 4806, compared to 3764 in 1960, 3622 in 1959, 3069 in 1958, 2904 in 1957. Speed of abstracting decreased slightly -- 72.1% of the abstracts were of papers published in 1961 and 1960; comparable figures are 75.0% in 1960, 78.8% in 1959, 78.6% in 1958. The large increase of papers published in Russian and other difficult languages was largely responsible.

Country of Origin of Papers Published in Sec. 8

	1961		1960		1959	
	No.	%	No.	%	No.	%
U.S.S.R.	2093	43.6	1475	39.2	1112	30.7
U.S.A.	749	15.6	622	16.5	584	16.1
Germany (W&E)	257	5.3	193	5.1	242	6.7
France	173	3.6	91	2.4	116	3.2
England	127	2.6	111	2.9	118	3.3
Canada	124	2.6	88	2.3	68	1.9
India	104	2.2	70	1.9	88	2.4
Australia	97	2.0	91	2.4	67	1.8
Japan	95	2.0	120	3.2	270	7.5
Yugoslavia	77	1.6	57	1.5	50	1.4
Total (all countries)	4806	-	3764	-	3622	-

The above table gives data on the sources of the papers abstracted. The continued rapid rate of increase of Russian papers is striking. A summary covering 1956-1960 was published in Journal of Chemical Documentation; reprints are available.

Chemical Abstracts is making a number of changes for 1962. The present 31 sections (+ 21 sub-sections) are being replaced by 73 sections. Section 8 will become Sec. 18. Its scope will be nearly the same, with the following exceptions: It will contain abstracts on the inorganic chemistry of soils, formerly placed in Sec. 15, and abstracts on the chemistry of the atmosphere, formerly placed in Sec. 2. It will not contain papers on crystal structure and crystal growth of minerals, which will be in the new Sec. 8, but we shall try to have such papers listed in the cross-references at the end of the new Sec. 18.

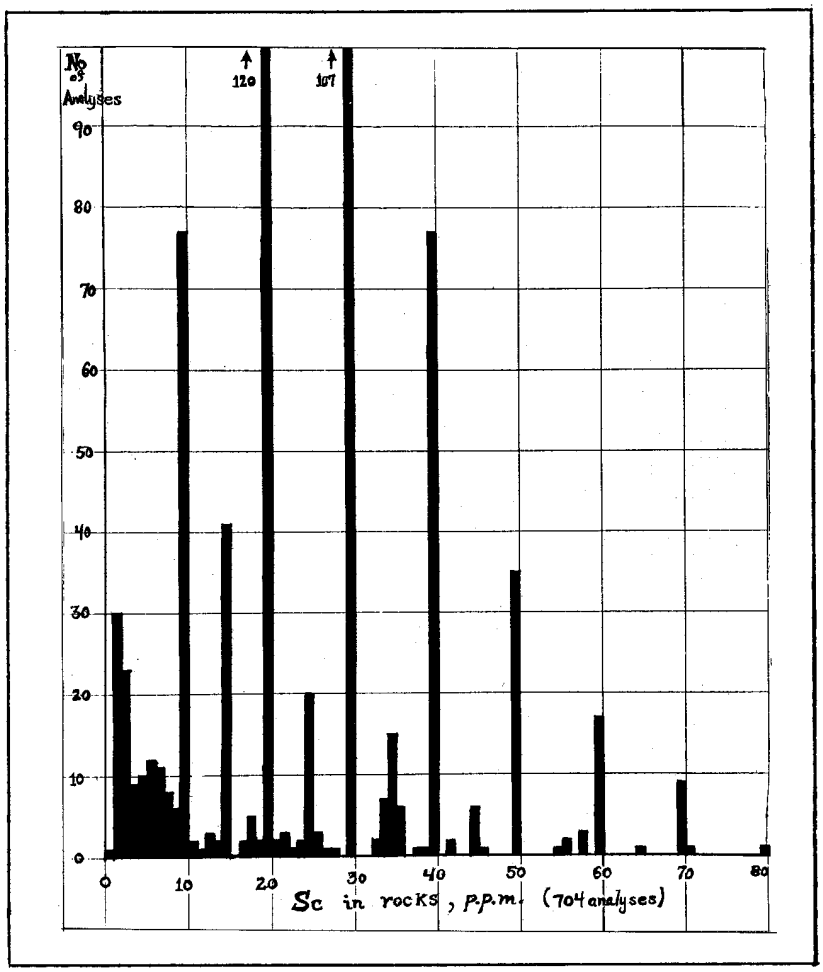
I am pleased to announce that Dr. Gerald M. Friedman of the Pan-American Petroleum Company has agreed to become co-editor of Sec. 18. He has been one of our best abstractors for a long time. We shall continue to need help in abstracting. Anyone interested please write to Michael Fleischer, U.S. Geological Survey, Washington 25, D. C.

A NEW LAW OF GEOCHEMISTRY -- OR IS IT?

W. Clarke Frank* and M. Goldschmidt Victor*

The purpose of this note is to call attention to a remarkable phenomenon recently noted by one of us (W.C.F.) and to present two explanations, on which we do not agree.

It has long been the custom to present data on abundances of elements in frequency diagrams using plotting intervals of 10 or 20 ppm. A plot of this sort for the element scandium gives a normal diagram, but plotting all available analyses with an interval of 1 ppm gives the diagram shown. We have since found that the data for several other elements give very similar diagrams so that we are dealing with an important generalization.



Explanation No. 1 (by M.G.V.)

The diagram may be explained as follows: Scandium enters rocks in discrete units (or quanta) or 10 ppm. There is some tendency for half units (5 ppm) to enter, and there is a threshold value of 10 ppm, below which the rule

*Address unknown. It has been suggested to the editor that these may be pseudonyms.

is not applicable. The theoretical basis for the observed relations has eluded me thus far, but I am confident that it will be found by the application of modern nuclear theories, magic numbers, etc. It must be remembered that scandium has the atomic number 21 (= 7 x 3) [$(2^2 - 1) \times (2^3 - 1)$]; the remarkable properties of 7 need no elaboration.

Explanation No. 2 (by W.C.F.)

The diagram may be explained as follows: Spectrographers like to report their results for scandium to the nearest 10 ppm. The analyses are usually considered to be accurate to ± 20% and have simply been rounded off. Clear proof that my colleague's challenging hypothesis is in error is given by the fact that 80% of the reported values of 15, 25, 35, and 45 ppm come from laboratories in Great Britain.

Rebuttal (by M.G.V.)

I deplore the readiness of my distinguished colleague to surrender this promising field of research to students of applied psychology. I am unwilling to impute to spectrographers the rounding off of 107 analyses as 30 ± 6 without reporting a single value of 29, 31, or 32. As for the preponderance of the sub-quanta (5 ppm) in Great Britain, this is simply another example of the well-known tendency towards larger packages in the U.S.A. I feel sure that further research in geochemistry will establish this new law as one of importance at least equal to that of the Lognormal Law of Distribution.

MINERALOGICAL ABSTRACTS

Readers of The Geochemical News may be interested to know that the fourteenth volume of Mineralogical Abstracts recently completed, published jointly by The Mineralogical Society of Great Britain and The American Mineralogical Society, contains 4060 abstracts and citations of papers, and notices of 17 bibliographies and 102 books. The abstracts are grouped:

Age Determination and Isotope Mineralogy
Apparatus and Techniques
Bibliographies and Book Notices
Clay Minerals
Crystal Structure, including Morphology, etc.
Economic Minerals and Ore Deposits
Experimental Mineralogy
Gemstones
Geochemistry
History and Biography
Meteorites and Tektites
Mineral Data
New Minerals
Physical Properties of Minerals and Rocks
Rock-forming Minerals and Petrology
Topographical Mineralogy
Various Topics

Some of the more lengthy sections are subdivided -- for example, Rock-forming Minerals and Petrology has been broken down into Rock-forming Minerals; Petrography, Regional; Petrofabrics; Volcanology; Metamorphism; Sedimentary Petrology; and Petrogenesis-- though all subdivisions have not been used in any one number. Within sections, attempt has been made at some appropriate grouping; for example, regional petrography according to geography, mineral data according to systematic classification, physical properties and various topics according to subject, and so on.

The Index, which constitutes No. 8, December 1960, contains over 18,000 references and is in two parts: a Topographical Index (pp. 527-541) and an Alphabetical Index (pp. 543-608) of authors, subjects, and localities. The Topographical Index is arranged by continents in the order Europe, Asia, Africa, North America, South America, and Australasia followed by the regions Pacific Ocean, Indian Ocean, Atlantic Ocean, Arctic, and Antarctic.

GEOCHEMISTRY DISCUSSION GROUP

Place: Faculty Lounge
Room 393, Science Building
Carleton University, Rideau River Campus, Northfield, Minn.

Time: 8:00 p.m., Monday, January 15, 1962

Speaker: Dr. Adrian H. Debnam
N.R.C. Postdoctorate Fellow
Geological Survey

Subject: Geochemical Prospecting for Oil and Gas

Abstract

The geochemical prospecting methods for petroleum and natural gas received considerable attention during the period 1935-1945, both in the U.S.A. and the U.S.S.R. In recent years there has been a revival of interest, due partly to the advent of gas chromatography for the analysis of hydrocarbons and partly to the high success ratios which are being reported by operators who use the techniques.

There is only one reference in the literature to indicate that a geochemical survey for oil and gas has been carried out in Canada. The present project is designed to establish whether or not hydrocarbon anomalies can be detected in the glacial deposits which cover the surface over most of the Canadian oil and gas fields.

Soil samples were collected in the vicinity of known pools in S.W. Ontario and Alberta. The soil-gas was extracted by distillation under reduced pressure and the hydrocarbon components were determined by gas chromatography.

The results have indicated that distinct hydrocarbon anomalies occur in the glacial material either directly above or in a halo pattern around the oil and gas pools, even though the depths of the pools vary between 1,600 feet and 8,500 feet. Correct interpretation of anomalous hydrocarbon patterns in untested areas should make possible the discovery of pools within traps which cannot be located, or can only be located with difficulty, by the geophysical methods.

STANDARD SAMPLES

Two samples, a sulfide ore and a syenite rock, may now be obtained from the Nonmetallic Standards Committee of the Canadian Association for Applied Spectroscopy. An account of the standardization program, with preliminary analytical results, has been published. (Applied Spectroscopy, Vol. 15, No. 6, p. 159-161, 1961. Report of Nonmetallic Standards Committee, Canadian Association for Applied Spectroscopy.)

One-quarter pound lots of each standard, together with a list of these analyses, may be ordered at a cost of $5 per bottle from G. R. Webber, Department of Geological Sciences, McGill University, Montreal, Quebec, Canada.

Remittances should be made payable in advance to the "Canadian Association for Applied Spectroscopy, Nonmetallic Standards Committee." Funds received from the sale of these samples will be used to reimburse the CAAS for its support of this analytical program and to foster further work of this nature.

BOOK REVIEWS

A GLOSSARY OF GEOGRAPHICAL TERMS, prepared by a Committee of the British Association for the Advancement of Science; edited by L. Dudly Stamp. 539 + xxix pages. John Wiley & Sons, Inc., New York, 1961. $10.00.

Although this volume is described as a glossary of geographical terms, it contains many entries and definitions which will be of interest to geologists, mineralogists, petrologists and even geochemists. The book begins with a listing of the distinguished members of the research committee who compiled the work, followed by a preface giving the historical background and need for the glossary. Next follow 1) a list of standard works to which reference is made under the abbreviated titles given, and 2) a list of the correspondents and collaborators.

During a scan-sampling of the volume, the following terms of interest to workers in the earth sciences were noted: abyssal deposits, acid rock, aquifuge, barranca, combe-rock, dolina, flark, horst, loma, nappe, pediplane, proluvial, schist and tafrogenesis.

The preface states: "The Glossary is limited to terms used in current geographical literature written in English. Foreign words are only included if they are in use in their original form, untranslated, in works written in English. Even so it is surprising how many foreign words are thus used. Almost without thinking, writers dealing with India or the Far East or Arabic-speaking countries, or South Africa, tend to use words familiar in everyday speech, forgetting that the meaning ... may be unknown to a reader in England or North America. An effort has been made to include such words, provided they are found in standard works or recognized journals."

The book concludes with three appendixes: 1) Greek and Latin roots commonly used in construction of terms, 2) lists of words in foreign languages which have been absorbed in English literature, and 3) some stratigraphical terms.

There is no doubt that the book will be of immense value, not only to geographers but to workers in the allied earth sciences as well.

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THE PHYSICAL UNIVERSE, by Konrad Krauskopf and Arthur Beiser. 536 + vii pages. McGraw-Hill Book Company, Inc., New York, 1960. $9.50.

It is a rare and happy occasion indeed when we encounter a textbook that combines the best in content, presentation and format, and it is doubly so when that textbook is intended to be used on the elementary level of physical science instruction. This modern, interesting, and especially well-organized book encompasses physics, chemistry, astronomy and geology, and presents the amalgamation in a coherent manner. Without question the authors succeed in their stated purpose; namely, to present as simply and clearly as possible the essential elements of the physical sciences.

Beginning with a summary of the solar system, the authors proceed to force and motion, gravitation and energy. This part is followed by chapters on solids, liquids, gases, basic chemistry and the periodic table. Next they return to physics and the subjects of electricity, currents, magnetic fields and light. Chapters 11 to 13 deal with atomic and sub-atomic structure. The authors then proceed to outline the fundamentals of chemistry and present a chapter on organic chemistry.

Next comes a group of chapters dealing with geology; namely, rocks and minerals, a changing crust, the atmosphere within the earth and the earth history. The final portion consists of chapters on the sun, the stars, structure of the universe and evolution of the universe. The book also contains an appendix entitled "Self Examination and Problems and Answers to Self

Examination." The illustrations are well chosen, numerous and modern. The drawings, which are by Felix Cooper, are striking and ingenious. Without a doubt this book sets a standard in its particular field toward which its competitors may well strive.

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SILICONES, edited by S. Fordham. 252 + xi pages. Philosophical Library Inc., New York, 1961. $10.00.

SILICONES is a reference work edited by Dr. Fordham, composed of articles written by a staff of experts. Dr. Fordham has modified the original manuscripts with the stated purpose of welding them into a continuous whole. The material presented has been drawn largely from the experience obtained in the Silicones and Research Departments of the Nobel Division of Imperial Chemical Industries Limited at Ardeer. The book has been made possible by agreement with and cooperation of this firm.

The work is divided into two principal parts: the first, the organosilicon chemistry, and the second part, industrial manufacture and application of silicones. The section on organosilicon chemistry begins with a brief historical introduction followed by a detailed consideration of the chemistry of organosilicon compounds. After introductory remarks, preparation and the formation of various types of organosilicon compounds are described. The section is concluded with a discussion of the analytical methods used in the study of such compounds. The third portion of the section on organosilicon chemistry is devoted to the properties of silicones. The principal substance of this chapter deals with the properties of silicon itself and then with the types of bonding with other atoms and the structure of polysiloxanes.

In the division of the book on "Industrial Manufacture and Application," commercial aspects of the silicones are discussed in a rather broad sense. From an economic point of view such topics as fluids and lubricants, silicone rubbers, and resins as well as the manufacture of silicones are covered. The electrical properties and applications of silicones, including the various types previously described, are given. A discussion of silicone masonry water-repellents constitutes a separate chapter, followed by a chapter dealing with the treatment of textiles with silicones, and finally, a chapter on the miscellaneous uses of silicones.

The reviewer found it disappointing that in the second portion of the text there was not provided a section on, or at least some information dealing with, silicone diffusion pump oils. This seems rather unfortunate in view of the fact that there is continually increasing interest in high vacuum work. Larger, faster systems which attain higher and higher ultimate vacuums are continually being built in this age of intensive research activity. There is no discussion of diffusion pump oils as such. If compounds usable for such a purpose are listed in the book, the mention of this application is rather obscure. It is not listed in the index nor could any indication be found that such things were covered. It would seem that the stability of such compounds with relation to temperature, the vapor pressures as a function of temperature, general chemical stability in the presence not only of air but of other gases or other substances that might be encountered in high vacuum systems, would have been a very useful bit of information for the user of high vacuum equipment, and, of course, for the designer of such apparatus. This omission seems a rather striking and unfortunate one. This does not, however, detract from the general high quality of the presentation in the work.

The book is well indexed and well illustrated. It should prove to be a valuable reference to those who deal with silicones both in industry and in the laboratory. It should also prove to be of considerable interest to those users of silicones who seek products for specific applications. The book is well documented, a series of references being given at the end of the various sections. There is a large amount of tabular material. Not only are there

references to texts and technical papers but also to a large number of patents covering various processes and other aspects of the silicone industry. While the geochemist may not be particularly concerned with the nature of silicones, since they do not constitute the portion of nature which is usually investigated in the geochemical field, nonetheless this book should be a valuable tool.

R. M. Denning
The University of Michigan

PROGRESS IN VERY HIGH PRESSURE RESEARCH, edited by F. P. Bundy, W. R. Hibbard, Jr., and H. M. Strong. Proceedings of an International Conference held at Bolton Landing, Lake George, New York, on June 13-14, 1960. John Wiley & Sons, Inc., New York and London, 1961. $12.00.

The proceedings of an International Conference held at Bolton Landing, Lake George, New York, in June 1960, constitute the body of this collection of papers on very high pressure research. The meeting was sponsored by the Materials Central, Wright Air Development Division of the United States Air Force, and the Research Laboratory of the General Electric Company. The conference was called for the purpose of correlating and reporting progress in the rapidly developing field of high pressure research. The participants in the conference were physicists, chemists, geologists, metallurgists, ceramists, and engineers, who exchanged data, experience, and philosophy.

Part I contains two introductory addresses, one a welcoming address by C. G. Suits of the General Electric Research Laboratory, and the second a paper entitled "The Role of High Pressure Technology in the Air Force Materials Program" by Major General M. C. Demler of the Research and Development Division of the United States Air Force.

The second section contains twenty-seven papers, quite varied in nature. Many of them are devoted to improved techniques, measurement procedures, or means of measuring pressures. Others present studies of various systems at high pressures.

The text material is well illustrated with the aid of photographs, various line drawings, curves, and tabular data. At the ends of the various individual papers are bibliographies, and also after a number of the papers is included the informal discussion which followed the formal presentation of the papers. In some respects the discussion proved rather interesting. The final paper by G. C. Kennedy of the Institute of Geophysics at the University of California at Los Angeles amounts to only a short note, and yet it should be of some interest to all workers in the field of high pressures. In this short note Kennedy points out that the only one of the high pressure units which is defined as a force divided by the area is the bar. The bar, it will be recalled, is 10^6 dyne/cm.^{2}. There are 0.986924 normal atmospheres in a bar, 1.019716 kg./cm.^{2}. It seems reasonable to follow the suggestion that the bar be used; however, it should be noted that the bar, normal atmosphere, and kilograms per cm.^{2} are nearly identical, and for work of attainable precision it does not make very much difference which of these three is used.

The reviewer was interested in the paper by J. C. Jamieson of the University of Chicago on "Diamond Cells for X-ray Diffraction Studies under High Pressure." In this study a split cell and also a single crystal diamond cell containing a .015 inch diameter hole are described. The pressures used successfully in the single crystal bomb are up to 25 kilo bars.

Of quite general interest is the paper by Professor L. F. Vereshchagin of the Institute for Physics of High Pressure, Academy of Sciences, Moscow. He describes the status of experimental high pressure work in the Soviet Union. The illustrative material accompanying his paper is well selected.

Of particular geological significance is the paper entitled "The Upper Three-Phase Region in the System SiO_2 - H_2O" by G. C. Kennedy, G. J. Wasserburg, H. C. Heard, and R. C. Newton. Another of similar general reader interest is the paper by S. P. Clark, Jr., of the Carnegie Institution of Washington, D. C., on "Recent Geochemical Research at High Pressures." H. Tracy Hall, of Brigham Young University, Provo, Utah, presented his "High Pressure

Apparatus" at the opening of the technical section. This paper is of particular significance to persons who have been working with diamond and who have followed in recent years the experimentation in producing and research on synthetic crystals.

The editors and publishers are to be complimented for an excellent job in making the conference papers available to the workers in the field of high pressure research. From the point of view of instrumentation or for the value of the theoretical results, all persons engaged in high pressure studies will welcome the addition of this publication to their libraries.

R. M. Denning

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RIVIERE, ANDRE, SOLANGE VERNHET, and HERMAN WILLEM VAN DER MAREL. Sur les "illites gonflantes". Identification, analogies et nomenclature. Comptes rendus des seances de l'Acad. des Sci., 252, 159-161, 1961.

ROMARIZ, CARLOS. Estudo Geologico e Petrografico da Area Tifonica de Soure. Ciencias Geologicas, 1-219, 1960.

SCHONER, HELMUTH. Uber die Verteilung und Neubildung der nichtkarbonatischen Minerallkomponenten der Oberkreide aus der Umgebung von Hannover. Beitr. Mineral. Petrogr., 7, 76-103, 1960.

WAHLER W. and L. JONAS. Laboratoriums- und Werkstattkniffe. Zeit. Instrumentenkunde, 69, (11), 302-303, 1961.

_____ Uber die in Kristallen eingeschlossenen Flüssigkeiten und Gase. Geochimica et Cosmochimica Acta, 9, 105-135, 1956.

CALENDAR

Apr.

16-21 Internat. Mineralogical Assoc., 3rd Congress, Washington, D. C. Field trips April 14-16 and 21-23. Write:Miss Marjorie Hooker, U. S. Geological Survey, Washington 25, D. C.

23-28 Internat. Conf. on Palynology, Tucson, Ariz. Write: Palyn. Conf. Planning Comm., Geochronology Labs., University of Arizona, Tucson.

25-28 AGU, 43rd. Ann., Washington, D. C.

26-28 Pacific Northwest Regional Minerals and Metals Conf., AIME-ASM, Benj. Franklin Hotel, Seattle, Washington.

May

11-13 Seventh Ann. Uranium Symposium. Uranium Section of AIME, Moab, Utah.

21-26 8th Internat. Ceramic Cong. Write: Johs. Ammundsen, Sammenstutningen of Arbejdsginere Indenfor den Keramiske Industri, Norrevolgade 34, Copenhagen.

June

3-6 Symposium on Geochemistry, Science Section, Meetings of Royal Society of Canada, McMasters University. Write: Prof. Denis M. Shaw, Dept. of Geol., McMasters University, Hamilton, Ontario.

4-7 7th Nuclear Cong.,New York City. Write: E. J. C., 29 W. 39th St., New York 18, N. Y.

4-15 Intensive laboratory and field course in geochemical exploration, The Colorado School of Mines, Golden. Write: Harold Bloom, Dept. of Geol., Colo. Sch. Mines, Golden, Colo.

18-19 Conf. on Vacuum Metallurgy. Amer. Vacuum Soc.,University Heights Campus, New York University. Write: R. T. Bunsah, Lawrence Radiation Laboratory, Univ. of California, P. O. Box 808, Livermore, Cal.

July

9-14 6th Internat. Cong. on Glass, Washington, D. C. Write: C. H. Hahner, Internat. Comm. on Glass, c/o Glass Section, Nat. Bur. of Standards, Washington 25, D. C.

24-27 Internat. Union of Crystallography, Munich, Germany. Write: D. W. Smits, Gen. Sec'y., Internat. Union of Crystallography, c/o Laboratory of Inorganic and Physical Chemistry, 10 Bloemsingel, Groningen, Netherlands.

ION-EXCHANGE COLUMN

A new publication of note is called Clay Science of which Vol. 1, Nos. 1-2 and 3-4 (1960) have now been received. Published by The Clay Research Group of Japan, National Institute of Agricultural Sciences (Nishigahara-machi, Kita-ku, Tokyo, Japan), the journal is in English and is mainly mineralogical in nature.

The "Contents" for Nos. 1-2 lists: Quantitative estimation of montmorillonite in uranium deposits, Tottori Prefecture by K. Yoshikawa and T. Sudo; Problems of rapid clay mineralogical analysis of sedimentary rocks by K. Oinuma and K. Kobayashi; Quantitative estimation of hydrated halloysite in volcanic ash beds by S. Kurahayashi and T. Tsuchiya; Procedure of clay mineral analysis by K. Oinuma, K. Kobayashi, and T. Sudo; Acidic property and ion exchange in allophane by K. Iimura; and On the surface acidity of allophane and a coloration of vitamin A with the clay by D. Yamamoto.

Articles covered in Nos. 3-4 are: Clay petrography of some slaty intercalations in layered cherts-A preliminary note by S. Iwao; A quantitative estimation of internal and external swelling of bentonite in various electrolyte concentrations by Y. Fujioka and K. Nagahori; Complex clay mineral mixtures occurring in amygdales of basalt by H. Hayashi, A. Inaba and T. Sudo; Mineralogy of Tertiary iron sand beds, Niiharu-mura, Tonegun, Gumma Prefecture by K. Shimosaka and T. Sudo; Mineralogical study on the clay rich in chlorite associated with the gypsum deposit of the Iwami mine, Shimane Prefecture by M. Osada and T. Sudo; Ion adsorption curves in allophane by K. Iimura.

Those who wish to subscribe should send the subscription price of $1.00 per year to the above address in care of Tomoji Egawa, Secretary General of the Group.

The Verlag Chemie and the Academic Press have combined to publish an international edition in English of Angewandte Chemie to be issued monthly. Vol. No. 1 (pp. 1-52) was released in January 1962 and contains the articles listed below. The journal publishes review articles covering all fields of chemistry as well as communications, conference reports, abstracts and book reviews.

Chemical Reactions in the Atmosphere by P. Harteck, et al

Non-enzymatic Synthesis of Polysaccharides, Nucleosides, and Nucleic Acids by G. Schramm, et al

Additions of Immonium Ions and Anions to Isonitriles by I. Ugi

Pilot Plant for the Enrichment of Heavy Water by S. Walter, E. W. Becker, et al

NMR-Spectroscopy of Phosphorus by A. R. Katritzky, et al

Mixed-Phase Pigments with Rutile Structures by F. Hund

Paul Weaver, a member of The Geochemical Society, presented a paper entitled "Highlights in Soviet Ideas of Petroleum Geology" before the November meeting of the Houston Geological Society.

Pergamon Press (Headington Hill Hall, Oxford, England) announces the publication in early March 1962 of a new journal Petroleum Chemistry, U.S.S.R. which is an English edition of the Russian journal Neftekhimiya.

The English edition will be issued in four volumes a year at a subscription rate of £30.0.0d. ($85.00) per annum. It will contain full translations of the articles of most interest to western research workers and abstracts of the remainder. Readers wishing to obtain a translation of a paper which has been abstracted but not published in full will be able to obtain it at a reasonable price by writing to the publishers. This journal will be of considerable value to all scientists and engineers working in the field of chemistry of petroleum and the petroleum chemical industry, and will enable them to keep in touch with the work of their Russian colleagues.

The first number contains twenty-seven articles, and a specimen copy can be obtained by application to the publisher, Captain I. R. Maxwell at the Pergamon Press.

A new journal published by the Department of Geology, University of Wyoming, is called Contributions to Geology and will be issued semiannually beginning with Volume 2 (1963). Volume 1 is now available as a single issue. Subscription cost is $3.00 per year. The first issue treats with subjects ranging from metamorphic petrology to chemistry of Tertiary vertebrate fossils. The editor is Ronald B. Parker, Contributions to Geology, P. O. Box 3006, University Station, Laramie, Wyoming.

TO THE TUNE OF LILI MARLENE

In den Erdepochen
Cambrium, Silur;
Findst Du Keine Knochen
Und Kaum 'ne Lebensspur.
Doch schon bald d'rauf in Devon
Und ganz besonders in Karbon,
Da wimmelt's grad davon.

Jetzt sind wir im Perme,
Der die Trias trägt.
Jura hat sich gerne
Der Kreide unterlegt.
Was noch folgt, ist gar nicht schwer!
Es lebt das Mammut in Tertiär,
Wir selber im Quartär.

From Dr. Walther Hofmann,
Munich
(via J. H. Zumberge)

Sand-in-the-Gears-of-Learning Department

New spellings from our Unabashed Fictionary: oxbole lake, spelogy, bombolo, proxyne (Gewiss ein Pyroxenvertreter!), antherobole

Planatology - the study of fossils.

Hydrothermal solution - one with a low melting point.

Moraine - ocean geology.

Permeability - ability of a rock to pass water.

E. Wm. Heinrich
Editor

William C. Kelly
Co-editor

Department of Geology and Mineralogy
The University of Michigan
Ann Arbor, Michigan

CHANGE OF ADDRESS

There will be a new membership directory for The Geochemical Society published this summer. Your name and address will be printed in the directory exactly as shown on the envelope in which you receive this copy of the News, unless you mail in this form. If you wish any changes made, mail the form to Francis R. Boyd, Jr., Geophysical Laboratory, 2801 Upton Street, N. W., Washington 8, D.C. The deadline is May 15th. Any changes received after that date cannot be included in the directory.

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Name (include title)..

Address...

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