NEWSLETTER

VOLUME 1 NUMBER 2 WINTER, 1978

STEERING COMMITTEE REPORT

The membership in C.A.P. continues to increase, with 13 new members bringing the total to 58. We have also received enquiries concerning membership from palynologists working as far away as Australia, Europe and New England. All of these palynologists work on Canadian material, once more raising the question of eligibility for membership in C.A.P. As stated in the first newsletter, a decision on this will be made by the elected executive.

We have received the following nominations for the 1979 C.A.P. Executive: For President - Colin McGregor, G.S.C. Ottawa; For President Elect - Dave Jarzen, National Museums, Ottawa; For Secretary-Treasurer - Pierre Richard, Université de Montréal; For Newsletter Editor - Jonathan Bujak, Bedford Institute, Dartmouth.

Since there were no other nominations, the above four are elected by acclamation. We wish the first C.A.P. executive every success during the coming year.

PALYNOSCENE

The first C.A.P. Newsletter highlighted palynological research at the Atlantic Geoscience Centre, Dartmouth, the National Museums of Canada, Ottawa, the Geology Department at the University of Toronto, and the University of Western Ontario, London. In this issue the research at other centres is presented. If you find this information useful, please send us details of your research so that we can continue to circulate information in this way.

AMOCO CANADA PETROLEUM COMPANY LTD., CALGARY
(received from Wayne Brideaux)

Amoco Canada presently employs W.W. Brideaux who is studying the Lower Cretaceous of Alberta, and Elena Kravosky a paleontological exploration technician who processes samples and undertakes visual source rock analyses.

Wayne Brideaux and Dave McIntyre of Petro-Canada are completing a paper on Valanginian dinocyst assemblages from the Mackenzie Delta region. This will appear as a G.S.C. bulletin.

Amoco Canada currently (October, 1978) has an opening for a Mesozoic-Tertiary palynologist, preferably a Canadian citizen or landed immigrant, with experience in miospores and dinocysts. Two other paleontological positions also exist but preference there is being given to Paleozoic and Mesozoic-Tertiary micropaleontological specialists. Please apply to H.J. Sullivan, Amoco Canada Petroleum Co. Ltd., 444-7th Ave., S.W., Calgary, T2P OY2 (phone (403)267-2190).

BROCK UNIVERSITY, ST. CATHARINE'S
Department of Geological Sciences
(received from Jan Terasmae)

The objectives of my research are generally related to problems of postglacial and Late-Pleistocene palynostratigraphy, and chronology of Late-Quaternary events. This research has a geological 'bias' because it is more concerned with geological problems than with a detailed reconstruction of paleovegetation. My current research includes:

(1) Magdalen Islands, Quebec. Study of Late-Quaternary deposits (palynology and geology) in view of the hypothesis that the islands were not overridden by ice during the last glaciation.

(2) Belcher Islands, NWT. Palynology of postglacial deposits, and modern pollen deposition, related to Holocene uplift rate of the islands.

(3) District of Keewatin, NWT. Palynology of postglacial peat deposits along a transect crossing forest-tundra boundary, and modern pollen deposition. Joint project with S.C. Zoltai of Canadian Forestry Service (Edmonton).

(4) Glacial Lake Barlow, Ontario. Palynology (peat and lake deposits) and radiocarbon dating of the ancient shorelines of this glacial lake.

(5) Pembroke area, Ontario. Palynology of lake sediments related to late-glacial and postglacial history of this area.

(6) Walkerton area, Ontario. Palynology of lake and peat deposits, related to the Port Huron ice advance and retreat in Late-Wisconsin time.

(7) Calibration of radiocarbon dating based on a comparative palynostratigraphic study of postglacial peat deposits and lake sediments in selected areas.

Reports on the first 3 projects are in various stages of completion and publication.

DALHOUSIE UNIVERSITY, HALIFAX
Department of Biology
(received from J. Ogden III)

Several sediment cores have been raised from lakes in the Parrsboro area, Nova Scotia. Some radiocarbon dates have been completed, ranging back to 13,000+ years, B.P. Pollen analysis of these cores is in progress.

Field studies in the Cape Breton Highlands indicate a substantial ice-free area during the late

Wisconsinan. Some sediment cores from Highland bogs are being studied for radiocarbon and pollen stratigraphy.

A computer mapping program permits correlation of dated pollen spectra with contemporary pollen records from northeastern North America to indicate former vegetational associations.

A study of salt marsh stratigraphy and radiocarbon chronology in relation to changes in sea level is in progress.

INSTITUTE OF SEDIMENTARY AND PETROLEUM GEOLOGY, GEOLOGICAL SURVEY OF CANADA, CALGARY
(received from Nicos Ioannides)

Nicos Ioannides is currently working on Mesozoic and Cenozoic palynology (taxonomy, stratigraphy, paleoecology) of the Beaufort Sea-Mackenzie Delta and Sverdrup Basin. His interests also include Paleozoic palynology (Silurian-Carboniferous). The following publications are in preparation:

(1) Ioannides, N.S. and Verdier, J-P. "Taxonomy of Upper Cretaceous dinoflagellates from West Africa and their relation to Boreal assemblages".

(2) Ioannides, N.S. and Williams, G.L. "Palynology of some Upper Cretaceous-Lower Tertiary sections, Bylot Island, District of Franklin, N.W.T.

PETRO-CANADA EXPLORATION, CALGARY
(received from John Utting)

Tony Jenkins is working on the stratigraphy of Lower Paleozoic rocks on the Labrador Shelf and in the Arctic Islands, using acritarchs, chitinozoans and spores. The work is closely tied in with the ostracod and foraminifer studies of Peter Sherrington (also of Petro-Canada). Tony is attempting to date 17 shallow cores, taken by the Bedford Institute of Oceanography on the Grand Banks of Newfoundland.

David J. McIntyre is studying pollen, spores and dinoflagellates of Late Cretaceous to Oligocene age, especially from the Mackenzie Delta area. Dave is doing this in co-operation with Nicos Ioannides and Art Sweet of I.S.P.G., Geological Survey of Canada, Calgary.

John Utting is working on Upper Paleozoic and Lower Mesozoic (Lower Triassic) rocks of Canada. Current work on the Carboniferous is concerned mainly with the marine Windsor Group of Nova Scotia and the lithostratigraphic equivalent of this group in the Gulf of St. Lawrence and other parts of eastern Canada. The work is related to the search for mineral deposits in the Lower Carboniferous and has been carried out in close co-operation with Geological Survey of Canada personnel (H.H.J. Geldsetzer and M.S. Barss), and the Nova Scotia Department of Mines (P.S. Giles). Two palynological zones have been recognized within the Windsor Group and a third zone occurs near the Windsor/Canso boundary. Biostratigraphic correlations have been attempted between Nova Scotia and northwestern Europe, where somewhat similar assemblages of middle to late Visean age occur. It is difficult to define the Visean/Namurian boundary in either northwestern Europe or eastern Canada using palynology.

John Utting is also studying the Permian of the Yukon and the Permian and Lower Triassic of the Arctic Islands is in progress. Palynological information is available from well cuttings, but data is lacking from outcrop samples from beds previously dated by means of macro-fossils such as ammonoids and brachiopods. Outcrop samples were collected by W.W. Nassichuk, I.S.P.G., Geological Survey of Canada, Calgary.

QUEEN'S UNIVERSITY, KINGSTON
Biology and Geography Departments
(received from Adèle Crowder)

Robert Starling has completed his thesis on "Modern Pollen in the Salmon River Basin, Ontario", and is now working at the Centre for Northern Studies at Wolcott, Vermont. Papers on the fluvially transported and the aerial pollen in the Salmon Basin by Adèle Crowder and Robert Starling are almost completed. Further papers on phenology and trapping strategy are planned.

William Vreeken and Robert Starling are studying marl deposits in eastern Ontario, the main site being Stoco Fen.

Adèle Crowder is working on the vegetation, morphology and stratigraphy of Hebert Bog and Westport Bog.

ROYAL ONTARIO MUSEUM, TORONTO
Department of Botany
(received from John McAndrews)

M.Sc. thesis projects are being undertaken by Stephen Hazell on "Postglacial vegetation and climatic history of Dunbar Valley, B.C." (to be completed in August, 1978), and Lynn Ovenden on "Quaternary vegetation and climatic history of Grenada" (to be completed in 1980).

Other projects are as follows. Donald Slater, "Vegetation history at Barry Lake, southern Ontario" and "Vegetation and climatic history at Eildon Lake near Wrigley, NWT". John McAndrews, "Vegetation history at the Smoking Hills, NWT"; "Study of Holocene and non-glacial deposits in Newfoundland"; and, "Vegetation history at Indian House Lake, Quebec". John McAndrews and Christine Manville, "Modern pollen rain of Canada and adjacent states". Reg Adams, Christine Manville and John McAndrews, "Comparison of pollen collected by a Honey Bee Colony with a modern wind-dispersed pollen assemblage", Can. Field-Nat., in press. Anthony Davis and John McAndrews, "Pollen analysis at L'Anse aux Meadows, Newfoundland". John McAndrews, Rodolphe Fecteau and Sharon Hick, "Handbook of Ontario archaeobotany".

OTHER CALGARY NEWS
(received from Wayne Brideaux)

Kathy Chi, seven year old daughter of Byung Il Chi (BP Canada), recently won a $350 scholarship in a national music competition (piano, seven and under) held in Edmonton. She has completed Grade Five Royal Conservatory examinations successfully, having studied piano for less than three years!

Wayne Brideaux, the thirty-six? year old son of Mr. & Mrs. Brideaux, recently flunked his Grade One

test after studying piano for three years and has retired to hum privately!

John Utting has joined Petro Canada Exploration in Calgary. Shirley Pickering (formerly I.S.P.G.) has returned to the University of Calgary to begin graduate work on Upper Paleozoic miospores.

Graeme Wilson (N.Z. Geol. Survey) visited Calgary in October, following the A.A.S.P. Meeting in Phoenix.

SOCIETIES

In this and future C.A.P. Newsletters we plan to highlight other palynological societies. We thank their newsletter editors and officers for sending us details.

We introduce this series with details of the INTERNATIONAL COMMISSION FOR PALYNOLOGY, sent by its President, Alfred Traverse, Department of Geosciences, Pennsylvania State University, University Park, Pennsylvania 16802. The following is in part taken from a discussion of I.C.P. by A.R. Traverse, published in Lethaia, 1978, vol. 11, p. 216.

The International Commission for Palynology arose from the need to have a continuing international organization for palynology between International Palynological Conferences, the first of which was held in Tucson, Arizona in 1962, and the Fourth in Lucknow, India, December-January, 1976-77. Through the efforts of a number of concerned palynologists, led by Dr. Norman F. Hughes, an international commission was formed following the Third International Palynological Conference (Novosibirsk, U.S.S.R., 1971) with Dr. Hughes as President. The commission had already existed in embryo following the Second Conference, in Utrecht in 1966.

At the Fourth Conference the Constitution and Bye-Laws of I.C.P. were formally approved, making I.C.P. a federation of national, regional, linguistic or topical palynological societies. All members of all palynological societies in the world which have federated with I.C.P. are therefore members of I.C.P. I.C.P. is a commission of the International Union of Biological Sciences and is associated also but less formally with the International Union of Geological Sciences. One of I.C.P.'s principal activities is planning and organizing the International Palynological Conferences - the Fifth will be in Cambridge, England, in June-July, 1980. I.C.P. also sponsors or co-sponsors other meetings, as well as working groups on a variety of palynological subjects.

I.C.P. Council governs the Commission and consists of the President (Alfred Traverse), Secretary-Treasurer (Geoffrey Norris), Newsletter Editor (James Canright), the past President (Norman F. Hughes), and one Council member for each constituent society (two for the larger societies). Palynologists may also be coöpted for Council to represent areas without a palynological society. Three Vice-Presidents are elected by the Council from among its members - the current, newly elected, Vice-Presidents are: Siwert Nilsson, Sweden (actuopalynology), Elena D. Zaklinskaya, U.S.S.R. (paleopalynology) and Claude Caratini, France (actuo- and paleopalynology). The Vice-Presidents will have, among their duties, liaison functions with the various working groups and information gathering for the Newsletter. I.C.P. plans to act as a coordinator and stimulus for international cooperation in palynology, for example in connection with various stratigraphic correlation projects.

An I.C.P. Newsletter is circulated through the Council to constituent societies, outlining I.C.P. activities and plans. The Newsletter editor, James Canright of the Department of Botany, Arizona State University, Tempe, Arizona, U.S.A., would appreciate direct communications from palynologists for inclusion in the Newsletter.

I.C.P.'s Secretary-Treasurer, Dr. Norris, has nearly completed preparation of a world list of palynologists. This is a by-product of I.C.P.'s efforts to learn who the palynologists of the world are, where they work and what they do. I.C.P. officers would welcome suggestions from any of these palynologists - especially of topics considered important enough to discuss at 5 I.P.C.C. in 1980.

AFRICAN COMMITTEE FOR PALYNOLOGY (A.C.P.)
(received from J.A. Coetzee,
University of the O.F.S., Bloemfontein, S. Africa)

The primary intention of the A.C.P. is to provide a basis for communication on the activities of palynologists studying African material. It will also disseminate news on various items of interest such as activities of I.C.P. and other palynological associations, as well as news about related interdisciplinary research in Africa.

At the August, 1977, I.N.Q.U.A. Congress held in Birmingham, England, the following executive members were proposed and subsequently elected: Chair, J.A. Coetzee; Past Chairman, D.A. Livingstone; Secretary, R. Bonnefille; Treasurer, M.A. Sowunmi; Member, J. Maley.

It was decided to issue two newsletters each year and the first was circulated in May, 1978. This newsletter gave extensive details of African-related palynological research, material available for exchange, and listed presented and published papers.

A list of A.C.P. members that we (C.A.P.) currently have has 24 palynologists, many living outside Africa, but all having interests in African palynology.

The A.C.P. Newsletter is compiled alternately by J. Coetzee and R. Bonnefille, the latter of the Lab. de Géologie du Quaternaire, Centre Universitaire de Marseille-Luminy, France.

ASOCIACIÓN LATINOAMERICANA DE PALEOBOTÁNICA
Y PALINOLOGÍA (A.L.L.P.)
(received from Wolfgang Volkheimer,
Museo Argentino de Ciencios Naturales,
Av. Angel Gallardo 470,
Buenos Aires, Argentina)

The Association has 110 members and holds two types of meetings: 1) One before finishing the period of four years of the Comisión Directiva.-Memory with elections for the coming Comisión Directiva and Junta Ejecutiva. 2) Meetings of the Junta Ejecutiva (integrated by the Comisión Directiva, the Past-President and the representatives of countries or areas).

The officers for the period October 2, 1978 to October 1, 1982 are:- President, Oscar Rösler (Brazil); Vice-President, Elías Doliantini (Brazil); Treasurer, Mary Elizabeth Bernardes de Oliveira (Brazil); Secretary, Terezinha Melhem (Brazil); Editor, Wolfgang Volkheimer (Argentina); Past-President, Sergio Archangelsky (Argentina).

The Association's aims are to advance the sciences of paleobotany and palynology in Latin America by (a) exchange of knowledge between associates at scientific meetings and through the bulletin; (b) promotion within the establishments of higher instruction; and, (c) relationship with similar regional, national or international associations.

The Association's publications are: 1) Boletín de la Asociación Latinoamericana de Paleobotánica y Palinología (yearly); 2) Papers on paleobotany and palynology of Latin America, published previously in other journals.

BRITISH MICROPALAEONTOLOGICAL SOCIETY (B.M.S.)

Microplankton Section
(received from Kenneth Dorning,
Department of Geology,
University of Sheffield, Mappin Street,
Sheffield S1 3JD, England)

The first meeting of the Microplankton Section was held June 19th, 1974, at the Institute of Geological Sciences, Leeds, to formulate the general aims of the members, which were "to enhance communication, set up working parties and further aims of persons involved and interested in the Organic-walled microplankton group".

The first meeting, at which informal papers were presented, was held on August 21st, 1974, at Leeds on "Triassic organic-walled microplankton". Rex Harland was elected chairman of the group, with Tim Potter elected soon after as secretary.

A general pattern of meetings has subsequently evolved. Two meetings are held each year, usually in the spring and autumn. Themes of meetings have varied from "Key palynomorph taxa vs. fossil assemblages as stratigraphic and palaeoenvironmental indices" to a more general "current research", but all meetings are informal. Subjects discussed include chitinozoans, Precambrian-Dinantian acritarchs and Triassic-Recent dinoflagellates.

The present officers of the section are Graham Booth, chairman, and Kenneth Dorning, secretary. Visitors to Britain are welcome to present informal papers or demonstrations to the section. Membership of the B.M.S. costs £1.00, with details from Kenneth J. Dorning.

INTERNATIONAL ASSOCIATION FOR AEROBIOLOGY (I.A.A.)

Dr. Siwert Nilsson of the Swedish Museum of Natural History, Palynology Laboratory, S-104 05 Stockholm 50, who is president of the I.A.A. kindly sent two copies of their most recent newsletters, dated August and October, 1978. The following information is taken partly from the newsletters.

The International Association for Aerobiology is affiliated with the International Union of Biological Sciences (I.U.B.S.) through the I.U.B.S. Commission on Aerobiology. Our latest information indicates 269 I.A.A. members from 37 nations. The Council consists of 11 members and 14 members pro tempore, totalling 25 members from 22 nations.

The Executive Committee for 1978-1982 has 5 officers. These are Dr. Siwert Nilsson (President), Prof. W.S. Benninghoff, Ann Arbor, Michigan (Past-President), Dr. A.W. Frankland, St. Mary's Hospital, London (Vice-President), Ir. H.D. Frinking, Agricultural University, Wageningen, The Netherlands (Secretary-General), Dr. Ruth Leuschner, Kantonsspital, Basel, Switzerland (Treasurer), Prof. A.E. Boyo (Nigeria), and Dr. R.L. Edmonds (U.S.A.). During the period of office there have been 6 Executive Committee meetings, in The Hague (1974), Stockholm (1975), Aachen (1976), Turku (1977), London (1978) and Munich (1978).

A Nordic Aerobiological Society has been founded, an Indian Society has been proposed, and an American Society is in prospect. It is expected that these societies will be associated with I.A.A.. The Royal Swedish Academy of Sciences assists in making contact with Academies of Sciences of nations not yet represented in the Association. The Executive Committee entered into negotiations concerning affiliation or liaison with several other organizations.

Eight International Aerobiology Newsletters have

been published including a Special Number for the First International Conference. A directory of members has been issued. A mimeographed International Catalogue of Aerobiological Reference Collections has recently been completed.

Three working groups have been proposed by I.A.A.. These are 1) Comparison of methods in aerobiology (Convenor to be appointed); 2) Comparison of pollen and spore sampling in different sites (Convenor: Dr. N. Nolard, Belgium); and, 3) Aerobiological teaching (Convenor: Dr. W.K.R.E. van Wingerden (The Netherlands).

The First International Conference for Aerobiology was planned in collaboration with the Federal Environmental Agency (Umweltbundesamt), Federal Republic of Germany, and with support of a grant from the International Union of Biological Sciences (I.U.B.S.).

The Second International Conference on Aerobiology will be held in Seattle provisionally in late August, 1982, and is being organized by Dr. R.L. Edmonds (address below).

According to the latest newsletter, membership is 18 swiss francs, or its equivalent. In some countries specified members are responsible for collecting the fees of their countrymen. Canada does not appear to be in this position, but U.S.A. membership dues are collected by Prof. R.L. Edmonds, College of Forest Resources, University of Washington, Seattle, Washington 98195.

PALYNOLOGICAL SOCIETY OF INDIA

(received from P.K.K. Nair,
National Botanical Gardens,
Rana Pratap Marg, Lucknow)

The Society was established in 1965 and has the following activities: 1) The publication of the Journal of Palynology which is now at volume XIV; 2) Holding of an Annual Lecture at the Indian Science Congress Sessions every year; 3) Award of the Prof. Gunnar Erdtman International Medal for Palynology; 4) Holding of the Indian Palynological Conference every four years, the second of which was held from October 4 to 7, 1978 at Bangalore; 5) Holding of seminars and other meetings. The impact of the activities of the Society is reflected in the emergence of several centres of palynological research in India, including the National Botanic Gardens, Lucknow, Birbal Sahni Institute of Palaeobotany, Lucknow, Bose Institute, Calcutta, French Institute, Pondicherry and several University centres. Palynology is now part of the curriculum at the undergraduate and post-graduate levels at several Indian universities.

ATLANTIC SECTION OF THE MICROSCOPICAL SOCIETY OF CANADA

The Atlantic section of the M.S.C. was established in June, 1978 during a one day meeting at Dalhousie University, Halifax. A Second Annual Meeting is planned and may also be held in Halifax (date not yet decided). The theme will be "Scanning Electron Microscopy". A morning session will deal with the general operation of the S.E.M., including theoretical and practical considerations. The afternoon session will cover basic S.E.M. applications and will discuss the variety of S.E.M. types on the market. Afternoon workshops will also be held. Details from Dr. D. Howard Dickson, Department of Anatomy, Sir Charles Tupper Building, Dalhousie University, Halifax, N.S. B3H 4H7.

RECENT MEETINGS AND TRIPS

SECOND INTERNATIONAL SYMPOSIUM ON THE DEVONIAN SYSTEM

(received from Colin McGregor,
Geological Survey of Canada, Ottawa)

The second International Symposium on the Devonian System was held at the University of Bristol in September 1978 under the sponsorship of the Palaeontological Association. Like the first, held in Calgary in 1967, it was world-wide in scope, with no restriction of topics or geographical areas.

The formal technical sessions, September 10-12, consisted of three parts: (1) fifteen invited keynote papers of half-hour length on biofacies and biostratigraphic aspects of the Devonian, intended to comprise international reviews of the "state of the art", (2) about seventy shorter contributed papers, (3) special presentations on the Devonian of China by geologists from the People's Republic of China, and (4) poster sessions. The sessions were preceded on the evening of Sept. 9 by a special address, "The Devonian, a System born of conflict", by Prof. M.J. Rudwick, and summed up in a concluding presentation by Prof. T.S. Westoll.

Pre-symposium excursions visited north Devon (A1), and central and northern Scotland (A2), and post-symposium excursions visited south Devon and north Cornwall (B1) and south Wales and the Welsh Borders (B2).

The final registered attendance at the technical sessions exceeded 200, and included 10 from Canada. Ten registrants from the Soviet Union attended the symposium, and there was exchange of information between these and the other registrants.

Six delegates also attended from the People's Republic of China. They were a major focus of attention, as it was probably the first occasion for many of the participants to meet geologists from that country. The Chinese were Prof. Yang Shih-pu (paleoecology), Dr. P'an Kiang (fish), Dr. Yu Chang-ming (corals), Dr. Hou Hung ki (brachiopods), Dr. Tsai Chung-yang (plants), and Mr. Cheng Chun-tsai (interpreter). Some of them spoke English moderately well, so we were able to discuss matters of common interest with them directly. They brought with them a rather large supply of literature on the geology of China, some of it in English, which they distributed generously The Chinese obviously are working very hard to generate and record geological information on their country, for both international and external consumption. An example of internal activitiy is the major symposium on paleopalynology that is to be held in either Peking or Nanking in 1979. Their participation in the Subcommission on Devonian Stratigraphy, with two corresponding members, is an example of their recent involvement in international geological affairs.

As was true for the Calgary symposium, by far the greatest number of presentations concerned Europe, the Soviet Union and North America, and dealt with paleon-

tology and sedimentary facies. This symposium differed however in the large number of contributions devoted to palynomorphs (14), plants (15) and vertebrates (9). This no doubt reflects in part an increased awareness of the role these fossils must play in the correlation of marine and continental deposits, an aspect that was referred to by several speakers.

The keynote addresses were: W. Ziegler, "Historical subdivisions of the Devonian"; D.L. Dineley, "Tectonic setting of Devonian sedimentation"; R.N. Donovan, "Old Red Sandstone internal basin facies"; J.R.L. Allen, "Old Red Sandstone external basin facies"; R. Goldring and F. Langenstrassen, "Near shore clastic facies"; P.H. Heckel and B.J. Witzke, "Carbonate facies"; W. Krebs, "Basinal facies"; W.G. Chaloner and A. Sheering, "Devonian macrofloras"; D.C. McGregor, "Spores in Devonian stratigraphical correlation"; T.S. Westoll, "Devonian vertebrate stratigraphy"; M.R. House, "Devonian goniatite and clymenid zonation"; W.A. Oliver and A.E.H. Pedder, "Corals in Devonian correlation"; G. Klapper and W. Ziegler, "Devonian conodont biostratigraphy"; H. Alberti, "Devonian trilobite biostratigraphy"; J.G. Johnson, "Devonian brachiopod stratigraphy" (read by G. Klapper).

All of these papers, plus certain others not included in the program but solicited to give more complete coverage of biostratigraphic subjects, will appear in a Special Publication of the Palaeontological Association in 1979.

VISIT TO CHINA

(received from John Utting, Petro-Canada Exploration, Calgary)

In October and early November of 1978 John Utting was a member of the Canadian Permo-Triassic biostratigraphy delegation to the Peoples Republic of China. Other members of the party were Dr. W.W. Nassichuk (leader), Dr. E.T. Tozer, G.S.C., Ottawa, Dr. J.W.H. Monger, G.S.C., Vancouver and Mr. G. Tsang, Petro-Canada, Calgary. Drs. Nassichuk and Tozer are ammonoid specialists working on Permian and Triassic forms respectively, Dr. Monger uses fusulinids in order to make tectonic interpretations in Western Canada, and Gideon Tsang, who is a technologist specialising in petrographical and palynological preparations, acted also as the interpreter. The main aim of the delegation was to study the biostratigraphy of the mainly marine Permian and Triassic rocks of southern China, with particular attention being paid to the Permian-Triassic boundary. We visited various research institutes in Peking, Nanking, and Shanghai and several days were spent at the Institute of Geology, Academia Sinica, Peking, and the Nanking Institute of Geology and Palaeontology, Academia Sinica, Nanking. Numerous field excursions were made in the vicinity of Nanking, Hangchow and Kweiyang and some 80 samples were collected for palynological analysis for Carboniferous, Permian and Lower Triassic rocks.

The youngest known marine Permian rocks occur in southern China and these are overlain by lower Triassic rocks similar in age to the oldest known marine Trias. The Chinese also believe that the two systems are conformable in certain parts of southern China, and that in some localities a bed approximately 1 metre thick contains a 'mixed fauna' of Permian and Triassic forms. Even if this mixed faunal zone and the evidence that a conformity is present between the two systems are not accepted, the fact remains that any break (if present) between the Permian and Trias is smaller than that known anywhere else, since a significant disconformity is always present in the marine facies between the two systems.

The floral province of the Permian in southern China is Cathaysian; in recent years evidence has been found to indicate that in parts of western China (southern Tibet) the Gondwanan flora is present. The exact location of the suture between the Cathaysian floral province and the Gondwanan province is a subject of speculation amongst Chinese geologists.

It is hoped that the palynological samples collected may provide further data concerning the Permo-Triassic boundary, and it will be interesting to discover whether the beds with a 'mixed fauna' contains mixed assemblages of Permian and Triassic pollen and spores. Also of interest will be the composition of the assemblages from the youngest marine Permian in the world and how this compares with the Upper Permian known elsewhere.

I was informed by Chinese palynologists that preparations are being made to form a palynological association during the next few months and that as soon as arrangements are finalised, they will be contacting the International Commission for Palynology. A number of workers said that they would like to receive reprints from Canadian palynologists. Those wishing to send reprints may find the following names and addresses useful.

(A) Institute of Geology, Academia Sinica, Peking: (1) Chou Kun-shu, Quaternary; (2) Yan Fuhua, Quaternary; (3) Liang Xiulong, Quaternary; (4) Ye Yongying, Quaternary.

(B) Institute of Botany, Academia Sinica, Peking: (1) Sun Xiang-jun (fem.), Late Cretaceous-Paleogene; (2) Chu Li-fan (fem.), Triassic; (3) He Yoen-ming, Cenozoic; (4) Liu Ping-lun, Holocene.

(C) Nanking Institute of Geology and Palaeontology, Academia Sinica, Peking: (1)Sung Tze-chen (vice director) Upper Cretaceous-Cenozoic spores and pollen; (2) Tsao Liu, Upper Cretaceous-Cenozoic spores and pollen; (3) Zhang Lu-jing, Mesozoic spores and pollen; (4) He Cheng-quan, Mesozoic-Cenozoic dinoflagellates and acritarchs; (5) Ouyang Shu, Precambrian, and spores and pollen of Devonian, Permian and Triassic; (6) Li Zaiping, Precambrian, and spores and pollen of Devonian, Permian and Triassic; (7) Lu Li-chang, Devonian mega- and miospores; (8) Yin Lei-ming Precambrian.

(D) Department of Geology and Mineral Resources, State Bureau of Geology, Peking (not visited): 1) Hou Jing-peng, chitinozoa; 2) Kau Lian-sa, chitinozoa.

I have not included all the names of Chinese palynologists given to me, but will gladly supply any interested person with a list containing 21 names.

OTHER RECENT palynological conferences included:
American Quaternary Association Fifth Biennial Conference, Edmonton, Alberta. September 24, 1978.

Indian Palynological Conference, Bangalore, India. October 4-7, 1978.

RECENT PUBLICATIONS

Sarjeant, W.A.S., 1978, "A guide to the identification of Jurassic dinoflagellate cysts", 107 pp., 11 figs., 8 tables. Contents are: I. Lower Jurassic dinoflagellate cysts; II. Middle and Upper Jurassic dinoflagellate cysts; III. Species excepted from consideration; Tables 2 through 8; Appendix. **This is Miscellaneous Publication** 78-1 of the School of Geoscience, Louisiana State University. Price is approximately $10.00 U.S. from the Publications Section, School of Geoscience, L.S.U., Baton Rouge, Louisiana 70803.

PALYNOLOGY, volume 2 (1978), published by the A.A.S.P. Foundation, edited by Vaughn Bryant Jr., includes 16 papers and the Abstracts of papers presented at the joint A.A.S.P.-C.I.M.P. Meeting held in Halifax, N.S. in October 1976. Details of this and other A.A.S.P. publications from Robert T. Clarke, Mobil Research and Development Corp., Field Research Laboratory, P.O. Box 900, Dallas, Texas 75221.

Markgraf, V. and D'Antonio, H., "Pollen flora of Argentina: Modern pollen and spore types of Pteridophyta, Gymnospermae and Angiospermae", published by the University of Arizona Press, Box 3398, Tucson, Arizona 85722, price $9.50 U.S. plus 75 cents shipping charges. Provides photomicrographs, morphologic descriptions, and keys for 374 pollen types. Divides keys into four plant geographic regions to facilitate palynologic work in similar areas. Includes indices to plant families, plant species and common names. Also includes a Spanish translation of the introduction, a map, glossary and bibliography.

Bradford, M.R., 1978, "An annotated bibliographic and geographic review of Pleistocene and Quaternary dinoflagellate cysts and acritarchs. A.A.S.P. Contribution Series number 6, 192 pp.

REVIEW

Benchmark Papers in Geology

Vol. 46. Palynology Part I. Spores and Pollen. Cost $24.50 U.S.

Vol. 47. Palynology Part II. Dinoflagellates, Acritarchs and other Microfossils. Cost $24.50. Set price vols. 1 & 2, $42.50 U.S.

Editors M.D. Muir and W.A.S. Sarjeant.

One of the more obvious benefits of reviewing a book is the free copy presented by the publisher. Whether this affects the nature of the review, is presumably determined by the writer's conscience. In this particular instance the constraints were applied by the G.S.C. library who were continually demanding that I return the two Benchmark Papers (vols. 46 and 47), because of the demand from other palynologists. Thus a laboured assessment became a hurried appraisal.

The Benchmark Papers in Geology include only papers of some significance or importance in the particular field of study. The two volumes, Palynology Part I, Spores and Pollen and Part II, Dinoflagellates, Acritarchs and Other Microfossils, therefore include the major papers of the last three decades. The single exception predating this period is Schopf, Wilson and Bentall (1944). The two editors presumably selected the papers for inclusion in both volumes and determined the composition and format for each section (part) which includes brief editorial comments. I found it slightly confusing to see Part I further divided into parts which is why I would prefer the term section for the major subdivisions.

The volume on spores and pollen includes 19 papers reproduced photographically from the original. At least seven of the papers are incomplete, the economy usually being achieved by the omission of some text and commonly all plates. This may be particularly serious as in Germeraad, Hopping and Müller, where the 18 plates are needed if one is to use the paper for biostratigraphy. **Obviously the editors were given no** choice in such situations.

The five sections are somewhat uneven in presentation. Section I on the spore wall is interesting but weakened by a lack of discussion of visual kerogen analysis. This may reflect (no pun intended) the delays between going to press and papers being available, since the most recent paper in this section was **published in 1974. Classification and Stratigraphic** Application, which is Section II, is somewhat dated, the three papers appearing originally in 1944, 1955 and 1968. There are certainly more recent and more detailed publications, particularly on the Mesozoic which is not covered. I enjoyed Section III on reworking and other stratigraphic problems, but would have welcomed a discussion on derived Mesozoic palynomorphs.

Megaspores are not my forté so that I perused this section with a view to learning their morphology and stratigraphic significance. Regretfully both the papers by Dijkstra and Hughes are too "specific", including both generic and species descriptions which are of value to the specialist only.

The concluding section on the distribution of spores and pollen in sediments includes some significant papers, but is somewhat restricted in scope since only the Carboniferous and Recent are discussed. I feel that one very important oversight is the absence of a section on evolution. Some very significant contributions including Brenner (1976), Doyle (1973) and Doyle and Hickey (1972) could have been reprinted, but these probably appeared too recently for inclusion.

Palynology Part II is concerned with organic-walled microfossils other than pollen and spores. Accordingly the volume is divided into sections which are mostly concerned with a selected group or groups. Section I discusses the character, affinity and classification of dinoflagellate cysts and acritarchs, and includes some excellent papers, most of which are presented in their entirety. All the papers were originally published within the last twenty years and all should be compulsory reading for practicing palynologists. I do however feel that there are some major contributions, such as Downie and Sarjeant (1966), Evitt (1967), and Evitt and Davidson (1964), which should have been included. This however merely reflects personal preference, since the chances of any two palynologists coming up with identical lists of the ten most significant palynological papers is probably zero.

Section II on the paleoecology of dinoflagellate cysts and acritarchs is disappointing. Firstly there

is no mention of that which provides most of us with our salary, namely palynostratigraphy. Where is there mention of the significant biostratigraphic papers which have provided new insight into the usefulness of dinoflagellate cysts in resolving stratigraphic problems? These are notably absent, along with such major paleoecological studies as Brideaux (1971), Harland (1976), Scull *et al.* (1966), and Gruas-Cavagnetto (1968).

The treatment of the dinoflagellate cysts and acritarchs, whilst more pleasing than that of the spores and pollen, suffers from a lack of evolutionary data. **Eaton (1971), Malloy (1972) and Stover (1974)** are milestone contributions which should not be overlooked. More recent papers were presumably published after the deadline for contributions.

The other sections in Palynology Part II generally provide an introduction for the nonspecialist and must be regarded as such. **There is again a paucity of** stratigraphic data, although Muir and Sarjeant (1971) and Jenkins (1970) provide some information on the **Tasmanitids and Chitinozoa respectively. The paper by** Jenkins is an excellent introduction to the Chitinozoa and provides a background for these microfossils that is lacking in the treatment of the other groups. **Evitt** (1969) has written an excellent chapter on dinoflagellates and acritarchs, but possible copyright problems did not permit its reproduction.

The Benchmark Papers must be a successful series as they already number more than 50. What type of buyer do they appeal to and can one justify the $42.50 U.S. for the two palynology volumes? They are undoubtedly reasonable value representing roughly 800 pages which works out to 5¢ per page. **The quality of reproduction** is reasonable, although of necessity there is a considerable waste of paper as in D.B. Williams (1971), and the duplicate cannot better the original. **The** student or younger palynologist (I include myself in the latter group) would have been well advised to purchase these two volumes, if the individual papers had been reprinted in their entirety. The absence of some of the text and many plates, however, detract from the overall value of the publications, so that they will not eliminate the need for reprints of some of the papers. The two editors, Drs. Muir and Sarjeant, are to be commended on the quality of their introductory remarks and have earned the gratitude of all palynologists by so capably tackling a difficult task. It is to be hoped that the volumes will find wide acceptance and help to further our science.

G.L. Williams

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Brideaux, W.W., 1971: Recurrent species groupings in fossil microplankton assemblages. Palaeogeogr. Palaeoclimatol. Palaeoecol., 9:101-122.

Downie, C., and Sarjeant, W.A.S., 1966: The morphology, terminology and classification of fossil dinoflagellate cysts. *In*: Davey, R.J., Downie, C., Sarjeant, W.A.S. and Williams, G.L., Studies on Mesozoic and Cainozoic dinoflagellate cysts. Bull. Br. Mus. nat. Hist. (Geol.), Suppl. 3, 1017.

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_____, 1969: Dinoflagellates and other organisms in palynological preparations. *In*: Tschudy, R.H. and Scott, R.A. (Editors), Aspects of Palynology. Wiley-Interscience, New York, 439-479.

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Gruas-Cavagnetto, C., 1968: Étude palynologique des divers gisements du Sparnacien du bassin de Paris. Mém. Soc. géol. Fr., (N.S.) 47:1-44.

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Jenkins, W.A.M., 1970: Chitinozoa. Geoscience and Man., 1:1-21.

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Muir, M.D., and Sarjeant, W.A.S., 1971: An annotated bibliography of the Tasmanaceae and of related living forms (Algae: Prasinophyceae). *In*: Jardiné, S. (Editor), Les acritarches. Editions C.N.R.S., Paris, 56-117.

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CALENDAR OF EVENTS

1979

April 23-26: Second International Symposium on Fossil Algae, Université P. & M. Curie, Paris. Details from Prof. A.F. Poignant, Université P. & M. Curie, Laboratoire de Géologie des Bassins Sédimentaires, 4 place Jussieu, 75230 Paris Cédex 05, France.

May 10-June 2: Ninth International Congress of Carboniferous Stratigraphy and Geology (IX-ICC) Washington, D.C. and Urbana, Illinois. Details from either Mackenzie Gordon, Jr. or Ellis L. Yochelson, both at IX-ICC, 1979, Museum of Natural History, Washington, D.C. 20560.

June 21: Palaeobotanical Symposium on "Landmark events in the evolution of plants", Carleton University, Ottawa, The symposium, co-sponsored by the Canadian Botanical Association (C.B.A.) and the Canadian Association of Palynologists (C.A.P.), will be part of the program of the fourteenth annual meeting of the C.B.A. Early evolution of land plants, origin and evolution of conifers, and early evolution of phytoplankton will be among the topics to be presented. **Further information may** be obtained from D.C. McGregor, Geological Survey of Canada, Ottawa, Ontario, K1A 0E8 (phone 613-995-4680).

October 8-11: Association des Palynologues de langue française, Symposium IV, "Palynology and Climatology", Paris, France.

October 31-November 3: Twelth Annual Meeting, A.A.S.P., Dallas, Texas. Details from H.M. Simpson, Geological Science Group, Atlantic Richfield Company, Executive Plaza, P.O. Box 2819, Dallas, Texas 75221.

1980

June 29-July 6: Fifth International Palynological Conference (V.I.C.P.), Cambridge, England. Details from Dr. Norman F. Hughes, Sedgwich Museum, Cambridge, England CB2 2EQ.

1982 1982

August: Second International Conference on Aerobiology, Seattle. Details from Dr. R.L. Edmonds, College of Forest Resources, University of Washington, Seattle, Washington 98195, U.S.A.

NIGHTCAP

Although we only mailed the first newsletter to Canadian palynologists, we hear that they (not the palynologists) are becoming collectors items in countries such as Australia, England, Germany and the U.S.A. Whether this is because everyone thought it would be the only issue of the C.A.P. newsletter published, or because inveterate collectors speculate on the first issue of everything, has not yet been determined. We can't even say that the first page will yellow with age. We will, however, be delighted to mail the newsletter on a regular basis to anyone willing to pay $2 Canadian (still a bargain at $1.70 U.S.).

On a more serious note, we were pleased to receive good wishes for C.A.P.'s future from other palynological societies including A.A.S.P., A.C.P., A.L.L.P., A.P.L.E., B.M.S., I.C.P., the Palynological Society of Japan and the Palynological Society of India, all of whom receive complimentary copies of the C.A.P. newsletters.

Finally, we were recently asked to update an entry in the Library of Congress files for one of our local geological societies and happily reeled off the standard "Provides liaison between academic, industry and government geologists". **After sending this off we** decided to look up liaison in the concise Oxford Dictionary (1928 edition) and were shocked to read: Liaison, n. Illicit intimacy between a man and a woman. How many other societies also provide liaisons?

ADDRESSES

The following joined C.A.P. since publication of the first newsletter.

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Quaternary pollen and plant macrofossils.

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Upper Mesozoic and Cenozoic Palynology.

Beckett, Peter J.,
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Postglacial palynology, particularly the relationship between peat development and climatic change.

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Contemporary pollen rain, Holocene palynology, and environmental reconstruction.

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Quaternary palynology.

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Tertiary paleobotany and palynology.
Quaternary vegetation studies.

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Mesozoic-Cenozoic miospores and dinoflagellates.

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Jurassic dinoflagellates.
History of palynological research.

Sullivan, Hubert J.,
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Paleozoic palynology.

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(416) 684-7201 ext. 273
Quaternary palynostratigraphy.

Thompson, Renée,D
Dome Petroleum,
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Holocene palynology and applications to archeology.
Palynology of the Beaufort Sea and Arctic Islands.

The following also work on Canadian palynology.

Alley, N.F.,
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Quaternary palynology.

Dörhöfer, Gunter,
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WEST GERMANY
Mesozoic-Cenozoic dinoflagellates and spores.

Holloway, Richard,
Palynology Laboratory,
Texas A & M University,
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Traverse, Alfred,
Deike 435,
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Silurian to Recent pollen and spores.

WE WOULD LIKE TO HAVE CONSTRUCTIVE COMMENTS ON THIS ISSUE OF THE C.A.P. NEWSLETTER. PLEASE SEND CONTRIBUTIONS FOR THE NEXT NEWSLETTER BY MAY 1st TO J.P. BUJAK, ATLANTIC GEOSCIENCE CENTRE, BEDFORD INSTITUTE OF OCEANOGRAPHY, P.O. BOX 1006, DARTMOUTH, N.S. B2Y 4A2. MEMBERSHIP IN THE ASSOCIATION IS $2.00 TO J.P. BUJAK. ALL MEMBERSHIPS ALREADY PAID WILL AUTOMATICALLY COVER THE 1979 YEAR. PLEASE INCLUDE DETAILS OF YOUR PHONE NUMBER AND RESEARCH. MEMBERSHIP IS PRESENTLY RESTRICTED TO CANADIAN RESIDENTS, BUT THE NEWSLETTER WILL BE SENT TO NON-CANADIAN RESIDENTS AT A COST OF $2.00 PER YEAR.

LATE NEWS.....

"Analyses of Pre-Pleistocene Organic-walled Dinoflagellates"

by L.E. Stover and W.R. Evitt, 1978.

We have just received a copy of the above publication which is a reappraisal of the 279 pre-Pleistocene dinoflagellate genera. Descriptions of all genera considered valid are given using a standardized format. Seventeen new genera are erected and 22 genera are listed as junior synonyms.

The publication is available from Stanford University Publications, Geological Sciences, Volume XV, 300 pages, at a cost of $7.50 (plus handling charges). It is a must for all palynologists working with dinoflagellates. A full review will be given in the next issue of the C.A.P. Newsletter.