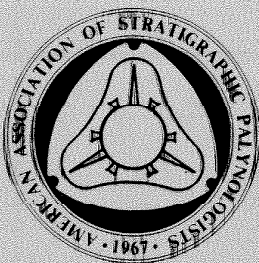


VOLUME 18, NUMBER 3

AASP 18th Annual Meeting, El Paso, Texas, Information and Program	1
Dan N. Beju, 1931-1985, In Memoriam Richard W. Hedlund	3
Robert Ashley Couper, 1923-1985, In Memoriam Dirk P. C. Hos	4
Book reviews Vaughn M. Bryant, Jr.	4
News	6
<u>TECHNICAL SECTION</u>	
" <i>CANNINGIA</i> " <i>TURRITA</i> Brideaux, 1977, as the lining of a peridinioid calcareous dinoflagellate Judith K. Lentin	8
Editor's comment: Palynology in Oil Exploration	10

AASP NEWSLETTER
SOHIO PETROLEUM CO.
50 FREMONT ST.
SAN FRANCISCO, CA 94105

BULK RATE
U.S. POSTAGE
PAID
CONCORD, CA 94520
PERMIT NO. 566



Membership Application Form

Please type or clearly print all information. The AASP Directory file is limited to 5 lines @ 29 characters.

Date: _____

Name: _____
 (First) (Middle) (Last)

Address: _____

Telephone: _____

Nature of work (graduate student, exploration stratigrapher, etc.):

Send to: Dr. Kenneth M. Piel
Union Oil Co., Research Center
P. O. Box 76
Brea, CA 92621

Please send \$20.00 (US)
with your application.

Date: _____

Listed Name: _____

Name change: _____
 (First) (Middle) (Last)

Address change: _____

Telephone change: _____

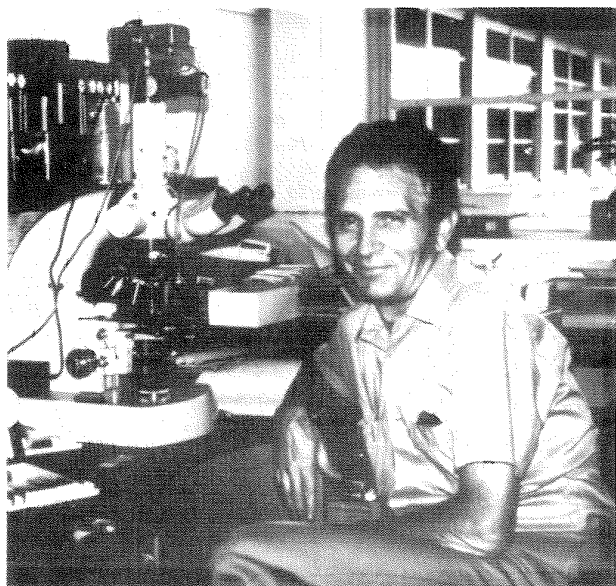
Send to: Dr. Kenneth M. Piel
Union Oil Co., Research Center
P. O. Box 76
Brea, CA 92621



AASP NEWSLETTER

VOLUME 18, NUMBER 3 JULY, 1985

R. L. RAVN, EDITOR ISSN 0732-6041



Dan N. Beju in his office, Amoco Research Center, Tulsa, Oklahoma (photo courtesy of Merrell A. Miller); see the memorial to Dan by R. W. Hedlund later in the Newsletter.

AASP NEWSLETTER MOVES

As some of you may be aware, the company for which the AASP Newsletter editor toils, day in and day out, without complaining, always diligent, full of enthusiasm, and so forth, is undergoing something called "restructuring". That is a corporate management euphemism for the creation of chaos. Anyhow, it means that, before the next issue of the Newsletter, I will be moving from San Francisco to Dallas, Texas. Unfortunately, as part of the "restructuring", the management of the company for which I work has not yet determined where in Dallas I will be located. Without such an address, it will be difficult for anyone to correspond with me or to send me the customarily excellent news items and technical articles necessary for the Newsletter. PLEASE do not let this deter you from sending such material. AASP Secretary-treasurer Ken Piel has volunteered, in exchange for future considerations not yet specified, to accept

Newsletter mail until the next issue appears with my official new address in it. Until then, any correspondence to the Newsletter should be sent to:

Kenneth M. Piel, Union Oil Company of California, 376 S. Valencia Avenue, P. O. Box 76, Brea, California 92621.



AMERICAN ASSOCIATION OF STRATIGRAPHIC PALYNOLOGISTS - 18TH ANNUAL MEETING

October 16 - 19, 1985

Welcome to El Paso from all of us on the local committee for the 1985 Annual Meeting of A.A.S.P. We believe that you and our other colleagues will contribute an outstanding technical program and that the bi-national, bi-cultural El Paso/Ciudad Juarez location will make your extra-meeting activities truly memorable.

TRANSPORTATION

You can get here by air (eight scheduled carriers now serve El Paso and Aeromexico serves Ciudad Juarez), by bus (Continental Trailways and Greyhound), or by rail (Amtrak passenger service or Ferrocarriles Nacionales de Mexico). The Holiday Inn limo will bring you from the El Paso airport to the hotel.

WEATHER

October is one of the most pleasant months of the year, with daytime high temperatures averaging 75°F

(24C), and overnight lows average 45°F (8C). Monthly total rainfall averages 0.75 in (2 cm), and relative humidity is in the 25-30% range.

LOCATION

The headquarters hotel will be the Holiday Inn-Civic Center, in downtown El Paso, two blocks from the Civic Center and within easy walking distance to the Santa Fe Street Bridge into Ciudad Juarez.

FIELD TRIPS

Two field trips will be held on Saturday, October 19:

Trip 1: STRATIGRAPHY AND STRUCTURE OF THE EL PASO AREA. Dave Lemone will lead this day-long trip by bus over, around, and through the Franklin Mountains, the southern Rio Grande Rift, and Cerro de Cristo Rey. Almost 16,000 ft of Precambrian through Plio/Pleistocene rocks crop out in the region. Marine strata of all systems except the Triassic and Jurassic are present, and are well-exposed. Roadside geology will be featured, although short walks (up to 100 m) will be made at some stops. Lunch, beverages, guidebook and transportation are included. Cost: \$30 per person.

Trip 2: STRATIGRAPHY AND STRUCTURE OF THE SIERRA DE JUAREZ. Russ Dyer will lead this trip, a ten-hour excursion into the Sierra de Juarez. The Sierra consists of at least three thrust sheets, composed of Lower Cretaceous marine strata, which have been moved at least 25 km in a northeasterly direction from the Chihuahua Tectonic Belt. Approximately 1000 m of section are exposed in the complex folds and faulted structures of this segment of the Overthrust Belt. Participants should wear sturdy field attire, as the terrain is rough and the vegetation hostile. As the Sierra lies within the "Frontera" district, tourist permits are not needed. Transportation, lunch, beverages and guidebooks are included. Cost: \$30 per person; limited to 20 participants.

SOCIAL EVENTS

In addition to the traditional Icebreaker (Wednesday evening by the pool), a special evening at a gin-u-wine western ranch is part of the program. We'll be bused about 40 miles into the desert to Indian Cliffs Ranch, set high on bluffs of Plio/Pleistocene Ft. Hancock Formation. There we'll have dinner -- hot-from-the-fire steaks, coleslaw, ranch style beans, and all the trimmings. There will be volleyball for the exuberant sports, horseshoes for the more sedate (saner?), and western music for listening or dancing. Libations will be available from a cash bar. By the light of a sliver of the first quarter moon, we'll bus back to the Holiday Inn replete with food, fellowship and fresh desert air.

PROGRAM

Tuesday, October 15

3:00 pm - ?? Board of Directors Meeting, Executive Room, Ground Floor. All members of the Association are welcome to attend.

Wednesday, October 16

7:00 am - 5:00 pm Registration, Holiday Inn Lobby.
8:00 am - 5:00 pm Poster Session and Commercial Displays, Ballroom 1, 17th Floor.

8:00 am - 12 noon SYMPOSIUM ON POLLEN ULTRASTRUCTURE.
Dr. Thomas Taylor, Convenor.
Ballrooms 2 & 3, 17th Floor.
12 noon - 1:30 pm Lunch Break.
1:30 pm - 5:00 pm Technical Session I.
Ballrooms 2 & 3, 17th Floor.
6:00 pm - 8:30 pm ICEBREAKER around the Swimming Pool
(7th Floor).

Thursday, October 17

8:00 am - 5:00 pm Registration, Holiday Inn Lobby.
8:00 am - 5:00 pm Poster Session and Commercial Displays. Ballroom 1, 17th Floor.
8:00 am - 12 noon Technical Session II.
Ballrooms 2 & 3, 17th Floor.
12 noon - 1:30 pm Lunch Break.
1:30 pm - 5:00 pm Technical Session III.
Ballrooms 2 & 3, 17th Floor.
5:30 pm Buses leave Holiday Inn for Indian Cliffs Ranch and Western Hoedown.

Friday, October 18

8:00 am - 12 noon Registration, Holiday Inn Lobby.
8:00 am - 12 noon Technical Session IV.
Ballroom 3, 17th Floor.
12:15 Group Photo beside Swimming Pool.
12:30 pm - 2:00 pm Annual Business Luncheon.
Ballrooms 1 & 2, 17th Floor.

AGENDA

1. Welcoming remarks
2. Introduction of Board
3. Secretary-Treasurer's Reports
4. AASP Foundation Report
5. Managing Editor's Report
6. President's Report
7. Presentation of plaques and awards
8. New business
9. New President takes office
10. Adjourn

2:00 pm - 5:00 pm Technical Session V.
Ballroom 3, 17th Floor.
5:15 pm - ?? Board of Directors Meeting.
Executive Room, Ground Floor.

Saturday, October 19

7:00 am - 6:00 pm Sierra de Juarez Field Trip.
8:00 am - 5:00 pm El Paso area Field Trip.

(Note: Coffee breaks will be scheduled during the symposium and all technical sessions.)

SPOUSES' ACTIVITIES

No separate activities are planned for spouses of attendees. Gray Line bus tours of El Paso and/or Ciudad Juarez depart from the Holiday Inn. A self-guided walking tour of historic downtown El Paso begins near the Holiday Inn.

VISITING JUAREZ

U. S. citizens need no papers to visit Ciudad Juarez. Non-U. S. citizens should check with a Mexican Consulate or U. S. Immigration Office and have a "Multiple Entry" visa before going into Juarez. U. S. citizens may bring up to one quart of liquor into the U. S., duty-free, once every 31 days, per person 21 years of age or over.

Bill Cornell, Dept. of Geological Sciences, University of Texas at El Paso, El Paso, TX 79968-0555.



DAN N. BEJU, 1931-1985

IN MEMORIAM

Dan N. Beju died peacefully in Tulsa, Oklahoma, on April 9, 1985, after a long and courageous battle with cancer. With his death the community lost a truly outstanding biostratigrapher. Those of us who counted him as a close friend and colleague knew him as an energetic and dedicated scientist with great integrity -- and as a sensitive, considerate gentleman. Because we have our own collection of remembrances, each of us will miss Dan for our own reasons.

Dan was born on June 29, 1931, in Bucharest, Romania, where he received his first degree from "G. Lazar" Lyceum in 1950. His M.S. in geology and geography was earned in 1955 at the "V. Babes" University of Cluj, Romania. While in Cluj, Dan was a member of the National Romanian rugby team and the University's ski team, in both of which sports he excelled. It was there also that he met his lovely wife.

He was employed by the Romanian Oil Geology Research Institute in Bucharest from 1957 to 1973 where he established the first palynological laboratory of its kind in that country. He became the Head of the Department of Palynology in 1964 and was promoted to the Head of the Department of Paleozoic and Mesozoic Stratigraphy and Member of the Scientific Board in 1969, positions which he held until he and his family emigrated to the United States in 1973. During his employment in Bucharest, he pioneered the application of palynologic biostratigraphy

to hydrocarbon exploration in the Carpathian Foreland, thus contributing to the early recognition of subsurface geological structures in Romania and eventually to the discovery of new petroleum reserves. As a reward for his scientific endeavors, the Romanian Government awarded Dan the "Medalia Muncii" for outstanding contributions to the development of research for oil and gas.

In addition to his applied scientific studies, Dan continued his education and was awarded the Ph.D. degree Magna Cum Laude from the University "A. I. Cuza" of Iasi, Romania, in 1971. His dissertation was entitled "Contributions to the Palyno-protistology of the Paleozoic of the Moesian Platform." He also acted as a scientific advisor for graduate students, post-graduates and foreign visiting fellows. His impressive list of publications in Romania includes 35 papers dealing with palynology and biostratigraphy of Early Paleozoic to Pliocene sediments. Dan was a member of the Romanian Geological Society, International Geological Society, Association des Palynologues de Langue Francaise, C. I. M. P. and A. A. S. P.

Dan joined Amoco Production Company in 1971 as a biostratigrapher at the Tulsa Research Center. Here he continued applying his expertise to hydrocarbon exploration in North and South America, western Europe, Africa and Asia. His particular research interest was the study of Mesozoic palynomorphs, in which he made outstanding contributions to Amoco's research effort, but he also found time to work on Paleozoic and Mesozoic projects and to share his knowledge and experience with others. Dan began to publish again and completed three papers between 1979 and 1983. During his last year he was preparing an illustrated catalogue of Middle Mesozoic dinoflagellate cysts from Pakistan for publication. Indeed, Dan remained a vital and productive scientist until his death and did not leave his microscope willingly.

Dan Beju proudly became a citizen of the United States in 1978 and enjoyed proclaiming that he was a "Romanian Okie." After he learned some local dialect phrases, such as "y'all," and superimposed them on his eastern European accent, we all agreed that this was certainly what he had become!

The mutual respect among his friends and colleagues was visible at all times, but perhaps never as lovingly expressed as during his six years of illness. Following his first major surgery he was given a slim chance of survival, but he did survive, supported by his family, friends and his faith in himself, far longer than any of his physicians could have anticipated. For six more years he enjoyed life, continued his scientific endeavors and his skiing, attended meetings, gave lectures, helped those less fortunate than he and never acknowledged his physical condition to any but his close friends. In 1983 he suffered a recurrence of cancer, and major surgery again was called for. Dan was soon "back in the swing" of life until the last week of February, 1985. The end came peacefully on the afternoon of April 9, 1985.

All the memories are good ones. Many of us learned much about life and courage from this vital man. Perhaps each of you will be able to relate to the following excerpts from Dan's eulogy as expressed by another of his close friends, the Rev. Richard W. Daniels, on April 11, 1985:

"None of us needs to be told about him. Each of us will miss him. Each grieves for his own reasons. He has been a gift to us, so we all have reason to celebrate his life.

Here are some things I celebrate about my friend, Dan. I celebrate courage . . . he had a lot of it and it was infectious. I rejoice in his love of freedom, a costly thing which he knew very well, and we take for granted. I am thankful for having known a gentle man . . . he was that . . . full of warmth and modesty. I celebrate his faithfulness, so full of trust and patience. And his intelligence . . . he had a good mind, cared about many things, and always with a sense of personal and professional integrity.

You will have your own list, your reasons for celebrating, being thankful. I hope you will not leave this time and place without celebrating the gift he was and is for you."

Richard W. Hedlund.

Acknowledgment: Dr. Delia Beju was of great help in providing information about Dan's earlier career.

ROBERT ASHLEY COUPER, 1923-1985

IN MEMORIAM

Dr. Robert Ashley Couper passed away suddenly while he was on assignment to ECL Australia Pty Ltd, in Pakistan on 21st April, 1985.

Ashley graduated from Victoria University, Wellington, New Zealand in 1946 and was awarded his Ph.D. from Cambridge University in 1955 on British Jurassic-Early Cretaceous palynostratigraphy. He worked in the New Zealand Geological Survey until 1959 when he joined the Shell Group of Companies, becoming Chief Palynologist in 1960. From 1965 to 1967 he was Chief Stratigrapher to Brunei Shell Petroleum Co.

Ashley then spent eleven years in basin studies in London, Madrid and New Zealand, rising to Exploration Manager. From 1978 until he retired in 1982, he worked as palynostratigraphic advisor in special studies in The Hague.

Ashley brought his family to Perth in 1983 and became an Associate Consultant to ECL Australia Pty Ltd, as well as undertaking basin studies for various exploration companies. He was an enthusiastic palynostratigrapher whose keenness to get at the slides and logs to sort out a zonation was infectious. Others who have worked with him in the past I am sure were as grateful as myself for his willingness to help and share in his wide experience.

Ashley was devoted to his family and worked hard to give them the best. All who knew him as a friend and palynologist would wish to extend their deep sympathy to Lynda, Rachel and Marshal, who have returned to New Plymouth, New Zealand.

Dirk P. C. Hos.

BOOK REVIEWS

Lake Sediments and Environmental History, edited by Elizabeth Y. Haworth and John Lund. University of Minnesota Press, Minneapolis, Minnesota, 411 + xviii pp. \$55.00 (1984).

This book was conceived by the editors as a tribute to Dr. Winifred Pennington Tutin upon her retirement from the Fresh Water Biological Association of England. As one of the editors (Lund) notes in the beginning of the book, Dr. Tutin began her career in the mid 1930's and worked extensively on a variety of subjects related to the reconstruction of paleoenvironmental histories until her retirement in the early 1980's. During her professional career she researched and published on a wide variety of topics including diatoms, pollen analyses, the origin and transport of organic and inorganic materials into lake sediments, paleoenvironmental reconstructions, climate and soil histories, soil development and destruction, sediment accumulation rates in lakes, and chemical aspects of limnology. Included among her many honors was her election to membership in the Royal Society (equivalent to membership in our National Academy of Sciences).

The book is a collection of 14 outstanding articles written by authorities in a number of fields related to the understanding of lake sediments. These chapters include an opening chapter by D. R. Engstrom and H. E. Wright on the chemical stratigraphy of lake sediments, and how those data can be utilized to reconstruct paleoenvironmental changes. The second chapter, by P. A. Cranwell, discusses the geochemistry of lacustrine sediments and notes how those data can provide important paleoenvironmental information. Chapter 3, by F. Oldfield and P. G. Appleby, discusses the use of ^{210}Pb as a reliable dating technique for lake sediments less than 200 years old.

Among the 11 other chapters there are some which are of special interest to palynologists. These include the chapter by D. Livingstone on the preservation of algal remains in ancient lake sediments; the article on the stability of lacustrine ecosystems by E. S. Deevey; sources of pollen deposited in enclosed lake sediments by A. P. Bonny and P. V. Allen; sediment focusing and pollen influx by M. Davis, R. E. Moeller and J. Ford; the reconstruction of soils based on hypha, pollen and humus contents by S. Andersen; pollen analyses of deposits on Cross Fell in the Lake District by J. Turner; pollen records of Holocene vegetation in the Burren region of western Ireland by W. A. Watts; and the chapter on the late-Quaternary pollen and macrofossils from northwest Scotland by H. H. Birks.

For those researchers working in the British Isles and Europe, they will have no problem realizing the importance of this book as a valuable reference source and will want to purchase it. For those working in North America, the initial reaction might be to forego purchasing this book in favor of others which they might feel are more pertinent to topics directly related to geographical areas closer to home. In many ways that option might not be a wise one. The strength of this book is not only its emphasis upon past and current research in the Lake District of England but

in the discussion of many techniques which apply to the investigation and analysis of paleoenvironmental information in general. The discussion of lacustrine geochemistry, ^{210}Pb dating, preservation of algal remains in lake sediments, lacustrine ecosystems, sources of pollen deposited in lacustrine environments, sediment focusing and pollen influx, stages in soil formation, and other related topics are pan-global in importance as techniques one should consider in almost any type of lacustrine situation. For that reason, and because the 14 chapters are well written by competent and well-known scholars, the book is worthy of its somewhat expensive purchase price of \$55.00 (US).

Vaughn M. Bryant, Jr.

The Palynology of Archaeological Sites, by Geoffrey W. Dimbleby. Academic Press Inc., 176 + xii pp., illustrated. \$45.00 (1985).

As Dr. Dimbleby indicates in the preface, this book is an attempt to bring together more than 30 years of palynological research into a single volume which hopefully will explain all of the various applications of palynology to the field of archaeology.

Dr. Dimbleby began his professional career as a soil scientist and ecologist in 1950. One aspect that interested him in his early research was using available information to reconstruct the paleoecology of various locations. As he discovered, he inevitably found that often he needed more information than was provided solely by the soil structure of a location. In addition, since many of the locations he selected to sample were beneath earthen structures constructed by prehistoric man, he found that he needed the help of archaeologists. Soon, Dimbleby found that conducting pollen studies of the soil samples from various archaeological sites could give him the information he needed about the paleoecology and at the same time aided the archaeologists in their search for understanding about prehistoric man.

Dimbleby's book, more than anything else, represents a summary of his work and ideas spanning the past 30 to 35 years. The book is divided into seven chapters and a postscript. Included is an introductory chapter dealing with principles and techniques of extracting pollen from various types of soils. A second chapter explains the techniques of sampling waterlogged sites, such as peat bogs, wells, pits and sumps. Chapter three relates how palynology can be applied to the discovery and analysis of old land surfaces, including areas that have been buried by volcanic ash, aeolian sands, marine transgressions, hill wash, and various other natural forces. The fourth chapter discusses how natural and man-made structures can be determined from pollen analyses; for example, how does one determine sub-soil vs. a top-soil construction, primary vs. secondary surfaces, how can one locate ditches, postholes, and turf structures within large earthen works?

The fifth chapter discusses sampling of open archaeological sites. Included in this section are examples of how to recognize buried soils and how to sample open microlithic sites. Chapter 6 is a discussion of how to sample caves and rockshelters. This chapter includes comments on the potential pollen distribution in caves and rockshelters, the types of

potential errors that can be introduced into the sediments, the types of pollen frequencies one should expect, and how to interpret palynological information derived from these sampling locales. The final chapter is a discussion of the various biases that one can encounter during archaeological pollen analyses. For example, Dimbleby discusses how pollen can be selectively concentrated by animals, how husbandry can lead to overrepresentation of pollen types, how agriculture can interfere with the normal pollen rain of an area, and how floral tributes (i.e., placing flowers in graves) can be recognized.

The last five pages of text consist of a postscript in which Dimbleby first apologizes for making it sound like archaeological palynology is an impossibility and then argues that in spite of the many potential pitfalls, archaeological palynology is one of the most valuable ways to investigate the activities of prehistoric and historic man. A one-page appendix to the book explains Dimbleby's laboratory techniques for the extraction and analyses of pollen from archaeological sediments.

This book is a useful contribution to the field of palynology and archaeology. However, it is by no means the final word on the subject of archaeological palynology. The book is especially useful since it notes some innovative ways of collecting pollen samples for archaeological interpretations. For example, he mentions the extraction of pollen from between the teeth of faunal skulls and then uses that information to determine animal diets. Dimbleby also goes into a lengthy discussion noting how the pollen analysis of stalagmitic deposits can reveal valuable information about the paleoecology of cave deposits. This, he notes, is especially true when no fossil pollen is present in cave soils. He further notes, for example, that at the cave of Lascaux, stalagmite deposits provided the only source of post-glacial pollen evidence for that cave.

Dimbleby's book will be of more use to palynologists and Old World archaeologists than to New World archaeologists. The book is strongly biased towards the type of sites and pollen sampling techniques that have proven useful in European sites. Only rarely does Dimbleby refer to the work of American or Canadian palynologists. Missing from Dimbleby's book are discussions of proven techniques that have been developed in the New World for sampling and interpreting a wide range of sites that present sampling problems different from those found in Europe. For example, missing from this book are discussions pertaining to the sampling of archaeological floor surfaces, sampling of pollen adhering to artifact surfaces, the use of pollen to determine the functional use of artifacts, and the analysis of pollen from grinding stone surfaces and basketry surfaces. Also missing is a thorough discussion of the applications of palynological data to archaeological interpretations.

Some topics in this book were dealt with too quickly and should have been discussed in more depth. For example, Dimbleby's discussion on coprolite pollen was cursory and did not fully examine the many aspects that these types of data can reveal. Also, Dimbleby's examples relating to the recognition of agriculture in archaeological sediments did not mention some of the classic examples, such as those by Iversen in Denmark and McAndrews in Ontario. Statistics also were mentioned only in passing and the potential uses of statistical techniques which already have been applied

in archaeological palynology were not discussed in depth.

A large portion of this book is devoted to methods used by Dimbleby to determine old land surfaces through the use of pollen analyses. He notes that this can be successfully achieved through an examination of the rate of deterioration of pollen grains, through a study of pollen grain concentration and frequency, by comparing the absolute pollen frequency (which he never explains) to the relative frequency percentages, through a knowledge of pollen movement in soils, and by knowing which pollen types tend to deteriorate the quickest in soils and which ones preserve the longest. He also points out that a palynologist should be able to separate earlier deposited pollen from later deposited pollen within the same sediments by the level of exine deterioration and grain color. Although these and other techniques that Dimbleby describes in his book may be useful and in common practice in Europe, these same techniques are not as widely accepted in the New World; in fact, recent studies of pollen deterioration lead me to question a number of the techniques presented in this book as ways of deriving palynological data from archaeological sites.

In spite of its short length, high cost, and European approach, this book is still a valuable research volume for New World palynologists who work with archaeological sites or archaeologists who are working in the Old World. More than anything else, the real asset of this book is that it brings together a large body of research conducted in Europe during the past thirty years, and alerts New World palynologists about the existence of many valuable resource references. I encourage the purchase of this book for your library.

Vaughn M. Bryant, Jr.

BOOK REVIEW PROCEDURE

At the last mid-year Board of Directors Meeting, it was decided to increase the potential number and scope of book reviews in the Newsletter. Reed Wicander was appointed Book Editor and is contacting publishers to send current books for review that would be of interest to our membership. These will include not only palynology books, but also books on paleobotany, micropaleontology, stratigraphy, paleobiogeography and paleobiology. If you are interested in being a book reviewer for the Newsletter, call or write:

Reed Wicander, Department of Geology, Central Michigan University, Mt. Pleasant, MI 48859; tel. (517) 774-3246.

Let Reed know the kinds of books you would be interested in reviewing. In exchange for the review, you get to keep the copy for your personal library. Your ever-growing AASP Newsletter editor also will strongly appreciate such reviews.

LONGEST NAME?

John E. Williams, of British Petroleum, has discovered what he believes to be the longest generic name for a palynomorph, which stretches some 29 letters. The first person to correctly identify this taxon to the Newsletter editor will receive a free copy of the next issue, in which the name will be

printed; the first person to submit a name exceeding 29 letters will receive two free copies.

PALYNOLOGY OF ORE DEPOSITS

There will be a symposium at the 1986 AASP meeting in New York City on the palynology of ore deposits. For example, I would like to present a paper on the uncooked algal cysts and zooplankton fecal pellets associated with graphite in the epithermal gold deposits of Nevada. Other possibilities might be papers on the palynology of Banded Iron Formations, White Pine or Ferghana-type petroleum-bearing Cu deposits, Laisvall or Mississippi Valley-type Pb-Zn deposits with petroleum in the fluid inclusions, Illinois-type coals with galena and sphalerite, Kupferschiefer black shales, Zambian Copper-belt shales, Kuroko ores, Malango or Groote Eylandt Mn-bearing sediments, Witwatersrand Au-bearing carbonaceous rocks, Colquiri-type Ag-rich limestones, or other deposits that contain palynomorphs and other organic tissues.

If you are interested in presenting a paper, contact me. If you will require a glowing letter of invitation to present a paper in order to attend this meeting, please let me know and give me a general idea what the letter should say. If there is enough interest, perhaps we could publish the papers from the symposium and others on the same subject. Perhaps we could even exchange samples (anyone working on kimberlite deposits?). Contact:

Eleanora I. Robbins, U. S. Geological Survey, 956 National Center, Reston, VA 22092, USA.

PALYNOLOGIST REQUIRED

ECL, a firm of international Petroleum Consultants headquartered in England and with offices in Perth, Western Australia, invite applications for the position of Palynologist in our Perth office. Applicants should have a minimum of 10 years' experience in petroleum industry palynostratigraphy with a strong background in Tertiary palynomorphs of the South-East Asian region. A knowledge of spore and fluorescent colour determination would be advantageous. The successful applicant should be prepared to work throughout Australia and South-East Asia. Preference will be given to applicants with Australian nationality or permanent residence status. Please write in confidence enclosing a detailed personal resume to:

ECL Australia Pty Ltd, P. O. Box 84, West Perth, 6005, Western Australia.

POSITION WANTED

Dr. Abolfazl Jameossanaie is seeking a position in industries, research institutions or universities. He is a geologist and palynologist with a Ph.D. degree from Michigan State University and B.Sc. and M.Sc. degrees from Tehran University. His research experience includes Late Paleozoic and Mesozoic palynology, computer-aided quantitative analysis of biostratigraphic data, paleoenvironmental modeling, and taxonomy. He has taught both undergraduate and graduate courses in geology. For a copy of the resume, please write to:

Abolfazl Jameossanaie, 1447 B Spartan Village, East Lansing, MI 48823 (phone: 517-355-1213).

AASP STUDENT SCHOLARSHIP AWARDS

The 1984-1985 recipients of AASP Student Scholarship Awards, valued at \$250, are Michael Farabee, University of Oklahoma, and Thomas Demchuk, University of Alberta.

Michael Farabee's award is for the support of his doctoral dissertation, "Systematics of the Fossil Pollen Group Triprojectacites". The objectives of the study are: To resolve the phylogeny and taxonomy of these pollen through, (a) light microscope, SEM and TEM analyses of the same specimens, (b) numerical taxonomy including multivariate and cladistic techniques, (c) comparison of fossil and modern taxa; to re-evaluate the ranges using quantitative biostratigraphy; and to delineate paleocommunities through multivariate statistical methodology. The research may finally determine the precise botanical affinities of this enigmatic group. Mr. Farabee received his Master's degree from Arizona State University.

Thomas Demchuk receives his award to support his Master's thesis, "Palynostratigraphy of the Paleocene strata of west central and southern Alberta. The intent is to zone and correlate the numerous coal seams of the Scollard and Paskapoo Formations, so that they can be identified in subsurface sections. The zonation will be based on qualitative and quantitative biostratigraphy. These studies, including determination of the environments of deposition, could have an important bearing on the economic development of the coal seams.

This is the third year that the AASP has awarded student scholarships. The Awards Committee, which is responsible for selecting the recipients, would like to thank those students who submitted applications. The committee would also like to compliment all the students on the high standard of the proposals.

The deadline for receipt of applications for next year's scholarship awards is February 1986. Anyone wishing to obtain the necessary forms should write to:

Graham Williams, Atlantic Geoscience Centre, Bedford Institute of Oceanography, P. O. Box 1006, Dartmouth, Nova Scotia, Canada, B2Y 4A2.

ATLAS OF DINOFLAGELLATES

The Atlas of Dinoflagellates is now available. The book consists of a collection of scanning electron micrographs of 120 armoured dinoflagellates, mostly reproduced nearly full page size and printed on art paper. A dozen cysts are also included. The photos come from the laboratory of John D. Dodge. In an effort to enable palynologists, phycologists, marine biologists and all interested in these photogenic organisms to obtain the book, the author is co-publishing with Farrand Press. Publication is timed for the August 1985 Conference on Modern and Fossil Dinoflagellates (DINO 3), but pre-publication orders (with cash) at the reduced price of £9.50 or \$14.00 (including postage) may be sent to Professor J. D. Dodge, Botany Department, Royal Holloway and Bedford College, Egham, Surrey, TW20 0EX, UK. After publication the price will be £15.00 (approximately \$20.00). Further details may be obtained from the author.

LITERATURE NEEDED

Since last June I am in charge of organizing new labs and courses on general Micropaleontology and Palynology at the Universidad Autonoma de Nuevo Leon (northern Mexico). One of the most pressing needs is a suitable library, so any personal or institutional contributions of reprints, copies, books, etc., will be welcome and greatly appreciated. Please write to:

Javier Helenes-Escamilla, Fac. Ciencias de la Tierra, U. A. N. L., Apartado Postal 104, Linares 67700, N. L., Mexico.

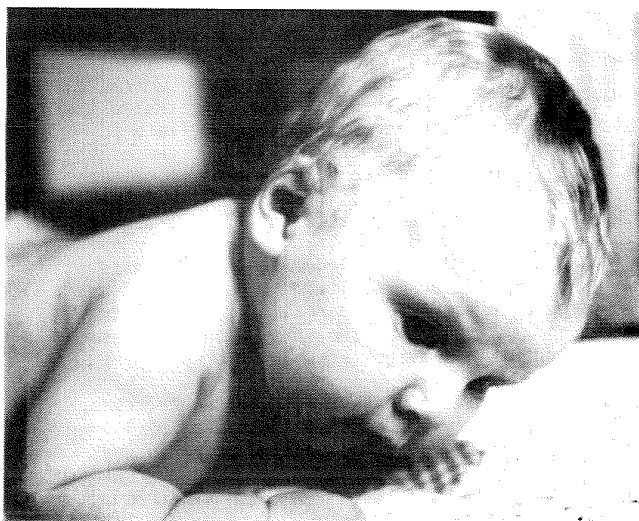
EDITOR'S NOTE

I apologize for the failure to include a full schedule of titles for the presentations and poster sessions at the El Paso meeting. We originally intended to include such a schedule in this issue, as was done for the Washington meeting last year, but difficulties in planning beyond our control have made it impossible to get the schedule into this issue. Once again the best laid plans of mice and men aft gang agley.

NEW MEMBERS

Individual:

Jane L. Anderson, 681 Longcoy Avenue, Kent, OH 44240.
Yoram Eshet, Geology Department, Queens College, 65-30 Kissenea Boulevard, Flushing, New York 11367.
Kari Grosfjeld, Geologisk Institutt Avd. A, 5014 Universitetet I Bergen, Norway.
Henrik Nohr-Hansen, Viborggade 29 4. TV, DK 2100 Copenhagen O, Denmark.
Anne E. Tjemsland, Statoil, P. O. Box 300, N-4001 Stavanger, Norway.
Ocbonnaya Kalu Ulu, Nigerian National Petroleum Co., RXD Department, 49 Moscow Road, Port Harcourt, Rivers State, Nigeria.



Abigail Marie Ravn, b. 5/15/85, latest Holocene, Northern California (X0.3).

AASP NEWSLETTER TECHNICAL SECTION

"CANNINGIA" TURRITA BRIDEAUX, 1977, AS THE LINING OF A PERIDINIOID CALCAREOUS DINOFLAGELLATE

Judith Lentin, LIB Consultants, Calgary, Alberta,
Canada

Brideaux (1977, p. 13, pl. 4, fig. 1-9) erected the species "*Canningia*" *turrita* (sic) for an oval form with an apical archeopyle that shows a rather unusual margin. In his discussion he correctly interprets the "projecting tongue" of the archeopyle margin as representing the apical paraplate 1'. He further indicated seven precingular and suggests the presence of as many as three intercalary paraplates, but chose not to create a new genus.

Subsequently in an unrelated type of work, Keupp (1980) published magnificent SEM photographs of the interior of some calcareous dinoflagellates from the Early Barremian of England which he assigned to *Pithonella patriciacreeleyae* Bolli, 1974. These specimens clearly show the replica of a paratabulation which is peridinioid in nature.

Text-figure 1 is the model illustrated by Keupp (1980, text-fig. 4), slightly modified to show the archeopyle type in "*Canningia*" *turrita*. By including all of the apicals except 1' and all of the intercalary paraplates in the archeopyle formation, an outline of the archeopyle margin seen in specimens of "*C.*" *turrita* is easily created. It is quite possible that this dinoflagellate species is the organic lining of a calcareous dinoflagellate, perhaps even the same form as that illustrated by Keupp (1980).

Recently, Hultberg (in press) has illustrated the organic linings from a calcareous dinoflagellate recovered from the Early Paleocene of Sweden. He erected a new genus and species of calcareous dinoflagellate to encompass both the calcareous form and the organic form. Unfortunately, as a calciodinellacean, the genus will be a junior synonym of *Obliquipithonella*. However, described as an organic dinoflagellate, the form is unique. Because the organic linings are abundant and well-preserved in the type material, and because they are unique in the fossil record, they should be described as organic dinoflagellates.

The same situation is evident with the Barremian form "*Canningia*" *turrita*, which is possibly the lining of a form similar to *Obliquipithonella patriciacreeleyae* (Bolli, 1974) Lentin and Williams, 1985. A new genus of organic-walled dinoflagellate is needed to accommodate "*C.*" *turrita* because of the unique archeopyle of that species. The relationship between the calcareous and organic dinoflagellates is very intriguing but far from

the point where their nomenclature can be combined.

The study of calcareous dinoflagellates is in its infancy even though Deflandre (1947, 1948) recognized and named several genera of these forms nearly 40 years ago. They are destroyed by normal palynological preparation and usually washed down the drain with the 80 m fraction in foraminifera preparations. Indeed, most species of "calcispheres", which are probably not all dinoflagellates, are found in coccolith preparations.

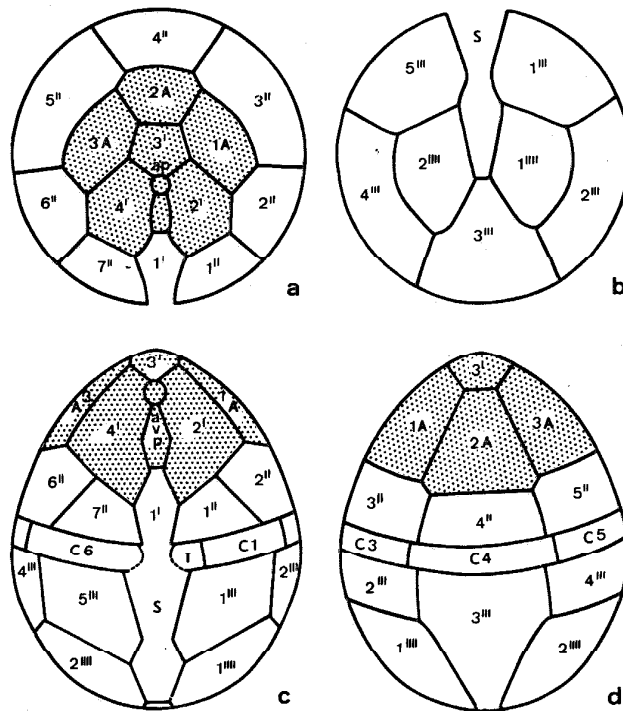
All conscientious dinoflagellate morphologists should be aware of these fossils. An up-to-date list of all "calcisphere" genera and species is given by Lentin and Williams (1985) in an appendix to the new index. Further study of morphological oddities like "*Canningia*" *turrita* may prove a closer relationship between calcareous dinoflagellates and organic dinoflagellates.

References Cited

- BRIDEAUX, W. W. 1977. Taxonomy of Upper Jurassic-Lower Cretaceous microplankton from the Richardson Mountains, District of Mackenzie, Canada: Geol. Surv. Canada, Bull. 281: 1-89.
- DEFLANDRE, G. 1947. *Calciodinellum* nov. gen., premier représentant d'une famille nouvelle de dinoflagelles fossiles a theque calcaire. Compte rendu, Acad. Sci., Paris, 224: 1781-1782.
- DEFLANDRE, G. 1948. Les Calciodinellides dinoflagelles fossiles a theque calcaire. Botaniste, 34: 191-219.
- HULTBERG, S. U. in press. *Lineasphaera* - a calciodinellacean dinoflagellate with an organic wall. (manuscript title).
- KEUPP, H. 1980. *Pithonella patriciacreeleyae* Bolli, 1974. eine kalkige Dinoflagellaten-zyste mit interner Paratabulation (Unter-kreide, Speeton/SE-England). Neues Jahrb. Geol. Palaont., Mh, 9: 513-524.
- LENTIN, J. K., and WILLIAMS, G. L. 1985. Fossil dinoflagellates: Index to genera and species, 1985 edition. Canadian Technical Report of Hydrography and Ocean Sciences, no. 60: 1-451.

Editor's note: The 1985 Lentin and Williams Index, cited above, is now available. Copies are free, and those not already on the mailing list who desire one should write to:

Judith K. Lentin, LIB Consultants Ltd., 2110, 505 4th Avenue S.W., Calgary, Alberta, Canada T2P 0J8.



Rekonstruktion des Tfelungsmusters von *Pithonella patriciacreeleyae* BOLLI 1974.
Auf der Innenseite des organischen Periphragmas erscheinen die einzelnen Platten-Homologe in spiegelbildlicher Anordnung zu dem hier gegebenen Schema. – a: apical, b: antapical, c: ventral, d: dorsal.

Text-figure 1. (From Keupp, 1980; stipple added)

EDITOR'S COMMENT

(With this issue of the Newsletter, a new item is introduced, with the intention, space permitting, of its continued appearance in some, if not all, subsequent issues. I have called it Editor's Comment, because I couldn't think of anything better to call it. I had a number of other potential titles, such as Night of the Musk Ox, Love's Bitter Raisins, Moby Bob, and so forth, but none seemed to fit. Perhaps, after reading it, you might have an idea for a better title; if so, please write the editor. I've edited seven of these things now, and what is the joy of editing if you can't comment now and then? In this column, I hope to address some of the pressing issues that face palynologists today. The first of these, at the cutting edge of the science, is:)

PALYNOLOGY IN OIL EXPLORATION

Some years ago, one of our more distinguished colleagues, Aureal Cross, edited a volume of papers under the title above. I first encountered this book when I was a student, and I found it to be a valuable source of technical information on subsurface correlation in various parts of the geologic column. To this day it remains a useful and widely referenced work.

Some years later (I took a while getting my degrees, a consequence of being lazy, slow, disorganized and dense), I captured a job as a palynologist in the oil exploration industry, and soon I discovered a major flaw in this otherwise fine publication. Despite its wealth of technical information, the title is misleading. It doesn't really describe what palynology is like in oil exploration. This can be especially distressing for students of palynology, who may embark on a career in the petroleum industry with all manner of silly conceptions about what they will be doing. For our student members, I feel an obligation to relate my experience at entry into the petroleum industry as a palynologist. Those industry veterans already familiar with the truth may ignore what follows.

A day dawned (I think it was the 273rd phone call from Mom asking me when I would be gainfully employed) when I realized to my horror that I couldn't go to school forever. When an oil industry interviewer came to town, I shined both my shoes, put on my best holiday t-shirt and went to see him. We had a nice chat, during which I discovered that both of us were rabid fans of the same major league baseball team. After some discussion of the wonders of Mike Schmidt and Steve Carlton, we parted with a cordial handshake.

Time passed, a day, two days, then three. No job offer. After a week, I decided it hadn't worked, and considered the economic feasibility of buying a brand new t-shirt for the next interviewer. But, after about two weeks, the phone woke me at the break of noon from a terrible dream about metamorphic petrology. It was the first interviewer. He offered me a job. I thought about it a while. It sounded good, especially the part about the power and glory. And the money! He had offered me unimaginable wealth, enough to do all those things I had never thought possible as a student, enough to pay the rent almost on time, and to eat. After about five seconds of groveling, I accepted.

I showed up at the appointed day in New Orleans, bright and shining in my brand new t-shirt. My new senior colleagues, Don Benson and Jeff Stein, greeted me with several boxes of slides.

"Here, quick," Don said, "examine these."

I examined them. They were gorgeous, full of golden palynomorphs from the Gulf Coast Cretaceous. There were spiny ones, striped ones, thin ones, fat ones,

bumpy ones, holey ones. I even knew what some of them were. I had arrived. I was an oil industry palynologist.

I spent three or four weeks looking at these beasts, writing down their names, taking lots of pictures. One day Don came into my office and announced that the Exploration Manager wanted to see what I was doing. I would have to prepare a presentation. The next Monday I showed up on the 12th floor with my armload of glossy photographs, ready to impress the Exploration Manager. Through the grapevine (in the oil industry, your office comes equipped with a grapevine), I had learned that the Exploration Manager was one of these tough crusty old codgers (in the oil industry, your office comes equipped with upper-level managers who are tough crusty old codgers) who had come up the hard way, through the ranks. Before being promoted into a managerial position, the grapevine alleged, he had been a Viking plunderer, and before that, one of Attila's Huns. He was said to be tough, but fair.

Well, was I ever ready for him. I had seen lots and lots of nifty spores and pollens and even some dinoflagellates that weren't too ugly. I was sent to a conference room with my armload of show-and-tell material. As I arrived, two young men of about my vintage, wearing three-piece gray pinstriped suits, emerged from the room carrying big double armloads of crumpled and torn maps and diagrams. Their eyes had that hollow vacant stare normally seen in the eyes of liberated prisoners of war. Before I had a chance to contemplate the meaning of that, I was waved impatiently into the room.

There he sat behind a long table, surrounded not too closely by a number of lower-level managers I had often seen pass through the corridors with that hollow vacant stare in their eyes, normally seen in the eyes of prisoners of war who haven't been liberated yet. One of them stood up to introduce me.

"Mr. Hjarfnjarlsen, sir," he said, "this is Bob Ravn." There was a pause, without any visible response. "You know," he added, "the one who spells his name so funny."

"Snarl," the Exploration Manager said.

The introducer made a faint gesture that I interpreted as meaning I should present. So I did. I laid out my photographs.

"There's a spore," I said. "And there's another one."

Somewhere in there my voice cracked. The Exploration Manager glared at me.

"And look," I went on, "See? There's another."

The Exploration Manager leaned to his right and said something in a low voice to one of his vacant-eyed assistants. I couldn't catch all of it, but what I heard went something like,

"Bring me my helmet with the horns on it. And my big axe."

I don't remember much after that. Some generic period of time apparently passed, and I found myself back out in the hallway, clutching my photos, wondering about the feasibility of taking up a career as a wino.

Don Benson approached with a huge grin crinkling his face.

"Let me die," I told him.

He said something about there being more important things to do, like the hot well in Mississippi, and then he said, "You did great. He loved it. You'll get a raise and a promotion."

Sure enough, Don was right. Less than two years later, I did get a raise and a promotion. So if you decide to take up the oil exploration industry as a career, it could happen to you, too. That's what palynology in oil exploration is all about.

Bob Ravn