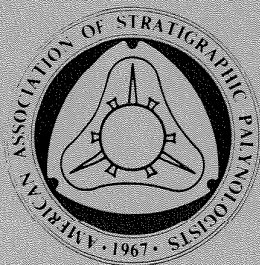


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**AASP NEWSLETTER**  
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## Membership Application Form

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Telephone: \_\_\_\_\_

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

Send to: Dr. Gordon D. Wood  
Amoco Production Company  
P.O. Box 3092  
Houston, TX 77253

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

Date: \_\_\_\_\_

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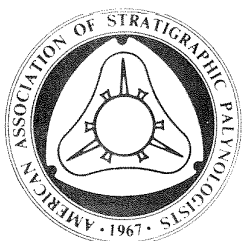
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Houston, TX 77253



# AASP NEWSLETTER

VOLUME 19, NUMBER 1 JANUARY, 1986

R. L. RAVN, EDITOR ISSN 0732-6041

## CHANGING OF THE GUARD

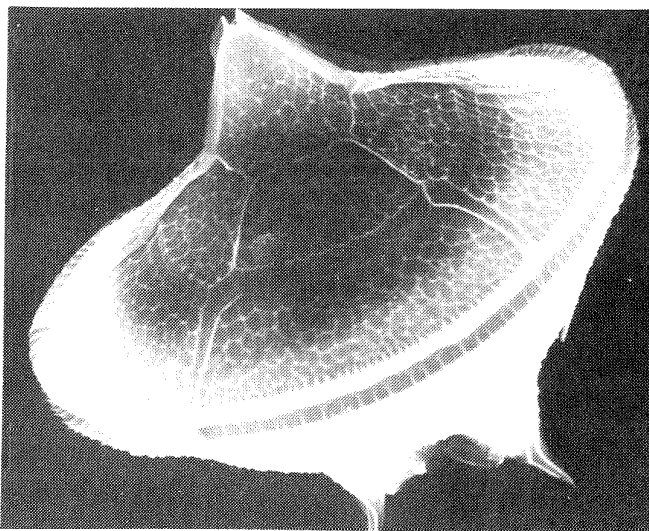
A new year is upon us, and it brings with it a number of changes in positions relevant to AASP and other organizations of interest to our members. Of most immediate importance is a new face in the position of AASP Secretary-Treasurer. Ken Piel has been unexpectedly posted on a two-year assignment to Unionoil in Sunbury-on-Thames, England. As a result, Ken has found it impossible to maintain his post as Secretary-Treasurer, and has resigned effective February 1. Ken's replacement is Gordon Wood, of Amoco Production Company, P.O. Box 3092, Houston, TX 77523., who has been appointed by the Board of Directors to fill the remainder of Ken's term of office. This change is especially important to those of us (like myself, I just realized) who have not yet submitted our dues for 1986; please be sure to send these now to Gordon, not to Ken. Gordon also will be taking care of the membership directory, so be sure to send him any changes of address or phone numbers. I wish to extend the thanks of the membership to Ken Piel for his long service in this often thankless position, and to wish him a successful and enjoyable sojourn in England for the next couple of years. He should be made aware of the fact that they have a phenomenon known as "rain" over there, which is not generally encountered in southern California. To cope with it, Britons also have invented an item known as the "Mac"; perhaps some of our British members can demonstrate its use to Ken at an appropriate moment. I'd also like to welcome Gordon to the job, and encourage all members to extend to him the courtesy and cooperation we have given Ken over the years.

The editorship of the Newsletter of the Canadian Association of Palynologists also has changed hands. After four years of producing the informative and witty CAP Newsletter, Bert Van Helden has stepped aside and passed the reins on to Judith Lentini, Suite 2110 London House, 505 4th Avenue S.W., Calgary, Alberta T2P 0J8. All communications should now be sent to Judi on matters regarding the CAP Newsletter. My personal thanks go to Bert for his enthusiasm and cooperation in exchanging news items and Newsletters with me, which has always been most helpful. I look forward to working with Judi on a similar basis. In this regard, I might mention that non-Canadian palynologists may receive the CAP Newsletter by contributing the nominal fee of \$8.00 (Canadian) for three years; in doing so, one becomes a correspondent of the CAP. Full membership in CAP is limited to persons residing in Canada; correspondents do not have voting privileges. The CAP Newsletter contains items of interest

to all palynologists, and should not be considered as restricted to those palynologists in Canada alone.

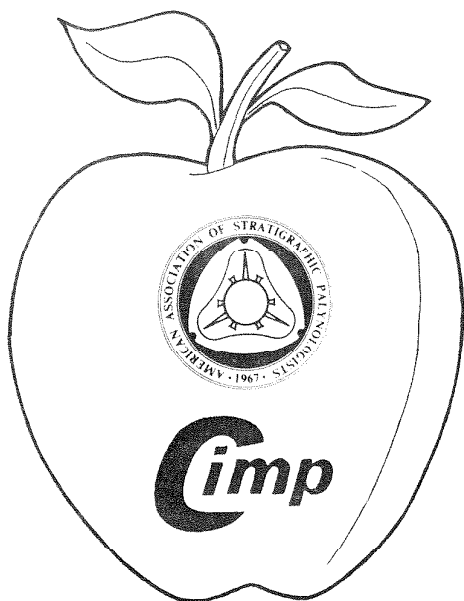
It is timely to note here, in the first AASP Newsletter of the year, that yours truly also intends to relinquish editorship of the Newsletter at the end of 1986. This will be my third year as editor, and while overall the job has been enjoyable and has had many rewards, I subscribe to the theory that any position in a society such as ours should not be held too long by any one individual. If anyone is interested in becoming Newsletter editor next year, please contact me or Managing Editor Doug Nichols, U. S. Geological Survey, Box 25046, M.S. 919, Denver, CO 80225. It has recently been suggested to me that, since I have relocated again, I should give my address within the body of the Newsletter, as well as on the cover. So here it is. Robert L. Ravn, Sohio Petroleum Company, Lincoln Centre 1, 5400 LBJ Freeway, Dallas, TX 75240.

The Birbal Sahni Institute of Palaeobotany in Lucknow, India has a new director. He is Dr. B. S. Venkatachala, whose address at the Institute is 53 University Road, P.O. Box 106, G.P.O., Lucknow 226 007, India.



Theca of the modern dinoflagellate genus *Protoperidinium* from the Atlantic Ocean, approx. 750X; photo courtesy of Judith Gennett.

AASP Newsletter is published quarterly by American Association of Stratigraphic Palynologists, Inc.



1986 ANNUAL AASP MEETING  
SECOND ANNOUNCEMENT

The Nineteenth Annual Meeting of AASP is scheduled jointly with its sister society, C.I.M.P. for New York City, October 29-November 1, 1986. New York is a vibrant cultural metropolis which has much to offer to its visitors. There is musical entertainment, ranging from the Philharmonic at Lincoln Center's Avery Fisher Hall, chamber music at Alice Tully Hall, and opera at the Metropolitan, to the Broadway and Off-Broadway theater. For those who appreciate art, there is the Guggenheim Museum, the Metropolitan Museum, and the Museum of Modern Art. There is also the American Museum of Natural History, the Museum of the American Indian, and the Bronx Botanical Gardens. Are you interested in sightseeing? For a nominal cost, a cruise around Manhattan Island will provide a view of the skyline and historical sites. The Staten Island Ferry, at 25 cents still the cheapest ride around, will give you a close-up view of the \$200M renovation of Gustave Eiffel's Statue of Liberty. Or, for a few dollars, take a boat ride directly to Liberty Island and visit our lady in the harbor as the celebration of her centennial birthday (July 4, 1986) continues. There is also the South Street Seaport, located in the financial district near Wall Street. There you will walk on cobblestone streets in a renovated turn-of-the-century village, where you can savour the many food delights of Pier 17. Or visit Chinatown, or Greenwich Village, etc., etc. October is a peak time of the year for visitors to New York. Normally, at that time the weather is controlled by the Bermuda High, so that we can expect cool, dry air with daytime temperatures in the range 54°-59° F and nighttime temperatures of 44°-48° F.

PROGRAM

The technical program is scheduled for Wednesday, October 29 through Friday, October 31. It will be held at the City University of New York Graduate School and University Center (hereafter called the Graduate Center), located in Manhattan on 42nd Street between Fifth

Avenue and Sixth Avenue (also called Avenue of the Americas). The following symposia are scheduled: Triassic-Jurassic Palynostratigraphy, Paleozoic Palynology (in collaboration with C.I.M.P.), and Neogene Dinoflagellate Cyst Biostratigraphy. We have received an excellent response from palynologists who have been invited to these symposia. In the Triassic-Jurassic symposium topics will vary from the contribution of palynostratigraphy to the chronostratigraphic subdivisions of the Triassic and Jurassic of Europe to the evolution of dinoflagellate cyst tabulation in the Late Triassic and Jurassic. In the Paleozoic session, topics will include conodonts, spores, acritarchs, stratotype stratigraphy and a short session on chitinozoa; this symposium is being organized and chaired by Steve Jacobsen of Chevron in Denver, Colorado. Thanks to the efforts of John Wrenn of Amoco Research in Tulsa, Oklahoma, we expect a particularly exciting program in the Neogene symposium. John is planning to have a Contribution Series volume that will be available to all attendees by the time of the meeting. It should contain expanded abstracts, range charts and photographic plates of biostratigraphically useful dinocyst species. For more information on this symposium, contact John directly at Amoco Production Company, P.O. Box 3385, Tulsa, Oklahoma 74102.

There will also be presentations on marine palynology and the palynology of ore deposits, as well as the contributions to the general sessions. Although the emphasis of the meeting will be on stratigraphy, presentations on any topic of palynology are most welcome. Because of the full program that is expected, poster presentations are encouraged. The Poster Sessions will be held in a large room in the Graduate Center where the commercial exhibits and coffee breaks also will be located. The Poster Sessions will be held on Wednesday and Thursday. The oral presentations should be planned for 20-minute time periods (15-minute talk + 5 minutes for discussion/questions), with one or two 35 mm projectors.

The official abstract form is attached at the back of this newsletter. Please note that abstracts are due June 2, 1986. This will allow the final program to be assembled prior to the July mailing. Detailed instructions for preparing the abstract are on the back of the abstract form. Abstracts should be camera-ready, typed with a high-quality carbon-film ribbon, and designed with the knowledge that they will be reduced by 20 percent. Authors should submit the original and two copies. If the abstract will be prepared by a word-processor, please submit one of the two copies as a double-spaced version if possible. Please send all abstracts to the Program Chair: Lucy E. Edwards, AASP/CIMP - 86, U. S. Geological Survey, 970 National Center, Reston, Virginia 22092. The telephone system at the U.S.G.S. is expected to change in February, 1986; Lucy's new number at that time will be (703) 648-5272.

Students are reminded that they may compete for the L. R. Wilson Award for the Best Student Paper. It carries a cash stipend as well as a plaque.

HOUSING

The Milford Plaza Hotel will accommodate attendees at the meeting. The hotel is located in the heart of the Broadway Theater district and is approximately a 15 minute walk from the Graduate Center, where the technical program will be held. The "ice-breaker" and business luncheon will be held at the Milford Plaza. Rooms are priced at \$71.00 U.S. (single) and \$85.00 U.S. (twin). There will also be 25 rooms available for triples (three in a room) at \$95.00 U.S., or about \$35 per person per day including taxes. We are attempting to accommodate student housing



as best we can. We could not make reservations through the local YMCA/YMHA. However, students may be accommodated gratis on a sleeping-bag basis at the homes and apartments of CUNY palynology graduate students. This is limited, and will be served on a first-come, first-served basis. For further information on student housing, contact Mr. Yoram Eshet, Department of Geology, Queens College, 65-30 Kissena Boulevard, Flushing, New York 11367. The department's telephone number is (718) 520-7267.

#### FIELD TRIPS

A field trip is scheduled for Saturday, November 1. It will be led by the eminent petroleum geologist, Gerald M. Friedman, and will visit outcrops of the Devonian and the Triassic. Exposures of palynological interest and sampling will be included.

In addition, a multi-day field trip is tentatively planned in conjunction with the C.I.M.P. Chitinozoan Subcommission. The trip is being scheduled from Sunday, November 2 through November 5 or 6, so as not to conflict with the Saturday AASP field trip. The intent is to visit several localities of the Middle Devonian of the Finger Lakes area of upstate New York as well as the Trenton Group in its type area. Collecting will be a major intention of the field trip. Participants will contribute to all costs of the trip, and a field trip guidebook is planned. Arrangements and costs will be announced later. For further information, contact:

Merrell A. Miller, Amoco Production Company, P.O. Box 3385, Research Center, Tulsa, OK 74102 U.S.A.

#### SPOUSE ACTIVITIES

No special program for spouses is planned. Rather, at the meeting, there will be brochures and other literature available for restaurants (cheapest, moderately and expensively priced), tour services, and department-store shopping (Bloomingdale's, Bergdorf-Goodman, Lord & Taylor's). In addition to the "I Love New York" street map made available through the N.Y. Convention Bureau, there will be a xeroxed copy of a mid-Manhattan street map which will show how accessible the Milford Plaza/Graduate Center area is to places such as Lincoln Center, the American Museum of Natural History, etc.

We look forward to seeing you in New York. Hotel reservation forms, travel arrangements, and the preliminary schedule of the technical program will be distributed with the July mailing of the Newsletter. If you are planning a domestic flight to New York, arrange to arrive in the early evening after nightfall. Most airline pilots will show you a dazzling sight of downtown Manhattan all lighted up. By that time the Statue of Liberty would also be all aglow in the evening sky. One last, trivial, item: October 29, 1986, the first day of our meeting, will be the 57th anniversary of the fall of the New York Stock Market, which signalled the beginning of the Great Depression.

Further details will appear in subsequent Newsletters, or contact Dan Habib, Ph.D. Program in Earth and Environmental Sciences, Graduate School of the City University of New York, 33 West 42nd Street, New York, NY 10036, or call (212) 790-4218. Extra copies of the abstract form may be obtained from Lucy Edwards (address given above) or Bob Ravn (Newsletter editor).

Dan Habib.

#### AWARDS

During the 1985 annual meetings of the American Institute of Biological Sciences (AIBS) held this year at the University of Florida in Gainesville, August 11-15, two of the more senior members of AASP were presented Distinguished Service Awards by the officers of the Paleobotanical Section of the Botanical Society of America.

Dr. James E. Canright of Arizona State University and Dr. Aureal T. Cross of Michigan State University are the recipients of these awards; the citation on their brass plaques reads: "For distinguished service to the paleobotanical section and outstanding contributions to American paleobotany."

Both men are former Chairmen of the Paleobotanical Section; Canright served in 1969-70 and Cross in 1977-78. Canright also is a former president of the AASP (1979-80) and is currently the editor of PALYNOS, the newsletter of the International Federation of Palynological Sciences (IFPS).

#### NEW MEMBERS

##### Individual:

Jennifer G. Baird, Geography Department, Monash University, Clayton, 3168, Victoria, Australia.  
Joseph N. DiBenedetto, 609 Hamilton Street, Rahway, NJ 07605.  
Glenn G. Fechner, Institut für Paläontologie, Schwendenerstrasse 8, 1000 Berlin 33, West Germany.  
William A. Gregory, Jr., Geology Department, Louisiana State University, Baton Rouge, LA 70803-4101.  
Klaus-Dieter Helmerich, Institut für Paläontologie, Loewenichstrasse 28, D-8520 Erlangen, West Germany.  
Timothy A. Pish, 614 Birch Avenue, Rapid City, SD 57701.  
David T. Pocknall, New Zealand Geological Survey, P.O. Box 30368, Lower Hutt, New Zealand.

##### Institutional:

The Book Home, 220 E. Monument, Colorado Springs, CO 80903.  
Statolil. Bibliotek, Box 300, 4001 Stavanger, Norway.

#### AH-CHOO! AND OTHER MATTERS

The Great Free State of Texas contains a lot of palynologists, and this winter many of them have been sneezing a lot, along with most other citizens of the area. The winter, for the most part, has been mild and dry, and the nasty cedar trees have been pumping out an anomalously large amount of pollen. Earlier this year in San Antonio, the pollen count reached an all-time high of 86,000 grains per cubic meter, exceeding the previous all time record (11,000) by nearly a factor of eight! But, fortunately, as this Newsletter is being assembled here in Dallas, it is snowing and sleeting, so maybe we'll get a respite and only have to worry about viruses and things causing us to sneeze.

One of our illustrious central Texas palynologists has been featured in an article in Forbes magazine (issue of August 12, 1985) one the wonderful things palynologists learn from pollen. The smiling visage of Vaughn Bryant, Jr. appears in a photograph in the article, and Ray Christopher gets some quotes, also, as well as non-Texas palynologist Thompson Webb. There are also some SEMs of pollen grains to impress and delight the general public.

#### BOOK REVIEWS

PALEOBOTANY. Parts I and II, edited by Thomas N. Taylor and Edith L. Smoot. Van Nostrand Reinhold Company, Inc., New York, New York, 1984. 773 pp., \$89.00 (Set).

Paleobotany. Parts I and II is part of a continuing series of Benchmark Papers in Systematic and Evolutionary Biology. Each volume in the series represents the classic scientific papers of the particular topic that volume is devoted to. In addition to these seminal papers, the volume editor provides an interpretive summary of the papers, as well as a current bibliography of the important recent literature.

The present two volumes cover the rather broad topic of paleobotany. As the editors, Thomas Taylor and Edith Smoot point out in their preface, the literature on fossil plants is not only widely scattered in both the geological and biological journals, but some of the original literature is difficult to locate. With that premise in mind, these two Benchmark volumes contain a broad collection of original and stimulating research papers covering many aspects of the paleobotanical literature.

This Benchmark contribution is divided into two volumes, Part I: Precambrian through Permian, and Part II: Triassic through Pliocene. The editors readily acknowledge the difficulty in selecting which papers would be reprinted, and state that the ones they selected would not necessarily be the same ones other paleobotanists would select.

Most, if not all Quaternary paleobotanists will be disappointed to discover that despite the importance of Quaternary paleobotany, this Period is not included. The reason stated is that the topic is very diverse and many of the plants are comparable to extant taxa. Additionally, Quaternary studies frequently include palynological research, which was also excluded from these two volumes. The palynologic literature can be found in the 1977 two-volume Benchmark set *Palynology*, edited by Muir and Sarjeant. With these introductory comments out of the way, what about the books themselves?

Part I is divided into 14 sections covering the Precambrian through the Permian. A total of 46 papers are reprinted in the first volume.

The first section on the Precambrian contains four papers, including the classic 1965 Barghoorn and Tyler Science paper on "Microorganisms from the Gunflint Chert." This is the paper that really got Precambrian paleobiology started.

The second section contains three papers on the first land plants in the Silurian, including an excerpt from "On the plant remains from the Downtonian of England and Wales" by Lang (1937) in which he describes *Cooksonia*, the oldest unequivocal vascular plant. In the Editors' Comments on this section, they briefly review the controversy concerning the origin of the first land plants and vascular plants.

The third section contains six papers on the early vascular plants of the Devonian including Dawson's 1859 paper "On fossil plants from the Devonian rocks of Canada," Kidston and Lang's 1920 paper "On Old Red Sandstone plants," and the more recent 1968 paper by Banks on "The early history of land plants."

The next three sections contain nine papers on Devonian plants, including their diversification, reproductive biology, and the Devonian progymnosperms. These papers are of more recent vintage, being mostly from the 1970's.

The following six sections deal with the Carboniferous, and include 17 papers on such varied topics as Carboniferous fungi, ferns, seed ferns, the reproductive biology of Carboniferous plants, and their paleoecology. These contributions include the important paper by Oliver and Scott (1904), "On the structure of the Paleozoic seed *Lagenostoma lomaxi*, with a statement of the evidence upon which it is referred to *Lycopodium*", in which they recognize the pteridosperms (seed ferns). Other important papers are by Millay and Eggert (1974) on "Microgametophyte development in the Paleozoic seed fern family Callistophytaceae," and Phillips et al. (1974) on "Fossil plants and coal: Patterns of change in Pennsylvanian coal swamps of the Illinois Basin."

The last two sections of Part I deal with important Permian discoveries such as Schopf's (1970) "Petrified peat from a Permian coal bed in Antarctica," and "The biology of *Glossopteris*: Evidence from petrified seed-bearing and pollen-bearing organs" by Gould and Delevor-yas (1977).

Part II encompasses the Triassic, Jurassic, Cretaceous gymnosperms and early angiosperms, and the Tertiary floras and flowers. It contains 29 papers that cover the broad spectrum of paleobotanical research on the Mesozoic and Tertiary.

Some of the more important papers include: Delevor-yas and Hope (1971) on "A new Triassic cycad and its phyletic implications," Miller (1976) on "Early evolution in the Pinaceae," Doyle and Hickey (1976) on "Pollen and leaves from the Mid-Cretaceous Potomac Group and their bearing on early angiosperm evolution," Dilcher (1979) on "Early angiosperm reproduction: An introductory report," Raven and Axelrod (1974) on "Angiosperm biogeography and past continental movements," and Crepet, Dilcher and Potter (1974) on "Eocene angiosperm flowers."

I found Paleobotany. Parts I and II to be very useful from the standpoint that the editors have brought together in two volumes the very widespread primary and secondary literature. Each volume has an Author Citation Index, Generic Index and Subject Index, making it very easy to look up a topic or genus.

Each section contains a summary overview of the particular topic covered as well as pointing out the current research trends and problems still to be solved. At the end of these introductory Editors' Comments is a References section that provides a bibliography on the topic with papers referenced to 1983.

Overall, the quality of reproduction of the papers, including plates, is good. Should you spend \$89.00 for the two-volume set? I would say yes if you are interested in the many aspects of paleobotany and aren't familiar with the literature. These two volumes will certainly get you started and serve as a valuable reference resource to the literature.

Reed Wicander, Department of Geology, Central Michigan University, Mt. Pleasant, Michigan.

Stratigraphy: Foundations and Concepts, edited by Barbara M. Conkin and James F. Conkin. Van Nostrand Reinhold Company, Inc., New York, New York. 1984, 365 pp., \$45.00.

Stratigraphy: Foundations and Concepts is part of the Benchmark Papers in Geology series published by Van Nostrand Reinhold Company, Inc. In this series, they are endeavoring to put together the classic "benchmark" papers that serve as the foundation for a particular topic in geology. Unless one has access to a major geology library, it is difficult at best to locate many of the original papers that form the core disciplines of geology (mineralogy, paleontology, petrology, stratigraphy, structure, etc.). Furthermore, since geology is a global science, many of these papers are in foreign languages, making them doubly difficult to use unless one is versed in the language or has access to a translation.

If you've ever wanted to read the classic papers that formed the foundations of stratigraphy, then this is the book for you. In its 365 pages, Barbara and James Conkin have gathered together 32 of the most important papers dealing with the concepts of stratigraphy. These are all classics that range from "An essay toward a natural history of the earth: And terrestrial bodies, especially minerals: As also of the sea, rivers, and springs. With an account of the universal deluge: And of the effects that it had upon the earth" by John Woodward (1695) to the more modern "The classification of the English Jurassic rocks, and the partition of Jurassic time" by W. J. Arkell (1933). For those papers that are not in English, translations have been obtained and are reproduced.

The editors state in their preface that they concentrated on those papers that dealt with "the discovery and development of principles rather than on the details of the stratigraphic succession itself." They also decided against including more recent twentieth-century papers, because "the foundation and framework of classic stratigraphy were largely nineteenth century productions."

As with any compendium of papers concerning a particular topic, many significant and interesting papers must be left out and this volume is no exception. Works by such famous geologists and stratigraphers as Hutton, Smith and Grabau are not included, although mention of their papers, their contributions, and the reason their papers weren't selected is made in the appropriate Editors' Comments section.

What about the layout of the book itself? It is divided into five parts, with each part representing a phase in the development of stratigraphy. As with all the Benchmark volumes, each part has an Editors' Comments section discussing the significance of the papers for that part, and making appropriate comments and summary statements for the topic covered. At the end of each Editors' Comments section there is a bibliography citing other important works. There is also an Author Citation and Subject Index at the end of the book as well as a short biography of the editors.

The editors provide an excellent introduction to the history of stratigraphy, giving a chronological account of when significant concepts were developed. They also provide a summary table of important stratigraphic concepts from 1669 to 1936. These include: Strata, fossils, facies, chronology, formation, unconformity, disconformity, stage, and zone.

Part I: Steno (1669) to Smith (1796) deals with the period of geology when "several basic steps were taken that would lead to the development in the 1800's of the science of stratigraphy." In spite of the title of this section, no papers of either Steno or Smith are included. The history of this period is succinctly reviewed with appropriate citations, and a discussion of the works of Steno and Smith is included. This section contains three papers. The first is the previously mentioned one by J. Woodward, the second is "The course and phenomena of earthquakes" by J. Mitchell (1760), and the third is "Of the strata in Derbyshire and other parts of England" by J. Whitehurst (1786).

Part II covers the period of Cuvier and Brongniart (1808) to Conybeare and Phillips (1822) and includes excerpts from five papers. This time period saw the founding of the Geological Society of London in 1807, whose aim was to collect facts about fossils and strata, and publish the results of research in these areas. This period also saw the use and definition of the terms stage, stratum, formation, and disconformity. Excerpts from "Essay on the mineralogic geography in the neighborhood of Paris" by Cuvier and Brongniart (1808) and "Essay on the theory of the earth" by Cuvier (1813) are among the papers included in this section.

Part III contains 12 papers and covers the period of Phillips (1829) to d'Orbigny (1852). This section contains many of the classic papers including: "Classification of Tertiary formations in chronologic order" by Lyell (1833), "On the Silurian System of rocks" by Murchison (1835), "On the physical structure of Devonshire, and on the subdivisions and geological relations of its older stratified deposits, &c." by Sedgwick and Murchison (1840), and several papers by d'Orbigny including "General geologic deductions drawn from fossil species" (1852).

Part IV: Oppel (1856) to Buckman (1902) contains nine papers. This section contains excerpts from Oppel's 1856 massive "Die Juraformation" in which he explains his use of certain species to mark zones in the stages. Also included in this section is Lapworth's 1879 "On the tripartite classification of the Lower Paleozoic rocks" in which he divides the Lower Paleozoic into three systems by the introduction of the Ordovician System. During the period of time covered in this section, most of the principles of stratigraphy had been enunciated and terminology was temporarily standardized at the 1881 Second International Geological Congress in Bologna.

The final section, Part V, covers the period of Chamberlin (1898) to Grabau (1936) and includes two papers by Chamberlin, "The ulterior basis of time divisions and the classification of geologic history" (1898), and "Diastrophism as the ultimate basis of correlation" (1909), plus a paper by Ulrich (1911) on "Revision of the Paleozoic Systems" and the earlier-mentioned 1933 paper by Arkell.

My only criticism of the book is that the editors use the Introduction (pp. 4-5) to discuss a term they coined, the *paracontinuity*, which is a small-scale but widespread disconformity they find very useful for correlation. References to disconformities and/or paracontinuities and their usefulness and importance is again found in their Editors' Comments on pages 37, 40, 76-77, 206 and 264. I don't think a book of classic papers is the place to champion one's own work.

This minor criticism aside, this is a good source book for those who are interested in reading the original papers that laid the foundations of stratigraphy. The

Editors' Comments section for each part is well-written and the editors do a good job of summarizing the important stratigraphic events that occurred during the time period covered. They not only put the papers they selected in perspective, but they also mention and discuss other important papers that weren't included for reproduction.

Reed Wicander.

Roadside Geology of New York, by Bradford Van Diver. Mountain Press Publishing Company, P.O. Box 2399, Missoula, Montana 59806. 1985, 397 pp., \$12.95.

Roadside Geology of New York is part of the Roadside Geology series (currently at eleven titles) that provides a geologic history of an area, particularly as it is viewed along the major highways. The book is written primarily for the layman and geology student. It is not, nor is it intended to be a technical guidebook, but rather a guide to the general geology of New York as the traveler encounters it on the state and interstate highways.

The Introduction defines and describes the common rocks of New York and the interrelationship between geology and topography. The first two chapters review plate tectonics and the plate tectonic history of New York, followed by a review of the Pleistocene Epoch and how it affected and shaped the topography of New York. The rest of the book is divided into the various areas of New York such as the: Niagara Frontier, Lower Hudson and Long Island, New England Front, Southeastern New York, Shawangunks, Catskills, Southern Tier Expressway, Central Corridor, Finger Lakes Region, Ridge Road and the Seaway Trail, and the Adirondack Mountain Region. The book concludes with a Glossary and List of Suggested Readings.

Each area covered has a simplified geologic map with the major points of geologic interest. Since this is a roadside geology guide, each area is discussed in terms of the major state and interstate highways that pass through it, and each page has the appropriate highway number in brown at the top to facilitate quick reference to that highway. While the highways have the mileage between their starting and stopping points, they aren't divided into the detailed mileage logs that most geologists are accustomed to seeing in geologic guidebooks. Rather, the narrative discusses major geologic and topographic features one sees along the road between easily located points. For example, on page 159 one finds: "Between Oxford and Bloomingburg (21 miles), you cross the Wallkill Valley, an unusually broad lowland carved by dark Normanskill and Martinsburg group shales, graywackes, and sandstones (see Interstate 84 discussion)." This is the type of information you get and the style it is presented in.

In addition to the geologic maps, the book is illustrated with many simplified diagrams, cross-sections and photographs of the area under discussion. Overall, I like the book. It is well-written, easy to read, free of typos, and informative. In fact, it is just the type of book one needs for learning about the general geology of New York as you drive through that state. It is particularly appropriate this year since our annual meeting will be held in New York City.

Reed Wicander.

(Editor's note: The following review originally was written for the Circular of the Palaeontological Association and is reprinted here with the permission of the reviewer.)

Atlas of Dinoflagellates, by John D. Dodge. Farrand Press, 1985, 120 pp., \$24.50 US ( 15.00 UK).

There is a treat in store for anybody who has marvelled at the beauty of scanning electron photomicrographs and more so for those of us interested in the microscopic world of the dinoflagellates. The treat is to pick up and open the pages of this well-produced and attractive book and to scan (pardon the pun) the photomicrographs that are presented. These photographs reveal much of the diversity of this group of single-celled organisms and certainly most of their beauty.

In the preface to the book the economic importance of the dinoflagellates, "quite out of keeping with their microscopic size" is emphasized. They are an important link in aquatic food chains and a major component of the phytoplankton. Their ability to produce toxins which when concentrated by filter-feeding molluscs can prove fatal to man should not be overlooked. Lastly, but not at all least, is the fact that certain species of dinoflagellates produce a resistant cyst stage during their life cycles; these cysts have a fossil record to at least the Late Triassic, and possibly to the Silurian. This fossil record is now utilised by many commercial and academic institutions to date sequences of sedimentary rock.

A brief introduction to the dinoflagellates is given at the beginning of the book together with an outline classification. The greater part of the book is devoted to the presentation of as many genera and species of modern dinoflagellates as possible, using clear and informative photomicrographs selected from the many thousands of photographs amassed by John Dodge and his co-workers. The advantages of scanning electron microscopy are immediately apparent and emphasised in the text. Clearly seen is that the depth of focus is about 300X that of a normal light microscope, and that there is no confusion in seeing through the cell and hence misinterpreting tabulation patterns.

Over the last few years it has become increasingly apparent that both phycologists and palynologists will have to pay more attention to dinoflagellate tabulations and paratabulations, i.e., the pattern of plates or the reflection of this pattern in terms of ornament on the dinoflagellate theca or cyst respectively. This book does all dinoflagellate workers a great service in presenting many species that exhibit clear and unambiguous tabulation patterns. This is especially so for those species attributed to the genera *Gonyaulax* and *Protoperidinium*; the common ground for many a phycologist and palynologist, and an area where we can expect a good return from our joint ventures.

John Dodge in his preface hoped that these micrographs would open up new vistas for many. I echo this hope and recommend this book to all those interested in dinoflagellates and their cysts and also those who can still marvel at the beauty and complexity of the natural world. John Dodge and his publishers are to be congratulated on their splendid book which at some 12p per photograph must be extremely good value (and hard-back into the bargain). Finally, those of us who study modern and Quaternary cysts have not been forgotten in that a small selection of modern forms are presented together with their respective thecate parent.

Rex Harland, Biostratigraphy Research Group, British Geological Survey, Keyworth, Nottingham NG12 5GG England



## LETTERS TO THE EDITOR

Dear Editor:

Reading Vaughn Bryant's presidential address in the latest Newsletter (v. 18, no. 4) inspires me to make this friendly suggestion. Since palynology as we practice it is essentially a geological enterprise, and at least some palynologists, such as those in academia, strongly identify with the larger geologic community, perhaps AASP should hold its annual meeting in conjunction with the Geological Society of America meeting as other independent societies do. I can't afford the time or money to attend two separate meetings in different parts of the country within a couple weeks of one another. Since GSA offers so much more opportunity to do those professional things one does at meetings relating to the broader geologic arena, there has never been a question in my mind as to which meeting to attend. Your meeting this year in New York is such a case. I personally have no intention to spend four days in that expensive city just nine days before the GSA meeting in San Antonio.

In addition to affecting attendance at AASP meetings of persons like me, having our meetings with GSA would possibly help solve the main problem addressed by Vaughn. Palynology certainly is in danger of extinction if it sees itself as only answering questions relating to the finding of oil, paleoenvironmental sequences and ancient diets. I do not know all the kinds of questions that palynology is capable of helping to solve, but it seems to me that if we more closely identified with and became more visible to the rest of the geological community, people working on a variety of problems would see us as possessing a broad problem-solving tool of possible use to them. Our visibility at GSA would show that we do have something to offer to our other geological colleagues and that we are not some unearthly creatures with microscopes for eyes living in the basement. I would like to see AASP consider my suggestion; perhaps on a trial basis. Extinction is so terminal.

Sincerely,  
Lynn A. Brant, Assistant Professor of Geology, University of Northern Iowa, Cedar Falls, Iowa 50614.

Editor's note: The suggestion of allying AASP with another major geological society, to alleviate exactly those problems addressed by Dr. Brant in the letter, has been discussed several times by the AASP Board of Directors, although the society considered as having the most potential for this purpose has generally been considered to be AAPG. Certainly AASP meeting attendance has suffered to some degree by having autonomous annual meetings, and the problem exists not just for persons employed by academic institutions, but for most of those employed in the petroleum industry as well. Nearly all oil companies have policies on the attendance of meetings by professionals, and many restrict attendance to as few as one meeting every three years. Under such circumstances, choices can be difficult. To ally AASP with another organization for the purposes of joint meetings would involve overcoming some serious logistical obstacles, but I suspect it is an idea that will continue to merit attention as future circumstances seem almost certain to make attendance of professional meetings in general more expensive and more difficult for all of us. This topic is one worthy of more comment, and I solicit responses on it specifically from all members.

Dear Sir:

It strikes me every so often that there is too much AASP News, and especially not much AASP News, in the AASP Newsletter.

A small but energetic group of individuals working on the North American continent, collectively spawned our organization. Although membership quickly increased, for many years it consisted of a relatively small band of people who met frequently, and who knew each other personally. These were formative years for the organization, in which a number of our ways were set; among the latter: The format of the Newsletter.

Over the years, the percentual increase of the membership roster may not have changed too much. However, we now see the effect of compounding interest. AASP, no longer a regional affair, has grown to become the foremost organization of stratigraphic palynologists in the world. New members are still joining up, because for a small price the journal *Palynology* provides interesting information in a high-quality format, as well as a potential outlet for their own ambitions. In spite of its name, which nostalgically reflects on its modest beginning, the AASP always pursued the open-door policy that has made it into a world-wide influence.

Although it makes sense that the Executive is recruited from North America, if for no other reason than effective communication, it is not unreasonable to expect that eventually the membership would support more than token candidacy from non-Americans. As it is, the membership is voting for declared candidates about whom they may know nothing essential.

One way to give the membership at large an opportunity to become more involved in AASP affairs would be the reporting of the agenda, the main drift of the deliberations (who said what) and the decisions (with an accounting of the vote for major issues) made at the periodic meetings of the Executive. Although these meetings are nominally open to the membership, only those attending a yearly meeting have a practical opportunity to attend one of these, and even then, they must balance their interest in Association affairs with a desire - and even necessity - to (re)establish communications with other colleagues in town. They, too, would benefit from being able to "read all about it". As it is, most members now know little about matters and concerns occupying the Executive, and how effectively they cope. There may be some rumors floating about, but there is no regular channel to distribute information. (What about a wrangle involving the L. R. Wilson Scholarship? What is the current backlog of papers submitted to *Palynology*? What is the future of a yearly Technical Meeting? What are the sub-committees appointed to assist the Executive, and what do they accomplish?)

Our numbers have increased to the point that we are no longer a small fraternity, but rather a large, far-flung society. In order to get optimum effect out of such an organization, we should adjust some of our habits, and maybe even some expectations and aims. I should like to see more people become involved, rather than being suffered as pacifiable sympathizers; this will not be accomplished without more effective and open communication of AASP affairs.

Yours sincerely,  
Jan Jansonius, ESSO Resources Canada, Ltd., 237 4th Ave. SW, Calgary, Alberta T2P 0H6.

Editor's note: Criticisms expressed in the preceding letter about the Newsletter coverage of AASP Board meetings have been noticed, and I will attempt to give a more detailed accounting of the doings of the Board at its mid-year meeting this April. Several other of Jan's comments require some clarification. While printing of the Board meeting agendas in the Newsletter prior to the meetings is, on the surface, a reasonable idea, it is neither practical nor of much value in most cases. The timing of the Newsletter issues and the Board meetings is such that the Board agendas simply are not available in time for the issue preceding the meeting; secondly, the majority of issues of controversy or of greatest interest to the overall membership tend to come up under the uninformative item title of "New business." Certainly it is a problem for most members to attend the mid-year meeting, and the two Board meetings that customarily take place at the AASP Annual Meeting do conflict with other, generally more pleasant, activities that most members want to engage in. Nevertheless, these Board meetings are open to all members, and are there for the airing of questions, comments and suggestions from the membership, as well as for taking care of the normal bureaucratic business necessary to run the organization.

To my knowledge, the Executive (I assume Jan refers collectively to the Board of Directors and the other executive officers) of AASP has always consisted of North Americans (I am open to correction if there have been exceptions). It is not, however, restricted to North Americans; as Jan points out, AASP is a global organization within which all members in good standing share voting and office-holding privileges. Some Canadians have served on the Board of Directors, as well as heading up or serving on various AASP committees. The qualifications for candidacy to any of the elective offices of AASP are specified in the organizational By-laws. The AASP Nominating Committee, consisting of members who are not current officers of AASP or the AASP Foundation, are responsible for selecting nominees for the various offices (this year's nominees will be announced in the next issue of the Newsletter). Persons standing for election to any office must be members in good standing (dues paid), must submit a brief statement of biographical information to be published in the Newsletter prior to election, and must agree in writing their intent to attend all meetings of the Board during their tenure in office. These requirements were put in place to assure, as far as is practical, that the Board will have a quorum when it meets, so that business can be properly transacted, and to assure that the membership has at least some basic knowledge of the experience of the candidates on whom it is voting. Just last year, a nominee for the Board of Directors was disqualified due to failure to provide the biographical data and statement of intent to attend meetings.

Clearly, as meetings of the Board are normally held in North America, attendance of Board meetings does present a serious obstacle to members who reside in other continents. If, however, such travel problems could be overcome, no organizational objections exist to the candidacy for elective office of non-North American members. Some figures may be relevant here. From Newsletter mailings, our current membership consists of about 540 in the U.S., slightly more than 100 in Canada, and about 430 abroad, counting both individual and institutional members. Clearly we are not a parochial organization.

The AASP Board of Directors' mid-year meeting is scheduled for April 3 and 4, at the Union Plaza Hotel/Casino in Las Vegas, Nevada, and it is open to all members. Anyone wishing to submit comments or suggestions or business to be considered at the meeting, and who cannot be present (being mindful of Jan's observation of the difficulties most of us face in attending the mid-year meeting in general), should contact one of the directors or officers of AASP.

#### AASP DIRECTORY

There appears on the first page of this Newsletter a mistaken erroneous incorrectitude of which the editor was notified too late to correct in its proper place. The AASP Directory is now being handled by Steven Dittrich of Shell Offshore, Inc., in New Orleans, Louisiana. We wish to thank Steve and Shell for taking on this onerous task, and to apologize for the erroneous announcement that it was being handled by Secretary-Treasurer Gordon Wood. Notifications of changes in address should, however, be sent to Gordon, who will forward them to Steve and keep all the relevant books straight.

#### THIS ISSUE'S BEST QUOTATION

"There are only two certainties: Death and Texas."

How to Be Texan, by Michael Hicks; Texas Monthly Press, Austin, Texas.

# AASP NEWSLETTER TECHNICAL SECTION

## VIBRATION SIEVING

Pierre A. Zippi, Department of Geology, University of Toronto, Toronto, Ontario M5S 1A1

Sieving is an important technique in palynological sample preparation. Many palynological laboratories rely on sieving to further concentrate, or "clean up" a sample residue. Ideally, the residue is easily washed through a fine screen with a jet of water and a few taps from a technician's finger on the side of the sieve tube. Quite often, though, samples are not ideal. Commonly, promising samples with high organic content are very difficult to pass through fine screens. A supposedly simple task that should only take a few seconds frequently turns into a frustrating ordeal requiring relatively large amounts of water, time and effort. The use of a slightly modified vibrating engraver to agitate the sieve tube greatly reduces the struggle with stubborn samples.

The necessary hardware is inexpensive and readily available. A standard vibrating engraver\* and a short length of narrow diameter rubber tubing are all that is required. Cut a short piece of tubing so that it tightly fits over and extends slightly past the engraving tip. Holding the top of the sieve tube between thumb and forefinger and the engraver in the opposite hand, simply touch the rubber tip to the side of the sieve tube. With water in the tube, this vibrating action disaggregates and suspends the residue, greatly speeding the sieving process.

At the University of Toronto Palynology Laboratory (under the direction of Geoffrey Norris), "Nitex" screens mounted between an outer sleeve and an inner tube cut from polypropylene Nalgene centrifuge tubes are used to sieve the residue. The outer sleeve is cut from a 100 ml centrifuge tube that has an inner diameter equal to the outer diameter of the inner tube. The inner tube is cut from a 50 ml centrifuge tube. When vibrating small diameter tubes such as these, residue may splash out of the sieve tube. This problem may be overcome by increasing either the length or the diameter of the sieve tube, or by varying the vibration intensity. The vibration intensity may be varied both by the adjustment knob on the engraver and by moving the engraver point up or down the side of the tube. Apply the engraver near the top of the sieve tube (close to holding point) for a mild vibration, and near the base of the tube for a more vigorous action.

Rich residues with abundant particulate debris that previously may have taken more than 500 ml of water and 30 to 45 minutes of constant attention typically require less than 200 ml of water and only a few minutes of vibration. No damage to thin or fragile specimens has been observed. Samples generally appear to be cleaner with less adhering particulate debris. Human nature being what it is, any time a processing

step is made easier, it is likely to yield better results.

\* "Vibro-graver" -- Burgess Vibrocrafters, Inc., Grayslake, Illinois.

\* "Nitex" screens -- Tetko, 420 Sawmill River Road, Amelsford, New York 10523, or B & SH Thompson, 140 Midwest Road, Unit 11, Scarborough, Ontario, Canada M1P 3B3.

## LABORATORY SAFETY IN PALYNOLOGY

David M. Jarzen, Paleobiology Division, National Museum of Natural Sciences, Ottawa, Canada K1A 0M8

The purpose of this note is to bring to the attention of palynologists and palynology laboratory technicians a few references I've come across which are excellent sources of basic laboratory safety procedures and practices. Too frequently, the practice of safe laboratory procedures in palynology is neglected during our busy periods of chemical processing.

The Fisher Scientific Company (711 Forbes Ave., Pittsburgh, PA 15219 USA) provides, for \$6.00 US, a booklet entitled "Fisher Safety Manual." Within the manual are pages devoted to the Occupational Safety and Health Act requirements for safe working conditions as they apply to the laboratory environment. Included also are: A step-by-step procedure to implement a successful laboratory safety programme; general principles of laboratory first-aid, dealing with breathing, poisoning, bleeding, shock, fracture and burn treatment; and a section on the proper and necessary equipment to prevent, provide warning of, and extinguish laboratory fires.

A large part of the manual (76 pages) is devoted to illustrating and advertising laboratory safety equipment. This section clearly identifies products designed specifically for chemical laboratories which may well prevent or assist in the proper handling of a laboratory accident. This note is not an endorsement of Fisher products, but I wish only to bring to your attention the availability of the manual.

Fisher also provides (for sale or loan) a 14-minute film (16 mm or VHS/BETA video tape) with Jack Klugman (Quincy)\*, in a dramatization of safety hazards in today's laboratory. I have found this film to be of special value when training new or temporary laboratory assistants. The film vividly depicts the common and sometimes hidden dangers in a laboratory and strongly promotes safe laboratory practices.

Laboratory safety not only concerns safe handling of acids, bases and solvents, the installation and maintenance of fire extinguishers, fire blankets, first-aid stations, emergency showers and eye wash basins, but also must consider the preventive aspects of safety. In this



regard, the proper use of an approved fume-hood or cabinet is emphasized. We have all seen laboratories which were underequipped to perform the proper exhaust function, or laboratories where a fume-hood was inoperative due to a breakdown of equipment. Indeed, laboratory staff sometimes fail to use them when needed. I know of a palynology laboratory which operated a fume-hood for nearly two years before discovering that the exhaust fan motor was mounted in reverse! This fume-hood not only failed to exhaust the laboratory fumes, but drew fumes from outside into the lab! As a source book for laboratory ventilation techniques, problems and solutions, I strongly recommend the following:

Clark, N., Cutter, T., and McGrane, J.-A. 1984. Ventilation: A practical guide. Center for Occupational Hazards, Inc., New York, 117 p.

I recognize the importance of proper laboratory ventilation and exhaust. A few years ago I had the great misfortune and the accompanying eight months of discomfort caused by skin contact with HF (hydrofluoric acid, 48%). Because of the severe treatment necessary to prevent tissue and/or bone disintegration (the HF had made contact with areas beneath my fingernails), I began a search of the literature in which treatment of HF acid burns was discussed. (It is interesting to note that my attending doctor at the emergency ward was not familiar with such treatment, and likewise needed to search out proper references in the hospital library while my hand was kept frozen to prevent further movement of the HF acid.) It was through this search that I learned how harmful the vapors of HF can be.

The generally accepted maximum concentration of hydrogen fluoride vapor is only 3 ppm by volume in air for an 8-hour working day. Concentrations of 50 ppm or more may be fatal in 30-60 minutes! So you can understand my concern for laboratory ventilation.

Information on treatment of hydrofluoric acid burns, inhalation or oral intake can be found in:

Manufacturing Chemists Association Guide for Safety in Chemical Laboratories, 2nd edition. Van Nostrand Reinhold Co., Inc., New York.

An ounce (28.3 g) or prevention is worth a pound (0.45 kg) of cure. The methods and concern for safety are basically simple. Prevention is easy. The cure may be too late.

#### SOME BASIC SAFETY PRINCIPLES ARE:

- 1) Keep the laboratory clean, well organized and use it only for laboratory work.
- 2) Use the right tool for the right job.
- 3) Treat laboratory chemicals and equipment with respect.
- 4) Wear the proper laboratory safety gear (eyeglasses, shields, coats, gloves, etc.).
- 5) Keep safety equipment in good working order.
- 6) Record and report laboratory accidents -- no matter how seemingly insignificant.
- 7) Properly ventilate and exhaust your laboratory at all times.
- 8) Never work alone in a laboratory without someone else knowing your whereabouts.
- 9) Perform laboratory work carefully, without shortcuts, and never while performing some other function.
- 10) DON'T PANIC.

\*Editor's note: Jack Klugman is also known for playing Oscar Madison, the sloppy half of the Odd Couple in the TV series during the early 1970's.