

SOCIETY RECORDS AND ACTIVITIES

SEPM 1991 ANNUAL MEETING



John Imbrie, right, accepts the Twenhofel Medal from President Roderick W. Tillman.



Elazar Uchupi, left, accepts the Shepard Medal from President Roderick W. Tillman.



Erle G. Kauffman, left, accepts the Moore Medal from President Roderick W. Tillman.



H. Edward Clifton, right, accepts the Honorary Membership plaque from President Roderick W. Tillman.



William F. Koerschner III, right, accepts the *Journal of Sedimentary Petrology* Outstanding Paper Award (published in 1989) from President Roderick W. Tillman (coauthor J. Fred Read not pictured).



Robert G. Maliva, left, accepts the *PALAIOS* Outstanding Paper Award (published in 1989) from President Roderick W. Tillman (coauthors Andrew H. Knoll and Raymond Siever not pictured).



SEPM Council, 1991-1992 Seated, left to right: David J. Bottjer, Editor *PALAIOS*; Barbara H. Lidz, Editor Special Publications; Gail M. Ashley, President; Harry E. Cook, President-Elect. Standing, left to right: Lisa M. Pratt, Councilor for Research Activities; Gregory H. Blake, Councilor for Paleontology; Michael E. Field, Secretary-Treasurer; Stephan A. Graham, Councilor for Sedimentology. Not Pictured: Harvey Blatt, Editor, *Journal of Sedimentary Petrology*.

REPORT AND MINUTES OF THE SIXTY-FIFTH ANNUAL MEETING OF THE SEPM (SOCIETY FOR SEDIMENTARY GEOLOGY)

The Sixty-Fifth Annual Meeting of the SEPM (Society for Sedimentary Geology) was held in Dallas, Texas, 7–10 April 1991, in conjunction with the Annual Convention of the American Association of Petroleum Geologists. Djafar M. Aissaoui, Neil Hurley and Don McNeill convened the Research Symposium "Applied Magnetostratigraphy and Sedimentary Paleomagnetism." Other technical sessions of the Society's program consisted of papers on siliciclastic depositional systems; petroleum geochemistry; geology and petroleum potential of Europe; high-resolution analysis of slope environments; geology and petroleum potential of the Soviet Union; carbonate depositional systems within a sequence stratigraphic framework; petroleum source rocks in siliciclastic rocks; geology and exploration in central and southern Africa; biostratigraphic aspects of sequence stratigraphy; porosity prediction in siliciclastic rocks; carbonate diagenesis; depositional systems; tectonics and sedimentation; simulation of geological processes and systems; and sedimentology of evaporite sediments. Twenty-five poster sessions were presented at this year's meeting and included sessions on tectonics and sedimentation, siliciclastic diagenesis, Gulf Coast depositional systems, ichnofossils, luminescence microscopy, isotope stratigraphy, computer applications of bio- and lithostratigraphy, paleoclimates, Gulf Coast siliciclastic rocks and diagenesis, sequence stratigraphy of source rocks, siliciclastic and carbonate depositional systems, diagenesis of carbonate rocks, special techniques in diagenetic studies, depositional systems within a sequence stratigraphic framework, Global Sedimentary Geology Program, applied magnetostratigraphy and sedimentary paleomagnetism, and biostratigraphic aspects of sequence stratigraphy. At the Awards Dinner on Monday evening the Society recognized the following individuals: William F. Koerschner III and J. Fred Read, recipients of the *Journal of Sedimentary Petrology* Outstanding Paper Award (published in 1989); Robert G. Maliva, Andrew H. Knoll and Raymond Siever, recipients of the *PALAIOS* Outstanding Paper Award (published in 1989); Erle G. Kauffman, recipient of the Raymond C. Moore Medal for "Excellence in Paleontology"; Elazar Uchupi, recipient of the Francis P. Shepard Medal for "Excellence in Marine Geology"; H. Edward Clifton and John C. Harms, recipients of Honorary Membership; and John Imbrie, recipient of the William H. Twenhofel Medal for "Excellence in Sedimentary Geology."

ANNUAL BUSINESS MEETING

Tuesday, April 9, 1991

Dallas Convention Center, East Ballroom
Dallas, Texas

More than 100 members attended the luncheon, SEPM Annual Business Meeting and Distinguished Lecture. The Annual Business Meeting was called to order by President Roderick W. Tillman at 12:30 p.m., Tuesday, 9 April 1991, in the East Ballroom of the Dallas Convention Center. Secretary-Treasurer Michael E. Field stated that copies of the 1990 Annual Business Meeting Minutes had been distributed, and asked for approval. The Minutes were approved. Roderick W. Tillman presented the presidential report and reviewed some of the important aspects of the year including the establishment of the Francis J. Pettijohn Medal for excellence in sedimentology. Tillman commented on his impressions of the Society during his term of office and expressed optimism for SEPM in the next several years. Secretary-Treasurer Field reported on the continued improvement of the Society's financial condition and expressed the Council's appreciation to the Headquarters and Business Committee and all other SEPM Committees who had contributed to sustaining the turnaround. The Distinguished Lecture was delivered by John Masters, Canadian Hunter Oil Company, entitled "Get it Right." President Tillman introduced

the new officers of the Society and presented the gavel to Gail M. Ashley. President Ashley discussed her goals for SEPM during the coming year and requested the input of all SEPM members in planning for the future. There being no further business to conduct, the meeting was adjourned at 1:30 p.m.

REPORT OF THE PRESIDENT

(Roderick W. Tillman)

The Society initiated many actions this past year, most of which resulted from the recommendations of the Society's committees. Many of these committees' activities and results are summarized below by their chairpersons.

Publications Committee (Barbara H. Lidz).—Special Publications *Sedimentation in Volcanic Settings* (No. 45) will be released in the summer of 1991 and *From Shoreline to Abyss: Contributions in Marine Geology in Honor of Francis Parker Shepard* (No. 46) in early 1992. In addition, Council gave approval to the titles: *Influence of Sea Level on Deposition, Diagenesis, and Sequence Stratigraphy, Origin, Diagenesis, and Petrophysics of Clay Minerals in Sandstones, Quaternary Coastal and Lacustrine Systems of the United States*; and *Applications of Paleomagnetism to Sedimentary Geology* which will be coming out in 1992 and 1993. The tentatively approved Research Symposium on "Evolution of Mesozoic and Cenozoic Continental Margins" was withdrawn as an SEPM publication. Concepts in Sedimentology and Paleontology (Vol. 2) *Models and Stratigraphy of Mid-Cretaceous Reef Communities, Gulf of Mexico* was released in 1990, (Vol. 3) *The Three-Dimensional Facies Architecture of Terrigenous Clastic Sediments and its Implications for Hydrocarbon Discovery and Recovery* will be published in the fall of 1991, and (Vol. 4) *Tectonic and Eustatic Controls on Sedimentary Cycles* will be available in late 1992. The presenters of early proposals on "Stratigraphic Sequences of Foreland Areas" as a Special Publication and on "Sedimentary Records of Modern and Ancient Saline Lakes" as a volume in the Concepts Series were encouraged to return to the committee with formal proposals.

Convention Policy Committee (John M. Armentrout).—Activities of the Convention Policy Committee centered around the Annual AAPG Meetings and the SEPM Theme Meetings. The annual Theme Meeting will be focused on a thematic program of broad scope encompassing the research activities of the Society and located where field trips can compliment the technical program. The SEPM Theme Meetings currently planned are: 1991 Portland, Oregon focused on Continental Margin Sedimentation; 1992 Fort Collins, Colorado focused on Mesozoic of the Western Interior; 1993 Penn State University (to be announced). The Committee reviewed and approved the procedures for the Theme Meetings and for SEPM Field Trips. These documents are intended to provide helpful information for the local committees charged with meeting and field trip planning. Future activities of the Convention Policy Committee will be directed toward strategic and philosophical aspects of SEPM conventions, and will be supported by a Convention Chairmen Panel focusing on operational aspects of forthcoming meetings.

Continuing Education Committee (William A. Morgan).—SEPM's 1990–1991 Continuing Education Program had a very successful year. A total of 231 people attended the four courses offered in 1990–1991, compared to 154 registrants in the six courses presented in the previous year—an increase of 50%. Two new continuing education volumes were published, one to accompany a short course on luminescence microscopy, and the other as part of a core workshop on mixed carbonate siliciclastic systems. The short courses presented this year were: "Integrated Stratigraphic Anal-

ysis," taught by John M. Armentrout; and "Luminescence Microscopy and Spectroscopy," which was organized by Charles E. Barker and Otto C. Kopp, and taught by Bob Buruss, Hans Machel, Don Marshall, and Paul Wright. Two core workshops were held. A. J. Lomando and P. M. Harris organized a workshop on "Mixed Carbonate-Siliciclastic Sequences," and D. G. Bebout and R. G. Loucks presented a core workshop for students on "Identifying Carbonate Facies and Interpreting Depositional Environments from Cores." Generous financial contributions to the Continuing Education Program were received from Amoco Production Company; ARCO Oil and Gas; Conoco Inc.; Measurement Analysis Systems Inc.; Nikon Instruments; Phillips Petroleum Company; Reservoirs, Inc.; and Union Pacific Resources. Chevron Oil Field Research Company and Chevron Overseas Petroleum, Inc., The Texas Bureau of Economic Geology, and U.S. Geological Survey donated time and resources toward the preparation of courses held at the Annual Meeting. The support of those corporations and institutions was instrumental to the success of the Continuing Education Program.

Headquarters and Business Committee (R. W. Scott).—During the period from June, 1990 to April, 1991, the Headquarters and Business Committee held two meetings in Tulsa, Oklahoma. On 25 September 1990, the important issues were membership dues, the value of the Society's real estate holdings, and the 1991 budget. The number of SEPM members since 1950 has been roughly related to the price of oil. The principal cost factors for the Society have been costs of printing and postage. These costs per member vary because of inflation and the declining membership. The lot owned by the Society is a static investment and the capital employed could be used in other ventures. The Committee recommended to Council that it be sold at a reasonable price. The Committee also decided to review the selection of the outside auditor survey every few years in order to control costs and quality. The Committee supported the use by the Society of a computer bulletin board owned by COGS on a free trial basis. Finally, the annual employee evaluations were reviewed. At the 26 February 1991 meeting, key issues were the 1991 financial status, the subcommittee for strategic planning, advertising in the *Journal of Sedimentary Petrology*, and the 1992 Theme Meeting. The financial status of the Society is improving and 1990 ended with an excess operating income of \$51,000. Most cost centers operated in the black. A subcommittee for strategic planning was reviewed by President Tillman. Also, the Committee reviewed plans to solicit advertisements for the *Journal* that would be tasteful and relevant to subscribers. Finally, the Committee reviewed the budget for the 1992 Theme Meeting and made suggestions to improve the balance. During the year several committee members consulted with the Council and with the Staff on various issues.

Research Committee (Lisa Pratt).—The Research Committee received two proposals for the 1992 Research Symposium during the AAPG/SEPM/CSPG Annual Meeting in Calgary. Felix M. Gradstein's proposal was entitled "New Methods in Dynamic Basin Analysis" and Steven L. Dorobek's proposal was entitled "Stratigraphic Sequences of Late Paleozoic to Middle Mesozoic Foreland Areas in the North American Cordillera." Dorobek was present at the meeting to answer questions about his proposal. There was recognition of the overall merit of the Dorobek topic, but considerable discussion of how to recast the outline in terms of emerging concepts and controversies in sequence stratigraphy. An emphasis on comparison of Canadian-U. S. sequences and inclusion of a broader time interval were also recommended. The level of interest and enthusiasm in the geologic community for Gradstein's topic were judged to be very good. The outline, however, was organized by techniques and was difficult to imagine as an oral session. The committee recommended that the Gradstein proposal be forwarded to the Technical Chair for the Calgary Meeting as an excellent candidate for an all-day poster session. The committee recommended that Dorobek (1) identify a Canadian to serve as co-chair, (2) broaden stratigraphic interval and pursue comparison between Canada and U. S., and (3) present revised proposal to the Research Council at the

1991 AAPG/SEPM Annual Meeting in Dallas, Texas. Dave Goodman made an oral presentation to the Committee concerning possible collaboration between SEPM and ASP (Association of Stratigraphic Palynologists) on a joint meeting coinciding with the 1993 SEPM Theme Meeting. He recommended Baton Rouge/LSU as the site and mid-October as the date. There was discussion about the obvious areas of overlapping interest for the two societies. It would benefit SEPM to consider such joint sponsorships as a means to broaden our membership base. The topics of climate change and recognition of unconformities in the stratigraphic record would be particularly attractive at a joint meeting. The committee encouraged ASP (in cooperation with LSU) to submit a proposal for hosting the 1993 Theme Meeting. The discussion of topics and sites for the 1993 Theme Meeting continued. Additional research into the possibility of a Precambrian topic (sedimentation and basin evolution) indicated that there was insufficiently broad enthusiasm for this work as a major meeting. This topic remains an attractive target for a research conference. There did appear to be widespread interest in the topic of "Stratigraphic Record of Global Change: Climate, Sea Level, and Life." Possible groups to seek out as hosts would be Penn State (Arthur, Barron, Kumpf), Case Western Reserve (Stanley and Savin), St. Petersburg (Halley at USGS and various faculty at South Florida), and Reston (Blain Cecil at USGS and various faculty at VPI and other area universities). These groups will be contacted in this regard. Both the Research Committee and SEPM Council were deeply concerned about the lack of proposals in the mill for research conferences. The only two research conferences currently planned were (1) "Carbonate stratigraphic sequences: sequence boundaries and associated facies" for 1992 by Simo, Franseen, and Harris and (2) "Substrate response, sediment transport, and boundary-layer structure beneath storm-generated flows in the shallow ocean" for 1992 by Duke, Prave, Richards, Southard, and Swift. Contacts have been made with William Hay for a proposal on paleoceanography of epicontinental seas and Dave Houseknecht for a proposal on modeling of fluid flow and water-rock interaction. The Committee recommends that all committee members actively encourage their scientific colleagues to consider a SEPM research conference for communication and development of emerging topics in sedimentary processes (ancient to modern), fluid and rock geochemistry, and paleontology (stratigraphic and evolutionary). There is a pressing need for conferences dealing with quantitative research results and methods, and SEPM is willing to consider unconventional and cross-disciplinary topics. The final item of business was consideration of a proposal from Phil Meyers (President Organic Geochemical Society) to cosponsor a symposium at the 1992 Calgary meeting on "Molecular and isotopic variation through stratigraphic sequences as records of paleoenvironmental change." Potential chairs for the symposium were Simon Brassell and Brian Popp. The Research Committee endorsed this proposal and recommended that the SEPM Council approve it in concept.

Computer Applications Committee (D. F. Merriam).—The SEPM/CAC had a very active year. The most visible result of our efforts was the publication of Computer Contribution 2, *GEOMOD, a System of Stratigraphic Modeling Programs to Simulate Sequence Development in Foreland Basins*, by Macomb T. Jervey. This publication was issued in time for the Annual Meeting in Dallas, where Dr. Jervey was present to demonstrate the system. This was the second to be issued in a series (*Computer Programs for Simulating Bedforms and Cross-Bedding*, by David M. Rubin was the first) of computer programs and systems of interest to sedimentologists and paleontologists. Other contributions will be forthcoming during the coming years. This series puts the Society at the forefront of disseminating computer programs and information. The SEPM bulletin board is up and running on a trial basis. This effort is in conjunction with COGS in Denver. Information planned for the bulletin board includes: Society Officers and addresses; Committee Chairmen and members with addresses; Headquarters Staff and expertise; forthcoming meetings, workshops, and field trips; forthcoming articles in the *Journal of Sedimentary*

Petrology and *PALAIOS* with information on submission of articles, etc.; new books, notes, Computer Contributions, etc.; membership activities and statistics; activities of SEPM Sections and their officers and addresses; all types of news that now appears in the SEPM NEWS; and other Society-related material. During the year we identified three short courses: Macomb Jervey on basin modeling; John Doveton on well logging; and Peter Sutterlin and Glenn Visser on expert systems. Several other topics were suggested and those people will be contacted in the future. Each of the workshop leaders agreed to be available for presentations during convention time (if requested) or for local groups at other times. The SEPM/CAC is working closely with the SEPM/Computer Technology group in arranging sessions at the Annual Meeting. In Calgary, 1992, Paul Yarka organized a session on visualization, and in 1993 John Doveton organized a session on petrophysics for the meeting in New Orleans. We have spent considerable time during the year discussing and collecting facts on the electronic transmission of manuscripts to SEPM journals. We have prepared a set of guidelines and input from editors, librarians, Headquarters, and the Committee which has been evaluated. From a production standpoint, such an operation is feasible, but the time is not right to introduce these procedures yet. The subject will be the focus of continued study during the coming year. During 1991 we continued to solicit good computer contributions. We have worked out a reviewing process and evaluation form for the reviewers of CC manuscripts. We continued to outline additional workshops and topics for oral and poster sessions at the Annual Meetings. Our committee continued to advise Headquarters on the purchase of computer equipment and helped to implement the bulletin board. We investigated the possibility of using CD's for distribution of information. Several projects were in the formation stage utilizing CD's.

Developing Countries' Libraries Committee (Gretchen Luepke).—Contributions to the Developing Countries' Libraries Committee have reached a total of \$1362.55. Approximately 2000 pounds of books and journals have been shipped through the Smithsonian Office of Publications Exchange to the following countries: Argentina, Brazil, Ecuador, India, Indonesia, Iran, Nepal, New Guinea, Nigeria, Pakistan, and Puerto Rico. Twenty-six of 50 gratis subscriptions to the *Journal of Sedimentary Petrology* have been allocated, with the most recent recipient institutions in Brazil, Mexico, Nigeria, Pakistan, Poland, Tanzania, and Zimbabwe. Five gratis subscriptions to *PALAIOS* have also been approved by the SEPM Council; two have been sent to Argentina and Poland. In addition, one more SEPM member has elected to donate his *JSP* subscription to a library in Argentina. A new questionnaire with a question on sedimentary geology programs was mailed to 19 institutions whose *JSP* subscriptions were dropped for nonpayment. Six have returned the questionnaire as of June 1991. Also, a list of 27 libraries receiving gratis subscriptions to *Sedimentology* was examined. Only four of these institutions had not yet been informed of our program. Two have since signed up. In devising a system to designate recipients for excess inventory of publications from the SEPM warehouse, institutions specifically requesting them will receive priority. A network of industry contacts has been established to inform potential donors of the Committee's programs. We have been contacted by the newly formed GSA Committee on International Geology regarding a setup of a similar book donation program. To further publicize the Committee's work, an article was submitted to *Geotimes* and *AAPG Explorer*.

Ad Hoc Committee on K-12 (Heather Macdonald).—The Committee on K-12 Earth Science Education worked both to increase the involvement of sedimentary geologists in earth science education and to provide hands-on activities that geologists and K-12 teachers can use in the classroom. Our major project was to develop a book of activities and resources that could be used in the classroom. The result is *Hands-On Geology: K-12 Activities and Resources*, a book that includes 22 geology activities (with teacher's guides). Activities, which were reviewed by a teacher, range from basic sedimentary geology and paleontology (growing crystals, measuring settling rates, invertebrate fossils, dinosaurs, and evolution) to applied geology (acid rain, copper exploration). A material and information re-

source list is also included. This book is a sequel to the book produced by the Committee last year, *A Sedimentary Geologist's Guide to Helping K-12 Earth Science Teachers*, which has been reprinted and is now available.

Publications Policy Committee (Lee F. Krystinik).—The Publications Policy Committee provided a number of recommendations and reported actions to Council. The Committee requested and received support from Council for entering into a test marketing agreement with the Geological Society of London. A standardized format for reference citations in *JSP* and *PALAIOS* was recommended and approved by Council. To reduce monetary exposure, the Committee proposed that the planned overprint of the *JSP* special issue should be reduced from 1500 copies to 1000 copies above the usual overprint of 500. The appointment of an assistant editor for non-journal publications was recommended and approved by the Committee and approved by Council. The Committee recommended that SEPM publications be priced to break even at no more than two-thirds the press run to reduce inventory write downs. Consideration of a new cover design for *JSP* was proposed by the Committee. A subcommittee to seek out and acquire proposed publications was formed. The Publications Policy Committee and SEPM Staff developed a budget to more accurately estimate costs and revenues of a volume prior to approval of the proposal.

Ad Hoc Committee for the Pettijohn Medal Design (Ray Mitchell).—The Pettijohn Design Committee's only task was to design the award "For Excellence in Sedimentology," named to honor Francis J. Pettijohn. In developing a design, we attempted to follow the traditions of the Moore, Twenhofel, and Shepard Medals that are currently awarded by the Society, while striving for something to set this award apart from the rest. The medal was being prepared for production by an outside firm, and the bases for the medals were being prepared courtesy of Conoco Exploration Research in Ponca City, Oklahoma.

1991 Annual Meeting (John M. Armentrout).—The 75th Anniversary AAPG Annual Meeting was held in Dallas, Texas, 7-10 April 1991, with SEPM once again providing an outstanding technical program. The meeting was attended by 6618 registrants of whom 486 (8%) were SEPM members. SEPM contributed approximately 48% of the presentations, which numbered 724. Paul Weimer and William Abbott served as SEPM Technical Program Chairmen, organizing the 352 SEPM and SEPM/AAPG papers into 47 sessions. Joann Welton coordinated the efforts of 122 judges who evaluated 202 oral presentations in 22 SEPM or SEPM/AAPG sessions. Robert Clarke organized 18 field trips which ranged from Mexico to the Ouchita Mountains and afforded 331 attendees the opportunity to get into the field.

First Annual Theme Meeting, Portland, Oregon, 1991 (Sam Boggs, Jr.).—Planning for the 1991 Theme Meeting in Portland is in an advanced stage. The call for papers was issued in October 1990 and the registration announcement was mailed in April 1991. Instructions to speakers and poster participants were mailed during the first week of June. Twelve technical sessions and four poster sessions were planned to be held over a three-day period, from August 16-18, with more than 120 speakers. Seven field trips were scheduled: five premeeting trips and two postmeeting trips. The abstract volume for the meeting is in production and should be printed by late June. A pocket program will also be printed in time for the meeting. Arrangements for conference facilities at the Red Lion Inn and for necessary audio/visual and other equipment are completed. The technical services coordinator lined up student volunteers to help with the various conference duties.

Second Annual Theme Meeting, Fort Collins, Colorado, 1992 (Frank G. Ethridge).—The Second Annual SEPM Theme Meeting was held 17-19 August 1992 on the campus of Colorado State University, Fort Collins, Colorado. During 1990-1991 the following activities were completed: (1) a convention organizing committee was assembled, (2) a preliminary budget was prepared and submitted to the Convention Policy Committee at the Annual Meeting in Dallas, (3) a logo and theme (Mesozoic of the Western Interior) were established and a one-page advertising flyer was

prepared in camera-ready copy for distribution at upcoming meetings and for publication in the *Journal of Sedimentary Petrology*, (4) three pre- and three post-meeting field trips were organized, and the field trip proposals were forwarded to SEPM Headquarters, (5) arrangements were made with the RMS-SEPM to publish and sell a single, combined field trip guidebook.

EDITOR'S REPORT
Journal of Sedimentary Petrology
(Harvey Blatt)

During 1990 we published 66 articles, nine methods papers, nine discussions, one perspective paper, 36 book reviews, and two sedimentology photos. The mean page length of articles was 12.7, which was an increase over 1989 of almost one page. Based on home institutions of first and sole authors, published papers in all categories came from 18 countries, with those from the U. S. and Canada accounting for 78% of the total. This was a slight increase of U. S./Canadian authors over 1989. Submissions rose slightly in 1990: 208 articles, 11 methods, five discussions, and one perspective, for a total of 225. This compares with 182 articles, 13 methods, ten discussions, and three perspectives in 1989 (208 total). The backlog continued to build and by the end of 1990 we had "pre-filled" six issues. The submittal-to-publication interval (of regular manuscripts) increased as a result of the backlog. The average time from submission to publication was 15.2 months in 1990, which made the interval 1.6 months worse than in 1989. During 1990, 37 authors and/or sponsoring institutions contributed a total of \$21,181 towards page charges. This compared with \$21,557 given by 34 contributors in 1989, \$34,805 paid by 37 in 1988, and 57 paying \$58,074 in 1987. The number of contributors has stayed fairly constant but the total contribution amounts fell. University systems and governmental agencies were by far the heaviest contributors in 1990 (46% each). Personal contributions increased slightly, but industry input took a big drop from 1989, from 40% of the total to 5.2%.

EDITOR'S REPORT
PALAIOS
(David J. Bottjer)

Volume 5 of *PALAIOS* was the first full year utilizing Allen Press with printing on glossy paper. The transition from the previous printer to Allen

Press proved to be more time-consuming than expected, but the rewards were a more attractive journal with the capability of fine reproduction of both black-and-white and color photographs. Issue No. 1 of Volume 5 saw the immediate usage of this new capability, with the first publication of color photographs in *PALAIOS*. Although authors must bear the extra cost of printing photographs in color, for some types of research, color photographs are much more informative than those in black-and-white, and, if it can be afforded, are well worth the cost. Policy for content in the ONLINES at the beginning of each issue shifted with Volume 5 toward emphasizing editorial contributions as long as two printed pages, describing the advances, as well as research promise, of particularly active fields of research in paleontology. These have been well-received and included contributions by Mark McMenamin on "The Cambrian Explosion," Robert Gastaldo on "Sticks and Mud: Perspectives in the 90's," and Ken Miller on "Recent Advances in Cenozoic Marine Stratigraphic Resolution." ONLINES have also been printed on important upcoming meetings for paleontologists ("NAPC5" by Peter Crane) and on funding opportunities with the federal government ("NSF Funding for Paleontology and Sedimentary Geology" by Karl Flessa). ONLINES in *PALAIOS* have proven to be an effective way of communicating in a brief format important scientific and professional information to the paleontological community. In 1990, *PALAIOS* published a partial theme issue in No. 6 on "Phytodebris," with Bruce Tiffney acting as special editor. Publication of this theme issue was part of an effort to be more inclusive in the scientific coverage of *PALAIOS*, so that the journal may be thought of as a natural outlet for appropriate papers in paleobotany, as well as those that emphasize research utilizing invertebrate and vertebrate fossils, microfossils, trace fossils, and microbialites, along with studies of paleontological interest on modern environments. With this goal in mind, a theme issue on "Ichnofabric and Ichnofacies" was planned for Volume 6 in 1991, with A. A. Ekdale and J. Pollard as special editors. A particularly important trend has been the steady increase in the number of papers submitted by non-North American authors. Despite these difficult economic times, *PALAIOS* continues to spread around the world as an important venue in which to read and publish forefront paleontological research. The number of library subscriptions continues to increase.

SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS AND SUBSIDIARY CONSOLIDATED BALANCE SHEETS

	Year ended 31 December		Year ended 31 December	
	1990	1989	1990	1989
ASSETS				
CURRENT:				
Cash, including interest-bearing accounts of \$336,029 and \$221,055	\$ 471,139	\$ 389,743		
Accounts receivable, less allowance of \$1,337 and \$1,600 for possible losses	16,171	22,327		
Other receivables	—	4,799		
Inventory	187,216	224,422		
Prepaid expenses	30,437	34,896		
Due from affiliate	1,877	—		
TOTAL CURRENT ASSETS	706,840	676,187		
FURNITURE AND EQUIPMENT				
less accumulated depreciation	41,265	29,475		
OTHER:				
Investments	313,972	223,478		
Land	67,767	67,767		
	<u>381,739</u>	<u>291,245</u>		
	<u>\$1,129,844</u>	<u>\$ 996,907</u>		
LIABILITIES AND FUND BALANCE				
CURRENT LIABILITIES:				
Accounts payable			\$ 65,926	\$ 13,003
Due to affiliate			—	6,392
TOTAL CURRENT LIABILITIES			<u>65,926</u>	<u>19,395</u>
DEFERRED INCOME			416,009	396,837
COMMITMENT			—	—
FUND BALANCE			<u>647,909</u>	<u>580,675</u>
			<u>\$1,129,844</u>	<u>\$ 996,907</u>

**SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF CASH FLOWS**

	Year ended 31 December		Year ended 31 December	
	1990	1989	1990	1989
CASH FLOWS FROM OPERATING ACTIVITIES:				
Net income	\$ 67,234	\$ 95,179		
Adjustments to reconcile net income to net cash provided by operating activities:				
Depreciation	10,954	12,252		
Provision for losses on accounts receivable	5,272	1,600		
Loss on sale of assets	—	1,310		
(Gain) on sale of securities	—	(4,815)		
Changes in assets and liabilities:				
Decrease (increase) in accounts receivable	884	(4,535)		
Increase (decrease) in due from affiliate	(1,877)	8,604		
Decrease (increase) in inventory	37,206	(2,007)		
Decrease (increase) in prepaid expenses	4,459	(579)		
Decrease in other receivables	4,799	—		
Increase (decrease) in accounts payable	52,923	59,454		
(Decrease) increase in dues to affiliate	(6,392)	6,392		
Increase (decrease) in deferred income	19,172	(35,068)		
NET CASH PROVIDED BY OPERATING ACTIVITIES	<u>194,634</u>	<u>18,879</u>		
CASH FLOWS FROM INVESTING ACTIVITIES:				
Payments for purchases of property and equipment			(22,744)	(15,514)
Proceeds from sale of property and equipment			—	50
Purchase of investments			(115,181)	(241,669)
Proceeds from maturing investments			24,687	226,766
NET CASH (USED IN) INVESTING ACTIVITIES			<u>(113,238)</u>	<u>(30,367)</u>
NET INCREASE (DECREASE) IN CASH			81,396	(11,488)
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR			<u>389,743</u>	<u>401,231</u>
CASH AND CASH EQUIVALENTS AT END OF YEAR			<u>\$ 471,139</u>	<u>\$ 389,743</u>

MEMBERSHIP STATISTICS

	DECEMBER				
	1986	1987	1988	1989	1990
SEPM MEMBERSHIP:					
Members	7,677	6,874	6,212	5,795	5,474
Nondues Paying Members	67	84	100	104	113
	<u>7,744</u>	<u>6,958</u>	<u>6,312</u>	<u>5,899</u>	<u>5,587</u>
PALAIOS MAILING LIST:					
SEPM Members & Honorary (Regular)	1,235	1,155	1,163	1,173	1,177
SEPM Members (Students)	125	95	99	110	105
Subscribers	261	311	375	402	425
	<u>1,621</u>	<u>1,561</u>	<u>1,637</u>	<u>1,685</u>	<u>1,707</u>
Journal of Sedimentary Petrology MAILING LIST:					
SEPM Members & Honorary (Regular)	5,476	4,849	4,549	4,291	4,143
SEPM Members (Students)	712	549	531	488	395
Subscribers	1,780	1,725	1,740	1,740	1,666
	<u>7,968</u>	<u>7,123</u>	<u>6,820</u>	<u>6,519</u>	<u>6,204</u>
NO JOURNALS	300				
TOTAL EDITIONS:					
PALAIOS	2,400	2,400	2,400	2,000	2,000
Journal of Sedimentary Petrology	8,400	7,500	7,500	7,000	7,000
NEW MEMBER INFORMATION:					
Applications Completed	503	288	301	225	196
Reinstatements	23	29	30	57	91
Transfers	49	10	16	10	48
Resigned	78	320	110	109	116
Deceased	13	9	8	9	13
Dropped for nonpayment of dues	548	774	859	577	470
Unpaid: Members and Associates	721	868	463	371	327
Students	86	64	114	99	78

**SOCIETY OF ECONOMIC PALEONTOLOGISTS AND MINERALOGISTS AND SUBSIDIARY
CONSOLIDATED STATEMENTS OF OPERATIONS AND FUND BALANCE**

	Year ended 31 December			Year ended 31 December	
	1990	1989		1990	1989
INCOME:					
Dues	\$ 108,560	\$ 113,473	Publishing costs— <i>PALAIOS</i>	79,004	91,499
Publications	192,597	249,785	Publications	108,932	89,436
<i>Journal of Sedimentary Petrology</i> — subscriptions, royalties, and other	365,321	329,601	Continuing Education	60,392	72,692
<i>PALAIOS</i> —subscriptions, royalties, and other	132,306	106,358	Membership Activities	95,687	46,953
Continuing Education	98,820	91,675	General and Administrative	397,611	358,356
Membership Activities	60,313	18,066	Total costs and expenses	943,869	861,301
Other	—	4,827	Operating income	14,048	52,484
Total income	975,917	913,785	OTHER INCOME—Interest	53,186	42,695
COSTS AND EXPENSES:			NET INCOME	67,234	95,179
Publication costs— <i>Journal of Sedimentary Petrology</i>	202,243	202,365	FUND BALANCE, beginning of year	580,675	485,496
			FUND BALANCE, end of year	<u>\$ 647,909</u>	<u>\$ 580,675</u>

Emmons, Hartog & Sartain
Certified Public Accountants

INDEPENDENT AUDITORS' REPORT

Society of Economic Paleontologists
and Mineralogists
Tulsa, Oklahoma

We have audited the accompanying consolidated balance sheets of the Society of Economic Paleontologists and Mineralogists and subsidiary as of December 31, 1990 and 1989, and the related consolidated statements of income and fund balance and cash flows for the years then ended. These financial statements are the responsibility of the Society's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with generally accepted auditing standards. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the consolidated financial position of the Society of Economic Paleontologists and Mineralogists and subsidiary at December 31, 1990 and 1989, and the consolidated results of their operations and their cash flows for the years then ended in conformity with generally accepted accounting principles.

April 17, 1991

Emmons, Hartog & Sartain

REPORT OF THE SECRETARY-TREASURER AND THE EXECUTIVE DIRECTOR

(*Michael E. Field and Robin Dixon*)

The Society continued to improve its financial position during 1990, finishing the year with a financial surplus of \$67,234.04. The net worth of the Society as measured by its Fund Balance rose to \$647,909.38, up 11% over 1989. Operating income at \$14,048 decreased from \$52,484 in 1989. Cash flow also continued to improve, and the long-term investment funds grew from \$223,748 to \$313,927. The operating revenue was \$957,917 in 1990, up 4% from 1989 revenue of \$913,785. Operating expenses increased 9% to \$943,869 from \$861,301 in 1989. Special Publication sales at \$143,612.13 exceeded budget by \$82,135 due to better than projected sales.

SECTION REPORTS

Report of the Eastern Section (H. Allen Curran).—The principal professional activities of the section were centered around the joint NE-SE Sections Geological Society of America meeting held in Baltimore on 14–16 March 1991. Eastern Section SEPM sponsored four well-attended symposia during the meeting, including “Phosphate Sedimentation Associated with Neogene Depositional Systems: U. S. Atlantic Continental Margin” convened by Stanley Riggs; “Sequence Stratigraphy of the Eastern Gulf of Mexico” convened by Anthony Randazzo and Jonathan Jee; “Sedimentary-Cycle Control-Tectonics versus Eustasy” convened by John Denison and Frank Etensohn; and “Terrestrial and Shallow Marine Geology, Bahamas and Bermuda” convened by Allen Curran and Brian White. The Annual Business Meeting was conducted by outgoing president Rick Diecchio. The possible split of the Eastern Section into Northeastern and Southeastern sections again was discussed, but with no action. The matter remained open for continued discussion by SEPM members attending the spring '92 SE Section GSA Meeting. Following the Business Meeting, SEPM President Rod Tillman gave a most informative talk on the applications of sequence stratigraphy to the study of Cretaceous rocks of the Western Interior. Earlier in the year, Bill Harris and Victor Zullo had arranged for a fall field trip to examine sequence stratigraphic relationships of Paleogene deposits on the North Carolina Coastal Plain. Unfortunately, owing to low pre-registration, the trip was canceled, but the planning efforts of the organizers are gratefully acknowledged.

Report of the Great Lakes Section (Bruce H. Wilkinson).—The 20th Annual Field Conference of the GLS-SEPM on “Architecture and Paleogeology of the Salem Limestone” was held on Friday and Saturday, October 19th and 20th. Seventy-four people from eight states and one person from Sweden attended the conference, hosted by the Indiana Geological Survey and the Department of Geological Sciences at Indiana University. The Annual Field Conference Banquet was highlighted by an informative talk by SEPM President Rod Tillman on the sequence stratigraphy of marginal marine siliciclastics. On April 19, the GLS sponsored a morning and an afternoon session of the research symposium “Silurian Systems of Cratonic North America” during the Annual Meeting of the North Central Section of the Geological Society of America in Toledo, Ohio. This symposium included 17 presentations by 26 authors of studies on North American Silurian reefal, platform, and evaporite sequences. The 1991 recipient of the GLS-SEPM Best Student Paper Award was Mark E. Patzkowsky (University of Chicago) for his outstanding presentation, “Significance of Testing of Diversity Trends: Examples Using a Time-homogeneous Branching Model,” during the Annual Meeting of the North Central Section of the Geological Society of America.

Report of the Gulf Coast Section (Denise M. Butler).—The 1990 Annual Meeting of the GCAGS/GCS-SEPM, was held in Lafayette, Louisiana, October 17–19. In attendance were 1928 registrants, spouses, and exhibitors. The Best Published Paper Award went to George C. Flowers and

Wayne C. Isphording for their paper entitled “Environmental Sedimentology of the Pontchartrain Estuary.” The Excellence of Presentation Award went to Jory A. Pacht for his paper on “Sequence Stratigraphy of Plio-Pleistocene Depositional Facies in the Offshore Louisiana South Additions.” Rod Tillman, SEPM President, was the guest speaker for the Business and Awards Luncheon. The 11th Annual GCS-SEPM Research Conference on Sequence Stratigraphy as an Exploration Tool was held in Houston, Texas on 2–5 December 1990. The meeting drew 565 registrants and was so successful that the entire program was run again in June and an additional 408 people attended for a grand total of 973. This has been by far the most successful research conference held by the Gulf Coast Section.

Report of the Permian Basin Section (Stephen R. Robichaud).—During the 1990–1991 year the Permian Basin Section continued its regular monthly luncheon meetings, each of which featured a guest speaker whose topic related to the geology of the Permian Basin. Among the luncheon speakers for the year, Robert Martin (alias Sam Spade), Fina Oil and Gas, Midland, was chosen as having delivered the Best Paper, “Development of the West Pardue (Ellenburger, Palo Pinto, Swastika) Field in a Moderately Mature Area.” The section conducted its 1991 Annual Field Seminar in conjunction with the AAPG/SEPM Annual Convention in Dallas, “Sequence Stratigraphy, Facies, and Reservoir Geometries of the San Andres, Grayburg, and Queen Formations, Guadalupe Mountains, New Mexico and Texas.” Nearly 100 participants were led to spectacular outcrops in Last Chance Canyon and the Shattuck Valley by Dr. Charles Kerans and Mark Sonnefield. A guidebook was written and published for this excursion. The Section held its Annual Meeting on May 9, and presented the following special awards: Honorary Life Membership to Dr. Salvatore Mazzullo (Wichita State University); Dedicated Service Award to Paul Pause (Consultant, Midland); Don Perryman Award to the Midland Reporter-Telegram; and the Volunteer of the Year to Sam Samford (Core Laboratory, Midland). The Section's Wendell J. Stewart Scholarship for 1991 was awarded to Julie Ann Slacka, a geology student at the Texas Tech University.

Report of the Rocky Mountain Section (Vito F. Nuccio).—The Rocky Mountain Section had an excellent series of speakers at the monthly luncheons this year. Our spring field trip on “Pennsylvanian Coarse-Grained Delta Deposits Near Manitou Springs and McCoy, Colorado,” was held 27–28 April 1991 and was led by Lee J. Suttner, Christopher Maples, and Karen Houck. The trip was well attended and the guidebook is for sale through the Section. Two new books were published: (1) “Applications of Thermal Maturity Studies to Energy Exploration,” edited by Vito F. Nuccio and Charles E. Barker and (2) “Modern and Ancient Eolian Deposits: Petroleum Exploration and Production,” by Steven G. Fryberger, Lee F. Krystinik, and Christopher J. Schenk. The Rocky Mountain Section sponsored the Western Interior Cretaceous (WIK) project, a subproject within the Cretaceous Resources, Events, and Rhythms project of the Global Sedimentary Geology Program. We will be publishing WIK cross sections and reports (transects across the Cretaceous Interior Seaway) as they become available. Three graduate student scholarships were awarded during the reporting period. Kathryn Gregory, Ph.D. candidate at the University of Arizona, received the Donald L. Smith Research Grant, and Ruth Lohmann, Masters candidate at New Mexico Tech, received the Edwin D. McKee Research Grant. The first of a newly established annual graduate scholarship for Fluvial Sedimentology Research was awarded to William Little.

J. Fred Read
Outstanding Paper Award, 1989
Journal of Sedimentary Petrology

I first met Fred Read on the shoreline of the Depuch Inlet of Shark Bay in Western Australia in 1968. His enthusiasm was unbounded, and his

conversational gambits in his twangy inimitable Australian accent were already machine-gun rapid. He's never looked back, jumping from one great project to the next. Fred is a genuinely great scientist and teacher who always has time to explain the simplest of concepts in the clearest of terms. Fred Read's formal university education was at the University of Western Australia. He was awarded an undergraduate degree with Honors (1966), having submitted a thesis on the Carboniferous carbonates in the Carnarvon Basin. His Ph.D. (1971) involved research into seagrass bank development, basin evolution, Pleistocene stratigraphy and caliche formation in the Shark Bay region of Western Australia. The work under the direction of Brian W. Logan and the results of the Ph.D. were published as part of AAPG Memoirs 13 and 22 on Shark Bay and represent an important contribution to our understanding of Recent carbonates. From 1971 to 1972, Fred was funded by a Western Australian Petroleum company (WAPET) to conduct postdoctoral research on the cyclic shallow-water platform carbonates of the classic Devonian reef complexes of the Canning Basin, Western Australia. The results were published in the *Bulletin of Canadian Petroleum Geology*. At the end of 1973, Fred accepted a position as Assistant Professor at Virginia Polytechnic Institute, and by 1983 had been promoted to Full Professor. Since 1973, Fred and his students have established an expertise in early Paleozoic Appalachian carbonate geology which is second to none. For instance, he studied the Ordovician foreland ramp and basin facies, buildup formation, and shallow aquifer to deep burial cementation (with George Grover), the Early Cambrian continental margin facies (with Russ Pfeil), the Cambrian intrashelf basin facies (with Jim Markello), all in the Appalachians. He has also conducted field work and modeling in the Proterozoic of the Canadian Arctic (with John Grotzinger), the cementation of Devonian and Mississippian carbonates (with Steve Dorobek, Jim Niemann, and Anthony Nelson), Ordovician Knox dolomitization (with Isabel Montañez), Early Cambrian continental margin evolution and dolomitization (with Roger Barnaby). Lately, he has been studying the development of cycles in the Late Cambrian of the U. S. (with Dave Osleger) and Mississippian of Wyoming-Montana (with Maya Elrick) and has written a number of publications on this topic. Fred has gained further recognition as an Associate Editor for the *Journal of Sedimentary Petrology*, and also has taught several AAPG schools on carbonate platform exploration models (later to be published as a slide-tape series). He was an AAPG Distinguished Lecturer for 1989-1990, and taught the 1989 International Geological Congress Short Course on Carbonate Rocks (with Peter Scholle and Noel James). To me it is important and appropriate that Fred be recognized for his outstanding papers and his other contributions to geology.

Citation: In recognition of Fred Read's contributions to the study of cyclic carbonates using detailed field work, integrated computer modeling studies, to better define interplay of sea-level tectonics, autocyclic processes, sedimentation, platform morphology and diagenesis.

Christopher G. S. C. Kendall

William F. Koerschner III
Outstanding Paper Award, 1989
Journal of Sedimentary Petrology

William F. Koerschner, III, was born into an Air Force family in Sacramento, California in 1956. In military fashion, his family was widely traveled having lived in Alaska, Washington, D. C., and Germany before settling in Hampton, Virginia in 1970. Along the way, Bill picked up a keen interest in speleology and when faced with the decision of where to attend a university, he settled on Virginia Tech as much for the fact that they have a Cave Club as for their reputed academic excellence in Earth Sciences. In the spring of 1975, while attempting to dig into a cave entrance, Bill was seriously injured by a loosened boulder, leaving him with only partial use of his right arm. Undaunted, he rebounded, quickly mastering

the use of his left arm, and re-entered school. Three years later he earned his Bachelor's degree with honors in 1978, graduating Phi Beta Kappa and received the Senior Award in Geology, all the while pursuing his passion for cave exploration. Having spent much of his free time during the previous four years crawling through Middle Ordovician Limestones in the cave systems of Bland County, Virginia, Bill developed a special interest in carbonates. He stayed on at Virginia Tech to pursue graduate studies in carbonates under the tutelage of his future coauthor, Dr. J. F. Read. It was here that he undertook an exhaustive study of Virginia's Cambro-Ordovician Platform carbonates which forms the underpinnings of the subject paper, and for which he earned his Master's Degree in Geology. In 1982, Bill married Robyn Lefon and moved to Borger, Texas, where he joined Phillips Petroleum Company as a development geologist. In addition to a thorough knowledge of carbonate geology, he brought to Phillips an innate exploration mentality finely honed from years of second-guessing mother nature in a search for new cave passages. He has since distinguished himself as an accomplished finder and developer of hydrocarbons. His fresh approach to the Pennsylvanian carbonate platform environments and associated off-platform sand systems of the Western Anadarko Basin have helped to breathe new life into a mature exploration province. Bill is currently located with Phillips in Houston, Texas where as Senior Exploration Geologist, he is exploring for hydrocarbons in Alaska and for cave passage in the Lechuguilla Cave System, Guadalupe Mountains, New Mexico.

Citation: In recognition of William F. Koerschner, III, who, in collaboration with J. F. Read, has combined an exhaustive field study and facies analysis with computer modeling techniques to provide a workable explanation for cyclicity in passive margin carbonates.

W. N. Via

Raymond Siever
Outstanding Paper Award, 1989
PALAIOS

Ray Siever is what every sedimentary petrologist should be. He combines solid field and petrographic experience with expertise in basic science (mainly chemistry) which enables him to attack sedimentary problems with an aim to elucidating underlying concepts. He is not content merely to describe the rocks that he studies; he also wants to get to the core of how they formed and what they tell us about both original environments and subsequent diagenetic modifications. Ray was born in Chicago, Illinois, in 1923, and attended the University of Chicago, obtaining the B.S. degree in Geology in 1943 and, after serving in WW II, the M.S. degree in 1947 and Ph.D. in 1950. His future promise was immediately manifested when he published his Ph.D. thesis in 1951 in the *Bulletin of the AAPG* and received the President's Award for the best paper by an author under 35. During the early fifties Ray worked at the Illinois Survey on the physical properties of coal and the petrology and cross-bedding relationships of lower Pennsylvanian sandstones. His exhaustive and path-finding study of sandstones of the Eastern Interior Basin was so important that publication of this work resulted in his receiving the *Journal of Sedimentary Petrology* Best Paper Award from SEPM in 1957. Never content to rest on his laurels, Ray decided that he needed to know more chemistry in unraveling sedimentary problems. As a result he spent a year at Harvard University (1956-1957) where he took chemistry courses and initiated a laboratory study of the solubility of amorphous silica and quartz. He also began a fruitful collaboration with Bob Garrels and Mary Thompson on the problems of the solution chemistry of carbonate minerals. He liked Harvard so well that he returned the next year as an assistant professor and he has remained at Harvard ever since. I first encountered him as a graduate student in 1958, and quickly realized his importance. Ray started a whole new field, that is the chemical analysis of the interstitial water of modern marine sediments. Ray realized that interstitial water chemistry

could be used to detect incipient diagenetic changes, otherwise unobservable by petrologic study. I fondly remember squeezing the life out of mud with Ray aboard the RV Atlantis I of the Woods Hole Oceanographic Institution. (Subsequently I discovered that Ray was very susceptible to seasickness—I swear he actually turned green one time.) Ray is probably best known for his work on silica. In fact, he is universally acknowledged to be the world expert on sedimentary silica. He has published numerous path-finding papers over the past 33 years on such things as the origin of chert, the geochemical cycle of silica, silica cementation, silicate surface chemistry, and, more recently, the pressure solution of quartz. He was elected to Honorary Membership in SEPM in 1990. Through all of this he has managed to continue his pianistic expertise and friendly, outgoing personality, proving that he himself has not become silicified.

Citation: In recognition of his outstanding contributions to Earth Science by showing how to apply basic chemical and physical principles to the study of the origin of sedimentary rocks.

Robert A. Berner

Andrew H. Knoll
Outstanding Paper Award, 1989
PALAIOS

Andy Knoll received his B.A. degree with highest honors from Lehigh University in 1973, and his M.A. and Ph.D. degrees from Harvard University in 1974 and 1977. There, he worked with pioneering paleobotanist Elso Barghoorn as a National Science Foundation Graduate Fellow pursuing numerous research topics in Precambrian paleobiology. In 1977 he joined the teaching staff at Oberlin College before returning to Harvard University in 1982 to succeed Elso Barghoorn and go on to a distinguished career of accomplishment in research, teaching, and service to his students, his colleagues, and our profession. Andy has already received many honors, among which include the Charles Schuchert Award of the Paleontological Society and the Charles Doolittle-Walcott Medal of the National Academy of Sciences. Andy and his colleagues Robert Maliva and Raymond Siever have been selected to receive the Outstanding Paper Award in 1990 for their paper "Secular change in chert distribution: A reflection of evolving biological precipitation in the silica cycle," which was published in *PALAIOS*. This latter paper is an excellent example of the multifaceted approach that Andy has used in many other studies by applying biostratigraphic, taphonomic, paleoecologic, sedimentologic, and geochemical principles to the analysis of the Precambrian fossil record. He has an excellent ability to synthesize his observations, to formulate generalized predictive models, and to see their potential significance in a broader context. He is a stimulating colleague with whom to work and combines a natural, all-encompassing curiosity with intellectual daring, constructive self-criticism, and clarity of purpose. Andy's research projects have taken him to widely ranging locations in the central and western U.S., Africa, Alaska, Australia, the Bahamas, Greenland, and Scandinavia.

Citation: In recognition of Andrew H. Knoll, who, in collaboration with Robert Maliva and Raymond Siever, has formulated an imaginative and important new hypothesis that accounts for the distribution of late Proterozoic through Cenozoic chert.

John P. Grotzinger

Robert G. Maliva
Outstanding Paper Award, 1989
PALAIOS

Robert G. Maliva with co-authors Andrew H. Knoll and Raymond Siever have been selected to receive the Outstanding Paper Award for 1989 for their paper "Secular changes in chert distribution: A reflection

of evolving biological participation in the silica cycle," published in *PALAIOS*. This paper is a superb example of cross-fertilization between disciplines. Bob Maliva was born in New York City and obtained his B.A. at S.U.N.Y. Binghamton in 1982. He majored in both geological and biological sciences, so it is not surprising that his interests were paleontological. He studied a "deep water" basinal carbonate fauna of Mississippian age in the Rockford Limestone which was deposited at the toe of the Borden Delta for his master's at Indiana University. Despite efforts by Gary Lane, Bob's interests during this time in Bloomington changed: he became increasingly interested in the geochemistry of sedimentary rocks. At Harvard, his interest in geochemistry was followed up by his Ph.D. work on silification of marine limestones; 1988. This was not a conventional study of silica diagenesis in a single formation or geographic area, but a wide-ranging study of silification in carbonate sediments from Devonian to Cretaceous age from the U.S.A. and Europe. Bob was interested in the unifying mechanisms and processes of silification rather than the local or parochial manifestations. This is reflected in the subject matter of the paper for which this award is being made. The change from Cambridge, Massachusetts, to Cambridge, England, in 1989, brought changes to Bob's career. His field of research changed to the sedimentation and diagenesis of Chalk from the Norwegian sector of the North Sea; he gained experience in working on reservoir rocks with the oil industry; and being domiciled in a foreign country, he learned from a different culture. He has now returned to his native U.S.A. (Miami) where his scientific output is expected to continue to flourish.

Citation: In recognition of Robert Maliva, who, in collaboration with Andy Knoll and Ray Siever, has demonstrated how interdisciplinary research can illuminate "the wood from the trees."

J. A. D. Dickson

H. Edward Clifton
Honorary Member

H. Edward Clifton, better known as "Ed," honored me when he requested that I be his biographer. When I think of Ed I see an enthusiastic and generous friend who somehow finds the time and energy to give to SEPM in a sustained, versatile, and fruitful manner. He received his B.Sc. degree and Phi Beta Kappa from Ohio State University and his Ph.D. degree from Johns Hopkins University. After a brief time in industry exploring for glass sand in South Carolina and lead-zinc-silver sulfide deposits in Nova Scotia, he joined the U. S. Geological Survey, where he has had a most eminent career in studying modern and ancient coastal depositional facies. Ed has tried to balance his research between marine geology and the study of rocks. His philosophy has been that the best understanding of the facies and geologically important processes comes from the examination of both the modern environment and the stratigraphic record. As a field geologist, Ed exhibits a tenacity for extracting detailed observations from outcrops, nuances that often provide key geological constraints on his interpretations. His studies in the modern realm included 60 days spent doing research from an underwater habitat during Tektite I. This work remains the longest undersea habitation on record. For these studies, Ed received the Meritorious Public Service Award, the second highest civilian award given in the U. S. Navy. Although he is best known for his studies in coastal environments, his publications have included such diverse subjects as gold placer deposits, sedimentary structures produced by earthquakes, and the most widely circulated and reprinted paper ever published in *JSP*, "Tips on Talks," published in 1978. Ed's term as President of SEPM was a milestone in the history of our organization. It came during one of the most difficult times in the Society's history. SEPM faced simultaneously both financial disaster and the threat of losing the autonomy from AAPG that our Society had traditionally enjoyed. A Technical Division of AAPG, the Society became an inde-

pendent corporate entity, a move largely initiated through Ed's actions, which required careful shepherding through diverse legal requirements and negotiations with the AAPG. Independence was achieved in a spirit of friendship and cooperation with the parent organization, and SEPM has recovered its financial losses and is currently financially stable. We are indeed privileged to have Ed as one of SEPM's Honorary Members.

Citation: For signal contributions to the understanding of modern and ancient coastal depositional facies, for pioneering achievements in underwater geological research, and for leading the Society to its independence.

Harry E. Cook

Response from H. Edward Clifton

I am very pleased and deeply honored to have been accorded Honorary Membership in the world's premier society for sedimentary geology. But I must confess to a touch of embarrassment. I have often felt (and have heard my colleagues say) that it is ridiculous to be paid to do something as much fun as geology. Both my research and my service to SEPM have been so highly enjoyable that it is just a little discomfiting to be honored for them. My research has allowed me to travel, to make many friends, and to explore new environments. I'm sure that many SEPM members can empathize with the pleasures I've experienced in the course of my work: the peaceful solitude of studying Miocene coastal deposits in the barren expanse of the Caliente Range; the incredible experience of living 60 days on a tropical coral reef; the challenge of attempting to box core the Oregon surf zone, and the satisfaction of ultimately succeeding; the thrill of discovery as an outcrop begins to make sense. To be paid for such experiences is astonishing. To have them additionally contribute to Honorary Membership in SEPM is mind-boggling. My experiences in serving SEPM have been equally rewarding. Formidable challenges confronted the Society in 1986 and 1987. It was a time of drastic downturn in the petroleum industry; SEPM's products were not selling and membership was plummeting. An examination of our finances indicated that our existing course would lead to insolvency within three or four years. We were at that time a Division of AAPG, part of their corporate structure. AAPG legally owned the assets under SEPM's control and was responsible for debts incurred by the Society. Concerns for that financial responsibility led AAPG to invoke a set of demands that, if accepted, would seriously curtail the autonomy that SEPM had long enjoyed. After much discussion, both organizations concluded that the most advantageous course was to allow SEPM to establish its own corporate entity, and I spent much of my presidential year working cooperatively with the AAPG leadership to make us an independent society. At the same time, we sharply reorganized our programs and the headquarters staff in order to reverse the financial drain. I find it immensely gratifying to note that the Society, under the wise direction of subsequent Councils and careful staff management, has returned to a position of financial strength.

Many people share in the honor SEPM has accorded me. My research has profited from the interaction of colleagues at the U. S. Geological Survey and elsewhere. Ralph Hunter has patiently listened to my wild speculations for many years; his scientific counsel has kept me from straying too far from the path of good science. The members of SEPM Council in 1986 and 1987 unflinchingly shared many difficult decisions. The chemistry of this group was great, and working together was thoroughly enjoyable, despite the anxiety of the times. The SEPM Staff deserves much credit for the successes we achieved. Joe Huffstetler's sagacious good humor helped smooth our negotiations with AAPG. Robin Dixon played a vital role in all our decisions, and her energetic, perceptive leadership was essential to their successful outcome. Finally, there is my family. They stood by me through periods of extensive travel, participated in field work, and continually provided loving support while I had fun.

John C. Harms Honorary Member

John Harms received the B.A. degree from Columbia University in 1951, along the way earning election to Phi Beta Kappa and three varsity letters in crew. After a year of graduate work at the University of Kansas he was lured into exploration geology by Conoco Oil Company, but his career was interrupted two years later by military service during the Korean War. Following his discharge, John returned to graduate school at the University of Colorado. Upon receiving his Ph.D. degree from C.U. in 1959, he joined the scientific staff of Marathon Oil Company's newly-formed research laboratory in Littleton, Colorado, ultimately becoming manager of the laboratory's Regional Exploration Department. In 1982 he and Michael Brady formed the successful and still active consulting firm of Harms and Brady in Littleton. While at the Marathon Laboratory, John developed an outstanding international reputation as a sedimentologist—a reputation that continues to grow. Using modern sediments and laboratory flumes as his research resources he became a leading world authority on the use of sedimentary structures to interpret depositional environments. His 1965 SEPM senior-authored Special Paper on stratification, bedforms, and flow phenomena is still a premier article in its field. He was the first geologist to seriously study hummocky cross-bedding; he invented the term and he was the first to explain how the bedding forms. He has authored or coauthored several tens of scientific papers, three of which have been republished as "Benchmark" papers in geology. Despite repeated attempts to lure John into academia he has remained in industry. Nevertheless, he has helped educate thousands of geologists in his short courses, lectures, publications, as a leader of countless field trips, and as a visiting lecturer at several major universities. His senior-authored SEPM Short Course No. 2 and its revision No. 9 have been offered nearly a dozen times, and the Notes for those courses are among the Society's all-time best-selling publications. Many professional societies have benefited from John's dedicated service. To name a few: for SEPM he has served as Secretary-Treasurer, Councilor, President of the Rocky Mountain Section, and Continuing Education Lecturer. He has been AAPG "Distinguished Lecturer" and a member of numerous AAPG, GSA, and National Research Council committees. His awards include several citations for "Best Paper" and "Excellence of Presentation." In 1975 he was the Rocky Mountain Association of Geologists' "Scientist of the Year." On anyone's list of the world's leading sedimentologists, John is one of the best known and most respected.

Citation: In recognition of his fundamental contributions to the understanding of ancient depositional environments and his sustained excellence in basic and applied research.

Theodore R. Walker

Dr. Harm's response is not available for publication.

Erle G. Kauffman Raymond C. Moore Medalist For Excellence in Marine Geology

Erle G. Kauffman, the Moore medalist for 1991, was born in Washington D. C. to accomplished parents: a father who was a forester, writer, and editor and a mother who was an actress, concert pianist, and writer. Perhaps to his father, Erle owes his strong commitment to natural science and to his mother, his ability to present a lecture with exceptional articulation. Erle's curriculum vitae is much too thick to accommodate even a heavy-duty staple. A few hundred words cannot summarize, but only highlight his achievements. Erle's research has centered on the Cretaceous System and bivalve mollusks, but in no other way can it be narrowly defined. Erle has been ever cognizant of the interplay between organisms and environments, and rather than restricting his research to a single approach, he has endeavored to combine systematic, biostratigraphic, paleoecological, and

biogeographic data to solve geological problems and generate new ideas. Erle examined the effects of transgressions and regressions on the distribution of marine communities and developed a global sea level curve for the Cretaceous long before the study of eustatic changes became fashionable. His high-resolution biostratigraphy for the Cretaceous of the Western Interior has enabled him to track many kinds of biotic changes in great detail. Now his graphic correlations using global signals promise to shed light on worldwide events. With all the interest in regional and global anoxic events, he is one of a very few people who have studied the effects of such events on life of the sea floor. Long ago, Erle discovered the now-famous ammonite bitten by a mosasaur. Since that time, employing fossil occurrences and functional morphology, he has made many additional contributions to our understanding of biotic interactions. Erle's work on rudists, first with Norm Sohl and now with Claudia Johnson, has given us an entirely new picture of these strange but important dinosaurs of the clam world: they were probably hosts for symbiotic algae, secretors of anti-fouling chemicals, and inhabitants of a "supertropical" biogeographic zone in the central Tethys. From these studies are emerging important ideas about the adaptive nature of rudist evolution and powerful evidence that the rudist reefs became severely impoverished before the very end of the Cretaceous Period. I will end with a brief story. Perhaps we can call it "The Parable of the Concretion." When I was a graduate student at Yale, a huge Cretaceous concretion was placed in the stairwell of the Kline Geology Laboratory. Soon thereafter, Erle arrived for a visit. This massive object was obviously never to be moved far or lifted high by any unaided human, but Erle could not resist the challenge. He squatted low, wrapped it in his arms, and got it off the ground.

Citation: To Erle G. Kauffman for his contributions to our understanding of the interactions between marine organisms and their changing environment, which he has elucidated especially for the Cretaceous System by combining research in systematics, evolution, biostratigraphy, functional morphology, paleoecology, and biogeography.

Steven M. Stanley

Response from Erle G. Kauffman

It is an honor and a privilege to be awarded the R. C. Moore medal by the Society for Sedimentary Geology—as it has been to live on this unique planet and to have spent a lifetime exploring the still mysterious and exciting record of its biological history. Life has been a major force in shaping the evolution of Planet Earth for over 3.5 billion years. In its co-evolution with the lithosphere, hydrosphere, and atmosphere, the global biota has proven to be the most faithful and sophisticated sensor of geologic time and dynamic changes in Earth environments. It provides us with the greatest breadth and refinement of interpretative data applicable to the reconstruction of Earth history. Paleontology can only thrive as an interdisciplinary science, using its extraordinary potential for innovative problem solving in conjunction with the challenges posed by all branches of geology and biology, by paleoclimatology and paleoceanography, and by the planetary sciences. Fossils are more than systematic descriptions of species, albeit this is our critical data base without which interpretation is impossible. Fossils are also sedimentary particles, rock formers, and as such help to define the physical parameters of depositional environments. Fossils represent once-living species, communities, and ecosystems, each of which, as today, uniquely defines the physical, chemical, and biological parameters of ancient environments at a level of refinement largely unparalleled by temporally repetitive sedimentological and geochemical data. Within well preserved skeletal remains are locked geochemical data defining the thermal, chemical, and ecological characteristics of ancient land/ocean/atmosphere systems, as well as materials for absolute dating and phylogenetic interpretations. Growth histories recorded in fossil shell ultrastructure are paleoclocks defining the rates and patterns of small-scale environmental changes, and even astrophysical cycles and events. And in

the non-repetitive pathways of evolution, the paleobiological record presents us with unique suites of fossil taxa for each small increment of geological time; biostratigraphy remains our most persistent, most refined, and most trustworthy means of dating and correlation within the global sedimentary record. Finally, the impact of paleontology and evolutionary theory on the philosophical development of man, and on our view of time and the significance of life, is immeasurable. Perhaps, with the immense potential of fossil biotas to record fine details in the co-evolution of life and global environments, we can now turn to that record in order to fully understand, predict, and rapidly act to change the frightening destruction of the global ecosystem and the spiraling rate of mass extinction on Earth today at the hands of a single species, *Homo Sapiens*. It has been a joy to spend my professional years studying the evolution of life and applying what I have learned to solving diverse problems in Earth history. To my teachers at the University of Michigan; to the many colleagues and students who have guided my career; to the love and support of my parents and family, and especially to my wife Claudia; to the membership of SEPM for your appreciation of my efforts; and finally to that grizzly old character, Raymond C. Moore, who, after an especially shaky GSA presentation of my first research efforts in paleontology more than 30 years ago, rose to his feet and in a loud clear voice proclaimed, "By God, that's the way paleontology should be done," thus saving me from a life as a salesman or a beachcomber—to all of these people, and to all of you, I offer my sincere gratitude on this wonderful occasion.

Elazar Uchupi

Francis P. Shepard Medalist
For Excellence in Marine Geology

Elazar Uchupi, the recipient of the 1991 Francis P. Shepard medal, was born in New York City in 1928. Elazar (el-a-thar') is part of a Basque family steeped in the traditions of running restaurants and fishing. Fortunately for marine geology, he is a lousy cook and hates going to sea, at least to fish. When Elazar realized he could not earn a living with his accurate jump shot (just too short for basketball, even in the 40's), he decided to embark upon a career in the earth sciences. After earning a B.S. from City College in 1952, he journeyed to the West Coast, where he would receive both M. S. (1954) and Ph.D. (1962) degrees at the University of Southern California. At USC, Elazar met and began to work with Kenneth O. Emery. Their scientific alliance, which continues to this day, is arguably one of the longest and most productive in the history of marine science: approximately two dozen articles in refereed journals and two books over a span exceeding 30 years. The second book, *The Geology of the Atlantic Ocean* (1984), deserves special mention. Over one thousand pages long, with an accompanying folio including dozens of maps, this volume is a veritable storehouse of knowledge for anyone interested in the Atlantic. Of particular value is the exhaustive reference list at the back—some 5000 titles. Elazar read and absorbed every one of them en route to the book's publication—and he remembers everything he reads. Truly astonishing.

But I get ahead of myself. After concentrating on the sedimentology and stratigraphic development of the California Borderlands as a graduate student, Elazar followed "K. O." to Woods Hole Oceanographic Institution (WHOI) in 1962, and both have been there ever since. The 60's were heady days in marine geology and geophysics. The field was opening up, and a number of important programs were getting underway, among them the joint U. S. Geological Survey/WHOI initiative on the Outer Continental Shelf (OCS) off the East Coast of the U. S. Elazar led OCS cruises from the Gulf of Mexico to the Gulf of Maine during those years, leading to fundamental publications describing regional bathymetry, sedimentology, and structure. These efforts culminated in Elazar's first book with Emery, AAPG Memoir 17, *Western North Atlantic Ocean: Topography, Rocks, Structure, Water, Life and Sediments*, at that time the last word on the marine geology of the East Coast, and still a useful reference today.

The International Decade of Ocean Exploration (IDOE) followed in the early 70's, and Elazar responded with a series of seminal papers with Emery and others detailing the geologic development of the west coast margins of Africa. Those papers remain the benchmark against which all other work in that region is judged.

Elazar was then, and continues to be, a mapper. No one loves to analyze marine geological data (of any and every kind) more. Witness his recent (1988) compilation and interpretation of thousands of bottom photographs collected during surveys of the Titanic's final resting place. Through his years at WHOI, a few graduate students have come his way, usually one at a time, and have all benefited from his first and foremost love—collating vast and disparate bits and pieces of information into a unified geologic whole. That enduring service to students is now (finally) being recognized, for he presently fills the J. Seward Johnson Chair in Oceanography at WHOI. In that capacity, he helps to oversee and coordinate marine geology and geophysics graduate education at the Oceanographic. No one could inspire young, untried intellects in the earth sciences better.

Citation: For unique, varied, substantive, and uniformly outstanding researches in the realm of marine geology, the Francis P. Shepard Medal for 1991 is awarded to Elazar Uchupi.

James A. Austin, Jr.

Response from Elazar Uchupi

Remembering the words of Jean Cocteau about painters having too many colors in their palettes, musicians too many notes in their pianos, and poets (on this occasion, scientists) too many words in their vocabularies, my response will be brief. On such an emotional occasion as this it is difficult for me to articulate my feelings on receiving an award named after a man I knew and much admired. I can best express my state of mind by referring to the words written by Garcia Lorca in one of his poems. In it he expresses his fears that he will never reach his beloved "Cordova" not so much the physical city, but rather that special place where dreams reside, and to reach it is to give meaning and sense of accomplishment to a life of striving. Others may never reach their Cordova, but tonight I have reached mine. Thank you.

John Imbrie
William H. Twenhofel Medalist
For Excellence in Sedimentary Geology

When SEPM was founded in 1926, its stated aim was to "support the science of stratigraphy." SEPM continues to pursue this goal, but today, 65 years later, the science of stratigraphy operates within very different contexts and uses many new methods. Thomas Carlyle claimed that "biography is the only true history," and I suppose if one were to document the history of stratigraphic science, we could begin by examining the professional lives of some of its more successful practitioners. One such highly successful practitioner is this year's Twenhofel Medalist, John Imbrie of Brown University, whom we recognize tonight for his special contributions to the development of modern stratigraphic science. Following his undergraduate geology degree at Princeton, John earned his doctorate in 1951 at Yale University where he wrote his dissertation on Devonian brachiopods, using bivariate statistics to support taxonomic discrimination of species and subspecies. Before joining Columbia University in 1952, John spent one year at the University of Kansas, where he began a long-term quantitative facies analysis of the Permian Florena Shale in eastern Kansas, anticipating a now-common approach of fine-scale stratigraphic study of sediments, fossils, and geochemistry. Soon after arriving at Columbia, John collaborated with Norman Newell in their study of Bahamian organisms and environments on the Great Bahama Bank. (This was when John earned his nickname, "Captain Nemo," owing to his repeated returns to the watery depths to retrieve equipment, both small

and large.) It was around this time, in the mid-1960s, that John moved up from a high decibel Friden desk calculator to an IBM high speed computer to experiment with more complex ways of delineating facies patterns, including especially his pioneer use of factor analysis in paleoecologic modeling. In the late 1960s, John made two major moves: he joined the faculty at Brown University and turned his quantitative paleoecological skills to analysis of the Pleistocene deep-sea record. Using Caribbean core V12-122, which John subsequently memorialized on his license plate, he developed a quantitative method for inferring surface ocean conditions from planktonic foraminifera. Before long John was one of the chief architects of the CLIMAP project, which led to his interest in determining the causes of the ice ages and eventually a test of the Milankovitch theory of climatic change. John is perhaps best known for his demonstration of the reality of Milankovitch cycles of solar insolation in forcing global climatic change by his detailed analysis of Pleistocene deep-sea cores. This work, like most of all his other work, is quintessential stratigraphy, where John employed his special skills as a quantitative paleoecologist to the interpretation of layered sedimentary sequences. As mandated by SEPM Council, I was instructed to keep this citation brief. So I can only assert that besides being an imaginative and productive scholar, John is an inspiring teacher, engaging lecturer, articulate writer, and worthy recipient of diverse honors, including the William Smith Lectureship of the Geological Society of London, a five-year MacArthur Prize Fellowship, the Leopold von Buch Medal of the German Geological Society, the Maurice Ewing Medal from the AGU, and most recently a \$240,000 Special Creativity Award from the National Science Foundation. Brevity also precludes detailed mention of the many colleagues with whom John has collaborated, and he is the first to acknowledge their role in his success. John's enthusiasm, originality, and good humor have attracted many excellent scientists, as well as his daughter and son, into working and publishing with him. In a recent letter to me John confessed that, "At bottom I am really just a geologist who loves to work out what happened in earth history. To do this, of course, the need to straighten out the stratigraphy first is paramount. Although I am known for other fancy approaches, I really spend my time doing detailed stratigraphy. For if the stratigraphy is wrong, it makes no sense to apply fancy quantitative models!"

Citation: In recognition of outstanding contributions to quantitative stratigraphic analysis and the formulation of testable models regarding global climate change as preserved in the geologic record.

Léo F. Laporte

Response from John Imbrie

Of course I am greatly honored to have been selected by the SEPM (Society of Sedimentary Geology) as this year's Twenhofel Medalist. But as I stand here tonight, my emotions are much deeper than the simple sense of satisfaction that one feels when his professional work is recognized and used by others. This is because I am probably one of the few people present who is old enough to have been a student when the textbook and other writings of William H. Twenhofel were a standard part of the geology curriculum. Although I never actually shook hands with Twenhofel, my contact with him took place where it really matters scientifically: on the printed page, that deceptively peaceful battleground where author and reader meet during those precious, often late-night hours of total concentration. For me, therefore, being selected as this year's Twenhofel Medalist is not only a great honor, but a special source of satisfaction. For it confirms that my effort, like that of all other sedimentary geologists who go through the agony and ecstasy of publishing their findings, forms part of the golden thread of observation and theory that binds us all and extends back through Sorby and Darwin to William Smith and beyond.

I should add that this award comes as a great surprise to me, as I am sure it will to many others. Why? Because starting about 20 years ago my

ties to the SEPM began to weaken, and within ten years they virtually disappeared. During the previous two decades these ties had been very strong. They included regular attendance at meetings, and active role in organizing symposia, even a stint as Secretary-Treasurer. Then, in 1972, I received a telephone call from a distinguished atmospheric scientist named Yale Mintz who was then organizing a major national Academy study whose purpose was to recommend how the U. S. program of research on global climate change should be expanded and reorganized. The panel members, all well-known meteorologists and oceanographers, had already been chosen. Apparently at the last minute, someone in this group remembered hearing about an ice age, and the Chairman was calling me to see if there was in fact, "any really solid evidence for such a climatic event," or whether, as I think he suspected, the phenomenon was mainly a figment of the imagination of New Yorker cartoonists who occasionally like to draw an insensitive ice age man dragging an unliberated ice age woman into a cave. I can still remember my sense of shock as it dawned on me how blissfully ignorant this group of eminent physical scientists actually was about the nature of our sedimentary science and the great discoveries we had made about the history of our planet. Pausing a moment to collect my thoughts, I let loose a non-stop ten minute lecture (perhaps "tirade" would be a more accurate term) in which I tried to outline basic principles and summarize the mountain of facts which demonstrate that the earth did indeed experience an ice age only 20,000 years ago. After I stopped for a breath, there was a pause on his end of the line, followed by a question: "Were there any previous ice ages?" On being informed that such phenomena are known all the way back to the Precambrian, he decided that the topic of ice ages was, after all, worthy of being included in his investigation of the causes of climate change.

I was invited to join the panel, which in due course published its influential report, "Understanding Climatic Change." Viewed in hindsight, of course, Mintz's reluctance to admit the importance of geological records of past climate would strike most scientists (and even many government bureaucrats) as peculiar. But before judging him harshly it is well to recall that in those distant days no one worried about the greenhouse effect, and it was not yet clear from ice-core records that ice age cycles involve changes in the concentration of carbon dioxide and other greenhouse gases. In fact, current concerns were focused on the previous thirty year trend of planetary cooling. In any event, from the day of Mintz's telephone call onward, I have devoted most of my scientific effort to communicating geologically-based inferences about past climates to meteorologists and oceanographers. In particular, I have focused my missionary attentions on those scientists who build numerical, three-dimensional models of atmospheric and oceanic circulation in order to simulate real-world behavior and thereby test their understanding of how the planetary weather machine works. I quickly found that in order to apply these models to geological problems, geologists must translate their stratigraphic framework into a chronology, and their library of mineralogic and paleontologic observations into inferences about the position of oceanic fronts and air masses, and into quantitative estimates of ocean temperature and chemistry. All this took time. Gradually, I let my "regular army" duties at the SEPM lapse, and I became an undercover "agent" in the climatologist's camp.

My earlier statement of surprise at being honored by this SEPM award was not, therefore, merely a standard bit of rhetorical modesty. I am genuinely amazed that anyone here remembers me at all! Thank you for remembering that my roots are here.

IN MEMORIAM

It is with regret that the SEPM (Society for Sedimentary Geology) reports the deaths of the following members:

Paul N. Bond	David M. Michlik	Fred J. Smith, Jr.
Hugh N. Frenzel	B. R. Rust	Ryuzo Toriyama
Richard Hollingsworth	Willis L. Savage	Stanley G. Wissler
Godfrey Kauffman	David J. Sexton	Alfred O. Woodford
Dean A. McGee		

The Society acknowledges its indebtedness for their contributions to science and for their support of the Society's objectives.