



GSA news & information

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G.S.A. ARCHIVES

MAY 1983

Membership Department Staff Keeps Records, Solves Problems

By Faith Rogers

Keeping track of 13,000+ members and coordinating the GSA Employment Service keeps the four people in the Membership Department busy at their typewriters, on the telephone, and at the keyboard of their new computer terminal.

Membership Coordinator Clara Hodgson and her staff, Jan Koenig, Cindy Maxwell, and Vernita Westbrook, handle everything from starting files for new members to writing to foreign members about costs of sending GSA publications by air mail.

For the Record

Your file at GSA includes your membership application, biographical data, miscellaneous correspondence, current name changes, and current address. If you join GSA in the middle of the year, you get all issues of the *Bulletin* and *Geology* for that calendar year, via labels produced from the Membership Department. If you change your address, as 300 to 500 members do each month, the Membership Department sees that GSA journals and other mailings catch up with you. If you don't pay your GSA dues in response to the first mailing of dues statements in September, the Membership Department mails another statement to you in February—and again in September if necessary. If you write a comment or question in the space provided on the dues statement, the Membership Department sees that it goes to the appropriate person for information or response.

She Knows—Or Can Find Out

Clara Hodgson, named Membership Coordinator in May 1981, oversees the myriad tasks of keeping these files up-to-date and complete. She also coordinates the recruitment activities of GSA campus representatives, organizes the employer part of the Employment Service and plans Employment Service operation for GSA Annual Meetings, processes nominations for GSA Fellowship, keeps the Membership Committee informed of member concerns and arranges its yearly meeting, and organizes the Forum on Future Employment Opportunities in the Geological Sciences for the annual meeting. Clara was in GSA's Publication Sales Department from 1970 to 1974, left to work as a registered nurse (credentials she still holds), and returned to headquarters in 1979, to the Membership Department. What does she like best about her work? "The variety," Clara says, "although it's pretty hectic in the fall, when we do large-volume mailings and get ready for the annual meeting." Clara manages



Clara Hodgson coordinates the many and varied functions of GSA's Membership Department.

to get away from her office long enough to take occasional camping trips and to hunt for antiques.

Facts, Figures, and Searches for Memorial Writers

Jan Koenig checks dues statements for accuracy, sends out membership and Employment Service applications in response to requests, processes claims for nonreceipt of publications, orders and checks the membership certificates available to members for a small fee, and handles correspondence about memorials to GSA Fellows. The latter may involve research in GSA's files to find an appropriate person to write a memorial—detective work that Jan enjoys. Jan's interests include computer programming and jogging (she runs during lunch breaks and competes in local races). She came to headquarters in July 1982.

(continued on p. 70)



Jan Koenig sends membership applications out, checks the figures on your dues statement, and tracks down memorialists.



Cindy Maxwell schedules Employment Service interviews at GSA's Annual Meeting for employee applicants, generates back-issue labels, and processes member status transfers.

Membership Department (continued from p. 69)

Updates, Labels, and Employment Service Interviews

Cindy Maxwell handles the employee applicant part of GSA's Employment Service, helps check the monthly membership update printouts, produces the lists for the labels that get back issues of GSA publications to members, processes transfers of status from Student Associate to Member (or vice versa), and corresponds with non-North American members about air mail rates for publications. Cindy, who started work at headquarters in late 1980 as the receptionist, enjoys telephone contact with Employment Service applicants, although, she says, "It gets pretty wild just before the annual meeting, when applicants get anxious about interview scheduling." Cindy counters the pressure by riding her bicycle to work and indulging her flair for flower arranging and cake decorating.

"Don't You Guys Ever Read Your Mail?"

Address changes—300 to 500 a month—are Vernita Westbrook's province. She explains to members such as the one quoted above why an address change may not go into effect with the very next issues of the *Bulletin* and *Geology*. (As with most publishers, GSA must have *advance* notice of address changes if publications are to arrive at the new address when the member does.) Vernita *does* read the mail (and Postal Service notices of address change—which are sometimes erroneous), as well as corresponding with members about errors on their dues statements, and processing new member applications and reinstatement requests from former members. "I enjoy communicating with GSA members and solving problems," Vernita says. Her varied interests include playing guitar and mandolin and hiking in the mountains. She worked with physically and mentally disabled children before joining the headquarters staff in late 1981.

Computerization and Communication

The Membership Department staff is looking forward to the many improvements the new GSA computer system will bring. The word-processing function of the system will make communication with members easier and faster. Membership records will be updated continuously, rather than once a month, alleviating



Vernita Westbrook processes membership applications, records address changes, and writes to you if there's an error on your dues statement.

to some extent the time lags in mailing back issues of publications and in activating address changes.

The department welcomes questions, comments, and suggestions. You can call (303) 447-2020 between 8 a.m. and 4:30 p.m. Mountain Standard (or Daylight) Time, or write to Membership Department, GSA, P.O. Box 9140, Boulder, CO 80301.

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CENTENNIAL NEWS

by Allison R. (Pete) Palmer

Caribbean Region Synthesis Volume Organized

At a workshop held in Miami on January 21 and 22, 1983, 27 participants, representing six countries, met to develop the detailed plans for the DNAG synthesis volume *The Caribbean Region*. The outline that resulted is given below. Authors for multiple-author chapters are listed alphabetically; the name of the coordinator for each

chapter is in italics. As with other synthesis volumes, additional authors may be added to any chapter as work progresses in order to develop the best possible body of information for synthesis. Peer-reviewable manuscripts and maps are to be in the hands of the editors of this volume in March 1984. Publication is expected in 1985.

The Caribbean Region

A. Introduction

1. History of Study, Regional Overview—*J. Case, G. Dengo, G. Draper*
2. Crustal Character—*J. Case, W. MacDonald*
3. General Stratigraphy—*W. MacDonald, F. Maurrasse, F. Nagle*

B. Regional Geology

1. Northern Central America—*T. Donnelly, G. Escalante, G. Horne, E. Lopez-Ramos*
2. Cuba—*J. Lewis, P. Mattson, G. Pardo*
3. Jamaica/Hispaniola/Puerto Rico/Virgin Islands—*C. Bowin, G. Draper, J. Lewis, P. Mattson, F. Maurrasse, F. Nagle*
4. Lesser Antilles—*R. Maury, G. Westbrook*
5. Northern South America—*A. Bellizzia, G. Dengo, H. Duque-Caro, H. MacGillivray, C. Martin, C. Schubert, R. Shagam*
6. Southern Central America/Western Colombia—*H. Duque-Caro, G. Escalante*

7. Marine Geology—*T. Holcombe, J. Ladd, G. Westbrook*

C. Regional Geophysics and Geochemistry

1. Seismicity—*W. McCann, W. Pennington*
2. Neotectonics—*C. Schubert*
3. Magmatism—*T. Donnelly*
4. Volcanism—*M. Carr, R. Stoiber*
5. Paleomagnetism—*W. MacDonald*

D. Geological Evolution

1. Plate Tectonic Interpretation—*J. Case, J. Ladd*
2. Alternative Hypotheses—*A. Meyerhoff*

E. Economic Geology

1. Mineral Deposits—*S. Kesler, E. Levy, C. Martin*
2. Energy—*R. Bueno, A. Meyerhoff, A. Morris, G. Young*

F. Summary—*J. Case, G. Dengo*

GEODYNAMICS SERIES AVAILABLE THROUGH AGU

The popular final reports of the International Geodynamics Program, copublished by the American Geophysical Union and GSA, are now available only through AGU. However, GSA members are eligible for a 30% discount when identifying themselves as members and supplying membership number.

The new arrangement will permit filling orders more quickly and with less handling of the publications. AGU accepts MasterCard and VISA and encourages use of their toll-free phone (800) 424-2488 during regular business hours (Eastern Standard Time).

The following volumes are currently available: Volume 1, *Dynamics of Plate Interiors*, \$20. Volume 2, *Paleoreconstruction of the Continents*, \$20. Volume 3, *Zagros, Hindu Kush, Himalaya—Geodynamic Evolution*, \$36. Volume 4, *Anelasticity in the Earth*, \$20. Volume 5, *Evolution of the Earth*, \$25. Volume 6, *Dynamics of Passive Margins*, \$20. Volume 7, *Alpine-Mediterranean Geodynamics*, \$22. Volume 8, *Continental and Oceanic Rifts*, \$26.

Those interested in more detailed descriptions of these volumes or in ordering by mail can write to American Geophysical Union, 2000 Florida Ave., N.W., Washington, DC 20009.

PEOPLE

GSA Fellow **Fred A. Donath** was appointed a hearing panelist by the U.S. Department of Energy for two of the five public hearings in March on proposed general guidelines for the recommendation of repository sites for high-level radioactive waste and spent fuel. Donath served as an expert in the geosciences during the hearings in New Orleans and in Washington, D.C. Donath is Director and Principal Geoscientist with Ertec Western, Inc., Long Beach, California. He has served as a consultant to the U.S. Nuclear Regulatory Commission and Sandia National Laboratories, in Albuquerque, New Mexico, and as an advisor to the Office of Science and Technology Policy. He was formerly a faculty member of Columbia University and a professor and head of the Department of Geology at the University of Illinois in Urbana.

GSA Fellow and Foundation trustee **Michel T. Halbouty** has received the Texas Academy of Sciences' 1983 Distinguished Texas Scientist of the Year Award. The award recognizes outstanding contributions to science by a Texas scientist. Nominees must have outstanding records of achievements in research, publications in research, or publications in other significant areas over a long period of time. Halbouty, Chairman of the Board and Chief Executive Officer of Michel T. Halbouty Energy Co., Houston, is recognized as an outstanding authority on the geological and petroleum engineering problems of North America and is rated as one of the world's top experts on the geology of Gulf Coast salt domes.

WHAT THEY WERE READING

25 years ago . . .

"Environmental changes, especially of climatic nature, must influence the rate of formation and degree of development of varnish. Hunt (1954) suggests that pluvial periods provide optimum conditions for the formation of varnish in arid regions. He recognizes varnish deterioration and by inference relates it to drier periods. Walther (1924, p. 173, 178) by contrast regards dryness rather than moisture as more favorable to varnish formation. At least four different degrees of varnish development can be recognized on the surface stones of closely associated alluvial or colluvial deposits of different ages and no great antiquity in southern California deserts. It seems unlikely that these varnishes indicate four separate climatic fluctuations. Rather, it appears that varnish formation has gone on more or less continuously within the limits of recent climatological variations, none of which may have been truly pluvial, and the degree of varnish development reflects the age of the alluvial or colluvial deposit."

From "Chemical Data on Desert Varnish"
by Celeste G. Engel and Robert P. Sharp
Bulletin of the Geological Society of America
v. 69, p. 487-518, May 1958

50 years ago . . .

The numerous problems involved in the scientific classification and nomenclature of rock units have long engaged the attention of geologists. Gradually, certain guiding principles have come to be recognized generally, and practices deemed good in the classification and nomenclature of rock units have become fairly well established. There is much room, however, for development of the principles and especially for the more widespread application of what seem to be the best practices in using the principles. Except for the work of the International Geological Congress in 1901 and earlier years, there has been no attempt by a representative group to write a body of rules or recommendations covering stratigraphic classification and nomenclature. Under these circumstances, it is, perhaps, natural that geologic workers in North America, whose number and scientific publications have increased greatly in recent years, should fail to have any reasonably uniform views as to certain principles or practices in the classification and nomenclature of rocks. It is believed that

the large majority of American geologists will welcome the carefully prepared recommendations that follow, which, it is hoped, will contribute significantly to the advancement of geologic research."

From "Classification and Nomenclature of Rock Units"
by G. H. Ashley and others
Bulletin of the Geological Society of America
v. 44, p. 423-459, April 30, 1933

Note: The new North American Stratigraphic Code is scheduled for publication this month in the *AAPG Bulletin*.

75 years ago . . .

"In the Basin Range region it has been customary to regard the intermont plains on the one side as deeply covered by waste which gradually becomes thinner until finally the bare surface of the tilted block emerges and passes into the mountain elevation. Most of those persons who have had to deal with the basin ranges of western America have thus interpreted the underground structure of this region. It now seems that this idea is due to a purely deductive conclusion based on wholly erroneous premises.

"On the whole, the ascribed thicknesses of aggraded materials in the central portions of the basins under consideration is, as yet, largely a result of inference to fit an hypothesis rather than a matter of careful observation on actual conditions. There are probably, in different parts of the arid country, all gradations, from the basins with deep aggraded substructure to those in which there is merely a veneer or even bare rock. The significant fact remains that in the majority of cases in which there have been careful observations made there is a rock-floor at very shallow depths. Such facts are in perfect accord with the evolution of the general relief features under conditions of an arid climate, where wind, and not water, is the dominant factor in giving expression to the earth's surface. Facts of this class are also in harmony with our ideas regarding complete leveling of high-lying surfaces without baseleveling."

From "Rock-floor of Intermont Plains of the Arid Region"
by Charles R. Keyes
Bulletin of the Geological Society of America
v. 19, p. 63-92, May 11, 1908

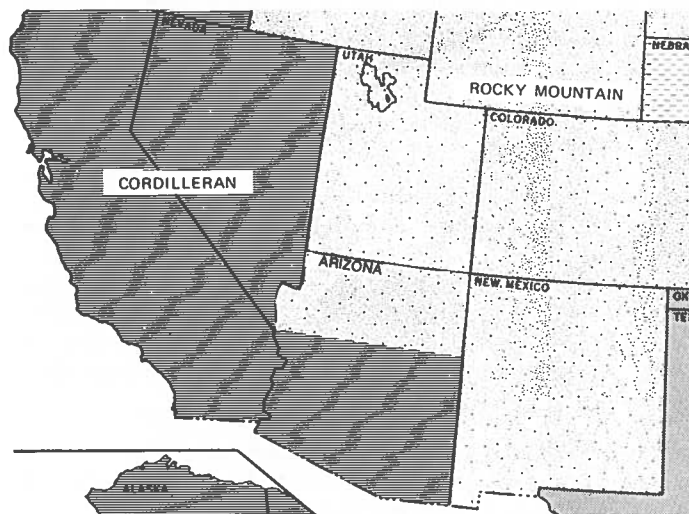
Rocky Mountain, Cordilleran Section Boundary Changed

Arizona north of lat 35°N, formerly in GSA's Cordilleran Section, has become part of the Rocky Mountain Section. The GSA Council approved the change at its October 1982 meeting.

A poll of Cordilleran Section members in northern Arizona indicated that the majority favored including the area, which is part of the Colorado Plateau, in the Rocky Mountain Section. The change was first proposed in 1974.

Members who live in Arizona north of lat 35°N may change to Rocky Mountain Section affiliation at any time, by writing to or calling the GSA Membership Department—(303) 447-2020. Any GSA member in North America, however, can affiliate with a Section other than the one in which he or she lives.

New Section boundary in Arizona puts area north of lat 35°N into GSA Rocky Mountain Section (stipple pattern). Line pattern indicates Cordilleran Section.





Donald F. Carlos



Lawrence W. Funkhouser



Harrison C. Jamison

Foundation Trustees Elect 3 to Board

Three new trustees are contributing their advisory expertise to the GSA Foundation. Elected to 5-year terms are Donald F. Carlos (replacing Robert L. Fuchs), Lawrence W. Funkhouser, and Harrison C. Jamison.

Carlos, of Glendale, California, is vice president and general manager, International Exploration and Production, Getty Oil Company. He earned a B.S. in geology at the University of Kansas, was an officer in the U.S. Navy, and has been with Getty Oil (and its predecessor company) since 1947.

Funkhouser is director and vice president, Exploration and Production, Standard Oil Company of California, in San Francisco. He earned his B.S. in geology at Oberlin College and his M.S. at Stanford University. He also served in the U.S. Air Force. He has been with Standard since 1948.

Jamison received a B.S. in geology at the University of California, Los Angeles. He held positions in exploration with Atlantic Richfield Company in Washington, California, Alaska, and Colorado before being appointed president of ARCO Exploration Company when it was formed in 1981 at Dallas.

MEETINGS

American Association for the Advancement of Science 149th Annual Meeting, May 26-31, 1983, Detroit, Michigan. Information: AAAS—Dept. R, 1515 Massachusetts Ave., N.W., Washington, D.C. 20005.

The Geosat Committee Workshop on early results from LANDSAT 4/Thematic Mapper, other sensors and systems, and geobotanical exploration, June 12-17, 1983, Flagstaff, Arizona. Information: The Geosat Committee, 153 Kearny, Suite 209, San Francisco, CA 94108-4896; (415) 981-6265.

Glass in Planetary and Geological Phenomena, international conference, August 14-18, 1983, Alfred, New York. Information: L. D. Pye, New York State College of Ceramics, Alfred University, Alfred, NY 14802; (607) 871-2432

American Institute of Professional Geologists, Annual Meeting, September 7-10, 1983, Jackson Hole, Wyoming. Information: Gene R. George, P.O. Box 2775, Casper, WY 82601; (307) 265-9199.

International Geological Correlation Program **IGCP Project No. 185, Field Meeting on the Blueschists of the Aegean Area**, September 15-25, 1983, Greece. Information: D. Papani-

kolaou, Department of Geology, University of Athens, Panepistimioupolis Zografou, Athens, Greece.

43rd Annual Meeting, Society of Vertebrate Paleontology, October 27-29, 1983, University of Wyoming, Laramie, Wyoming. Information: Jason A. Lillegraven, Department of Geology and Geophysics, Laramie, WY 82071-3006; (307) 766-5178.

25th U.S. Symposium on Rock Mechanics, "Rock Mechanics in Protection and Productivity," June 25-27, 1984, Northwestern University, Evanston, Illinois. Information: Charles H. Dowding, Department of Civil Engineering, Northwestern University, Evanston, IL 60201; (312) 492-7270.

GSA Meetings, May 1983, Boulder, Colorado.

Foundation Trustees, May 16

Centennial Steering Committee, May 17

Executive Committee, May 18

Section Treasurers and GSA Controller, May 18

Audit Committee, May 18

Council, May 19-20



GSA IS OFF TO INDY

Joint Technical Program Committee to Select Abstracts for 1983 Annual Meeting

by Sue Beggs

The Joint Technical Program Committee (JTPC) will meet at GSA headquarters in Boulder, Colorado, on July 8 and 9, 1983. JTPC is responsible for final selection of abstracts submitted for presentation at the annual meeting.

JTPC—How It Works

The Joint Technical Program Committee is chaired by the Technical Program Chairman and Co-Chairman. It consists of representatives appointed by each society and division. In addition, five at-large representatives are appointed by Council to be responsible for disciplines not covered by these other groups. The at-large categories usually include stratigraphy, sedimentology, remote sensing, marine geology, mathematics, and general geology. Official planning for an annual meeting program begins about two years before the meeting. A process of symposia selection and review of volunteered abstracts culminates in the selection of both oral and poster papers. The full committee meets in Boulder 17 weeks prior to the annual meeting to make the selections.

Symposia

The GSA Council has set a limit of 22 symposia—one half-day session for each associated society and GSA division and six for at-large sponsorship. The Technical Program Chairman sends information for submission of proposals in the fall one year before the meeting. The deadline for submission is usually January 1. After approval by the Chairman, Co-chairman, and General Chairman, the conveners finalize the symposia. Symposia conveners must meet Council requirements of having two reviews by persons not involved in the symposium. They must also meet publication deadlines so that their abstracts will be included in the Abstracts with Programs volume.

Volunteered Papers

The other part of the committee's work is to choose which of the volunteered abstracts are accepted for presentation at the annual meeting.

Abstract forms are available in the fall one year before the meeting. The current forms may be used for both section and annual meetings. The abstracts deadline is about 20 weeks prior to the meeting. (See August 1982 *News & Information* for a discussion of this deadline.)

Each year about 25 representatives are appointed to select abstracts. They meet once, four weeks after the abstracts deadline, at GSA headquarters. Each representative selects from among the reviewed abstracts in his or her category.

The Technical Program Chairman is provided with a six-year history of abstracts received per year by classification. After the abstracts deadline, the chairman knows whether the current abstracts distribution is unique and can adjust the number of sessions accordingly.

Each year the number of abstracts submitted exceeds the amount of time available for presentation at the four-day annual meeting. Fifty half-day sessions are available for volunteered abstracts. At 15 minutes per paper, 16 papers can be presented in a four-hour, half-day session, allowing presentation of (16 × 50) 800 papers. For the 1982 meeting, the JTPC had to choose those 800 abstracts from the 1,389 submitted. Recent Technical Program Chairmen have made it a policy to distribute the abstract rejection burden fairly. The chairman informs the committee how many abstracts must be rejected per classification so that the burden is shared equitably.

Poster sessions are scheduled in addition to the oral sessions. Authors of volunteered papers can request a poster session, or a JTPC representative can request that format for a paper, after consultation with the author.

Session schedules and room assignments are made by the Technical Program Chairman, who takes into account the preferences expressed by representatives of the societies and divisions. Room assignments are based on peak attendance in similar sessions during recent past meetings. Session chairmen are selected from those who indicated on the abstract form their willingness to serve, or by nomination from the JTPC representative. Technical Program Chairmen do their best to minimize conflict within the program and to provide a balanced program within the boundaries of the time and space limitations.

At the end of the JTPC meeting, the program has been finalized. All authors of abstracts receive notification within one week. Authors of accepted abstracts receive a card identifying the time and location of their presentation. Later, all speakers are sent an information packet, which includes the dimensions of the rooms and other details related to their presentation.

Program Review Committee

Each Technical Program Chairman has responsibility for only one annual meeting, but continuity from year to year is provided by the overview committee—the Program Review Committee (PRC). The PRC consists of a chairman appointed by Council and four Technical Program Chairmen—two future, one current, and one past. One of the most significant func-

tions of PRC has been its annual joint meeting with the JTPC representatives. Representatives from GSA divisions and associated societies have the opportunity to comment on both the content and the mechanics of the annual meeting program. This has proved to be the most constructive avenue for change—and improvement.

Representatives and conferees from GSA divisions and associated societies who will participate in the 1983 JTPC meeting

- Chairman *Haydn H. Murray*
- Co-Chairman *Herbert Howe*
- General Chairman, Local Committee *Arthur Mirsky*
- Chairman, 1982 JTPC *William W. Craig*
- Chairman, 1984 JTPC *David B. Slemmons*
- President, GSA, ex officio *Paul A. Bailly*
- Executive Director, GSA, ex officio *F. Michael Wahl*
- GSA Representatives-at-large *George E. Plafker (1982–84), Daniel E. Karig (1982–84), A. Gordon Everett (1983–85)*
Paul K. Sims (1983), Stephen H. Stow (1983–85), John T. Whetten (1983)

GSA Division Representatives

- Archaeological Geology *Diana C. Damilli*
- Coal Geology *Donald D. Carr*
- Engineering Geology *Robert L. Schuster*
- Geophysics *Peter Dehlinger*
- History of Geology *Hubert C. Skinner*
- Hydrogeology *Noel C. Krothe*
- Planetary Geology *Robin Brett*
- Quaternary Geology & Geomorphology *Donald J. Easterbrook*
- Structural Geology & Tectonics *Campbell Craddock*
David E. Dunn

Associated Society Representatives

- Cushman Foundation *Don L. Eicher*
- Geochemical Society *Donald Langmuir*
- Geoscience Information Society *Unni H. Rowell*
- Mineralogical Society of America *Dean Presnall*
- National Assn. of Geology Teachers ... *John R. Carpenter*
- Paleontological Society *David J. Bottjer*
- Society of Economic Geologists *Gunnar Kullerud*
- Society of Vertebrate Paleontologists *Not meeting with GSA*

Associated Society Conferees

- Cushman Foundation *None appointed*
- Geochemical Society *None appointed*
- Geoscience Information Society *None appointed*
- Mineralogical Society of America *Timothy L. Grove and Maryellen Cameron*
- National Assn. of Geology Teachers *None appointed*
- Paleontological Society *Erle G. Kauffman*
- Society of Economic Geologists *Arnold L. Brokaw*
- Society of Vertebrate Paleontologists *Not meeting with GSA*

Comments welcomed

If you have comments about JTPC, please write to Sue Beggs, Meetings Manager, GSA, P.O. Box 9140, Boulder, CO 80301. Your questions and suggestions will be considered by both PRC Chairman Bruce Hanshaw and 1983 Technical Program Chairman Haydn Murray.

PREREGISTRATION, FIELD TRIPS, AND HOUSING FORMS

Available in August *News & Information*

ABSTRACTS DEADLINE — JUNE 3, 1983

PREREGISTRATION DEADLINE — SEPTEMBER 30, 1983

Contacts for Information

Abstracts Coordinator
abstract forms

Employment Service Coordinator
participation by employers/applicants

Exhibits Coordinator
trade exhibits

Meetings Department
for all other information

Geological Society of America, P.O. Box 9140, Boulder, CO 80301 (303) 447-2020



EFFECTIVE SLIDES

Good slides amplify and clarify the message, stimulate interest, and help the speaker keep “on the track.” They merit the same care in preparation as the commentary.

Ideally, the speaker should work with a specialist who can translate information into effective visuals, and who will instruct an artist and a photographer in making slides.

Whether or not such assistance is available to you, here are some of the ways to make effective lecture slides.

While the emphasis here is on 2x2-inch (50x50 mm) slides, the general information applies also to other projected visuals.

AVOID ERRORS

Most errors in slide-making stem from the mistaken assumption that legibility in one form assures legibility in another.

A person ordinarily reads printed material at a distance of 12 to 14 inches (305 to 356 mm). But frequently at a slide presentation the image projected is only 4x6 feet (1.2 to 1.8 m); the rear seats are 70 feet (21.3 m) from the screen!

Reading the text of a 4-foot-high (1.2 m) image at 70 feet (21.3 m) is like reading a 1¼ by 1¼ inch miniature version of this page. Only the titles would be legible. The rest of the text would be a visual jumble of tiny black spots.

Plan line weights of charts and graphs carefully for greatest legibility. Make curves prominent. Construct axis and grid lines so they are clearly visible but relatively inconspicuous.

IMPORTANT POINTS

Format

- Limit each slide to one main idea.
- Use a slide series for progressive disclosure—it clarifies greatly.
- If field photos are used, don't try to illustrate the entire stratigraphic sequence with one photo; be sure the picture was properly exposed and has adequate color density for large size projection.
- Use several simple slides rather than one complicated one, especially if you must discuss a subject at length.
- Use duplicates if you need to refer to the same slide at several different times in your talk. It is impractical for the projectionist to search for and reshow a slide.
- Include titles to supplement, not duplicate, slide data.

Color

- Use 2x2-inch (50x50 mm) color slides—they are effective, easy to make, and inexpensive. Color film is also convenient for making slides from black-and-white copy.
- Stark black on white (or white on black in some cases) can be eye-tiring. White lettering on blue background achieves excellent legibility. Also, consider a light blue, green, or yellow (not red) background.

Letter Size

- Be certain that lines and lettering can be read from any point in the room. An easy test is if you can read all the information on the slide with unaided eye, it will project properly. This test can be applied only after the slide is prepared. In copy preparation, you can assume that you will achieve this if you confine yourself to a 7x10 sheet of paper, leave a 1 inch blank on all sides, use no lettering less than 5mm high and no line width less than 1mm, avoid serif or italic type, and keep your lettering on the horizontal.
- Leave space—at least the height of a capital letter—between lines.
- Limit each slide to 15 to 20 words, or 25 to 30 elements; no more than you will discuss. Crowded tabular data should be avoided.

Presentation

- Plan your slides for a good visual pace in your presentation. Don't leave a slide on the screen after discussing its subject.
- Thumb-spot all slides in the lower left corner when the slide reads correctly on hand viewing. Add sequence numbers.
- Rehearse your slide presentation several times so that you will be familiar with the sequence and timing of the slides.
- On your trip, carry your slides with you—in the tray, if possible. Don't trust them to your baggage if it is checked through.
- Use the Speaker Ready Room to review the order of slides.



ANNUAL MEETING FIELD TRIPS

Indianapolis is centrally located within the midwestern area that is home to many long-established and geologically active educational institutions and state surveys. This area also hosts many industries that are based on local geologic materials and that serve the population center of North America. Geologic studies, therefore, have reached such maturity that when linked with several classic interests, they afford a basis for interesting and diverse field trips.

For further information, contact either Robert H. Shaver, Indiana Geological Survey and Indiana University (812, 335-7428), or Jack A. Sunderman, Department of Earth and Space Sciences, Indiana University-Purdue University, Fort Wayne (219, 482-5849), or contact the designated leaders.

The dates for the Indianapolis meeting are October 31–November 3, 1983. Trips originate and end in Indianapolis unless otherwise specified. Fees will be announced later.

PREMEETING

Stratigraphy, Sedimentology, and Geobiology

1. *The Paleozoic Systemic Boundaries of the Southern Indiana–Adjacent Kentucky Area and Their Relations to Depositional and Erosional Patterns*—Carl B. Rexroad and Henry H. Gray, Indiana Geological Survey, Bloomington, and Anne V. Noland, University of Louisville. Three days, October 28–30.

A series of sections across Paleozoic systemic boundaries in the southern half of Indiana and in the Louisville area illustrate regional depositional and erosional patterns and the stratigraphy of associated formations. Included are complex deformation of Ordovician and Silurian rocks, the Middle Silurian–Middle Devonian paraconformity, both erosion and continuity of deposition associated with the Devonian–Mississippian boundary, and the greatly changing magnitude of the Mississippian–Pennsylvanian unconformity.

2. *Paleontology and Stratigraphy of the Borden Delta of Southern Indiana and Northern Kentucky*—N. Gary Lane, Indiana University, Bloomington; William I. Ausich, Wright State University, Dayton, Ohio; and Thomas W. Kammer, University of West Virginia, Morgantown (The Paleontological Society). Two days, October 28–29.

Participants will leave on Friday and travel immediately to the Louisville, Kentucky, area, where precursor basinal and prodeltaic rocks will be examined at Button Mold Knob and in the Coral Ridge and Solite Quarries. On Saturday, a virtually complete exposure of the Borden delta will be seen near Millport Knob in southern Indiana; also, delta-platform carbonate banks and associated rocks around Lake Monroe will be examined. A major objective will be to understand the relationship between deltaic sedimentation and benthic community paleoecology. The trip will end in Indianapolis on Saturday evening so that participants may attend the Paleontological Society short course on Sunday, October 30.

3. *Stratigraphy of the Wedron and Trafalgar Formations (Wisconsinan) in East-Central Illinois and West-Central Indiana*—John P. Kempton, Illinois State Geological Survey, Champaign; Ned K. Bleuer, Indiana Geological Survey, Bloomington; and W. Hilton Johnson, University of Illinois, Urbana (Quaternary Geology and Geomorphology Division). Two days.

Starting from Peoria, participants will first examine the stratigraphic and lithologic evidence for a proposed threefold subdivision of the Wedron Formation (Lake Michigan Lobe) by visiting new and classic sections between Peoria and Danville and by studying some subsurface cores. On the second day they will trace the Wedron stratigraphy into Indiana to view the characteristics of the Trafalgar Formation (eastern source) and its relationship to the Wedron. Possible facies changes in the tills and relationships of the tills to surface features will be discussed. Participants may either leave by chartered bus from Indianapolis late Friday afternoon, October 28, and travel to Peoria (overnight) or assemble in Peoria on Saturday morning, October 29.

Structural Geology

4. *Precambrian Geology South of Lake Superior*—Campbell Craddock, University of Wisconsin, Madison; Michael G. Mudrey, Jr., Wisconsin Geological and Natural History Survey, Madison; and Timothy B. Holst, University of Minnesota, Duluth (Structural Geology and Tectonics Division). Three days.

The trip will begin Friday morning, October 28, in Duluth, Minnesota, and end Sunday afternoon, October 30, in Indianapolis. This traverse of a complex Precambrian terrane will emphasize structural geology and evidence for four cycles of deformation. Stops include: the folded Thomson Formation (middle Precambrian) near Duluth; the Duluth gabbro complex; the Douglas Fault; lower, middle, and upper Precambrian igneous and sedimentary rocks of the Gogebic Range; and igneous and metamorphic rocks of central Wisconsin.

5. *Geology of the Kentland Dome Structurally Complex Anomaly, Northwestern Indiana — An Intimate Look into the Core*—Raymond C. Gutschick, University of Notre Dame, Notre Dame, Indiana. One day, October 30.

A single quarry, about 100 acres in area and 330 feet deep, has a continuous sequence of more than 1,000 feet of Ordovician and Silurian rocks. The oldest rocks have been uplifted more than 2,000 feet. Deformation is intense with plunging folds and spectacular exposures of faults and fault zones in all their details. Strata are upended and

feature breccias, shattercones, crushed quartz petrofabrics, and coesite(?). See the evidence for yourself—does it represent a natural impact event?

Geomorphology, Geomorphic Processes, and Hydrogeology

6. *Shoreline Processes and Geomorphology, Southwestern Lake Michigan*—Charles Collinson, Ardith K. Hansel, and Rodney D. Norby, Illinois State Geological Survey, Champaign, and others (Quaternary Geology and Geomorphology Division). Two days.

Beginning in Chicago, October 29, participants will study the dynamics of coastal processes along the Lake Michigan shore and their role in shaping the southwestern bluffs and beaches. The effects of wave climate, weather, lake levels, sediment supply, materials composition, and coastal structures will be illustrated. The history of the shore, from the time of glacial retreat through the development of ancient and modern features, will be traced, and implications for shore management and planning will be detailed. An overview of the shore will be made from the Hancock Tower, and, weather permitting, a cruise will be used to examine features from offshore vantages. The overnight will be at a lake-front motel, where beaches can be explored at leisure during the evening and the early morning. The trip will end in Indianapolis, October 30.

7. *Ground-Water Hydrology and Geomorphology of the Mammoth Cave Region, Kentucky, and of the Mitchell Plain, Indiana*—Ralph O. Ewers, Eastern Kentucky University, Richmond; Noel Krothe, Indiana University, Bloomington; Richard L. Powell, Geosciences Research Associates, Inc., Bloomington, Indiana; and James F. Quinlan, National Park Service, Mammoth Cave, Kentucky (Quaternary and Geomorphology Division and Hydrogeology Division). Four days.

Trip participants will meet in Louisville on Wednesday night, October 26, for a slide presentation, overview, and social hour. On Thursday participants will review the results of an intensive study of karst ground-water basins in the Mammoth Cave region and visit Mammoth Cave itself. Emphasis will be on methods of study and instrumentation, interpretation of data, and new concepts of ground-water movement. On Friday, we will be concerned with environmental problems of waste disposal and protection of water supplies and with the geomorphology of the Sinkhole Plain in Kentucky. Friday night will be spent in French Lick, Indiana, once renowned as a watering place. On Saturday and Sunday we will examine mineral springs, water chemistry and isotope composition, hydrology, and karst development of the Mitchell Plain in southern Indiana and the origin of terra rossa. Emphasis will be on the Lost River drainage system and its relationship to Middle Mississippian strata. The trip ends in Indianapolis, October 30.

Economic, Environmental, and Engineering Geology

8. *Urban and Engineering Geology of the Indianapolis Area*—Arthur Mirsky, Indiana University-Purdue University, Indianapolis, and Edwin J. Hartke, Indiana Geological Survey, Bloomington, with contributions from Curtis H. Ault and Gordon S. Fraser, Indiana Geological Survey; Bruce Bailey, ATEC Associates, Inc., Indianapolis; Konrad J. Banaszak, U.S. Geological Survey, Indianapolis; Thomas M. Burns and James T. Strange, Indiana Division of Water, Indianapolis; and Karyl K. Schmidt, Indiana State Board of Health, Indianapolis (Engineering Geology Division). One day, October 30.

The several emphases of this trip, each handled by one or more of the specialists noted above, are (a) geologic setting of the Indianapolis area; (b) engineering problems and solutions in downtown Indianapolis; (c) drainage problems in residential areas of northern Indianapolis; (d) engineering geology of the Eagle Creek Dam and Reservoir, Marion County; (e) geohydrology of the Northside Landfill, Boone County; and (f) aggregates from open-pit and underground mines in the Indianapolis area.

9. *Origin and Economic Geology of the Springfield Coal Member in the Eastern Interior Basin*—Donald L. Eggert and Denver Harper, Indiana Geological Survey, Bloomington; Chin-Lin Chou and R. A. Peppers, Illinois State Geological Survey, Champaign; W. A. DiMichele, University of Washington, Seattle; Faith L. Fiene, University of Kentucky, Lexington; C. G. Maples, Indiana University, Bloomington; and T. L. Phillips, University of Illinois, Urbana (Coal Geology Division). Two days, October 29–30.

The Springfield Coal Member (Petersberg and Carbondale Formations, Indiana and Illinois; Coal No. 9, western Kentucky) is one of the most economically important bituminous coals in the nation. The Springfield peat was deposited within a large shifting delta system crossed by anastomosing streams, so that channel deposition was contemporaneous with the peat. Points of interest include three surface mines and one underground mine (will be entered), the Galatia and Leslie Cemetery Channels, areas of deposition beyond channel influence, and the geochemical, sedimentologic, and stratigraphic evidence used to demonstrate the relations between coal quality, mining conditions, and depositional setting.

10. *Metalliferous Shales of the Illinois Basin*—Raymond M. Coveney, Jr., University of Missouri at Kansas City, and Bertram G. Woodland and Rainer Zangerl, Field Museum of Natural History, Chicago (Society of Economic Geologists). One day, October 30.

This trip will focus on the Middle Pennsylvanian black shales exposed in the Mecca and Logan Quarries in western Indiana. These organic-rich shales, which may have future importance to metal mining, are typical of

metalliferous units commonly associated with midwestern coals. Metals are present in amounts as great as 0.2, 0.03, 1.0, and 1.4 percent for Mo, U, V, and Zn. Fossils include fish as large as the 9-foot shark described by Rainer Zangerl and Eugene Richardson in 1963. Field discussions of the distribution of the shales, their fossil contents, and their zoned metal values will be supplemented by examination of cores from throughout the Illinois Basin.

History of Geology

11. *The New Harmony Geologic Legacy*—John B. Patton, Indiana University and Indiana Geological Survey, Bloomington (History of Geology Division). One and a half days.

During the period 1836 to 1860, David Dale Owen, pioneer geologist of the American Midwest, conducted from New Harmony, on the lower Wabash River in Indiana, studies that were to set the pattern for field investigations in 19th-century America. Only the sites of Owen's first two geologic laboratories remain, but his third laboratory, converted from the Harmonists' granary, and his fourth, constructed for that purpose, remain as monuments of that era. On the same grounds are the grave of Thomas Say and the home, during the 1820's and 1830's, of William Maclure, whose reputation attracted to New Harmony such eminent figures as Gerard Troost and the naturalist Alexander Leseur. A walking tour of the sites and of the remaining historic structures offer those interested in the history of geology an opportunity to learn of the contributions by these men and their associates—Richard Owen, Joseph Norwood, Leo Lesquereux, Edward Travers Cox, and others—in the streets and buildings that were the base of operation for geologic work significant enough to bring Sir Charles Lyell to New Harmony as a visitor. The trip begins in the evening of October 29 in New Harmony (convenient for air travelers via Evansville) and ends in Indianapolis on October 30.

POSTMEETING

Stratigraphy, Sedimentology, and Geobiology

12. *Silurian Reef and Interreef Strata as Responses to a Cyclical Succession of Environments, Southern Great Lakes Area*—Robert H. Shaver, Indiana University and Indiana Geological Survey, Bloomington, and Jack A. Sunderman, Indiana University—Purdue University, Fort Wayne; Joanne Kluessendorf and Donald G. Mikulic, Illinois State Geological Survey, Champaign; James E. McGovney, Exxon Production Research Co., Houston, Texas; and Lloyd C. Pray, University of Wisconsin, Madison. Three days.

The classic Silurian reef and interreef outcrop area extending from western Ohio, through northern Indiana, and into northeastern Illinois, including the Thornton Quarry, will be examined in light of stratigraphic and sedimentologic interpretations that propose Middle to Late Silurian age, alternating nonrestricted and restricted environments distantly related to cyclic carbonate-evaporite deposition in the Michigan and Appalachian Basins, variably deep to very shallow water depths, and reef geometries and zonations as responses to such environmental influences. Join the debate as to whether some reefs actually continued to grow while early to late Salina salts were deposited a scant 150 miles away—and at what depths of water. The trip begins and ends in Indianapolis, November 3–6, afternoon to afternoon.

13. *History of Pleistocene Alluviation of the Middle and Upper Wabash Valley*—Gordon S. Fraser and Ned K. Bleuer, Indiana Geological Survey, Bloomington, and Norman D. Smith, University of Illinois Chicago Circle (Quaternary Geology and Geomorphology Division). Two days, November 4–5.

The purpose of this trip is to reconstruct the history of late Wisconsinan sedimentation in the middle and upper Wabash Valley. Sediments include those deposited by braided streams, on alluvial fans, in lakes, as debris flows, and by catastrophic floods. They date from the Woodfordian Subage, when complex interaction of ice lobes from the north and the east were shaping the present course of the Wabash River. Participants will examine facies of the various deposits, study their lateral and vertical relationships, and explore the relationships between successive periods of glacial and meltwater deposition in the Great Bend area.

Archaeological Geology

14. *Archaeological Geology of the Wyandotte Cave Region, South-Central Indiana*—Henry H. Gray, Indiana Geological Survey, Bloomington; John L. Bassett, Geosciences Research Associates, Inc., Bloomington, Indiana; and Cheryl A. Munson and Patrick J. Munson, Indiana University, Bloomington (Archaeological Geology Division). Two days.

Stratigraphy and geomorphology of the Wyandotte Cave region will be examined as background to visits to prehistorically utilized parts of the cave itself and to deeply stratified habitation sites on the flood plain of the Ohio River nearby. Emphasis will be on sources and utilization of local chert resources and on the influence of local geologic factors on habitation patterns. The first night stop, November 3, will be in Bloomington, where participants may tour the Glenn Black Laboratory at Indiana University; the second night stop will be in Corydon in the classic karst terrane of the Mitchell Plain. Participants may leave the trip at the Indianapolis International Airport or at the headquarters hotel, November 5.

Economic Geology

15. *Lithostratigraphy, Mineralogy, and Geochemistry of the New Albany Shale (Devonian and Mississippian) in*

Southeastern Indiana—Nancy R. Hasenmueller, R. K. Leininger, and Nelson R. Shaffer, Indiana Geological Survey, Bloomington. One day, November 4.

Participants will examine exposures of the New Albany Shale, including type sections of several members and beds, in southeastern Indiana. Field-trip leaders will present the results of recent research on the lithostratigraphy, mineralogy, and geochemistry of selected outcrops and cores of the shale, and they will discuss areas where the New Albany has the greatest potential for oil production.

16. *The Salem Limestone in the Indiana Building-Stone District*—John B. Patton and Donald D. Carr, Indiana Geological Survey, Bloomington (Society of Economic Geologists). One day, November 4.

Travel along highways and county roads between Bloomington and Bedford will give participants the opportunity to view active and abandoned dimension-stone quarries in a district that has produced most of the nation's dimension limestone for the past century. Exposures of the Salem Limestone in the quarries will be used to point out the unusual depositional conditions that produced a relatively pure limestone, nearly free of parting surfaces, in places exceeding 80 feet in thickness. Participants will view the process of separating 200-ton masses from the ledge and division of these huge "cuts" into mill blocks and then follow the stone through various milling processes to produce sawed, cut, turned, planed, carved, and split pieces for traditional and contemporary architecture.



Symposia Sampler

GSA 1983 Annual Meeting in Indianapolis

The Southern Margin of the Shield and Beyond; New Insights on the Precambrian Geology of the Midwestern U.S.

At-large symposium; convener is Val W. Chandler, Minnesota Geological Survey.

Over the past two decades, the knowledge of the outermost margins of the shield in southern Minnesota and central Wisconsin as well as of the mantled basement to the south has evolved drastically. The recent release of the National Magnetic Anomaly Map and the updated National Bouguer Anomaly Map has resulted in new ideas and interpretations of the basement complex. This timely symposium will focus on addition to new insights on the Precambrian geology of the southern margin shield in southern Minnesota and central Wisconsin; on evidence bearing on the geographical limits of Archean and lower Proterozoic crust in the central United States; on the evolution and geologic setting of the 1,500-m.y.-old anorogenic terrane in the central United States; and on the nature of major boundaries or sutures in the basement complex, such as the transition between the exposed Archean-lower Proterozoic terrane and the anorogenic basement terrane to the south.

This half-day symposium will include 8 to 10 papers, led off with a paper by Paul K. Sims of the U.S. Geological Survey on "Extension of exposed Precambrian rocks in the Lake Superior region into the subsurface."

Structure and Tectonics of Continental Interiors

Structure and Tectonics Division Symposium; conveners are Richard H. Groshong, Jr., Cities Service Technology Center; and Donald Steeples, Kansas Geological Survey.

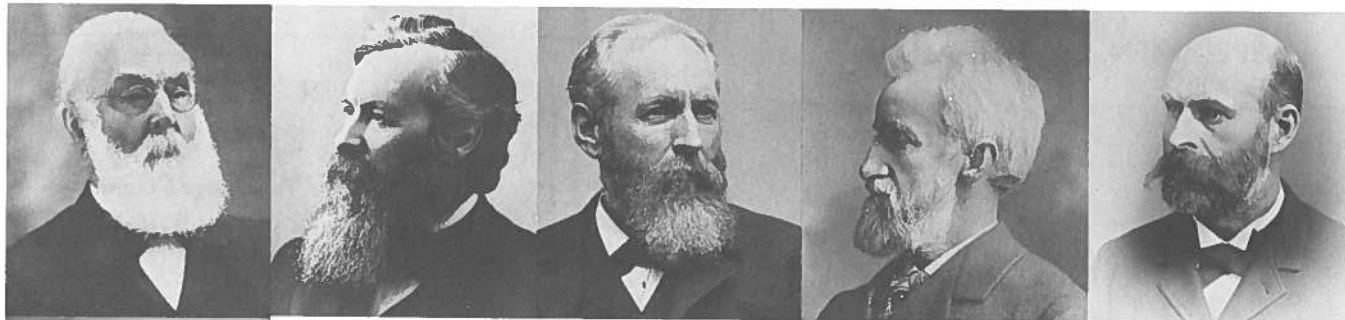
The mechanical, thermal, and plate-tectonic origin of the structures on the craton remain controversial. Cratonic regions are important because they contain many known and anticipated energy and mineral resources. These regions contain zones of seismic activity yet provide sites for nuclear power plants and hazardous waste disposal. The objective of the symposium is to

provide a background for understanding the Phanerozoic structure and tectonics of the craton in order to interpret the basic framework and processes involved. The invited papers include "A new look at the shallow crustal structure of the midcontinent" by R. Arvidson and E. Guinness; "Models for midcontinent tectonism" by W. Hinze, L. Braile, G. Keller, and E. Lidiak; "Tectonic evolution of the Michigan Basin" by J. Fisher; "Collision effects on the craton caused by the Ouachita orogeny" by G. Viele; and "Modern tectonic stress field in the midcontinent" by M. L. Zoback.

Hydrodynamics and Geochemistry of Ore Generation in Sedimentary Environments

Centennial Frontier Symposium cosponsored by Society of Economic Geologists and GSA Hydrogeology Division; conveners are William C. Kelly, University of Michigan; John M. Sharp, Jr., University of Texas; and Donald E. White, U.S. Geological Survey.

This symposium is a multidisciplinary effort to introduce hydrogeologists, petroleum geologists, geochemists, and economic geologists to subjects of mutual interest in "fossil" hydrologic systems that formed hydrothermal ore deposits and that accompanied migration of fluid hydrocarbons or their predecessors. These systems have changed drastically, both in known and unknown ways before and after the ores were formed. An objective of at least equal importance is to encourage geologists to look beyond the immediate ore boundaries of a mine or district and to involve the regional setting, the characteristics and origins of potentially involved fluids, and the changing hydrodynamics, geochemistry, and thermal regimes of each system as it evolved through time. Lead-off papers will be "Geochemical and geological constraints on concepts of metallization in sedimentary environments" by W. E. Kelly and D. E. White; and "Hydrogeologic systems and analyses and their possible applications to ore deposition" by J. M. Sharp, Jr. This full-day symposium will include about 15 papers.



MEMOIR 155
The Geological Society of America —
Life History of a Learned Society

By Edwin B. Eckel
 with Preface by Robert F. Legget

On November 16, 1931, GSA Editor Joseph Stanley-Brown penned the following for the Preface of H. L. Fairchild's *The Geological Society of America, 1888-1930*:

As this History is passing through the press, there has occurred the most amazing episode in the Society's career. With yearly dues of ten dollars, the Society, with the characteristic thrift of scientific men, had accumulated some \$50,000 when suddenly, through the magnificent generosity of a lifelong member—Richard Alexander Fullerton Penrose, Jr.—found itself legatee of approximately four and a quarter million dollars, thus giving it a position among the richest scientific societies in the United States.

Memoir 155 covers the history of the Society during its first 90 years but with special emphasis on the years following that "most amazing episode"—inheriting more than \$4 million at the height of the Great Depression.

With careful insight gained through observations of the Society as Member, Editor, and later Executive Director, the author tells of the Society's makeup, its governance, and its administration, including the management and preservation of its fortune. He reflects on the methods, foibles, successes, and failures of the Presidents, Vice-Presidents, Councilors, and officers, and he takes a brief look at the future of geology and the Society. More than 130 photos and line drawings.

As Dr. Legget writes, "It is a fascinating record."

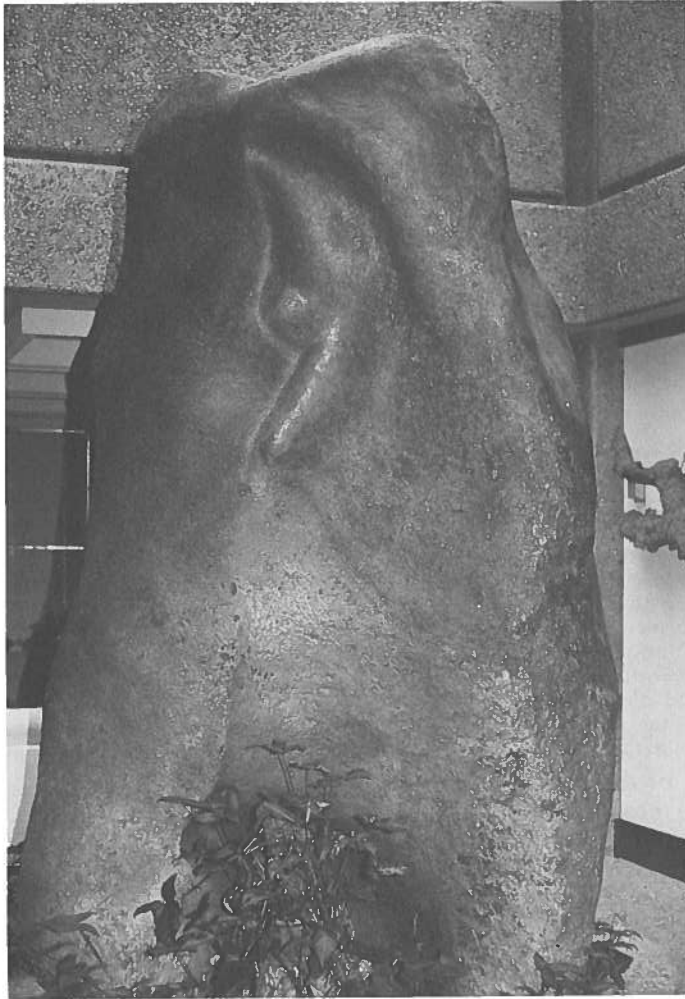
Memoir 155, xiv + 168, 8½ x 11, hard bound, CIP, ISBN 0-8137-1155-X \$24.50

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SPECIMEN OF THE MONTH



What is 9 feet tall, weighs 8 tons, spent many of its years in water, and is called "Big Al" by those close to it? This month we're celebrating Big Al's 1,400 millionth birthday (± 100 m.y.).

This giant piece of Silver Plume granite, carved and polished by sand and gravel carried by the Big Thompson River in Colorado and its predecessors, is the centerpiece of the lobby of the Geological Society of America. You are cordially invited to see Big Al, to touch its enchanting lines, and to wish it a happy birthday when you visit your Society's headquarters in Boulder, Colorado.

NAME THAT FACE

Identify as many of the GSA Presidents appearing in the ad on page 81 as you can. The person correctly identifying the greatest number will win a free copy of Memoir 155, *The Geological Society of America—Life History of a Learned Society*. Contest ends June 30, 1983. Earliest postmark will win in case of ties. Mail your entry to Lee Swift, GSA, P.O. Box 9140, Boulder, CO 80301. Enter today!



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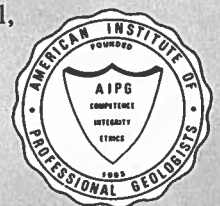
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SPECIAL PAPER 188

Sedimentary Structures in Dunes of the Namib Desert, South West Africa

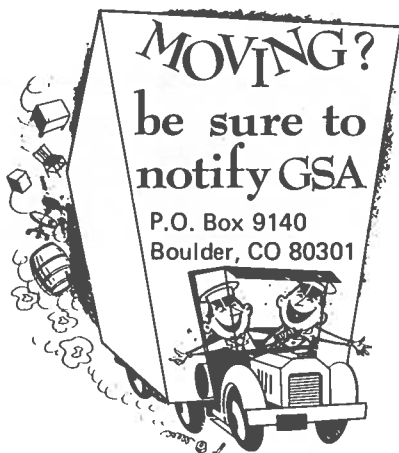
Edwin D. McKee

The Namib Desert covers some 34,000 km² and is great both from the standpoint of areal extent and from the height and bulk of individual dunes. In this volume Dr. McKee describes in detail the structures of the various types of dunes to be found in the area—linear, star, barchan and barchanoid ridge, transverse, reversing, dome, blowout, and coppice. Profusely illustrated with photos taken from both the ground and the air.

Special Paper 188, paper bound, iii, + 64 pages, 8½ x 11, 1982, CIP, ISBN 0-8137-2188-1 \$8.00

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Deadline for receipt of abstracts at GSA headquarters for the Annual Meeting in Indianapolis is June 3, 1983. Mail volunteered abstracts to Abstracts Secretary, Geological Society of America, P.O. Box 9140, Boulder, CO 80301 to arrive on or before June 3. Abstract forms are available upon request.

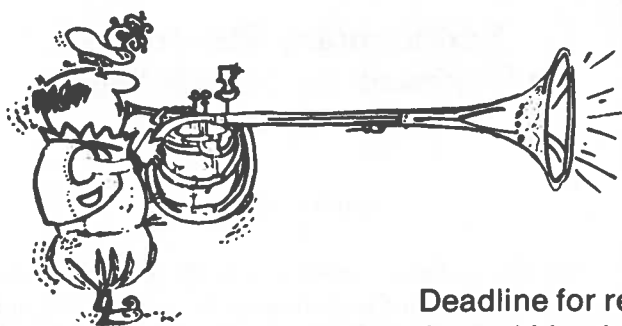


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