



# GSA news & information

VOLUME 4, NUMBER 1

G.S.A. ARCHIVES

JANUARY 1982

## Report on Annual Meeting, Cincinnati, November 2–5, 1981

Cincinnati proved itself an excellent site for the 1981 Annual Meeting. Its facilities and accessibility of activities made it one of the most convenient sites utilized in recent years.

Best of all, out of 94 years of meetings, GSA experienced one of its largest registrations. The grand total of 4,670 places the 1981 meeting third in comparison to 5,351 in Denver (1976) and 4,826 in Toronto (1978). This attendance was particularly successful in view of the premeeting concerns about the effect of budget cuts and the state of the economy.

Attendance separated into the following categories:

Professional	2,915	62.4%
Student	1,534	32.8
Guest	221	4.8
	<u>4,670</u>	<u>100.0%</u>

Included in this count are 235 complimentary registrations which went to the Local Committee members, exhibitors, and student assistants. Of the grand total, 2,875 (61.5%) preregistered and 306 (6.5%) registered for one day only.

The Cincinnati meeting was a full four-day meeting, as will be all subsequent meetings.

A total of 1,366 abstracts were submitted. Of these, 1,101 were submitted for general sessions and 265 were submitted for the 25 symposia. Of the abstracts submitted for general sessions, 876 (79.5%) were accepted, 671 were presented in 48 half-day sessions, and 205 were presented during the 6 poster sessions.

Several events supplemented the formal program. The GSA Public Forum was held for the second time, with this year's topic being "The Exploration of Venus, Jupiter, and Saturn." In addition, six short courses, workshops, and forums were sponsored by GSA, MSA, PS, and AGI.

There were 311 who participated in 10 premeeting and 9 postmeeting trips. Guidebooks were published in three volumes by AGI which will handle future distribution. As always, the field trips were a major undertaking, and all involved are to be congratulated.

Another facet of the GSA meeting was the Employment Interview Service sponsored by the GSA Membership Department. The service was well utilized by 77 employers, who conducted 1,090 interviews with 309 applicants for 165 posi-

tions. In addition, 6 employers used the message center only and 19 employers requested printouts of applicant listings without conducting formal interviews during the meeting. Of the positions available, 95 were classified as academic, 58 as corporate, and 12 as government or other.

As an extension of the Employment Service, the annual Employment Forum was held and was very well attended—assuring the attendees of next year's forum a much larger room.

The quality of the GSA Exposition has been improving during the past two years, and we were pleased with the technical and scientific quality of this year's exhibits. There were 126 booth spaces representing 95 exhibitors. It should be recognized that exhibitors play a significant dual role at GSA's meetings: (1) They make us aware of the current technology available to the geoscientist and (2) they help underwrite the expenses of the meeting by purchasing booth space. Their dual role is an important factor in a successful meeting.

The social activities for 1981 were well attended—and well executed. A tip of the pick to the Local Committee for its sponsorship of the Welcoming Party at Union Terminal, the Alumni Parties, and the Oktoberfest (some geologists love to polka). Capping off these activities was the Annual Dinner during which the Day and Penrose Medals were presented. The guest speaker, Frank Press, involved us in the concerns and complexities of developing a national science policy.

Our 1981 Local Committee should receive an avalanche of applause for its dedication and effectiveness in producing a highly successful meeting. Kudos to:

*Warren D. Huff, General Chairman*  
*Malcolm Annis, Cochairman*  
*Lois J. Campbell, Thomas G. Roberts, Field Trips*  
*Terry Huizing, Marie Huizing, Guest Program*  
*Robert G. McWilliams, Publicity*  
*Napoleon Bryant, Science Theater*  
*Kees A. DeJong, Student Assistants*  
*Norman C. Hester, Martin C. Noger, Technical Program*  
*Raman J. Singh, Technical Services*  
*David A. Lienhart, Transportation*

## UPDATE

### Richard Henry Jahns awarded AGI Medal

The first AGI Medal in Memory of Ian Campbell, the only award bestowed by the American Geological Institute, was presented to Richard Henry Jahns, Professor of Geology and former Dean, School of Earth Sciences at Stanford University. The medal was presented during the GSA Annual Meeting dinner, November 4, 1981, by Dr. A. G. Unklesbay, Executive Director of AGI.

Jahns is first to receive the award established by AGI in 1980 to honor Ian Campbell, "whose service to the profession touched virtually every facet of the geosciences," according to guidelines AGI set for a selection committee of distinguished geoscientists.

Jahns, 66 years old, received his B.S. in geology in 1935 from the California Institute of Technology, where he earned his Ph.D. in 1943 after taking his M.S. from Northwestern University in 1937. As a teaching fellow while working on his advanced degrees, Jahns continued at Cal Tech as assistant professor (1946), associate professor (1946-1949), and full professor of geology (1949-1960). Moving to Pennsylvania State University as professor (1960-1965), Jahns was Chairman of the Division of Earth Sciences (1960-1962) and Dean of the College of Mineral Industries (1962-1965). In 1965 he went to Stanford.

From 1937 to 1965, Jahns advanced to senior geologist with the U.S. Geological Survey. He was associate editor of *American Mineralogist* (1957-1963). In 1965 Jahns was the national lecturer for Sigma Xi. He was a member of the California State Mining & Geology Board (1966); a member of the task force for reduction of earthquake risk, Office of Science and Technology (1970-1971); and a member of the California State Seismic Safety Commission (1975). He is a member and fellow of the American Geophysical Union, of the American Association for the Advancement of Science, of the Geological Society of America (and GSA President, 1970-1971), of the Mineralogical Society of America, and of the American Institute of Mining and Metallurgical Engineering.

### Application forms now available for Gladys W. Cole Memorial Research Award

It is with pleasure that we announce that application forms are now available for the Gladys W. Cole Memorial Research Award. Funding for the support of the award was established by W. Storrs Cole. It is hoped that the first grant will be awarded in 1982.

Administered in accordance with the guidelines specified by the donor, the award will be restricted to investigation of the geomorphology of semi-arid and arid terrains in the United States and Mexico. It will be given each year to a GSA Fellow between 35 and 60 years of age who has published one or more significant papers on geomorphology. Funds cannot be used for work already accomplished. The grant will be for \$1,000 or more. Only the interest of the fund may be used.

Official application forms and additional information may be obtained from the Executive Director, Geological Society of America, P.O. Box 9140, Boulder, Colorado 80301. Phone (303) 447-2020. Applications must be postmarked by February 15 to be eligible.

### ~~~~~ SPECIAL NOTICE ~~~~~ TO GEOLOGY CONTRIBUTORS

*Effective immediately, pre-reviews are no longer required for articles submitted to Geology.*

All articles *will continue* to be evaluated by at least two reviewers *after* submission. We hope that this new, streamlined review policy will shorten the time from conception of a new idea to its publication. As before, the best-written manuscripts will be published most quickly, and all manuscripts benefit from informal review by colleagues.

Eldridge M. Moores  
Editor

### NPRA data available

New geological and geophysical data, associated with certain regions in the National Petroleum Reserve in Alaska (NPRA) are now available for public dissemination from the National Geophysical and Solar-Terrestrial Data Center. These data were collected and processed by various companies under contract to the USGS for the purposes of evaluating the petroleum potential of portions of the NPRA:

<u>Data Set</u>	
TGY-0110	Well Logs and Core Analyses (Awuna, Koluktak, Kuyanak, N. Inigok, Tulageak, Walakpa #2)
TGY-0114	Velocity Check Shot Surveys (Awuna, Koluktak, N. Inigok, Walakpa #2)
TGY-0120	Palynology & Micropaleontology Charts (Awuna, Koluktak, Kuyanak, N. Inigok, Tulageak, Walakpa #2)
TGY-0080A	Velocity Check Shot Surveys (Lisburne #1 & Seabee #1)
TGX-0130	Grab Bag of reprocessed seismic sections (1972-1980) approx. 134 sections (including some migrated)
TGX-0140	1981 Seismic Data sections (590 miles in NE NPRA)
TGX-0060	1981 Seismic Field Tapes (approximately 180)
TGX-0061	1981 Seismic Processed Tapes (19)
TGX-0124	Preliminary "Time/Velocity/Depth" tape prepared by Tetratex
TGZ-0091	"Interpretive Processing & Stratigraphic Evaluation, NPR-Alaska" GeoQuest (1978)
TCG-0092	"An Analysis of Structural and Stratigraphic Features of Interest, NPR-4, Alaska," Tetratex, Andrews & Osborne (1977)
TGX-0093	"Stratigraphic Evaluation of the NPRA, Barrow Area, AK," Husky Oil (Gruy Assoc.) (1978)
TGZ-0094	"Gas Hydrate Evaluation and Recommendations, NPR-Alaska," Tetratex, Pratt (1979)
TGZ-0095	"Stratigraphic Study, Western Sector NPRA," Sheriff (1977)

Inquiries should be addressed to National Geophysical and Solar-Terrestrial Data Center, NOAA/EDIS (D-62), 325 Broadway, Boulder, CO 80303. Telephone (303) 497-6541.

### GSA News & Information

Vol. 4, no. 1 January 1982

GSA NEWS & INFORMATION (ISSN 0164-5854) is the monthly newsletter of The Geological Society of America, Inc., P.O. Box 9140, Boulder, Colorado 80301. Second-class postage rates paid at Boulder, Colorado, and at additional mailing office.

Prepared from contributions from the staff and membership by John C. Frye, Executive Director; James R. Clark, Production and Advertising Sales Manager; June Thomas and Ann H. Fogel, Production Assistants.

## Research proposals solicited

The United States Geological Survey invites proposals for research contracts under the continuing Earthquake Hazard Reduction Program. The proposed research must be directed toward the goal of identifying, evaluating, and characterizing the immediate and long-term seismic hazard.

Program objectives and tasks required to achieve those objectives are described in Proposal Information Package No. RFP-1183W. Written inquiries concerning this program and requests for the above package should be addressed to

Contracting Officer, U.S. Geological Survey  
Mail Stop 85  
345 Middlefield Road  
Menlo Park, CA 94025

Due date for receipt of proposals is February 19, 1982. It is anticipated that funding of selected programs will start on or after October 1, 1982.

## Draft of new North American Stratigraphic Code available

A newly completed North American Stratigraphic Code is now available for distribution. This is a *draft* and has not yet been adopted by the recently renamed North American Commission on Stratigraphic Nomenclature (NACSN). It cannot be adopted until the profession has had an adequate opportunity to comment. Support the parts you like and criticize the parts that you don't like by sending your comments by the end of February, if possible, to the appropriate persons indicated in the draft Code.

The draft of the new Code was prepared by committees and advisory groups appointed by the NACSN. Although it is based on the principles embodied by previous American codes and by the 1976 International Stratigraphic Guide of the International Subcommittee on Stratigraphic Classification, innovations are introduced to cope with the special problems of Precambrian and Quaternary geology and of high-grade metamorphic and plutonic rocks.

The *Draft Code* has been printed through the generosity of the Canadian Society of Petroleum Geologists and several supporting companies. Copies may be ordered by sending \$3.00 (Canadian or U.S.) for each (to cover handling and postage costs) to

Canadian Society of Petroleum Geologists  
Room 229  
640 5th Avenue SW  
Calgary, Alberta T2P 3G4  
Canada

## Thanks to volunteers for committee work

The GSA Council has expressed its appreciation to the many members who have volunteered for committee work of the Society during the past year. Volunteers are considered and selected by the Committee on Committees. Each year there are only a relatively few slots to be filled; therefore only a small fraction of those volunteering have been given committee assignments. GSA members are strongly encouraged to continue volunteering for these important assignments. The roster of volunteers is the prime source of candidates for consideration by the Committee on Committees and the Council.



## CENTENNIAL NEWS

### Marine Geology on the North American Geologic Map— A problem in cartography

At the GSA meeting in Cincinnati, many members visited the poster session that displayed a variety of ways of showing underwater geology for the new Geologic Map of North America. A number of good suggestions resulted, but we would like a response from a wider audience. Thus, here's your chance to vote for a combination you like or come up with a bright idea for something better. The questionnaire below is self-explanatory. Send any responses to

A. R. Palmer  
Centennial Science Program Coordinator  
Geological Society of America  
Box 9140  
Boulder, Colorado 80301

\* \* \* \* \*

- A. SHOULD THE NEW NORTH AMERICAN GEOLOGIC MAP SHOW MAP UNITS THAT ARE UNDER WATER (OCEANS AND LAKES)?
- B. WHAT KINDS OF UNITS SHOULD BE SHOWN BELOW LAKES AND OCEANS?
  1. Same as on land?
  2. Underwater "bedrock" in lakes and on shelves; surficial sediments beyond?
- C. HOW SHOULD THEY BE SHOWN?
  1. Color underwater "bedrock" map units only, and use same colors and patterns as on land:
    - a. Shoreline not emphasized?
    - b. Shoreline emphasized:
      - i. by a heavy black line?
      - ii. by a heavy white line?
  2. Color underwater "bedrock" map units only, and use the same colors but lighter tones than on land?
  3. Color underwater "bedrock" map units with a single shade of grey and identify units by symbols but leave surficial units uncolored?
  4. Color underwater "bedrock" map units with a single shade of grey and identify units by symbols but color underwater surficial sediment areas various shades of grey in combination with patterns?
- D. OTHER IDEAS?

# NORTH-CENTRAL SECTION, GSA, April 29-30, 1982

The Department of Geosciences, Purdue University, will host the 16th Annual Meeting of the North-Central Section of the Geological Society of America along with the 9th Annual Meeting of the North-Central Section of the Paleontological Society, the 15th Annual Meeting of the Pander Society and the East-Central Section of the National Association of Geology Teachers on April 29-30 (Thursday and Friday), 1982. For further information, write or call Local Committee Chairman Herbert J. Howe, Department of Geosciences, Purdue University, West Lafayette, Indiana 47907, (317) 494-3704 or Program Committee Chairman Terry R. West, Department of Geosciences, Purdue University, West Lafayette, Indiana 47907, (317) 494-3296.

## REGISTRATION

**Preregistration:** You are requested to register in advance so that the local committee can plan more efficiently. Your registration form and payment must be postmarked **no later than Friday, March 26, 1982**, to qualify for the reduced preregistration fees. Please complete the accompanying registration form and return it with a check or money order (made payable to Purdue University) to the North-Central Section of GSA, Continuing Education Business Office, Room 110, Stewart Center, Purdue University, West Lafayette, Indiana 47907.

**On-Site Registration:** Registration will be held from 1830 to 2130 hours Wednesday evening, April 28, and from 0730 to 1630 hours Thursday and Friday, April 29-30. Name badges, banquet, and field trip tickets will be available at the registration desk in the East Foyer on the main floor of Stewart Center. Registrants may pick up their packets of registration materials and tickets at the registration desk.

Requests for advance registration refunds will be honored until April 15, 1982, for all but field trip fees. Field trip fees will be refunded only if the space can be resold.

## TECHNICAL PROGRAM

Technical sessions, symposia, and a poster session will be held. Depending on the abstracts submitted, there will be sessions on economic geology, engineering and environmental geology, general geology, geochemistry, geomorphology, geophysics, mineralogy, petrology, paleoecology, paleontology, quaternary geology, sedimentation, stratigraphy, structural geology, and tectonics. In addition, symposia on the following are planned:

1. Remote Sensing Applications to Geology (Don W. Levandowski and Robert C. Howe)
2. Mid-Continent Tectonics (William J. Hinze and Thomas C. Buschbach)
3. Coal Petrology of the Illinois Basin (Gunnar Kullerud)
4. Landslides and Slope Stability in Rock (Terry R. West and Alberto S. Nieto)
5. Evolution of Communities in Geologic Time: Invited symposium by Paleontological Society (J. John Sepkoski, Jr.)
6. Problems of Ground Water Supply and Use in the North Central States (Darrel I. Leap)

## HOUSING INFORMATION

**PURDUE HOUSING FORM**  
North-Central Section, GSA Meeting, April 29-30, 1982  
**THE UNION CLUB, Purdue Memorial Union**  
West Lafayette, Indiana 47907, (317) 494-6311

*Please reserve for*

Name \_\_\_\_\_

Street \_\_\_\_\_

City, State \_\_\_\_\_ Zip \_\_\_\_\_

Arrival Date \_\_\_\_\_ hour \_\_\_\_\_ a.m./p.m.

Departure Date \_\_\_\_\_ hour \_\_\_\_\_ a.m./p.m.  
3:00 p.m. check out hour

*(circle preference)*

	Color TV Shower Bath	Air Cond. Color TV Tub-Shower Bath
SINGLE	\$16	\$25
DOUBLE (1 bed, 2 persons)	\$20	
TWIN (2 beds, 2 persons)	\$20	\$30
DOUBLE & TWIN (2 beds, 2 persons)	\$24	\$30
(2 beds, 3 persons)	\$30	\$36

All rooms are equipped with private bath, telephone, clock radio, color television, and most are air-conditioned. Write directly to the Union Club, Purdue Memorial Union, West Lafayette, Indiana 47907, telephone (317) 494-6311, ext. 4139. **DO NOT SEND A DEPOSIT.**

### MOTELS IN WEST LAFAYETTE

- Family Inn:** 1920 Northwestern Avenue, West Lafayette (317) 463-5361  
**Sheraton Inn:** U.S. Highway 52 North, West Lafayette (317) 463-5511 or toll-free (800) 543-7222.  
**Travelodge:** North River Road, West Lafayette (317) 743-9661 or toll-free (800) 255-3050.

### MOTELS WITHIN 10 MILES

- Budget Inn:** Interstate 65 South and State Road 26 East, Lafayette (317) 447-7566  
**Best Western:** 400 Sagamore Parkway South, Lafayette (317) 447-4131  
**Holiday Inn North:** Interstate 65 North, Battle Ground (317) 567-2131 or toll-free (800) 238-8000  
**Howard Johnson's East:** Interstate 65 South and State Road 26 East, Lafayette (317) 447-0575 or toll-free (800) 654-2000  
**Howard Johnson's North:** 2200 Sagamore Parkway North, Lafayette (317) 447-3111 or toll-free (800) 654-2000  
**Ramada Inn:** State Road 26 East and Interstate 65 South, Lafayette (317) 447-9460 or toll-free (800) 228-2828  
**Regal 8 Inn:** 1217 Sagamore Parkway West, West Lafayette (317) 463-1531  
**Colonial Motel:** 3215 U.S. Highway 52 South, Lafayette (317) 474-1414  
**Devon Plaza:** 2371 North 26th St, Lafayette (317) 742-7394  
**Green Acres Motel:** 2252 U.S. Highway 52 West, West Lafayette (317) 463-1526  
**Lincoln Lodge:** R.R. #1, Clarks Hill (317) 523-2111.  
**Stout's Motel:** 1510 Schuyler Ave. Lafayette (317) 742-0915

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**RESERVATIONS MUST BE MADE DIRECTLY TO THE UNION CLUB OF THE PURDUE MEMORIAL UNION OR TO THE MOTEL OF YOUR CHOICE.**

# PREREGISTRATION DEADLINE, March 26, 1982

## FIELD TRIPS

All field trips are scheduled for Saturday, May 1. Field trip coordinator is Edward J. Cray, Department of Geosciences, Purdue University, West Lafayette, Indiana 47907, (317) 494-3269. Field trip registrants must preregister for the meeting. *All field trips leave from Stewart Center at 0800 hours.* Field trip registration is on a first-come, first-served basis. If a trip is over-subscribed, the field trip fee will be refunded to late registrants.

1. Coastal Evolution of Southern Lake Michigan. Leader: Bill Wood. Return 1630 hours. Includes box lunch, transportation, and guidebook. Limit: 40; Cost: \$25.

2. Geomorphology of the Middle Wabash Valley. Leaders: Wilton N. Melhorn, Ned K. Bleuer. Return 1630 hours. Includes box lunch, transportation, and guidebook. Limit: 30; Cost: \$15.

3. Environmental and Engineering Geology and Urban Planning for the Cities of Lafayette, West Lafayette, and Tippe-

## PREREGISTRATION FORM NORTH-CENTRAL SECTION, GSA April 29-30, 1982

16th Annual Meeting of the North-Central Section of the Geological Society of America  
meeting concurrently with the North-Central Section of the Paleontological Society, the Pander Society,  
and the East-Central Section of the National Association of Geology Teachers

*(for office use only)*

ck/mo. no. \_\_\_\_\_ \$ \_\_\_\_\_ Personal check \_\_\_\_\_ other check \_\_\_\_\_ Issued by \_\_\_\_\_

Name (last, first, middle) \_\_\_\_\_

Registered as:     Professional             Student             Spouse/Guest  
Spouse/Guest name for badge \_\_\_\_\_

Affiliation (abbreviation for badge) \_\_\_\_\_

Professional Address \_\_\_\_\_

City, State, Zip code \_\_\_\_\_

Phone (business) \_\_\_\_\_ (home) \_\_\_\_\_

GSA Member     yes     no    Speaker     yes     no    Pander Society Member     yes     no  
GSA Student Associate     yes     no    PS Member     yes     no

Enclosed is a check or money order (U.S. funds) payable to *Purdue University* in the amount of \$ \_\_\_\_\_ for:

_____ Preregistration (postmarked March 26 or earlier)	\$25 per person
_____ Registration (after March 26)	\$30 per person
_____ Student preregistration* (postmarked March 26 or earlier)	\$10 per person
_____ Student registration* (after March 26)	\$12 per person
_____ Guest/Spouse registration	\$ 5 per person
_____ GSA banquet, Purdue Memorial Union, April 29	\$ 9 per person

### ALL FIELD TRIP REGISTRANTS MUST ALSO PREREGISTER FOR THE GENERAL MEETING

_____ Field trip 1, Coastal Evolution of Southern Lake Michigan	\$25 per person
_____ Field trip 2, Geomorphology of the Middle Wabash Valley	\$15 per person
_____ Field trip 3, Environmental and Engineering Geology and Urban Planning for the Cities of Lafayette, West Lafayette, and Tippecanoe County, Indiana	\$15 per person
_____ Field Trip 4, Geology of the Kentland Structure, Kentland, Indiana—II, An Update	\$15 per person
_____ Field trip 5, The Silurian Reefs at Delphi and Pipe Creek Jr. Quarries, Indiana, and the Question of Deep-vs.-Shallow Water	\$20 per person

## MAIL BY FRIDAY, MARCH 26, 1982 TO

North-Central Section of the Geological Society of America  
Continuing Education Business Office  
Room 110, Stewart Center  
Purdue University  
West Lafayette, Indiana 47907

\*To register more than one person (other than spouse or guest) please duplicate or request additional forms.

TO RETAIN INFORMATION ON REVERSE SIDE, COPY THIS FORM TO MAIL IN

# NORTH-CENTRAL SECTION, GSA

canoe County, Indiana. Leaders: Terry R. West, Chester Watts. Return 1200 hours. Includes donuts and soft drinks, transportation, and guidebook. Limit: 40; Cost: \$15.

4. **Geology of the Kentland Structure, Kentland, Indiana—II, An Update.** Leader: Raymond Gutschick. Return 1630 hours. Includes box lunch, transportation, and guidebook. Limit: 25; Cost: \$15.

5. **The Silurian Reefs at Delphi and Pipe Creek Junior Quarries, Indiana, and the Question of Deep-vs.-Shallow Water.** Leaders: Robert H. Shaver, Jack Sunderman. Return 1745 hours. Includes box lunch, transportation, and guidebook. Limit: 40; Cost: \$20.

## SPECIAL EVENTS

An informal reception will be held for all registrants in the Anniversary Drawing Room on the second floor of the Purdue Memorial Union Building from 1900 to 2100 hours, Wednesday, April 28, 1982. Coffee, punch, and donuts will be furnished.

**Annual Banquet.** The annual banquet of the North-Central Section of GSA will be at 1900 hours, Thursday, April 29, in the North Ballroom of the Purdue Memorial Union. The cost is \$9. Entertainment during the banquet will be provided. A short business meeting of the North-Central Section of GSA will take place after the banquet. This will be followed by a lecture presented by Laurence L. Sloss of Northwestern University. It is free and open to all registrants, and will be held in Fowler Hall at 2030 hours.

## MEALS

Meals are available in the five cafeterias of the Purdue Memorial Union, the cafeteria of Stone Hall, and at local restaurants, all at reasonable prices.

## STUDENT AWARDS

The Geological Society of America will award \$50 to the best paper authored and delivered exclusively by a student. The Paleontological Society will award a certificate for the best paleontological paper by a student.

## TRAVEL TO WEST LAFAYETTE

West Lafayette may be reached by auto on Interstate 65 from Chicago and Indianapolis. West Lafayette is served by Air

Wisconsin from Chicago. Car rental service is available at the Indianapolis Airport and at the West Lafayette-Purdue Airport.

## PARKING AT PURDUE

If you drive, please park in the 627-car Grant Street parking garage across the street (east) from the Purdue Memorial Union. Should the Grant Street parking garage be full, please contact the garage attendant for alternative parking areas. There is free parking for Union Club guests in the Grant Street parking garage. The garage ticket must be validated at the Union Club desk before you leave the garage.

## PLACES TO SEE WHILE AT PURDUE

### Tippecanoe Battlefield

State Road 43 North, Battle Ground, (317) 567-2147

A national historical landmark with a 90-acre park, museum, picnic areas, and historic and scenic trails.

### Fort Ouiatenon

South River Road, West Lafayette, (317) 742-8411

A replica of the original fort built by the French in 1717 now features shelter houses, picnic and boat launch facilities, a trading post gift shop, and a recreation area.

### Lafayette Art Center

101 South Ninth Street, Lafayette, (317) 742-1128.

Sponsors permanent art collections and exhibits and houses a shop offering arts and crafts by local artists, imports, and a selection of museum replicas.

### Fowler House

909 South Ninth Street, Lafayette, (317) 742-8411

Built in 1851 and now houses the Tippecanoe County Historical Museum, offering displays of Indian artifacts, antique guns, furniture, artwork, and genealogical research material.

### Clegg Gardens

1854 North 400 East, Lafayette, (317) 742-0325

Botanical garden with wooded nature trails among labeled plants and trees.

### Wolf Park

Battle Ground, (317) 567-2265.

Wildlife park in which public can observe behavior of seven wolf packs; Wolf Howl Nights scheduled.

### Columbian Park and Zoo

South and Main Streets, Lafayette.

Rides, zoo, miniature golf, baseball field, picnic areas, swimming, fishing, game arcade, concession stands, paddle boats, tennis courts, and meeting facilities.

\* \* \* \* \*

## REDUCED DUES FOR MARRIED COUPLES

Married couples who are both GSA dues-paying Members will be allowed a reduction in 1982 dues under a policy adopted by the Council at its November meeting in Cincinnati. Such couples will pay \$48 for the first Member and \$22 for the second. They will receive a single subscription to *Geology, Bulletin*, and *GSA News & Information* but both Members will continue to receive ballots and other miscellaneous mailings.

*Married couples who have already paid the full dues for both Members are entitled to a refund and should notify the Membership Department (GSA headquarters) as soon as possible.*

\* \* \* \* \*

## Geological prophet honored by Franklin Institute's Elliott Cresson Medal

When M. King Hubbert predicted in 1956 the course of oil discoveries and the peaking and ultimate decline of reserves and production in the lower 48 states, government officials and oil companies alike thought him strange. A maverick and minority of one, he maintained his stance for almost two decades before the course of events began to prove him correct.

Dr. Hubbert received The Franklin Institute's Elliott Cresson Medal on Wednesday, October 21, 1981, at a formal dinner in the Benjamin Franklin National Memorial, located in the Institute.

Hubbert's unconventional predictions were only the end result of his very untraditional approach to analyzing geological problems. Using quantitative methods, he sought answers to such questions as: How long can production of crude oil, natural gas, and coal continue at ever-increasing rates? How long before the supplies are totally exhausted? By 1956, Hubbert had developed a curve—known as Hubbert's Pimple—illustrating the complete cycle of U.S. crude oil production from its infancy to the time it would, in his opinion, end. He later applied the same technique to determining the cycle for world crude oil production, as well as for production of coal and natural gas. His studies have had a broad impact not only on the international oil industry, but on U.S. government policies as well.

Dr. Hubbert did important work on the physics of underground fluids, which is fundamental with respect to the exploration for and production of oil and gas. He also used physics to help understand the deformation of the Earth's crust.

Had government and industry heeded the warnings of the native Texan, our current energy outlook might be different.

Hubbert received his scientific education (B.S., M.S.,

and Ph.D.) in geology, physics, and mathematics during the 1920s from the University of Chicago. His subsequent career has been divided between the petroleum industry, education, and the Illinois and U.S. Geological Surveys.

In the oil industry, he worked as an oil geologist in Texas and Oklahoma for the Amerada Petroleum Corporation in the late 1920s, and later (1943–1964) he spent 20 years in exploration and production research in Houston with the Shell Oil and Shell Development Companies.

Dr. Hubbert taught geology and geophysics at Columbia University during the 1930s. From 1962 to 1968 he was visiting professor and professor of geology and geophysics at Stanford University where he is currently professor emeritus; in spring 1973 he was a Regents' Professor at the University of California at Berkeley.

From 1964 until his retirement in 1976, he was a research geophysicist with the U.S. Geological Survey in Washington, D.C., and Reston, Virginia.

Hubbert has received numerous awards, among them honorary doctorates from Syracuse University and Indiana State University and a \$10,000 Rockefeller Public Service Award from Princeton University's Woodrow Wilson School of Public and International Affairs.

Since its founding in 1824, The Franklin Institute, a not-for-profit organization, has promoted science and technology and has presented awards to encourage exploration in these fields. Past recipients have included Pierre and Marie Curie, Alexander Graham Bell, Thomas A. Edison, Guglielmo Marconi, Niels Bohr, Henry Ford, Orville Wright, Albert Einstein, Enrico Fermi, Frank Lloyd Wright, R. Buckminster Fuller, Wernher Von Braun, Jacques-Yves Cousteau, Jay W. Forrester, John Bardeen, William O. Baker, Steven Weinberg, and G. Evelyn Hutchinson.

## Memorial preprints ready for free distribution

The following memorial preprints are now available, free of charge, by writing to GSA, P.O. Box 9140, Boulder, CO 80301:

Lon D. Cartwright, Jr.	by Paul E. Daugherty
Carl Wilhelm Correns	by Hildegard and Arnulf Muan
Milton B. Dobrin	by Samuel J. Allen
Victor Dolmage	by J. W. Stewart
Alden S. Donnelly	by David M. Evans
Bernhard Kummel	by Norman D. Newell
Milford Seymour Lougheed	by David B. Mackenzie
John Charles Maher	by Robert J. Lantz
Philip Moore Orville	by H. J. Greenwood
Paul Holland Price	by Robert B. Irwin
Henry H. R. Sharkey	by Jerry R. Kyle
John Dodsworth Weaver	by M. J. Roobol and A. L. Smith
Caleb Wroe Wolfe	by Arthur H. Brownlow and Paul C. Lyons

## Alaska Geological Society will host symposium

The Alaska Geological Society will host a geological symposium February 17 and 18, 1982, at the Hotel Captain Cook in Anchorage, Alaska.

A technical program is being organized around the theme, "Western Alaska Geology and Resource Potential." Papers will be presented on several topics, including geology, stratigraphy, tectonics, geothermal, geophysics, onshore and offshore oil and gas, geohazards, and coal.

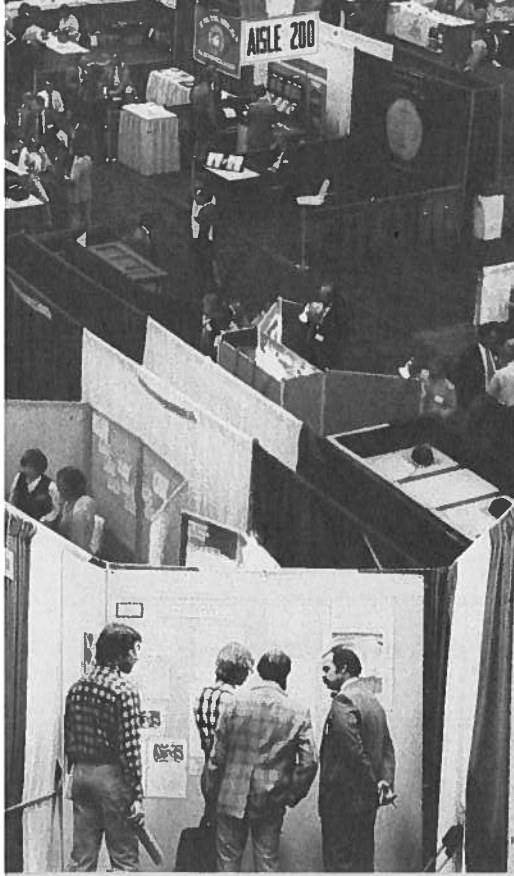
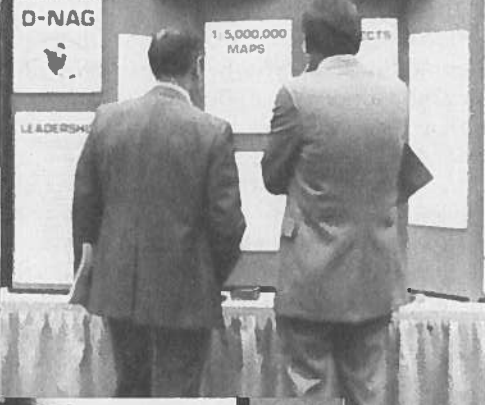
The dates February 17 and 18, 1982, occur during the week of the annual Anchorage Fur Rendezvous. This event includes world-championship dog-sled races, fur auctions, auto races, art shows, winter carnival, air shows, the Trappers and Miners Ball, and exhibits, and is often referred to as the "Mardi Gras of the North."

Those interested in presenting a paper should contact Program Chairman, 1982 Symposium, Alaska Geological Society, P.O. Box 1288, Anchorage, Alaska 99501.

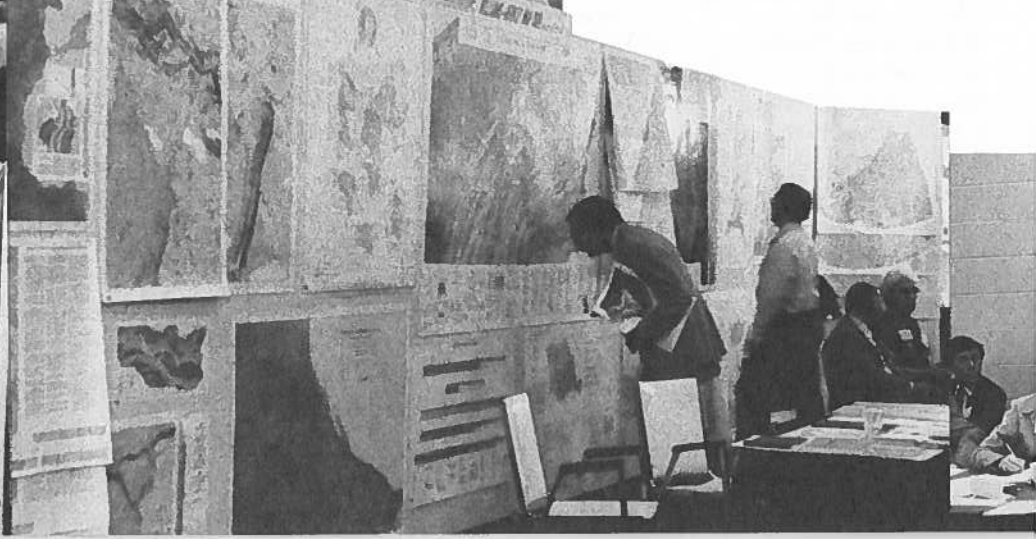
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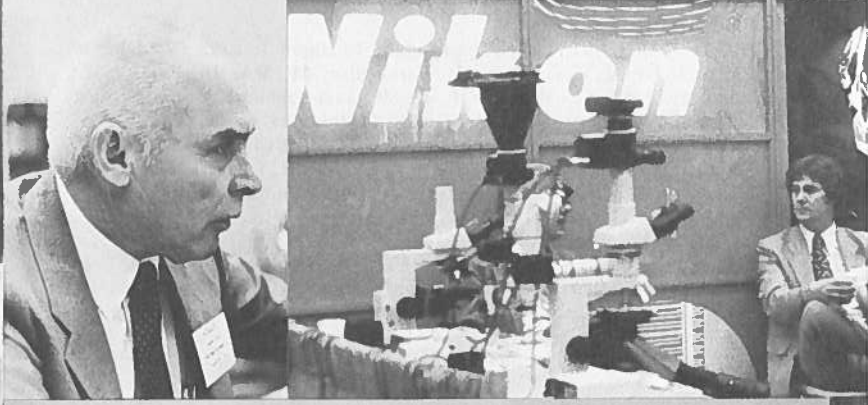
**DECADE OF NORTH AMERICAN GEO**  
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## Who's who of GSA: Officers and councilors for 1982

The direction and destiny of the Geological Society of America are in the hands of the officers and councilors that you, the membership, elect each year. All too often only a few of these individuals are known to any one member. In an effort to better acquaint you with the 1982 Officers and Councilors, we have condensed a great deal of information into a few basic facts about each of the individuals who will be shaping GSA's future in 1982.

### PRESIDENT

**DIGBY J. MCLAREN**, b. Carrickfergus, Northern Ireland, 12-11-19; m. 42; c. 3. GEOLOGY. BA, Univ. Cambridge, 41, MA, 46; PhD (geol.), Univ. Michigan, 51. Mem. staff, 48-59, chief paleont., 59-67, dir. inst. sedimentary & petrol. geol., 67-73, dir., Geol. Surv. Canada, 73-80, asst. deputy minister (Sci. & Tech.), 80-81, SENIOR SCI. ADVISOR, DEPT. ENERGY, MINES & RESOURCES, 81-; VISITING PROF., UNIV. OTTAWA, 81-. Chmn., Comm. Stratig., Intl. Union Geol. Sci., 68-72; Chmn. Bd. Intl. Geol. Correlation Prog., UNESCO- Intl. Union Geol. Sci., 76-80. Paleont. Soc. (pres., 69); fel. Geol. Soc. Amer.; fel. Royal Soc. Canada; Foreign Assoc., Geol. Soc. France; Canadian Soc. Petrol. Geol. (pres., 71); Foreign Assoc., Natl. Acad. Sci.; fel. Royal Soc. London. Devonian paleontology and stratigraphy of Western Canada, time and correlation. Address: Department of Geology, Faculty of Science & Engineering, University of Ottawa, Ottawa, Ontario K1N 6N5. Phone: (613) 231-5751.

### VICE-PRESIDENT

**PAUL A. BAILLY**, b. Paris, France (natl. U.S. Citiz., 60), 12-3-26; m. 58; c. 2. GEOLOGY, MINERAL DEPOSITS. MS, Univ. Nancy, France, 48; Yale Univ., 48-49; PhD (geol.), Stanford Univ., 51. French Paratroops, 51-52. Field geol., Kennecott Copper Corp., 52; field geol., 53-56, explor. district mgr., 57-60, pres., Bear Creek Mining Co., 60-67; PRES. & DIR., OCCIDENTAL MINERALS CORP., 68-; DIR., CANADIAN OCCIDENTAL PETROL. LTD., 72-. Comm. Mineral Res. & Environ., NRC/NAS, 72-75; Chmn. COMRATE'S Task Force Mineral Policy, 73-74; Henry Krumb lectr., SME/AIME, 76; v. pres., North Amer., Soc. Geol. Appl. Mineral Deposits, 78-80; Jackling Award, AIME, 79. Soc. Econ. Geol. (pres., 81); fel. Geol. Soc. Amer.; Soc. Geologie Appliquée aux Gites Mineraux; Mining & Metall. Soc. Amer.; Soc. Mining Engrs.; Canadian Inst. Mining & Metall.; Intl. Assn. Genesis Ore Deposits. Mineral resources, exploration, mine development and Public Land laws. Address: Occidental Minerals Corporation, Irongate Building IV, 777 S. Wadsworth Blvd., Lakewood, CO 80226. Phone (303) 988-2200.

### PAST-PRESIDENT

**HOWARD R. GOULD**, b. Adrian, WV, 11-10-21; m. 48; c. 2. GEOLOGY. BA, Univ. Minnesota, 43; PhD (geol.), Univ. Southern California, 53. Training assoc., 43-45, assoc. marine geol., Div. War Res., Univ. California, 46; asst. geol. Scripps Inst. Technol., 46-47; geol., USGS, 47-54; asst. prof. oceanog., Univ. Washington, 53-56; sr. geol., 56-63, staff geol., 63-64, chief, Geol. Res. Sect., Humble Oil & Ref. Co., 64; mgr. stratig. geol. div., 64-67, RES. SCI., EXXON PROD. RES. CO., 67-. Spec. consult., US Navy. Amer. Assn. Adv. Sci.; fel. Geol. Soc. Amer.; Soc. Econ. Paleont. & Mineral.; Amer. Assn. Petrol. Geol.; Amer. Geophys. Union. Sedimentation, especially in marine and lake environments; general geology of the sea floor; petroleum geology. Address: Exxon Production Research Company, P.O. Box 2189, Houston, TX 77001. Phone: (713) 965-4796.

### TREASURER

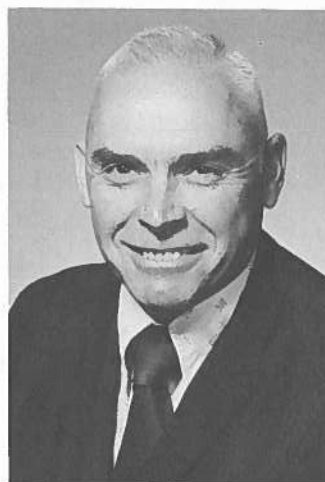
**WILLIAM B. HEROY, JR.**, b. Washington, D.C., 8-13-15; m. 37; c. 4. GEOLOGY, GEOPHYSICS. AB, Dartmouth Coll., 37; PhD (geol.), Princeton, 41; adv. mgt. prog., Harvard Univ., 61. Asst. geol., Princeton, 39-41; asst. geol. field party, 41-42, geol., Texaco Co., 42-45; Geotech. Corp., 45-46, supvr., 46-50, v. pres. & dir., 50-59, exec. v. pres., 59-61; pres., 61-65; exec. v. pres., 65-68, pres., Geotech Div., 65-67; group mgr., 67-68, asst. to pres., Teledyne, Inc., 68-70, v. pres.-treas., 70-76; prof. geol. sci., 70-81, PROF. EMERITUS, SOUTHERN METHODIST UNIV., 81-. Phi Beta Kappa (hon.), Dartmouth Coll., 77; fel. Geol. Soc. Amer.; Soc. Explor. Geophys.; Soc. Econ. Geol.; Amer. Assn. Petrol. Geol.; Amer. Geophys. Union. Geology of the Shell Canyon area; economic geological petroleum; geophysical prospecting; surface and structural geology; stratigraphy, sedimentation and seismology. Address: 13210 Laurelwood Lane, Dallas, TX 75240. Phone: (214) 239-3216.



DIGBY J. MCLAREN



PAUL A. BAILLY



HOWARD R. GOULD



WILLIAM B. HEROY, JR.

### COUNCILOR 1980-1982

**ROBERT E. BOYER**, b. Palmerton, PA, 8-3-29; m. 51; c. 3. GEOLOGY. BA, Colgate Univ., 51; MA, Indiana Univ., 54; PhD, Univ. Michigan, 59. From instr. geol. to assoc. prof. geol., 57-67, PROF. GEOL. SCI. & EDUC., chmn., dept. geol. sci., 71-80, chmn., ex. comm. geol. found., 71-80, DEAN, COLL. NATURAL SCI., UNIV. TEXAS, 80-. Ed., Texas Journal Sci., 62-64 & Journal Geol. Educ., 65-68. Fel. Geol. Soc. Amer.; Amer. Assn. Adv. Sci.; Amer. Assn. Petrol. Geol.; Amer. Soc. Photogram.; Austin Geol. Soc. (Pres., 75-76); Gulf Coast Assn. Geol. Soc. (Pres., 76-77); Natl. Assn. Geol. Teachers (Pres., 74-75); Natl. Sci. Teachers Assn.; Hon. Life Mem.; Texas Acad. Sci. (Pres., 69). Structural and field geology; space photography and remote sensing; earth science curricula and teaching in secondary schools. Address: 7644 Parkview Circle, Austin, TX 78731. Phone: (512) 471-3285.

### COUNCILOR 1980-1982

**FRANK E. KOTTLOWSKI**, b. Indianapolis, IN, 4-11-21; m. 45; c. 3.

ECONOMIC GEOLOGY. AB, Indiana Univ., 47; AM, 49; PhD (econ. geol.), 51. Asst. geol. econ. geol., State Geol. Surv., Indiana, 46-51; asst., 47-48; instr., Indiana Univ., 50; fac. assoc., New Mexico Inst. Mining & Technol., 54-; econ. geol., 51-66, asst. dir. & sr. geol., 66-73; DIR., NEW MEXICO BUREAU MINES & MINERALS RES., 73-. Fel. Amer. Assn. Adv. Sci.; Soc. Econ. Geol.; fel. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Amer. Inst. Prof. Geol. Coal geology; Pennsylvanian and Permian stratigraphy; Cenozoic sediments and volcanic rocks; industrial minerals and rocks; areal mapping in Indiana, New Mexico, and Montana; measuring stratigraphic sections. Address: New Mexico Bureau of Mines and Mineral Resources, Socorro, NM 87801. Phone: (505) 835-5420.

#### COUNCILOR 1980-1982

DALLAS L. PECK, b. Cheney, WA, 3-28-29; m. 51, c. 3. GEOLOGY. BS, California Inst. Technol., 51, MS, 53; PhD, Harvard Univ., 60. Asst. field geol., California Inst. Technol., 51-52; asst. struct. geol., Harvard Univ., 52-53; geol., 61-66, asst. chief geol., Office Geochem. & Geophys., 67-72, res. geol., 72-77, chief geol., 77-81, DIRECTOR, USGS, 81-. Mem. Vis. Comm. to Dept. Geol. Sci., Harvard Univ., 71-76. Mem. Geosci. Adv. Comm., Los Alamos Sci. Labs., 75-78. Fel. Geol. Soc. Amer.; fel. Amer. Geophys. Union (pres., Section Volcanology, Geochem., and Petrol., 75-77); Soc. Econ. Geol.; Mineral. Soc. Amer. Igneous Petrology; Hawaiian lava lakes; Sierra Nevada Batholith. Address: U.S. Geological Survey, 101 National Center, Reston, VA 22092. Phone (703) 860-7411.

#### COUNCILOR 1980-1982

PETER R. VAIL, b. New York, NY, 1-13-30; m. 56; c. 3. GEOLOGY. AB, Dartmouth Coll., 52; MS, Northwestern Univ., 55, PhD, 59. Teach. asst., Northwestern Univ., 52-54; asst. geol., USGS, Spokane, WA, & Evanston, IL, 52-56; res. geol., Carter Oil Co., Tulsa, OK, 56-58; res. geol., 58-62, sr. res. geol., Jersey Prod. Res. Co., Tulsa, OK, 62-65; sr. res. spec., 65-66, res. assoc., 66, res. supvr., 66-70, sr. res. assoc., 70-72, sr. res. adv., 72-76; RES. SCI., EXXON PROD. RES. CO., HOUSTON, TX, 76-. Fel. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol. (Distinguished Lectr., 75-76) (Co-recipient Pres. Award for Best Paper, 79); Soc. Explor. Geophys. (Kaufman Gold Medal Award, 76); Amer. Petrol. Inst.; Amer. Assn. Adv. Sci.; Geol. & Geophys. Soc. Houston; Sigma Xi, Wm. Smith Lectr., Geol. Soc. London, 78; Mem. Joint Oceanographic Inst. Deep Earth Sampling Passive Margin Panel, 78-79; Mem. Consortium for Continental Reflection Profiling Site Selection Comm., 74-80; Mem. Intl. Subcomm. Stratigraphic Class., 76-; Mem. Ocean Science Board, NAS, 79-81. Principal publications concern seismic stratigraphy, global changes of sea level and tectonics. Address: Exxon Production Research Company, P.O. Box 2189, Houston, TX 77001. Phone: (713) 965-4884.

#### COUNCILOR 1981-1983

HUBERT GABRIELSE, b. Golden, BC, 3-1-26; m. 55; c. 2. GEOLOGY. BASc, Univ., British Columbia, 48, MASc, 50; PhD (geol.), Columbia Univ., 55. Geol., 53-70, head Cordilleran subdiv., 70-79, RES. SCI., GEOL. SURV. CANADA, 80-. Fel. Geol. Soc. Amer.; NY Acad. Sci.; fel. Geol. Assn. Canada; mem. Canadian Inst. Mining & Metall.; Canadian Soc. of Petrol. Geol.; Royal Soc. Canada. Regional stratigraphy, structure and tectonics. Address: Geological Survey of Canada, 100 West Pender Street, Vancouver, British Columbia V6B 1R8. Phone: (604) 666-2958.

#### COUNCILOR 1981-1983

BRUCE B. HANSHAW, b. Harrisburg, PA, 5-7-30; m. 54; c. 2. GEO-CHEMISTRY. ScB, Massachusetts Inst. Technol., 53; MS, Univ. Colorado, 58; PhD (geochem.), Harvard Univ., 62. Geol., US AEC, 53-54 & 56, Petrol. Res. Corp., 58-61; geol., Water Res. Div., 61-70, staff sci., Off. Dir., Washington, DC, 70-73, GEOCHEM., USGS, 73-. Mem. Comm. Pollution, NAS-NRC, 65-67; mem. US Natl. Comm., Intl. Hydrol. Decade, 67. O.E. Meinzer Award, Geol. Soc. Amer., 73. Amer. Assn. Adv. Sci.; Geol. Soc. Amer.; Geochem. Soc.; Amer. Geophys. Union; Amer. Chem. Soc. Isotope chemistry; membrane phenomena applied to clay minerals; mineral-solution equilibria; factors affecting natural water chemistry. Address: U.S. Geological Survey WRD, 431 National Center, Reston, VA 22092. Phone: (703) 860-6083.

#### COUNCILOR 1981-1983

JOHN C. HARMS, b. Albuquerque, NM, 7-29-30; m. 52; c. 3. GEOLOGY. BS, Columbia Univ., 51; PhD (geol.), Univ. Colorado, 59. Geol., Continental Oil Co., 52-54; RES. GEOL.-MGR. REG. EXPLOR., MARATHON OIL CO., 59-. Geol. Soc. Amer.; Amer. Assn. Petrol. Geol.; Soc. Econ. Paleont. Mineral.; Amer. Assn. Adv. Sci.; Sigma Xi. Detrital sedimentary rocks; structural geology. Address: Marathon Oil Company, P.O. Box 269, Littleton, CO 80160. Phone: (303) 794-2601.

#### COUNCILOR 1981-1983

ROBERT D. HATCHER, JR., b. Madison, TN, 10-22-40; m. 65; c. 2. STRUCTURAL GEOLOGY, TECTONICS. BA, Vanderbilt Univ., 61, MS, 62; PhD (geol.), Univ. Tennessee, 65. Geol., Humble Oil & Ref. Co., 65-66; asst. prof. to prof. geol., Clemson Univ., 66-78; prof. geol., Florida State Univ., 78-80; PROF. GEOL., UNIV. SOUTH CAROLINA, 80-. Geol. Soc. Amer.; Amer. Geophys. Union; Geol. Assn. Canada. Regional tectonics; structural geology; tectonics of mountain chains; metamorphic petrology; stratigraphy in medium to high grade metamorphic rocks. Address: Department of Geology, University of South Carolina, Columbia, SC 29208. Phone: (803) 777-6683.

#### COUNCILOR 1982-1984

HAYDN H. MURRAY, b. Kewanee, IL, 8-31-24; m. 44; c. 3. CLAY MINERALOGY, ECONOMIC GEOLOGY. BS, Univ. Illinois, 48, MS, 50, PhD (geol.), 51. From asst. prof. to assoc. prof. geol., Indiana Univ., 51-57; dir. appl. res., 57-59, dir. res. & mfg., 59-63, v. pres., 63-64, exec. v. pres., Georgia Kaolin Co., 64-73; CHMN. DEPT. GEOL., INDIANA UNIV., 73-. Clay mineralogist, State Geol. Surv., Indiana, 51-57; mem. exec. comm., Working Comm. Genesis & Age of Kaolins, UNESCO, 73-. Hal Williams Hardinge Award, Amer. Inst. Mining, Metall. & Petrol. Eng., 76. Fel. Amer. Ceramic Soc. (v. pres., 74-75); Amer. Chem. Soc.; Mineral. Soc. Amer.; distinguished mem. Amer. Inst. Mining, Metall. & Petrol. Engr. (chmn. elect, Industrial Minerals Div., 81); Clay Minerals Soc. (pres., 65-66; distinguished mem. 81); fel. Geol. Soc. Amer. Geology, economic uses and chemistry of clay minerals; beneficiation of metallic, nonmetallic, and coals using high intensity magnetic separation. Address: Department of Geology, Indiana University, Bloomington, IN 47405. Phone: (812) 337-5582.

#### COUNCILOR 1982-1984

THORNTON L. NEATHERY, b. Atlanta, GA, 3-12-31; m. 56; c. 3. GEOLOGY. BS, Univ. Alabama, 56, MS, 64. Geol., Reynolds Metals Co., 56-62; asst. v. pres., Textile Rubber & Chem. Co., 63; geol., 64-73, chief geol., 73-76, ASST. STATE GEOL. & DIR. BUDGET & RES. DEVELOP., GEOL. SURV. ALABAMA, 76-. Sigma Xi; fel. Geol. Soc. Amer.; Soc. Econ. Geol.; Mineral. Soc. Amer.; Soc. Mining Engrs.; Soc. Geol. Appl. Mineral Deposits; Geochem. Soc. Regional geologic mapping in southern Piedmont and folded Appalachians with emphasis on sedimentation, metamorphism, and structural evolution as applied to distribution of ore deposits. Address: Geological Survey of Alabama, P.O. Drawer O, University, AL 35486. Phone: (205) 349-2852.

#### COUNCILOR 1982-1984

ARTHUR A. SOCOLOW, b. New York, NY, 3-23-21; m. 49; c. 3. ECONOMIC GEOL. BS, Rutgers Univ., 42; MA, Columbia Univ., 47, PhD (geol.), 55. Asst. field geol., State Geol. Surv., Virginia, 42; photogram. engr. 42, 46, geol., USGS, 52, & Eagle Picher Mex., 47; asst. econ. geol., Columbia Univ., 47-48; instr. geol. & dir. geol. field camp in Colorado, Southern Methodist Univ., 48-50; from instr. to asst. prof. geol., Boston Univ., 50-55; from asst. prof. to prof. geol., Univ. Massachusetts, 55-57; econ. geol., 57-61, STATE GEOL. & DIR., PENNSYLVANIA GEOL. SURV., 61-. Geol., Defense Minerals Explor. Authority, 52; geol. adv., Boston Museum Sci., 55-57, lectr., 56; lectr., Pennsylvania State Univ., 59-73; mem., NSF Earth Sci. Conf., 59; dir. annual field conf., Pennsylvania Geol. Surv., 61-; mem. & past chmn., Res. Comm. & Environ. Protection Comm., Interstate Oil Compact Comm., 72-; past chmn. Amer. Comm. Stratig. Nomenclature; chmn., Pennsylvania Water Resources Coord. Comm. Fel. Geol. Soc. Amer.; Amer. Assn. Adv. Sci (chmn. elect.; Geol.-Geog. Section); fel. Mineral. Soc. Amer.; Amer. Geophys. Union; Sigma Xi; Natl. Assn. Geol. Teacher. Genesis and structural control of ore deposits; regional structure interpretation; alteration effects related to igneous rocks and ore deposits; geologic interpretation of aeromagnetic data; geologic impact on man's environment. Address: Pennsylvania Bureau of Topographic and Geologic Survey, Box 2357, Harrisburg, PA 17120. Phone: (717) 787-2169.

#### COUNCILOR 1982-1984

ROSEMARY J. VIDALE, b. New Haven, CT, 3-27-31; m. 54; c. 3. GEO-CHEMISTRY, PETROLOGY. BA, Oberlin Coll., 52; MS, Univ. Michigan, 54; PhD (geol.), Yale Univ., 68. From asst. prof. to assoc. prof. geol., State Univ. New York, Binghamton, 68-75; res. fel., Carnegie Inst., Washington, D.C., 74-75; staff mem. 75-77, ASSOC. GROUP LEADER, ISOTOPE GEOCHEM., LOS ALAMOS SCI. LAB., 78-; fel. Amer. Assn. Adv. Sci.; Geochem. Soc.; Mineral. Soc. Amer.; Sigma Xi; fel. Geol. Soc. Amer. Experimental element transport and retention; geothermal systems. Address: CNC-7, M.S. 514, Los Alamos Scientific Lab., P.O. Box 1663, Los Alamos, NM 87545. Phone: (505) 667-4985.

# NEW FELLOWS, MEMBERS, AND STUDENTS

## NEW FELLOWS

The following candidates were elected to Fellowship by Council action at the November 1981 meeting:

Neely H. Bostick	J. Gordon Erdman	Fernando Ortega-Gutierrez
Arthur L. Bowsher	Robert W. Fleming	Don H. Rousell
Halka Chronic	Richard H. Groshong, Jr.	Kenneth O. Stanley
Hanka W. S. Chryssaopoulos	Thomas L. Holzer	Randall J. Weege
Maria Luisa Crawford	Philip A. Meyers	Michael O. Woodburne

## NEW MEMBERS

The following 254 Members have been elected to Membership by Council action during the period from May 1, 1981, through October 30, 1981. (\* indicates transfer from Student Associate to Member.)

Gerald Ahnell	Jean-Jacques Cocheme	Howard J. Grey	Donald J. Marshall
Steven C. Alexander	Scott R. Coe	Ginny R. Grove	Javier D. Martinez-M
Rod L. Allen	Donald K. Cohen*	Rafael F. Gutierrez-B	Alan M. Martz
Abdulrahman Alsharhan	Susan J. Coleman		Linda M. Massingill
Donna S. Anderson*	Gregory S. Conrad	Deborah R. Harden*	Kenneth J. McCants
Zena Hunter Andrews*	Gregory A. Cook	James T. Harden*	M. C. McCartney*
Karen J. Anscombe	Kenneth W. Cook	Ted L. Harriger	Linda B. McCollum
Kent E. Ausburn*	Francesco V. Corona	Ann G. Harris	John P. McCullough
Gary J. Axen*	Steven W. Cox	Paul D. Hartley	Daniel E. McDonnell
	Thomas C. Crafford	James E. Hawkins	William F. McKenzie*
Carlos Baca-Chacon*	Kathy A. Crawford*	Diane S. Haynes	Catherine R. McMasters
Robert L. Badger	Anita L. Crews*	Charlene M. Herbst	John G. McPherson
Gordon C. Baird	John E. Crowley	Cynthia D. Hilmoe	Ronald W. Mearns
Terri A. Barbour*	Charles V. Cullar	John J. Hnat	Robert R. Merker
Alice R. Barr	David A. Cushman	Richard K. Hosfeld	Robert B. Miller
Anthony J. Battrick		Ralph H. Howe*	Wade E. Miller
Richard R. Belyea*	Sarah B. Darrell	Pablo Huidobro	Dorian E. Mills
Gordon D. Bennett	John W. S. Davis, Jr.	James R. Humphrey	Susan E. Monson
William C. Beyer*	Lawrence H. Davis*		Garry E. Moore*
David C. Bice*	Ray H. Davis	H. Steven Jackson*	Erin M. Moran
Philip R. Bigsby	Peter A. Dea	Angela S. Jayko	Philip S. Morey*
Oliver D. Blake*	Peter J. Debenham	Thomas F. Jenkins	Cynthia L. Morstead*
Eugene L. Blanck, Jr.	Ceferino M. Dela Cruz	Mark Ryan Johnson*	Daniel R. Muhs*
Charles D. Blome	Julett R. P. Denton	Vard Hayes Johnson*	
Clifton E. Bole	Ed H. Dewitt*	Michael J. Joyce	Abdullah Omer Nasseef
Frank C. Boschi	David L. Dilcher	H. Christopher Juhlin	Arsenio Navarro-Galindo
William P. Bosworth*	Joseph F. Donoghue*		Jorge Nieto-Obregon
Peter M. Bowers	Mary E. Dowse	G. William Kalb	Martin C. Noger
Harry J. Bradbury	Mark E. Dunham	Anatoly A. Kaplan	Hallan C. Noltimier
William B. Brawley*		Terry Katzer	Dag Nummedal
Carl R. L. Brown	Kathleen Anne Ehlig	William R. E. Kelly	
Jeffrey A. Brown	Robert B. Elkington	Mark W. Kirby*	John R. O'Halloran
Michael D. Brown	Elise L. Erler*	John S. Kliene	Paul R. Oman
Jeffrey W. Bryant	William David Ernst	Philip W. Klinedinst	Carolyn Verner Ormes
Mark E. Bryant		Harold D. Koechlein	Gary M. Owen
Rex C. Buchanan	Jan D. Falteisek	Robert P. Koehler*	
George J. Burwasser	Jane Frances Feinberg	Nickolas A. Kohlmann	Dimitrios Papanikolaou
William H. Busch*	Daniel E. Ferber	Daniel C. Krupicka	Stephen C. Parsons
Brian S. Bush	Kenneth A. Foland	Ralph R. Kuhns, Jr.	Carey E. Peabody
James Arthur Bush	Lawrence N. French		Peter E. Penoyer
		Alan P. Laferriere*	Wendy L. Peterson*
Duane C. Carlton	Carol Metcalf Gardipe	Philip La Monica	Earl W. Phillips, Jr.
David H. Carnes	Carla M. Gasteiger	Bruce R. Leavitt	Wendy R. Phillips
J. Ben Carsey*	Beth C. Geiger	Thomas D. Light	John D. Pigott*
Richard C. Casias*	Philip S. Getty*	Kenton M. Loda*	Thomas G. Plymate
Linda K. Chambers	James M. Gibson	Richard L. Lohse*	Edward J. Porter
Daniel S. Chase*	Robert D. Gibson	Richard S. Lovesy	Richard M. Powers
Theodore H. Chenoweth	Ivan K. Gilmore	Marie S. Lucas*	Gerald D. Prager
Karen I. Christensen*	Frank L. Glick*		Victor A. Pshvlovzky
Michael T. Christopher	Arthur G. Goldstein*	Thomas C. Mackinnon*	
Raymond F. Cicero	Peter D. Goreau*	Scott L. Manske*	James E. Quick*
Michael N. Clark	Hugo R. Greiner*	Susan L. Marsh	

## NEW MEMBERS, continued . . .

Dwight V. Roberts	Neil A. Simmons	Thomas W. Troutman	Edwin B. Wells
Michael L. Robinson	John D. Smewing	David B. Twedell	John S. West*
Sheila J. Roebuck-Keys*	Janet G. Snyder*		Jerald R. Williams
Lewis F. Rogers	Stephen A. Sonnenberg	Robert R. Upp*	John G. R. Wilson
James E. Rose	Thomas A. Sparrowe	Stephanie B. Urban	W. D. Bruce Winfield
Unni H. Rowell	William H. Spitz		James C. Witcher
	David N. Steinsaltz	Robert I. Valliant	Gene A. Wright
Thomas P. Sanders	Jeffrey D. Stoner	Michael T. Vaughan*	Stephen L. Wust*
Robert L. Scamman*	Ken Swirczyaski	William D. Vogelsong	
Craig A. Scharton		Kenneth J. Vogler	Linneth O. Yap
Darrel W. Schmitz*	Fred W. Tahse, Jr.	Lawrence F. Voors	
David W. Schnake	Thomas E. Tetreault		Half Zantop
William T. Schwessinger	Susan J. Tewalt	Roger P. Wadleigh	Daniel G. Ziegler
Shadul A. Shadul	Elizabeth E. Theilig*	Thomas I. Wallis	Elias Zlotnik*
Chandra K. Sharma	Constance K. Throckmorton*	Gary L. Walvatne	Pamela M. Zyman
Steven D. Sheriff*	Oscar W. Tollefson*	Cyril R. Wanamaker*	
Tracy Shrier*	Eric J. Trinkle	Paula A. Weiss	
Michael L. Siembieda	Robert E. Troutman	Timothy C. Welch*	

## NEW STUDENT ASSOCIATES

Listed are 146 Student Associates who became affiliated with the Society during the period from May 1, 1981, through October 30, 1981.

Timothy A. Alderman	Richard A. Garlow	Anibal R. Mata-Sol	Jerald M. Smith
Raul Tapia Almaguer	Matthew P. Golombek	Jeffrey J. McGonnell	Robert Michael Specter
Philip U. Amadi	Connie Jo Gough	Sandra J. Mead	Elichia Anne Squires
Robert C. Anderson	Steven C. Gray	David B. Meyer	Daniel J. Stein
Jeffrey S. Andrienas	Kimberly R. Greene	Karen R. Michael	Bruce L. Steward
Patricia C. Ater	Bruce H. Greenidge		Robert T. Strain
	Richard H. Grimes	Liese M. Ness	Larisa Szumakow
Denise Barlock	Kevin P. Guilbeau		
Patricia L. Barnes-Svarney		Thomas W. O'Brien	Jane A. Taylor
Karen L. Bice	Peter M. Hansen	Gilbert E. Odior	Penny M. Taylor
Lamora Bies	Javier Helenes-Escamilla	Margaret B. Oldberg	Brenda F. Tczap
Jim M. Bloomfield	Clark T. Hellier	Don M. Orazulike	David M. Thompson
Mark C. Boehm	Cardine V. Hengeveld	Robert L. Osolin	Linda K. Trocki
Jeffrey L. Bowen	Deborah L. Henton	David L. Oswald	Kerry R. Tull
Patricia A. Brinkman	Terry L. Hoffman		Robert S. Turner
David J. Buchholz	Dorothy J. Hoffmaster	John M. Pandolfi	Timothy N. Tvrdik
Keith A. Burgess	Michael B. Horton	Robert L. Parberry	Linda E. Tway
Edward D. Bustya		Jay B. Parrish	Joseph R. Tyburski
	Susan D. Ivy	David B. Pasciak	
Michael D. Campbell		John David Pavlik	David H. Voorhees
David Cardenas	Kermit Jamison	Caroline H. Persson-Reeves	
Karrie Champneys	Clark M. Johnson	Clifford R. Pollock	Hiroshi Wakao
Frederick M. Chester	Jeffrey A. Johnson	Thaddeus S. Prevette	Alan R. Wallace
Thomas A. Cloud		Victoria C. Provenza	Wayne L. Warburton
Gregory L. Cole	David H. Keehn		Barry G. Warner
Albert W. Collar II	Janet E. King	Subramanian Ramakrishnan	Edward C. Warwick, Jr.
Jim T. Constantopoulos	Tanya R. King	Nicholas E. Rasheta	Susan Alice Waters
Daniel H. Cooper	H. David Knight	David S. Ratner	Edith M. Wilde
Peter Cronin	Melissa M. Kolb	John H. Raymer	George N. Wilhelmson
Christopher J. Crow	Douglas W. Komnick	Rocky R. Reifentstahl	James T. Wilson
Mary A. Crowl	George M. Kondolf	James L. Renshaw	Melissa C. Winans
Kimberly B. Curlin	William H. Koucky	Frederick V. Roeck	
	Mark D. Kurz	Bonnie J. Rohr	Paula M. Yacullo
Dennis E. Dahms	Erik P. Kvale	Steven A. Rohr	Susan Yeich
James A. De Angelis		Seth E. Rose	
David E. Diller	W. Clifford Lafrance		
Debra A. Dufek	David T. Lawhon	Ira D. Sasowsky	
	Charlotte A. Leviton	Donald J. Schissel	
William J. Ehmann	J. Eduardo Lopez-Romero	Jon A. Schwartzapfel	
	Lydia M. Loubacos	Hans F. Schwing	
Dennis P. Farley	Mary A. Lysenko	Mae Lynn Sexauer	
John R. Farver		Reginald G. Shanks	
Tamsen L. Fleming	Peter R. Marvin	Gerald M. Shean III	
John D. Fouts	Patricia Gallagher Mason	Terry J. Sheehy	

# MEETING ANNOUNCEMENTS

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## **Symposium on the Cerro Prieto Geothermal Field**

A final symposium summarizing the five years of cooperative activities at the Cerro Prieto Geothermal Field between the Comisión Federal de Electricidad of Mexico and the United States Department of Energy will be held at the Guadalajara Sheraton, Guadalajara, Mexico, August 10 to 12, 1982. Field trips to the La Primavera and Los Azufres geothermal fields are tentatively planned for August 9 and 13, respectively.

Invited papers by participants in the project will cover results on the geology, geophysics, geochemistry, subsidence, and reservoir engineering aspects of the Cerro Prieto field. Interested American and foreign engineers and scientists are encouraged to attend.

For further information, please contact Ing. Alfredo Mañón, Coordinadora Ejecutiva de Cerro Prieto, C.F.E., P.O. Box 248, Calexico, California 92231; or Rubén Zelwer, University of California, Lawrence Berkeley Laboratory, Earth Sciences Division, Berkeley, California 94720; Phone (415) 486-5560; FTS 451-5560.

## **U.S. National Committee for INQUA announces travel support program for XI INQUA Congress in USSR**

The U.S. National Committee of the International Union for Quaternary Research (INQUA) is seeking funding for a travel support program to ensure that the United States will be represented by an adequate number of qualified scientists at the XI International Congress of INQUA, to meet in Moscow, USSR, August 1-9, 1982. Funds for this purpose, now being solicited from a number of government agencies and private institutions, will be coordinated by the U.S. National Committee for INQUA. Applications from younger scientists are encouraged.

Applicants for travel grant support should request application forms from W. L. Petrie, USNC/INQUA, National Academy of Sciences, 2101 Constitution Ave., N.W., Washington, DC 20418. Four completed application forms, together with four copies of the abstract of the paper submitted to INQUA must be received by the Academy Office no later than January 15, 1982. Grant awards may be made as late as July 15, 1982, depending on funds received. If possible, some advance indication of tentative selections will be communicated earlier.

The purpose of the International Union for Quaternary Research (INQUA) is to bring together on a world-wide basis scientists in all disciplines concerned with the history of man's environment and with the processes by which environment and man's relation to it have evolved. Included among these disciplines are archaeology, botany, climatology, ecology, geochemistry, geography, geomorphology, geophysics, hydrology, paleontology, limnology, oceanography, palynology, physical anthropology, soil science, tectonophysics, and zoology.

The National Academy of Sciences is the adhering body to INQUA on behalf of the American scientists. The U.S. National Committee, under the chairmanship of Dr. R. S. Hoffmann, University of Kansas, plans U.S. participation in INQUA activities. One of the functions of the committee is to arrange for travel support of U.S. scientists attending the

international congresses of INQUA held at four-year intervals. Further information about the XI Congress may be obtained by writing to Dr. Ismail P. Kartashov, Secretary-General XI INQUA Congress, Geological Institute, USSR Academy of Sciences, Pyzhevsky 7, Moscow 109017, USSR.

## **Palaeoenvironment of east Asia from the mid-Tertiary**

The Centre of Asian Studies, University of Hong Kong, is proposing to convene a conference early in December 1982, on the late palaeoenvironments of east Asia.

*Geographical scope:* Those parts of east Asia that come within the limits of 80° to 150°E longitude and 20° to 50° latitude.

*Objectives:* In order to lead up to a definition of the nature of the environment in which hominids and early forms of *Homo* evolved in east Asia, it is necessary to go back to the Tertiary. The objective of this conference will be to present and review the evidence for the sequence of geological and palaeoclimatological factors and the parallel evolution of the biological ecosystems in innermost Asia in particular, and ultimately throughout the region. Distinctions between the geological and biological history of the west (innermost Asia) and the northeast (northeast China, Japan, Korea, Taiwan) will be considered.

*Interdisciplinary approach:* Contributions giving equal emphasis to the individual factors and their interplay in the evolving pattern of sequential changes in the physical and biological environment would be expected from specialists in the disciplines of geology, geomorphology, palaeoceanography, palaeometeorology, palaeoclimatology, palaeoecology, palaeozoology, paleoanthropology, and early prehistory of man.

The conference will give an opportunity to specialists from China, Japan, Korea, and Taiwan to describe their recent advances in these disciplines, and for those from outside east Asia to share their experiences and to discuss concepts and techniques with their Asian colleagues.

*Participation:* Those wishing to participate are asked to inform Dr. Edward K. Y. Chen, Director, Centre of Asian Studies, University of Hong Kong, Hong Kong, before 31 March, 1982.

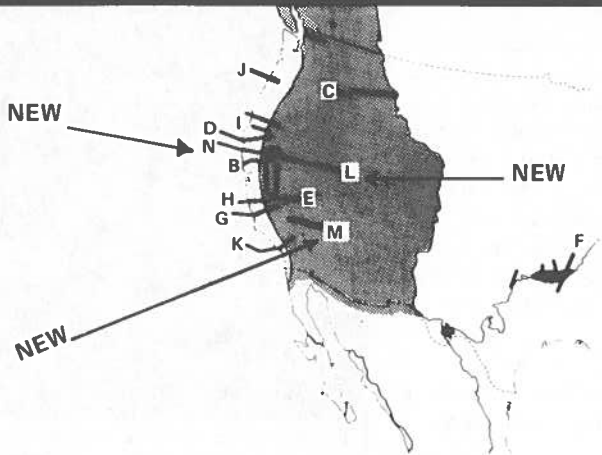
Statements of intention to attend, with offers of papers (with 200-word abstracts) to be presented in English, will now be welcome. A second announcement, stating the definitive form of the conference and more details of the program, will be issued in April 1982.

Due to limitation of funds, participants will be expected to cover their costs of travel, subsistence in Hong Kong, and conference fee.

## **Planar and linear fabrics of deformed rocks is topic of international meeting in Zurich**

An international meeting, "Planar and linear fabrics of deformed rocks," will be held August 31 to September 2, 1982, and sponsored by ETH Zurich in association with the Tectonic Studies Group. Swiss Alpine field excursions are planned for August 27 to 30 and September 3 to 6, 1982. The first circular may be obtained from Prof. J. G. Ramsay, Geological Institute, ETH-Zentrum, CH-8092 Zürich, Switzerland.

## THREE NEW GEOLOGIC CROSS SECTIONS FROM GSA



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Announcing . . .

**TREATISE ON INVERTEBRATE PALEONTOLOGY  
PART F (SUPPLEMENT 1) COELENTERATA  
Anthozoa: Subclasses Rugosa and Tabulata**

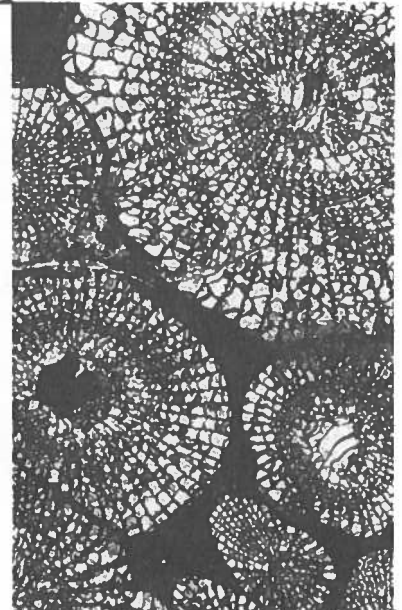
In this two-volume Supplement, Professor Dorothy Hill completes eight years of full-time dedication to the revision of the 1956 treatments of the Rugosa and Tabulata. The increase in knowledge of these subclasses, including many taxa first published in Russian and Chinese, is reflected in the expansion of systematic descriptions from 92 pages in the earlier edition to 497 pages (more than 1,050 generic descriptions) in this Supplement. A special effort has been made to facilitate the study of actual types and supporting series of specimens by including their locations and catalogue numbers wherever possible. Works published before the end of 1976 are covered completely, and genera named between then and September 1978 are included in the text but without illustration. Names new through 1980 are briefly covered in an appendix.

The Supplement is designed to be used as a single work, divided for ease of handling into two volumes of roughly equal size. The volumes are not available separately.

**Treatise on Invertebrate Paleontology, Part F (Supplement 1) Coelenterata (Anthozoa: Rugosa and Tabulata) in 2 volumes, 1980, x1 + 762 p., 462 figures (3,317 photos and line drawings), 3 tables, LC: 53-12913; ISBN 0-8137-3029-5 . . \$38.00**

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Transverse section, approximately X2.5, of *Tipheophyllum bartrumi* (Allan), from the Reefton Limestone, New Zealand; from Part F (Supplement 1), vol. 1, page 291.

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## INSIDE---

Report of the 1981 Annual Meeting . . . . .	1
Final announcement and preregistration form North-Central Section . . . . .	4
Who's who of GSA . . . . .	10



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