



# Quaternary Geologist and Geomorphologist

NEWSLETTER OF THE QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

Volume 35, Number 1

February 1995

## MANAGEMENT BOARD MEETING • SEATTLE • 24 OCTOBER 1994

The Management Board of the QG&G Division met on Monday, 24 October, 1994, during the Annual Meeting of the Geological Society of America, at Seattle. Attending were: P. Calkin, S. Colman, M. Machette, E. Cowan, W. Graf, A. Hansel, R. Anderson, R. Madole, S. Kite, K. Prestegaard, F. Donath, V. Baker, R. Waitt.

The meeting included the following items:

1. Introductions
2. Approval of minutes of 1993 meeting
3. Secretary's report (D. Harden):
  - 1994 election results:  
Second Vice Chair: Karen Prestegaard  
Secretary: J. Steven Kite (2-yr term)  
New Panel Members for 1994-1996: Robert S. Anderson, Ellen A. Cowan, Michael N. Machette
  - Winner of 1994 Kirk Bryan Award: Arthur N. Palmer for his paper *Origin and morphology of limestone caves*, published by Geological Society of America Bulletin in 1991. Members are encouraged to submit nominations for this award.
  - Financial condition (see accounting below)  
Beginning in 1995 the Division's Mackin and Howard grants will be given separately to a Master's (Howard) and Ph.D. (Mackin) recipients, rather than as combined Mackin/Howard grants. R. Madole reported that grants made from the Howard bequest must be drawn solely from interest earnings.
  - Division membership on 31 December 1994 is 1,255, down 49 members (-3.8%) from 1304 at the end of 1993, and down from 1,317 at the end of 1992. QG&G remains the third-largest GSA Division [31 Dec figure substituted for the similar late-Oct figure reported at Meeting. —Ed.].
4. Second Vice-Chair's report (W. Graf):
  - Winners of the Mackin/Howard grants for 1994 are: Amy B. Church (M.S), "Geomorphic response to Colonial land-use changes in Vermont", and Robert J. Viens, "The dynamic response to tidewater and freshwater calving glaciers to millennial-scale climatic change".
  - The 1996 Annual Meeting will be held in Denver; no QG&G Division activities have been planned to date.
5. First Vice-Chair's report (S. Colman)
  - Report from the Division Chairs' breakfast. Only 5% of abstracts were rejected for the 1994 meeting compared to the usual 12%. The QGG Division rejected about 10%. About 100 more abstracts were accepted by the Division in 1994, pointing out a need for larger meeting spaces. In the future, technical program scheduling may be done by fax and phone, rather than at the JTTC meeting. Changes to abstract forms are being considered for providing separate boxes to check for subject matter and review group (i.e., discipline). Only about half of all GSA members belong to Divisions.
- The Board voted to sponsor a symposium for the 1995 Annual Meeting in New Orleans. The symposium, "Quaternary geologic framework and processes of coastal wetland systems, Northern Gulf of Mexico, will be led by J. Williams, U.S. Geological Survey, and S. Penland, Louisiana State Univ.
6. Division Chair's report (P. Calkin)
  - William C. Bradley received the 1994 Distinguished Career Award. Members should be encouraged to submit nominations for this award.
  - The QGG newsletter was discussed. Some members expressed desire for some shift in emphasis of the newsletter (especially Summer issue), that it include fewer listings of previous award recipients and more news of activities, opportunities, and avenues of research in Quaternary geology and geomorphology. As advertised in Summer 1994 issue, Richard Waitt is standing down as editor after 3 years (after the Winter 1995 issue). The Board accepted an offer by Rich Whittecar, Old Dominion University, to be the new editor.
7. Long Range Planning Committee (S. Wells, V. Baker)
  - A draft of the "White Paper", The Earth's Dynamic Land Surface: Environmental Change and Society, is currently being revised. QGG representatives contributed to the preparation of the report at a meeting in Irvine, California, in early 1994. Representatives also participated in discussions of the Paper at the meeting of the U.S. Committee for INQUA at the 1994 AMQUA meeting in Minneapolis and will convene at the Seattle GSA meeting.
  - The International Association of Geomorphologists will hold a conference in Singapore in June, 1995. Preliminary fliers were distributed.
8. GSA Council (K. Prestegaard)
  - GSA will co-sponsor the Bulletin of Environmental and Engineering Geoscience beginning in 1995.
  - GSA is planning to expand electronic publishing in the future.

9. Institute for Environmental Education (IEE) (F. Donath)
- The IEE theme sessions on Urban Issues, co-sponsored by QGG, will continue in New Orleans. R. Kiesel will coordinate the 1995 session. Donath is stepping down from IEE; Don Davidson will coordinate the Institute for the present.

**QUATERNARY GEOLOGY &  
GEOMORPHOLOGY DIVISION**  
**Financial Activity Summary**  
**YTD through September 30, 1994**

Division Fund Balance 12/31/93	1,532.55
Division Dues Income	4,921.00
Total Division Resources	<u>\$6,453.55</u>
Division Expenses:	
Newsletters—GSA expense	286.49
Newsletters—invoice MB 044	1,145.92
Total division expenses	<u>1,432.41</u>
Division Fund Balance 9/30/94	\$5,021.14

The J. Hoover Mackin and the Arthur D. Howard Funds are maintained by GSA Foundation, who supplied figures reported here.

**J. HOOVER MACKIN FUND**  
**Financial Activity Summary**  
**12/31/93–8/31/94**

Fund Balance 12/31/93	\$18,758.75
Income	
Contributions	162.50
Interest	477.94
Investment gain	<u>(111.67)</u>
Total Income	528.77
Expenses	
Awards	(1,500.00)
Service charges	<u>(3.82)</u>
Total Expenses	<u>(1,503.82)</u>
Balance 8/31/94	\$17,783.70

**ARTHUR D. HOWARD FUND**  
**Financial Activity Summary**  
**12/31/93–9/30/94**

Fund Balance 12/31/93	\$30,157.41
Income	
Contributions	0.00
Interest	835.39
Investment gain	198.03
Total Income	<u>637.36</u>
Expenses	
Fund disbursement	0.00
Service charges	(6.79)
Total Expenses	<u>(6.79)</u>
Balance 8/31/94	\$30,787.98

**HOW TO HAVE INPUT TO THE DIVISION**

1. Submit nominations for Division offices and awards.
2. Submit suggestions, gripes, etc., for consideration by the Division Management Board.
3. Submit contributions (long ones on disk, IBM-compat. or via E-mail) to Division Newsletter.

Correspondence to the Division may be sent to Division Secretary:  
J. Steven Kite  
Department of Geology and Geography  
West Virginia University  
P.O. Box 6300  
Morgantown, WV 26506-6300.  
Tel (304) 293-5603; Fax (304) 293-6522  
E-mail: kite@wvugeo.wvnet.edu

Or you may write or call Division Chair:  
Steven M. Colman  
IGBP/PAGES  
Barenplatz 2  
Bern, Switzerland CH-3011  
Telephone: 4131-312-3133  
Telefax: 4131-312-3168  
Phonemail in U.S.A.: (508) 457-2341  
E-mail: colman@pageigbp.unibe.ch or: scolman@usgs.gov

Newsletters are mailed in February and August of each year; deadlines for contributions are January 15 and July 15, respectively. Members are encouraged to use their Division newsletter to communicate with other members. Please send contributions (long ones please E-mail, or on IBM-compatible disk in ASCII or WordPerfect) to the new Newsletter Editor:

G. Richard Whittecar, Jr.  
Department of Geological Sciences  
4608 Hampton Blvd.  
Old Dominion University  
Norfolk, VA 23529-0496  
Phone: (804) 683-4301  
Fax: (804) 683-5194  
E-mail: grw100f@oduvm.cc.odu.edu

**NEWS FROM THE CHAIR**

Steve Colman provided the following news items about QG&G Officers, Panel, and committees.

- ✓ **Division officers:** Steven M. Colman (Chair); William L. Graf (First Vice-Chair); Karen L. Prestegaard (Second Vice-Chair); J. Steven Kite (Secretary).
- ✓ **Division Panel:** Carolyn G. Olson, James T. Teller, Waite R. Osterkamp, Michael N. Machette, Ellen A. Cowan, and Robert S. Anderson.
- ✓ **The Committee on Long-Range Planning** is chaired by Steve Wells (909) 787-4367. Other committee members are Rich Madole and Vic Baker.
- ✓ **The Committee on Environment** members are Duncan Foley, Richard Kesel, and Parker Calkin. A new chair is being sought.
- ✓ **The 1994 Nominations Committee** consisted of Mike Machette (chair), Jim Teller, and Ellen Wohl. They have produced a slate of candidates for this year's elections and are thanked for this work.

**MESSAGE FROM THE CHAIR**

As many of you know, I am spending this year working with the Past Global Changes (PAGES) project of IGBP in Bern, Switzerland. Immersed in a broader scientific organization culture than usual, I have spent considerable time thinking about the place of Quaternary Geology and Geomorphology in the larger context of scientific research. I am convinced that, despite numerous financial and political problems (including the future of the USGS), the potential for our discipline has never been brighter. However, we

face a formidable task in convincing several segments of society that what we offer is not only valuable, but indispensable. I hope to elaborate on these thoughts in the next Newsletter, if not sooner. Less than half of GSA members are affiliated with Divisions, and while QG&G is one of the healthier Divisions, our membership has been slowly declining. These facts suggest to me that the Divisions in general, and in our case QG&G, are not doing as much as they can to serve the needs of their constituents. I would like to change this situation, and I solicit any ideas for ways the Division can better serve your needs. I also solicit your participation; it is relatively easy to have a significant effect on the Division. Nominations for the Kirk Bryan Award, the Distinguished Career Award, and Division Officers and Panel Members are surprisingly few. If you think particular disciplines or groups are under-represented, it takes only a small number of individual nominations to change the situation. One of the things we would like to change is the Newsletter, by making it more informative and useful. Again, we solicit suggestions about ways to do this. It is your Division.

—Steve Colman

## 1994 QG&G DIVISION AWARDS

The complete citation and acceptances for the **Kirk Bryan Award**, the Society award that is bestowed by the QG&G Division, will be published in the March 1995 *GSA Today*. Only excerpts, edited for economy, are printed here. The **Distinguished Career Award** is solely a QG&G Division Award, its citation is not published elsewhere, and thus is printed in full here.

### PRESENTATION OF KIRK BRYAN AWARD TO ARTHUR N. PALMER

#### Excerpts from Citation by James F. Quinlan

No one within the field of cave and karst studies is more highly respected by his peers than Art Palmer; few names are as well known to professionals outside of the field. Much of the respect for Art has been earned because of the cogency, clarity, and comprehensiveness of his writings and presentations. These include 5 books, 10 book chapters, more than 20 journal articles, about 20 non-refereed articles, more than 20 reviews, and 10 computer programs.

Most of Art's writings have been concerned with the origin and development of limestone caves, and it is for his grand, original, and definitive synthesis on this topic that we honor him with the 1994 Kirk Bryan Award. Much of Art's research has been done in national parks: Mammoth Cave, Wind Cave, Carlsbad Caverns National Parks, and Jewel Cave National Monument, where the Park Service has asked him to prepare interpretive materials for the park staff and for visitors.

The paper for which we honor Art is *Origin and Morphology of Limestone Caves*, published in the January 1991 *GSA Bulletin*. This unique paper is the first in the 36-year history of the Kirk Bryan Award to be concerned with caves or karst. So relevant is this paper also to groundwater hydrology that several people nominated it for GSA's Meinzer Award. I've never heard of a GSA grand slam, but if there is such a thing, Art, perhaps you might get it.

Art describes and explains the results of processes governing cave morphology, epigenic and hypogenic origin, rates of limestone dissolution, evolution of passage size and geometry, control of cave patterns by groundwater recharge, origin of branching caves, origin and modification of caves by floodwaters, origin of maze caves by diffuse recharge, and the inability of artesian flow alone to form maze caves. He gives a succinct but sound mathematical analysis of these topics that is supplemented by numerous original graphs

clearly showing complex relationships between various chemical and hydraulic parameters. It is truly a *tour de force*, and it reads well.

When I summarize Art's paper in the limited time available to me, I am reminded of Richard Feynman. When he was asked by a reporter in 1965 to tell in a few words what he had done to get the Nobel Prize for Physics, he replied, "If I could tell you in a minute what I did, it wouldn't be worth the Nobel Prize." So it is with Art's paper.

Art can be rightly proud of his publications, the merits of which are measured by how often they are cited by others. But I think he is proudest of his teaching. The most recent recognition of Art's teaching abilities came this year, when he was awarded a Distinguished Teaching Professorship.

I've spoken about Art's work and his numerous accomplishments. Let me close with a few words about the man himself. He is a gentleman and a gentle man who has always graciously shared his many insights with others. He has always been a role model for his students. His unique qualities and talents, and how he has applied them, have made the world a better place.

#### Excerpts from Acceptance by Arthur N. Palmer

Many thanks, Jim, and thanks also to my other nominators, to the Awards Committee, and to all who were on hand to share one of the grandest surprises of my life. This award is a surprise for several reasons.

First, although geomorphology is one of my earliest and most enduring passions, I am not a geomorphologist. My geomorphic roots can be traced back through Bill Thornbury to Clyde Malott, a pioneer of American karst studies. I also want to acknowledge the training and encouragement by Bill Fox at Williams College and by the hydrology/geophysics team at Indiana University: Allen Agnew, Judson Mead, Burke Maxey, Pat Domenico, and Yaron Sternberg. Dick Powell of the Indiana Geological Survey showed me the power of simple geomorphic field tools such as the hand level. Most of all, I want to give a cheer for my wife Peg—not only a constant field companion, but an equal and even leading partner in many of our research projects.

Geomorphology has played a pivotal role in my social development. It was on a geomorphology field trip led by Bill Thornbury that I first met Peg. Professor Thornbury was, of course, an accomplished author and lecturer, but he minimized his comments over the bus loudspeaker: "Where's Miss Olson? I want to 'esker' what this hill is up ahead." Meanwhile, as a graduate student, it was my duty to sit next to this bright young undergraduate to convey to her the subtle details of the passing landscape.

The second reason for my surprise is that I am a faculty member at a school that emphasizes teaching rather than research. Yet much as we gripe about limited equipment and support for research, we may pursue research in the grand 19th century manner, the luxury of spending 20 years preparing the article that led to this award. Such a leisurely pace would be the death knell to anyone on a grant.

Third, the paper is about limestone caves. Perhaps no other topic in geology is regarded with less enthusiasm. Many consider cave studies to be mere sport. And it's difficult to maintain one's dignity while crawling through mud. During the early decades of this century, cave origin was pursued by several outstanding geologists, including William Morris Davis and J Harlan Bretz. But then the scientists among the cavers went their own way, publishing mainly in specialized journals of limited readership. Every so often a cave-related article would appear in a mainstream journal, but the results seemed to puzzle rather than enlighten other scientists. Karst con-

cepts are not difficult to grasp, but few readers had a personal involvement with them.

But in the past 15 years karst has become a hot topic. Stratigraphers, carbonate sedimentologists, economic geologists, petroleum geologists, structural engineers all have found karst to important. A conspicuous exception to the list of those who have embraced karst studies is my own colleagues, groundwater hydrologists.

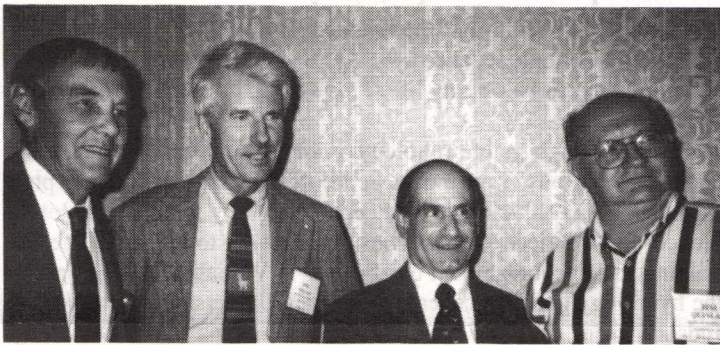
Groundwater hydrology has one solid rock as its quantitative foundation: Darcy's Law, valid only for laminar flow. And along come people who say that Darcy's Law does not apply to karst aquifers. There are turbulent-flow equations that apply to the movement of water through cave passages, and they interfinger quite nicely with those for laminar flow. Although they are foreign to most groundwater hydrologists they do not pose any great conceptual hurdle. However, groundwater hydrologists gain knowledge of aquifers from pumping tests and piezometer measurements, and most such tests reveal aquifer characteristics like those in fractured non-karst aquifers.

Direct underground observations of karst researchers is limited to turbulent-flow conduits. Tracer studies show mean water velocities in conduits on the order of hundreds or thousands of meters per day. There is also ample evidence for the surrounding laminar flow, but conduits dominate our thinking.

This difference in viewpoint is not academic. If one were concerned solely with water-well yield, there would be little penalty for failing to recognize the presence of cavernous voids. But today's issues include contaminant transport and monitoring of waste facilities. The laminar flow so commonly detected by well tests is tributary to conduits that convey water and contaminants at high velocity to springs. Unless monitor wells intercept these conduits, contaminants can pass between them without detection. I am greatly touched by your support. There are other people whose lifetime achievement in karst studies is greater than mine. To them, and to all those who pour their hearts into their work without recognition: I want to share this honor with you.

## 1994 AWARD WINNERS AND CITATIONISTS

### Photographs by David M. Mickelson



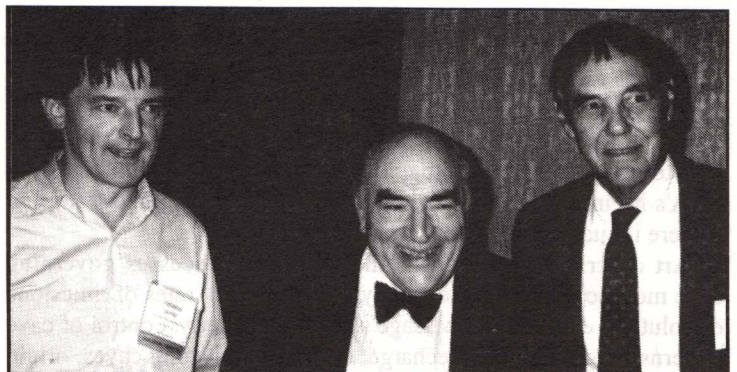
1994 award recipients and citationists, left to right: Bill Bradley, Distinguished Career Award recipient; Peter Birkeland, citationist; Arthur Palmer, Kirk Bryan Award recipient; James Quinlan, citationist.



1994 Distinguished Career Award at QG&G Annual Awards Ceremony at Seattle, left to right: Peter Birkeland, citationist; Bill Bradley, recipient; Steve Colman, QG&G Division Chair (incoming).



1994 Kirk Bryan Award at QG&G Annual Awards Ceremony at Seattle left to right: Parker Calkin, QG&G Division Chair (outgoing); James Quinlan, citationist; Arthur Palmer, recipient.



At QG&G Annual Awards Ceremony at Seattle, left to right: Tom Dunne, Luna Leopold (1994 GSA Penrose Medalist, 1992 QG&G Distinguished Career Award, 1958 Kirk Bryan Award), Bill Bradley (1994 Distinguished Career Award recipient).

**PRESENTATION OF THE  
DISTINGUISHED CAREER AWARD TO  
BILL BRADLEY**

**Citation by John Andrews, Peter Birkeland,  
Nel Caine, and John Pitlick**

We are pleased to announce that William C. Bradley is the 1994 recipient of the Quaternary Geology and Geomorphology Division's Distinguished Career Award. As colleagues of Bill's, some of us for over 30 years, we have always admired the contributions he made to geomorphology through research, teaching, and service to the Division and the Society. It is gratifying that the Division now recognizes the diverse accomplishments of this talented and soft-spoken man. Bill's first contact with Colorado came when he trained with the 10th Mountain Division at Camp Hale in 1944, near the present location of Vail. After the War, Bill returned from Europe and earned a B.S. degree in geology at the University of Wisconsin, where long time colleague, Ted Walker, was his TA. This was followed by M.S. and Ph.D. degrees at Stanford University, where Art Howard was his advisor.

Bill's research interests spanned a broad range of topics in surficial processes, and his papers stand as models for scientific inquiry in the earth sciences. His published works can be grouped into 4 topical categories. The first has to do with the age and genesis of marine terraces along the California coast. The second includes several papers on longitudinal sediment sorting in rivers. The third category dealt with the development of a variety of weathering forms, from exfoliation to tafoni. The fourth category includes his work on erosion surfaces in the Rocky Mountains, the origins of which have been debated since Davis' time. As part of this work, Bill sometimes conducted laboratory experiments to compliment his careful and thorough field observations. His work demonstrates not only a breadth of interests, but of research methodology as well.

Bill agrees that some of his work was almost too powerful to comprehend. For example, in the late 1960s he applied to the NSF for funding to study the fluvial geomorphology of the Knik River and the Lake George, Alaska, jokulhlaups. In Bill's own words, "this must have been the kiss of death", because once funded, the jokulhlaups ceased! From this we can only be relieved that he and then student Vic Baker did not obtain a grant to study the Missoula floods, for who knows what might have happened!

Bill is known for having been a superb and inspirational teacher. Those of us who continue teaching at CU must live with his legacy, often described by students as "the best teacher I ever had". Students from biology, geography, as well as geology were attracted to his classes. Being a superb photographer, he amassed a teaching set of over 19,000 slides that he left with the department. He loved field trips, and was the driving force behind many unforgettable ones with students across the western USA. In 1981, he received the Boulder Faculty Assembly Teaching Award, the highest teaching honor in the University. In his own subtle way, Bill prodded students, leading them steadily along a line of inquiry towards an independent solution to a problem. At the same time, he set the standard of quality for the CU Quaternary-geomorphology program. Students who wanted to learn how to write well and think clearly had Bill on their committee. To put it in a larger perspective, Bill's teaching and advising was of such a quality as to inspire a cadre of students who are now teaching and conducting research in geomorphology in the USA, Canada, and other countries.

Bill did more than his share of committee work outside the University. In the Rocky Mountain Section of GSA, he has been section chairman, technical program chairman, and membership chairman. He has held several positions within our Division, including chair-

man. He was a GSA Councilor from 1978-1980. Bill also chaired the Local Committee when INQUA held its 7th Congress in Boulder in 1965.

Bill is now retired from the University of Colorado and is enjoying life outside academia. With envy, we happily report that he downhill skis 2 to 3 times a week, often with Ted Walker. When Spring comes around and the snow melts Bill takes to the western rivers and teaches short geology courses as part of raft trips with Audrey Benedict.

Bill enjoyed his life as a scientist and teacher. The citation in Seattle was a slide show depicting the light side of Bill's career. We wanted to include incriminating slides of Bill doing silly things. We contacted many of his former students who were sure they had some, fiendishly sought them, but none could be found. Because it was not difficult to find slides of his colleagues and students doing silly things, we used these instead. It is not that he was above clowning around—he just made sure it was not captured on film!

All Career Awardees are presented with a momento depicting some part of their career. Bill's momento is a gneiss from a local Rocky Mountain erosion surface. One side is cut and polished and the other two are covered with lichens.

In honoring Bill, the Division also honors the all-around person—that person that personifies the ideal professor's contributions. Bill is a very modest guy, so it was especially gratifying that the group that attended the award ceremony was about twice the normal size. When we asked those in the audience with a CU connection to stand and honor Bill, it seemed like half of the audience did so, and these included many non-Quaternary types.

**ACCEPTANCE BY BILL BRADLEY**

This award is historical in nature and my response will be similar. I am going to talk about American universities and their geology departments during the period mid-1940s to mid-1960s the formative years for my career and some of the people who helped shape that career. Then some closing comments on being at Colorado.

I graduated from high school in 1942, but postponed going to college because the U.S. Army persuaded me I would look good in one of their uniforms. Four years later I was back, ready for college really ready for college at the University of Wisconsin. The teachers were ready, too. The graduate students and young faculty had also been in service, and were eager to get on with their careers. And the older faculty were happy to have students like the returning veterans. It was an exciting time in higher education: able teachers being challenged by a mob of eager students.

At the outset, I had no idea where I was headed. So my oldest brother, Charlie, then a graduate student in geology at Wisconsin, said: "Why don't you try beginning geology?" I did, and I was hooked. One reason was the appealing teachers I encountered. For example, the graduate student who taught my first lab and recitation sections was Ted Walker, who was absolutely bursting with excitement for his subject. It was impossible to escape his enthusiasm. A decade later when we were reunited at Colorado, his passion had not dimmed one iota nor did it, throughout his career. Geology attracted me for another reason: it was a masculine profession involving a lot of field work. (It seems incomprehensible now, but in those days women were not encouraged to enter the profession.) I could relate because I had grown up the youngest of seven boys in a macho family that did lots of outdoor activities. And army life was not that much different, aside from the absence of my mother and a change in diet. My father had been an officer in World War I, and he believed a little army discipline would help in raising seven sons. With such a background, you can understand why I felt at home in the geological profession.

As an undergraduate I was interested in all of geology. However, two people at Wisconsin awakened me to the Quaternary. One was Fred Thwaites, an eccentric and underappreciated glacial geologist who nevertheless wrote one of the best books available on that subject.

The other was Sheldon Judson, a recent graduate with Kirk Bryan. Shel sought to bring some discipline and judgement to my thinking so as to avoid going off half cocked on some ill conceived idea.

Wisconsin had many fine teachers, as did Stanford which followed. But it seemed to me that the very best of them shared this common ground in their teaching styles: they demanded a lot from their students; they promoted careful observations; and they encouraged thinking that was both logical and creative.

I went to Stanford for the school, but my direction was clearly toward the Quaternary. My mentor there was Arthur Howard, a disciple of Douglas Johnson at Columbia. I was fairly early in Howard's string of graduates, which began with Troy PÉwÉ and extended through Pete Birkeland. Howard let his students set their own research direction, but he made sure they got certain educational messages along the way two that were seared into my memory were: read critically and write concisely.

Eliot Blackwelder was also at Stanford. He was retired and taught no courses, but he came in every day, lean and tan, and mounted the stairs two at a time, briefcase in hand. Blackwelder was a giant among American geologists in the first half of this century. He contributed broadly to geology, not just to geomorphology. We chatted many times, and when I left he gave me a set of his reprints, some his last copy.

And who should show up at Stanford on a one year leave but Shel Judson. His objective was some library research and writing; my objective was a continuation of the counselling begun at Wisconsin.

But they all tired of it in the end, and in 1955 I left for a job at the University of Colorado. Like many other state universities at the time, Colorado was relatively small (9000 students) and devoted to teaching, especially undergraduate teaching. Normal teaching load was four to six courses a year, and anyone who taught a beginning class also handled one of the lab sections. Such emphasis on teaching suited me fine because I was naturally inclined in that direction. Research programs were small and cheap.

The National Science Foundation was only a few years old then; its resources were modest, and people were not yet accustomed to going to it for help. Large, well endowed research programs were a thing of the future.

For the next decade (that is, up to the mid 1960s), I benefitted a lot from contact with a variety of people far too many to adequately identify here. Nevertheless, I am going to risk unfair omission by naming certain key people. Those whose influence began while I was still at Stanford: Kenneth Emery, Clyde Wahrhaftig, and Bob Sharp and thereafter: Hal Malde, Gerry Richmond, Glenn Scott, Hoover Mackin, Ken Fahnestock, and Rowland Twidale in Australia.

Colorado was a wonderful place to spend a career. The superb local geology helped, but the real reason was the people. I joined a department already known for its congenial, family like atmosphere a reflection of the personality of Warren Thompson, then head of the department. He believed people could do their jobs, and do them well, and at the same time enjoy one another's company. That was his legacy to the department. Later arrivals carried it on, particularly people like Ed Larsen and the Quaternary crowd: Pete Birkeland, John Andrews, Giff Miller, and Mark Meier, along with Nel Caine and now John Pitlick in geography. And of course the gradu-

ate students, always important in faculty continuing education; my own included Vic Baker (from whom I learned far more than he from me), Debbie Harden, and Dick Baker and other Quaternary students like Steve Colman. Truly, Colorado's attraction lay in its people: Warren Thompson and Ted Walker and the rest. I loved my job there. I didn't mind the long hours. But none of it would have worked if it hadn't been for the steadfast and warm support of my wife, Louise. In a very real way, this award honors her, too. My friends, I am honored to the point of being overwhelmed.

### **NOMINATIONS FOR 1995 DISTINGUISHED CAREER AWARD**

The Distinguished Career Award was established in 1985 to recognize Quaternary geologists and geomorphologists who have demonstrated excellence in their contributions to science. The recipient need not be a member of the Geological Society of America or the QG&G Division. Nominations will be accepted at any time during the year, but the deadline is April 15, 1995. Nominations should be sent to the Division Secretary, Steve Kite, and require: (1) a supporting letter of nomination documenting the contributions of the nominee, (2) three letters or signatures of additional members supporting the nomination, (3) a résumé of the candidate (such as a photocopy from *American Men and Women of Science*), along with a bibliography of the nominee's most significant papers. The Division Chair will appoint a committee to oversee the collection and completion of award nominations. The names of unsuccessful candidates proposed for the award will remain open without renomination for the following three years. Further consideration after this period will require renomination.

### **NOMINATIONS FOR 1996 KIRK BRYAN AWARD**

The Kirk Bryan Award needs more nominations. Some papers most worthy of consideration, no member has taken the initiative to nominate. If there is a report in Quaternary geology that a member finds particularly innovative, please take time to write a nomination. The Kirk Bryan Award is given for a paper or book published within the last five years. The work may be single or multi-authored. Nominations are made by writing a letter that identifies the work and provides a statement about its significance.

Please send nominations to Division Chair (Steve Colman) or to Division Secretary (Steve Kite). The nomination deadline for the 1996 award is 1 December 1995.

### **JONATHAN O. DAVIS SCHOLARSHIP Quaternary Sciences Center Desert Research Institute**

The 1994 winner of the Jonathan O. Davis Scholarship is Ms. Hope Jahren, Department of Soil Science, University of California, Berkeley for her study "Chemical and mineralogic analysis of Hackberry (*Celtis*) Endocarp indicating Quaternary climate." The project is supervised by Dr. Ronald Amundson.

The Jonathan O. Davis Scholarship is given annually to support the field research of a graduate student working on the Quaternary geology of the Great Basin or surrounding areas. Beginning 1995 the grant is \$1000. Administered by the Quaternary Sciences Center of the Desert Research Institute, Reno.

To contribute to the fund please make checks to the Board of Regents-DRI, and send to: Executive Director, Quaternary Sciences Center, Desert Research Institute, P.O. Box 60220, Reno, NV 89506.

### **GLADYS W. COLE MEMORIAL RESEARCH AWARD**

The winner of the 1994 Gladys W. Cole Memorial Research Award was Ellen Wohl, Colorado State Univ., for her project "Energy expenditure in deep, narrow bedrock canyons of the Colorado Plateau".

The Gladys W. Cole Memorial Research Award is for investigations of the geomorphology of semiarid and arid terrains in the United States and Mexico. It is given each year to a GSA Member or Fellow between 30 and 65 years old who has published one or more significant papers in geomorphology, but the award is for support of new work. The award amount in 1995 will be \$9,000.

Application forms for the Gladys W. Cole Award may be obtained from the Research Grants Administrator, GSA, PO Box 9140, Boulder, CO 80301; tel (303) 447-2020. Applications must be postmarked by 15 February each year for the award granted in April.

### **1995 GSA ANNUAL MEETING, NEW ORLEANS Symposium and field trips in Quaternary Geology**

Theme for the 1995 Annual Meeting of the Society is "Bridging the Gulf." QG&G Division is sponsoring a Symposium and related Theme Session at the Annual Meeting of the Geological Society of America at New Orleans. The title of both sessions is "Quaternary Geologic Framework and Processes of Coastal Wetlands Systems" and will be chaired by Jeff Williams (U.S. Geological Survey) and Shea Penland (Louisiana State Univ.).

Several other sessions will be of interest to QG&G Division members, among them:

- The Keynote Symposium "The Mississippi River-Control and Consequences" organized by Shea Penland.
- A Symposium "The Mississippi River as a Sedimentary System" organized by Whitney Autin.
- A Theme Session "Coastal Wetland Dynamics in Response to Sea-Level Rise" organized by Robert Young.

The second-annual G.K. Gilbert Short Course sponsored by QG&G Division will repeat the excellent 1994 course "Geomorphic applications of *in-situ*-produced cosmogenic isotopes," taught by Paul R. Bierman (U. Vermont) and Alan R. Gillespie (U. Washington).

Further information can be had from Technical Program co-chair Laura Serpa at E-mail: serpa@geology.uno.edu.

Several field trips may be of interest to QG&G Division:

- Explosive volcanism and pyroclastic deposits in east-central Mexico: implications for future hazards. 10/31 to 11/5, \$350: Claus Siebe, phone (in Mexico) 6-22-41-19.
- Regressive and transgressive depositional systems of the Mississippi River delta plain: Atchafalaya and Lafourche delta complexes. 11/4-5, \$130: Shea Penland, S. Jeffres Williams, and Harry H. Roberts (504) 388-8670.
- Wisconsinan to Holocene soils, landscapes, and floodplain evolution of the lower Mississippi valley. 11/3-5, \$190: Andres Aslan and Whitney Autin (303) 492-6313.
- Engineering geology of the New Orleans area: water, water everywhere. 11/7 am or 11/8 am, \$60: Roger T. Saucier and Jesse Snowden (601) 634-3233.
- Sand and gravel mining in the Amite River floodplain, southeastern Louisiana, 11/10, \$70: Joann Mossa (904) 392-0494.

### **1995 GSA SECTION MEETINGS**

- Northeastern Section: Hartford, Connecticut. 20-22 March.
- Southeastern Section: Knoxville, Tennessee. 6-7 April.
- North-Central Section: } Lincoln, Nebraska. 27-28 April.
- South-Central Section: }

- Rocky Mountain Section: Bozeman, Montana. 18-19 May.
- Cordilleran Section: Fairbanks, Alaska. 24-26 May

## **FRIENDS OF THE PLEISTOCENE 1995 FIELD TRIPS**

### **SOUTH-CENTRAL CELL: 31 MARCH TO 2 APRIL 1995**

Donna Porter will lead the South-Central FOTP on landscape evolution of Cimarron River valley in the Cimarron National Grasslands near Elkhart, southwest Kansas. A half-day premeeting trip is offered by Mike Machette to view one of the few well-documented late Quaternary faults in the U.S., north of La Junta, Colo. For main trip contact Donna Porter, Agronomy Department, Throckmorton Hall, Kansas State Univ., Manhattan, KS, 66506; tel. 913-532-7204; fax. 913-532-6094. For the premeeting offering contact Mike Machette, U.S. Geological Survey, MS 966, Federal Center, Denver, CO 80225; tel. 303-273-8612; E-mail: machette@gldvxa.cr.usgs.gov.

### **PACIFIC NORTHWEST CELL: 28-30 APRIL 1995**

Kurt Othberg and Jim O'Connor will lead the 2nd annual Pacific Northwest FOTP trip 28-30 April 1995 in the Boise and Snake River valleys in southwestern Idaho. Featured will be (1) terraces, soils, and basalt flows with a chronology dating back to the beginning of the Pleistocene; and (2) features of the great late Wisconsin Lake Bonneville flood, including erosional forms, coarse bars, and backflood deposits. Contact: Kurt Othberg, Idaho Geological Survey, University of Idaho, Moscow, ID 83844-3014; tel. 208-885-7560; fax. 208-885-5826; E-mail: othberg@aspen.csrvidaho.edu.

### **NORTHEAST CELL: 13-14 MAY 1995**

The Maine Geological Survey will host the 58th annual conference of Northeast FOTP ("THE" Friends). Based at Portland, Maine, trip participants will examine glaciomarine and terrestrial deposits formed during deglaciation of Sebago Lake and Saco River regions. Leaders are Woodrow Thompson (Maine G.S.), Tom Davis (Bentley College), John Gosse (Los Alamos N.L.), and Bob Johnston (Maine G.S.). Contact: Woodrow Thompson, Maine Geological Survey, State House Station 22, Augusta, ME 04333. Tel: 207-287-7178; fax: 207-287-2353; E-mail: thompson@mgs1.doc.state.me.us.

### **MIDWEST CELL: 19-21 MAY 1995**

Steve Esling, Mike Blum, and others will lead the 42nd annual Midwest FOTP trip in southern Illinois and eastern Missouri on the weekend of 19-21 May. The trip will focus on stratigraphy in the Cache and Mississippi valleys but will visit other sections such as lacustrine deposits along Big Muddy valley, a pre-Loveland loess, a till at southmost extent of Pleistocene glaciation, and faulted Plio-Pleistocene(?) fluvial deposits. For information please contact: Steve Esling, Department of Geology, Southern Illinois University, Carbondale, IL 62901. Tel: 618-453-7363; E-mail: esling@qm.cgeo.siu.edu.

### **ROCKY MOUNTAIN CELL: LATE AUGUST 1995**

The 1995 Rocky Mountain FOTP will be led by Grant Meyer to the vicinity of Cooke City, Mont. and the northeast part of Yellowstone National Park to view effects of the 1988 Yellowstone forest fires and stratigraphic evidence for Holocene fire-related sedimentation in alluvial fans. Participants will also examine late Pleistocene and Holocene alluvial stratigraphy, chronology, flood history, and terrace formation along Soda Butte Creek and Lamar River, and their relation to nearby paleoclimatic records. Lodging and camping will be at Cooke City. Interested persons not on current Rocky Mtn FOTP list please contact: Grant Meyer, Department of Geology, Middlebury College, Middlebury, VT 05753-6151. Tel

(802) 388-3711, ext 2252; Fax (802) 388-0739; E-mail: meyer@middlebury.edu.

#### **PACIFIC SOUTH CELL: LATE SEPTEMBER 1995**

The Pacific Southwest Cell of FOTP will be led by Bill Page and Bill Lettis on Quaternary geology and neotectonics of the northern Sierra Nevada and Modoc Plateau (including Lassen Peak area), northern California. For further information please contact: Bill Page, Geosciences Dept., Pacific Gas & Electric, P.O. Box 770000, San Francisco, CA 94177, Tel: (415) 973-6784; or Bill Lettis, Wm. Lettis & Assoc., 1000 Broadway, Suite 612, Oakland, CA 94607, Tel: (510) 832-3716.

#### **SOUTHEAST CELL: NOVEMBER 1995??**

As of late January 1995 there has been *no proposal received* for a Southeast FOTP trip. Yet there is still time to do so and be ready by late November, the usual time of Southeast FOTP. Please contact J. Steven Kite, Dept of Geology and Geography, West Virginia University, Morgantown, WV 26506-6300. Tel (304) 293-5603; Fax (304) 293-6522; E-mail kite@wvugeo.wvnet.edu

#### **GEOLOGICAL ASSOCIATION OF CANADA Annual Meeting Victoria, British Columbia 17-19 May 1995**

The 1995 Annual Meeting of the Geological Association of Canada will be held at Victoria 17 to 19 May 1995. Of interest to QG&G members:

##### Field trips:

Quaternary geology and gold placer deposits, central British Columbia; V. Levson, J. Clague, R. Fulton.

Hydrogeology of east coast of Vancouver Island; A. Kohut.

Quaternary geology of southern Vancouver Island; P. Bobrowsky, J. Clague.

Mount St. Helens, a 15-year perspective; C. Hickson.

##### Symposium:

Neotectonics of the Pacific Northwest; P. Bobrowsky, J. Clague

##### Special Sessions:

Living with deltas; J. Luterneuer

Electromagnetic techniques applied to environmental and surficial problems; M. Best

Geologic hazards and mitigation; D. VanDine, S. Chatwin

Role of geoscience in Canadian society (panel discussion); S.

Morrison

##### GAC Short Courses:

Geoinformation processing for the geosciences; P. Keller

Practical paleomagnetism; R. Enkin, E. Irving, P. Wynne

Modern sediments and related mineral resources

Abstract forms are available from: Mary O'Rourke; Victoria-95 Abstracts; Conference Management; University of Victoria; 2nd Floor, University Centre; P.O. Box 3030, MS 8451; Victoria, British Columbia; V8W 3N6 CANADA

For further information about Quaternary activities please contact: P. Bobrowsky (604) 952-0395; or E-mail pbobrowsky@galaxy.gov.bc.ca

#### **BINGHAMTON GEOMORPHOLOGY SYMPOSIUM**

The 26th Annual Binghamton Geomorphology Symposium will be held at University of Virginia, Charlottesville on 6-7 October 1995. The topic is *BIOGEOGRAPHY—TERRESTRIAL AND FRESHWATER AQUATIC SYSTEMS*. Poster abstracts will be considered until 1 June 1995. A premeeting (5 Oct) field trip will be run to the former research areas of John T. Hack and J. C. Goodlett

in Shenandoah Valley. For further information please contact: Cliff R. Hupp, US Geological Survey, Suite 160, Holcomb Bridge Rd., Norcross, GA 30092; Tel. (404) 409-7709; Fax: (404) 409-7725; E-mail: crhupp@rgaatl.er.usgs.gov. Or: Alan D. Howard, Department of Environmental Sciences, University of Virginia, Charlottesville, VA 22903. Tel (804) 924-0563; Fax (804) 982-2137.

#### **INTERNATIONAL UNION FOR QUATERNARY RESEARCH (INQUA) XIV International Congress, Berlin, Germany 3-10 August 1995**

Motto of the Congress is "From the Past through the Present to the Future".

Exploring the idea of the motto will be four main symposia:

- Tracing the future development of climate on the basis of paleoecology.
- The North Polar Sea and the North Atlantic Ocean as driving forces for the Global Oceanic Circulation during various times windows of stable or transient climates.
- Groundwater movement, consumption, recharge, pollution, and self-regenerating capacities in Quaternary soft rocks.
- Regional and worldwide stratigraphic correlations.

Some 53 additional symposia and workshops will be held during the Congress. During the Congress will be 44 one-day field trips in the greater area of Berlin. Some 21 pre-and post-Congress field excursions throughout Europe are offered.

The final date for registration for excursions and for Congress registration at reduced fees is: **30 April 1995**. (Final date for receipt of abstracts and requests for travel grants was 15 February).

Information can be found in the Second Circular. It can be obtained from INQUA-95 WWW server at URL:

<http://www.uni-hohenheim.de/~pkdb/inqua/>

Paper version can be ordered by E-mail: [inqua@pkdb.botanik.uni-hohenheim.de](mailto:inqua@pkdb.botanik.uni-hohenheim.de)

President of Organizing Committee:

Prof. D. H.C. Burkhard Frenzel

Institut fuer Botanik

Iniversitaet Hohenheim (210)

D-70593 Stuttgart

Tel: (49) 711-2194

Fax: (49) 711-3355

#### **INQUA COMMISSION ON FORMATION AND PROPERTIES OF GLACIAL DEPOSITS, FIELD CONFERENCE**

Title: Irish Eskers—Origins of ice-contact stratified deposits

Dates: 21-28 May 1995

Cost: \$500-600 USD, plus airfare

A 1-day symposium provides a forum to discuss the nature of ice-marginal stratified sediments and processes. Papers on these topics are welcome. The 6-day field trip will visit various ridged landforms in the Irish midlands between Dublin and Galway, to examine their geomorphology and internal sedimentology and stratigraphy and to discuss modes of formation.

For further information please contact: Dr. William P. Warren, INQUA Meeting, Geological Survey of Ireland, Beggars Bush, Haddington Rd., Dublin 4, IRELAND. Fax 011-353-1-668-1782. Alternatively: Gail Ashley, Rutgers University. Phone (908) 445-2221; Fax (908) 445-3374; E-mail [ashley@zodiac.rutgers.edu](mailto:ashley@zodiac.rutgers.edu).



## BRITISH GEOMORPHOLOGICAL RESEARCH GROUP Annual Conference, 15-17 September 1995

The 1995 BGRG Annual Conference will be held at Fitzwilliam College, University of Cambridge on the theme "**Terrain Monitoring, Modelling, and Analysis**". The focus is on recent developments in landform monitoring (e.g., photogrammetry and remote sensing) and in terrain modelling and analysis (e.g., landform classification). Please submit abstracts by 31 March 1995. Conference organizers particularly wish to attract participants who may be researching in the theme topics but who do not normally attend BGRG conferences.

For full details, registration forms, and abstract submittal: Stuart Lane, BGRG 1995 Conference, Dept. of Geography, Univ. of Cambridge, Downing Place, Cambridge, CB2 3EN, U.K. Tel: 0223-330241; Fax: 0223-33392; E-mail: snl10@phx.cam.ac.uk.

### MASS MOVEMENTS IN THE HIMALAYA

A special issue of *Geomorphology*, to be dedicated jointly to C.F. Stewart Sharpe and Barry C. Bishop, is proposed for mass movements in the Himalaya. For information please contact: John F. Shroder, Jr., Dept. of Geography and Geology, Univ. of Nebraska at Omaha, Omaha, NE 68182. Tel: (402) 554-2770. E-mail: shroder@cwis.unomaha.edu

### LISTSERVERS

A listserv is an automated electronic mailing list. Any message sent to the list automatically passes to all subscribers. Typical messages include announcement of conferences, field trips, job vacancies, new papers, new books, requests for assistance in locating people and resources, discussion of research ideas, and exchange of news. The more new members, the more effective the service.

#### GEOMORPHOLOGY LISTSERVER

To join GEOMORPHLIST, send a message to Jeff Lee at: [adgjl@ttacs.ttu.edu](mailto:adgjl@ttacs.ttu.edu). For the directory please provide the following information: your name, mailing address, phone and fax numbers, E-mail address, and a few keywords to specify your interests in geomorphology.

*In appreciation:* John Wiley and Sons, Ltd., Chichester, England, has sent in appreciation of the GEOMORPHLIST address supplied by Jeff Lee, donated \$250 to the International Association of Geomorphologists (IAG). On behalf of the IAG, I thank Jeff and the GEOMORPHLIST subscribers.

—V.R. Baker, Treasurer, IAG

#### QUATERNARY LISTSERVER

A listserv for all interested in Quaternary research, particularly but not exclusively in Canada, is established through the Canadian Quaternary Association. Many items of interest to CANQUA members appear on the list. But anyone, CANQUA or otherwise, can subscribe.

To subscribe send to the address: [listserv@morgan.ucs.mun.ca](mailto:listserv@morgan.ucs.mun.ca) the following message: *subscribe quaternary your name*. You should receive acknowledgement of your subscription.

To sign off the list send the message: *signoff quaternary* to the same address. Messages to the list should be sent to: [quaternary@morgan.ucs.mun.ca](mailto:quaternary@morgan.ucs.mun.ca)

Listowner is:

Dave Liverman  
Newfoundland Geological Survey  
Department of Mines and Energy  
P.O. Box 8700

St. John's, Newfoundland, AqB 4J6  
Internet: [dgl@zeppo.geosurv.gov.nf.ca](mailto:dgl@zeppo.geosurv.gov.nf.ca).

#### PALYNOLOGY LISTSERVER

To join a listserv for exchange of news and information about Palynology and Pollination Biology please send E-mail message to: [stserve@uoguelph.ca](mailto:stserve@uoguelph.ca) with the message: *subscribe polpal-l your-real-name*. The subject category should be left blank. To post a message to this list, please send it to the address: [polpal-l@uoguelph.ca](mailto:polpal-l@uoguelph.ca). The list owner is Peter Kevan at University of Guelph.

#### RADIOCARBON DATING LISTSERVER

A new listserv. C14-L has been established for discussion of radiocarbon dating and related issues. To subscribe please send e-mail message to: [listserv@listserv.arizona.edu](mailto:listserv@listserv.arizona.edu) with the following content: *SUBSCRIBE C14-L Your Name*, where "Your Name" is your first and last name.

The journal RADIOCARBON has also established a World-Wide-Web server to provide information about publications, links to other Internet-accessible information relevant to 14C research. The URL is: <http://packrat.aml.arizona.edu/index.html>

For further information please contact David Sewell at E-mail address: [dsew@packrat.aml.arizona.edu](mailto:dsew@packrat.aml.arizona.edu)

#### RESEARCH GRANTS FOR ISOTOPIC ANALYSES

**Geochron Laboratories**, a division of Krueger Enterprises, Inc., annually awards a series of **research grants to graduate students** requiring interesting or new applications of isotopic analyses. The awards consist of analytical services to be performed free of charge to the winner in each category. For the past several years awards have been offered in K-Ar dating, C-14 dating, and stable isotope ratio analyses (SIRA), SIRA in dietary studies, and SIRA of fluid inclusions in minerals. The awards are offered by Geochron Labs to encourage the application of isotopic analytical techniques to solve original and significant problems. The deadline for applications is May 1, 1995. Early application is suggested to assist with prompt evaluation and notification of winners. For Research Award Program Guidelines and official rules, call 617-876-3691, fax 617-661-0148 or write 711 Concord Ave, Cambridge, MA 02138.

#### QUATERNARY SCIENCE REVIEWS

David Q. Bowen, Editor-in-Chief  
William R. Farrand, Regional Editor (North America)

**\*\* Special Subscription Rate \*\***

Members of the Quaternary Geology and Geomorphology Division of the Geological Society of America qualify for the special group rate of \$90/year (six issues). The regular rate is \$599/year. The offer is for personal subscriptions only. Subscription orders with payment (and/or Free Sample Copy) can be sent directly to: Agnes Impellitiere, Pergamon Press Inc, 395 Saw Mill River Road, Elmsford, NY 10523. Please identify yourself as a QG&G Division member of GSA.

#### GEOARCHAEOLOGY: AN INTERNATIONAL JOURNAL

Paul Goldberg and Ofer Bar-Yosef Editors-in-Chief

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Members of the Quaternary Geology & Geomorphology (QG&G) Division and the Archaeological Geology (AG) Division of the Geological Society of America qualify for the group rate of \$75/year. The rate for Division members outside North America is \$105. The offer is for personal subscriptions only. Subscription orders with payment can be sent directly to: Subscription Depart-

ment, John Wiley & Sons, Inc, P.O. Box 7247-8491, Philadelphia, PA 19170-8491. U.S. members should include appropriate state sales tax and Canadian members should add 7% GST, which Wiley is obliged to collect. Please identify yourself as member of QG&G or AG Division member of GSA.

### IN MEMORIAM

Cornelia Clermont Cameron died at home in Winchester, Va. on 5 August 1994. A long-time geologist with the USGS, she was a leading authority on peat resources and its use as soil additives and as an energy source. Since 1972 she has been a consultant on peat bogs and wetlands to the Campobello International Peace Park, at the retreat of former President F.D.R. In 1945 she authored the book "The Earth in Human Affairs", which sought to relate geology to society at large.

Robert Struckenrath, renowned for radiocarbon dating, died on 30 October 1994 at Pittsburgh, Pa. He was director of the radiocarbon lab at the Smithsonian Institution's Environment Research Center for 18 years, until budget cuts forced moving the lab facilities to University of Pittsburgh in 1986. He was director of the radiocarbon lab at Pitt's Applied Research Center from 1986 to 1993. Among his work was dating of materials at Meadowcroft Rock Shelter, dating thought to indicate human use as early as 16,000 B.P.

### REPORT FROM THE U.S. NATIONAL COMMITTEE FOR INQUA

As reported in the September 1994 Newsletter, membership in international scientific unions, such as INQUA, is by country rather than by individuals. Dues-paying member nations are represented by national committees, which are responsible for representing the scientific interests of their respective nations. Thus, the U.S. National Committee for the International Union of Quaternary Research (USNC/INQUA) is responsible for representing U.S. Quaternary science interests. To be effective in representing these interests, the USNC/INQUA needs the cooperation of professional organizations, such as the Quaternary Geology and Geomorphology Division of GSA. This report is a part of an effort to foster communication between the QG&G Division and the USNC/INQUA.

The USNC/INQUA last met during the 1994 annual meeting of the Geological Society of America in Seattle, WA. Committee members present at the meeting were V.R. Baker (Chairman), G.M. Ashley, W.R. Farrand (Vice-Chairman), L.R. Follmer, Yvonne Herman, Malcolm Hughes, Kam-biu Liu, and R.F. Madole (Secretary). Also in attendance were Ex Officio Committee members Anne Linn (NRC Staff Officer), B.B. Hanshaw (recently retired NRC Staff Officer), and S.C. Porter (Vice-President, INQUA). In addition, Deborah Harden and M.J. Pavich, members of the "White Paper" working group, and J.A. Maccini, Program Director, Geology and Paleontology, Earth Sciences Division, National Science Foundation, attended the meeting. The agenda included (1) a review of the second draft of the "white paper" entitled *The Earth's Dynamic Land Surface: Environmental Change and Society*, (2) actions for improving communication with the national community of Quaternary researchers, (3) new guidelines and research initiatives at the National Science Foundation, (4) reports on planning for the XIV INQUA Congress, August 3-10, 1995, in Berlin, and (5) reports on making the USNC/INQUA more effective.

Following a QG&G Division forum at the 1991 annual meeting of the Geological Society of America, the USNC/INQUA formulated a two-step plan for producing a "white paper" on the status

and health of Quaternary science. The first step of the plan was initiated in April 1994 when a working group convened at the NRC (National Research Council) Conference Center in Irvine, California, drafted a document entitled *The Earth's Dynamic Surface: Environmental Change and Society*. In May 1994, Committee Chairman, Vic Baker, presented the results of the Irvine workshop to the NRC's Board on Earth Sciences and Resources, and obtained project approval from the Commission on Geosciences, Environment, and Resources. Then in June, the NRC's Executive Committee gave final approval to the project. Once a few additions and revisions are made to the second draft, which was completed in October 1994, the "white paper" will be ready for submission to the National Academy of Sciences and the first part of the two-stage plan will be finished.

Dr. J.A. Maccini, Program Director, Geology and Paleontology, Earth Sciences Division, National Science Foundation, briefed the USNC/INQUA on the status of NSF funding, and on new guidelines and research initiatives. NSF funding for research on global change and the hydrosociences increased during the past few years and presently is holding steady; however, budgets for core programs (basic research) continue to decline. NSF has developed three new initiatives: (1) Earth System History, (2) active tectonics (unofficial title), and (3) Environmental Geochemistry.

The new initiative entitled "Earth System History" focuses on the paleoclimatic record. Beginning in 1995, several programs previously administered by different NSF Divisions will be consolidated and managed collectively under the Earth System History initiative. The programs being merged include the "Geologic Record of Global Change," "Abrupt Climate Change," and programs in the Oceanic Sciences Division. A new component called MESH ("Marine aspects of Earth System History") will administer funding for research on the marine paleoclimatic record.

Dr. Maccini noted that funding at the NSF depends chiefly on two things: (1) NSF must generate good, new initiatives and (2) scientists must propose good research. NSF encourages submission of proposals that emphasize teamwork and collaboration between field and laboratory scientists. U.S. Quaternary scientists should be aware that the Earth System History initiative will provide opportunities for studying a broad range of topics dealing with the terrestrial paleoclimatic record.

The Earth System History initiative sponsored its first meeting for exchange of information and planning in Albuquerque, NM, January 19-21, 1995. Roger Y. Anderson, University of New Mexico, and Vera Markgraf, Institute of Arctic and Alpine Research, University of Colorado, proposed and organized the meeting. The questions that were addressed relate to the North American segment of the PEP 1 (pole-equator-pole) transect of the PAGES (Past Global Changes) program of the IGBP (International Geosphere-Biosphere Program).

Planning for U.S. involvement in the quadrennial INQUA Congresses, including acquisition of funding for and management of travel grants, is one of the primary responsibilities of the USNC/INQUA. The Committee sought funds to support 50 travel grants in amount of \$1000 each. The NSF has agreed to provide funds for travel grants, but the amount is much smaller (\$10-15 K) than in previous years. Presently, NSF only funds two or three proposals for travel grants and funding rarely exceeds \$15 K. The USNC/INQUA decided to maintain grant amounts at \$1000 because smaller awards would not cover enough of travel costs to make it possible for most applicants, especially younger scientists, to participate in the Berlin congress.

# BIOGRAPHIES OF THE CANDIDATES

## QUATERNARY GEOLOGY AND GEOMORPHOLOGY DIVISION

### CLARK, PETER U., QUATERNARY GEOLOGY, GLACIAL GEOLOGY

Education: St. Lawrence Univ., B.S., 1978; Univ. Waterloo, M.Sc., 1980; Univ. Colorado, Ph.D., 1984. Prof. Exp.: Lect.-Asst. Prof., Univ. IL, Chicago, 1984-88; Asst.-ASSOC. PROF., DEPT. GEOSCIENCES, OREGON STATE UNIV., 1988-present. Awards: Silver Circle Award, Excellence in Teaching, Univ. IL, 1987. Mem: GSA, AGU, AMQUA (Counc.), GAC, SEPM. Res.: History and dynamics of former northern hemisphere ice sheets and their role in the climate system, ice-sheet modeling, sedimentology of glacial deposits, glacial history and climate change of the western U.S., sedimentology of Siberian Arctic shelves. Mailing address: Dept. Geosciences, Oregon State Univ., Corvallis, OR 97331 (e-mail: clarkp@ucs.orst.edu).

GRAF, WILLIAM L., b. Zanesville, OH, Feb 7; FLUVIAL GEOMORPHOLOGY, QUATERNARY PALEOHYDROLOGY. Educ: Univ of Wisc-Madison, BA, 69; Univ of Wisc.-Madison, MS, 71; Univ of Wisc-Madison, PhD, 74. Prof Exp: US Air Force Intelligence Officer, 71-74; Assist and Assoc Prof, Univ of Iowa, 74-78; Assoc Prof and PROF ARIZ STATE UNIV, 78-. Concurrent Pos: GSA, Quat Geol and Geom Div Panel, 87-88, Div Nominat Com, 89, Div Cent Vol. Com. 84, Ed of Div DNAG Vol on geom, 85-87, Div Cole Award Panel, 91; NSF, Geogr and Reg Sci Rev Panel, 86-88; NRC, Water Sci and Tech Bd, 92-. Glen Can Env Studies Com, 86-; AAG, Nom Com, 89; Awards Com, 92, Geom. Spec Gp Chair, 81; Amer Soc Civil Eng, Task Com on Streams and Sed, 82-83. Mem: Geol Soc Amer (Fel); Assoc Amer Geogr; Brit Geom Res. Gp. Hon and Awards: Fellowship, US Dept of Interior, 70; GK Gilbert Award for Geom Res, AAG, 84; Cole Mem Award for Arid Reg Geom Res, GSA, 84; Ariz State Univ Distinguished Res Professorship, 87; Honors Award, AAG, 90; Distinguished Visit Professorship, Univ Col London, 92. Res: river channel change, fluv erosion and sed, dynamics of heavy metals and radionuclides in rivers, Quat hydrol changes, geom interactions with riparian environments. Mailing Add: Dept of Geogr, Ariz State Univ, Tempe, AZ 85287-0104.

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### KARROW, PAUL F., QUATERNARY GEOLOGY, STRATIGRAPHY,

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