

GSA NEWS & INFORMATION

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New GSA Division Gets Council OK

by Faith Rogers

GSA members interested in sedimentary geology—and better programs on the subject at GSA annual meetings—can now affiliate with GSA's new Sedimentary Geology Division. The GSA Council approved the new division at its May 1985 meeting.

Background

Impetus to form the Sedimentary Geology Division came from GSA Executive Director F. Michael Wahl in late 1982. Fellow John Whetten, Member Robert Raymond, and Fellow Lee Suttner pursued the idea, polling Annual Meeting attendees at Indianapolis in 1983 and other geologists by phone. At the Annual Meeting in Reno in 1984, 189 people signed a petition in support of the new division. Having determined that enough people were interested, Raymond, Suttner, and ad hoc committee members Robert Osborne, James Jones, and Kathi Beratan composed a formal request to the Council for approval.

Rationale

The paramount reason for forming the division, according to Suttner, is to guarantee representation of sedimentary geology interests on the GSA Joint Technical Program Committee and thereby ensure that sedimentary geologists have a formal opportunity to influence the program structure and content of GSA Annual Meetings. Creation of the new division will allow GSA to focus on sedimentary geology by "emphasizing what [GSA does] best—an interdisciplinary approach to the subject: sedimentology overlapping with geomorphology, hard-rock petrology, or geochemistry," according to the ad hoc committee's proposal.

Competition with SEPM?

The organizers of the Sedimentary Geology Division also polled the Society of Economic Paleontologists and Mineralogists Council to determine the possibility of a perception of conflict or competition between SEPM and the new GSA division. Results indicated that "many sedimentologists have strong ties with both SEPM and GSA and that they would greatly appreciate the additional benefits GSA would provide sedimentologists" by forming the division, according to the proposal to the GSA Council. H. Edward Clifton, current president of SEPM, agreed to organize the first Sedimentary Geology Division symposium at the 1985 GSA Annual Meeting in Orlando, Florida.

Officers

Officers selected to head the new division are George DeVries Klein, chairperson; Robert Raymond, Jr., first vice-chairperson; Lee J. Suttner, second vice-chairperson; and Robert J. Osborne, secretary-treasurer. A nominating committee will choose future candidates for officers, who will be elected by vote of the division members.

Affiliation

If you are a GSA member and are interested in affiliating with the Sedimentary Geology Division for 1985, contact Clara Hodgson, GSA Membership Department, P.O. Box 9140, Boulder, CO 80301. Annual dues for the new division are \$5.

1985 Presidential Young Investigators Include GSA Members

Four GSA members are among the 200 engineers and scientists selected to receive Presidential Young Investigator Awards this year.

The awards, which fund research by faculty members near the beginning of their careers, are intended to help universities attract and retain outstanding young Ph.D.s who might otherwise pursue nonteaching careers. Each awardee will receive up to \$100,000 per year for five years in a combination of federal and matching private funds.

The GSA members selected are **William E. Dietrich**, University of California, Berkeley; **Brian P. Wernicke**, Harvard

University; **James M. Mazzullo**, Texas A&M University; and **Mark S. Ghiorso**, University of Washington.

The awards carry an annual base grant from the National Science Foundation of \$25,000. In addition, NSF will provide up to \$37,500 per year to match contributions from industrial sources, bringing the possible total support to \$100,000 per year. The individual universities are responsible for raising the non-federal funds.

A total of 195 Ph.D.-granting institutions submitted 1089 nominations for the 200 awards. The new investigators will conduct research at 68 universities.

Rocky Mountain Coal Scholarship Awarded

The Rocky Mountain Coal Scholarship Committee has selected a recipient for a scholarship jointly awarded each year by the Symposium on the Geology of Rocky Mountain Coal and the Coal Geology Division of GSA. This year a scholarship of \$690 goes to Roy E. Jensen of Rapid City, South Dakota. Jensen is a doctoral candidate at the South Dakota School of Mines and Technology. His dissertation is titled "Petrography, palynology and depositional environments of coals in the Fort Union Formation, Bighorn Basin, Montana and Wyoming."

Purpose of Coal Scholarship

The Rocky Mountain Coal Scholarship Program was established to further interest in and research on coal within the Rocky Mountain and Northern Great Plains coal provinces by providing scholarship funds for field and laboratory expenses, books, and tuition. Funding for the program comes from surplus money accumulated by the Symposium on the Geology of Rocky Mountain Coal. These funds have been invested in the Geological Society of America Foundation, and the interest now forms the basis of the scholarship. There is, however, no assurance of the amount of the funds or that funds will be available every year.

Coal research pertaining to coal in the states or provinces of Arizona, Alberta, British Columbia, Colorado, Idaho, Montana, New Mexico, North Dakota, Utah, Saskatchewan, South Dakota, and Wyoming is considered for support. Applicants for the scholarship must be currently enrolled in a graduate program (M.S. or Ph.D.) at a private or state college or university. The main theme of an applicant's research must be an aspect of coal research, and the research must pertain to coal in the states or provinces listed above (the institution where the research is being conducted need not be in the listed states or provinces). Although the applicant must be involved in coal research, he or she need not be a geology major.

Application and Award

Scholarship applications can be obtained from the Geological Society of America, P.O. Box 9140, Boulder, CO 80301, or from Gary B. Glass, Chairman of the Coal Scholarship Committee, c/o Geological Survey of Wyoming, Box 3008, University Station, Laramie, WY 82071. The deadline for applications for next year's scholarship is February 1, 1986.

A committee composed of two ad hoc members of the Symposium on the Geology of Rocky Mountain Coal and two GSA Coal Geology Division members screens applications and selects the most appropriate proposal by May 1. At the time of selection, scholarship monies are transferred directly to the grantee by the GSA Foundation. When the scholarship winner's research is complete, one copy of the dissertation or thesis should be sent to the Chairman of the Rocky Mountain Coal Scholarship Committee.

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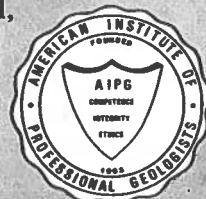
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CENTENNIAL NEWS

By Allison R. (Pete) Palmer

DNAG Publications Near Marketing Stage

The first Decade of North American Geology volume will be published this fall, with other volumes following closely; the first continent-ocean transect is published, and three others are in press. It's time to begin considering how you are going to acquire these important new publications.

The introductory offer for all DNAG publications is now being prepared and will be arriving at nearly sixty thousand addresses around the world early this fall, about September 1.

This offer will provide several purchase options. Of course, you'll always be able to buy single copies at regular price; but you'll also be offered a range of increasing discounts for other options, including standing orders, and for purchasing complete sets of volumes, transects, and maps on your choice of time-payment plan or prepayment plans.

So watch your mail this fall. By taking advantage of your choice of these offers you'll be able to acquire the DNAG publications you want at savings ranging from 15% to 35% off the regular prices.

Oil and Gas Section of *Economic Geology: U.S.* Now Organized

The organizational meeting for the section on oil and gas of the synthesis volume *Economic Geology: U.S.* was held in Denver on April 30. The outline was finalized and will be published here shortly, a production schedule was agreed on, and the authors are now at work preparing their chapter manuscripts.

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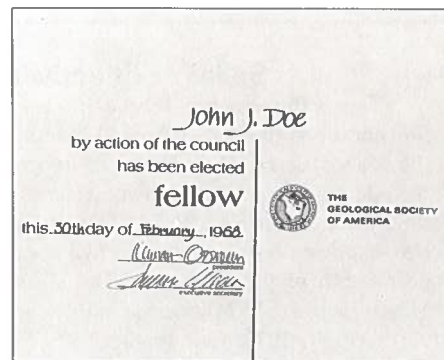
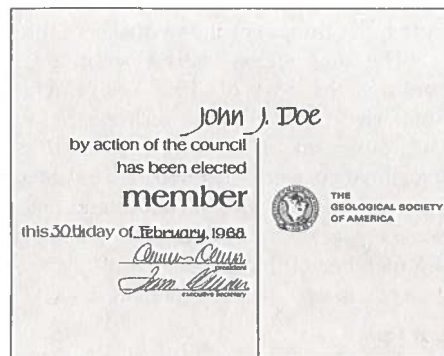
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TIPS ON TALKS
or
HOW TO KEEP AN AUDIENCE ATTENTIVE, ALERT, AND AROUND FOR THE CONCLUSIONS
AT A SCIENTIFIC MEETING

by

H. Edward Clifton

U.S. Geological Survey, 345 Middlefield Road, Menlo Park, California 94025

*"Breathes there a speaker with soul so dead,
Who never to himself hath said,
As he hears his name from the podium read,
I wish to hell I stayed in bed!"*

"First slide, please." The hall lights dimmed, the audience hushed, and the speaker launched into his paper—the culmination of 15 years of painstaking research. An important talk, it included everything he knew on the subject. Flitting from point to point, he realized that he was running out of time and read the paper even faster. He didn't have much time to dwell on his complicated slides, which was unfortunate for they tabulated years of data. By the end of the talk he was going so fast that there wasn't time to reverse the seven slides that were projected backwards. After the chairman finally got the speaker's attention, he closed the talk and stood back for the accolades. The lights came on. Two thirds of the audience had left under the cover of darkness; the other third was asleep.

Our speaker is obviously a caricature—hardly anybody is that bad. But then again, at a recent meeting—well, never mind! The point is that although few speakers do *everything* wrong, even fewer do everything *right*. As a member of the scientific audience, I find far too many talks that are disappointing. Generally, the problem is not due to the quality of the material presented, but rather lies in the quality of the presentation.

The suggestions offered herein are, for the most part, elementary—the sort of thing one would expect every speaker intuitively to know. Yet virtually all are founded on shortcomings I have observed in recently presented papers (some of which, unfortunately, were my own). They deal with three basic elements of a talk: content, organization, and delivery, and conclude with some suggestions on preparation. The viewpoint is primarily that of a member of the audience, but this seems appropriate, for the audience of course is the ultimate critic.

Content

Why give a paper anyway? It is a remarkably inefficient method of disseminating scientific information. A speaker can reach only a handful of potentially interested colleagues, and the

time constraints at most meetings rarely permit an extensive exploration of a subject. A talk is an ephemeral event, of which the only lasting elements lie in a brief abstract and the fading memories of the relatively few who attended the session.

Yet oral presentations are a time-honored means of transmitting the fruit of scientific research and scientists will no doubt be speaking at professional meetings for a long time to come. It is a way to reveal quickly our most recent thoughts and discoveries to our colleagues—a way of informing the world that we are into a specific aspect of research (staking out a bit of scientific territory, if you will). It is too often a prerequisite for obtaining funds to attend these meetings, but we won't go into *that*. A scientific talk unquestionably is highly effective for developing fruitful discussion with others interested in the subject. So we will continue to give talks; the question is how do we insure that we give good talks.

Consider an audience—part of it is there specifically to hear your paper, the rest because they have nothing better to do. It will in most cases be composed of a few people as knowledgeable (or nearly so) as you on your subject, a majority who know at least something about it and many who are totally unfamiliar, or nearly so, with it. A successful talk provides something of value (although not necessarily the same thing) to all these groups.

How does one leave most of an audience with a feeling that they have profited from the talk regardless of the level of knowledge with which they approached the subject? All the memorable talks I have heard, regardless of my familiarity with the subject, shared one common trait: *simplicity*. The speaker convincingly presented a few conclusions, which I retained for a long time. It is more important to get across a few points that will be remembered than to tell *everything* you know about a subject. Better to save the detailed account for the printed text.

Too often speakers waste their precious time at the podium presenting unessential data. Few listeners care for, or will remember, numbers, lists, etc. Of far more interest are significant trends, relationships, or differences—in other words, the *interpretation* of the data.

A speaker must also gauge the background of the prospective audience relative to the topic of the talk. It is well to begin a talk from grounds that nearly everyone will understand. No one, of course, wants to "talk down" to an audience. But sounding condescending is probably more a matter of style than content, and a thoughtful speaker can briefly explain some of the more esoteric terms and concepts without alienating the audience. Terms that are perfectly useful and acceptable within a specialty may be frustratingly mystifying to a larger audience. A listener is distracted by pondering, "Now what does *that* word mean?," and if too much of the talk hinges on "*that* word" the listener will start

Speaker Effectiveness

This is the second of three articles on making successful presentations at a GSA Annual Meeting. The first article, in the May issue of *GSA News & Information*, addressed the techniques of managing a two-projector, two-screen presentation. This month's article, "Tips on Talks" has become the classic advice on being an effective speaker. It is reprinted by permission of the Society of Economic Paleontologists and Mineralogists (SEPM), for the journal *Sedimentary Petrology*, v. 48, no. 1, 1978. Our thanks to SEPM and to H. Edward Clifton for letting us reprint this article.

to wonder how things are going in that other session across the hall, or at the bar.

Finally, don't build your talk on the assumption that the audience is conversant with the accompanying abstract. More likely, 70 percent have not read it at all, 20 percent have read but can't remember it, and the remaining 10 percent read and remembered it, but are somewhat confused as to what it means.

Organization

A well-conceived talk, carefully tailored to fit audience interest, can still fail if it is difficult to follow. There is a distinct and important difference between written and oral presentations. A confused reader can regress as needed to wade through an obscure passage; a confused listener is likely to be lost forever. A talk must be carefully organized so that the information flows in a totally logical pattern. There should be no gaps, short circuits, or unnecessary convolutions. When an audience stumbles in making a mental leap, it is the speaker who falls flat. The best structured talks are those where the audience correctly and continuously anticipates what is coming next.

It is well to indicate early in your exposition just where you expect to go. There is merit in the old Army training dictum "Tell 'em what you're gonna tell 'em, tell 'em, then tell 'em what you told 'em." Surprise endings may be dramatic, but they are rarely useful in a scientific paper.

A colleague won the AAPG Matson Award for Best Paper at an Annual Meeting by using the following structure for his talk:

1. A brief introduction that sets the stage and provides perspective on the problem, its importance, the state of knowledge about it, etc. Lights are on here and eye contact is established with the audience.

2. The bulk of the talk, first giving descriptive data and following with the interpretation of this data.

3. A few (four or five) conclusions, one of which points out the significance of the material presented. Lights are again on here to permit eye contact with the audience.

This format may not guarantee you the Matson Award, but it will assure that your overall organization is simple and coherent. Note, incidentally, how simplicity in content facilitates smooth organization.

The coordination of text and slides is highly important. A talk offers a far greater potential for integrating illustrations than does a written paper, but many speakers never fully utilize this potential. A well-conceived slide quickly and wordlessly projects the speaker's point.

A speaker should not assume, however, that the audience intuitively grasps a slide's meaning; but rather one should succinctly point out the salient features of the slide, especially indicating the physical meaning of nonstandard mathematical phrases or symbols.

The number of slides that can be shown in a talk depends primarily on their complexity. Having too many slides creates confusion and obviously should be avoided. Having too few slides poses a different problem: the speaker must turn the lights off and on (which can be disruptive) or leave the room totally dark (which can be soporific), or leave in the last slide while continuing to talk about unrelated subject matter (which can be both distracting and confusing). It is better, I think, to illustrate virtually every point in a talk with a different slide. This approach not only serves to hold audience attention but also provides the notes or reminders from which a talk is given. Of course, slides that appear only for brief periods must quickly convey their message. As a matter of principle, I prefer to see a series of similar slides, each focusing on a separate aspect, than a single complicated slide that requires much explanation.

One excellent way of coordinating slides is to show two of them simultaneously on separate screens, an option offered with increasing frequency at major meetings. One slide can serve as a reference, such as a location map, stratigraphic section, or panoramic view, that provides perspective for a series of slides on the other screen. The use of two screens demands that the instructions to the projectionist be absolutely clear, in the format standard for that particular meeting (a good practice in any event).

Delivery

Of the three elements of a scientific talk, delivery is probably least important. A well-conceived, logically organized paper will to some degree survive the dullest presentation, whereas the most articulate delivery cannot salvage a talk that misses audience interest or one that cannot be followed. This is not meant to imply, however, that delivery can or should be neglected; a poorly delivered talk is unlikely to be well-received. Even though delivery is, to a degree, frosting on the cake, it can, like frosting, get attention and make the whole thing more palatable.

Reading a paper from a prepared text may be the easiest way to deliver it for many people—but it almost certainly is the most difficult way of delivering it *well*. I think that papers are most often read because of insecurity—the speaker is afraid he will lose his place, omit some important point, or perhaps does not trust his ability to sound learned before his colleagues. All of these concerns are generally invalid. No speaker with good notes (or better yet, carefully organized slides) will get significantly lost during his talk. Really Important Points are rarely forgotten by a well-prepared speaker during a presentation, and those that are will either be raised during the discussion following the talk or never missed. Perhaps the best thing that could happen to readers of talks is for a vagrant breeze to carry their text out the window seconds before they ascend the podium. After the initial panic subsides, nearly all would sail through their talk with little difficulty. Their presentation would likely be far more effective and they would recognize a written text for the crutch it is.

How does one deliver a paper without reading it? Basically, by thoroughly knowing the subject. All of us can clearly explain our slides informally to a small group of friendly colleagues. The same style of exposition works nicely before a larger (and potentially less friendly) audience. Audiences almost always give a speaker the benefit of the doubt. Usually, at worst they are merely polite. I have never seen a speaker bodily assaulted at an SEPM meeting, although some of my colleagues have.

The process of referring to slides during a talk can pose special problems. It is too easy to turn from the audience (or microphone), and have one's voice diminished to an inaudible mumble. Some speakers, forgetting to release the switch on a flashlight pointer, splash the beam about the wall and ceiling in a fascinating display that is potentially more interesting than the talk itself. Small nervous tremors in the speaker's hand are amplified in the pointer's spot on the screen and betray a shakiness that most of us would prefer to hide.

Many of these problems are obviated by having a colleague or co-author employ the pointer from the front row of the audience. Such a confederate *must* be totally familiar with the talk. Occasionally a pointer from the floor gets disconcertingly out of phase with the speaker. Regardless of who handles the pointer, it is probably best used sparingly, spotting key points on the slide and otherwise kept off. Holding a flashlight pointer with both hands or in the crook of the arm will help to steady it and salvage that image of comfortable composure regardless of how unsteady the knees are.

(continued on p. 90)

Tips on Talks (continued from p. 89)

Stage fright in one form or another is probably universal. Who has not known a shallowness of breath, a racing pulse, or sweaty palms before mounting the stage? Slow, deep breathing superimposed upon a concentrated effort to relax the body's muscles will greatly reduce these symptoms. The knowledge that you have thoroughly prepared for a talk adds much confidence. Experience is probably the best teacher. I know that my stage fright will largely dissipate once I begin talking, and nightmares to the contrary, all appropriate zippers *will* be closed and I will not, part way through my talk, abruptly switch to a recitation of "Mary had a little lamb."

Preparation

The obvious key to a successful scientific talk is adequate preparation. The number of speakers who seem to be ill-prepared is therefore surprising. Perhaps part of the problem results from the predictable situation whereby a speaker, having gained experience, requires progressively less time for preparation. Unfortunately, this last phrase can also be translated "gets by with less and less preparation," and the speaker who falls into this trap will ultimately be caught with a substandard effort. Probably every experienced speaker skirts this pitfall and some of us fall into it. Over-confidence is a common reason, but a poor excuse, for inadequate preparation.

Preparation consists of two parts: composing the talk and rehearsal. The first part is probably the more important, but it is also easier to slight. The skillful speaker begins planning well in advance of the presentation. The level of audience interest and background is assessed, and the content of the talk accordingly determined. The talk is ordered into a sequence of flowing logic. Slides are conceived to convey their message quickly and directly and knit tightly into the fabric of the talk. If all these things are done well, the speaker is almost assured of some success.

Rehearsal is both valuable and necessary. It is valuable in that it allows the speaker to develop a smooth delivery by incorporating key words and phrases; valuable because it offers a means of checking content and organization before a group of friends prior to the presentation. It is necessary because it is almost the only way to establish timing. Even if the paper is (God forbid!) read, rehearsal is vital to staying within the time frame. I know speakers who, preferring an informal delivery, eschew rehearsal. They also are the ones most likely to get caught in the "Migawd!-it's-the-two-minute-warning-and-I'm-only-half-way-through" panic. Observing a speaker thus trapped can be entertaining, but it doesn't do much for the communication of scientific information.

It does not pay, however, to attempt to memorize a paper word for word. A paper obviously presented by rote sounds stilted and unnatural and is as distracting as one that is read.

A last feature of preparation is so elementary that it scarcely seems worth consideration; yet, by ignoring it, many speakers run into trouble. Virtually every meeting has talks that are marred by slides that are out of order or disoriented. I've noticed that the audience laughs at the first upside-down slide, mutters at the second, and begins to leave at the third. This and other projection problems are easily obviated by arriving at a session early and asking the projectionist to run the slides through the projector. (It helps to bring your own loaded slide carrier.) Projectionists always seem eager to comply with such a request (they don't like fouled up slides any more than speakers do). It gives you a chance to insure that your instructions to the projectionist are

clearly understood, and also provides a chance to critique your slides from an audience's viewpoint, incorporating any last-minute clarifications that might seem appropriate. Finally, I like to stand on the podium prior to a talk and check out microphones, slide control buttons, and the pointer; that way, it seems less strange when I ascend the podium in earnest.

Summary

If I had to express the points of this paper in a single sentence, it would be "Never force an audience to think for itself." This can be accomplished in a variety of ways:

1. Keep the content of the talk simple, containing only major points.
2. Be sure the audience understands all your terminology.
3. Have the talk simply arranged in a logical sequence.
4. Use simple slides.
5. Avoid distractions.
6. Know your talk well.

There are substantial differences between a spoken and a written paper. The wise speaker recognizes these differences and programs a talk accordingly. The focus should be on the audience—its interests, its level of knowledge of the subject, its ability to assimilate the information. Just as beauty is in the eye of the beholder, success in a scientific talk is in the mind of the audience. The speaker who deliberately caters to the audience is almost certain to keep them interested, alert, and present when the lights come on, convinced that they have heard, finally, a *good talk*.

Acknowledgements

A host of colleagues read this treatise and offered many valuable suggestions. I must also acknowledge those many others who unintentionally contributed to this paper in a way they probably would rather have not.

IN MEMORIAM

George T. Faust
Basking Ridge, New Jersey
February 7, 1985

Frank C. Foley
South Padre Island, Texas
March 26, 1985

Harold A. Gorrell
Calgary, Alberta, Canada
February 12, 1985

Francis A. Stejer
Palo Alto, California
September 27, 1984

George W. White
Champaign, Illinois
February 19, 1985

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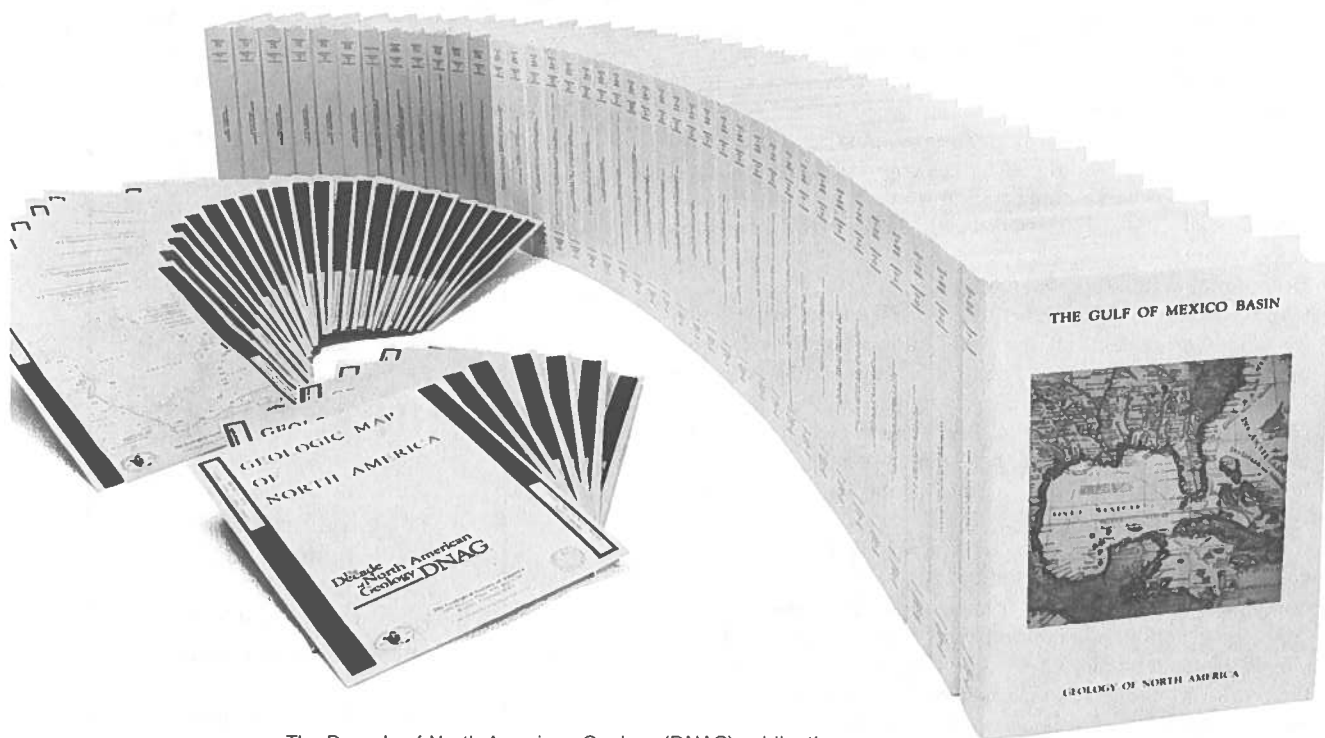
registration, housing forms

Watch for August News & Information

The Decade of North American Geology DNAG

Publications begin arriving this fall!

Watch for your personal prospectus coming in early September describing this new synthesis of the geology of North America and adjacent ocean regions.



The Decade of North American Geology (DNAG) publications will include 28 volumes of geology, 6 field guides, 4 special volumes, 23 continent-ocean transects, and 7 continent scale geologic maps of North America. The project is sponsored by the Geological Society of America to celebrate its centennial decade, 1980-1989. Publications will appear throughout the decade.



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THE GEOLOGICAL SOCIETY OF AMERICA

How to Get Your First Choice of Hotel Room, and How To Keep It

by **Sue Beggs**
GSA Meetings Manager

Overbooking occurs when the number of guest rooms at a hotel is insufficient to accommodate the number of people who arrive to take possession of the rooms for the night. Hotels acknowledge that they are sometimes forced to turn away guests *with reservations*. The standard policy of most hotels is to find and pay for a comparable room, to provide free transportation to and from the next hotel, and to bring the guest back to the original hotel as soon as possible.

A hotel's function is to put "heads in beds." Selling the maximum number of sleeping rooms is the name of the hotel business. Catering and meetings functions are peripheral to this primary purpose. Knowing this, we can understand the hotel's position when things go wrong.

We don't want any GSA Annual Meeting registrants to be the object of overbooking. We do everything we can to protect the appropriate number of rooms per night at each hotel in the GSA room block. (Working with hotels on rooms takes a lot of follow-up that goes well beyond the original booking of dates and rates.) *Even so, I recommend that you act on your own behalf. Protect yourself with good reservations habits, and be aware of the hotel's operating needs as well.*

Some Pointers for Orlando—And Everywhere Else

- Plan on receiving your GSA 1985 Annual Meeting registration in August. If you will not be in town, arrange to have someone else receive it.
- Send in your housing form as soon as possible. This costs nothing, and it just about guarantees your first choice.
- If you have not had a confirmation from a hotel within three weeks, call GSA—(303) 447-2020; ask for the Meetings Department.
- Do not make duplicate reservations.
- Communicate directly with the hotel. If your plans change, for whatever reason, let the hotel know. You may be surprised to find that hotels are really appreciative of your courtesy and will make every effort to help you.
- Obtain reservation and cancellation numbers when you make or change reservations. Use these numbers in all communications with the hotel. Make a note of the date and time of your call.
- Get the name of the person you talk with. If you have canceled within the hotel's time limitation (usually 48 hours), you should not be charged for the room. Both your cancellation/reservation number and the name of the hotel employee will document your story, if there is any question.
- Do not be a No-Show, someone who holds a reservation and doesn't show up. No-Show is a dirty word in the hotel business. Groups that have a substantial no-show factor are anathema to hotels. Fortunately, GSA enjoys a good, solid reputation in this area; our no-show factor is less than 4%.
- Learn the hotel's policies regarding check-in and check-out times.
- Be aware that you may not be able to stay at the hotel more than a day or two before the meeting or more than a day after the meeting. Other groups may have reserved the hotel. This is particularly important for field-trip participants.
- If your time of arrival is late or in doubt, **PREPAY**. Send a deposit, or guarantee the reservation with a credit card or

with your company name and address. *Be prepared to pay if you do not cancel the reservation in time.*

We recommend a deposit even if late arrival is not involved because a confirmation from the hotel is not a guarantee of a room. A confirmation is only a promise that a hotel will provide you a room if one is available—and they certainly expect it will be. But with late stays from other groups and other problems within the hotel, it is not unusual for registrants to be holding confirmations and yet find that they do not have rooms.

Although the hotel industry refers to "a deposit to confirm your reservation," I see no difference between this and what the hotel industry calls a "guarantee." In either case, if you have made a deposit, you have paid for your first night's stay, and should have a place to lay your head, regardless of how late you arrive. In fact, a guaranteed room should be held until 7:00 a.m. the next morning.

If you follow these pointers, you will find your room waiting for you in Orlando, Florida, for the 1985 GSA Annual Meeting. Rooms in Orlando range from \$29 to \$70 single occupancy. Each one of the hotels in the GSA housing block has an outdoor pool, in-house or nearby restaurants, and convenient access to the meeting activities.

Registration and housing forms for the 1985 Annual Meeting will be in the August issue of *GSA News & Information*. If you are not a GSA member, call the Meetings Department at (303) 447-2020 to receive the issue.

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Edited by Thomas L. Holzer

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British Launch New Geology Magazine

The British Geological Society and the Geologists' Association are sponsors of a new magazine intended for both amateur and professional geologists. *Geology Today* began bimonthly publication with a January-February 1985 issue. Publisher is Blackwell Scientific Publications Ltd.

The magazine contains articles on topics of current interest written for the nonspecialist; notes on minerals, fossils, the history of geology, museum displays, and geological excursion guides to areas of special interest; book reviews, conference reports, and listings of lectures, excursions, and exhibitions.

Editor-in-chief of *Geology Today* is J. H. McD. Whitaker, The University, Leicester; Peter J. Smith, Milton Keynes, is scientific editor; and A. J. Smith, Bedford College, London, is chairman of the Management Committee.

For more information, write to Blackwell Scientific Publications Ltd., P.O. Box 88, Oxford, England.

People

Association for Women Geoscientists 1985 national delegates include GSA Members **Nancy J. Banta**, University of Texas, Austin; **Susan M. Dubois**, Dubois Geotechnical Services, Rhineland, Wisconsin; **Jeanne E. Harris**, Natural Gas Corporation of California, Denver; **Nancy L. Joseph**, ASARCO Exploration, Spokane; **Marcia Keefer**, Bureau of Land Management, Albuquerque; **Suzanne H. L. Webel** (alternate), Conquest Exploration Company, Denver; GSA Student Associate **Sherilyn Dunklau**, California State University, Hayward; and GSA Fellow **Penelope M. Hanshaw**, U.S. Geological Survey, Reston.

Student Associate **Chi-Kin Lam**, University of Kansas, has received the first Norman Plummer Outstanding Student Award from the Kansas Geological Survey.

Memorial Preprints

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

Charles Laurence Baker, by Keith Young

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Thomas Joseph Morton Schopf, by Gilbert Klapper

Helmuth Wedow, Jr., by Gene E. Tolbert and George Ericksen

Lawrence Whitcomb, by J. Donald Ryan

Robert R. Wilson, by Henry S. Mayeda

A new GSA Special Paper by A.M.C. Şengör, the product of his long-standing interest in Tethyan problems.

With this work, Şengör hoped to fill an important gap he saw in the regional tectonic literature of Eurasia, namely a synthetic overview of the early history of the Alpine-Himalayan mountain ranges and its expected implications for the "Tethyan paradox," first brought into focus by Alan Smith of Cambridge.

GSA Special Paper 195: *The Cimmeride Orogenic System and the Tectonics of Eurasia*, by A.M. Celâl Şengör, 8½" × 11", paperback, 91 pages, illustrated, with subject & author indexes and one folded map insert. ISBN 0-8137-2195-4, CIP, paperback . . . \$17.00.

The CIMMERIDE OROGENIC SYSTEM and the TECTONICS of EURASIA

A. M. Celâl Şengör




SPECIAL PAPER
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MEETINGS

1985

Symposium on Degradation of Materials Due to Acid Rain, June 17-19, 1985, Arlington, Virginia. Information: Bruce R. Doe, U.S. Department of the Interior, National Park Service, Washington, DC 20240.

26th U.S. Symposium on Rock Mechanics, June 26-28, 1985, Rapid City, South Dakota. Information: Eileen Ashworth, Dept. of Mining Engineering, South Dakota School of Mines and Technology, Rapid City, SD 57701-3995; (605) 394-2344.

International Symposium on Karst Water Resources, July 7-19, 1985, Ankara and Antalya, Turkey. Information: A. Ivan Johnson, Woodward-Clyde Consultants, 7600 East Orchard Rd., Harlequin Plaza North, Englewood, CO 80111.

Conference on Stable Isotopes and Fluid Processes in Mineralization, July 10-12, 1985, Brisbane, Australia. Information: John M.W. Rynn, Dept. of Geology and Mineralogy, University of Queensland, St. Lucia, Queensland 4067, Australia.

International Estuarine Conference, July 28-August 2, 1985, Durham, New Hampshire. Information: Bjorn Kjerfve, Belle W. Baruch Institute for Marine Biology and Coastal Research, University of South Carolina, Columbia, SC 29208; (803) 777-4529.

International Clay Conference, July 28-August 2, 1985, Denver, Colorado. Information: Western Experience, Ltd., 2450 Central Ave., P2, Boulder, CO 80302; (303) 449-3352.

Society of Economic Paleontologists and Mineralogists 2nd Annual Midyear Meeting, Golden Prospects for Science and Industry, August 11-14, 1985, Golden, Colorado. Information: Steve Sonnenberg, 1000 Writer Square, 1512 Larimer St., Denver, CO 80202; (303) 571-1314.

Zeolite '85, August 12-16, 1985, Budapest, Hungary. Information: J. Engelhardt, Central Research Institute for Chemistry, Hungarian Academy of Sciences, H-1525 Budapest, P.O. Box 17, Hungary.

Sixth Gondwana Symposium, August 19-23, 1985, Columbus, Ohio. Information: Sixth Gondwana Symposium, Institute of Polar Studies, Ohio State University, Columbus, OH 43210; (614) 422-6531.

IVth Chilean Geological Congress, August 19-24, 1985, Antofagasta, Chile. Information: Organizing Committee, IVth Chilean Geological Congress, Dept. of Geosciences, Universidad del Norte, Casilla 1280, Antofagasta, Chile; phone 222040-205.

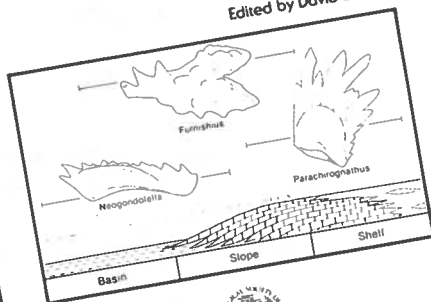
International Symposium on Geothermal Energy, August 26-30, 1985, Kailua-Kona, Hawaii. Information: Geothermal Resources Council, P.O. Box 1350, Davis, CA 95617-1350; (916) 758-2360.

Symposium on Modern and Ancient Clastic Tidal Deposits, August 26-28, 1985, Utrecht, Netherlands. Information: S. D. Nio, Comparative Sedimentology Division, University of Utrecht,

(continued on p. 96)

Conodont Biofacies and Provincialism

Edited by David L. Clark



SPECIAL PAPER
196

Provincialism Documented & Contrasted with Biofacies Developments.

Those working with conodonts have been challenged to develop quantitative methods for biofacies definition with the expectation that conodont biofacies could be as useful as the well established utility of conodonts in biostratigraphy.

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MEETINGS (continued from p. 95)

Budapestlaan 4, 3584 CD Utrecht, Netherlands; telephone 030/53.51.21.

Tectonostratigraphic Terranes of Circum-Pacific Orogenic Belts and Their Relationships to Energy and Mineral Resources, August 26-29, 1985, Sydney, Australia. Information: Secretary, 3rd Circum-Pacific Terrane Conference, Earth Resources Foundation, Edgeworth David Building, University of Sydney, New South Wales 2006, Australia.

Calgary Geotech '85, on use of microcomputers in oil and gas exploration, September 5-6, 1985, Calgary, Alberta. Information: Michael Marchand, Canterra Energy Ltd., P.O. Box 1051, Calgary, Alberta, Canada T2P 2K7; (403) 267-9380.

Problems of the Stratigraphy and Paleogeography of Loesses, September 6-10, 1985, Lublin, Poland. Information: Henryk Maruszczak, Department of Physical Geography, University Marie Curie-Skłodowska, Akademicka 19, 20-33 Lublin, Poland.

Hydrological Applications of Supercomputers—Future Directions, September 10-12, 1985, West Lafayette, Indiana. Information: F. J. Wobber, ER/75, USDOE, Office of Energy Research, Washington, DC 20545; (301) 353-5549.

6th International Conference on Basement Tectonics, September 16-20, 1985, Santa Fe, New Mexico. Information: M. J. Aldrich, Jr., Mail Stop D462, Los Alamos National Laboratory, Los Alamos, NM 87545; (505) 667-1495 or 7590.

American Institute of Professional Geologists Annual Meeting, September 17-21, 1985, St. Paul, Minnesota. Information: Robert E. Pendergast, Geotechnical Engineering Corp., 1925 Oakcrest Ave., Roseville, MN 55113; (612) 636-7744.

Second International Mine Water Congress, September 17-21, 1985, Granada, Spain. Information: R. Fernandez Rubio, School of Mines, Technical University of Madrid, Rios Rosas, 21, Madrid 3, Spain.

Houston Geotech 85: Microcomputer Applications in Petroleum Geology, September 22-24, 1985, Houston, Texas. Information: Bruce Lemmon, AAPG Convention Dept., P.O. Box 979, Tulsa, OK 74101; (918) 584-2555.

High Heat Production Granites, Hydrothermal Circulation and Ore Genesis, September 22-25, 1985, Cornwall, England. Information: Conference Office, Institution of Mining and Metallurgy, 44 Portland Pl., London W1N 4BR, England; 01-580 3802, Telex 261410 IMMIG.

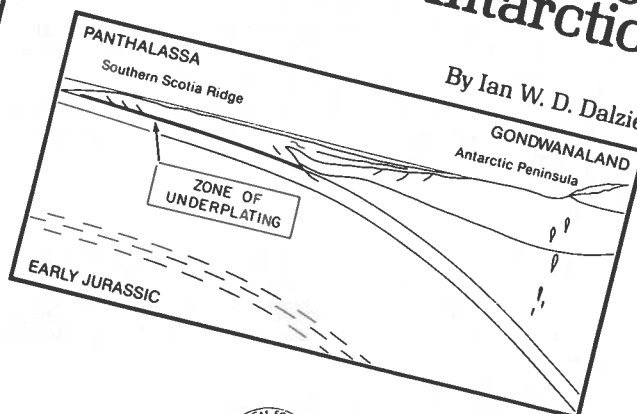
Institute for Tertiary-Quaternary Studies (TER-QUA '85), Annual Meeting, September 30-October 2, 1985, Lawrence, Kansas. Information: Wakefield Dort, Jr., Dept. of Geology, University of Kansas, Lawrence, KS 66045.

Computer Applications in Oil and Gas Exploration and Development, October 3-5, 1985, Wichita, Kansas. Information: D. F. Merriam, Dept. of Geology, Wichita State University, Wichita, KS 67208; (316) 689-3140.

Association of Engineering Geologists Annual Meeting, October 7-11, 1985, Winston-Salem, North Carolina. Information:

Tectonic Evolution of a Forearc Terrane, Southern Scotia Ridge, Antarctica

By Ian W. D. Dalziel



SPECIAL PAPER
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GSA Special Paper 200:
Tectonic Evolution of a Forearc Terrane, Southern Scotia Ridge, Antarctica, by Ian W. D. Dalziel, 8½" × 11", paperback, 37 pages, illustrated. ISBN 0-8137-2200-4, CIP, paperback \$ 9.00.

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Norman R. Tilford, Ebasco Services, 2211 Meadowview, Greensboro, NC 27047; (919) 855-7500.

International Symposium on Management of Hazardous Chemical Waste Sites, October 9-10, 1985, Winston-Salem, North Carolina. Information: Norman R. Tilford, Dept. of Geology, Texas A&M University, College Station, TX 77843-3115; (409) 845-9682.

Recent Advances in Interpretations of Late Paleozoic Cyclothem, Midcontinent SEPM Field Conference, October 11-13, 1985, Lawrence, Kansas. Information: W. L. Watney, Kansas Geological Survey, 1930 Constant Ave.—Campus West, Lawrence, KS 66044; (913) 864-4991.

Geological Society of America Annual Meeting, October 28-31, 1985, Orlando, Florida. Information: GSA Meetings Department, P.O. Box 9140, Boulder, CO 80301; (303) 447-2020.

GSA 1985

Penrose Conference

Terranes in the Circum-Atlantic Paleozoic Orogens, May 27-June 2, 1985, Halifax, Nova Scotia. Information: John D. Keppie, Nova Scotia Department of Mines & Energy, P.O. Box 1087, 1690 Hollis St., Halifax, Nova Scotia, Canada B3J 2X1; (902) 424-5943 or 4015.

Committee (in Boulder, Colorado)

Joint Technical Program Committee—July 12

Annual Meeting—October 28-31, Orlando, Florida

1986

6th Offshore South East Asia Conference, January 28-31, 1986, Singapore. Information: D. H. Morgan, SEAPEX OSEA Committee, Marathon Petroleum Exploration, Ltd., P.O. Box 227, Tanglin Post Office, Singapore 9124.

International Volcanological Congress, February 1-9, 1986, New Zealand. Information: John A. Gamble, Victoria University, Private Bag, Wellington, New Zealand.

Fourth Federal Sedimentation Conference, March 24-27, 1986, Las Vegas, Nevada. Information: Doug Glysson, U.S. Geological Survey, 412 National Center, Reston, VA 22092; (703) 860-6834.

Geochemistry and Mineralisation of Proterozoic Volcanic Suites, April 2-5, 1986, Nottingham, England. Information: Tim Pharaoh, Deep Geology Research Group, British Geological Survey, Keyworth, Nottingham NG12 5GG, England.

International Symposium on Coal and Coal-bearing Strata, April 8-11, 1986, London. Information: A. C. Scott, Geology Dept., Chelsea College, 552 King's Road, London SW10 0UA, England.

Experimental Mineralogy and Geochemistry: Applications to Petrology and Ore Deposits, April 17-19, 1986, Nancy, France. Information: A. Weisbrod, E.N.S.G., B.P. 452, 54001 Nancy Cedex, France.

International Symposium on Environmental Geotechnology, April 21-24, 1986, Allentown, Pennsylvania. Information:

(continued on p. 98)

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MEETINGS (continued from p. 97)

H. Y. Fang, Geotechnical Engineering Div., Dept. of Civil Engineering, Lehigh University #13, Bethlehem, PA 18015; (215) 861-3549 or 3520.

Geological Association of Canada-Mineralogical Association of Canada Annual Meeting, May 19-21, 1986, Ottawa, Ontario. Information: J. A. Donaldson, Dept. of Geology, Carlton University, Ottawa, Ontario K1S 5B6, Canada; (613) 231-2630.

Third International Conference on Geoscience Information, June 1-5, 1986, Adelaide, Australia. Information: Secretary, Organising Committee 3ICGI, Australian Mineral Foundation, PB97, Glenside, South Australia 5065.

6th International Conference on Geochronology, Cosmochronology and Isotope Geology, June 30-July 4, 1986, Cambridge, England. Information: Organising Committee, Sixth International Conference, Dept. of Earth Sciences, University of Cambridge, Downing St., Cambridge CB2 3EQ, England.

Geocongress '86, July 7-11, 1986, Johannesburg, South Africa. Information: Symposium Secretariat, S. 339, CSIR, P.O. Box 395, Pretoria, Republic of South Africa 0001.

Deep Seismic Reflection Profiling of the Continental Lithosphere, July 15-17, 1986, Cambridge, England. Information: Bullard Laboratories, Madingley Rise, Madingley Rd., Cambridge CB3 0EZ, England.

Fifth International Symposium on Water-Rock Interaction, August 8-17, 1986, Reykjavik, Iceland. Information: Halldor Armannsson, Orkustofnun — National Energy Authority, Grensasvegur 9, 108 Reykjavik, Iceland.

Basins of Eastern Canada and Worldwide Analogues, August 13-15, 1986, Halifax, Nova Scotia. Information: Secretary, Dept. of Oceanography, Dalhousie University, Halifax, Nova Scotia, Canada B3H 4J1.

Circum-Pacific Energy and Mineral Resources Conference, August 17-22, 1986, Singapore. Information: Allen G. Hatley, c/o Gaffney, Cline & Assoc., P.O. Box 76309, Dallas, TX 75379.

Third U.S. National Conference on Earthquake Engineering, August 24-28, 1986, Charleston, South Carolina. Information: James E. Beavers, Martin Marietta Energy Systems, Inc., Bldg. 9733-4, M/S 2, P.O. Box Y, Oak Ridge, TN 37831.

GSA 1986 Penrose Conferences

Reefal Development in a Terrigenous Province, May 17-21, 1986, Veracruz, Mexico. Information: Paul R. Krutak, ARCO Exploration Co., P.O. Box 51408, Lafayette, LA 70505; (318) 264-4452.

Southern Oklahoma Aulacogen, March 1986, Lone Wolf, Oklahoma. Information: M. Charles Gilbert, Dept. of Geology, Texas A&M University, College Station, TX 77843; (409) 845-2464 or 845-2451.

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