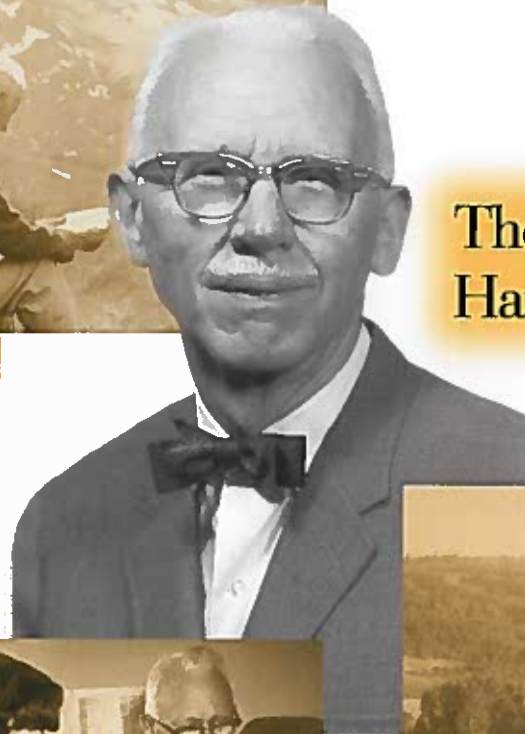
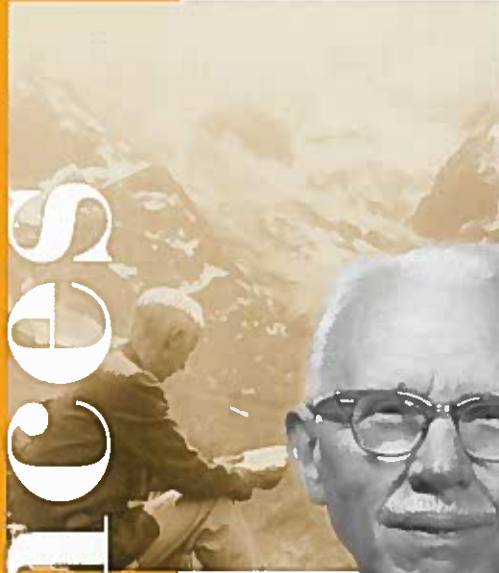


**University of Illinois
at Urbana-Champaign**

Geosciences



**The Legacy of
Harold R. Wanless**



**Department of Geology
Alumni Newsletter
Spring 1999**

GeoSciences

Department of Geology Alumni Newsletter Spring 1999

About Our Cover:

This issue of GeoSciences is dedicated to Harold R. Wanless, a member of the Department of Geology faculty from 1923 to 1967.

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GeoSciences is the alumni newsletter for the Department of Geology, University of Illinois at Urbana-Champaign. It is published in the fall and spring of each year.

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<http://www.geology.uiuc.edu/>

From the Department Head

Dear Geology Alumni,

Our Spring '99 issue of Geosciences is a bit unusual, in that it is dedicated to an individual: Professor Harold R. Wanless. This experimental format is due to a couple of things. First is the generous donation by Jim Baroffio (Ph.D. '64) of funds in the memory of his mentor, Professor Wanless. The time Jim spent with Wanless and the things he learned in both the personal and scientific realm have profoundly affected all aspects of Jim's life. Jim wants the memory of Wanless to live on in the form of annual graduate student scholarships, and resources for graduate level research. You can read about Jim's gift on page 8 of this issue, and how he will match the contributions of other alumni to the Wanless funds.

The second reason for this commemorative Wanless issue has to do with my personal interests in history and heritage. In any community, heritage is one of the things that binds people together and is a source of pride. This is as true for our Department of Geology as it is for any other type of community. I remember learning about Professor Wanless and cyclothems when I was taking my first geology course at Queens College in New York City. The plate tectonics revolution has changed the way we teach elementary Earth Science, and many achievements of past generations have moved out of the limelight. It is important for the current and future generations of Illinois geology students to know their heri-



Jay D. Bass

Harold Wanless was a great scientist who pursued his work with passion and energy, who made fundamental discoveries, and who taught much about life to those around him.

tage, and to learn of great discoveries that were made by scientists who formerly walked the halls of the Natural History Building. This issue of Geosciences is meant as a reminder of a great scientist who pursued his work with passion and energy, who made fundamental discoveries, and who taught much about life to those around him.

Activities in the department this semester have largely revolved around the recruiting of new faculty. The Geology Department has been fairly successful in

getting permission from the College of Liberal Arts and Sciences to search for faculty to replace a number of recent retirements. I hope to have some new faculty faces, names, and research areas to introduce to you next fall.


At our Annual Geology Banquet in April, we will be honoring Dr. Wilford "Willy" Weeks, with this year's Distinguished Alumnus award. Our spring banquet grew by a quantum leap last year, and the attendance by students, staff, and alumni was outstanding. In addition to honoring Dr. Weeks,

events this year will include student awards, and a gentle roasting of the faculty by the students. We look forward to having an even greater turnout by our alumni, and we strongly encourage you to attend. It will be a fun evening.

I will be continuing my work to get out and meet alumni. We are planning receptions in some cities that we have not previously visited, or at least not in recent memory. I am looking forward to meeting a large number of alumni in the coming year.

Please feel free to contact me if you have any news or thoughts you wish to share with other alumni. I am especially eager to know your reaction to the activities described in our newsletters, and our experiment with a dedicated issue.

Sincerely,


Jay D. Bass

Check Us Out - <http://www.geology.uiuc.edu/>

GeoNews

Excellent Teachers List

Craig Bethke, Andre Ellis, Dave Finkelstein, Jim Kirkpatrick, Steve Marshak, Alberto Nieto, Mindy Tidrick, Judd Tudor, and John Werner were named on the Incomplete List of Teachers Rated as Excellent for their teaching during the Spring 1998 semester. That is quite a long list for a department of our size! The department is proud of all those listed. Great Job!

Kirkpatrick Trip

During a trip to Japan and China in October and early November, Jim Kirkpatrick presented a series of lectures on NMR applications to mineralogy, geochemistry, and Portland cement. In Japan he gave a series of four lectures to government, university and industrial researchers on clay mineralogy and calcium silicate minerals sponsored by the Kyushu National Industrial Research Institute. In China he gave a plenary address on experimental and theoretical

investigation of molecular scale processes in hydrous minerals to the 4th International Beijing Symposium on Cement and Concrete. At Peking University and the China University of Geosciences he presented lectures on clay mineralogy and mineral surface geochemistry.

The Stork Brings More "Geology" Babies

Professor Craig Bethke and his wife, Abigail, welcomed a baby daughter into their family Nov. 3 at 5:35 p.m. Claire Genevieve Bethke weighed 7 lb. 7 oz. Mother and baby are both doing fine!

Assistant professor Tom Johnson and his family have a new little girl. Molly was born Feb. 18 at approximately 5 p.m. She weighed an amazing 9 lbs! Everyone is fine!

Graduate student Jungho Park and his wife, Mihye Won, had a baby girl Aug. 24. Hyerin Sharon Park weighed 7 lb. 4 oz at birth.

Join Us For The Annual Banquet

All alumni are invited to the geology department banquet, which will be held at 7 p.m. April 30 at the Champaign Country Club. At the banquet, alumnus Willy Weeks (B.S.'51, M.S.'53) will receive this year's Distinguished Alumnus Award. Willy was a field assistant of Don Henderson's and went on to get his Ph.D. from Chicago. He then became a glaciologist and worked on the physics of ice. The banquet will cost \$20 per person. To make a reservation, contact Barb Elmore at (217) 333-3542 or by e-mail at b-elmore@hercules.geology.uiuc.edu

Graduate student Roberto Hernandez and his wife, Dora, are happy to announce the arrival of John Alejandro Hernandez Sept. 18 at 7:40 a.m. John weighed about 7.5 pounds at birth.



Department members posed for a photo outside the geology building last fall. Department Head Jay Bass is eighth from the right in the back.



Above, from left: Gail Beach (David Beach's wife), David K. Beach (B.S. '73), Tricia Santogrossi (B.S. '74, M.S. '77), Stephen D. Chicoine (B.S. '72) and Jim Granath (B.S. '71, M.S. '73) ham it up. Right: Jay Gallagher, (B.S. '57) and Bill Soderman (M.S. '60, Ph.D. '62) at the Houston reception.

Alumni Gathered in Houston

Alumni gathered at the Petroleum Club in Houston Nov. 5 to meet old friends and hear about departmental activities. Some 30 alumni from Texas and Louisiana enjoyed plentiful food, drink and good company. The event was hosted by Bill Soderman (M.S. '60, Ph.D. '62). Department Head Jay Bass made a presentation on current activities and plans for the department, and Professor Stephen Marshak described his research in structural geology, highlighting the work of several of his students. Thanks to Bill Soderman for a great time!

George Klein Hosts Impromptu Reunion

George Klein, emeritus professor of geology and head of Geoscience Consultants, Inc., hosted an impromptu reunion with several alumni in Maracaibo, Venezuela, last August. Two alumni (Jerry P. Walker, M.S. '75 and J. Roger Palomino, M.S. '64, Ph.D. '76) and Klein were working as consulting geologists in the area and met for a dinner/reunion at the Bohio

Rodizzio Restaurant at the Hotel Del Lago. Klein's client was the Venezuelan subsidiary of Halliburton Energy Co., which is doing a secondary recovery project for Petroleos de Venezuela, Inc. (PDVSA). PDVSA has 12 concurrent recovery projects underway. Because of the impromptu nature of the reunion, the next one will be held whenever Illini Geolumni converge in Venezuela again!

Emeritus Professor Langenheim Elected to Champaign County Board

Ralph L. Langenheim, emeritus professor of geology, has been elected to the Champaign County Board with 74.7 percent of the vote in his district, which includes the campus area.

Harold Rollin Wanless

Baroffio Establishes Fund In Honor Of Wanless

For Jim Baroffio, Ph.D. '64, the opportunity to pursue graduate study with Harold Wanless was a crucial and unforgettable part of his training. His education at the University of Illinois led to a varied and productive career, culminating in his appointment as president of Chevron Canada Corp.

Now Baroffio wants to give the same opportunities to future students, while honoring his mentor. He's doing this by establishing the Harold G. Wanless Graduate Award Fund to support graduate students in geology. The principal will be held in perpetuity, and graduate scholarships will be awarded from the interest earned each year. This fund will also ensure that future students know who Wanless was, and what he accomplished. Quite appropriately, the Wanless awards will be used to attract the highest quality graduate students to Illinois, and will be granted on a competitive basis.

You can help to honor and preserve the memory of Wanless. Jim Baroffio will match contributions to the fund by other alumni up to a total of \$50,000. So if you remember Harold Wanless as a great teacher and inspiration, or if you would like to help give future students the opportunity to study at the University of Illinois, please send your check to the Harold G. Wanless Graduate Award Fund in Geology, University of Illinois Foundation, Harker Hall, 1305 West Green Street, Urbana, IL 61801.



Harold Rollin Wanless

Harold Rollin Wanless was born in Chicago, Ill., in 1898. Wanless' father (William Tanner Wanless) died in the 1906 San Francisco earthquake, after which Harold matured under the care of his mother, Rhoda, a nature study teacher in the Chicago schools. He received his bachelor's degree with high honors in 1920, his master's in 1921, and his doctorate in 1923, all from Princeton University. He spent the summers of 1920, 1921, and 1922 doing field work in the Big Badlands of South Dakota.

Upon receiving his doctorate, Wanless joined the Department of Geology of the University of Illinois. This became a lifetime affiliation. Appointed an instructor in 1923, Wanless advanced to associate in 1926, to assistant professor in 1929, associate professor in

1937, professor in 1946, and retired as professor emeritus in 1967. He served as acting head of the Department of Geology in 1946-47. From 1925 on he also was employed by the Illinois State Geological Survey as a geologic mapper. This initiated a close association between the survey and the department that continued throughout his career and even today. He also maintained a consulting practice from 1953 until his death.

Wanless' principal contribution to geology is the cyclothem theory, promulgated in association with J. Marvin Weller. This theory was later extended, explained and modified by Wanless during his life's work. At the beginning of his career Wanless began geologic mapping of Pennsylvanian rocks in west-central Illinois and Weller,

newly employed by the Illinois State Geological Survey, began collecting Pennsylvanian fossils throughout the state. Early in this work, they jointly recognized that these rocks and fossils occurred in similar cyclically repeated sequences which they identified and traced throughout Illinois. Together, in the early 1930s, they announced discovery of the cycles, named them, "cyclothem," and explained them as resulting from successive, widespread expansion and contraction of seas overlapping the continent. At first, the changes in sea level were ascribed to repeated continental uplift followed by subsidence, an explanation advocated by Weller throughout his career. Wanless, however, soon suggested, in *Sea Level and Climatic Changes Related to Late Paleozoic Cycles*, 1937, with Francis P. Shepard, then a colleague at the University of Illinois, that the cyclic, Late Paleozoic sea level fluctuations were caused by repeated melting and freezing of continental glaciers in the southern hemisphere. In 1960 Wanless' "Evidences of Late Paleozoic Glaciation in Australia" first

identified enough separate, southern hemisphere glacial episodes to account for Pennsylvanian cyclothems.

In support and amplification of the cyclothem theory, Wanless and his group at Illinois demonstrated the extremely widespread persistence of very thin layers of rock and the cyclothems in which they occur throughout the Pennsylvanian rocks of the eastern two-thirds of North America. Principal publications documenting this work appeared between 1944 and 1975. In addition, Wanless traveled extensively in Europe, Australia and South Africa, consulting with geologists and personally viewing Pennsylvanian-aged rocks. In consequence, he demonstrated world-wide late Paleozoic cyclic sedimentation and stimulated widespread investigation of the phenomenon.

Inasmuch as individual cyclothems record very short intervals of time, synoptic reconstruction of successive geographic patterns throughout the areas of their occurrence became feasible. Thus, Wanless, with his students' assistance, examined many thousands of well records, mine exposures and natural outcrops and made environmental maps for Midwestern North America during successive, short periods of Pennsylvanian time. These maps, posthumously published with C. R. Wright in *Paleoenvironmental Maps of Pennsylvanian rocks in Northern Midcontinent Region*, 1978, have been important in prospecting for

high quality coal adjacent to ancient major river channels, and for petroleum trapped in shoreline, river and deltaic sand bodies.

Wanless also was in the forefront of early development of aerial photographs as tools for attacking geologic problems. He was especially active in studying modern shoreline features as models for explaining sediment distribution in Pennsylvanian rocks. *Our Changing Shorelines*, 1971, with Francis P. Shepard, summarized this work.

Wanless' maps have been important in prospecting for high quality coal adjacent to ancient major river channels, and for petroleum trapped in shoreline, river and deltaic sand bodies.

Wanless was an organizer and guiding spirit in the TriState Geological Field Conferences, a series of annual meetings of Iowa, Wisconsin and Illinois geologists. These field reviews and critical discussions of investigations in progress at regional research institutions between 1933 and the mid-1960s profoundly influenced North American Paleozoic stratigraphic research. Wanless was a Fellow of the Geological Society of America and a member of the Society of Economic Paleontologists and Mineralogists, and American Association of Petroleum Geologists, repeatedly serving on soci-

etally organized research and educational programs. He was president of the Illinois State Academy of Sciences in 1928-1929. He was elected to Honorary Membership in The Society of Economic Paleontologists and Mineralogists in 1970.

My personal impression of Harold was that of a memorable and unique personality. First of all, he was highly intelligent—one of the best minds I have ever known. He worked almost constantly. He was friendly and sociable, but worked prodigiously with his samples, logs, maps and reports. To his students and colleagues he appeared to have no hobbies or recreational activities. He was humble and soft-spoken and never spoke ill of anybody. Harold won the respect and affection of almost everybody with whom he came into contact. In fact, some wished that he would show a sharp edge from time to time.

Wanless married Grace Rogers of Philadelphia, Penn., Aug. 7, 1926. He continued to confer with co-authors, revise manuscripts and correct proofs until a few days before his death. His only child, Harold Rogers Wanless, became a professor of geology at the University of Miami.

This article was excerpted from Langenheim, R.L. Jr., "Harold Rollin Wanless," in John J. Garraty and Mark C. Carnes, eds, *American National Biography*, Oxford University Press, 1999.

“One of the Most Kindly Gentlemen You Ever Could Imagine”

There are lots of anecdotes about Harold Wanless, who had more than a hundred students over the years and influenced many more geologists throughout his career. The anecdotes invariably reflect his photographic memory, his tirelessness, his sense of humor, his abhorrence of alcohol and his meticulous manner—particularly in monetary matters.

Ralph Langenheim remembers how “without maps and without hesitation Wanless unerringly zipped up and down back roads, highways, city streets and farm lanes; lecturing, pointing out moraines, and driving as we sought out the often minuscule exposures to be found in road cuts, quarries, strip mines, gravel pits and stream banks. His concentration on geology while driving was disconcerting to some and his lectures were given in a droning monotone, but the information was astoundingly complete.”

Don Henderson remembers Wanless as “very amusing and one of the most kindly gentlemen you ever could imagine.” Henderson does remember Wanless becoming irate once, however, when it was implied that he had been drinking. “He was absolutely outraged,” says Henderson.



At table (l to r): Donald M. Henderson, Ralph E. Grim, Carleton A. Chapman and Harold R. Wanless in the faculty skit at the Spring, 1950, Cyclothem Banquet. In the decade or so following WW II, the Cyclothem Club, aka Geology Club, held an annual banquet that included student skits roasting the faculty. There also generally was a faculty skit doing likewise to the students. The custom died out in the late 1950s with the graduation of the older, more independent minded GI Bill Students. Photo contributed by Donald M. Henderson.

Many alumni remember Wanless' tirelessness, noting that during field trips students started at 6 or 7 a.m. and didn't stop until dark. As Albert V. Carozzi writes, “after dinner between 7 and 9 p.m., the group was called back to the hotel lobby to review, in meticulous detail, the observations and conclusions of the day and to evaluate the pertinent maps and papers for the next day. The beady-eyed and exhausted audience then retired.”

Regarding Wanless' perpetual hunt for inexpensive, quick places to eat, Langenheim remembers, “Wanless apparently rated eating establishments by economy and speed of service. Had McDonalds been available we probably have subsisted entirely on its viands. Grim and intense as it sounds, however, Wanless' gentle personality, dedication and obvious concern for students made the whole thing a memorable experience. Our students loved it and visiting scholars usually found ways to ‘go along.’”

Norb Cygan recounts that, as a graduate student, he was in the field with Wanless and on an expense account. Cygan turned in the full cost of the meals on the road. Wanless turned in the full cost of meals—less the cost of eating at home. “I remember being very upset and going to the department secretary feeling that I had done something very wrong, but she just said ‘don't worry, Harold always does that!’”

Educator, Friend and Guide

by Albert V. Carozzi

One of the major factors that influenced my decision to come to the department as a visiting assistant professor in 1955-56 was the presence on the faculty of Harold Wanless, whose international reputation was based on his cyclothem theory related to sea level and climatic changes. As soon as we met, he took me under his wing — it turned out that he also knew about my previous papers on the statistical studies of microfacies. In 1956 we presented, together with two of his students (W.G. Ziebell and E.A. Ziemba), a paper at the XXth International Geological Congress in Mexico City, based on a new interpretation of the Pennsylvanian column at Superior in Arizona, and four sections of the Platteville Group, Ordovician, of Iowa, Illinois, and

Indiana.

Another expression of Wanless' devoted interest in increasing my knowledge of American geology was his request that I participate in his graduate field course, Geology of the Upper Mississippi Valley, which consisted of a series of extended weekend field trips. He also encouraged me to attend TriState Geological Conferences, GSA regional sections, and Friends of the Pleistocene meetings. Most of my experience in American geology was obtained through Wanless' guidance.

What I remember most are trips led by Wanless himself, when he was in full command of the fleet of University of Illinois cars used on such occasions. Wanless drove the first car, often on the wrong side of the highway, describing all pos-

sible geological features within sight together with whatever bird or tree of interest showed up. Most road hazards went entirely unnoticed. An early (6 a.m.) old-fashioned breakfast with eggs, sausages and grits was the rule, lunch was generally forgotten, and our overnight stop was in what became known as a "Wanless hotel," that is a Spartan accommodation, possibly with a dining room, in some little town (not a motel) away from all temptations. Alcohol in any shape or color, in public or in private, was strictly prohibited, but I managed a few smuggling operations, unable to visualize such an uncivilized behavior.

This teaching discipline unquestionably left a deep imprint on all the participants. When starting my own graduate students on their microfacies theses, I was able to find all the places we visited in these field trips by following exactly the footsteps of Wanless.

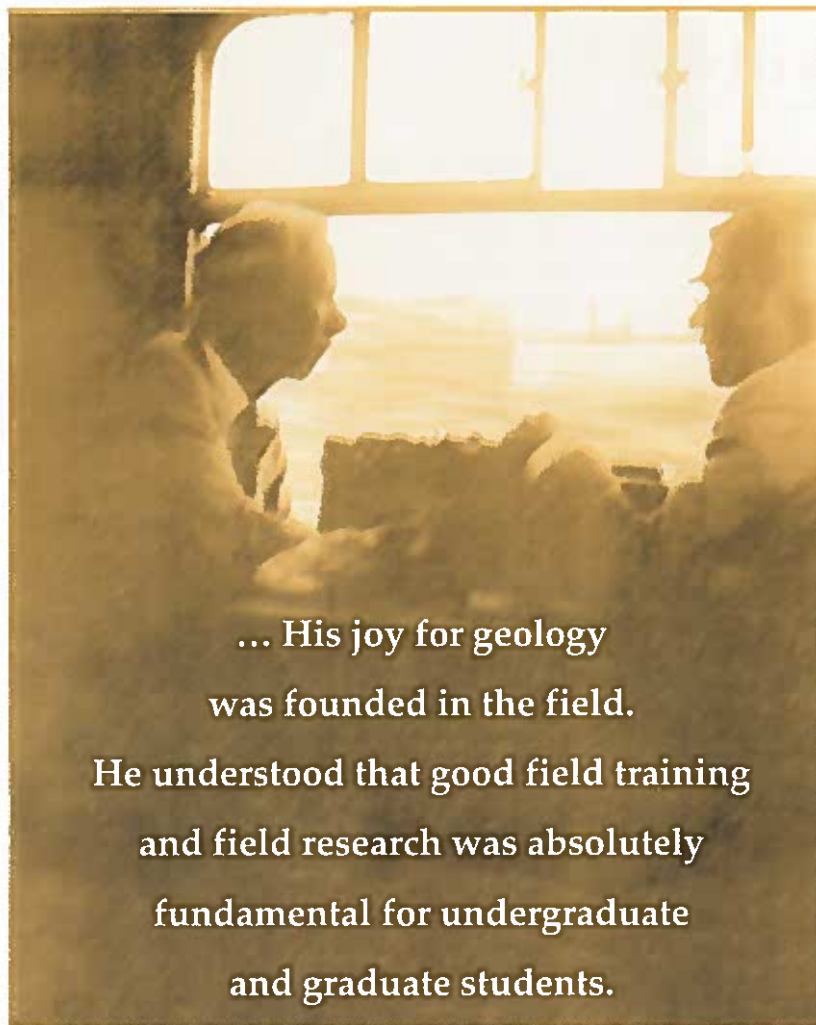
Throughout his more than 40-year affiliation with the Department of Geology, Harold Wanless taught and guided well over 100 students. Below is a list of them:

- | | | | | |
|---|--|---|--|---|
| Ames, John A. M.S. '50. | Eddings Arnold L. M.S. '47. | Johnson, Kenneth S. Ph.D. '67. | Orlopp, Donald E. M.S. '62, Ph.D. '64. | Sims, Dewey L. M.S. '57. |
| Anderson, Marvin J. M.S. '56. | El-Ashry, Mohammed M. M.S. '63, Ph.D. '66. | Kennedy, Virgil J. M.S. '48. | Osment, Frank C. M.S. '41. | Smith, Maurice H. M.S. '41. |
| Avcin, Matthew J. M.S. '69. | Eldridge, William F. M.S. '61. | Kenny, Leland F. M.S. '68. | Ostrom, Meredith E. M.S. '54. | Souter, James E. M.S. '66. |
| Baird, Donald W. M.S. '56. | Ellingwood, Robert W. M.S. '48. | Kidda, Michael L. M.S. '53. | Otton, Edmond G. M.S. '47. | Spotti, Adler E. M.S. '41. |
| Barnes, Mary E. M.S. '48. | Etheredge, Forest D. M.S. '53. | Koenig, Karl J. M.S. '46, Ph.D. '49. | Palmer, James E. M.S. '56. | Staffeld, Byron C. M.S. '54. |
| Baroffio, James, R. Ph.D. '64. | Gamble, James C. M.S. '67. | Lamb, Robert R. M.S. '48. | Palomino Cardenas, Jack R. M.S. '63. | Summerson, Charles H. Ph.D. '42. |
| Bauer, Charles B. M.S. '46. | Gawne, Constance E. B.S. '66. | Lane, Donald W. M.S. '58. | Parham, Walter E. M.S. '58. | Susong, Bruce I. M.S. '55. |
| Baxter, James W. Ph.D. '58. | Geisler, Jean M. M.S. '49. | Lennon, Russell, B. M.S. '57. | Parker, Margaret A. M.S. '53. | Trescott, Peter C. M.S. '64. |
| Berman, Byrd L. M.S. '53. | Glover, Albert D. M.S. '64. | Levish, Murray. M.S. '55. | Patterson, Jacqueline W. M.S. '51. | Tubb, John B. M.S. '61, Ph.D. '63. |
| Bleuer, Ned K. M.S. '67. | Gorman, Donald R. Ph.D. '62. | Lucas, Margaret J. M.S. '55, Ph.D. '57. | Patton, Howard L. M.S. '48. | Vail, Ruth S. B.S. '65. |
| Boardman, Richard S. B.S. '48, M.S. '52, Ph.D. '55. | Grinnell, Robert N. M.S. '52. | Lynch, Bernard W. M.S. '48. | Pearson, James G. A.B. '42. | Van Den Berg, Jacob, M.S. '56. |
| Brokaw, Arnold L. M.S. '42. | Grubb, Carl F. A.M. '32. | MacVeigh, Edwin L. M.S. '32. | Pendleton, Margaret M. M.S. '48. | Van Dyke, Lindell H. M.S. '48. |
| Bushman, Edwin F. BS '41. | Hardie, Charles H. M.S. '58. | Manos, Constantine, T. Ph.D. '63. | Phillips, Sanford I. M.S. '56. | Voris, Richard H. M.S. '52. |
| Century, Jack R. M.S. '52. | Harrison, John A. M.S. '48. | Mason, Arnold C. Ph.D. '55. | Plusquellec, Paul L. M.S. '66. | Wahl, F. Michael. M.S. '57. |
| Christy, Robert B. M.S. '58. | Hoover, W. Farrin Ph. D. '39. | McCabe, Louis C. M.S. '33. | Powers, Richard J. M.S. '57. | Watrous, Joseph A. M.S. '42. |
| Clay, John O. A.M. '48. | Hopkins, M. E. Ph.D. '57. | McCormick, Wade M.S. '53. | Pullen, Milton W. Ph.D. '50. | Weill, Daniel F. M.S. '58. |
| Cohee, George V. M.S. '32. | Horne, John C. M.S. '65, Ph.D. '68. | Metzger, William J. Ph.D. '61. | Rall, Elizabeth P. Ph.D. '56. | Weiner, John L. M.S. '61. |
| Collins, Lorence G. B.S. '53. | Hughes, Paul W. Ph.D. '63. | Meyer, Marvin P. M.S. '46. | Reynolds, Robert R. M.S. '42. | Whaley, Margaret S. B.S. '69. |
| Conlin, Richard R. M.S. '54. | Hutcheson, Donald W. M.S. '57. | Miller, Don J. M.S. '42. | Rioux, Robert L. Ph.D. '58. | Whiting, Lester L. M.S. '58. Deceased. |
| Cropp, Frederick W. M.S. '56, Ph.D. '58. | Inden, Richard F. M.S. '68. | Morrill, David C. M.S. '58. | Robertson, Donelson A. M.S. '51. | Williams, Donald R. M.S. '62. |
| Dickie, George A. M.S. '55. | Irish, Ernst B. Ph.D. '49. | Mueller, Joseph C. M.S. '55. | Rogers, Robert E. M.S. '48. | Williams, Frederick E. M.S. '51. |
| Dickson, Beryl A. M.S. '65. | | Myers, Robert E. M.S. '55. | Roth, Robert S. M.S. '50. | Wright, Cynthia R. M.S. '63, Ph.D. '65. |
| Dillon, Edward L. M.S. '49. | | Newton, William H. M.S. '37. | Saxby, Donald B. M.S. '47. | Wright, Ramil C. M.S. '62. |
| Droste, John B. M.S. '53. | | O'Brein, Neal R. M.S. '61, Ph.D. '63. | Shelton, John W. M.S. '51, Ph.D. '53. | Ziebell, Warren G. M.S. '55. |
| Eccles, John K. Ph.D. '58. | | Odom, Ira E. M.S. '58. | Shideler, Gerald L. M.S. '65. | Ziemba, Eugene A. M.S. '55. |
| | | Oesterling, William A. M.S. '49. | Simon, Jack A. M.S. '46. | Zirkle, Robert G. M.S. '52. |
| | | | Simpson, Howard E. M.S. '42. | |

Hal Wanless Remembers His Father

Most of the alumni of geology remember my father as a teacher, advisor, field trip leader or professional colleague. As his son, I remember him as a great dad who, in spite of a busy work life, always had time for me. He was a father who guided me by subtle gestures and words but never by harshness. I was always welcome to join him in his personal and professional activities, which were primarily early morning bird walks and field trips with students or for research (perhaps that is why so many of you remember me as a brash little kid). He spent weeks in the summer canoeing and camping with me. His time with me instilled a joy of the outdoors, reverence for nature, curiosity for our Earth, a love to travel, and need for devoting quality time with one's children.

There are some things you may not know about my father: He was a conscientious objector in World War I, and as a result worked in a boat yard helping build non-war ships. His initial appointment at the University of Illinois (in about 1926) included the responsibility to teach interpretation of aerial photography to agronomy students. He was totally dependent on my mother to do home repairs, pay bills and do the cooking. He and my mother were active members of University Baptist Church, which provided another great sphere of friends. His private hobbies were birding, photography and stamp collecting. I only heard him say negative things about two people, and even those were more as a statement of disappointment. Every now and then he would sort



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He understood that good field training
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of go into a haze for several days, then disappear into his study for a day and come out with a manuscript that was basically complete and in final form. The concept of being in debt would keep him awake at night. The year we were in Australia (1958-59), the new chemistry had just come out but was not in my high school curriculum there, so every night he would re-teach me from Paulings book what had been covered in school.

Both he and my mother loved people, and I grew up thinking that a house full of faculty and students at dinner was normal.

The time that you and other people spent with them, both in person and through letters, kept them young in spirit into their final years.

Although my father would spend great amounts of time on data and studying well logs and such, his joy for geology was founded in the field. He also understood that good field training and field research was absolutely fundamental for undergraduate and graduate students. I applaud the Department of Geology for undertaking a fund raising program for student field activities. He would too.

Profiles

Willy Weeks: A Colorful Guy

Glaciologist Willy Weeks, who will receive the Alumni Achievement Award (the department's highest honor) at the geology department annual banquet, marches to the beat of his very own drummer. For example, early in his career, when he had to choose between geochemistry and glaciology, Weeks (B.S. '51, M.S. '53) chose the relatively untraveled path.

"When I escaped from graduate school, geochemistry was rapidly becoming an 'in' topic studied by a number of very smart scientists," says Weeks. "Competing with these guys clearly was going to be a lot of work. Glaciology, on the other hand, was just starting to develop and some aspects of the subject were wide open. "It was like I'd discovered the Mother Lode: no competition, essentially no literature, and the Federal Government wanted to fund me. Besides, working at the ends of the Earth may have been cold, but it was never dull."

"Willy Weeks is a very colorful guy with a great sense of humor, but nothing gets in the way of him getting his work done," remembers Don Henderson, professor emeritus of geology and Weeks' advisor. "I could see from the beginning that Willy was as sharp as anyone I'd ever run into. He's easily one of the top half percent of students I ever had," adds Henderson, who taught at the University of Illinois for 40 years, instructing hundreds of students.

Sea Ice

Although Weeks has published on many different aspects of the world of snow and ice, he spent

much of his career investigating the structure and physical properties of sea ice. He was instrumental in describing the relationships between the internal structural properties and composition, and the resulting physical properties of sea ice, as well as the influence of the polar environment (water temperature, air temperature, etc.) on the properties of sea ice.

"Many of the processes that occur in rocks also occur in sea ice, although in ice they occur much more rapidly," Weeks explains.

Weeks notes, as an example, that pressure ridges, the features that form when ice floes collide and are the sea ice equivalent to mountain ranges, form in at most a day or two in contrast to millions of years for mountains.

"You can even get very close and observe exactly how the ice is deforming. You just have to be careful that you don't get incorporated in the ridge," he jokes.

Weeks notes that sea ice—formed when salt water freezes—is never more than 40 degrees Celsius colder than its melting point and therefore invariably contains a liquid phase (brine). The equivalent temperatures for many rocks would be in the 1200-1500 degrees Celsius range.

"You could consider sea ice to be an igneous rock that forms at a temperature that allows one to swim in its magma," says Weeks. "Also, the mineralogy of sea ice is very simple: ice, brine and a few solid hydrated simple salts. This allows you to focus on the geophysics of what is occurring instead of becoming entangled in mineralogical details."

In another research project,

Weeks figured out the relationship between the amount of salt trapped in ice, the growth rate of the ice floe, and the composition of the surrounding water. He also documented and developed an explanation for the striking crystal orientations that can occur in sea ice. Sometimes all the ice crystals will have their c-axes not only horizontal but all pointing in the



Willy Weeks

same direction. These ice sheets act like a single crystal with lateral dimensions stretching kilometers. Weeks found that the formation of these crystals is related to the direction of the current under the ice.

Within the topic of polar ice, Weeks ended up moving all around.

"The topics that were being funded kept changing," he says. "Just as soon as I had learned enough about a subject to vaguely understand what I was about, the funders would say, 'X is no longer a problem, but we are desperate to know more about Y.' So I would have to drag out 10 books and put together a field program to study Y. The good part was that I learned a lot of different tricks. However my main interest was always sea ice. These other subjects I did as stunts."

To date Weeks is the author of approximately 300 published papers. This body of work has

earned him numerous honors and awards, including election to the National Academy of Engineering—the equivalent of the National Academy of Science. He also received the Seligman Crystal, the highest honor presented by the International Glaciological Society; and the Emil Usibelli Prize for Excellence in Research from the University of Alaska in Fairbanks. He is also one of the few honorary members of the American Polar Society and a Fellow of the American Geophysical Union and the Arctic Institute of North America.

Champaign Born and Reared

Weeks was born and reared in Champaign and lived with his parents while in college. Although his parents were very supportive of his studies, Weeks had to put himself through college.

"We were not exactly rolling in money, so being able to live at home really helped both myself and my brother, who was another University of Illinois graduate." To help pay expenses, Weeks traveled around the region every weekend playing string bass in a dance band. "Music still is my favorite avocation," he says. "In fact, the music school thinks I'm one of their alums!"

Weeks studied bass with Phyllis Edwards and played in the University symphony. His experience included playing for both Igor Stravinsky and Aaron Copland.

"It was unheard of for Stravinsky to conduct an amateur orchestra, but he came because his son was a professor of music here. Stravinsky was a very precise conductor; not an arm waver. He definitely knew what he wanted and he knew how to get it from the orchestra," says Weeks. "I liked that."



"Hellaciously Good Time"

During and immediately following his master's degree program, Willy Weeks spent four field seasons in the southwest Colorado. His master's thesis was to map the igneous rocks of the Ute Mountains. Based on the only photo he had seen of the Utes, this didn't look too difficult. Unfortunately, the photo proved to be taken from a great distance. When he arrived in the region and went up to Mesa Verde to get a glimpse of the proposed thesis area, he looked to the west and saw a very imposing mountain range. "What's that? And where are the Utes?" he asked. The answer was, "Those are the Utes!"

"I realized instantly I was in over my head," remembers Weeks. "Fortunately, in six weeks I was able to pound on enough rocks and draw enough lines on the air photos (there was no topographic map of the region at that time) to escape from the University of Illinois with a master's thesis. Looking back on the area, I think it would have taken three full field seasons to map that area properly. Since then I have always tried to carefully scope out what I am undertaking before I arrive in the field."

However humbling that project was, it probably helped Weeks get what he describes as the "primo USGS field assistant's job in the Ouray-Telluride region of the San Juan Mountains." Weeks worked there for three more field seasons prospecting for uranium and also mapping the area. It was here that Weeks began mountain climbing. He and his colleagues climbed the 12- and 13-thousand-foot peaks during the week and on Sunday climbed the 14-thousand-foot peaks.

"I had a hellaciously good time and the opportunity to work with some very experienced geologists," Weeks says of that phase of his career. "I worked in Telluride when it was just a semi-deserted mining town. The town was so small that the first day I arrived and was buying groceries the clerk said to me 'will this be cash or charge Mr. Weeks?' 'Hey, how do you know my name?' I asked him. 'Well, we knew a geologist by the name of Weeks would be arriving today and you are someone we haven't seen around here before, so you must be Weeks,' said the clerk. Believe me, that would never happen in Telluride these days!" says Weeks, with a laugh.

Headed for the Mountains

Having grown up in Champaign, Weeks had never seen a hill, much less a mountain until he joined his advisor, Don Henderson, as a field assistant the summer before his senior year. Henderson and Weeks spent the summer mapping the geology of the rugged Crawford's Notch area of New Hampshire's White Mountains.

"When you live with someone for a summer you get to know them fairly well," says Henderson. That summer Henderson learned that Weeks had sworn off beer. "In the band business Willy saw lots of people on drugs and alcohol. He decided he wasn't going to touch that stuff until he got his life under his own control. He had a determination to succeed no matter what," says Henderson.

Today Weeks notes that he is the proud owner of a good-sized wine cellar.

"I only drink as a preventative to frostbite... However, one never knows when frostbite might strike," he adds with a grin.

Weeks continued at the University of Illinois for his master's degree in geochemistry. For his field work he headed west to the Ute Mountains (see sidebar). While writing his master's thesis, Weeks received a National Science Foundation fellowship that allowed him to go anywhere he wanted for doctoral work. On the strong recommendation of professors Art Hagner and Henderson, he chose the University of Chicago.

"I always appreciated the fact that when I got my master's degree, the University of Illinois said 'see you later,' and encouraged me to go elsewhere," says Weeks. "And Chicago was very different from the University of Illinois. It was more of a hard science with graduate students coming from

math and physics. The University of Illinois focused more on field geology and preparing graduates to go into the petroleum industry. At Chicago I had to dig in and prove myself all over again."

Ice Cubes

It wasn't until after he got his Ph.D. that Weeks became interested in sea ice or, as he puts it, ice cubes. While still at Illinois he had received a ROTC commission as an Air Force officer. After defending his thesis in Chicago, the Air Force called him to active duty, assigned him to a research center in Boston and told him to study soil mechanics.

"I didn't know anything about soil mechanics and it didn't take me long to decide that I didn't like the subject," says Weeks in his typically upfront way.

Then he got a break. The Air Force was having problems with the radar sites along the Labrador coast. The terrain there was very mountainous, which meant they could not build conventional runways. Instead, they hoped to land wheeled aircraft on sea ice with as heavy load as possible. They needed someone to tell them what loads the ice would bear—"and if something went wrong, they needed someone to blame!" adds Weeks. He saw his chance and volunteered.

"Since I was the only person who wanted to go, I got the job," he says, jokingly.

After the Labrador project, the Air Force sent Weeks to Baffin Land and then Greenland. After completing his active-duty commitment, Weeks was hired to teach geochemistry at Washington University in St. Louis. During the summer, he started to do contracts for the Cold Regions Research and Engineering Laboratory (CRREL),

an organization located in Hanover, N.H. that also was interested in sea ice. Working in cold rooms, Weeks studied the structure and properties of sodium chloride ice, which is like sea ice but simpler.

It was at this point Weeks opted for the path less traveled and officially switched from geochemistry to glaciology.

"I had to admit to myself that I couldn't do justice to both subjects at the same time," he said.

Weeks moved to CRREL. He ultimately worked there for 26 years. Then Weeks moved to Alaska where he became a professor of geophysics at the University of Alaska Fairbanks as well as chief scientist at the Alaska Synthetic Aperture Radar Facility. By 1996 Weeks was ready to slow down a bit.

"I'd done polar field operations for 40 years and I'm still alive, so why not quit while I'm ahead," he says. He continues to consult and travel extensively and is working on a book *On Sea Ice*.

Weeks' work has taken him all over the world, most obviously to both polar regions. His peripatetic nature is abetted by his wife, Marilyn McDonald, a woman whom Weeks describes as "a total adventure travel freak who makes me look like a couch potato." Together they run rivers, sea kayak, camp and scuba dive. She thinks up things for them to do while he tries to keep them from getting killed, says Weeks. McDonald even "coerced" him into making a parachute jump, though he recently talked her out of bungee jumping since she has a metal bolt in her neck.

"Actually," notes the 70-year-old young Weeks wryly, "bungee jumping is safer than parachuting. It just looks scarier because the ground is closer."

Andre Ellis Travels Far for “Pioneering Research”

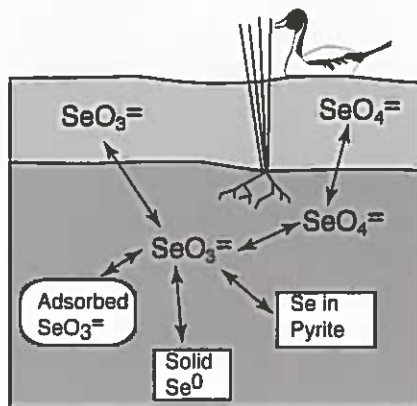
Andre Ellis is a long way from home. The Bombay, India, native was drawn to the University of Illinois Geology Department by the research of Tom Johnson, one of the newer members of the department. Johnson, an isotope hydrogeologist, studies contaminant transport.

“Tom’s research was the best match with my own interests,” said Ellis, who considered graduate programs in Australia and the U.K., as well as in the U.S. and his native India.

For his master’s thesis, Ellis is addressing the problem of selenium contamination in groundwater. Selenium has many oxidation states. The more soluble ones are the more toxic. In large concentrations selenium in the water can be deadly, particularly to birds (see Johnson story in *Geosciences* Fall 1997). Researchers have recognized that in oxygen-poor conditions, selenium in the environment is converted from soluble forms (selenate and selenite) to insoluble—and non-toxic—forms (elemental selenium). One current theory is that naturally occurring microbes in solution reduce selenium to a non-toxic state. The process may also be abiotic.

Ellis is working to understand the process of microbial reduction of selenium using two techniques: one is to measure the concentration of selenium in solution (which should be reduced over time), and the other is to identify the way the selenium stable isotope ratios shift during the reduction process. Sulfur and nitrogen isotope ratios have been used to

study reduction of these elements for some time, and Johnson’s group is developing a similar capability for Se. Through a phenomenon known as the “kinetic isotope effect,” lighter isotopes are reduced slightly faster than heavier isotopes. With Se, this effect is observed as a decrease in the $^{80}\text{Se}/^{76}\text{Se}$ ratio.



The selenium cycle in nature (diagram courtesy of Tom Johnson).

Ellis can measure the changes in concentration of selenium over time with an atomic absorption spectrometer that he and Johnson rehabilitated with the help of Ed Lane, an electronic engineering technician in the department. Ellis can measure the isotope ratio shift using a mass spectrometer technique developed by Johnson and his colleagues at the U.S. Geological Survey in California.

“Each element has its own quirks,” notes Johnson, but “of all the elements studied so far, selenium is one of the hardest elements to run mass spectrometer measurements on. One problem is that we have to heat the selenium

to run mass spectrometer tests, but selenium vaporizes at relatively low temperatures.”

Ellis is hoping to document microbial action by understanding this shift in isotope ratios between ^{80}Se and ^{76}Se . As reduction takes place, the microbes reduce more of the selenate that has the lighter isotopes, says Ellis. As the reduction progresses, the selenate that is left behind contains more and more of the heavier isotope in relation to the lighter isotope.

“We concentrate on and measure the ratios between these isotopes because it is the most representative of all the isotopes and gives us the best results,” says Ellis. “The shift in isotope ratios is caused by the reduction of selenium, so if you see the shift, you know reduction is happening,” says Ellis.

In The Lab

With guidance from Johnson, Ellis is trying to reproduce in the laboratory what may be happening in nature. He uses Illinois soil (and only the natural microbe population already in that soil) and adds oxidized (soluble) forms of selenium, just as it occurs in nature. For his experimental control, Ellis used autoclaved soil. He then sampled the selenium concentration regularly. The first experiment took two weeks before all the selenium was reduced. It’s a two-step reduction: selenate goes to selenite and then selenite reduces to elemental (solid) selenium.

Ellis got some good results: There was a decrease in the concentration of selenium. However, the shift in the isotope ratio wasn’t as much as Ellis expected, particularly for the first phase in which selenate goes to selenite. There was a shift, however for the second step of the reaction, when selenite goes to elemental selenium (the solid form).

Ellis and Johnson are thinking that perhaps the reaction went too fast, which can affect the isotope shift. So for the last several months Ellis has been working to adjust the reaction. The reaction can be slowed down by changing the temperature at which the process takes place, or the concentration of selenium or the electron donor (the carbon in the soil). These are all things Ellis is pursuing now.

In spite of these struggles, Ellis is still happy he chose this particular project.

"There are many advantages to being part of something so new and pioneering," says Ellis. "We are the first

ones working with the selenium isotope ratios, and Tom himself developed the techniques to measure it, so it's been a great project."

For his part, Johnson appreciates what he describes as Ellis' "quiet ambition."

"The first day he came here he immediately started talking about his research project options," says Johnson. "Andre is pretty driven. This has been a very interdisciplinary project, and Andre has been quick to pick up whatever he needed to pick up."

That has included learning some microbiology. The first semester he arrived, Ellis took a microbiology course conducted by Craig Bethke (Ph.D.'85), professor of geology at the University. The

course was an overview of the field that included a look at different types of microbes and the conditions that would be needed for them to flourish. Rob Sanford, a microbiologist in Civil Engineering also helped teach the course.

industries there, too. So one problem is the availability and the other problem is the contamination. And it's no fun to have both together," says Ellis.

After college Ellis was ready to continue his studies, but it is difficult in India to do what he calls "pioneering research." "The moment you want to go on, it's not so easy," he says. Facilities are improving, but it is still hard to find someone to work with there, he says. So he started looking elsewhere for graduate programs.

"The University of Illinois has a good reputation overall and the environmental programs are good both in geology and in civil engineering," says Ellis. "Also, there is a large inter-

national community, which I was aware of. Because of all these things, I had applied even before I knew about Tom Johnson, since he had only just arrived. Still, this ended up being the best opportunity. I was looking to do something very, very different."

Ellis plans to complete his master's degree in August, two years after arriving, and to continue at the University of Illinois for his doctorate. Beyond that, his future is unclear.

"Ultimately, it would be nice to go back home and make use of what I've learned here," muses Ellis. "But it's hard to know what the future will bring."



Above: Ellis (second from left) with the isotope hydrology group. Also pictured are (from left) graduate student Yoshie Hagiwara, post-doctoral student Mitch Herbel, Tom Johnson, and post-doctoral student Dipak Sahoo. Photo behind shows Ellis (at right) on a visit home to Bombay with some college friends, Sandeep Saxena and Anil Naidu.

Seeking Pioneering Research

Ellis was first introduced to geology in a high school geography course.

"I can't remember exactly what first appealed to me about geology," says Ellis. "But part of it was how much it relates to the natural world."

Ellis' high school experience was enough to get him interested in geology in college. The geology department at the University of Bombay offered a concentration on either petrology or hydrology. Ellis chose hydrology because north of Bombay there are major water problems.

"There isn't much water in the first place and there are a lot of

Alumni News

Obituaries

W. Arthur White, B.S. '40, M.S. '47, died August 13 in Urbana. White was a clay mineralogist and a long-time staff member of the Illinois State Geological Survey.

I. Enver Altinli, who was a visiting scholar at the University of Illinois Department of Geology in 1962 died in Istanbul, Turkey. Altinli worked with Albert Carozzi on Silurian reefs and associated carbonates.

Alumni News is divided by decade. Those who were affiliated with the Department during part of one decade through to the next are listed according to the last degree received. Within each decade, items are listed in yearly sequence, not alphabetically.

Forties

Ed Bushman, B.S. '41, writes that his daughter Mary Claire Bassett is expecting her seventh child, his eighth grandchild. His wife, Louise, is in failing health. "Friends in the community help in various ways," he writes. "One couple helped with laundry for more than a year and our church people visit. Louise can no longer stand nor walk, so is unable to move from wheelchair to our auto and we are limited to a large professional van at the local hospital... But life is good."

Fifties

Howard Cramer, B.S. '49, M.S. '50, retired from the Emory University Department of Geology in 1987 where he had also been chair for 10 years. "I had a blast!" he writes. These days he teaches adult-oriented classes in geology from time to time as part of Emory's outreach program called the Senior University. "There are lots of older folks and we have about 30 or 40 per class once or twice a year. It seems funny having students older than I am, but easier in some ways because they understand the anecdotes I tell, whereas the youngsters did not. Like stories about coal - the kids

know nothing of it! I used to take tour groups to South America, East Africa and the eastern Mediterranean. That was another great way to spread the gospel of geology."

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Paul E. Schnurr, B.S. '51, retired recently and says, "I spent my entire petroleum exploration career in the western United States: Alaska and offshore of the west coast of the USA. Unfortunately the environmentalists and politicians have nearly shut down the offshore exploration and severely curtailed onshore exploration, so retirement looked good."

Clyde Fisher, B.S. '53, is living in Lynden, Wash., where he owns and manages Quiet Springs Orchard. He notes that he and his two brothers

all graduated from the University of Illinois Department of Geology: James '42, himself in '53, and Robert '54.

Richard M. Winar, B.S. '53, M.S. '55, is the environmental concern coordinator for the Oakland County (MI) Road Commission. In this position he's the internal consultant on environmental and geological problems faced by new highway construction. "Best regards to my former classmates," he writes. "Hope the last 45 years went well for you all. I urge old friends to drop a line via e-mail. It's nice to hear about the news from people I had almost forgotten about—but never did."

E-mail: MNMG47A@prodigy.com

Norb Cygan, B.A. '54, is now adjunct professor at the University of

In Memoriam: Harold W. Scott

Harold W. Scott, professor emeritus of geology, died October 30 in Urbana. He was 92. Scott received his bachelor's and master's degrees from the University of Illinois and taught in the geology department from 1937-1967. From 1967-1974 Scott was chair of the Department of Geology at Michigan State University.

Scott's research interests focused on stratigraphy and a number of microfossils, primarily ostracoda and conodonts, and sponge spicules and foraminifera. He is also noted for the discovery of conodont assemblages.

In addition to teaching, Scott worked for H.L. and Bunker Hunt exploring for oil and negotiating leases in Libya, Egypt, Turkey, Greece, Italy, Pakistan and the Mediterranean Islands. He also published numerous articles and several books. Proceeds from his book *Sugar Creek Saga: Chronicles of a Petroleum Geologist* go into the Harold W. Scott Fellowship Fund to support outstanding graduate students. Scott also was co-author of two volumes of biographical essays, *Memorable Americans* and *More Memorable Americans*.

In 1949 Scott was a distinguished lecturer for the American Association of Petroleum Geologists, and in 1995 he received the Department of Geology Alumni Achievement Award. He was a member of the Association of Petroleum Geologists, Geological Society of America, Phi Kappa Phi and Sigma Xi.

Although he retired in 1974, Scott continued to lecture and write for many years. His interests were in the relationship of oil to the welfare of people and the impact on society of population growth.

Memorial contributions may be made to the Harold W. Scott Fellowship Fund in Geology, University of Illinois Foundation, Harker Hall, 1305 W. Green St., Urbana, Ill. 61801.

Northern Colorado. He has received the American Association of Petroleum Geologists Public Service Award and the Rocky Mountain Association of Geologists Public Service Award for work in early science education on various boards and committees, including Dinosaur Ridge Science Education Center near Denver, Co. Cygan's first wife, Carol Dunnivant Cygan (Ed.'56), died January 1992. Cygan established the Elementary Education Science Teaching Scholarship in her name at the University of Illinois College of Education. He remarried Royann Gardner in 1995. This winter, Cygan introduced several grand-nieces and -nephews visiting from Florida to the joys of snow sledding and skiing (not to mention snowball throwing!).

Bruce Bohor, Ph.D. '59, retired from the USGS but is still going into the office every day. He also has been awarded a position of Research Associate at the Department of Geological Sciences at the University of Colorado, Boulder.

Carl G. Davis, B.S. '59, retired from DACC (Danville Area Community College) this year after teaching part-time for a year. His daughter, Liz, is a senior at the University of Illinois as an English major. Two of Davis' articles have been printed by the Danville historical society. One was about his father's experiences in the Russian Civil War, where he drove a train for the American Expeditionary Forces. The other, *Noah's Barnyard and Other Geological Oddities From This Area*, was adapted from a geology book he wrote for DACC. Another of Davis' interests is building simple radios using galena crystals to detect signals. He wrote an article in a booklet titled *Crystal Set Projects*. Davis also remembers Hilt Johnson fondly. "He was a hardy soul and a great teacher. The geology world lost a wonderful person when he passed away."

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Sixties

Valentine Zadnik, M.S. '58, Ph.D. '60, retired in January 1999 after 25 years as geologist with the U.S. Geological Survey in Washington, D.C.; nine years as geologist with the U.S. Army Research Office at the Pentagon; three years as research geologist at Exxon Laboratories in Houston; and three years as geologist with the A.F. Ballistic Missile Command. He will stay in Arlington, Va., near his 10 grandchildren with frequent visits to his farm outside of Cleveland, Ohio.

Jack Donahue, B.S. '60, is a Professor of Geology and Planetary Science at the University of Pittsburgh with a joint appointment in the Department of Anthropology. He teaches courses and advises graduate students in geochronology and geomorphology. Donahue is married to Jessie G. Donahue and they have two sons, Michael and Jack, who both work with computers. Michael is a Web Master for the Department of Energy Web site.

James (Jim) Bloom, B.S. '60, retired in 1990 after 29 years with Chevron. Now he is "working on the Great American Novel, playing golf and enjoying my grandchildren," he writes. He recently moved to Fallbrook, Calif., which is between San Diego and Los Angeles. "I enjoy receiving and reading the newsletter, but it would be even more enjoyable if there was more alumni news," he adds.

Chris Heath, M.S. '63, Ph.D. '65, worked for Amoco for 26 years, retiring in 1995. His work was both "Geoscientific and also concerned a great many other activities that involved a great deal of travelling all over the world...115 countries at last count. I lived in 12 of them about 20 times in all." Now he is an honorary professor in the Department of Earth and Ocean Sciences at the University of British Columbia in Vancouver, British Columbia. "I look at ways universities and industries employing geologists and geo-

physicists can cooperate and what skills these companies want graduates to possess," he writes. "I have completed a study of the mining industry in Canada and another on the oil industry in the U.K. I am now working on mining engineering and geological engineering. I also have two other projects in the early stages of development." In his spare time he travels a lot and climbs and hikes in the mountains. "Hello to Dan Textoris!"

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Seventies

Owen L. White, Ph.D. '70, has received the Hans Cloos Medal from the Canadian National Group of the International Association for Engineering Geology and the Environment (IAEG). The presentation was made in September at the Eighth International Congress of the association in Vancouver. The Hans Cloos Medal is awarded every four years to an engineering geologist of international standing who has made significant contributions to the art of engineering geology. White is the first Canadian to receive this award. White was the founding chair of the Engineering Geology Division of the Canadian Geotechnical Society and held that position from 1974 until 1979. White, who is now a private consultant, also has been professor at the University of Waterloo and chief of the Engineering and Terrain Geology Section at the Ontario Geological Survey.

W.H. Terry Wright, Ph.D. '70, is a professor of geology at Sonoma State University. He teaches structure, "Shake and Bake" (Earthquakes, Volcanoes and Mountains), leads field classes to the east side of the Sierra and Inyo Mountains and has created educational displays for the geological attractions and wineries. "I visited Alex Maltman Ph.D. '72 in Aberystwyth, Wales, and drove with him to have lunch and tour slate quarries with Dr. Dennis Wood, our Ph.D. thesis advisor

when he was at the U. of Illinois. I have continued exploration of the West by leading an 18-day private-permit river trip through the Grand Canyon and a 12-day private trip down the Tatshenshini River, in Alaska." Check out the news stories and links on the Web: www.sonoma.edu/geology/wright/

E-mail: wrightw@sonoma.edu

H. Richard Naslund, B.S. '72, is professor and chair of the Department of Geological Sciences and Environmental Studies at the State University of New York at Binghamton. His research interests include igneous petrology and ore deposits and he is teaching introductory geology, volcanology, mineralogy and igneous petrology. "I spent the 1995-96 year as a Fulbright Scholar in Chile," he writes. "I participated in Leg 176 of the Ocean Drilling Program which involved two months of drilling into the lower ocean crust on the SW Indian Ridge. I'm currently studying magmatic iron ores at El Laco and Sierra La Bandera in Chile and Kiruna, Sweden.

Email: Naslund@Binghamton.EDU.

Deborah Bliefnick, B.S. '75, is currently a carbonate sedimentologist with BG Technology in Loughborough, England. She was previously a scientist with IKU in Trondheim, Norway.

Jerry Walker, M.S. '75, worked with Texaco after graduation, joined Champlin Petroleum in 1976 and then worked as vice president of exploration for Sterling Oil Company, a small independent firm in Colorado. From there, he went to Sierra Energy in Reno, Nev., and since 1984 has been a private consultant in the petroleum field. Walker is past president of the Nevada Society of Petroleum Geologists. Last August, he met up with George Klein and J. Roger Palomino in Venezuela (see note under "Faculty") when he was working with a French company, CCG, that had a contract with Petroleos de Venezu

Albert V. Carozzi:

The Challenge of Retirement

Since my retirement ten years ago, I have continued my efforts to rehabilitate the work of H.-B. de Saussure (1740-1799), a famous geologist of Geneva. My efforts have included a steady stream of talks and papers in English and French, and the pace of commuting between my office in our department and my other office, in the manuscript room of the Library of the University of Geneva, has accelerated greatly. I have been working on this project for 30 years.

Saussure's reputation in the history of geology is based on his lifelong exploration of the Alps described in his four-volume, *Voyages in the Alps* (published between 1779 and 1796), which inaugurated the geological study of high mountains. In reality, this was only the tip of the iceberg. As the result of unusual circumstances, Saussure's real contribution remained hidden in his numerous unpublished manuscripts kept untouched at the Library of the University of Geneva. That contribution was a fundamental principle of structural geology: large-scale horizontal thrusting in opposite directions as the mechanism of formation of the Alps and of all major mountain ranges. This discovery made him a pioneer of modern tangential tectonics.

After transcribing most of these manuscripts and checking his observations in the field, I was able, two centuries later, to unravel the path of his lifelong rigorous scientific reasoning which led to this discovery. I was joined in my efforts by B. Crettaz, the curator of the Museum of Ethnography of Geneva, together with his team of scientists and historians who were in search of a spectacular way to celebrate the bicentennial of Saussure's death. We prepared a public exhibit, *The Folds of Time, Myth, Science and H.-B. De Saussure*, which illustrates the scientific exploration and understanding of the Alps from the 15th century until today, with Saussure as the main focus. During the next two years, the exhibit will travel to the major cities of France and Italy located around the Alps. Both myself and Crettaz acted as editors of and major contributors to a 350-page commemorative volume of essays in French which develops the major scientific and philosophical themes of the history of geology.

What is next? The treasure of Saussure's manuscripts in Geneva is so rich that it contains numerous documents pertaining to another of his lifelong interests, the famous controversy on the origin of basalt during the 18th century. I am presently correcting the galleys of a 700-page bilingual volume on that subject. The challenge of retirement goes on.



ela, Inc. (PDVSA) for a secondary recovery project.

J. Roger Palomino, M.S. '64 and Ph.D. '76, returned to Peru after graduating from Illinois and then took a position in Venezuela with Lagoven, SA. In 1979 he immigrated to the U.S. and accepted a job with Amoco, where he worked until the mid-1980s. Since then, he has worked with various consulting groups in Venezuela and North America. His current client is KEFAS, a Venezuelan company. Palomino was helping them with a secondary recovery project for Petroleos de Venezuela, Inc. (PDVSA) and met up with Jerry Walker and George Klein in Maracaibo, Venezuela, last August.

Eighties

Karen J. Houck, B.S. '80, formerly at the University of Colorado, Denver, is now an assistant professor at the Department of Geology at Eastern Kentucky University in Richmond, Ky. She is co-author of a recent paper on Pennsylvanian crinoids from the Central Colorado Trough (Minturn and Belton) Formations with Gary Webster of Washington State University. This is the latest published outgrowth of her Ph.D. work at the University of Colorado, Boulder.

Kathleen M. Marsaglia, B.S. '79, M.S. '82, has become senior reservoir geologist/petrologist with Westport Technology Center International (Dresser Industries) in Houston. While at the University of Illinois, Marsaglia was a student of Albert Carozzi.

M. Scott Mansholt, B.S. '82, is an environmental coordinator at Texaco North American Production in Bakersfield, Calif.

Neil Patterson, B.S. '85, M.S. '89 (agronomy, soil science...), is landscape architect with the Forest Preserve District of Cook County. His duties include writing grant propos-

als, planning, design and management for construction and maintenance projects, which include natural areas restoration, bike trails, recreation and picnic areas, bioengineering and facilities maintenance.

Nineties

Kevin Toohill, B.S. '95, has written up his undergraduate thesis for publication which has been accepted by the journal *Physics and Chemistry of Minerals*. The paper is co-authored with Jay Bass and S. Siegesmund of ETH in Switzerland. Toohill has been a staff research scientist at the University of Wyoming for the past year and a half working for the Wyoming Water Resources Center Geographic Information Systems lab.

He successfully defended his thesis and has moved to Montana as a partner in a GIS consulting firm based in Red Lodge (southwest of Billings). "I'm making an early jump into the private sector... to see if I can keep my head above water!" he writes.

E-mail: ktoohill@uwyo.edu

In a note **Stephanie Drain**, B.S. '95, wrote to Department Head Jay Bass she says, "I have been working for the Illinois Department of Transportation for the past year as an Engineering Technician. My job is to design bituminous mixes for the roadways in the Chicago area. I guess you could say that since it involves combining crushed rock

and liquid asphalt which are essentially formed by geologic processes, it can be loosely related to my degree. Well, maybe not, but I thought I'd give it a try!" Drain travels throughout the state to different seminars and conferences. She adds, "It is important for me to say to you and the others in the department, that I learned more from our department than any other in the University. There are a lot of lessons that we learn in college, and although a lot of them come from the classes and the curriculum, the most memorable ones come from the people that we interact with on a daily basis. I honestly feel that geology is a stellar department, with an excellent staff that turns good students into great people."

Steve Sroka, B.A. '80, Ph.D. '96, is director of the Grand River Museum in South Dakota, which will open early this year. The museum, located in Lemmon, S.D., houses dinosaur material that has been collected and was being housed at the University of Illinois. The museum emphasizes the geological, paleontological, and cultural history of the Grand River region. Prior to directing the Grand River Museum, Sroka worked at the Chicago Field Museum and the University of Illinois' Museum of Natural History. The Grand River Museum also will sponsor exploration and excavation digs in the area. Participants come from all over the United States to excavate fossil remains from the Late Cretaceous.

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