Message from the Chair

As I complete my eighth year as chair of the Geology Department at Union (and two years as chair of Civil Engineering), I can safely say that last year was both one of the most rewarding and also the most draining. There are good reasons not to try to chair two departments simultaneously! Although Civil Engineering once again took up a disproportionate share of my time, there were also a number of absolutely essential tasks in Geology which required my attention. While the results for Geology were very satisfying, I was often stretched to the limit.

At the top of the Good News list is the recent announcement from the Olin Foundation that they will grant $9 million to Union College for the construction of a new classroom/laboratory building which will also be the new home for the Geology Department. Geology will be the only department in the building, and will occupy most of the third floor. The Director of the Environmental Studies Program (currently Kurt Hollocher from the Geology Department) will also have an office in the same area as Geology. Our successful proposal comes after more than two years of effort in working with the Olin Foundation, and after a much longer wait for much needed facilities for Geology. Based upon early drawings made in support of our proposal, the long wait has been worthwhile! You can see an artist’s sketch of the new building elsewhere in this newsletter.

Once again, John Garver spent about a month in Kamchatka doing field work in an effort to understand the Cenozoic tectonics of the region. This time he took along one student, Mike Bullen, and a recent alumnus, Andy Frisbie. After much frustration in trying to obtain visas, they were able to take off for a month in some of the most fascinating terrain in Russia. Don Rodbell’s fieldwork this year was somewhat further south than last year. He took one of our seniors, Jeremy Newman, for a month of coring lakes in central Peru. They returned with tens of meters of core which will form the basis of at least one senior project this academic year. I would like to emphasize that the great success enjoyed by the Geology faculty in obtaining external support for faculty research has provided our students some marvelous opportunities for senior thesis projects, including travel to some incredible geologic locations. Kurt Hollocher participated in an NSF sponsored workshop on innovative approaches to teaching mineralogy. He made a presentation to the workshop in which he discussed model building as an aid to understanding crystal structures, and he came back with ideas to further excite our students in the study of this often arcane area of geology. Sharon Locke, who joined us last year as a visiting assistant professor, has taken a new position at Bates College. She recently married a former member of the coaching staff at Union, Jim Crick, who has also found a new job in Biddeford, Maine. Those of you conversant with the history of the Geology Department will recognize this
town as the birthplace of E.S.C. Smith! We will miss Sharon, as she had developed, with funding from NASA, a new course in Earth System Science.

My own hopes for spending a month hiking in the Grand Canyon, and studying some geologic sites in the Proterozoic sedimentary rocks, were stymied when my application for a back-country permit was too late. This turned into a blessing a few weeks later when I learned that I would have the opportunity to row a rubber raft through the Grand Canyon on some of the most exciting white-water in the world. This was to be my eighth raft trip down the Colorado River, and the most exciting of the lot. I had a position as a "baggage boatman", rowing alone in an 18 foot raft, while passengers were transported by experienced guides on the other rafts. Included in the "baggage" were seven sealable containers, which started out empty, and were filled by the end of the trip! Among the passengers on the trip were a geology professor from the University of Texas at Austin, with whom I had some interesting conversations among the Proterozoic units of the Unkar Group. I gave a number of brief lectures on geology at stops along the way, and was very pleased with the attentiveness of my "students".

I returned to the Canyon near the end of August leading the second half of the Department field trip to the Western Interior U.S.. Sharon led the first part of the trip from Schenectady to Salt Lake City, where they met me. Sharon flew back to a NASA sponsored conference in West Virginia, and I led the rest of the trip through Utah, northern Arizona, Colorado and back to Schenectady. We had nine students on the trip, including an exchange student from Poland. The trip was partly supported by the Field Geology Fund.

In June we graduated four Geology majors, one Geology-English interdepartmental major, and three MA-Teaching majors (two of whom were Geology graduates the previous June.) During the summer the College held a new summer orientation program for incoming freshmen. I am pleased to say that in the incoming class we already have FIVE Geology majors! The number of geology majors will probably exceed thirty by the end of the year, if not before then. Geology at Union has really come of age after its rebirth. I am proud of what my fellow faculty members, staff, the administration, and our students and alumni have been able to accomplish in less than ten years. There is still work to be done, but we already have one of the finest undergraduate Geology Departments in the country, and we will only get better in the years ahead.

Next year promises to be almost as busy as the past year, but it will be somewhat easier as I have resigned my position as chair of Civil Engineering. The work involved in planning the new Olin Building will be very time consuming, and I would not have had enough time to give necessary attention to chairing an additional department. There will also be a search for a visiting assistant professor in geology, to replace Sharon. I have agreed to stay on as chair of Geology to see the construction of the new building through to completion. This means another year delay in my sabbatical leave. I will be spending a good deal of time on the detailed design work on the new building. We hope to have the final construction plans ready for the bidding process by the middle of February. This is a somewhat optimistic schedule for this kind of building, which implies an extraordinary effort to get the work completed on time. If all goes according to schedule we should be breaking ground next summer, and we hope to be able to move into our new home in September of 1998.
New Graduates

Kevin Allison completed his studies toward a Master's Degree in Teaching. His M.S. Thesis was under the direction of Don Rodbell and was entitled: "The Sedimentologic History of Collins Lake, Scotia, New York". He is teaching at Gloversville Middle School.

April Bemis completed her study toward a Master's Degree in Teaching. Her M.S. Thesis title was "The Geochemistry of the Upper Hudson River, from Hadley to Holmes Hill, N.Y.". She is teaching earth science at Corinth High School.

Adam Goodman completed his thesis, "Glacial Geology and Soil Catena Development on Moraines in Las Cajas National Park, Ecuador" under the direction of Don Rodbell. He is attending graduate school at Syracuse University.

Shane Holunga is in Boston having completed a thesis under John Garver on: "Fission-Track Analysis of Apatite from the Spuzzum Pluton and Adjacent Rocks in the North Cascade Range, British Columbia and Washington."

Jeffrey Nebolini is currently travelling in Europe following completion of his thesis: "Geochemical Fingerprinting of Tephra Layers Preserved in Lake Cores in Las Cajas National Park, Ecuador" under the direction of Don Rodbell.

Chris Sears is working for Coopers-Lybrand in Boston, MA. His senior thesis was with John Garver on "Trace Element Chemistry of Shale and Sandstone Composition of the Ukelayet Flysch, Koryak Highlands, Northern Kamchatka, Russia."

Geology Advisory Committee formed

A new Geology Department Advisory Committee has been formed to help us identify and capitalize on opportunities for our students, to help keep the Department aware of trends in geosciences, and to increase our opportunities for useful interchanges with the various parts of the geologic community. The initial members of the committee are all geology alumnae: John S. Wold '38; Donald M. Hoskins, '52; Caryl E. Buchwald, '60; John E. Dreier, Jr. '64; Gaela Schweizer, '95; and Jeffrey Jiamperetti '94. The first meeting of the committee will take place during Homecoming Weekend, on October 25.

Donors to the Field Geology Fund

We have started to make use of the income from this fund in support of field trips and field work. The fund is still not large enough to support scholarships for students attending field camp. The two trips which received some support from the fund this year were the Bahamas Trip which is part of the course in Carbonate Sedimentology, and Geology 150, which this year included a trip to the Western Interior of the U. S.

John Dreier '64
Alumni Notes

This space is reserved for news from the alumni. I had more material in here, but somehow it was erased from the computer file and I was not able to reconstruct it. I know most (probably all) of you have something of interest to let your fellow geology alums know about what you have been doing. Please pass along the information to me using the enclosed card. You could also send me email:

shawg@kaibab.geology.union.edu

The New Olin Building

I expect that there will be a ground-breaking ceremony next Spring when we begin construction of the new Olin Building. Many of you live close enough to attend the start of construction of the new home for the Geology Department at Union College. I do not have a date yet, but I would like to hear from any of you who might be interested in attending this event. It is likely that it will be in April or May. I'll send an update when I have more information.

The new building will have about 6,500 square feet allocated to the Geology Department. In addition, Geology will be a major user of two modern classroom and laboratory spaces for introductory and advanced courses. We will also share space in other specialized
laboratories in the building. Among the spaces available to the Geology Department are the following:

Faculty and general office space.
Clean laboratory and instrument room for chemical analysis.
Sedimentology Laboratory.
Core analysis laboratory.
Seismograph Room
Map Room.
Fission Track Laboratory
Laboratory Shop.
Cold room for core storage and for work under sub-freezing conditions.
Mineral Separation Laboratory.
Rock Preparation Laboratory

In addition, there will be spaces on each of the four floors for displays of minerals, fossils and rocks from the collections of the Department.

Check us out on the WEB!

The Union Geology Department is now on the World Wide Web. You can find the Union College Home page at "http://tardis.union.edu" and the Geology Department's home page is "http://zircon.geology.union.edu". If you are not yet into the Web, you can get to our gopher site from the directory at "gopher.union.edu". If you can only handle email, email us at "shawg@kaibab.geology.union.edu" or "garverj@zircon.geology.union.edu" If you don't know what any of this means, and you still want to find out more about the Department, give us a call the old fashioned way at (518) 388-6310.

Field Trips

Field work in the Peruvian Andes with Don Rodbell

For the second year of our ongoing research project on the glacial history of the tropical Andes, we traveled to northern Peru. This year our objectives were to core lakes in three areas of the Peruvian Andes to acquire continuous sedimentary records of the last deglaciation. Published studies from two of these three regions report compelling evidence for a climatic oscillation similar in timing and magnitude to the Younger Dryas event (11-10 14C kyr BP) of the North Atlantic region. Our main goal is to date this event in the tropical Andes and to document more fully the climatic change that occurred during this interval.

This year's team was composed of Professor Don Rodbell and Jeremy Newman ('97) of Union College, Professor Geoff Seltzer and Woody Mark (Ph.D. candidate) of Syracuse University, and Professor Mark Abbott of UMass, Amherst. Our travels took us to Laguna Junin (13,100'), the Cordillera Oriental, which reaches an elevation of about 14,800', and the Cordillera Blanca,
which with numerous summits over 20,000' is the most extensively glacierized range anywhere in the tropics.

In short, our expedition was very successful. Over 150' of core were acquired, the weather was great, and with the exception of a few cases of high-altitude-induced illnesses nobody got sick - a rarity for gringos in Peru!

**John Garver and students return to Kamchatka**

Back to Russia for **John Garver** and students to work on the Collision of the Olutosky arc! This last summer John took two students (**Mike Bullen '97** and **Andrew Frisbie '96**) to the Northern Kamchatka Peninsula in the Russian Far east. This was John's fourth trip to Russia and he is starting to feel pretty comfortable with the logistics and travel. This field season concludes a 2 year NSF-funded project to examine the timing and kinematics of the Olutorsky collision zone. This collision zone extends for over 3,000 km, but is only well exposed, and not overprinted by young volcanics, for about 500 km in the study area. The timing of collision is important because some models for the evolution of the northern Pacific ocean suggest that this collision stopped up subduction along the Beringian margin and forced the initiation of subduction to form the Aleutian islands. Thus far data from his research group suggests that collision was oblique and occurred in the Late Eocene - a relation to the establishment of the Aleutians is likely. John and his colleague Mark Brandon at Yale university will probably continue working in Northern Kamchatka in the near future. In the meantime, John has been funded by the NSF to examine rates of erosion in the Southern Alps of New Zealand. This project, entitled **Regional Denudation History of the Southern Alps, New Zealand, Determined from Fission-track Ages of Detrital Apatite and Zircon** will examine the ages of detrital apatite and zircon shed from the rapidly rising southern Alps. John's host in New Zealand will be Peter Kamp at the University of Waikato, in Hamilton New Zealand. John and his wife Jacquie Smith will spend 8 months at Waikato during John's sabbatical leave.