



Lou Maher at Parfrey's Glen

### Clay Kelly

"Out with the old and in with the new!" The passing of 2002 saw the successful completion of several research endeavors, and the beginning of several others. **Rebecca Tedford** presented the results of her Master's thesis research at two national meetings this past year. Rebecca has been using deep-sea cores recovered from the Tasman Sea to document regional microbiotic and sedimentological responses to a worldwide change in carbon cycling that occurred roughly seven million years ago during the late Miocene. Rebecca's research will be published in a forthcoming *Geophysical Monograph Series* devoted to the history of the Southern Ocean.

**Liz Leslie** has kicked off her PhD research investigating conspicuous clay-mineral assemblage changes reserved in the Williston Basin of western North Dakota. We believe that the clay-mineral assemblage changes reflect intensified chemical weathering of continental rocks during a short-lived pulse of extreme climatic warmth. This transient warming took place approximately 55 million year ago at the close of the Paleocene epoch and had profound consequences for the global biosphere, affecting everything from deep-sea microorganisms to large land mammals. Of particular interest, is a major perturbation to Earth's global carbon cycle that coincided with this warming event. The geochemical fingerprint of this carbon cycle perturbation is recorded in marine carbonates, pedogenic (soil) nodules, organic carbon, and the enamel of land mammal teeth; clear evidence that the Earth's atmosphere, hydrosphere and biosphere were all affected. The amplitude (~4 ‰) and abrupt nature (<10<sup>4</sup> years) of this isotopic excursion cannot be explained by conventional carbon cycling models, and it is now believed to signify a catastrophic release(s) of massive quantities (1.4 to 1.8 X 10<sup>18</sup> grams) of methane from the seafloor. Liz will be working with **John Valley** and **Mike Spicuzza** in an attempt to detect this geochemical anomaly in fossil plants found in her study area. Documentation of this geochemical anomaly will permit Liz to correlate the clay-mineral assemblage changes seen in western North Dakota with other geologic records around the world! Liz is also collaborating with **Brad Singer** and **Mike Smith** on obtaining a radioisotopic age for a late Paleocene

Bentonite/tuff preserved throughout the northern sector of Teddy Roosevelt National Park in western North Dakota.

Three promising, hard-working undergraduate majors (**Adam Eisenach**, **Mark Hage**, and **Peter Gill**) have joined our micropaleontology group, and are actively researching various aspects of biotic evolution in the marine microplankton.

As for myself, I've managed to clear off my desk three papers, two dealing with microplankton responses to ocean/climate change, and a third on glassy microspherules most likely formed by a meteorite impact. I will have also been invited to participate as a shipboard scientist on an upcoming Ocean Drilling Program cruise. ODP Leg 208 will be drilling deep-sea sedimentary sequences along a depth transect atop the Walvis Ridge in the southeastern Atlantic Ocean. We hope to recover spectacular records of some of the major events in Earth history, most notably the Cretaceous/Tertiary boundary (i.e. the mass extinction that brought an end to the reign of the dinosaurs), Liz's Paleocene/Eocene boundary event, and Earth's transition into its "ice-house" climatic mode at the Eocene/Oligocene boundary.

On the teaching front, I've enjoyed lecturing for Survey of Oceanography, Geobiology, and Micropaleontology (that's right **Dr. Clark**, micropaleo's back). I am looking forward to co-teaching a summer field excursion to Dinosaur National Monument in Utah with **Basil Tikoff**. I would also like to personally thank **Dana Geary** and **Charlie Byers** for graciously agreeing to teach the second half of Geobiology this semester while I am out sailing on the high seas.

### Louis J. Maher

It was just yesterday that I sat down at my desk in 70 Science Hall. The new microscopes that **Stan Tyler** had ordered while I was in Cambridge were on the bench behind me, and as soon as **Brad Macurda** finished his blastoid dissertation and graduated, I was going to convert his adjacent office into a pollen lab. The phone rang but it was for **Bull Bailey**; we shared a party line. I pushed a button on the wall to let him know he should pick up the receiver. He would do the same if he answered, and it was for me. (Only later did I discover his button that summoned me was labeled "boy.")

**Bob Dott** had been anxiously waiting for my arrival because I was to take over his duties of directing the department's teaching assistants who handled the Geol. 1a labs for **Con Emmons** and **Lowell Laudon**. Almost a thousand students a year were taking those labs, and that required devising eleven different routes for the Baraboo field trip so the buses did not jam up on the same outcrop. I was lecturing in Geol. 17, and to learn the secrets of the master teachers, I sat in on both 1a lectures. They were absolutely different; I was amazed that the students of both thought they were great. Chairman **Lewis Cline** had arranged for me to take the summer field course in the Rocky Mountains with **Dick Paull** and his Milwaukee students. **Bob Gates** and **Gene Cameron** provided good suggestions for things to do and see. **Charlie Schweger** was taking my pollen course, and it looked like he was going on the summer course too, so we arranged to share the green state-owned station wagon. The other students were trying to share rides with someone who had a car. There were four students in each tent that was just large enough to hold four sleeping bags on the floor.

It was just yesterday—forty-one years ago. During those years I have had the enthusiastic help of some 200 able TA's. I suppose I have lectured