



Graveyard Geology

The Geological Society of America (GSA) is pressing cemeteries into service as global climate monitors. This month, the society invited the public to measure gravestones to gain data on air pollution and climate change since the Industrial Revolution.

White marble gravestones are highly susceptible to erosion from acid rain. Because they bear dates, the stones can help scientists infer a region's climate and pollution history, says GSA's education director, Gary Lewis, in Boulder, Colorado. Marble headstones are mainly a Christian tradition, so Lewis expects the data to cluster in the Americas, Europe, and Oceania.

To participate, you'll need a GPS device to record a marker's coordinates and a micrometer to measure its weathering. That's easy in places such as the United Kingdom and Australia, where inscribed letters on headstones are often filled with lead that starts out flush with the stone and stays in place as the marble wears away. Lacking that clue, weathering can be measured by comparing the thickness at the stone's top and bottom.

Participants will log their data into the project's Web site (www.goearthtrek.org/Gravestones/Gravestones.html). Lewis says that after 2 years, GSA will create a global map to provide data for climatologists. Thomas Paradise, a geomorpholo-

A FACE FOR PHINEAS GAGE

A 19th century photograph of a one-eyed man proudly holding an iron spike is causing a stir among neuroscientists. The unlabeled photo, held for decades in a private collection, turns out to be the only known image of Phineas Gage, the railroad worker who suffered one of the most famous brain injuries in medical history.

In September 1848, an explosion in Vermont drove a 100-centimeter tamping iron through Gage's skull (*Science*, 20 May 1994, p. 1102). A doctor saw "half a teacupful" of brain spill from the opening. Amazingly, Gage recovered, albeit with a radical change in personality, from personable and conscientious to irascible and rude.

Scientists have always wondered whether Gage's injury caused other mental problems. But this picture "confirms the popular accounts," says Johan Carlin, a neuroscience Ph.D. student at the University of Cambridge in the United Kingdom, and creator of The Phineas Gage Fan Club blog. "It is encouraging to see that he was indeed well enough to pose for a picture," Carlin says. "The pose with the iron rod is consistent with popular accounts that he toured as part of a freak show after his recovery." Carlin adds: "It's amazing to finally be able to put a face to the story."



gist at the University of Arkansas, Fayetteville, calls the project "a great idea, long overdue."

Turning Rejection Into Success?

Are piles of unwanted lemmas and corollaries collecting dust in the depths of your office? Send them to *Rejecta Mathematica*, a new

open-access online journal launched to publish mathematics papers that other journals won't. Mark Davenport, a Ph.D. student in electrical engineering at Rice University in Houston, Texas, says he and a colleague dreamed up the journal while discussing a rejected paper they had written about card counting in blackjack. "We realized this could be the sort of paper that people might find interesting and educational but also might have no natural home among existing journals," Davenport says.

"I think it's an entertaining way to publish some decent papers that haven't been published for whatever reason," says Richard Thomas, a geometer at Imperial College London, who sits on the editorial board of the peer-reviewed journal *Selecta Mathematica*. Rejected mathematical papers are already available on the Web, Thomas notes. But he says that if the new publication can encourage serious comments and "help the refereeing process while filtering the nutters, then this should be watched with interest." Davenport agrees that maintaining standards is key: "We do not intend to provide a home for the world's mathematical cranks."

No wolves have trod the Scottish Highlands for more than 250 years. Meanwhile, the local red deer, with no natural predators, have been grazing the hillsides bare. So the Scots have been talking about reintroducing the gray wolf. Now a U.S.–Australian research team says the experience of Yellowstone National Park in the United States shows that wolves might help restore Highland ecology—not just by eating deer but also by creating a "landscape of fear" that would alter deer behavior.

William Ripple, a professor of forest ecosystems and society at Oregon State University in Corvallis, says the return of wolves to Yellowstone in the 1990s after a 60-year absence brought an unforeseen bonus: Many plant and animal populations rebounded as elk—the same species as Highland deer—started avoiding areas where they might run into wolves (*Science*, 27 July 2007, p. 438). In a paper in press in *Biological Conservation*, Ripple and colleagues recommend a large-scale wolf-and-deer experiment, perhaps on an island.

Timothy Coulson, a population biologist at Imperial College London, thinks wolves in Scotland could exert the same ecological impact as wolves in Yellowstone did. But testing the idea would take a lot of land, he notes: The average wolf needs about 260 square kilometers of roaming room.

