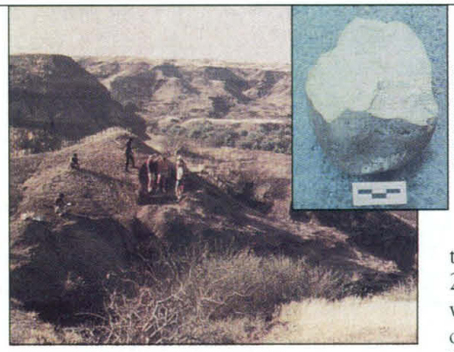
RANDOM SAMPLES

edited by CONSTANCE HOLDEN

The First Tool Kit

Scientists have discovered stone tools in Ethiopia that were made 2.5 million to 2.6 million years ago, making them the "oldest known artifacts from anywhere in the world," according to Sileshi Semaw, a paleoanthropologist at Rutgers University in New Brunswick, New Jersey. The age of the tools, obtained using two different dating methods, pushes back the earliest manufacture of tools by at least 250,000 years to a time when the first members of our genus, *Homo*, are thought to have arisen in Africa, according to a report in the 23 January *Nature*.

Scientists say the dating of the soil around the artifacts, unearthed in the Gona River drainage of the fossil-rich Awash River Valley, included a method known as argon-argon single-crystal laser fusion, which confirmed that layers of volcanic minerals at the site were reliably dated. The 3000 tools range from thumb-sized flakes to fist-sized cobblestones and are surprisingly sophisticated, says University of Liverpool paleoanthropologist Bernard Wood—especially in view of the fact that some researchers doubted that humans were sophisticated enough to make tools before 2 million years ago. But the Gona River tools had sharp edges for cutting or digging up food—a hallmark of the Oldowan style that persisted with little change until about 1.6 million years ago.



SILESHI SEMAW

Stone work. The oldest known stone tools *(inset)* have been uncovered at Gona, Ethiopia.

Who made them? One clue comes from a nearby site at Hadar where similar Oldowan tools were found in 1994 near the 2.3-million-year-old upper jaw of what is probably an early member of the genus *Homo* (*Science*, 22 November 1996, p. 1298). Semaw and other paleoanthropologists plan to return to Gona this year to see if they can find fossilized remains of the individuals who made the world's oldest tools. Information on the find is on the World Wide Web at http://uc.rutgers.edu/medrel/gona.html

USC Suit Gains Supporters

Six more members of the basic science faculty at the University of Southern California (USC) School of Medicine in Los Angeles have joined in a lawsuit claiming the university has breached the contracts of tenured professors with its salary-reduction plans (*Science*, 29 November 1996, p. 1471). Plaintiffs now number 23, about 60% of the tenured basic science faculty. Depositions began last week.

University officials, who have termed the suit "frivolous and irresponsible," say the medical school is in debt and needs restructuring. They have moved to reduce salaries by 25% by converting annual contracts from 12 months to 9 months.

Many professors' salaries are financed in part or in toto with grant money. If someone loses a grant, the university makes up the difference until more funding is obtained. New proposals, aired last month by medical school dean Stephen Ryan, could drastically reduce the university-guaranteed salary to 20% of the 12-month amount. The university then wants to supplement these salaries based on grants obtained or hours spent teaching. "Unlike their colleagues in non-research disciplines, basic science faculty have an excellent opportunity to earn back that salary reduction—and more—through research grants," it explained in a 7 January statement.

The litigants' Los Angeles lawyer, Jeffrey Kramer, argues that the proposals run "counter to academic freedom," and many in the medical school community agree. On 7 January, 43 professors sent a letter to the campus newspaper accusing university officials of being "deceitful" and showing "contempt for the principle of collegial governance" in their restructuring plan. Then on 13 January, the School of Medicine Graduate Students Association unanimously endorsed a declaration that "in its current form" the plan will chase away superior faculty, imperil teaching quality, damage the school's reputation, and "trivialize" tenure.

USC general counsel Bob Lane says the salary proposals aren't so bad, because professors would get the minimum only if they did no teaching and had no grants. But, he admits, "It's a very difficult time. ... Change is threatening."

Money for Extremophiles

Whether or not those wormlike things were in fact signs of life on Mars, they have helped boost interest in the study of organisms living in unlikely environments such as glaciers, volcanoes, salty deserts, and deep-ocean vents. The U.S. National Science Foundation (NSF) has launched a special competition, LExEn (Life in Extreme Environments), which will shell out $6 million for approximately 20 multidisciplinary projects lasting from 2 to 5 years (*Science*, 20 December 1996, p. 2001).

Mitchell L. Sogin, a molecular evolutionist at Woods Hole Marine Biological Laboratory in Massachusetts, is eager for the chance to get a grant. "The diversity of microbial species is absolutely unknown," he says. Sogin, who points out that extreme environments include not only natural but unnatural ones, wants to see what may be flourishing in industrial waste pools or mine tailings.

The new research initiative, says NSF, will not only help scientists figure out how life originated, but "may be the most effective path toward detecting and understanding" extraterrestrial life.

ISTP PROJECT

Storm from space. A massive cloud of magnetized solar gases erupted from the sun on 6 January and rushed toward Earth at 450 kilometers per second. The intense radiation from the magnetic storm, which arrived on 11 January, may have been responsible for the demise of a $200 million Telstar satellite that fell silent the same day, according to scientists at Los Alamos National Laboratory in New Mexico. The event was not unusual but was the first one to be monitored from start to finish by satellites and ground-based facilities around the world. The giant billow briefly pressed on the Earth's magnetosphere (see image) and raised energy levels in Earth's radiation belts 100-fold before passing on.