# ANTHROPOLOGY

## The giant gelada murder mystery . . .

Something strange happened at Olorgesailie, Kenya: Ninety giant gelada baboons *(Theropithecus oswaldi)* died there under mysterious circumstances sometime between 400,000 and 700,000 years ago. All of their fossil remains were found in one small area — about 15 meters in diameter. And each of the animals had been bashed over the head, probably with one of the many large (nearly 3½ pounds) stone handaxes that still can be found in the area. This site may hold the first evidence of systematic butchering of nonhuman primates by hominids.

Pat Shipman of Johns Hopkins University led the expedition that found the gelada remains. "In terms of the fossil record," she says, "our data represent an odd and unique incident for which we have no real explanation. We know that hominids living around that time hunted antelopes, pigs, hippos, and elephants, but we have no evidence that the hunting of other primates was going on anywhere else." Other members of the expedition were Wendy Bosler of St. Thomas Hospital in London and Karen Lee Davis of the State University of New York at Binghamton. Their find is reported in the June CURRENT ANTHROPOLOGY.

Although the researchers admit that they have no "real explanation" for what happened at Olorgesailie, they do have enough clues to suggest what might have happened. Most of the animals, for instance, were juveniles, and the male to female ratio was one-to-one. If a whole troop of baboons had been massacred or killed by some natural disaster, the age and sex distributions would have been different. (In modern baboon troops a dominant male drives off the younger males as soon as they reach maturity, leaving a predominance of females.) The age and sex of the dead geladas, as well as the distinctive breakage of the skeletal remains, says Shipman, suggest that the animals were hunted, killed and taken to the site to be butchered.

But hunting and killing giant geladas would not have been easy. They were "horrific" animals, explains Shipman. They were at least as large (about 150 pounds) as the hominids of the time, were very aggressive, had large, sharp teeth and probably lived in protective social groups. So why hunt them when there were many other animals in the area that would have been easier prey? Shipman suspects some sort of ritualistic behavior. "Perhaps," she says, "the hominids at Olorgesailie were engaged in a seasonal or ceremonial event, perhaps killing and butchering a giant gelada was part of a rite of passage, or perhaps the giant gelada was a favorite food. Whatever the explanation, these acts smack of something terribly human, which although foreign to our behavior may have been common to them."

## and possible evidence for meat eating

Butchering baboons may have been rare half a million years ago, but Shipman and her colleague Richard Potts of Harvard University think that hominids may have been using stone tools on animal tissues at least 1.79 million years ago. In the June 18 NATURE they describe using scanning electron microscopy to compare marks and scratches on fossil bones with marks produced by known causes (such as gnawing by animals) on modern bones. Numerous fossils from Olduvai Gorge, Tanzania, had cutmarks that the researchers say were made by hominids using stone artifacts. In the same issue of NATURE Henry T. Bunn of the University of California at Berkeley suggests that such behavior may date back 2 million years. He examined (without a microscope) fossils from Olduvai and from Koobi Fora in Kenya and found what he calls "direct evidence of early hominid butchering and marrow-processing activities." This, he concludes, seems to imply significant hominid feeding on animal tissues. Shipman is more cautious, and suggests that the hominids could have been skinning the animals for hides and tendons.

# SCIENCE & SOCIETY

## Infant formula debate focuses on U.S.

The U.S. House of Representatives condemned on June 16, in a vote of 300 to 100, U.S. opposition to an international code for marketing infant formula in developing countries (SN: 5/30/81, p. 340). Rep. Clement Zablocki (D-Wisc.) described the vote as "a simple statement of disappointment." The next day a San Francisco-based law firm — Public Advocates — filed a 150-page petition with the Food and Drug Administration and Department of Health and Human Services.

Statistics indicate substitution of infant formulas for mother's milk is on the rise among lower-income U.S. women, the petition notes. It asks FDA to require better labeling of instructions for formula use, including the use of clear graphics aimed at non-English-speaking consumers. HHS is asked to prohibit any hospital receiving federal funds from distributing free promotional samples of infant formulas and to encourage all new mothers to attempt breast feeding. Public Advocate's Angela Blackwell expects formal responses from both agencies. She added that at least FDA would probably also ask to hold public hearings on the issue.

## Workers win in cotton-dust ruling

The Supreme Court dealt Reagan administration regulatory-reform strategists a sharp blow last month with its precedent-setting cotton-dust ruling. The result of the Court ruling will be to send Reagan's reform strategists back to the drawing board in search of other justifications for relaxing health regulations.

A move has been underway for several months to relax many existing federal standards limiting a worker's exposure to toxic substances. Costs of shielding employees from workplace hazards were to be weighed against resulting health benefits. If costs of filtering toxic substances from the workplace seemed disproportionately high, when compared with the health benefits accrued, a safety standard might be lowered. And the Occupational Safety and Health Administration's 1978 cotton-dust standard was among those targeted to undergo such a cost-benefit review. But in a five-to-three decision, the high court upheld OSHA's right to ignore cost-benefit analyses when setting health standards for workers exposed to cotton dust in the textile industry.

(One in twelve employed or retired cotton-mill workers — 35,000 in the United States — suffer from "brown lung" disease, a severe form of byssinosis, caused by the inhalation of cotton dust. Another 65,000 suffer less severe forms of the potentially debilitating respiratory disease.)

In upholding a lower court ruling against petitioners — which included the American Textile Manufacturers Institute and National Cotton Council of America — the Supreme Court noted that the Occupational Safety and Health Act of 1970 requires OSHA standards for toxic materials or harmful physical agents to "most adequately" assure, "to the extent feasible" and "on the best available evidence" that no employee will suffer material health impairment.

The key word is *feasible*. Court petitioners had contended that the cost of implementing safety-control measures should factor into what is deemed feasible, reasoning that affected firms might become unable to compete economically in the marketplace if the costs were too high. But writing for the majority, Justice William Brennan claimed that even the legislative history of the Act's development confirms that "Congress meant 'feasible' rather than 'cost-benefit' when it used the former term," and added that "Congress understood that the Act would create substantial costs for employers, yet intended to impose such costs when necessary to create a safe and healthful working environment."