simply too irregular, he says. Dena Dincauze of the University of Massachusetts at Amherst, who has visited the site, agrees. "The stone pieces do not show the kinds of scars that are typical" of human artifacts, she says.

Such doubts might be harder to sustain if MacNeish's most dramatic piece of evidence holds up: what looks like a human palm print on a fragment of fire-baked clay, 27,900 years old according to a carbon date from nearby charcoal. Like a prosecutor flourishing clinching evidence to a jury, MacNeish told his AAAS audience that Ontario Provincial Police fingerprint experts have examined the clay impression and declared that it is "consistent" with a human palm print. The palm print, says MacNeish, proves he has caught pre-Clovis humans red-handed.

But the doubters don't think the print proves anything—it may not be human, they say, and if it is human it may not be ancient. Paul Martin, a paleoecologist at the University of Arizona, says it's time to use the scientific method to resolve the Orogrande issue: Let another archeologist take a close look at the site. "If more digging is done, it should be done by an independent operator.... Scotty [MacNeish] is acting as a jury as well as a prosecutor."

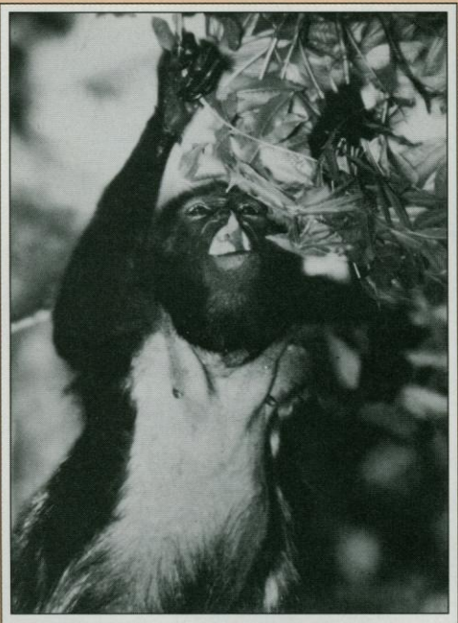
MacNeish has a different idea. The day after his talk, he said, he was planning to be back at Orogrande, digging even deeper. The Clovis-firsters haven't heard the last from him, he vowed as he left. "We're going to get a lot more evidence before we're through." ■ TIM APPENZELLER

Plants of the Apes

Harvard University anthropologist Richard Wrangham was in the Gombe National Forest in Tanzania at dawn one day watching chimpanzees, when he saw a strange sight. Instead of heading for nearby fruit trees for their first meal of the day, some of the chimps walked for up to 20 minutes to breakfast on a plant called *Aspilia mossambicensis*, a member of the sunflower family. Could *Aspilia* be a nutritious, chimp delicacy—something they craved every so often? Not by the looks of this group: The chimps wrinkled their noses as they swallowed the leaves whole. To confirm his observation, though, Wrangham tried a leaf himself: "It's extremely nasty to eat," he says.

If the chimps were going to so much trouble first to collect and then to ingest these leaves whole, then the leaves must be special, reasoned Wrangham. So he sent samples of leaves collected from the plants and from chimp dung to biochemist Eloy Rodriguez of the University of California at Irvine for analysis. Rodriguez found that the undigested *Aspilia* leaves were high in a red oil called thiarubrine-A, which kills fungi and parasites, including tiny worm-like nematodes. "Chimps are loaded with all kinds of nematodes," says Rodriguez. "This would be a very effective agent against them." That prompted them to ask, were the chimps using the forest as a medicine cabinet, ingesting plants as needed to cure their ills? And with that question, an intriguing subdiscipline was born: "zoopharmocognosy."

Last week, at the AAAS annual meeting, a half-dozen researchers came together in what was the first-ever symposium on zoopharmocognosy. There were several reported cases of chimpanzees ingesting plants capable of settling their stomachs, as well as ridding themselves of parasites. One primatologist, Karen Strier of the University of Wisconsin at Madison, even postulated that some species of monkey regulate their fertility through judicious dietary practices. And primates aren't the only animals practicing medicine without a license: Researchers are finding signs that bears, cats, and dogs treat themselves with plants.



KENNETH GLANDER

Sex selection. *Howler monkeys may influence their offspring's sex with diet.*

At the symposium, Kyoto University primatologist Michael Huffmann recounted his experience with a lethargic female chimp in Tanzania's Mahale Mountains National Park. Within 24 hours of sucking the juice from the pith of the *Vernonia amygdalina* bush, her health improved significantly. But does that prove she knew that the bitter juice may contain an antibiotic? Tanzania's human natives appear to know it: They use it as a drug to treat parasites and disease. Both Huffmann and Wrangham speculated that chimps may even anticipate when they need a dose of preventive medicine: They presented data showing that chimps use medicinal plants more during the rainy season, when they are more susceptible to pneumonia and other ailments. Preliminary data also indicate that chimps infested with more parasites ingest the medically useful plants more often than their less-infested brethren.

But the data that are most startling were those gathered by Strier. She reports that muriqui monkeys in Brazil may be reducing their fertility after giving birth by ingesting leaves that contain isoflavonoids, a compound structurally similar to estrogen. On the other hand, when they are ready to have offspring, she has noticed that they appear to eat more of a legume called the "monkey ear" that produces a steroid that could enhance fertility. And this may be only the beginning: Duke University primatologist Kenneth Glander has a theory that howler monkeys in Costa Rica may even influence the sex of their offspring by eating plants that can alter the electric potentials in howler vaginas, creating an environment that would assist negatively charged, male-producing sperm. Glander admits his work needs confirmation in the lab.

Whether he succeeds or not, this new breed of researchers may have shown that Hippocrates was a relative newcomer in the medical world. Says Wrangham: "The fact that chimps are self-medicating from the time we have split from them means that the history of the use of medicine goes back at least 5 to 6 million years." ■ ANN GIBBONS