FUNDING CRISIS

Clash With Billionaire Costs Anthropology Institute Dearly

This should have been a banner year for the Institute of Human Origins (IHO) in Berkeley, California. Scientists at IHO, founded and presided over by anthropologist Donald C. Johanson, discoverer of the famous 3-million-year-old "Lucy" skeleton, published not one but two major papers in the first quarter of 1994. The first, appearing in *Science*, pushed back the arrival time of early human ancestors in Asia by 1 million years—a discovery by geologist Carl Swisher that fired the public imagination enough to prompt a *Time* magazine cover story. Shortly thereafter, Johanson and his colleagues reported in *Nature* that they had found the first nearly complete adult skull belonging to Lucy's species. And Johanson himself was in living rooms across the country, narrating a NOVA TV series on human evolution.

But just as the 12-year-old institute seemed to be coming into its own, it has split apart. At a hastily scheduled board meeting on 3 May, San Francisco billionaire Gordon Getty, a longtime patron of evolutionary studies and the IHO's single largest donor, called for Johanson's resignation, charging the anthropologist with mismanagement of staff and institute finances. When the motion was defeated by a 9-to-4 vote, Getty withdrew his support of the IHO, which amounted to half of the institute's $2-million annual operating budget. The IHO's Board of Directors responded by laying off the eight-member staff of its geochronology laboratory, a leading center for dating archaeological sites. This action—on what the stunned geochronologists are calling "Black Tuesday"—gutted the IHO, leaving behind four scientists and a technician.

As news of the IHO divorce spread rapidly through the scientific community, both inside and outside observers tried to understand what went wrong. Interviews with IHO board members, as well as staff and outside scientists, reveal that Getty was fed up with Johanson's frequent clashes with other scientists, particularly geologist Garniss Curtis and others in the IHO's geochronology lab. Getty was also disturbed that Johanson appeared to spend more time on television than doing scientific investigation. "Gordon's interest all along was to fund scientific research," says his attorney, William Coblentz. "Instead, we have more photo opportunities and NOVA interviews than pure research."

Neither Getty nor Johanson would discuss the separation after repeated requests for interviews, but Susan Shea, the IHO's executive director, says many of these charges were fueled by jealousy from other scientists and by Johanson's success as a popularizer of science. And IHO board treasurer David Koch, executive vice president of Koch Industries in New York City, describes Getty's demands as "draconian," and says his withdrawal "put us in a bad situation financially. The only logical thing to do was to reduce our costs. The best way to do it was to terminate the geochronology group."

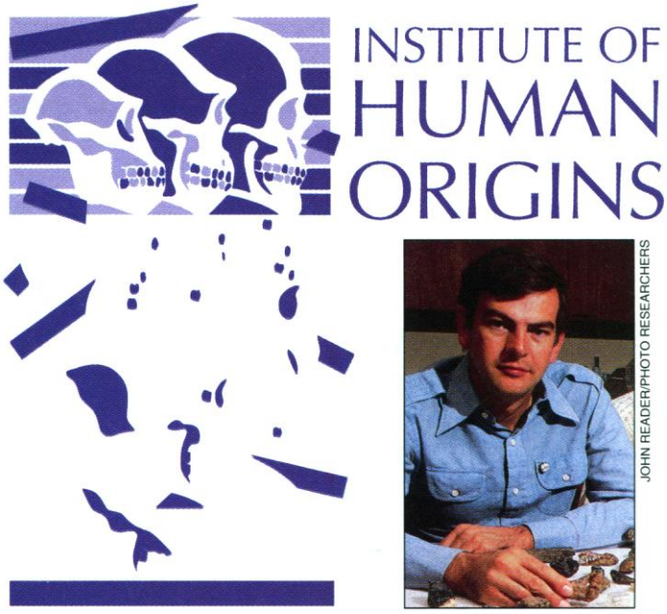
The IHO had been made up of two scientific units, the geochronology lab and the paleoanthropology group, employing a total of 13 scientists and technicians. It funds its operations through a mixture of private donations and National Science Foundation (NSF) grants. The geochronology lab scientists are mostly from the University of California at Berkeley, where they met as graduate students in the 1980s in Curtis' lab. In 1989, after Curtis retired from Berkeley, the lab was formally incorporated into the IHO so that it could receive its funds.

But the relationship has been troubled for some time. "People warned me before I came here that there was an uneasy marriage between these two groups," says Shea. As the lab's reputation for using state-of-the-art dating methods grew, it collaborated with geologists and anthropologists around the world—including scientists such as Tim White at the University of California at Berkeley and Mary Leakey, with whom Johanson has had disputes in the past. And the lab increasingly earned plaudits from the scientific community. This spring it had won five new grants from the NSF worth $700,000 and had finished testing a new $200,000 lab to measure fossil magnetism in rocks.

These developments came at a time when Johanson was spending a considerable amount of time working on the NOVA series and on books for lay audiences—even though the IHO was careening through cash-flow problems and operating for long periods without an executive director, says Curtis. "For 3 years, while Don was working on the NOVA series, he let everything go," he says. "He wasn't fund raising at all." IHO board members say that by last year, the situation so concerned Getty that he convinced the board to limit Johanson's powers so that the IHO's daily operations were governed by a science committee, headed by Paul Renne, director of the geochronology lab.

Getty, says Coblentz, also wanted to ensure that matching funds he had pledged (up to $1 million a year for 5 years, starting in 1989) were spent on top-quality research, not on activities that—in Getty's opinion—did more to enhance Johanson's public image than to advance scientific knowledge.

At the same time, the geochronology group contends that Johanson did little to encourage their research and instead downplayed it to a potential funder. Matters came to a head earlier this spring when Curtis and Swisher sought their first grant from the L.S.B. Leakey Foundation, the leading private funder of anthropological research. Curtis and Swisher were eating lunch at Chez Panisse, a Berkeley restaurant, with members of the Leakey Foundation and a prospective Leakey donor when Johanson walked into the restaurant with his wife. According to several people at the lunch, Johanson failed to acknowledge their greetings. Later, back at the IHO, institute staffers say Johanson angrily berated Curtis, accusing him of trying to steal money away from the IHO and to move the geochronology lab away from the institute.



Institutional breakup. After a clash with Gordon Getty, a major donor, an influential anthropology institute run by Donald Johanson *(above right)* is losing its vaunted geochronology lab.

Johanson's reaction stunned Curtis and Swisher, they say, because Johanson and IHO's other paleoanthropologist, William Kimbel, receive their own funding from the Leakey Foundation and because Johanson knew they were applying for funding from the foundation. Shea notes, however, that Johanson was pursuing the same donor for IHO and did not know his staff was meeting with the donor and the Leakey staffers.

Getty, who is friendly with Curtis, heard about these confrontations and was distressed by them, say IHO board members. Other scientists say Getty was also concerned about rumors that the IHO has angered several researchers working in Ethiopia—a fertile site for fossils—and many worry that these tensions could jeopardize all foreigners' chances of working there.

Although Johanson would not return repeated phone calls to the IHO from *Science*, Shea did respond. She says that while Johanson has a "dramatic personality," he wasn't the only one to blame for the bad blood with the geochronology lab. He and Curtis have not gotten along well for years, but Curtis fueled those tensions by complaining about Johanson to Getty. As for the charge that Johanson spent too little time doing scientific research, Shea cites the recent *Nature* paper, in which Johanson helped analyze the first nearly complete skull of our oldest known nonape ancestor—widely hailed as a major discovery. Shea also says it was part of Johanson's job to raise funds for the IHO and to educate the public about anthropology. Finally, she says, Getty never discussed these problems alone with Johanson before he sought to withdraw his funding: "Don would have rather have had a conversation with Gordon than hear it like this."

Once the board had heard and rejected Getty's conditions on 3 May, Getty proposed that the board adjourn for 24 hours to plan an amicable split of the institute, including the gradual phaseout of his support. But Koch moved that the board stop funding the geochronology lab immediately, partly, he says, because he was quite sure that Getty would continue to support the geochronology lab independently.

And that, apparently, will happen. Getty has agreed for the interim to support the lab, which is setting itself up independently as the Berkeley Geochronology Center, with its own board of directors. And despite the contentiousness of the breakup, both groups now seem reconciled to the split and are in negotiations to transfer the lease for the lab, the NSF grants, and lab equipment to the geochronology group.

The IHO, which has been thinned down to a staff of three scientists including Johanson, even has plans for expansion if it can raise the funds—it intends to hire another paleoanthropologist, says Kimbel. He adds: "We're just trying to stay focused on the science. That's what we are—scientists."

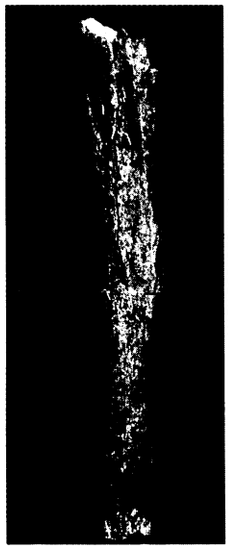
–Ann Gibbons

ARCHAEOLOGY

England's Oldest Human Bone Steps Out

Last fall, archaeologist Mark Roberts of University College London (UCL) was preparing to close up shop on a decade-long excavation project when a leg prevented him from shutting the door. Roberts had been directing a dig at a 500,000-year-old site at Boxgrove, in West Sussex in the south of England. His team had unearthed a treasure trove of stone tools presumably made by the site's human inhabitants—although they'd found no human bones—but funding for the research was about to run out. Then, in December, amateur archaeologist Roger Pedersen pulled a sturdy-looking bone out of a geologic test trench. It turned out to be the shaft of a human tibia, or shinbone, and is possibly the oldest human bone ever found in Europe.

What has researchers truly excited, however, is not just the 500,000-year-old antiquity of the Boxgrove tibia—which is described in this week's issue of *Nature* by Roberts, his UCL colleague Simon Parfitt, and paleoanthropologist Christopher Stringer of London's Natural History Museum—but the fact that it has been found at a site that is so rich in artifacts. The only other European find from this time period—a jawbone found in 1907 at Mauer, near Heidelberg in Germany—was found alone. "Mauer was a lucky find by some gravel workers. There was no archaeology with it," says archaeologist Clive Gamble of the University of Southampton. Because the Boxgrove tibia did come with archaeology, researchers think they can begin to connect the earliest Europeans' bodies to their behavior. "[There is] the promise of learning something of the paleobiology of these creatures," says paleoanthropologist Bernard Wood of the University of Liverpool.



MARK ROBERTS/INSTITUTE OF ARCHAEOLOGY, UCL

A leg up. This 500,000-year-old partial shinbone, unearthed in England, may represent Europe's oldest known inhabitants.

Roberts' team inferred the tibia's age from animal remains found in the surrounding sediments, in particular those of an early form of the modern water vole *Arvicola terrestris*, which appears in the fossil record around 500,000 years ago. And those same sediments have preserved what Gamble calls a series of "Polaroid snapshots of what went on 500,000 years ago."

For instance, Roberts' team has uncovered numerous tool manufacturing sites, where the people who inhabited the Boxgrove area stopped to make the two-faced oval hand axes they used to dismember animal carcasses. But while dismembered animal remains indicate these people were expert butchers, they apparently did not plan their butchering activities far ahead, Roberts says. The butchering tools were made on the spot—stone flakes left over from their manufacture were found all around a butchered horse, for example. "Modern people would have their tool kit with them," says archaeologist Wil Roebroeks of Leiden University in the Netherlands. "These guys didn't." Most researchers believe that comprehensive forward planning—an important skill if you live in areas where food is only seasonally available—emerged only around 60,000 years ago, and the Boxgrove find supports that notion.

At this point, anthropologists seem to know more about the behavior than they know about the place of these early humans on our family tree. Most scientists agree Boxgrove's inhabitants evolved from *Homo erectus*, a human forebear that arose in Africa just under 2 million years ago. What's not clear, however, is what happened to the Boxgrove people's descendants. Many researchers now believe that modern humans emerged in Africa and then spread into Europe, replacing any humans—such as the Boxgrove lineage—previously there. Other scientists, however, think the two groups intermingled to produce today's Europeans.

Unfortunately, an incomplete tibia still gives researchers relatively little information about either taxonomy or biology. Ideally, more bones could shed light on the physical abilities of these people, and researchers could see how that was reflected in their behavior. And, says Stringer, "We are hopeful...that we are going to get more of this individual." Since the researchers stepped forward with the shinbone, English Heritage—the public agency that has backed the Boxgrove project to the tune of $1.1 million—has agreed to continue funding the dig.

–Peter Aldhous