Patrimony Debate Gets Ugly

The Neandertal wars erupted again late last month, over a child buried in Portugal some 25,000 years ago. The latest skirmish suggests that whether or not Neandertals were a separate species is still a hot-button issue.

Jawbone of a hybrid?

On 24 June, two paleontologists e-mailed a vituperous broadside to several dozen colleagues in which they called the authors of a commentary on their work ignorant, arrogant, and guilty of "an abysmal piece of scholarship."

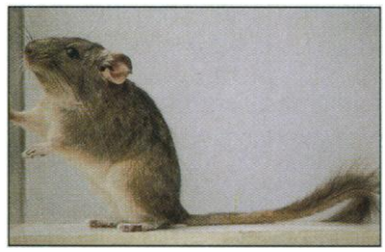
A group including Portuguese director of antiquities João Zilhão and anthropologist Erik Trinkaus of Washington University in St. Louis had argued in the 22 June *Proceedings of the National Academy of Sciences* (*PNAS*), that the skeleton, found last December (*Science*, 8 January, p. 169), shows a mix of Neandertal and early modern human traits. That suggests, they say, that the two groups interbred and that Neandertals were closely related to *Homo sapiens* (*Science*, 30 April, p. 737). The authors of the accompanying commentary, Ian Tattersall of the American Museum of Natural History and Jeffrey Schwartz of the University of Pittsburgh, who believe Neandertals were a separate species unlikely to have bred with humans, say there was little evidence from photographs to suggest the skeleton was other than "a chunky Gravettian [early modern human] child."

Trinkaus says the gist of the commentary is that he and his colleagues don't know what they're talking about. The scathing eight-page "correction" was sent over the Web because *PNAS* doesn't publish replies, Trinkaus says. Tattersall has reacted with a terse note saying he is "saddened that you have chosen to ... portray ... us ... as self-deluding and intellectually dishonest incompetents with a mission to denigrate the Neanderthals."

Scientists have already been uncomfortable about how the find has been publicized, says archaeologist John Shea of the State University of New York, Stony Brook. Because of comments by Zilhão to reporters, the news was broadcast long before the paper appeared. Even when information is communicated through normal channels, "nothing gets people hot under the collar quite like paleoanthropology does," says Shea, who says many people think that the way early moderns treated the Neandertals casts light on today's humans.

Double Dose of DNA

Researchers have discovered the first mammal—a rat species in Argentina—that seems to thrive despite carrying an extra set of chromosomes. The finding, reported last month at the Evolution '99 meeting in Madison, Wisconsin, overturns the long-held notion that for a mammal, a double complement of chromosomes spells death or, at best, a reproductive dead end.



Chock full of chromosomes.

Scientists knew that some fish and amphibians sport four copies of each chromosome, instead of the usual two. The phenomenon, called tetraploidy, gives an animal lots of genes to play with in adapting to new environments. Then, in 1990, while evolutionary biologist Milton Gallardo of the Universidad Austral de Chile was reclassifying a rodent family called Octodontoidea, he stumbled upon a species, the red viscach rat (*Tympanoctomys barrerae*), with 51 pairs of chromosomes. By 1997, Gallardo and colleagues had established that the other members of the family had only about 26 pairs.

Gallardo's group now has more evidence that the viscach rat is a strange breed. Using a stain to estimate the amount of nuclear DNA in the cells of 31 different rodent species, the group found that, like most mammals, rodents average 6 to 8 picograms of DNA per cell. But not *Tympanoctomys*: It had a whopping 17 picograms. What's more, says Gallardo, its sperm heads "are huge."

Gallardo suspects this species arose when an ancestor somehow doubled its chromosomes. Reproduction is apparently still possible if the sex chromosomes fail to double—as appears to be the case in this rat. Gallardo plans to tally and label all the chromosomes. If he can prove that *Tympanoctomys* really has four copies of each gene, the find will be "remarkable," says Stephen O'Brien, a geneticist at the National Cancer Institute, as once again evolution will have proved it can do what most biologists had considered impossible.

For Russians, a Bittersweet Jamboree

Molecular biologist Evgeni Rogaev was one of thousands of talented scientists who left Russia in the wake of the Soviet Union's dissolution in 1991. But after a 4-year stint in Canada, he found a way home: A 5-year grant of about $30,000 a year from the Howard Hughes Medical Institute (HHMI) allowed him to reopen his lab on the genetics of Alzheimer's disease at the Research Center of Mental Health in Moscow. Now, however, Rogaev and some of his Russian colleagues worry that they will have no choice but to leave again when their Hughes funding ends next year.

Last month, the 90 HHMI scholars from Russia and countries in eastern Europe met in Moscow to show off what they've done with their grant money. "The HHMI grant enables us to create collaborations between various laboratories—one condition which made it possible for me to return to Russia," says Rogaev.

HHMI has announced a new competition next year involving bigger grants to fewer grantees, which may sustain some of the current crop. But Rogaev says others may have to pull up stakes once again. "I want to live in Russia," he says. But "if the carpet will be pulled from under my feet, then what else can I do?"

In a sign of the deepening erosion of Russian science, even this elite group of researchers found reason to gripe. "None of the serious biology research groups in Russia is being supported by the state ... 99% exist on foreign funding," says Ivan Shatsky of the Belozersky Institute of Physico-Chemical Biology. In fact, he asserts, the state doesn't think much of science at all. A case in point: None of the government science officials invited by HHMI bothered to show up for the meeting.

CREDITS: (TOP) PORTUGUESE INSTITUTE OF ARCHAEOLOGY; (BOTTOM) S. NIHUIL AND M. GALLARDO