Modern Humans Had Neandertal Neighbors

A surprisingly recent date for Neandertal remains in central Europe has shown that they were longtime neighbors of modern humans and, to some, bolsters the idea that they interbred with our own ancestors.

A new round of radiocarbon dating of cranial bones discovered in two caves in Croatia in the '70s and '80s indicates that Neandertals were still living in this region 28,000 years ago. That's about 5000 years later than the youngest Neandertal fossils found to date, report anthropologist Fred Smith of Northern Illinois University in DeKalb and colleagues. As modern humans surged up from Africa and the Middle East, "we have thought of Neandertals as being continuously pushed into more peripheral regions of Europe," says Smith. But "here we are finding them right smack dab in the middle of Europe." Neandertals are generally believed to have made their last stand about 30,000 years ago, in Spain. To Smith and coauthor Erik Trinkaus of Washington University in St. Louis, the new dates bolster the controversial notion that Neandertals and early modern humans made babies.

Site of Neandertal find in Croatia.

The new dates, described in the 26 October *Proceedings of the National Academy of Sciences*, make interbreeding "more probable," agrees archaeologist Lawrence Straus of the University of New Mexico, Albuquerque. They also undermine "a simple invasionist scenario" for Neandertal extinction. Rather, he says, the 10,000-or-so years when the two populations apparently co-existed appears to be "a mosaic with different kinds of pairings of culture and biology."

New dates do not necessarily call for a revised view of Neandertal–modern human relations, according to Ian Tattersall of the American Museum of Natural History in New York City. He says the dating "does little more than move the [Croatian] Neandertals a bit up in time. ... What it doesn't do is make them any less Neandertal."

Elitism in China

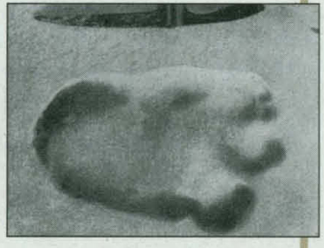
When it comes to rewarding scientific achievement, Chinese officials hope that less will be more. New rules aim to abolish most of the 12,000 awards handed out each year and stop the practice of using prizes to reward long service or political clout. Now only bona fide advances are supposed to earn a medal, in keeping with efforts to raise the overall quality of Chinese R&D.

At the same time, a new State Supreme Science Award will debut next year with a whopping prize of 5 million yuan (about $600,000)—25 times the current top award. Designed to honor achievement in an area of great value to society, the award will be bestowed by none other than President Jiang Zemin himself.

Museum Accepts Cryptic Collection

From the legendary "Abominable Snowman," or Yeti, of the Himalayas to real creatures such as the Tasmanian tiger thought to have vanished in 1936, improbable beasts called "cryptids" now have a new shrine.

Last month the father of cryptozoology, 83-year-old Bernard Heuvelmans, donated more than 50,000 documents, photos, and specimens to the Museum of Zoology in Lausanne, Switzerland. Co-founder of the International Society of Cryptozoology (www.izoo.org/isc), Heuvelmans "applied a zoologist's approach to this elusive topic," says museum director Michel Sartori, who says he's heard no complaints that the museum is dipping into pseudoscience.



Yeti footprint.

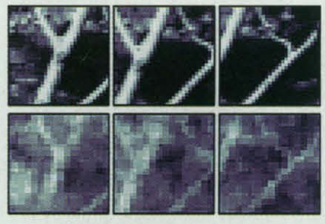
Cryptozoology has claimed some successes over the years: A few creatures have emerged from lore into reality, such as the mountain gorilla (found in Rwanda in 1902) and the coelacanth (an ancient fish discovered off South Africa in 1938). Still, some view the field with bemusement: "If you consider it as a pleasant hobby," says Jacques Hausser of the Institute of Ecology in Lausanne, "it can give you very nice insights into the functioning of human imagination and dreams."

In a Cat's Eye

Scientists have reconstructed the world according to Garfield by creating coherent images from the chatter of bunches of cat brain neurons.

Traditionally, scientists have probed the visual system by flashing images and tracking which cells respond. But now they're trying it the other way around: "We're taking the point of view of the animal and saying if you listen to these neurons, can you reconstruct the information out there," says neuroscientist Yang Dan of the University of California, Berkeley.

Biomedical engineer Garrett Stanley, now at Harvard, working with Dan and Fei Li, inserted electrodes into the lateral geniculate nucleus—which passes signals from the retina to the visual cortex—of an anesthetized cat. Keeping its eyes propped open, they registered activity in 177 neurons in response to black-and-white videos of faces and trees. The firing was translated into images by a computer using a technique called linear decoding, in which each spiking of a neuron is like a freeze frame of the outside world.



Trees in video (*top*) compared with the same pictures reconstructed from cat neurons.

The findings, reported in the 15 September *Journal of Neuroscience*, "show that a very simple 'reading' can capture a surprising amount of detail," says William Bialek of the NEC Research Institute in Princeton, New Jersey, who with Rob de Ruyter van Steveninck has done similar research with single fly neurons.

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