Canadians Find "Ice Man" in Glacier

Canada now has its own "ice man." On 14 August, mountain-sheep hunters found a frozen corpse, dressed in fur and accompanied by tools and a food pouch, in a melting glacier in Tatshenshini-Alsek Park in the far northwest of British Columbia. The discovery resembles that of Ötzi, the 5300-year-old Tyrolean ice man unearthed in 1991, but scientists don't yet have any idea of the age of the Canadian body.

The remains lie in cold storage in Yukon's capital, Whitehorse, as scientists and the Champagne and Aishihik First Nations—two Native American tribes on whose land the body was found—negotiate over how to study it. The man was wearing a cloak sewn from the pelts of small animals (squirrels or gophers) and a finely woven broad-brimmed hat. He carried a fringed leather pouch containing edible leaves and the remains of some fish. Near him were pieces of clubs or walking sticks with carvings on them, an atlatl—a notched stick used for throwing spears—and a stone knife that may have been used for skinning animals.

The glacier where the Canadian Ice Man was found and *(inset)* a cutting tool.

The first priority, says the project's adviser, Owen Beattie, a forensic anthropologist at the University of Alberta in Edmonton, will be to carbon date the remains and determine the "cause and manner of death." The absence of European tools suggests that the man died, perhaps after falling into a crevasse, before Europeans arrived in the region about 250 years ago. Beyond that, no one knows. The hat's not a tip-off, says Smithsonian anthropologist David Hunt, who notes that Ötzi and one of Britain's "bog men" were wearing "almost the exact same hat" even though they were separated by 4000 years. The presence of the atlatl doesn't help either, says Beattie, as they were used in the area until the Europeans arrived. He says the body is unlikely to be more than 10,000 years old, as there is no evidence for human habitation in the area before then.

Observers note that although Canada's Native Americans must grant approval for procedures involving the ice man, it's unlikely that Canadian researchers will run into the problems plaguing U.S. scientists who wish to study another famous set of remains, Kennewick Man. Legal wrangling over rights to those remains halted research for years. Diane Strand, spokesperson for the two tribes, says the Indians are "completely supportive of doing as much study and research as we possibly can."

Brain Research Moves Into the Womb

Brain scientists may have a new window into an unborn child's mind. Researchers have shown that functional magnetic resonance imaging (fMRI) can detect how fetal brain activity changes in response to sounds from outside the womb. The finding, published in the 21 August *Lancet*, opens up new possibilities for studying brain development.

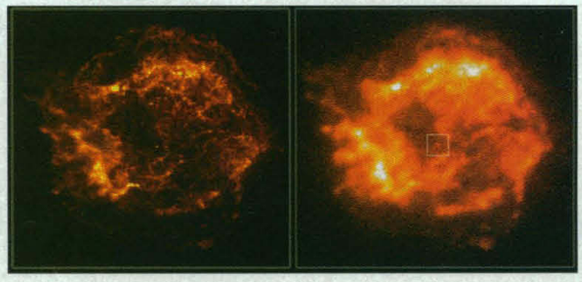
Brain activity in unborn children has been hard to study, with neonatologists dependent on indirect measures such as heart rate for clues to neural activity. But now researchers have a new tool: fMRI, an imaging technology that has sprouted only in the past decade, which uses magnetic fields and sensitive detectors to spot active brain areas through telltale increases in blood oxygen levels.

Physicist Penny Gowland and colleagues at the University of Nottingham in the United Kingdom have used the technique to see how unborn children respond to their mothers' voices. The researchers asked four pregnant near-term women to record a nursery rhyme. They then scanned each one's abdomen while the poem was replayed through a loudspeaker aimed at her belly, with 15 seconds of audio stimulation alternating with 15 seconds of silence. One infant squirmed too much to allow a reading, but in two cases the researchers were able to capture "significant" activation of the child's temporal lobes coinciding with the times they were being exposed to their mothers' voices. The study represents "a completely new application of fMRI," says Gowland. She says fMRI might also be used to track fetal responses to a visual stimulus and to study conditions, such as cerebral palsy, that can develop prenatally.

The work is "a real technical feat," says cognitive neuroscientist James Haxby, chief of the Section on Functional Brain Imaging at the National Institute of Mental Health. He believes "it's just a matter of years before sensitivity is vastly improved," leading to more detailed studies of brain development.

Scientists Thrill to Chandra

Six weeks after its launch, NASA's $1.5 billion orbiting x-ray observatory has already begun wowing astronomers. Among its first images, Chandra may have spotted the youngest known neutron star—the embers of a dead star—shrouded by dust in this spectacular x-ray image (*left*) of Cassiopeia A, the remnant of a supernova explosion that happened 320 years ago in the Milky Way. Chandra's high-quality x-ray mirrors show much more detail—including clues to the temperature and composition of the debris from the explosion—than a recent x-ray photo of the supernova remnant (*right*), made by the U.S.–German ROSAT, which was retired in February. "The bottom line is: It works perfectly," says Ed Weiler, NASA's associate administrator of space science.



CREDITS: (TOP) SARAH GAUNT; (BOTTOM) SAO CHANDRA X-RAY CENTER/NASA; ROSAT HRI