water table would wreak havoc on Ashur's buried mud-brick structures. "We are trying to convince the Ministry of Irrigation to impound less water—about 50% less—so we can save Ashur," he says. But that must be weighed against providing desperately needed water to farms and cities, says Damerji.

Flooding will also destroy dozens of more obscure but important sites in Assyria's heartland. For example, little digging has been done at Kar-Tukulti-Ninurta, a city just upstream from Ashur that served as an Assyrian capital in the 13th century B.C. "Who knows what's there?" says Michael Roaf, an archaeologist at the University of Munich. Iraqi experts are hurriedly surveying areas near the dam that would be submerged first; a catalog of endangered sites should be ready soon.

Damerji has invited foreign assistance in the Makhool effort, but it is unclear how quickly an effective rescue operation could be organized. U.S. and British archaeologists are barred by their own countries from working in Iraq, and researchers from other European countries and Japan are only now returning after a decade-long hiatus (*Science*, 6 July 2001, p. 38). The Iraqi government, hobbled by sanctions, has little funding for archaeology.

"Ashur is a site of world significance, and this affects the whole academic community," says Harriet Crawford, director of the British School of Archaeology in Iraq. The conference organizers intend to issue a statement deploring the destruction of Ashur. But with tensions in the region rising over a possible military campaign to oust Saddam Hussein in the coming months, researchers concerned with humanity's heritage have a tough fight to gain the ears of politicians in Baghdad and beyond. **–ANDREW LAWLER**

CASPIAN SEA

## Scientists Deplore OK For Sturgeon Catch

**CAMBRIDGE, U.K.**—Marine biologists are livid over an international panel's decision to allow nations to resume fishing beluga sturgeon from the Caspian Sea this year. Quotas were endorsed last week by a policy committee of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). However, some pressure groups are demanding to see the data CITES officials used to conclude that the beluga, prized for its caviar, can withstand commercial harvesting.

Last June, three of the five nations around the Caspian's shores—Azerbaijan, Kazakhstan, and Russia—agreed to an unprecedented 6-month ban on fishing sturgeon. But in January, the Caspian states proposed sturgeon quotas for 2002 with the expectation that the CITES Secretariat would allow them to resume trade in caviar. The beluga variety can fetch more than $2500 per kilogram.

**Looks fishy.** Scientists have challenged claims that beluga stocks are stable.

The secretariat obliged. In a 6 March statement, CITES Secretary-General Willem Wijnstekers said that all five Caspian governments had demonstrated "stable or, in some cases, increasing" sturgeon numbers through a program to survey and manage stocks. "This breakthrough on sturgeon management marks a dramatic step forward toward transparency and cooperation," said CITES Deputy Secretary-General Jim Armstrong.

But many experts are shocked by the suggestion that beluga stocks are stable. "It's perplexing that CITES, an organization charged with protecting endangered wildlife, has hung the beluga out to dry," says marine biologist Ellen Pikitch of the Wildlife Conservation Society in New York City. She and others contend that CITES officials ignored the results last year of a comprehensive survey of Caspian fish stocks by the Caspian Environment Programme, a World Bank and European Union initiative. The survey found few mature sturgeon, prompting a call for a 10-year fishing ban (*Science*, 18 January, p. 430).

Opponents of the new quotas want CITES officials to reveal the underlying data mentioned in the 6 March statement. The secretariat "has not provided a rationale to justify its decision nor any scientific evidence to support its estimates of beluga sturgeon numbers," charges the lobbying group Caviar Emptor. Armstrong could not be reached before *Science* went to press, and other officials declined to give details.

Caviar Emptor and other groups want beluga elevated to the Appendix One list, which would ban its export from any signatory nation. The first opportunity for that will come at the November meeting of the CITES parties in Santiago, Chile.

**–RICHARD STONE**

CREDITS: (TOP TO BOTTOM) HANS-JÜRGEN BURKARD/BILDERBERG; CAVIAR EMPTOR; U.S. ARMY

## ScienceScope

**Stem Cell Showdown** Australia's state and federal governments are preparing to square off over human embryonic stem cell research. On 6 April, the nation's prime minister and the heads of its eight states and territories intend to discuss the regulation of stem cell research, with at least one state premier vowing to resist any national ban.

In late February, Australian scientists were surprised by press reports that federal Cabinet members had agreed in principle to ignore recommendations from a parliamentary panel and outlaw the derivation of new stem cell lines from spare embryos left at fertility clinics (*Science*, 1 March, p. 1619). But Bob Carr, the premier of New South Wales, promises that his state will set up its own stem cell derivation center if that happens.

Researchers hope the federal government will back down. Cell biologist Martin Pera of Monash University in Melbourne says that stem cell scientists have had "very positive" meetings with senior government officials, including Prime Minister John Howard. Although the lobbying effort has cut significantly into research time, Pera says the tradeoff is necessary: "If we don't get this right, we won't be able to do the research at all."

**Tiny Combat** The Massachusetts Institute of Technology (MIT) last week won $50 million from the U.S. Army for a nanoscience center. Over the next 5 years, the Institute for Soldier Nanotechnologies will conduct basic research aimed at developing tiny devices for everything from bullet-proof uniforms to camouflage that can change color with chameleon-like quickness. The Cambridge, Massachusetts–based center—to be led by materials scientist Edwin Thomas—is expected to involve up to 150 researchers, including 35 professors and 80 graduate students from nine MIT departments.

The new institute is the latest Army bid to harness academic talent to the task of modernizing the armed forces—and the first of more than a dozen university centers to be awarded through an open competition. In 1999 the University of Southern California (USC) in Los Angeles received $45 million to bring Hollywood-style technologies to troop training. Waiting in the wings is a biotechnology center, although Army science chief A. Michael Andrews says it is likely to get less funding than the MIT and USC institutes.

and African fossils, and it therefore links them all as interbreeding members of the same wide-ranging species that gave rise to living humans.

"This fossil is a crucial piece of evidence showing that the splitting of *H. erectus* into two species is not justified," says co-author and paleoanthropologist Tim White of the University of California, Berkeley. "This African fossil is so similar to its Asian contemporaries that it's clear *H. erectus* was a truly successful, widespread species throughout the Old World." If White and his colleagues are right, there was a single species that spread from Africa to Europe to Asia 1 million years ago, rather than several different species alive at once.

But others say it is premature to write a death notice for *H. ergaster*. "I don't think it takes the wind out of the sails of *H. ergaster*," says Bernard Wood of George Washington University in Washington, D.C., who still thinks more than one species was alive 2 million to 1 million years ago. "I'm not at all convinced it is an intermediate," agrees Jeff Schwartz of the University of Pittsburgh. "To me, it says there was more diversity in these hominids."

The idea of *H. erectus* as the direct ancestor of living humans is a return to a view embraced by most anthropologists until the mid-1980s. That's when several scientists, including Wood, proposed that fossils found in Africa in the 1970s—including hominids that had lived as early as 1.8 million years ago on the shores of Lake Turkana in Kenya—differed from the classic specimens of *H. erectus* from Java, Indonesia, which appeared between 200,000 and 750,000 years later (*Science*, 2 March 2001, p. 1735). The Asian fossils, they argued, had generally more robust features and belonged to a separate species. That meant that *H. ergaster* was the human ancestor—and *H. erectus* was an Asian dead end, says Philip Rightmire of the State University of New York, Binghamton.

More than a decade of debate ensued. Then, in 1997, White's graduate student W. Henry Gilbert found a calvaria—a skull without a jaw—in the 1-million-year-old Daka member of the Bouri Formation of Ethiopia. Although gnawed by animals, it was well preserved. Most importantly, it shared features with both Asian and African fossils, including large, projecting brow ridges like those of the Asian *H. erectus*, says co-author Berhane Asfaw of the Rift Valley Service in Ethiopia.

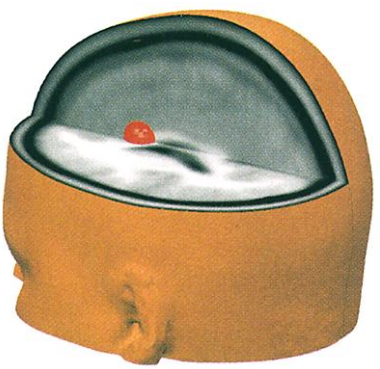
The team compared the Bouri fossils with others from Africa, Europe, and Asia and used cladistic methods to rank 22 characters in the skulls, sorting them on an evolutionary tree. The researchers found that the Bouri skull, along with another skull from Olduvai in Tanzania, overlapped extensively with Asian forms and later African fossils. "This clearly shows that the features previously considered to separate the Asian and African forms do not hold," says Asfaw. That evidence is persuasive for Rightmire and Eric Delson, a paleoanthropologist at Lehman College of the City University of New York. "So, *H. erectus* is still a pivotal species," says Delson. "This was the only game in town for a million years." But Wood and Schwartz continue to think there were other players on the scene, suggesting that the question is far from settled. "I don't think the issue will dry up and go away," predicts Rightmire.

–ANN GIBBONS

NEUROSCIENCE

## The Good, the Bad, and The Anterior Cingulate

Making good decisions on the fly is a skill critical for many activities, from navigating freeway traffic to trading stocks on the Internet. Now researchers have linked a key component of this type of decision-making—the split-second evaluation of how well things are going—to a distinct pattern of brain activity.



CREDIT: WELLCOME DEPARTMENT OF COGNITIVE NEUROLOGY, LONDON

**Winning big?** The anterior cingulate cortex can tell good news from bad.

On page 2279, psychologists William J. Gehring and Adrian R. Willoughby of the University of Michigan, Ann Arbor, report that electrical activity in the anterior cingulate cortex (ACC)—an area tucked into the crease between the two cerebral hemispheres—registers financial wins and losses as people play a gambling game. The authors believe that this brain activity may represent an immediate emotional reaction to the outcomes. The findings add a twist to theories on the role of the ACC and may provide insight into how decisions are swayed by emotion.

In recent years, studies by Gehring and others have suggested that the ACC plays a critical role in evaluating the outcomes of one's behaviors. For example, one theory holds that the ACC reacts when people make mistakes. But the new study suggests that the ACC may be doing something even more

## ScienceScope

**New Face at CNRS?** One of the most powerful posts in French science is about to be filled. Bernard Pau, currently director of the Institute of Biotechnology and Pharmacology in Montpellier, is the leading candidate for director of the life sciences department at CNRS, France's behemoth basic research agency, *Science* has learned. He would replace cell biologist Jacqueline Godet when she steps down in coming weeks.

Pau, 50, has an international reputation for developing diagnostic techniques for heart disease and other maladies. At CNRS, he would head a corps of 3285 researchers, nearly a third of the agency's total scientific cadre.

Researchers say that Pau's nomination will continue a trend, reinforced 2 years ago when medical researcher Geneviève Berger became CNRS director-general, of recruiting administrators ready to emphasize applied research. Says one French scientist: "CNRS is pushing very hard in that direction."

**Misconduct Defined** Marking the end of a long debate, the National Science Foundation (NSF) this week adopted a government-wide definition of what constitutes misconduct in science.

Two years ago, the Clinton Administration issued guidelines that defined scientific misconduct as fabrication, falsification, and plagiarism—"FFP" in Washington lingo (*Science*, 15 October 1999, p. 391). But the guidelines dropped a fourth term, "serious deviations," that NSF had argued was needed to cover misdeeds such as sexual harassment—but scientists argued was too open-ended. The final wording, echoed by the NSF rule published 18 March in the *Federal Register*, preserves the concept by requiring that FFP must rise to the level of a "serious departure" to be considered misconduct.

Other agencies are still incorporating the federal definition into their policies. The Department of Health and Human Services—the parent agency of the National Institutes of Health—expects to issue a rewrite of its 13-year-old rule later this year, according to staffers. And in the United Kingdom, the Wellcome Trust has proposed a misconduct definition far broader than FFP, including "deliberate, dangerous, or negligent deviations from accepted practices" (*Science*, 24 August 2001, p. 1411).

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