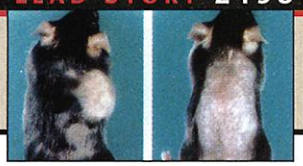


Starting with tens of thousands of reports, the group identified 4400 "unique individuals" who had been killed, leading them to estimate that the death toll among Kosovar Albanians was 10,356. "That piece of work was very impressive," says Ronald Lee, a demographer at the University of California, Berkeley, who found the report "quite persuasive and done with a great deal of care."

"We made every attempt to be as conservative as possible" in estimating the number of victims, Ball, 36, told the court, "to present a statistical case as favorable as possible to the hypotheses that we ultimately rejected."

His team discovered that the timing of the deaths and refugee movements lined up —even when broken down by region— indicating that they had been triggered by "a common cause." The researchers found that KLA activity, as reported in the Serb press, rarely occurred in Kosovo municipalities at times that could be linked to killings and refugee movements. Nor did these events correlate with NATO air strikes, which occurred after the peak in killings—or did not occur at all—in 20 of 29 municipalities. "If something is to cause something else, then the cause must precede the effect," Ball noted dryly.

Yugoslav army activity, on the other hand, ebbed and flowed roughly in sync with refugee movements and killings. Particularly damning was what happened after a 2-day cease-fire that Yugoslav authorities called on the evening of 6 April 1999 to honor Orthodox Easter. "We found a consistent and drastic decline both in refugee movement and people killed," Ball stated. The findings, he said, contradict Milosevic's claims that NATO bombing or the KLA triggered the disaster in Kosovo, and they are "consistent with the hypothesis that Yugoslav forces were the cause."

Milosevic, who has refused to recognize the tribunal's legitimacy and is representing himself in the trial, often seemed distracted during the 2 hours that the prosecutors took to question Ball. But he sprang to life in the cross-examination. Early on, he suggested that the report's conclusions were contrived to satisfy U.S. foreign policy, as the U.S. government had funded the report. Ball rejected this, noting that previous investigations he had undertaken into human rights abuses in El Salvador and Guatemala had been critical of U.S. foreign policy.

Warned by presiding Judge Richard May to focus on the evidence, Milosevic, after a brief, ironic smile, chastised Ball for ignoring the plight of Serb refugees and suggested that the data from the Albanian border guards had been fabricated. "You have been deceived," Milosevic said. He also asserted that the three hypotheses of Ball's focus oversimplified the events in Kosovo.

"I'm not a politician," replied Ball, looking directly at Milosevic, unlike many previous witnesses. While acknowledging that his group's statistical approach "does not exclude the possibility that there may be other causes," Ball reiterated that the three claims tested were those put forward by one side or the other to explain what happened in Kosovo.

The trial, which is expected to last until early 2004, will undoubtedly detail many more atrocities in Kosovo—and in Bosnia-Herzegovina and Croatia, where Milosevic faces a further 61 counts of war crimes. The prosecution is hoping that Exhibit 67 will at least provide a thread that ties together the events in Kosovo. **–RICHARD STONE**

With reporting by Eliot Marshall.

ARCHAEOLOGY

Dam Threatens Iraqi Ancient Sites

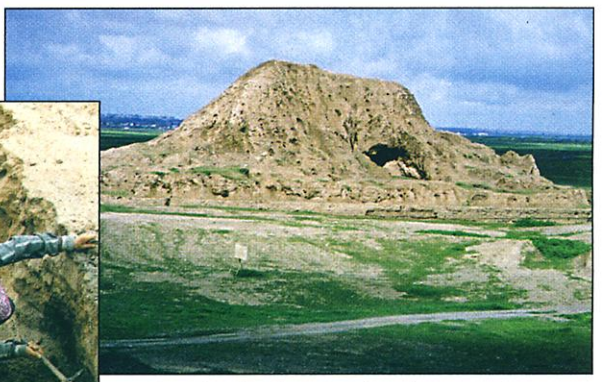
LONDON—Construction has begun on a Tigris River dam that will flood dozens of important archaeological sites in northern Iraq, including the ancient royal capital of Assyria. A senior Iraqi antiquities official attending a scientific meeting here last week pleaded for international help in salvage excavations, but researchers say there may be too little time and too much politics to save more than a fraction of the Assyrian heartland before the floodwaters finish rising in 2007.

The Makhool Dam, located between Baghdad and Mosul, is expected to alleviate a severe water shortage stemming from Turkish dams upstream, says Muayad Damerji, antiquity adviser to the Ministry of Culture. Those dams have flooded key archaeological sites in Turkey—and more are planned, including one that would submerge the ancient city of Hasankeyf. But the impact of the Makhool Dam will have much more far-reaching consequences: Damerji has identified 65 important sites in the region that must be salvaged in the next 5 years.

Preeminent among those sites is Ashur, which served as the religious and cultural capital of the Assyrian Empire for half a millennium. Set on a 40-meter-high bluff overlooking the Tigris, Ashur rose to prominence as a trading center during the Old Assyrian period in the middle third millennium B.C., says Arnulf Hausleiter, an archaeologist at Berlin's Free University who is digging at the 65-hectare site.

Ashur later served as the spiritual center of the Assyrian Empire, which by the ninth century B.C. had stretched from the borders of Nubia in Africa to the Persian Gulf. The Assyrians apparently bestowed the city's name on their primary god, and generations of rulers were laid to rest near a ziggurat (temple tower) that still stands on the promontory. After the city was sacked in 612 B.C., Ashur and its empire never recovered. "Ashur is Assyria," says John Russell, an archaeologist at the Massachusetts Institute of Art in Boston. "If that site is lost, we lose the whole matrix" of Assyrian culture. Adds Georgina Herrmann, a University College London archaeologist: "It's an absolute disaster."

Plans for a coffer dam surrounding the site to protect Ashur were abandoned after its projected cost was higher than that of the Makhool Dam itself, says Donny George, research director of the Iraqi State Board of Antiquities, who with a half-dozen Iraqi archaeologists was in London for a conference on Assyria hosted by the British Museum and the British School of Archaeology in Iraq. Even a coffer dam would offer limited protection, George says, because a rising



Before the flood. Iraqi archaeologists work at a site that will be inundated by 2007.

CREDIT: A. LAWLER

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.