

More “Ötzis” in the Alps?



Glacier-free Schnidejoch and (inset) 5000-year-old piece of a leather shoe.



Receding Alpine glaciers have uncovered a trove of ancient artifacts in recent years. Last month, Swiss archaeologists announced that they had dated some of the items to as far back as 4500 B.C.E.—1000 years before the famous Iceman.

The owner of the items—a piece of wooden bowl and leather from a shoe—remains missing. But he has been named “Schnidi” after the Schnidejoch pass, where the items were found. “We now know that the findings at Schnidejoch are the oldest [yet discovered] in the Alps,” said Albert Hafner, chief scientist at the Archaeological Survey of the Canton of Bern, at a news conference.

Since 2003, when record-high summer temperatures caused extensive melting of the ice at the 2756-meter-high pass, archaeologists have retrieved 300 items of hunting gear, fur, leather and woolen clothing, and tools belonging to early travelers or hunters moving between the Rhône Valley and parts north. Radiometric dating at the Swiss Federal Institute of Technology indicates that a bow, a birch-bark quiver, and arrows were dropped in the pass in the early Bronze Age, about 4000 years ago. Other finds include Roman coins and needles dating to about 200 C.E. and fragments of early and late Medieval apparel.

There is a wealth of data for climatologists as well, says University of Bern climatologist Martin Grosjean. “The findings allow us to accurately reconstruct glacier fluctuations in the Alpine area in prehistoric times,” says Grosjean, who notes that periods of human passage at Schnidejoch nicely fit with periods when glaciers were in retreat and would have allowed travel.

Play Me a Molecule

Need to pry your kids off the games console? Tell them it has better things to do: molecular simulations.

Researchers in Spain have taken distributed computing to a new level. Instead of harnessing idle PCs for routine chores such as looking for signals from extraterrestrials, the new PS3Grid.net is exploiting the much greater capacities of idle Sony PlayStation3 (PS3) consoles. It’s effectively “a new class of supercomputer,” says project coordinator Gianni De Fabritiis of the University Pompeu Fabra in Barcelona.

Last year, De Fabritiis and colleagues developed software to exploit a new graphics chip that can process tens or hundreds of data

streams in parallel, unlike the single fast stream in a normal PC. Not many such chips were available—until the launch of the PS3 in late 2006. The Barcelona team asked PS3 owners to donate their downtime. In the past year, about 400 machines have been signed up, which the team is using to perform complex biomolecular simulations. Plans are to let other research groups use it just as they would a conventional supercomputer.

Last month, the researchers launched a companion network for graphics processing units in normal PCs to add even more computing power. Once they reach their target of a 1000-machine network, they’ll be able to do “accurate virtual screening of hundreds of molecules,” De Fabritiis says.

Snuppy Dynasty Founded

Scientists reported this month that Snuppy, the world’s first dog clone born in 2005, is now a daddy. His sperm was used to inseminate two cloned female fellow Afghan hounds. Of 10 puppies born in May, nine are still alive according to the dog-cloning team headed by Lee Byeong-chun at Seoul National University (SNU). Lee, originally on the dog-cloning team headed by disgraced researcher Hwang Woo-suk, was suspended by the university for 2 months in 2006 following the Hwang scandal.



Hwang and Lee are now on opposite sides of a patent fight over whether SNU or a U.S. company, BioArts International, has exclusive right to clone dogs for commercial purposes. Last week RNL Bio, the company Lee works with, announced that it had filed a patent infringement suit in Seoul against Suam Biotech, where Hwang works.

In Vitro Veritas

Enologists are going high-tech in their efforts to spot forged vintages. Besides using carbon-14 dating (see p. 1437), wine merchants may soon turn to particle accelerators to date old, valuable bottles of wine. Physicist Hervé Guégan, at the Centre d’Etudes Nucléaires de Bordeaux Gradignan in France, developed the technique of training low-energy protons on the bottle, causing its atoms to emit x-rays. The x-ray spectrum provides a kind of fingerprint that can be compared with a database to determine the age and provenance of the bottle. For example, French bottles made before 1957 typically contain traces of magnesium, so a bottle with a chromium signature dated before 1957 would be fake. The technique wouldn’t be able to identify the exact year a wine was bottled, Guégan says, “because the chateau could have bought the bottle a year or two earlier.”

Stephen Williams, CEO of the Antique

Wine Co. in London, says his company is partnering with Guégan to develop the technology for commercial use. Every day it sells bottles valued between \$1000 and \$20,000. So “being sure about their age is ... quite important to us.”

