



History



Turning the climate clock back

Barely a day passes now without some fearsome prediction about climate change and how the end of life, as we know it, is approaching. To the non-scientific mind, however, we appear to be approaching the situation that prevailed some 5,000 years ago. *World Leather* and its sister publication *World Footwear* has watched with fascination as experts have worked to solve the mysteries of Ötzi (or Frozen Fritz to some) when he suddenly surfaced through the ice in September 1991.

Following a hot summer, the Iceman was discovered on the Hauslabjoch in the south Tirol in the Austrian-Italian Alps. A couple of hikers had stumbled across his remains which had been hidden in snow and ice for 5,300 years: it was a sensational find which spawned a number of TV 'crime' documentaries (Ötzi was murdered)—and of very real interest to the leather and footwear industry because some of the artefacts which survived were made from hides.

As *World Leather* reported, along with the latest studies presented by Dr. A. Püntener at the IULTCS Congress 2005 in Florence, neither the dead body nor the biological material such as leather—a fur cap, shoes and trousers—could have been preserved for such a long time if not completely frozen under the ice. In *World Footwear*, May/June 2006, a feature article described the reconstruction of the boots he died wearing and the trials done by Petr Hlavacek, a professor in the Footwear Department at Zlin's Tomas Bata University in the Czech Republic.

The find of Ötzi, however, has other significance. He could not have reached the altitude where he died if the climate had not been much warmer than it is now. Having suffered a pretty nasty end (DNA has shown that he was attacked by at least

four other individuals), the climate must have subsequently become much colder. Where he fell was not the year-round glacial ice and snow that it later became.

A matter of life and death

So climate has always influenced our life. But while we have concerns about melting ice and higher temperatures in the Alps, and declining snow conditions for winter sports at lower levels, it would appear that, after a long glacial period in history, some 5,000 years ago we had a much warmer period, with temperatures between 0.5 to 2°C higher than today before the Little Ice Age manifested itself. In those days people found ways to cross the Alps, as did Hannibal in 218 BC—with his elephants—on his way to Rome. The latest publications on the subject mention that he, and the elephants, also enjoyed the benefit of green meadows on the long march.

With the increase in global warming, it could be confidently predicted that more remains will fight their way through the encapsulating frozen ground and ice. Thus, in September 2003, Ötzi found that he had to share the limelight with more finds coming out of the ice. Again, after a hot summer, yet another couple of hikers tripped over more history. At a similar height of 2756m above sea level as Ötzi was found, a large number of items were found in the pass over the Schnidejoch, near the ski resort of Lenk in the Alps above Berne, Switzerland. The finds were well-preserved and among them were parts of leather shoes and leather trousers, besides a bow and arrows, as well as many shoe nails and some objets d'art. They also found a great number of bones, showing the type of animals (cattle, sheep, pig, goat, fox and rabbit) available for

'preparation' or 'tanning'.

It is difficult to call it tannage in the sense that we use the term today. However, it was known at this time that contact with tannin-containing plants have a certain preserving effect and special barks may have been used. Some natural grease elements were used very early in history, mainly brains, which acted as a kind of a fat emulsion or liquor. Aluminium salts were known in Egypt, but had only regional importance. About this time, in today's European region, hides were often used, almost raw, to be cut and formed into shoes, and it was only for lighter leathers and furs that the grease tannage was used.

For Ötzi, many studies have been undertaken but they haven't led to particularly clearcut results. While his demise was undoubtedly more sensational, results might be different in the Schnidejoch study, where the archaeological service of the University of Berne, under Peter Suter and his associates, has overall responsibility for analysing the finds. Items are more varied and cover a greater period of time. In 2005, preliminary results were published but the details are still not available. Nevertheless, it looks like there could be strong parallels to the findings regarding the Iceman. (*World Leather* will return to the subject as soon new findings become available.)

One fact is clear. It was about the same time that farming began and the availability of animals, and hides and skins, was not dependent only on hunting. The first tannery was waiting in the wings.

A second fact is clear. As the Swiss glaciers recede under the influence of global warming, Swiss archaeologists can look forward to a busy future. ☺