



History

The origin of the species

An interesting news item came to light recently. The Brazilian Association of Tanners in Rio Grande do Sul has apparently set up a programme to demonstrate how leather produced in the state has different technical characteristics from leather produced in other regions in the country. It has accordingly launched its 'Finished Leather Geographical Identification Programme'. It must be assumed from this that either the raw hides the local tanners are working with differ from those generated elsewhere in the country or that they believe their tanning process, used by all its members, is demonstrably better than that used by other Brazilian tanners.

What it does indicate, however, is that a precise knowledge of the raw material is essential for the art—or science—of leather-making and it is acknowledged that bovine hides are the most important part in the story of leather manufacture. It is also generally acknowledged that European bovine hides lead in quality but only recently has the real origin of the European herd been discovered.

The accepted way for affiliation testing uses the DNA test as a key.

In the last few years the University of Mainz, Germany, has used this method in its archaeological studies and it is how Dr. Ruth Bollongino, of the Paris-based

CNRS, the Muséum national d'Histoire naturelle, completed her dissertation about the origin of European bovine and its domestication.

It was known that during the Neolithic age, about 4000 BC, farmers settled in specific places. The nomadic way of life was changing. From that period on, they not only hunted wild animals but had also managed to domesticate animals and the hides from these were available for 'tanning'.

As far as sheep and goat were concerned, it was quite clear that these would have been imported into Europe because no wild form of the animals existed on the continent before.

The Auerox

Wild boar and the so-called Auerox, a wild bovine form, did exist and bones could be DNA-compared with bones from the later European bovine. The result was very revealing. The DNA analysis showed a good correspondence between bovine samples taken in Germany, France, Slovakia and Hungary but highlighted a clear difference to the original wild form in Europe.

According to Dr. Bollongino, "We sequenced bovine mitochondrial DNA from approximately 60 archaeological sites of the Early Neolithic ranging

geographically from the Near East to the British Isles. Amongst them were aurochs (*Bos primigenius*) and domestic cattle (*Bos taurus*). Interestingly, the European domestic cattle are not part of the primigenius cluster and the TMRCA (Time to the Most Recent Common Ancestor) of both groups is older than 200 ka (thousand years). Thus, we can say that European cattle were not domesticated from European wild aurochs populations. The few preserved lineages we found in Anatolia and the Near East are identical with the European domestic lineages, favouring a Near Eastern origin of all European cattle."

And so it has been proved that a rather small group of animals were imported from the Near East—the genetics barely differ and the European bovines of today have a very different lineage to what had been presumed.

Once the animals had been introduced nature took its course although it is still not quite clear whether a small group of farmers taught the original hunters to farm and raise cattle or if the farmers migrated in large numbers with their 'cattle'. No doubt even this will be clarified soon but, for tanners, only the paternity of their valuable bovines is important and that importance will last as the main basis for tanning. 🌐