

Urgeschichte

Laure Fontana, **Les sociétés de chasseurs de rennes du Paléolithique récent en France. Économie, écologie et cycle annuel du nomadisme**. Publisher Presses Universitaires de Franche-Comté 1595, Besançon 2023. 245 pages with 92 colour figures.

It is well known that Palaeolithic objects do not speak for themselves, but they have to be interpreted. However, interpretations have often been influenced by analogy, limiting the potential for discovering the diversity and complexity of the Palaeolithic. One such example is the analogy of the migratory behaviour of the present-day Barren Ground caribou of Canada to the Late Pleistocene reindeer of Europe. In her new book of some 250 pages, »Les sociétés de chasseurs de rennes du Paléolithique récent en France«, Laure Fontana notes that as early as the nineteen-fifties, analyses by Jean Bouchud and Yves Guillen indicate non-migratory reindeer during the Upper Palaeolithic due to the year-round presence in southwestern France. However, this result was never put into perspective by most archaeologists when interpreting the human way of life in the Pleistocene, as the paradigm of Upper Palaeolithic humans hunting »highly migratory herbivores« persisted until the end of the twentieth century. Only Jacobo Weinstock, twenty-three years ago, was able to show that osteometric data implied local Late Pleistocene reindeer populations that did not migrate like their recent Canadian relatives. More recently, Fontana re-examined the animal bone assemblages of the Dordogne and could confirm Bouchud's findings. She has extended this research and published her results in *Les sociétés*.

Her book, which I read with pleasure, contains the interpretation of 256 reindeer bone assemblages from 117 sites, ranging from the Gravettian to the Magdalenian, covering an area from the Paris Basin to the Pyrenees and from the Atlantic to the Rhône, Alpes and Jura. Part of the introduction is a description of the landscape and climate of late Marine isotope stage three and Marine isotope stage two. As climate change is a topic we experience today, it may be important to repeat the strange characteristics of Late Pleistocene France here again: annual mean temperature below minus seven degrees Celsius, larger land masses than today due to a more than hundred meters lower sea level, winter pack ice in the Gulf of Biscay, low snow cover in early winter, generally clear skies with high evaporation and radiation loss, but

strong storms in spring and autumn. This dry, steppe-like tundra of what is now France was the westernmost part of the so-called mammoth steppe, which began far, far east in Beringia.

The first result of »Les sociétés« is that the reindeer was the most dominant animal hunted by humans from the middle Gravettian to the end of the Magdalenian, especially in the Charente, the Dordogne and the Lot. Age determinations of reindeer molars from sixty-four Palaeolithic assemblages were compared with data from the recent Kaminuriak caribou of Canada. The surprising result was that a non-selective mode of reindeer hunting was practised between thirty and fourteen calibrated radiocarbon years before present. There is no variation in time, space, presumed site function, site location, season or climate. This non-selective hunting implies, according to Laure Fontana, that the exploitation was not carried out in order to have a surplus to store for later use or to obtain large antlers. In addition, reindeer were generally hunted close to the site and whole animals were consumed. Fragmentation indicates that all bones, from mandibles to the lower extremities, were opened for marrow extraction.

Sex determination of postcranial bones slightly alters the interpretation of age classes: data from thirty-five assemblages indicate a predominance of hunting young calves and adult females or subadults of both sexes. However, data from only two sites, Pincevent and Verberie in the Paris Basin, suggest a predominance of hunting adult males in the autumn. The season of death is determined by the condition of the teeth, sex determination of unshed antlers, and the age of fetal long bones. Data from eighty-four assemblages indicate no winter hunting of reindeer in the Massif Central, rare winter hunting in the Lot, no summer hunting in the Montagne Noir, and spring and autumn hunting in the Paris Basin. Individual sites in west-central France and the Pyrenees indicate reindeer hunting in almost all seasons. In the Charente/Dordogne, on the other hand, reindeer were hunted in all seasons at many sites. This result does not show a pattern as clear as age and sex determination, but it does indicate regional variation: there were no simple migrations between the lowlands and all the mountains, as reindeer behaviour in Late Pleistocene France was spatially complex and seasonally diverse. This result may lead the reader to wonder whether the variation in herd composition of Pleistocene reindeer may have been very different from that of recent reindeer.

Analysis of reindeer antlers, which was possible for thirty-one assemblages, indicates that strong reindeer antlers were an important resource for Gravettian, Solutrean, Badegoulian and Magdalenian people. These strong antlers were mainly obtained by hunting adult male reindeer in the autumn. Smaller antlers were obtained by hunting female or sub-adult reindeer in winter and early spring. However, large and strong antlers from adult males were also obtained by regular collection of shed antlers. This is in contrast to the smaller, shed antlers of female reindeer, which were not or only rarely used. This pattern is interpreted in by the author as the collection of shed antlers from adult male reindeer in winter. Of course, finding fresh shed antlers may have been the optimal foraging strategy. However, shed caribou antlers do not lose their material properties when exposed on the surface or being frozen for several months (L. P. Karr / A. K. Outram, Tracking changes in bone fracture morphology over time. *Environment, taphonomy and the archaeological Record. Journ. Arch. Scien.* 39, 2012, 555–559; S. Pfeifer, Die Geweihfunde der magdalénienzeitlichen Station Petersfels. *Forsch. u. Ber. Arch Baden-Württemberg* 3 [Wiesbaden 2016] 77; A. Sutcliffe, Rates of decay of mammalian remains in the permafrost environment of the Canadian High Arctic. *Canada's missing dimension* 1, 1990, 161–186). This may mean that shed male antlers are not a very accurate method of determining the season of human activity and presence in a region, or the occupation of a site.

In a later chapter, Fontana combines her results with data from lithic studies, the origin and the operational chain of local and regional flints and cherts. In a concluding discussion, she interprets her data to show that between thirty and fourteen thousand calibrated radiocarbon years before present, human lifeways in the westernmost part of the mammoth steppe oscillated between low residential mobility during the long, cold season and high residential mobility during the summer period. In short, there was a seasonal shift between, to use Binfordian terms, collectors in winter and foragers in summer.

This interpretation broadens the debate on the way of life of Late Pleistocene hunter-gatherers by suggesting seasonal shifts in settlement and subsistence systems. However, the presentation of this interpretation does not consider how to distinguish the material record of long- and short-term occupations: how does data from lithics, rocks, structures, site size, seasonal data from other animal species support this interpretation? Moreover, how does excavation style and evaluation methods influence this interpretation? In contrast, by taking a more holistic perspective, Denise Leesch and colleagues – published in a book that is quoted in »Les sociétés« (D. Leesch / J. Bullinger / W. Müller, *Vivre en Suisse il y a 15000 ans. Le magdalénien* [Basel 2019]) – consider both archaeological and archaeozoological data. According to them, the material record of the Magdalenian was only created when the hunting of a few herbivores was successful, resulting in human moving to or near the kill site to

consume the prey on open-air, stone-covered hearths with associated domestic activities. After this episode, a new hunt was necessary, and the group had to move if the kill site was far away.

Thus, the material record of the Magdalenians may be the result of small groups of humans constantly on the move over (to us) unknown short and long distances. Hunting was not carried out close to the site, but the group was moved close to the kill site. There, activities were practised that left behind waste, creating a »site« that we now interpret as a »camp«. It is nice to see that Fontana supports this interpretation with results of non-selective hunting, the killing of few deer, the proximity of the killing site, and the importation and consumption of whole animals.

However, as mentioned above, regardless of whether we see seasonal changes in subsistence strategies or small, year-round mobile groups, between thirty and fourteen calibrated radiocarbon years before present humans must have had all the characteristics of recent subsistence hunter-gatherers: in West Greenland, for example, caribou hunting is much more than looking for passing game and eventually shooting it. Greenlandic hunters take their two to three-year-old children with them, so that ten years later they can shoot their first caribou.

The book shows that at this age, young hunters have already learned where to expect deer, how to move in the terrain, how to read tracks and signs, how to use the wind to approach deer for a safe shot, how to butcher them and how to carry prey. During the hunt, young hunters know what to wear, when to rest and what to eat. They knew how to find their way around, so they had a detailed knowledge of the landscape and its places. Young hunters know what to do in what kind of weather, where to stay, how to prepare and protect drying meat, and what to do with waste.

As a hunter grows older, he gains experience from more hunts, from deep involvement, but also from sailing long fjords and rivers with treacherous currents, from repairing outboard motors, stoves, guns, wrecked tents and clothing. The hunters tell stories, for example about wolverine tracks, wolf-like canids that hunt caribou – according to zoologists neither wolverines nor wolves live in West Greenland – or about the Qivitoq, solitary people who live off the grid far inland. Through living, travelling and hunting, the inland steppe tundra becomes a web of relationships between elements, landscape, animals, humans, stories and cosmology.

Thus, becoming a competent hunter is not about solving problems, adapting to nature, or building a niche. To live from hunting means to be immersed in an ever-evolving hunting way of life. An important part of this way of life is a detailed knowledge of the biology, ethology and ecology of animals, for example where to be at sea at a particular time of day in particular weather conditions for successful fishing or seal hunting. This enables the competent Greenlandic hunter-fisher, when on holiday in a village by the Mediterranean, to under-

stand the methods and working rhythms of Italian fishermen after close observation.

From a recent subsistence hunter's point of view, it seems unlikely that any human hunter-gatherer in the past did not have this in-depth knowledge. Fontana supports this: Late Pleistocene humans had a detailed knowledge of reindeer: they knew where to expect and hunt them in the mountains in winter (the Pyrenees) or not (the Massif Central), where reindeer were present all year round in the lowlands (the Dordogne) or where these herbivores could only be encountered when passing through in autumn (the Paris Basin).

Jena

Clemens Pasda