
Human-environment interactions in the Alps: Integrating Archaeology and palaeoenvironmental approaches

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Abstract

Our understanding of high altitude (European) alpine landscapes and the economic practices that developed therein has improved radically over the last 15 years, nevertheless there are still many challenges, and numerous geographical areas where little or no research has been carried out. On their own, certain data-types are quite weak; archaeological evidence is particularly scarce, and demands corroboration via various palaeoenvironmental data. One of the issues facing archaeologists and palaeoenvironmental scientists working in these areas (between c. 1600 and 2800 m asl) is the patchy nature of our various datasets, moreover, human-environment interactions operate at many spatial and temporal scales, and the integration of these data is often problematic. Archaeological and palaeoenvironmental evidence are proxies for human-environment interactions; in some instances, we can identify broad categories of economic activities, such as pastoralism and arable agriculture, in other cases,

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we can identify actual practices, such as pasture creation via forest burning, or the exploitation of specific animal species, or the creation of structures for penning animals.

In this paper, we will consider evidence for the development of high altitude pastoralism in the French Alps during the Late Neolithic and Early Bronze Age via the integration of data-types that operate at different spatial and temporal scales; archaeology, palaeoecology, sedimentology and sedimentary aDNA. Within the context of the Alps, we argue that these seemingly disparate data allow us to assess a specific and significant form human niche construction (i.e. pasture) during the Late Neolithic and Early Bronze Age. This can be considered a form of coevolution; the intensification and extension of pastoralism, which included high-altitude summering in the Alps. This was part of a process where a form of agriculture, and landscape management intersected with the extension of the lactase persistence gene via increased consumption of dairy products - a key stage in the evolution of the high profile and globally recognised alpine landscape. Human manipulation of this specific landscape category also intersects with the continued domestication of animals.

This contribution will present an integrated review of archaeological, palynological, anthracological, sedimentological, and sedimentary aDNA from three areas of the French Alps. We will also consider the evidence for phases of landscape destabilisation and the relative importance of climatic and human impact on these sensitive landscapes; a story which starts just before 2000 BC.