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Territories and economies of hunter–gatherer groups during the last glacial maximum in Europe

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ABSTRACT

At the last glacial maximum, the Gravettian human groups moved to southern European Peninsulas: Iberian, Italian, Balkan and the gulfs: Tyrrhenian, Adriatic, Aegean and around the Black Sea (a lake at this time). There, they differentiated: Solutrean in Western Europe, Epigravettian in Central Europe and in Eastern Europe. Human groups, constrained in their new southern territories, returned to a system of small territories and low mobility, which required them to change the food resource system (gregarious mammal hunting replacing migratory herd hunting), sources of raw material procurement (reuse of quartzite), and, as a result, technology (return to flake knapping, importance of lamellar knapping) and industry. This local opportunistic strategy involved territories of less than 1000 km² and low mobility. The climate variations of the last glacial maximum reveal two wetter episodes, clearly visible in the sequences of loess of Central and Eastern Europe and in non-anthropogenic records around 20–19 000 BP and 18.5–17 000 BP. During these two episodes, human groups moved northward during the summer, in a seasonal mobility strategy, involving hunting of migratory animals and use of outcrops of good flint. These two systems existed during the last glacial maximum in Western, Central, and Eastern Europe, where, despite typological differences in assemblages, common characteristics may be highlighted.

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1. Introduction

In Europe, during the last glacial maximum, between 22 000 and 16 500 BP, prehistoric populations had to adapt to the climate change which modified vegetation and animal zoocenoses, the main resources of hunter–gatherers. Climate change involved a general cooling accompanied by a decrease in rainfall (Fig. 1). Two climatic episodes, recorded in the loess sequences by small fossil soils, in bogs and ice coring, seem to be characterized by a return of moisture without significant increasing in the temperatures. They are dated around 20 000–19 000 BP and 18 500–17 000 BP (Figs. 2–4).

Prior to the last glacial maximum, in a cold and dry climate, the European hunter–gatherer population produced a Gravettian industry, which had regional variations due to progressive geographic partitioning of Europe with climate deterioration. After the last glacial maximum, in a cold and dry climate, the European hunter–gatherers produced a Magdalenian industry in Western

and Central Europe and an ‘Epigravettian’ industry in Central and Eastern Europe (Djindjian et al., 1999).

The climate deterioration did not allow prehistoric people to adapt locally to the new climate environment, but from 22 000 BP forced a general retreat towards the Mediterranean regions and the abandonment of Middle Europe. This collapse had very important systemic consequences on food resource management systems, raw material procurement, and on mobility of groups within their new territories, and consequently on their population.

2. Food resource management systems

Abandonment of Middle Europe stopped the hunting of herds of migratory mammals (bison, reindeer, mammoth). The search for animal food resources specialized in hunting non-migratory mammals (deer, horse, *Equus hydruntinus*, wild boar, deer, auroch) in southern environments. This change has several important consequences: declining food biomass provided by the great herds of large mammals, greater difficulty in ensuring food resources during the annual cycle, and downward mobility of human groups. This is why, as soon as the climate allowed, summer mobility to

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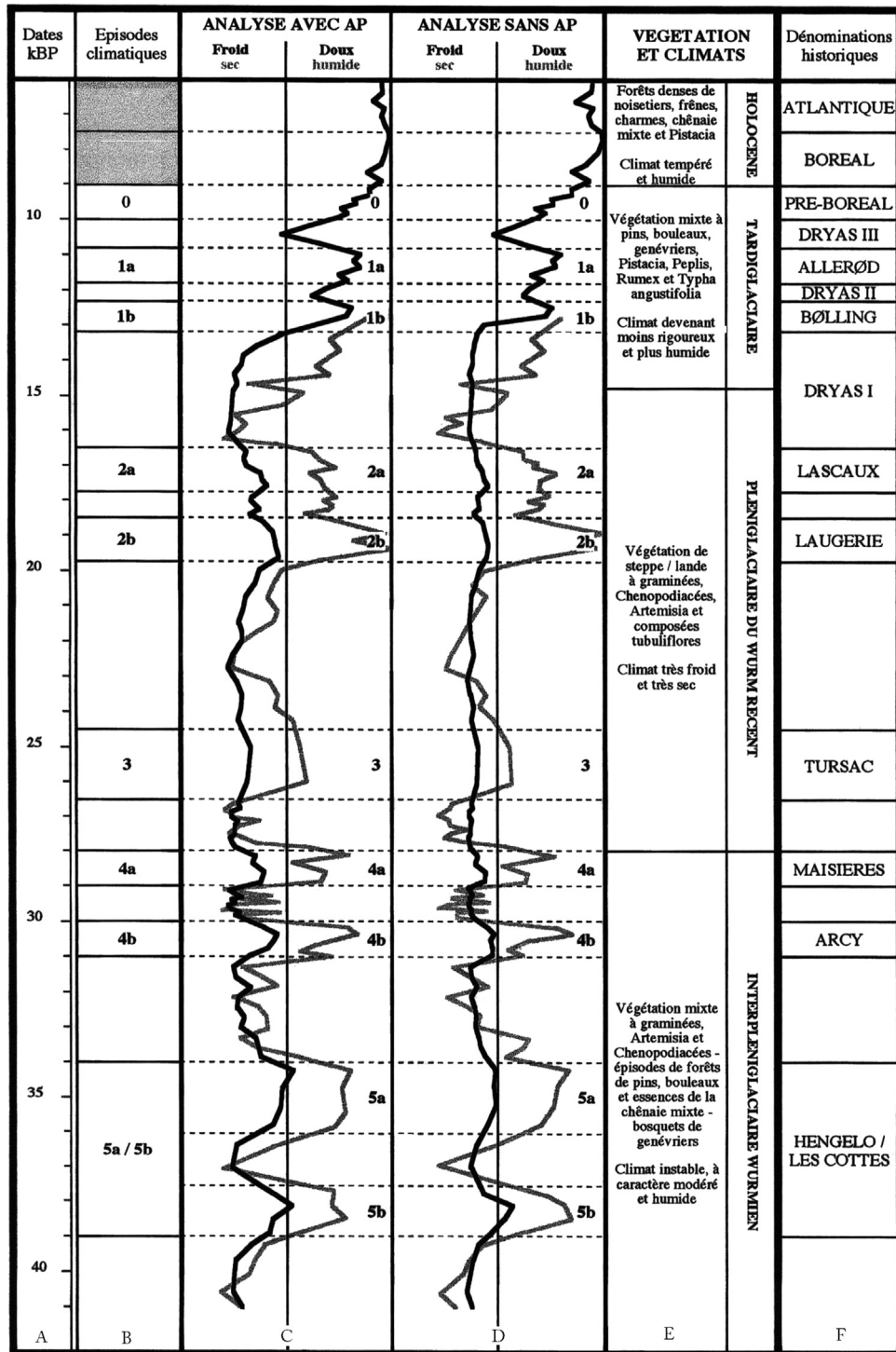


Fig. 1. Climatic variations before, during and after the last glacial maximum (Bosselin and Djindjian, 2002). Peat-bog of Tenaghi-Philippou (Macedonia, Greece). Paleoclimate curves obtained from the projection of sampled levels on the first factorial axis of a correspondence analysis. Column A – Dates kBP. Column B – Climatic events (number). Column C – Analysis 1: Ratio of tree pollens included as a variable (analysis with AP). Column D – Analysis 2: Ratio of tree pollens excluded (analysis without AP). Column E – Modelling of vegetation and climate between 42 000 BP and 6 000 BP. Column F – Historical names of climatic events.

Middle Europe resumed, with hunting herds of migratory mammals.

During the last glacial maximum, the progression of permafrost resulted in a change of vegetation marked by the expansion of the tundra and reduction of the cold steppe, which accordingly changed the migratory territories of mammals. If the reindeer,

consumer of mosses and lichens, was little affected, the bison was restricted to the steppe territories of Aquitaine, the plain of the Po and the northern periphery of the Black Sea. The mammoth disappeared from most of the European continent, and particularly Western and Central Europe, and returned only from 17 000 BP.

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