sites, micromammals and small mammals are rare. Our analysis of the materials suggests spatial partitioning of activities, with domestic activities occurring in the front and discard of debris in the back.

Fireplaces in the Middle Palaeolithic: case studies of Kebara and Hayonim Caves

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From almost the second half of the Middle Pleistocene, humans have controlled fire. The best evidence for this was exposed in Middle Palaeolithic sites. Most frequently, the traces of hearths are sparse and are visible only in the form of the burnt residues of lithics, bones, and dispersed charcoal specks. However, in favourable conditions of preservation we can readily observe hearth features such as whitish-grey ashy areas, dark organic levels, a thermically altered substrate, and burnt stones. Middle Palaeolithic occupations in the Near East contain a strikingly plentiful number of well-preserved hearths in which stratified white/grey ashes overlay charcoal rich dark layers. Similar phenomena are described in several MSA sites in South Africa as well as other Middle Paleolithic localities such as Gorham's Cave (Gibraltar), and Grotte XVI (France). It has been unclear whether the observed good state of preservation solely reflects favorable conditions for it, or rather the effects of special activities, or the particular exploitation of various types of combustibles. Over last two decades, interdisciplinary research conducted at Kebara and Hayonim Caves (Israel) focused on the detailed study of numerous hearths. These investigations concerning spatial distribution, micromorphology, anthracology, phytolith analysis, and mineralogy at the sites provided a wealth of information. Apparently site formation processes which permitted relatively good or bad preservation, evidence for the choice of combustibles, the nature of occupations, and the degree of mobility may together explain the evidence related to the use of fire.

Chimpanzee-produced stone assemblages from the tropical forests of Taï, Côte d'Ivoire

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We report the results of the first archaeological excavation of a chimpanzee (*Pan troglodytes*) nut-cracking site. Previous researchers have conducted surface mapping and qualitative assessments of chimpanzee stone tools, and the results have been compared with

hominid archaeological remains. In some cases, the similarity of stone hammers and anvils used by chimpanzees and early hominids is striking. 'Chimpanzee archaeology' is a new field that has the potential to expand our understanding of hominid tool use prior to the earliest evidence of systematic stone flaking 2.5 Ma.

Our site, located in the Taï forest, Côte d'Ivoire, is called ''Panda 100'', and lies on a platform formed by a meandering river. This place supported a single *Panda* nut source and at least five root systems that were used as anvils during recurrent and spatially constrained chimpanzee foraging activities. In the course of nut-cracking, stone hammers often experience unintentional damage and flaking. High rainfall triggers significant rainwash and sediment yield across the site, and a good potential for quick burial of behavioral remains. Archaeological excavation was in a fine matrix of well-rounded coarse sands that naturally does not include larger fractions. The thickness of the excavated deposit is more than 20 cm. Chimpanzees obtained raw materials from nearby igneous outcrops of granite and diorite, but also from lateritic sources. The artifactual evidence comprises 479 artifacts and includes stone by-products such as flakes, tabular pieces, edge fragments, shatter, and microdebitage. Chimpanzee-produced stone assemblages from ''Panda 100'' resemble some Early Stone Age industries from East Africa and provide new insights into the nature of early hominid technology.

Mousterian mobility and the significance of raw material transfers: A view from Artenac

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During the Mousterian of Southwestern France, only a small percentage of the transferred raw materials is located more than 30 km from the site. However, in the same time period, raw materials were moved over significantly larger distances in Central Europe. Nevertheless, these transfers are modest when compared with those recorded in the Upper Paleolithic. This suggested to some a substantial increase in the scale of mobility and has been interpreted by others as a demonstration that Neandertals lacked planning-depth.

The experimental replication of the chipped stone assemblage of layer 5 from Artenac, a Ferrassie Mousterian assemblage, is used to assess some of these propositions. At Artenac, none of the tools were transported over a distance longer than 30 km. However, the modest transfers documented in the site, as in most Mousterian sites, may in fact result from the abundance of flint and quartz in this region and a high residential mobility, a combination of causes that would have led to a high toolkit turnover. The planning ahead of raw material transfers may not have been necessarily lacking as a capacity in Neanderthals, and only the transfer of a very small toolkit may have been required. In that perspective, the raw material transfer increase in the Upper Paleolithic may actually signal a trend opposite to the one suggested by some authors, that is a reduction in the scale of mobility. Such a process would put fewer constraints on toolkit composition and weight, resulting in a lower toolkit turnover and therefore a higher frequency of exogenous tools in the archaeological sites.