Antiquity 2020 Vol. 94 (375): e14, 1–8
https://doi.org/10.15184/aqy.2020.79

Project Gallery

A later fifth-millennium cal BC tumulus at Hofheim-Kapellenberg, Germany

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In the nineteenth century, two Neolithic axe-heads were reported from the Michelsberg enclosure system at Kapellenberg. The recent identification of an unusually large tumulus, from which the axe-heads were almost certainly once recovered, reveals that socio-political hierarchisation, linked to the emergence of high-ranking elites in Brittany and the Paris Basin during the fifth millennium cal BC, may have extended into Central Europe.

Keywords: Germany, Brittany, Michelsberg, Neolithic, jade axe-head, burial

Introduction

The site of Kapellenberg (Figure 1), situated on a promontory extending from the Taunus low mountain range in western central Germany, and overlooking the northern Upper Rhine Valley (Figure 2), has been known since the end of the nineteenth century both for its well-preserved ramparts and two large Neolithic stone axe-heads (von Cohausen 1893).

In recent years, the site has become the focus of a joint research project of the Römisch-Germanisches Zentralmuseum (RGZM), the Johannes-Gutenberg University in Mainz, the state conservation agency of the German Federal State of Hessia, and the Magistrate of the City of Hofheim (www.rgzm.de/kapellenberg). Research at the site revealed that the promontory has been occupied intermittently from the late Middle Neolithic (4500–4300 cal BC) onwards (Zimmer 2012). Middle Neolithic Michelsberg occupation and the rampart-and-ditch system was established around 4100 cal BC, and continued sporadically until after 3600 cal BC, when the site was fully abandoned. Kapellenberg is the best-preserved Michelsberg enclosure system, and also one of the largest, with an intramural area of 23ha.

The tumulus

In the course of the current research project, a hitherto undetected surface feature was discovered by on-site inspection and lidar scans. This took the form of an extensive anthropogenic mound with a diameter of 90m and a maximum height of 6m (Figures 1 & 3–4). A test excavation in the centre

Received: 9 October 2019; Revised: 15 January 2020; Accepted: 4 February 2020

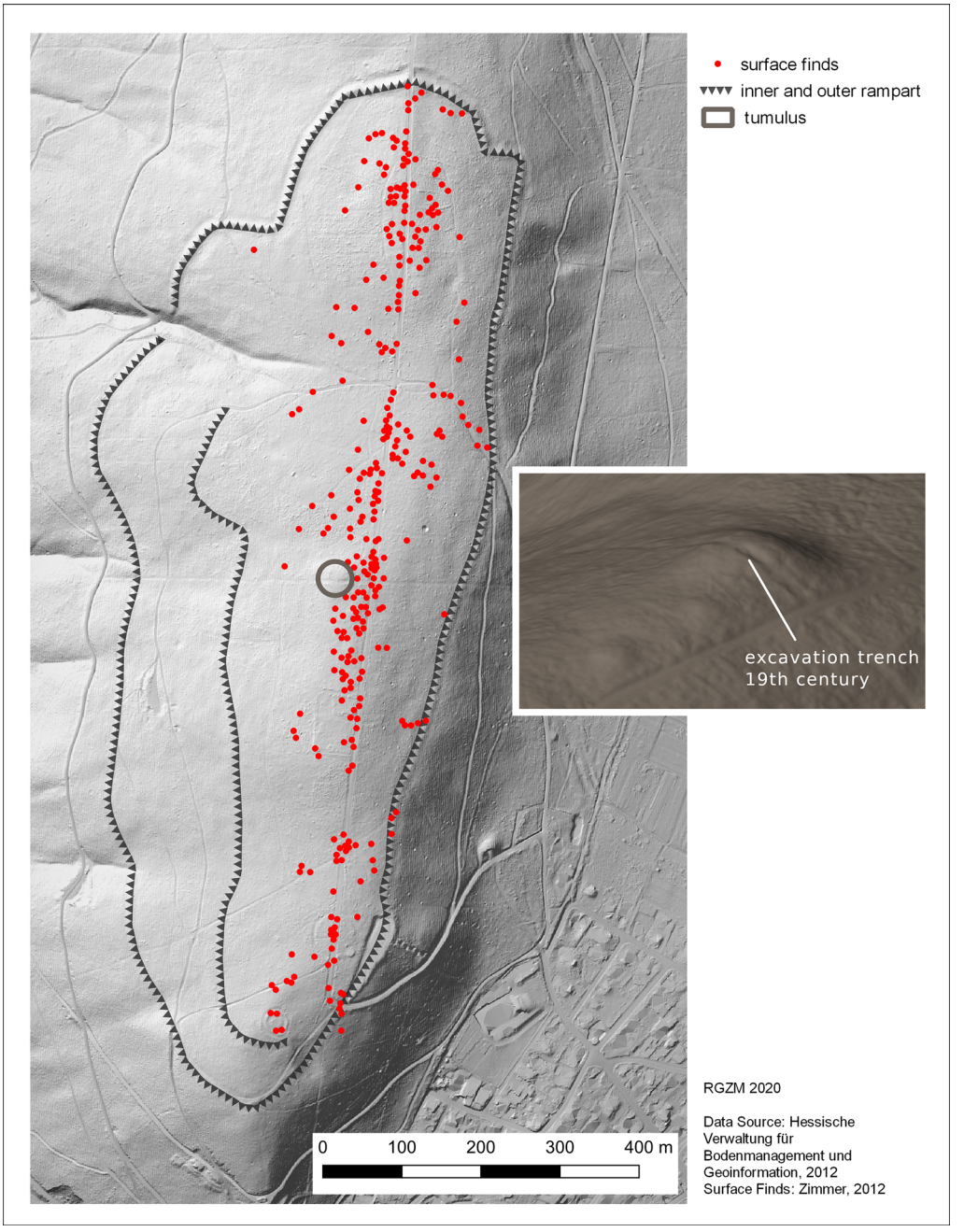

Figure 1. Kapellenberg: inset shows tumulus with nineteenth-century trench and two adjacent Late Neolithic mounds (figure credit: A. Cramer).

of the feature showed that it consisted of boulders and soil extracted from the subterranean geology. The mound was apparently erected on a natural rise in the local bedrock (Hofheim gravel). Coring profiles showed that the preserved height of accumulated material is about 1m (Figure 3).

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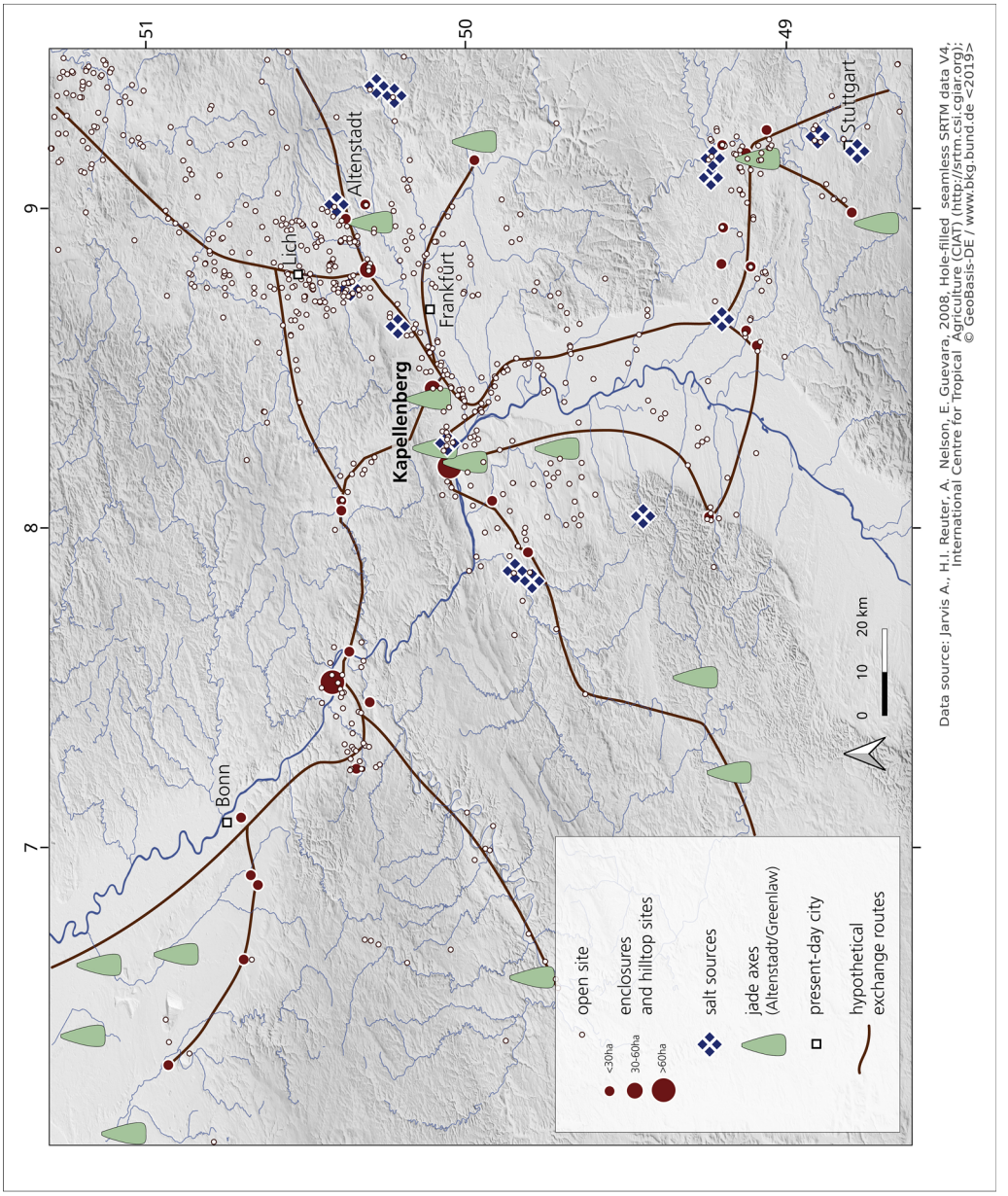

Figure 2. Map showing hypothetical exchange routes and salt sources in the region (figure credit: N. Antunes, D. Gronenborn & M. Ober).

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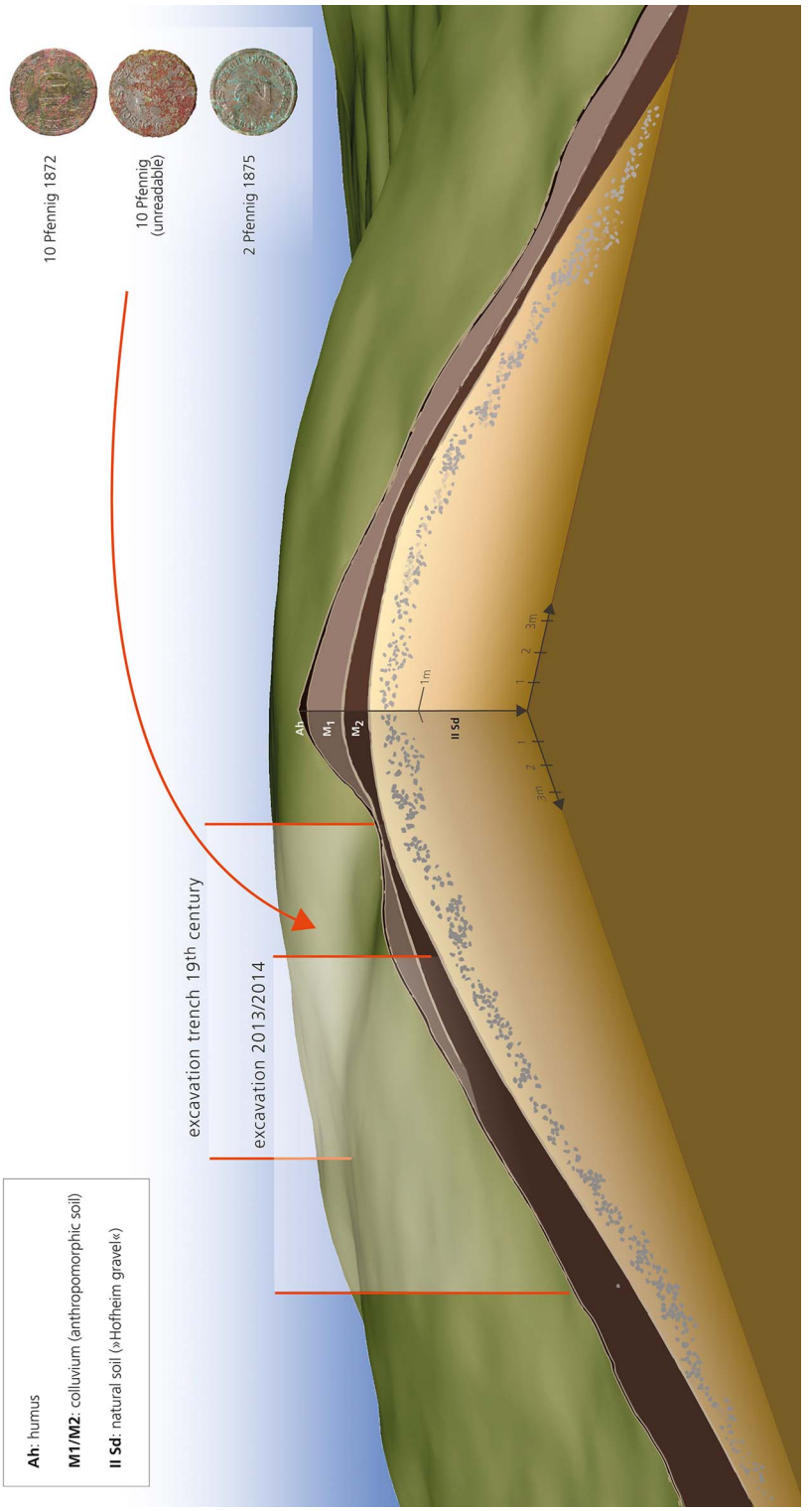

Figure 3. 3D-section through tumulus based on lidar scan, excavations, and coring (three-fold vertical exaggeration) (figure credit: A. Cramer, M. Ober, H. Thiemeyer & P. Pétrequin).

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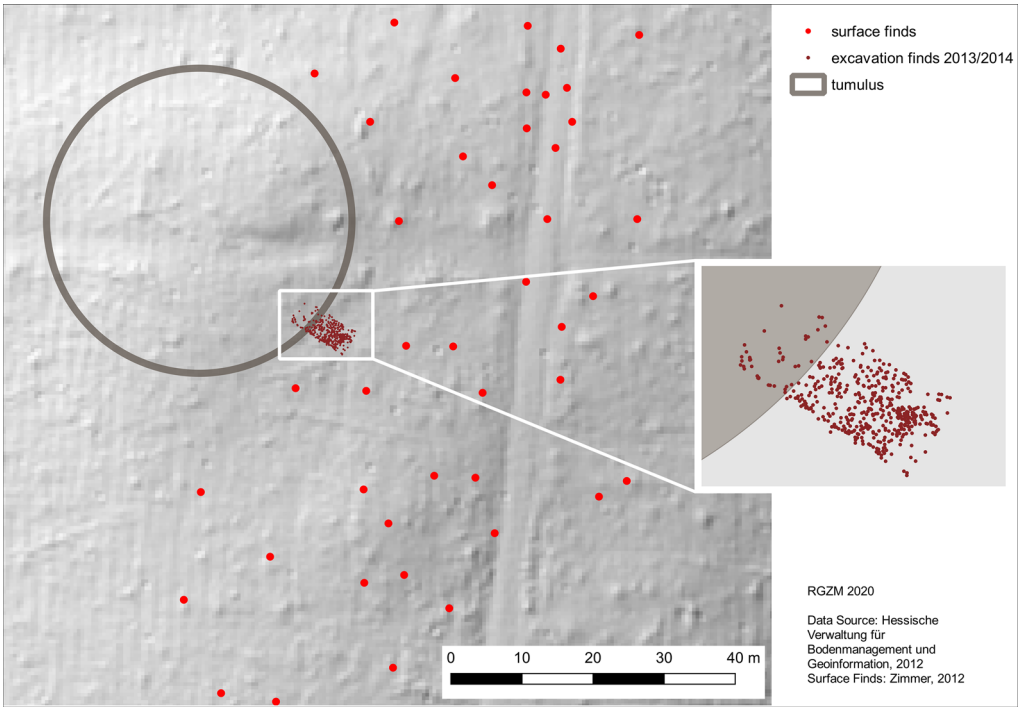

Figure 4. Distribution map showing surface and excavated finds in the vicinity of the tumulus. The finds, dating mostly between 3750 and 3650 cal BC, and tumulus are stratigraphically almost mutually exclusive (figure credit: A. Cramer & D. Gronenborn).

A visual inspection of the ground's surface prior to the excavation and lidar scan revealed traces of a rectangular trench at the centre of the mound; re-excavation of this area produced three coins dating to 1872 and 1875 (Figure 3). These coins, together with evidence from local archival material and a review of the initial publication of the two axe-heads, suggest that the axe-heads were found during an undocumented nineteenth-century excavation that might well have destroyed the original burial situation. At that time, the mound was not recognised as a separate feature and the rubble had instead been interpreted as associated with the Michelsberg rampart system (von Cohausen 1893).

Osseous material is not preserved at Kapellenberg, nor was any organic material recovered during re-excavation. It was thus not possible to date the mound directly. The occupation phases of the site and its stratigraphy help narrow down its construction date, however. The late Middle Neolithic occupation (4500–4400 cal BC) constitutes the *terminus post quem* for construction, while the *terminus ante quem* is established by the stratigraphy in a trench close to the mound. From this it is evident that the tumulus had largely eroded by the time the most extensive interior occupation had begun around 3750 cal BC (Figure 4). Therefore, it seems justified to propose a late Middle Neolithic or early Michelsberg construction date for the mound (Figure 5).

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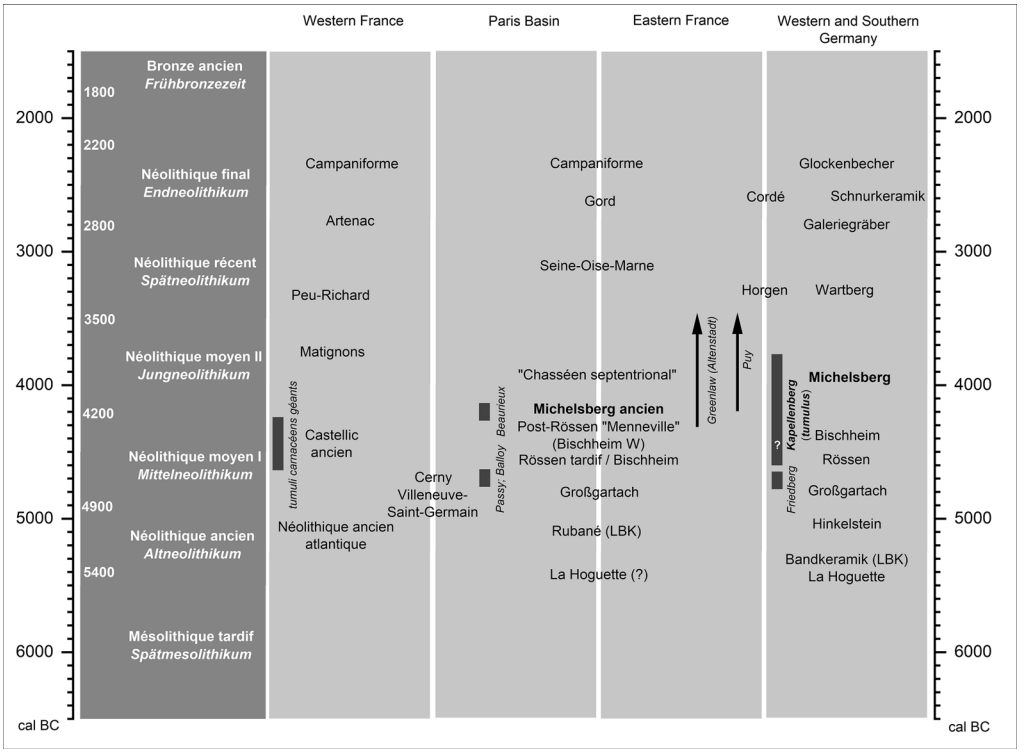

Figure 5. Simplified chronological table showing the lifespan of the two axe types and dating of the tumulus (figure credit: D. Gronenborn & P. Pétrequin).

The stone axe-heads

This time frame is also supported by the typology of the axe-heads (Figure 5): one is made from Alpine jade (Mont Viso massif, Poco Valley) and is of the Altenstadt-Greenlaw type. The second, made from amphibolite of unknown origin, is of the Puy type. The Greenlaw type appears around the middle of the fifth millennium in the jade axe deposits of Brittany, while the Puy type appears *c.* 4300 cal BC in Italy, and *c.* 4100 cal BC in the French Jura (Figure 6). This time range corresponds to the expansion of the Michelsberg Culture from the northern part of the Paris Basin to the Rhine Valley (Jeunesse 1998).

Alpine jade axes found in monumental tumulus-type tombs are rare in Western Europe, the epicentre of the phenomenon being the Gulf of Morbihan in Brittany and, to a lesser extent, the central Paris Basin (Pétrequin *et al.* 2012a & b). Kapellenberg is the only known circular burial mound dating to the late Middle Neolithic or early Michelsberg Culture in western Central Europe. Michelsberg high-status burials have been discovered in the Beaurieux Valley in France, but these are elongated earthen barrows, possibly reminiscent of mounds of the Cerny Culture (Colas *et al.* 2007).

Long-distance connections and political differentiation

Circular burial mounds constructed with stone boulders are known only from Brittany (Boujot & Cassen 1992). There, the so-called *tumuli carnacéens géants* date to the Castellic

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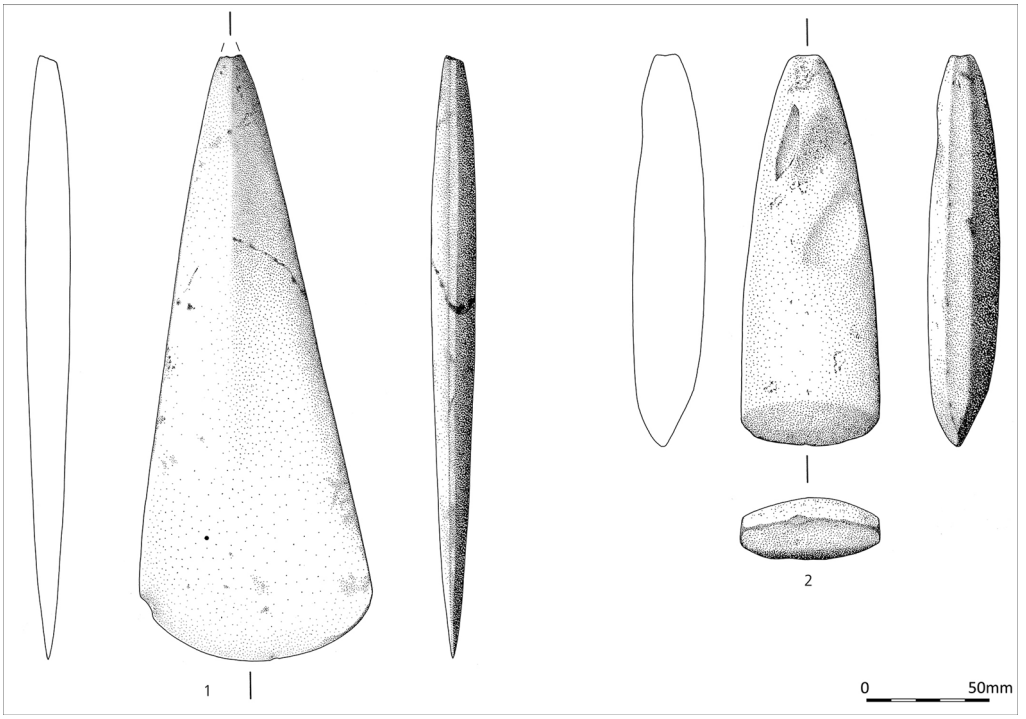

Figure 6. Axe blades: 1) jade blade, type Altenstadt-Greenlaw (JADE_2018_0235); 2) amphibolite blade, type Puy (Hofheim 14429) (figure credit: M. Ober).

ancien, ranging from 4680 cal BC to 4240 cal BC (Cassen *et al.* 2012a; Schulz Paulsson 2017: 38).

Long-distance connections between Central and Western European regions are already documented for the preceding Middle Neolithic. These are demonstrated by high-status burial evidence (Cassen *et al.* 2012a; Gronenborn *et al.* 2018), and by jade axe-head distribution patterns (Pétrequin *et al.* 2012c), suggesting that they may represent exchange networks of prestige goods associated with elites. Another important component of these networks may have been the production and exchange of salt over long distances (Weller 2002; Cassen *et al.* 2012b).

The Kapellenberg tumulus indicates that a socio-political hierarchisation process linked to the emergence of high-ranking elites, which was under way in Brittany and the Paris Basin during the earlier to mid fifth millennium (Cassen *et al.* 2012a; Pétrequin *et al.* 2017; Gronenborn *et al.* 2018) had extended into western Central Europe, possibly within a peer-polity interaction framework and maybe also in the course of population shifts from France to Germany (Beau *et al.* 2017).

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