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Late Bronze Age helmets with crests on transalpine long-distance trade routes

Andreas LIPPERT*

Résumé. The fragment of a bronze helmet with a crest was recently discovered at the northern foot of the main eastern alpine chain in southern Salzburg (Austria) at approximately 1200 metres above sea level. It was found in a sandbank of the Anlaufbach, which flows into the Nassfelder Ache and the Gasteiner Ache in the North. The latter is a tributary to the Salzach, the largest river of the Salzburg region, which flows through both the mountains and the lowlands. The object was found in a water context and may have been a votive deposit.

Découvertes de casques à crête du Bronze final sur des routes commerciales transalpines

Abstract. Une nouvelle découverte dans la région sud de Salzbourg (Autriche), porte désormais à trois le nombre de casques à crête ornés de symboles solaires, datant du Bronze final dans le secteur oriental de l'arc alpin. Ces pièces ont été partiellement détruites de façon intentionnelle, leur dépôt s'inscrivant dans le cadre de pratiques votives. Les lieux de découvertes qui se situent tous le long des routes de col avantageuses, témoignent d'un réseau de commerce lointain lequel était bel et bien destiné à l'exportation du cuivre brut et du sel. Ces échanges de matières premières à longue distance étaient vraisemblablement contrôlés par des aristocraties de guerriers implantées dans les Préalpes du Nord et du Sud.

In a steep descent, the valley of the Anlauf leads directly to the Korntauern Pass in the main alpine chain around 2460 metres above sea level. This route was being used from an early period, and it continued to represent an important link between the northern and southern alpine regions well into modern times. The pass itself yielded a small hoard of cast copper lumps, which can only be generally assigned to the Bronze Age (Lippert 2000, 252, fig. 4/1-2). During Roman times, a wide road led across the pass, although it fell into disrepair shortly after its construction at the end of the second century AD (Lippert 1993, 30 ff.).

The bronze find from the Anlauf valley constitutes two-fifths of a double-shelled late Bronze Age helmet with a crest (fig. 1). It is decorated with embossed rows of punched dots at the edges and at the ridge as well as with a concentric circular motif of punched dots around a larger boss on the sides. The reconstructed form of the helmet and its decorations closely resemble the almost entirely preserved crested helmet from Pass Lueg, which was already discovered in 1838.

The helmet from Pass Lueg (573 metres above sea level) was discovered on a rock terrace above the present-day

pass road. According to contemporary reports, numerous other bronze objects were also found on the site (fig. 1). Only a handful of these were given to the Salzburg museum and have therefore survived. The other objects are missing (Kyrle 1918, 80 ff.). It is more or less certain that votive offerings were deposited on the site either individually or in assemblages. In addition to the helmet with a crest, three old, broken socketed picks, a fragmented median winged axe and several pieces of cast copper lumps remain. The cast copper fragments and the socketed picks in particular can be directly associated with copper mining. Picks from the Bronze Age Mitterberg mining grounds in the area of Bischofshofen in the central Salzach valley are directly comparable. Calotte-shaped cast copper lumps, which are the end product obtained during copper exploitation, occur in various hoards from mining contexts; these have often remained intact. The axe from Pass Lueg can only vaguely be dated to the early or older Urnfield period.

The helmet is made up of two halves and consists of a thick bronze sheet. The cap is hemispherically shaped and drawn into a trilobate crest at the top. At the front and back sides, the two halves of the helmet are joined with rivets. In

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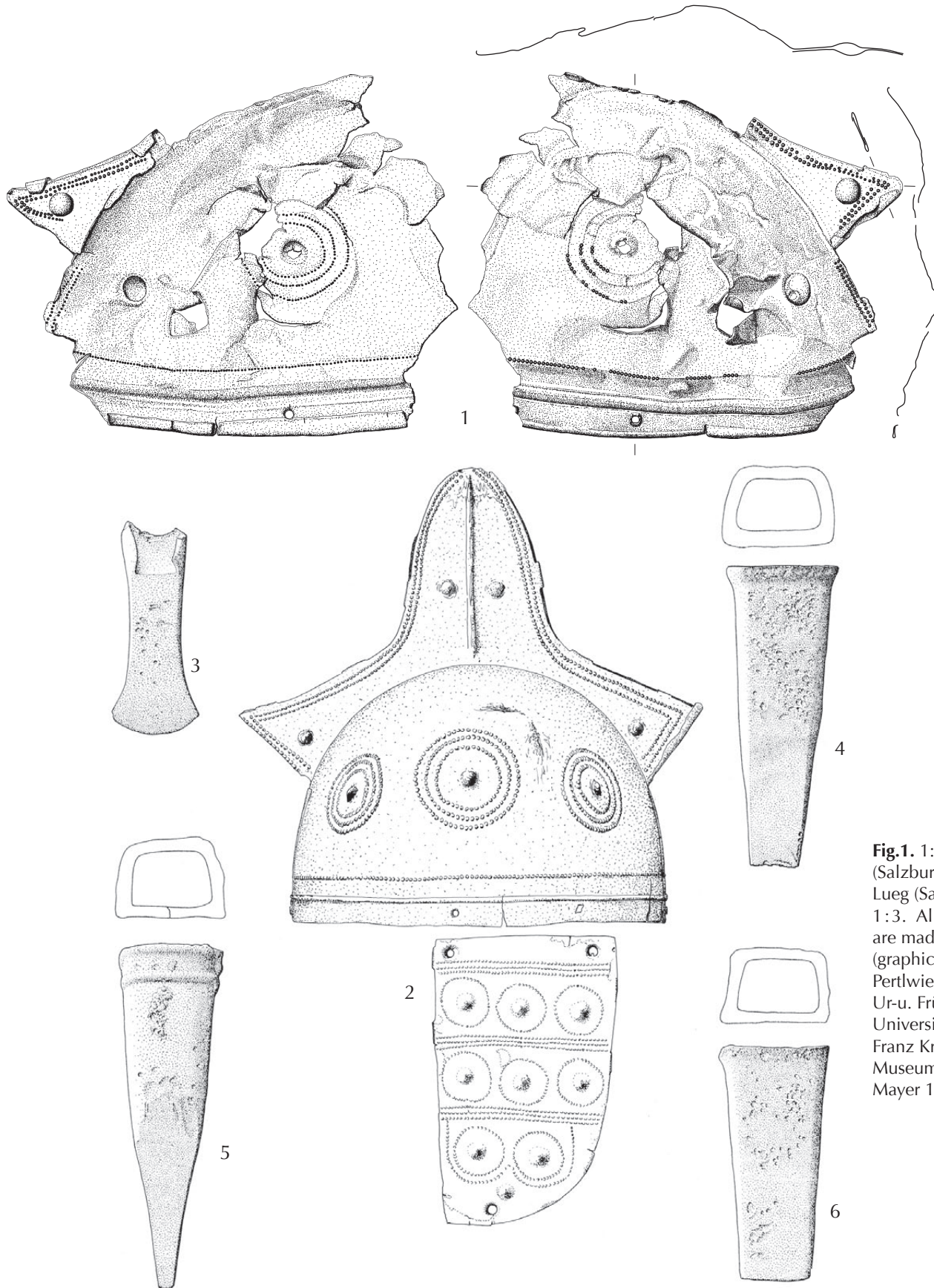


Fig.1. 1: Anlaufftal (Salzburg), 2-6: Pass Lueg (Salzburg). Scale 1:3. All objects are made of bronze (graphics of 1: Thomas Pertlwieser, Inst. f. Ur- u. Frühgeschichte, Universität Wien; 2: Franz Krois, Salzburg Museum; 3-6: after Mayer 1977).

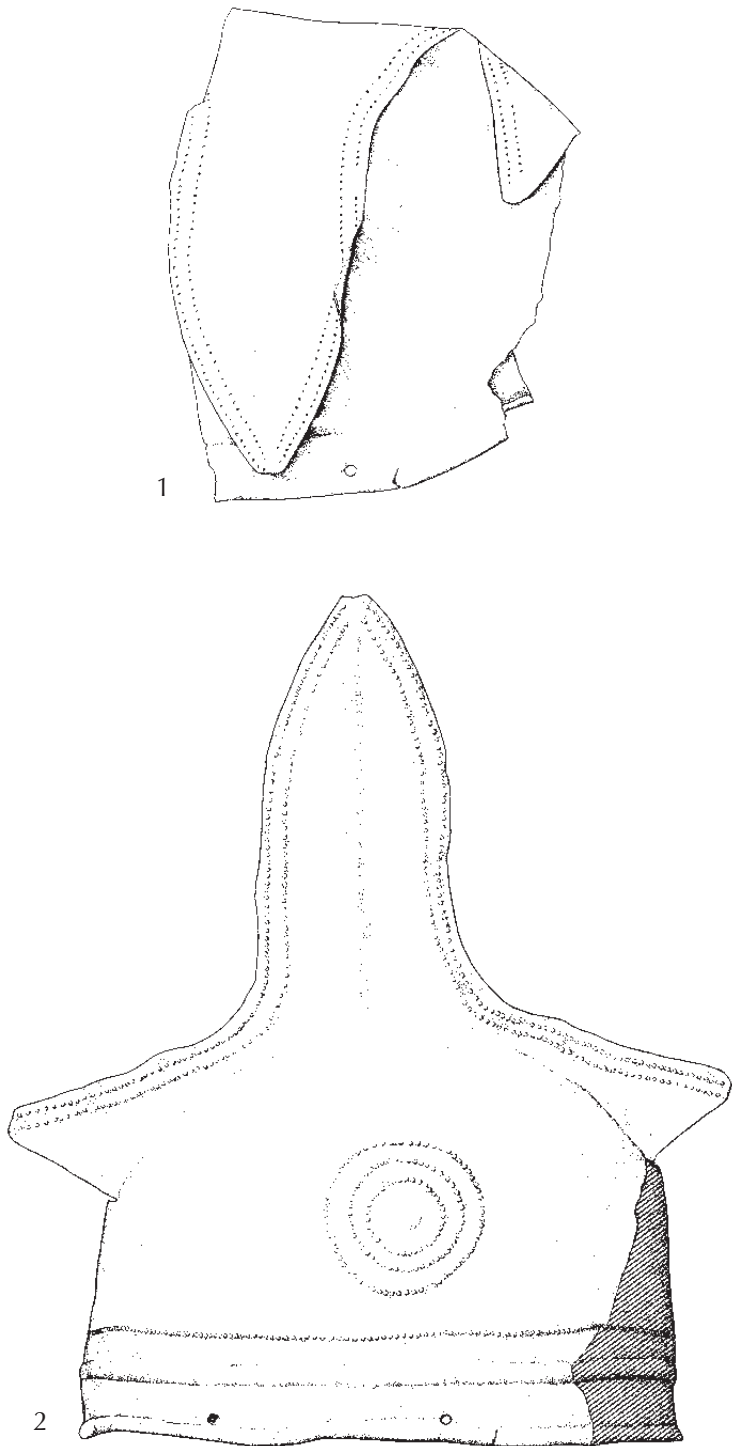


Fig. 2. Original state of finding and reconstruction of the bronz helmet from Moosbruckschrofen (Tyrol). Scale 1:3 (after Egg, Tomedi 2002).

addition, the two parts are clasped together at the joint by use of small notches.

A horizontal strengthening ridge runs somewhat above the opening of the helmet. It is supplemented by a series of

delicate, small dots that have been driven into the material from behind. An additional strengthening ridge runs along the two sides; in both cases, it traces the central axis of the top point of the crest. Two rows of small dots follow the sagittal line and the crest. In the centre of each of the two halves of the top part of the helmet there is a large circle consisting of two rows of dots; each is arranged around a larger boss. Next to this circle, there are two similar but slightly smaller circles. These circular motifs probably symbolise the sun. The helmet also has protective cheek pieces that are decorated with rows and circles of embossed dots.

In 2001, a substantial hoard was discovered in a crevice in Fliess-Moosbruckschrofen somewhat to the North of the mountain pass on the Piller Höhe in western Tyrol at approximately 1600 metres above sea level. A large clay container held numerous bronze objects, among them the intentionally deformed half of a helmet with a trilobate crest of the Pass Lueg type (fig. 2). The reconstructed helmet bears a concentric circular pattern of small embossed dots on each side that encloses a larger central boss. The top point of the crest is narrower and higher than that of either the Pass Lueg or the Anlauff helmets. Again, it features the familiar upright strengthening ridge on both sides. We can thus discern a considerable conformity between all three helmets in terms of their shape and ornamentation.

The remainder of the hoard from Moosbruckschrofen consists of offensive weapons, such as daggers, swords and spearheads, as well as axes, sickles, razors and jewellery, such as needles, belt fittings and ornamental disks. There is no consensus regarding the period of production of these votive bronze objects. While Egg and Tomedi postulate a period between Bronze Age C 2 (end of the middle Bronze Age) until Bronze Age D (early Urnfield period) (Egg, Tomedi 2002), Schauer puts forward a period extending from Bronze Age D to Hallstatt A (early and older Urnfield period) (Schauer 2003). On the basis of these dissimilar chronological frameworks, the helmet from Moosbruckschrofen can only broadly be dated to a period between the 14th and 12th centuries BC. Typologically, a later date around the 11th century BC (middle Urnfield period) is also conceivable.

The road across the pass on the Piller Höhe has remained an important transport link in the upper Inn valley well into modern times. It bypassed the gorge-like, narrow valley at Landeck and at the same time offered a considerable shortcut through the Inn valley. Towards the South, one reaches the Resia Pass (approximately 1500 metres above sea level) at the crest of the main alpine chain and, from there onwards, the Etschtal, through which the road leads on to the upper Italian lowlands.

All three crested helmets – those from Pass Lueg, the Anlauf valley and Moosbruckschrofen – were thus clearly deposited at crucial mountain passes. The helmets from

Pass Lueg and Moosbruckschrofen belong to extensive bronze votive hoards. Though the helmet from the Anlauf valley is a single find, it should probably also be regarded as a votive deposit.¹ Whereas the helmet from Pass Lueg has been preserved in its entirety, those from the Anlauf valley and Moosbruckschrofen only consist of one half of a helmet, respectively. The partial depositing of the helmet and its dismantling through folding seem to have been part of a sacrificial ritual.

Nearly all Bronze Age bronze helmets were found in the context of sacrificial hoards or as single finds. Generally speaking, they represent a rare type of object. In battle situations, they certainly offered better protection than leather or fabric caps. At the same time, however, they denoted and symbolised their elite owners' high status. This seems to have been particularly relevant in the case of helmets with crests, whose ridges held highly protruding and, perhaps, vividly coloured feathers. The deposit of helmets as votive offerings therefore signals the existence of an upper class. In addition, the precise location of such deposited helmets is informative. The fact that all three helmets of the Pass Lueg type – at present, these are the only known specimens of this kind – were found in proximity to eastern alpine passes plainly points toward the existence of a corresponding long-distance trade network.

The helmets are currently undergoing metallurgical and metallographical analyses. Interestingly, only copper from sulfidic (pyritic) ores of the Eastern Alps, probably from the Mitterberg or the neighboured ore grounds in the central Salzach valley or in eastern Tyrol was used for all three helmets.

At this point, the question arises whether the eastern alpine Urnfield period produced social elites to whom the crested helmets may be assigned. According to current research, this was not the case. Neither the mining regions in the Tyrolean Inn valley nor the Salzach valley in the Salzburg region have yielded settlement or burial evidence that may support the presence of a high-standing and ruling social class.

However, the northern and southern alpine border regions present an altogether different picture. Here we encounter elevated, frequently fortified settlements at the valley outlets. In the even more outlying lower Bavarian foothills, four richly furnished burials containing carriages were found. The graves, which date to the early and older Urnfield period, were located at a considerable distance from each other and all were positioned on important transport routes. The buried individuals probably belonged to a warrior aristocracy. It is likely that these elites controlled the copper trade (Winghart 2002, 174). Late Bronze Age

warrior graves with richly ornamented swords from Friuli and Trentino at the southern foot of the Eastern Alps can probably also be assigned to such an 'aristocratic' ruling class. These sites, too, are plainly located on expedient transport routes (Peroni 2004).

The tetrahedrites (Fahlerze) in the Tyrolean Inn valley and the sulfidic (pyritic) copper ores (Kupferkiese) in eastern Tyrol (the Kitzbühel region) and along the Salzach in the Salzburg region (Mitterberg ore grounds) were extracted with particular intensity during the middle and the first stage of the late Bronze Age (Goldenberg, Rieser 2004; Günther 1993). Numerous smelting sites indicate that copper was being smelted into coarse copper in these mining regions (fig. 3). An extensive production site with numerous pit ovens is located in proximity to the Mitterberg mining district. These ovens were used to refine black copper ore into coarse copper (Moosleitner 2004). However, despite the exploitation of rich copper ore deposits, a ruling class did not materialise in the mining regions. The actual miners and metalworkers were undoubtedly derived from a local, peasant background. Late Bronze and early Iron Age funerary finds in Bischofshofen in the centre of the Mitterberg mining region point to a population made up of simple farmers and miners. The grave goods and burial rites themselves imply a considerable cultural continuity; the population had thus been settled in the mining district for a long time (Lippert 2009).

Trading the copper produced in these mining districts was nonetheless an exceptionally lucrative activity that required not only security but also firm organisation and control. The prevalent political conditions relating to the extraction and trade of raw materials may perhaps be compared to those encountered in pre-colonial Central and Eastern Africa. In that region, the exchange of gold, copper and salt between points of exploitation and frequently distant marketplaces stimulated a rapid growth in economic and political authority on the part of entrepreneurs. These individuals quickly took on leading political positions, too. This warrior aristocracy resided in central locations and assumed responsibility for the protection of the mining regions against external – and sometimes internal – enemies and rivals. Its chiefs attained considerable wealth through the imposition of various dues and achieved a significant concentration of political power (Gray, Birmingham 1970, 16 f.).

Rather than occupying the mining regions themselves, a comparable leading class in Bronze Age Central Europe may well have resided in the more densely populated alpine foothills in which the copper market places were concentrated. At these "ports of trade", a regional ruler organised and supervised all trading activities. Analogous organisational systems are well-known from the early medieval period, which resembles the European Bronze and Iron Ages in some important respects; such forms of organisation even

1. Cf. Wyss 1971, 140 ff. on the significance of elevated and pass finds.

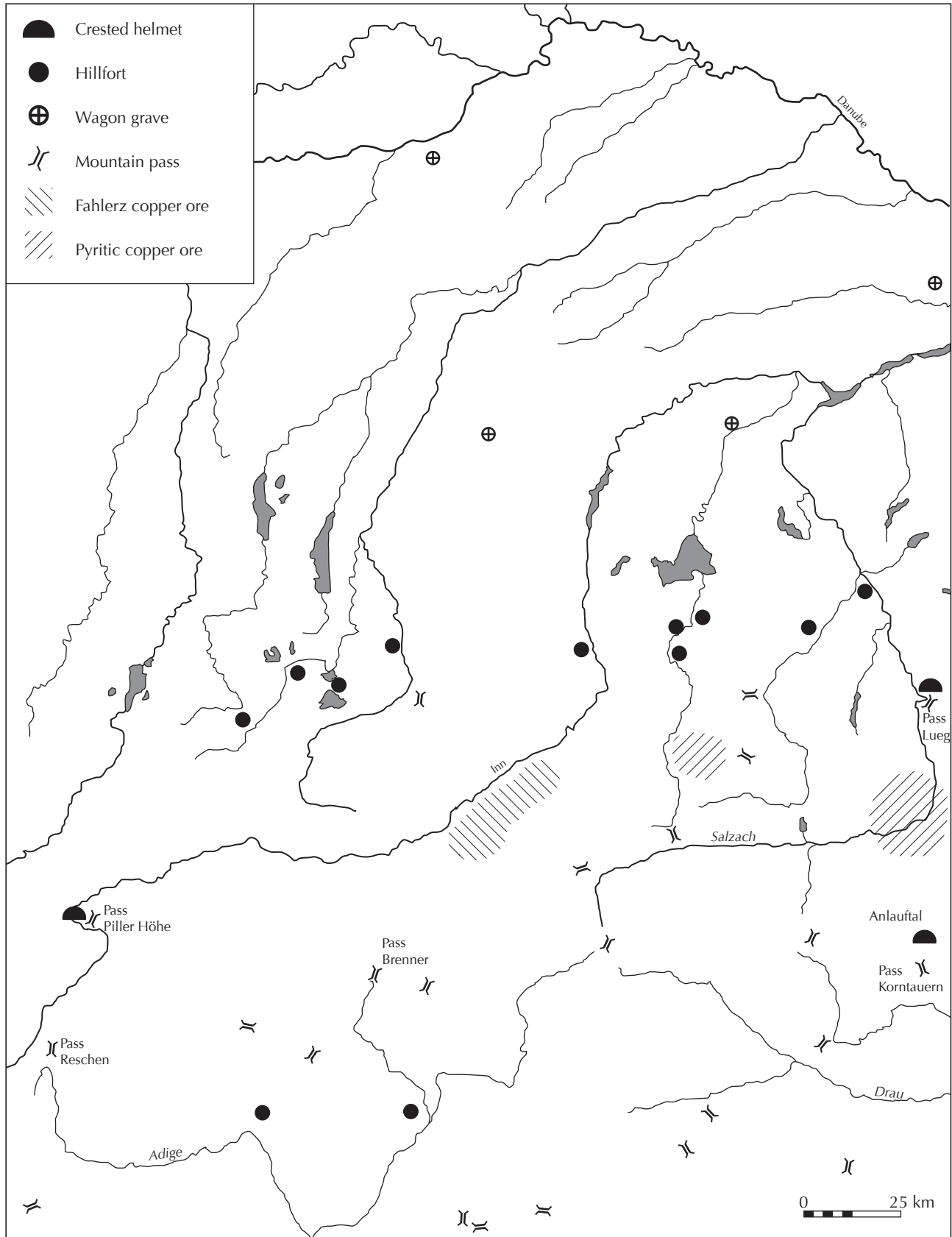


Fig. 3. Copper ore resources and important sites of the Late Bronze Age in the western part of the Eastern Alps (completed after Winghart 2002; graphic: Thomas Pertlwieser, Institut für Ur- und Frühgeschichte, Universität Wien).

preceded the development of an independent and professional class of merchants (Steuer 1999, 559 f.).

The salt trade, too, reached its first significant apex during the later middle and late Bronze Age. In Hallstatt, located approximately 30 kilometres to the East of the Salzach valley in the Northern Limestone Alps, salt was being exploited in deep shafts as early as the later middle Bronze Age (Barth 1998, figs. 1/4). As a consequence, cured meats were traded alongside the salt itself. Lowered log structures with clay-coated interiors were already discovered in immediate proximity to the mining district at the Salzberg during the 19th century. Recent investigations have shown that these structures or, more specifically, basins were filled with saltwater and used for the curing of large amounts of meat. Finds of animal bone demonstrate that pork was most intensively used; nonetheless, meat from sheep, goats and cattle was also cured and probably widely traded. The hitherto available radiocarbon dates point towards the 13th and 12th centuries BC (Kern *et al.* 2008, 72 ff.).

The three crested helmets discovered as votive deposits in the inner Eastern Alps can thus be linked to the copper and salt exchange without difficulty. As expressions of entreaty and gratitude for safe travel and transport, the helmets were stored in sanctuaries or, rather, deposited in the ground along long-distance trade routes connecting the mining regions with the North and South. A warrior aristocracy charged with the organisation of trading activities may have endowed these precious objects, which were likely of symbolic significance. A helmet provided safety in combat and from enemies; according to contemporary beliefs, perils of a different kind, such as storm, rain, snow, fog and falling rocks could potentially be warded off by mountains and travel deities, provided that appropriate sacrificial offerings were made.

The three helmets from Pass Lueg, the Anlauf valley and Moosbruckschrofen, though closely analogous in terms of their shape and ornamentation, were found at a considerable distance from each other. The shortest route from Pass Lueg to Moosbruckschrofen is 275 kilometres. The Anlauf valley is located some 80 kilometres from Pass Lueg and 220 kilometres from Moosbruckschrofen.

The helmets' wide distribution is probably due to the fact that their makers were settled at regional courts in the northern part of the alpine foothills, rather than in the Alps themselves. These noble households were closely connected and may well have exchanged metal workers for the production of valuable weapons. This explains why attacking and defensive weapons, such as precious helmets, were manufactured on the basis of standardised models. The helmets with crests probably reached the interior of the alpine region via long-distance transport routes that were used by copper and salt traders. It is conceivable that they were not in fact meant for export, as weapons were

not necessarily passed down to new owners. However, they did take on great significance in their capacity as votive objects. At exposed sites or high-altitude mountain passes in particular, they were deposited and consecrated to the mountain and weather gods *pro itu et reditu*.²

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2. Cf. Pauli 1980, 183 on Roman period votive inscriptions to *Iupiter Poeninus* at the Great St. Bernard Pass.

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