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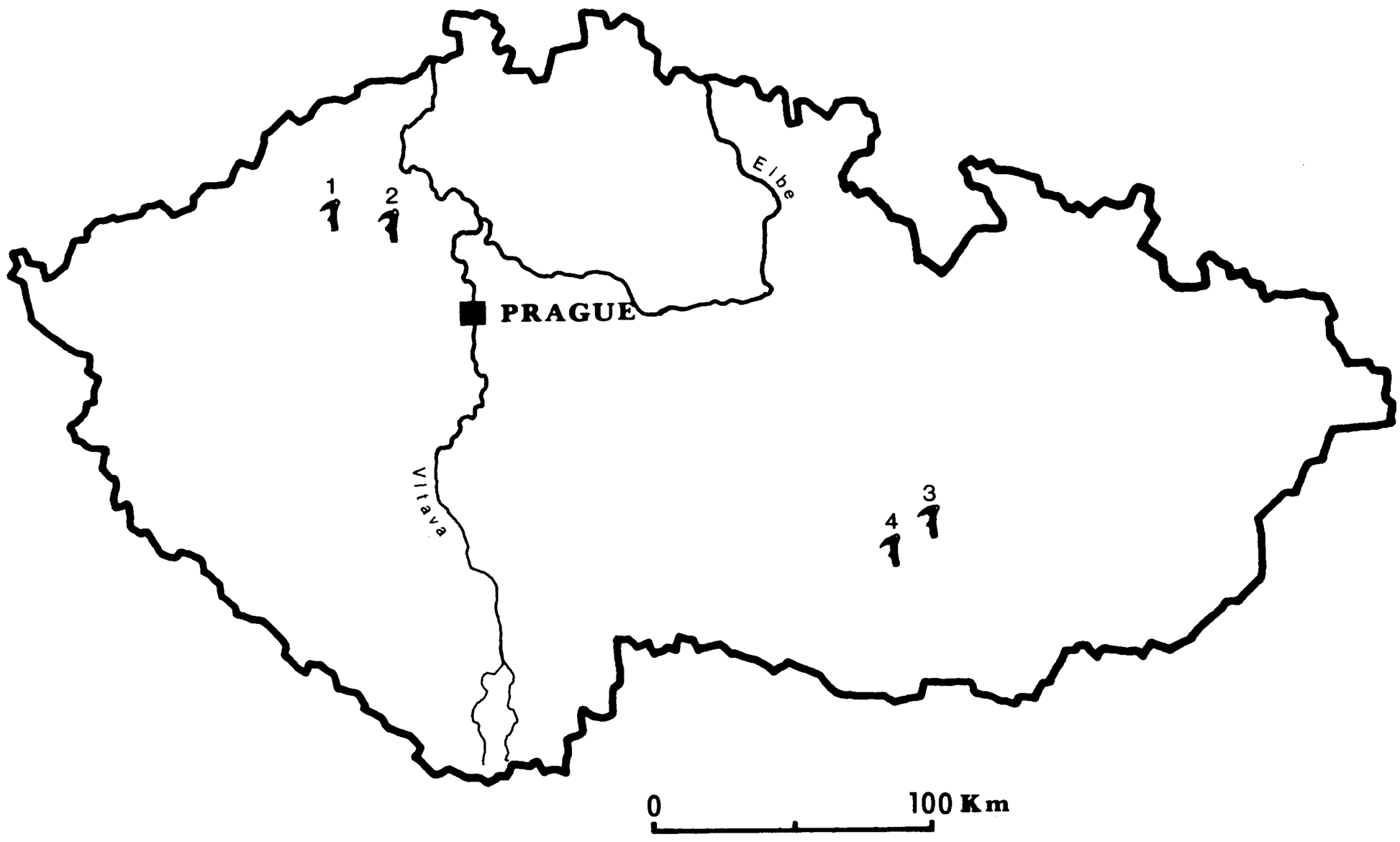

CZ Czech Republic

CZ 1 Tušimice
CZ 2 Bečov
CZ 3 Stránská skála
CZ 4 Krumlovský les

Additional evidence from the same feature suggests a wider range of activities than the primary lithic working. Palaeobotanical analyses indicate the presence of cultivated areas (cereals), a steppe (grasses) and arboreal elements (*Pinus, Betula, Alnus*). The animals found are both wild and domesticated. In the lithic material, plant cultivation and hunting are evidenced by sickle-blades, grinding plaques, and by a few arrow points.

A smaller workshop pit, with a hearth at the base, and with a comparable lithic industry, belongs to the Moravian Painted Ware Culture (site SS-IIIa).

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CZ 4 KRUMLOVSKÝ LES, ZNOJMO DISTRICT

Inna Mateiciucová

The hornstone mines lie on the east slopes of the Krumlovský les, part of the Bobrava upland. Today it is a forested plateau at a height of about 400 m above sea-level and about 16–28 km SW of Brno. The mining site is situated between the villages of Vedrovice and Maršovice (Znojmo district). The area is on the eastern edge of the Czech Massif, at its contact with the Carpathian zone.

The hornstone from this site was differentiated in the archaeological literature twenty years ago (Valoch 1975). It was described by J. Lech (1981:12) and given the name of the Moravsky Krumlov Type, and A. Přichystal (1984:207–8) described it in more detail and named it the Krumlovský les Type. The basis for this distinction was Palaeolithic (K. Valoch) and Neolithic material from Vedrovice-Zábrdovice and Jezeřany-Maršovice (Lech 1983:49–52), connected with the exploitation of this raw material. During archaeological sondages in 1989 at the "V končinách" site in Nové

Bránice, new material was recovered from a Krumlovský les hornstone workshop of Early Neolithic (LBK) date (Mateiciucová 1992). At this time Martin Oliva and Peter Vitula discovered the mines of this raw material. In 1994 Oliva dug the first archaeological sondages here. Systematic examination of this site is planned for 1995–1997.

The richest concentrations of this hornstone occur in Tertiary (early Miocene — Ottnang) sediments on the east slope of Krumlovský les. The material itself comes however from Jurassic and Cretaceous calcareous marine sediments which had earlier covered the Czech Massif. Marine regression at the end of the Cretaceous was followed by a period of weathering of these sediments and the hornstone concretions were freed, and underwent further weathering in the early Tertiary when they acquired a black surface layer of "desert varnish". In the Miocene the concretions were washed into coastal sediments (Přichystal 1984:207).

Přichystal (1984:208) differentiates two types of hornstone in this group. Type Krumlovský les I is of poorer quality in the form of rolled fragments, characteristic is a black surface layer from a fraction to a few milimetres in thickness. The material is of variable grain size, and the colour is primarily grey to bluish or violet-reddish, weakly translucent or opaque. Type II is of better quality (which is sometimes difficult to differentiate from erratic Baltic flints and some varieties of Jurassic Cracow flint). It occurs in the same sorts of deposits as type I. The material is coloured from grey to brown.

The Krumlovský les hornstone was used probably from the Lower Palaeolithic, throughout the Middle Palaeolithic and into the early Upper Palaeolithic (Aurignacian and Szelletian). K. Valoch (1993:19–37 and cited literature) even distinguished a separate cultural unit (the "Krumlovian") in this area. According to J. Svoboda however (1983:153–4) the "Krumlovian" forms the workshop facies of the Early Upper Palaeolithic.

The mine site is covered by forest, part of it is in a military zone, and probably the area has never been ploughed. The preserved surface relief shows depressions surrounded by waste heaps, approximately 5–15 m in diameter. On the surface are visible huge amounts of hornstone waste and workshop material. The extent of the mining field has not yet been determined as the result of preliminary field survey. The sondage of 1994 was only 11 x 0.5 m and about a metre deep. The trench was in the fill of a shaft and did not reach its bottom; it cut also into a waste heap. The sondages produced a large amount of workshop material, but no direct evidence to date this activity. Hornstone of this type was used extensively on sites of the Early Neolithic (Danubian I — LBK) communities and of the Moravian Painted Pottery Culture in the vicinity of the site, suggesting that the main period of exploitation should relate to this period. The question of earlier (*e.g.*, Palaeolithic) activity on the site must remain open at present.

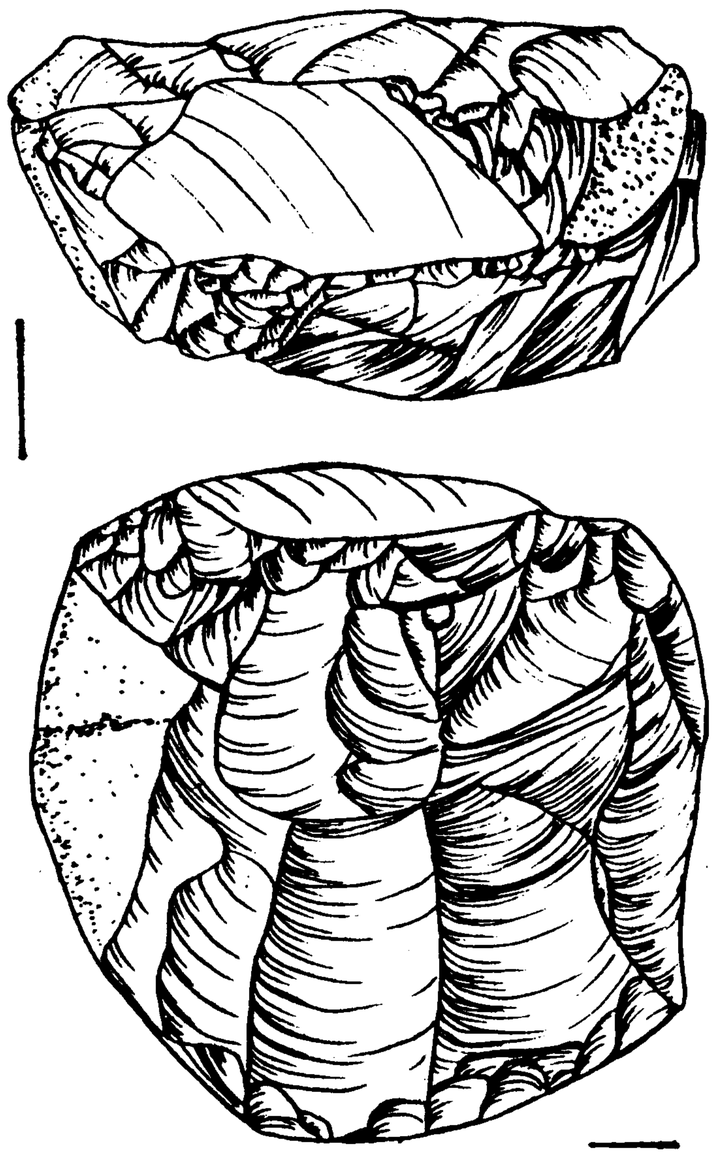
Most of the Palaeolithic and Neolithic/Eneolithic sites connected with the exploitation of Krumlovský les type hornstone are situated within 5 km of the mines. It follows from this that the mines were in the zone of direct economic exploitation of those settlements.

A typical workshop site of the LBK communities is the settlement at the "Široká u lesa" site in Vedrovice, to which there is also attached a cemetery. Hornstone of the Krumlovský les type forms 86% of the chipped stone inventory on the settlement (and in the graves 35%). The structure of the chipped inventory, with a preponderance of flakes and waste material as well as pre-cores and cores, corresponds to that of a workshop settlement, working locally-obtained material. V. Ondruš (1975/1976) during excavations in 1966 and 1972 differentiated two specialist workshops using, amongst other things, Krumlovský les and Jurassic Cracow flint. Analysis of the chipped inventory from both features confirmed their workshop character (Lech 1983:49–52). In the material from the settlement at Vedrovice cores for flakes and cores for flakes and blades predominate, they were made mainly of Krumlovský les Type I hornstone. In comparison with other workshop settlements, cores for blades are rare. This is a result of the poorer quality of the raw material used. Despite this the chipped industry from Vedrovice should be categorised as a blade industry, which is confirmed by the preponderance of blades and blade fragments compared with flakes and waste from the graves. The flint assemblage from Nové Bránice has a somewhat different character, here cores for blades and cores for blades and flakes predominate, which in comparison with Vedrovice are noticably more homogeneous and of a better quality. One of the reasons for this is the use of a higher quality raw material of Krumlovský les Type I. It is possible that this came from a different mining site from the material from Vedrovice. Similar material is found on settlements of the Moravian Painted Pottery Culture near the Krumlovský les sites (such as the settlements at Jezeřany-Maršovice and other sites at Vedrovice and Nové Bránice — Oliva 1990).

It appears that the Krumlovský les hornstone gave way to the better quality hornstone of the Stranská skála type, which was exploited about 25–30 km NE of the Krumlovský les mines. This was exploited widely in the Eneolithic (TRB Culture). On the other hand the hornstone discussed here was available over a wider area and was easier to exploit. This is why it was more popular in the Palaeolithic and Early Neolithic. With the Eneolithic and the increased need for longer blade-blanks, the significance of both sources became about equal.

In summary, one may state that hornstones of the Krumlovský les type were the most popular raw material for chipped stone industries in Moravian prehistory. They are dominant in southern Moravia and the area of their distribution extends into the east parts of the Czech Republic (Bylany).

Translated by Paul Barford



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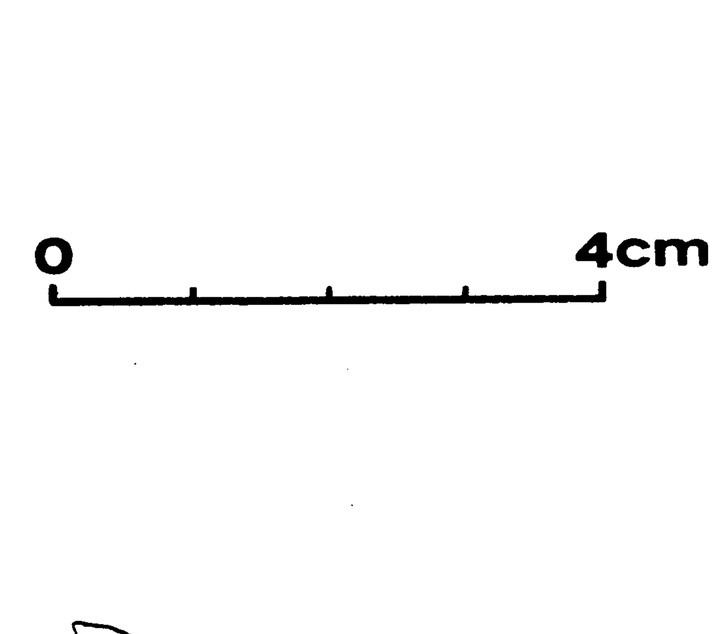

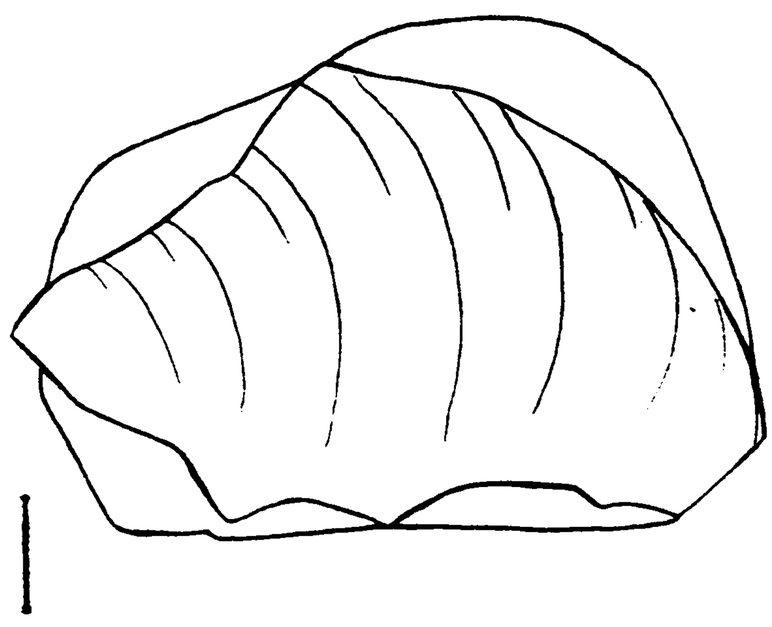

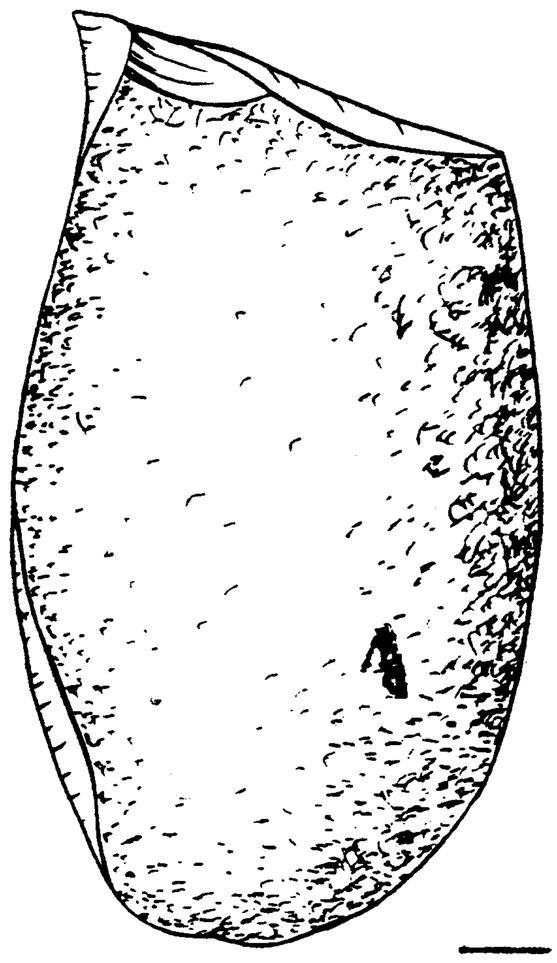

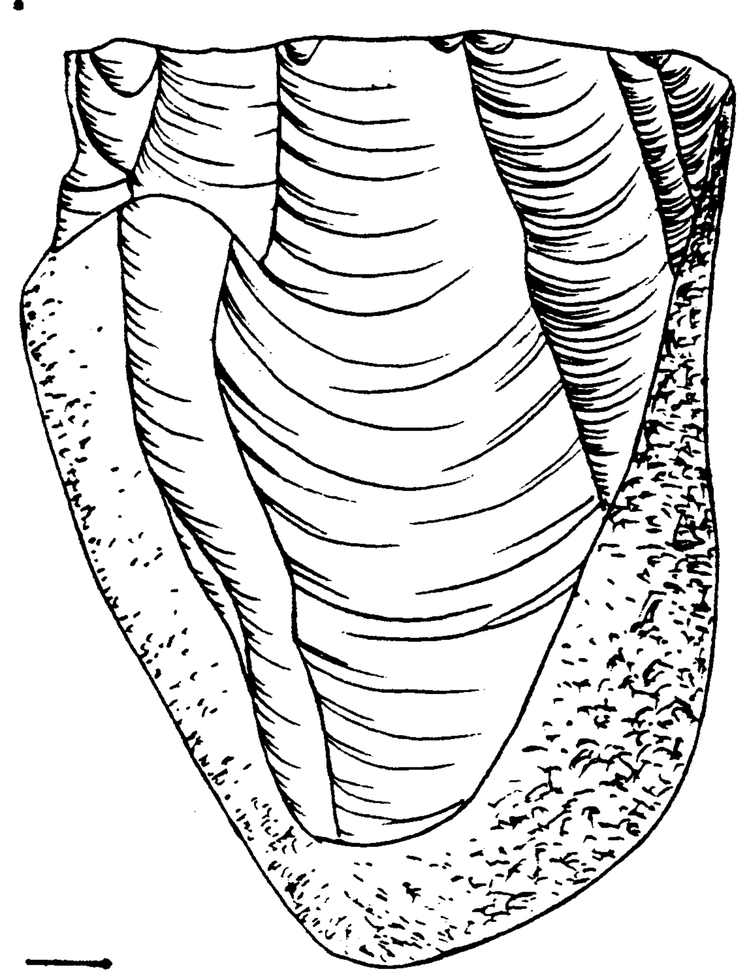

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Fig. 1. CZ 4 Krumlovský les. Cores from Krumlovský les hornstone: a — core for blades and flakes. Settlement from site "Široká u lesa" at Vedrovice-Zábrdovice; b — core for blades. Site "V končinách", at Nové Bránice.

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