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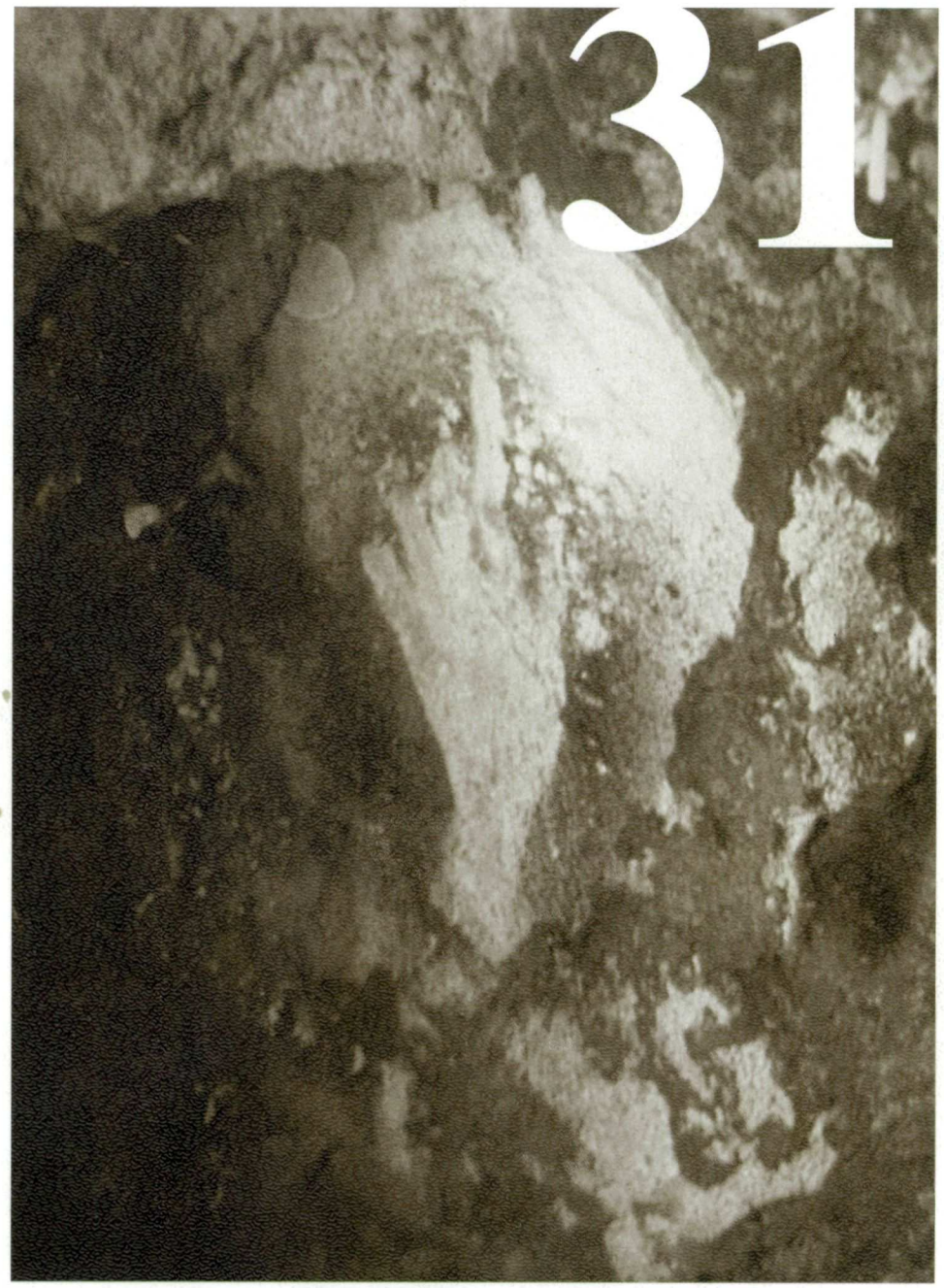

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HUNTERS OF THE GOLDEN AGE

THE MID UPPER PALAEOLITHIC OF EURASIA 30,000 – 20,000 BP

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Gerhard Bosinski

21 The period 30,000-20,000 bp in the Rhineland

A total of 15 sites from various contexts (loess, cave, surface scatter) testify to human occupation of the Rhineland in the period 30-20 kyr. The stone industries can be divided into a group with Font Robert points and a group with many microgravettes. Settlement features are known from various sites, some of which may have been real base camps, e.g. Mainz-Linsenberg. As to subsistence, reindeer and horse were the most important species, whereas the gathering of plant food is also documented in the Rhenish record. The presence of Mediterranean shells in sites in the Rhineland shows that the local groups formed part of a significantly larger social unit.

1. Introduction

From the Rhineland 15 sites are known from the middle part of the Upper Palaeolithic (MUP), belonging to the period 30,000-20,000 ^{14}C bp (Fig. 1). The finds are from loess deposits (Unkelbach, Plaidter Hummerich, Metternich, Rhens, Heddesheim, Sprendlingen, Mainz-Linsenberg, and Achenheim), from surface collections (Muffendorf, Welschbillig, Ingendorf, and Feldberg), from caves (Magdalenahöhle and Wildscheuer), and from boreholes near a thermal spring (Wiesbaden-Adlerquelle). Excavations took place at the sites of Plaidter Hummerich, Metternich, Sprendlingen, and Mainz-Linsenberg, and at the cave sites of Magdalenahöhle and Wildscheuer.

2. Stratigraphy

The reference section of the Upper Palaeolithic in the Rhineland is the Metternich loess profile. At the beginning of this century A. Günther observed three "pale brown stripes" within the profile (Günther 1907). During H. Hofer's work in the 1930's, the upper and lower interstadial soils were merely represented by denudation horizons (*Feinkiesstreifen*) and only the middle soil could be observed as a pale brown loam (Hofer 1937). This is also the present situation (Frechen *et al.* 1995). The subdivision of the yellow loess by three interstadial soil formations is common in the Rhineland (Fig. 2). These inner Würmian soils I, II and III described by K. Brunnacker (1978a, 1978b) correspond to A. Semmel's *Gräselberger Boden*, *Lohner Boden* and *Erbenheimer Naßboden* (E4) respectively (Semmel 1969) and are correlated to the Hengelo, Denekamp and Lascaux interstadial periods.

An important horizon of the Rhenish loess sections is the Eltville Tuff, situated between the inner Würmian soils II and III (Löhr and Brunnacker 1974; Meijs *et al.* 1983; Löhr 1987). The Eltville Tuff, distributed in the Rhineland, Hessia and Frankonia, dates to the Pleniglacial.

Of interest for this paper is the segment from the inner Würmian soil II (*Lohner Boden*) up to the Eltville Tuff (Fig. 2). This part comprises three different biotopes:

1. the more humid period of the soil formation,
2. the time of loess sedimentation,
3. the permafrost of the Pleniglacial.

Until now the archaeological finds are restricted to the soil formation period and the beginning of the loess sedimentation.

3. Industries

The lithic artefacts represent two groups: assemblages with Font Robert points (Perigordian Va) and sites with many microgravettes (Perigordian VI/VII).

Perigordian Va (Font Robert)

The site of 'Steinacker' near Feldberg in the Upper Rhine Graben contains Font Robert points, Gravette points, burins and endscrapers (Pasda 1995a, 1995b).

Tanged artefacts, but no complete Font Robert points, are known from different Rhenish find spots. Possibly the Wildscheuer IV finds also belong to this horizon (Terberger 1993), with ornaments on ivory and bone objects similar to Maisières-Canal.

Hints to the stratigraphy of these finds are known only from Achenheim. The collection of P. Wernert contains 32 lithic artefacts including a fragment of a Font Robert point and two Gravette points, as well as reindeer and marmot bones from level 8 (Junkmanns 1991). Level 8 is a brownish loam with indications of solifluction which could correspond to the inner Würmian soil II (*Lohner Boden*). Above this loam is a cryoturbated soil which may represent the *Sol de Kesselt* (28,000 bp; Heim *et al.* 1982). Outside the Rhineland, the site of Maisières-Canal has a comparable age. At Maisières-Canal there were not only many tanged tools,

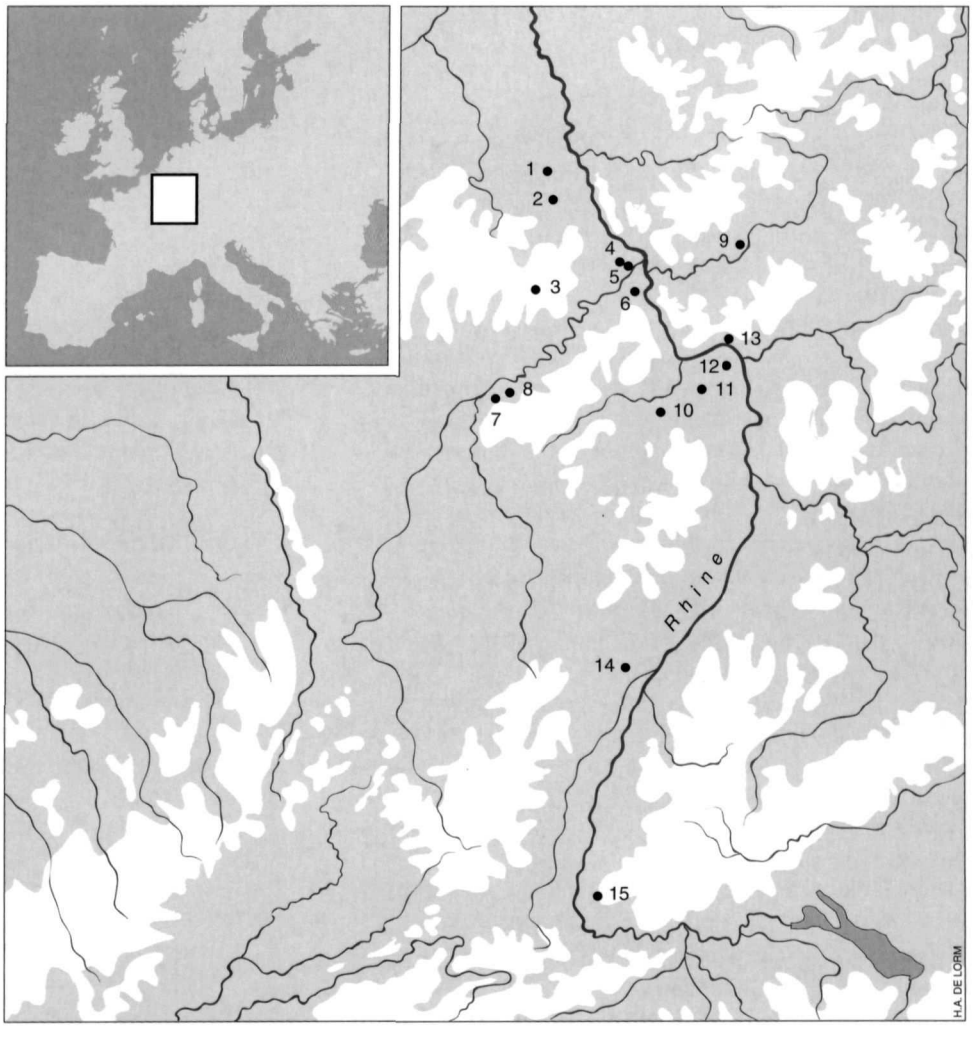

Fig. 1. Sites 30-20 kyr bp in the Rhineland
1. Muffendorf; 2. Unkelbach; 3. Magdalenahöhle; 4. Plaidter Hummerich; 5. Metternich; 6. Rhens; 7. Welschbillig; 8. Ingendorf; 9. Wildscheuer IV; 10. Heddesheim; 11. Sprendlingen; 12. Mainz-Linsenberg; 13. Wiesbaden-Adlerquelle; 14. Achenheim; 15. Feldberg.

including Font Robert points, but also bones (reindeer, horse, mammoth, arctic fox and isolated bones of deer and *Bos/Bison*) and artefacts of bone and ivory. The site is dated to the Maisières interstadial (27,965 ± 260 bp; Haesaerts and de Heinzelin 1979).

The Font Robert horizon (Perigordian Va) is distributed in the Dordogne and eastern France with an extension to Central Europe. The distribution far to the North, including the British Isles, underlines the interstadial position. In contrast, the Noailles finds (Perigordian Vc) are restricted to southern France and the Mediterranean without any traces in Central Europe.

Perigordian VI/VII

Especially at Mainz-Linsenberg (Neeb and Schmidtgen 1921/24; Hahn 1969) and Sprendlingen (Bosinski *et al.* 1985), there are many small backed bladelets and microgravettes. The finds also include bladelet cores ('polyhedric burins'), pointed blades, burins, and borers. These finds correspond to the Perigordian VI/VII of southwestern France but also have parallels in Eastern Europe (e.g. Molodova V, 7; Cernys 1987).

The female figurines of Mainz-Linsenberg (Bosinski 1982) are of more than regional importance. If these statuettes characterise a chronological horizon, they may help to compare the different industries with female statuettes in larger parts of Europe.

At Mainz-Linsenberg and Sprendlingen the find horizon is situated above the inner Würmian soil II (*Lohner Boden*). The finds are immediately above the denudation horizon (*Steinsohle*) on top of the soil and belong to the first part of loess sedimentation (Fig. 2). The sites of Metternich and Rhens have a corresponding stratigraphic position. At these sites microgravettes are not numerous (collected finds) but

the bladelet cores ('polyhedric burins') indicate the same industry (Perigordian VI/VII).

4. Settlement features

Some sites, e.g. Mainz-Linsenberg, Heddesheim, Metternich, Rhens, and Achenheim, are located in a sheltered topographical situation. Classic is the position on a step above a large river, opposite a large plain, and backed by a slope ('*Sessellage*'). The sites of Mainz-Linsenberg, Metternich, Rhens and Achenheim are in such a '*Sessellage*' position, which may be characteristic for settlements where occupation took place over longer periods. At such places there are rich settlement layers which have been only poorly investigated in the Rhineland. At Metternich the layer went through the brickyard in a 20 m wide band running from east to west, whereas at Mainz-Linsenberg the layer could be observed over a length of 30 m in a modern channel (Fig. 3).

Both at Mainz-Linsenberg and Heddesheim (Thieme and Lanser 1982) there were two types of fireplaces: small round pits lined with slabs of stones with a diameter of about 0.30 m and pebble layers on the surface with a 0.70 m (Mainz-Linsenberg) and 0.80 m (Heddesheim) diameter. A few approximately four metres wide and 0.15-0.20 m thick fireplaces were found at Metternich, consisting of arranged stone slabs with ashes and burned and split animal bones, where most of the flint artefacts were found (Günther 1907). Also at Mainz-Linsenberg and Heddesheim too, most of the finds (lithic artefacts, bones) were concentrated around the fireplaces.

At Mainz-Linsenberg there were 'stone arrangements' of one or two layers of slabs of limestone around the fireplaces. Besides, in a corner between two Roman and one modern channel another 'stone arrangement' was preserved, as well as a solid, floor-like place (*Tenne*), where at its boundary the (humid or wet) loess was moulded by hand into a small dam-like structure (Neeb and Schmidtgen 1921/24). Of this interesting feature only a triangular segment (1.80 x 0.60 m) with part of the uplifted edge was preserved. The added sketch of the profile shows that the *Tenne* was about 0.25-0.30 m deeper than the 'stone arrangement', this means that it was deepened into the surface (Fig. 3).

One of the female figurines from Mainz-Linsenberg, made of sandstone, was found in a small hand-size depression to the west of the smaller fireplace (at "B" in Fig. 3).

Besides these sites in a sheltered topographical position, a rich settlement layer with ash layers and some fireplaces partly in pits lined with stone slabs was also observed in the Wildscheuer cave (layer IV; Terberger 1993).

Other sites such as Sprendlingen and Plaidter Hummerich are located on hills, in exposed places with a good view in every direction. The site of Sprendlingen (Bosinski *et al.* 1985) is situated on the Napoleonshöhe at the Rheinhessische

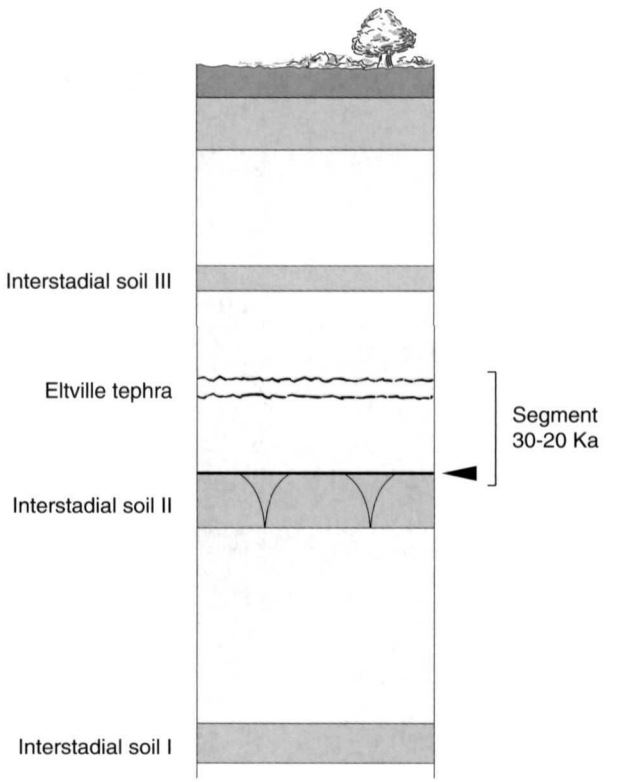

Fig. 2. Schematic Upper Würmian loess section in the Rhineland. The arrow indicates the find horizon at Mainz-Linsenberg, Sprendlingen, and Metternich.

Plateau in a place where the present-day road (like probably the former reindeer herds) crosses the plateau at a narrow pass. Most of the site was already destroyed by sand quarrying activities before excavation. On the northern border of our excavation, a reddish layer of about 4.0 m wide was preserved, which contained most of the finds. It was possible to reconstruct the position of the fireplace further north. In the excavated part near the border of the reddish coloration was a larger limestone slab, surrounded by many artefacts and bones.

Most of the lithic artefacts are from this central part, while cores and pieces of raw material lay outside. Small backed implements as well as burin spalls were found in the reddish part. The burins and pointed blades occurred west of the reddish region, in what was probably an area of specialised activity.

In spite of the remnant nature of the inventory, many artefacts could be refitted. The middle distances (0.5-2.0 m)

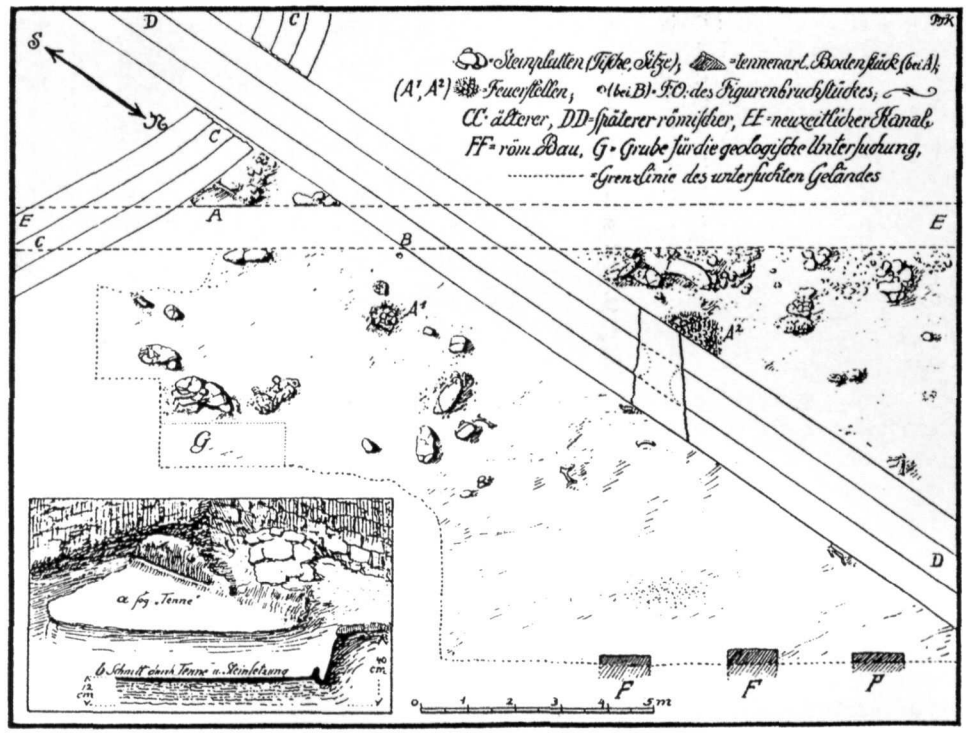

Fig. 3. Mainz-Linsenberg. Settlement features (after E. Neeb).

of the connection lines between refitted artefacts (n=49) dominate (53%, n=26) followed by short distances (< 0.5 m; 29%, n=14).

At Sprendlingen we found many Tertiary shells and snails. They are mostly fragmentary and rarely larger or complete specimens. Among the snails there are numerous fragments of *Tympanotonus margariceus*; unlike at Mainz-Linsenberg, there is not a single shell with an incision or perforation. The Tertiary shells and snails could be collected on the slope of the Napoleonshöhe. As at Szob near the Danube (Gábori 1969), this was a place for collecting Tertiary molluscs, which occur at other sites as perforated pieces of jewellery.

In spite of the largely destroyed feature, we tried to reconstruct a tent (Fig. 4). In our reconstruction the reddish coloured area corresponds to the interior with a fireplace and a working place (stone slab). Here the small backed tools, burin spalls, and endscrapers were used. The entrance was possibly to the southeast. Outside/west of the tent there was a working place with burins and pointed blades.

The finds of Mainz-Linsenberg and Sprendlingen are almost identical. Refitting of artefacts between the two sites has not proved possible. But the raw materials – chalcedony and silicified limestone – are almost identical and differ only in percentages of the varieties used. Some of the artefacts from both sites are almost certainly struck from the same nodule (Fehlings 1993).

Interesting are also the Tertiary snails. At Sprendlingen, at the source of the snails, the shells consist of only small specimen and mostly waste. By contrast, at Mainz-Linsenberg, far from the natural occurrences, there are only selected larger pieces with an incision for threading. So it is very likely that Mainz-Linsenberg was a long-term base camp and Sprendlingen a corresponding hunting camp, 28 km away.

On top of the Plaidter Hummerich (Bosinski *et al.* 1986), a Middle Pleistocene volcano in the Neuwied Basin, in the upper part of the loess in the crater filling, a fireplace, a piece of reindeer antler and two lithic artefacts testify to a short stay. It was a very exposed place, only lightly sheltered by the crater walls.

Finally, at the Adlerquelle in Wiesbaden and the Magdalenahöhle in the Eifel, there are 'special' sites. The Magdalenahöhle is a small narrow cave not very suitable as a settlement. Most of the finds, including several thin shed reindeer antlers, occurred around a fireplace in front of the cave. One of the antlers was ^{14}C dated to 25,540 ± 720 bp (Weiß 1978). Among the few (115) lithic artefacts there are no typical tools. Besides perforated teeth (deer, wolf) there are fragments of at least three ivory bracelets with a rectangular cross-section. The rings are decorated with groups of lines and dots and are without known parallels. The Adlerquelle is a hot thermal spring with a temperature of

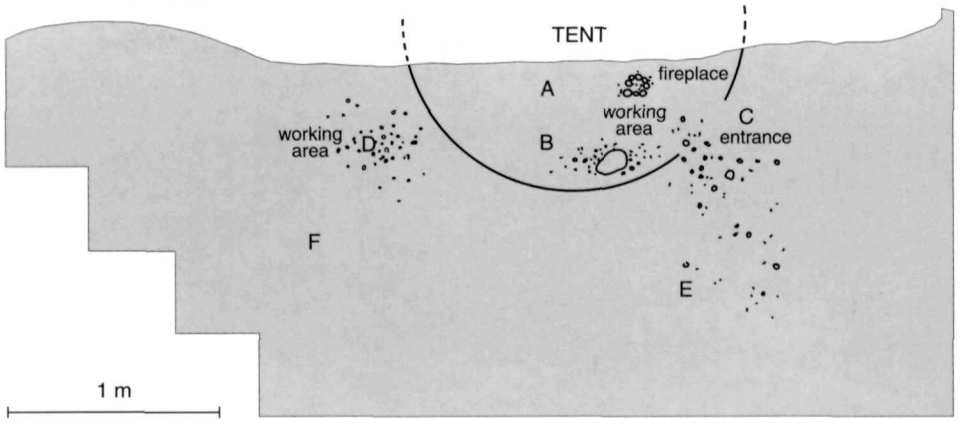

Fig. 4. Sprendlingen. Settlement features.

60°C, in the city of Wiesbaden. From boreholes connected with a new setting of the spring come lithic artefacts, bones, and plant remains (Floss 1991, 1995). The find horizon is 4.0-4.6 m below the surface in stream gravels. The odd-looking finds are covered by shiny pyrite and include tooth fragments (*Bos/Bison, Equus, Cervus, Sus*) and lithic artefacts including grinding stones (Fig. 5).

5. Subsistence

Generally we have to take into consideration that only the sites formed during the time of loess sedimentation are preserved and that the interstadial sites are mostly destroyed. The most important prey species were reindeer and horse (Table 1). Obviously settlement and subsistence were largely orientated to the reindeer and horse herds. At the almost destroyed site of Sprendlingen, reindeer dominates with at least 5 animals aged between 30 months and 8 years, while horse is also present. In spite of the fact that the assemblage was not uncovered during a proper excavation, at Heddesheim there are at least 10 horses and 6 reindeer represented. In the Magdalenahöhle reindeer is well attested, first of all by small shed antlers.

Besides reindeer and horse, mammoth and rhino also play a role. At Mainz-Linsenberg there are some rhino and possibly mammoth bones. From Heddesheim we know teeth and bones of at least three rhinos. In Wildscheuer IV, apart from reindeer and horse, there are numerous fragments of mammoth and rhino. In Rhens, rhino was especially numerous (Günther 1907, 1910).

At Metternich, Rhens and Adlerquelle reindeer is missing; instead red deer (*Cervus elaphus*) is represented. Especially at the big site of Metternich this could be fortuitous, and related to the biased character of the collection.

Bovids (*Bos/Bison*) occur only seldomly. Isolated bones are known from Wildscheuer IV, Heddesheim, Rhens, and Adlerquelle.

Bear is represented at Heddesheim and Rhens, ibex only at Heddesheim (including a skull fragment with horn core). Boar (tooth fragments) appears only at Adlerquelle; either this is a result of admixture (finds from drilling cores) or suids were present in this oasis-like biotope around the hot spring. Altogether one gets the impression of a population largely depending on reindeer and horse, besides which mammoth, rhino and deer were hunted. Subsistence was not only based on hunting, but also on plant gathering. This is indicated by grinding stones found at Adlerquelle and Sprendlingen (Fig. 5). Especially indicative is a grinding stone from Adlerquelle with distinct traces of grinding (i.e. polishing). These traces possibly resulted from grinding of grains (Floss 1991). Around the hot spring, the vegetation should have been richer than in the surrounding loess steppe. But also in the loess steppe are many edible plants, including wild cereals. The grinding stones from Adlerquelle and Sprendlingen testify to the importance of plant gathering. Outside the Rhineland, this is especially known from Kostenki IV, 1 (Rogačev 1955).

6. Mobility

Assuming that the siliceous rocks were not traded but occurred in the group's territory, the raw materials of the lithic artefacts may give an indication of the size of this territory. The raw material mostly occurs in an area less than

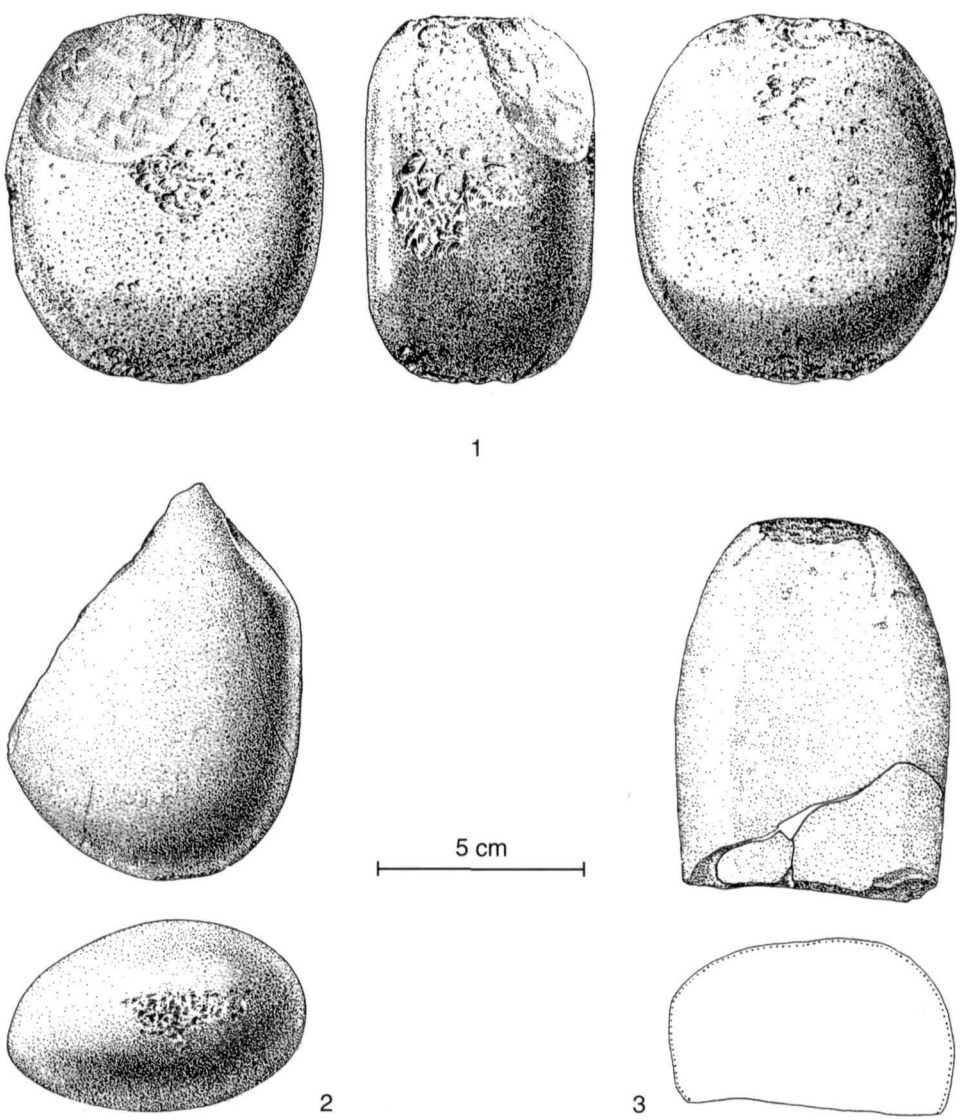

Fig. 5. Grinding stones from Wiesbaden-Adlerquelle (1-2) (after H. Floss), and Sprendlingen (3). Scale 2:3.

50 km from the site (Floss 1994). At Mainz-Linsenberg and Sprendlingen, and possibly also in Wildscheuer IV and Magdalenahöhle, all the artefacts were made from such regionally available siliceous rocks.

At Adlerquelle, besides the dominating artefacts from regional rocks, there are two long scraper-burins of 'baltic' flint, which occurs in a region more than 100 km to the north. At Metternich and Rhens most of the artefacts are of a kind of flint which according to Floss (1994) possibly comes from the Mons region (Belgium), about 200 km away. This indicates the utilization of a rather large territory.

From Mainz-Linsenberg there are 17 Mediterranean shells (including 15 *Homalopoma sanguineum*, 1 *Cyclope*). At Sprendlingen we found 9 perforated Mediterranean shells of *Cyclope* (3) and *Hinia* (6). A reconstruction showed that they were alternately strung and belonged to a bracelet or necklace (H. Bosinski 1985). These Mediterranean shells indicate contacts with the Mediterranean more than 1000 km away which may possibly be explained by trade (barter) with several intermediate places.

Table 1. Animals represented at Rhenish sites 30-20 kyr bp.

	Rangifer	*Equus*	*Coelodonta*	*Mammuthus*	*Cervus*	*Bos/Bison*	*Capra ibex*	*Ursus*	*Lupus*	*Alopex*	*Marmota*	*Sus*
Mainz-Linzenberg	•	•	•	?								
Sprendlingen	• (5)	•										
Heddesheim	• (6)	•(10)	• (3)			•	•	•	•	•		
Metternich		•			•							
Rhens			•		•	•		•				
Achenheim	•										•	
Adlerquelle		•			?	•						•
Plaidter Hummerich	•											
Wildscheuer IV	•	•	•	•	•	•						
Magdalenahöhle	•											

7. Conclusions

This short review of the Rhineland evidence shows that the lithic assemblages from our working area can be divided into two groups, i.e. assemblages with Font Robert points (Perigordian Va) and assemblages with many microgravettes (Perigordian VI/VII). Of the small sample of 15 sites, some were located in a sheltered topographic position (*Sessellage*), and yielded rich find layers which may be indicative of longer usage of the locations as base camps. Other sites were located on hills and had a good view in every direction. As for subsistence strategies, our sample is biased as only bones are preserved from sites formed during periods of loess sedimentation. Reindeer and horse are the most common species, with mammoth, rhino and deer also being a prey species. Grinding stones from Adlerquelle and Sprendlingen point to the importance of plant food. While most raw materials come from within a radius of approximately 50 km around the site, at the *Sessellage* sites of Metternich and Rhens most flints may have been imported from the Belgian Mons region, at a distance of 200 km. Mediterranean shells from Mainz-Linsenberg indicate contacts with areas at significantly larger distances, roughly 1000 km away.

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