THE NEOLITHIC BURIAL VAULT AT STEIN[1]

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In June 1963 the Institute for Prehistory of the University of Leiden undertook the investigation of a Neolithic burial vault in Stein. A wooden structure was found to have at least temporarily formed part of the tomb. The dead had been cremated. The grave goods consisted of a collared flask, an earthenware pot, numerous transverse arrowheads, bone arrowheads, bone points, animal remains, and a flint-axe which in all probability should be included.

Introduction

During the excavation of a Danubian settlement located on the Keerenderkerkweg in Stein, a portion of a small stone floor was found on 3 April 1963: the dragline being used to remove earth to a depth of 50 to 60 cm. stuck a collection of stones which, in the local loess soils, could only be present as a result of human effort. About five stones, whose position had been disturbed by the dragline, were excluded from the investigation. Originally, therefore, there were more stones at the eastern end of the floor than are shown in the drawings and photographs.

For a proper understanding of the method employed for this investigation, it will be necessary to explain first the system used for the excavation of the Danubian settlement. It must be kept in mind that the study concerned a settlement, and that the possibility of finding a burial vault had not even entered our minds in planning the excavation.

The area put at our disposal in 1963 measured about half a hectare. The plot, which was 100 m. long, was divided into equal strips, 10 m. wide, the alternating strips to be excavated simultaneously. The top 50 cm. of soil on these strips was to be removed by a dragline and deposited on the adjacent strips which were to be excavated later. Halfway through the excavation, the entire terrain was to be levelled by a bulldozer, after which the dragline would remove the top layer from the remaining strips.

[1] Province of Limburg.

A group of stones was found on the edge of one of the 10 metre wide trenches. It was immediately clear that there must be more of these stones beyond the trench, and investigation was postponed until the ground adjacent to the excavated area could be examined. After all the Danubian material had been studied and recorded, we were able to turn our attention to the stone floor. This point was reached in the middle of June.

Because the floor extended only partially into the open trench, we were able to study the soil profile above the stones. The earth above and next to the stones was for the most part grey. The top soil was delineated by its somewhat darker colour and the soil above the stones was also blacker than that further away. No sharp borderline was visible, however; the transition between the shades of grey was very gradual. Nevertheless, it became clear that the stone floor had been laid down at the bottom of a pit, although traces of its walls had become indistinct as a result of the intensive organic life characteristic of these loess soils.

The stone floor

The shape of the floor may be roughly described as oblong. It is about 5.5 m. long and 1.75 m. wide, the orientation being W.S.W.—E.N.E. Most of the stones seem to have been put in place with some care, for the purpose of making a true floor, with the exception of the

Fig. 1. Vertical exposure showing the stone floor with the collared flask *in situ*. Scale 1 : 40.

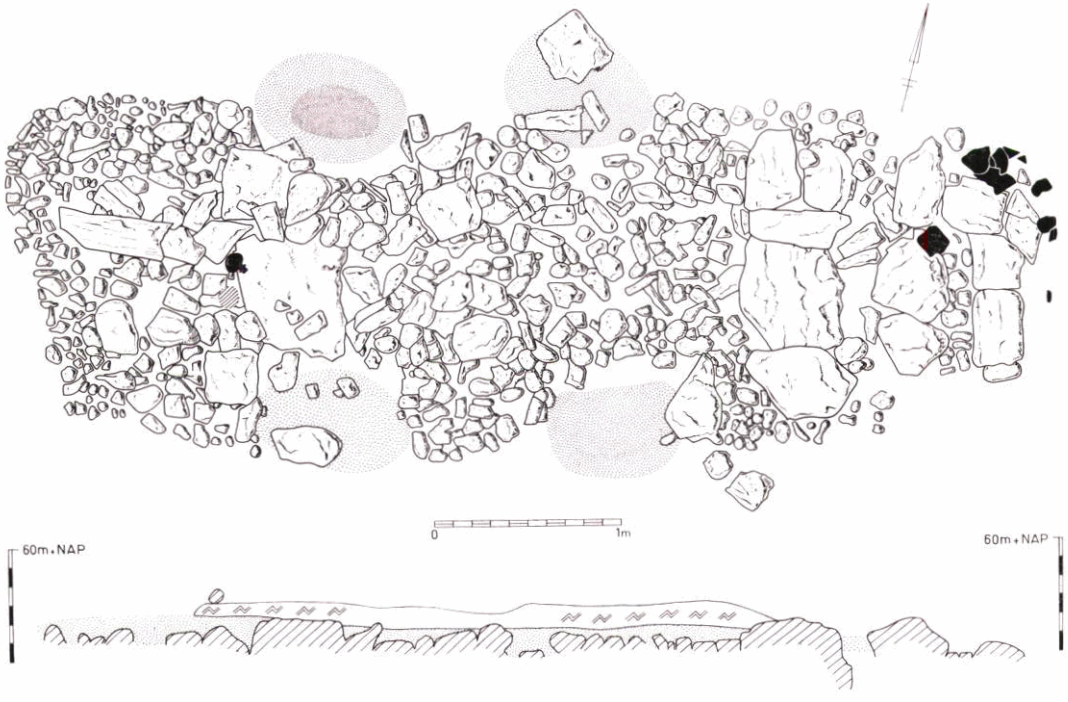

Fig. 2. Floor plan and cross-section of the stone floor. Scale 1 : 40.

N.E. end. At that end some large and small stones were jumbled together and between them lay some sherds from one pot. The floor, if the term may be applied here, is also narrower at this point. In addition, it is at this end that a few stones are missing from the picture as we report it; it was here that the dragline first hit the collection of stones and moved a few of them, for which reason they were excluded from consideration.

Among the rather small stones forming the floor there are several larger ones. A group of five is located at the N.E. side of the true floor, the largest with a flat side up. To effect this, the stone had to be partially buried (see section in Fig. 2). The arrangement suggests that this is a threshold. The same may be said for a second large, flat stone located about 1 m. from the S.W. end of the floor.

After the stone floor had been entirely cleaned we could see that running lengthwise through the middle of it was a slightly lower strip about 35—55 cm. wide. It seemed as though only this narrow strip had formed the actual burial chamber. The concentration of the cremation remains agreed with this impression, which was also strengthened by the position of several larger stones (see Fig. 6).

It should be emphasized that the cremation remains and other finds did not rest directly on the stones; the stones themselves were covered by a thin layer of greyish earth a few centimetres thick.

The post-holes

In discussing the stone floor, no mention has been made of the post-holes which are nonetheless a striking element in the entire construction and cannot be considered to be a separate element. The four post-holes form the corners of a square lying almost symmetrically in relation to the stone floor, with the exception of the narrower N.E. end. Within two of the post-holes, the posts could be distinguished. The post furthest to the N.E. was evidently shored up between several large stones. The same holds to a lesser extent for the S.E., and S.W. posts.

We may now ask what the relation could have been between the posts and the stone floor: were they constructed at the same time or did one precede the other? Let us examine the various possibilities.

It is certain that if the posts belonged to an initial phase of the monument, the wood was still in such a good condition at the time of any hypothetical reconstruction that it was not removed. This is borne out by the fact that there are no stones where the posts were in position.

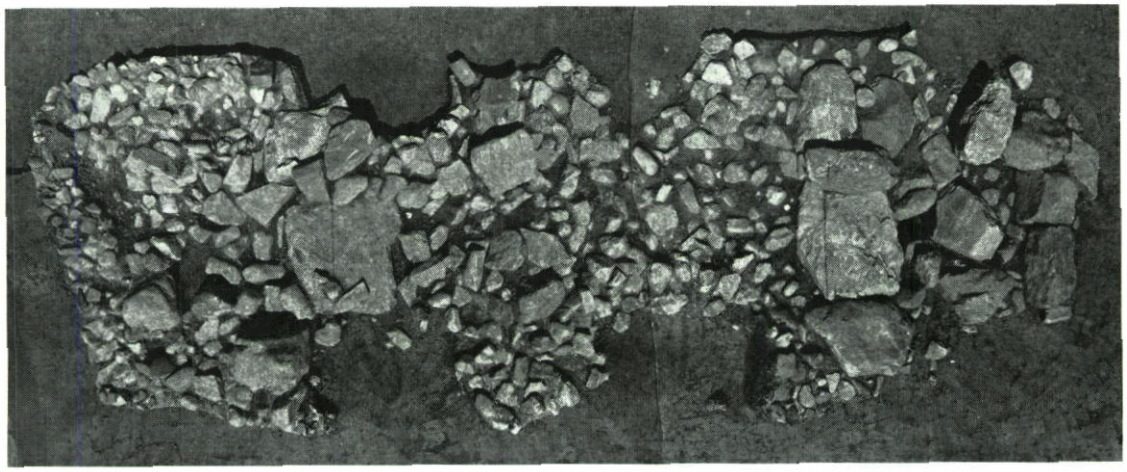

Fig. 3. Vertical exposure of the stone floor in the last phase of the excavation. Scale 1 : 40.

Fig. 4. View of the stone floor with the collared flask *in situ*, seen from the East.

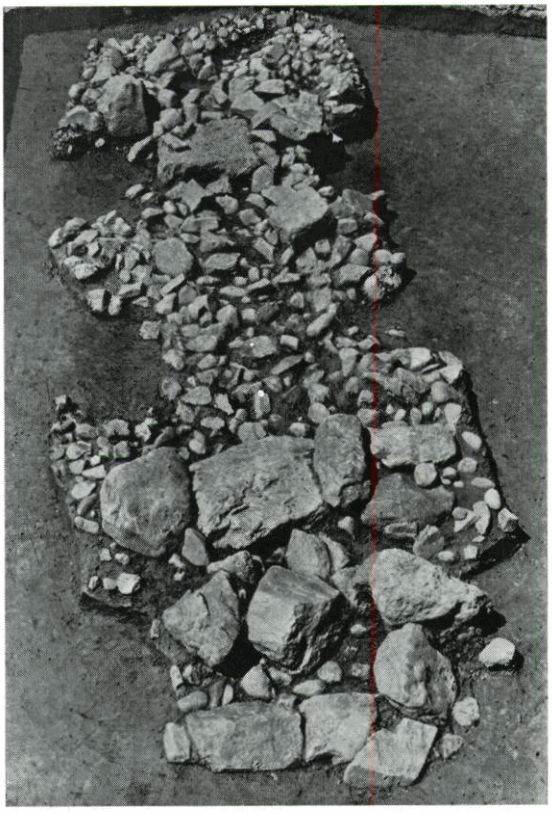

Fig. 5. View of the stone floor in the last phase of the excavation, seen from the East.

It is much more likely that the posts were put in position after the floor was laid down. The stones do not coincide, or barely coincide, with the material filling the post-hole. There also seems to be no reason to reduce the size of the 1.75 m. wide chamber by placing the post within this space at the initial construction.

A restoration of the burial vault may also be indicated by the jumbled heap of stones with the sherds of a single pot at the N.E. end. The impression is that the chamber was 'cleaned up', affecting a few stones and the pot. The cremation remains, as they were found, would then have to be assigned to a smaller chamber to which the wooden construction also belonged. In agreement with this is the position of the cremations in a narrow strip in the middle of the floor.

The foregoing would seem to give best support to a reconstruction according to which a primary burial vault without a determinable wooden structure was renewed by the placement of four heavy posts. It might even be suggested that the walls of the original chamber had little or no reinforcement. Loess permits the digging of good trenches with straight walls which only cave in if large amounts of water occur. Under such circumstances the oblong pit could first have been provided with only a wooden roof. This solution may in the end have proved unsatisfactory, and have required reinforcement by a wooden siding supported by the four heavy poles. The post-holes leave no doubt whatsoever that the vault with the stone floor was roofed over, justifying the use of the term burial vault.

The floor plan of the burial vault

On the basis of the few data available to us it is almost impossible to identify the entrance to the burial vault. Location in the N.E. side is perhaps the most likely. The narrower part may represent a kind of entrance. The actual chamber would then be divided by the two 'thresholds' into two parts. Such an arrangement is reminiscent of the examples of several *allées couvertes*. This comparison will be discussed in more detail in a wider context below.

The cremations

The human remains found in the tomb consist entirely of cremations. Theoretically, it is not excluded that bodies were also inhumed. These bodies would then have disintegrated completely, which is quite conceivable for the totally decalcified loess soils in question. As has already been mentioned, the cremations were separated from the stone floor by a thin layer of earth. The remains consisted of two large piles of calcinized bone (see Fig. 2). One lay on and just to the S.W. of the N.E. threshold stone, the second in the same position with respect to the S.W. 'threshold'. In both piles we found transverse flint arrowheads and bone arrowheads. In the S.W. pile was a collared flask lying on its side. In the immediate vicinity was a remarkable concentration of skull fragments. The state of preservation of the cremation remains is extremely good; in addition, the cremation was done at a temperature which left the skeleton intact down to the smallest details. The skeletal material is under study at present; the initial impression is that a large percentage of it derives from children.

The finds

The *pot* found in pieces in the N.E. part of the collection of stones was formed of clay containing coarse-grained quartz (Fig. 7). The surface was smoothed with horizontal strokes. The light brown to light reddish-brown colour (7.5 YR 6/4 — 5 YR 6/4) indicates that it was fired in an oxidizing environment. It is characterized by the distinctly protruding foot, rather round walls, and outward-curving lip. The pot was about 22.8 cm. high.

The *collared flask* was intact when found except for a few signs of damage during use (Figs. 7 and 8). It is made of clay containing fine-grained quartz. The surface is uneven for technical reasons, but otherwise rather smooth. The bottle was fired in an oxidizing environment. With the exception of one black spot, the colour is comparable to that of the pot. The six-pointed collar, short neck, pronounced shoulders, and round bottom characterize the object. Its height is 11.1 cm.

A total of 96 *transverse arrowheads* made of flint were found, all among the cremations (Fig. 9). The white colour and crackled surfaces suggest that many of them have been exposed to fire, the cremation coming most readily to mind in this conection.

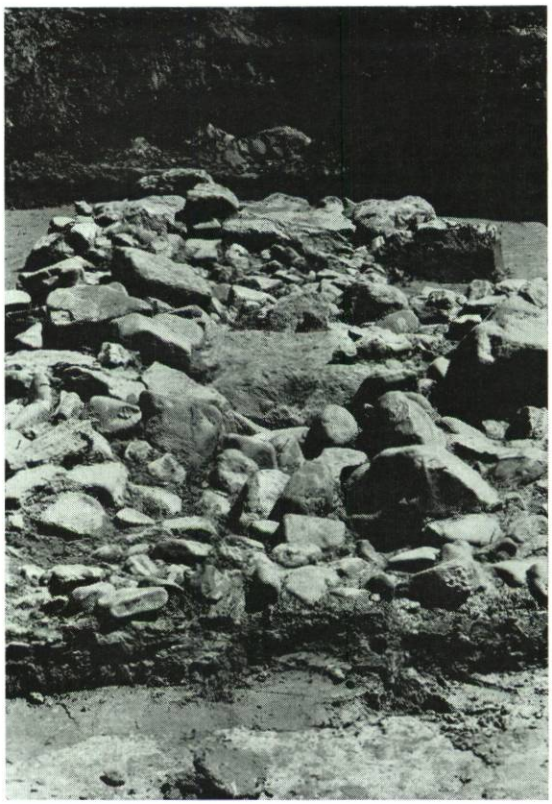

Fig. 6. View of the stone floor, seen from the West.

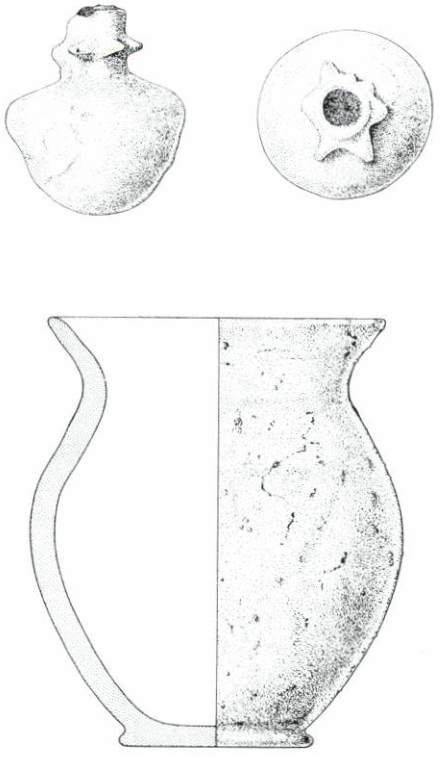

Fig. 7. Collared flask and pot from the burial vault at Stein. Scale 1 : 4.

Between the remains of the cremations a very small bead made of an indeterminable material (diam. 3—4 mm., width 2.5 mm.) was found.

Fragments of 11 *bone arrowheads* were also found among the cremations (Fig. 10), all of them made from ribs. The tops are pointed, and two barbed hooks complete the tip. A distinct termination of the shaft cannot be demonstrated, and therefore the length of the objects is impossible to estimate.

Some of the ribs are only pointed at one end and may therefore be *pins*.

Among the cremations were a few fragments of animal origin, including a vertebra of a large fish.

A polished flint *axe* (length 13.8 cm.) is probably to be included in the contents of the burial vault (Fig. 11). The find circumstances were such that absolute certainty could not be obtained, however. During the operation of the dragline which first exposed the stone floor on 3 April 1963, the axe was thrown on the dump pile. On 9 May a bulldozer shoved this earth back into the excavation. When the dragline was then used to start a new excavation trench and a shovel was being used in the loose earth to straighten the sides, the axe was found beside the stone floor. The unusually good condition of the axe indicates that it is not to be considered as a surface find; weathering would have removed all traces of grinding and polishing and these are still clearly visible. The axe was therefore buried deliberately.

The geographical situation

The contour map shown in Fig. 12 gives an impression of the geographical situation. The stone floor was constructed about 350 m. from

Fig. 8. Collared flask *in situ,* seen from the South.

Fig. 9. Transverse arrowheads from the burial vault at Stein. Scale 1 : 2.

the sharp drop between the middle terrace of the Maas and the lower terrace. In relation to the immediate surroundings of Stein, the watershed of the middle terrace, which is characterized by a cover of loess, runs via a clearly-eroded small valley to the lower terrace, whose surface consists of Holocene fluvial deposits from the Maas. The place at which the small valley cuts the edge of the terrace is also only a short distance away from the tomb.

Schoppa (see Wurm c.s. 1963, p. 51 and Abb. 1), in discussing the situation of the chamber tomb near Niedertiefenbach, points to the corresponding situation found in Calden, Altendorf, and Lohra. Stein is, in my opinion, to be included in this series. The agreement consists of a brook in the immediate vicinity, even though the vaults do not actually lie in a valley. Similar features also occur in the case of the *allées couvertes* in the Paris basin (Daniel 1955, p. 8). The choice of terrain is reminiscent of that of the Danubian settlements, and it is therefore not surprising that *Bandkeramik* has been found in some of the excavations of *Steinkisten* (Ostönnen, Calden, Altendorf, and Stein).

Subsidiary finds at Stein

During the excavations at Stein in 1963, a round pit was found only 1 m. away from the burial vault to the N.E. The material filling the pit was composed of a layer of greyish earth topped by a layer of cobble-stones. Long experience with soil traces from various periods in the surrounding loess soils has led me to conclude that this pit belongs to the same group of phenomena as the tomb.

In 1963 we also found sherds from the rim

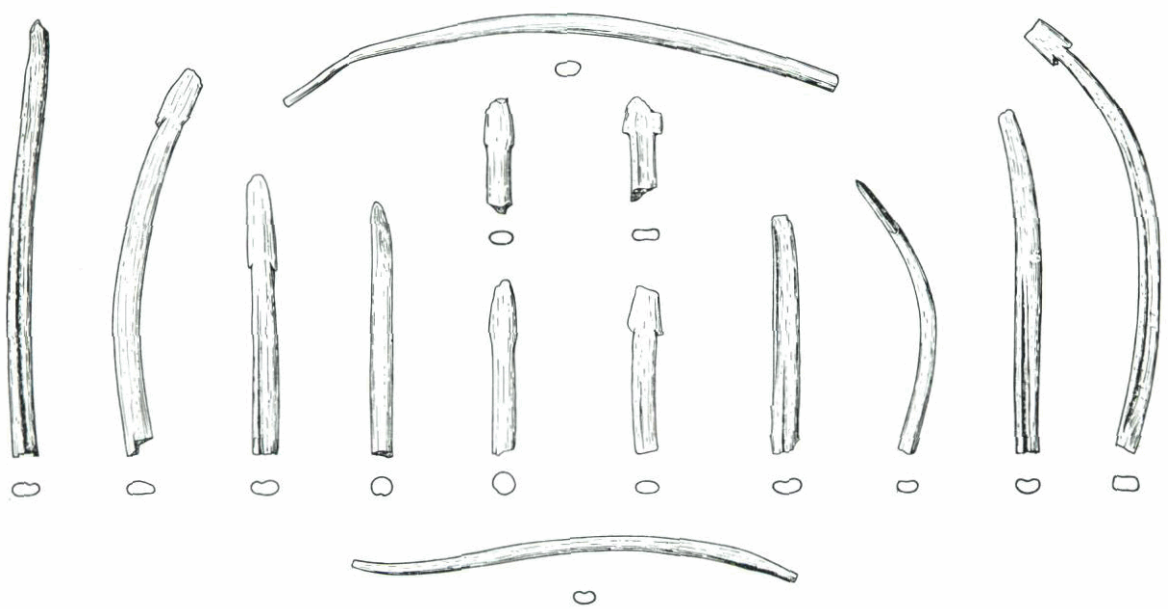

Fig. 10. Bone arrowheads from burial vault at Stein. Scale 1 : 2.

of an extremely large pot at a depth of about 50 cm., 20 m. to the N.W. of the burial vault. The earthenware of the thick rim (Fig. 13) (nr. 145) is completely comparable to the earthenware from the burial chamber and as such is important to the study of the prehistoric milieu to which all these phenomena belong.

In this connection we must not neglect to mention a find made in the Thirties, the so-called Robenhausien grave published by Beckers and Beckers (1940, p. 149). This find was made about 90 m. N.E. of the burial vault and concerned two closely adjacent piles of cremation remains. Lying only 30 cm. away was 'a prize collection of flint artifacts given as grave goods to the dead'. Doubt may be entertained as to whether the cremations and the flint material belong together, even more so when we consider that in 1962, to the N.W. of this so-called Robenhausien grave, several cremation burials were found which had to be dated in the early Iron Age. But even if the cremations and the flint depot are not contemporaneous, the latter is still worthy of mention. It consists of a number of large scrapers and retouched blades. Unfortunately, during the war a number of 'larger and smaller fragments of knives' were lost. Mr. T. Janssen, who worked closely with the senior Dr. Beckers, has told me that it is quite possible that among these 'knife fragments' were transverse arrowheads. On inquiry, Mr. G. A. J. Beckers also informed that he was not acquainted with these objects and would therefore in all probability not have recognized them.

Interpretation

We are now ready, on the basis of the data supplied by the burial vault in Stein, to attempt to determine the cultural milieu to which the find belongs. The first to come to mind is the SOM Culture, as defined by Childe and Sandars (1950, pp. 3—6). However, these authors distinctly state that the SOM Culture, if considered as limited to the Paris basin, is very closely related to phenomena distributed over large parts of Europe. We think of the Horgener Culture, the Westphalian and Hessian *Steinkisten*, the Maas-Neolithic in Belgium, the megaliths of the Skogsbo type in Sweden, the *allées couvertes* in Brittany. The extent to which the burial vault in Stein fits into this milieu is best illustrated by considering the typical elements separately in relation to finds made in other places.

The chamber tomb itself must unquestionably be assigned to the *west-europäische Steinkisten* in Germany (Knöll 1961, Tode 1961, Wurm c.s. 1963) and the *allées couvertes* in the Paris basin (Childe and Sandars 1950). The absence of the large stones with which the walls and roof were usually built is due entirely to the lack of this material even at considerable distance from Stein. A good counterpart in this respect is the *allée sépulcrale* excavated near Bonnières-sur-Seine (Basse de Menorval 1953, 1954). In this connection it is very interesting to refer to the relation between the various types of burial chambers in the Paris basin and the geological distribution of the building materials discussed by Basse de Menorval (1954, p. 235). The *allées couvertes* were as a rule built of megaliths,

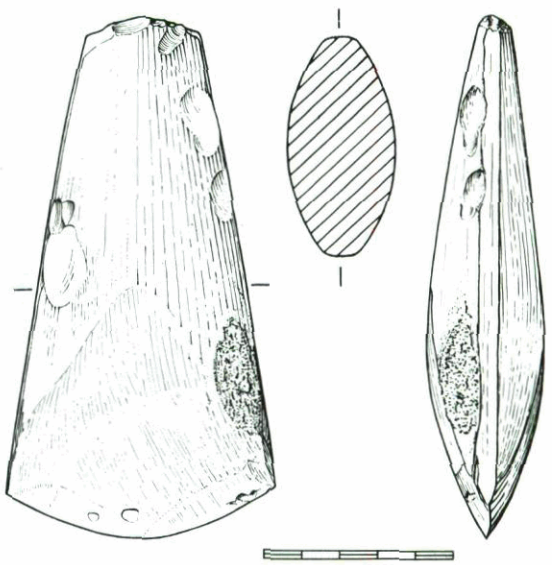

Fig. 11. Flint axe, very probably from burial vault at Stein. Scale 1 : 2.

but some were artificial or natural caves (Coutier and Brisson 1959) or vaults built of wood, depending upon local circumstances.

If we are correct in our interpretation of the two large stones in Stein as thresholds, the floor plan of the burial chamber would have the classical three partitions of the *allées couvertes.* Comparison with the smaller of the two dolmens of Wéris (Mariën 1952a, afb. 139) seems most interesting, but I have been reminded by Prof. Dr. S. J. de Laet and Dr. M. E. Mariën that great care must be taken in drawing conclusions in this respect because there is no certainty that the restoration of the structures in Wéris represents the original situation.

With respect to the *westfälisch-hessische Steinkisten,* the small *Kisten* are to be considered for comparative purposes because of their dimensions. These comprise the 14 examples (Knöll 1961, p. 33) described by Knöll (1961, p. 26, note 35) as *Pendants,* and are found not only in Hessen but also in Rhineland, Lower Saxony, Saxony, and Thüringia. The large *Steinkisten* should certainly not be excluded, particularly when their contents are given due weight.

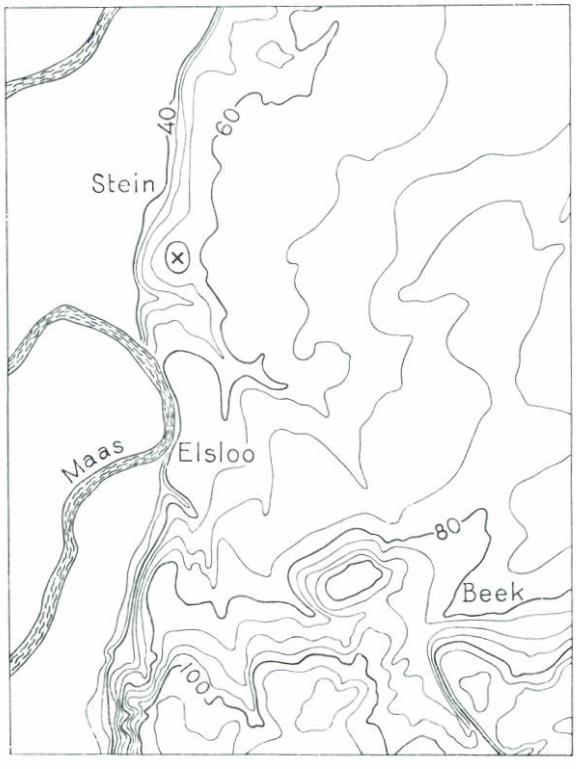

Fig. 12. Contour map of Stein and vicinity.

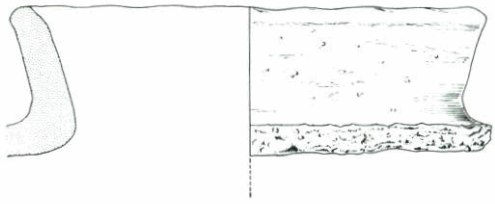

Fig. 13. Pot rim (find no. 145) found near burial vault at Stein. Scale 1 : 4.

One characteristic of the chamber tomb in Stein is exceptional, namely that the dead were cremated. As a rule, earlier finds concern burials without cremation. The only case of exclusive cremation is that of the *Steinkist* of Lohra in Hessen (Uenze 1954). Both inhumations and cremations are reported for several other chamber tombs such as Gudensberg in Hessen, Bennungen in Saxony, and a number of *allées couvertes.*

Although they are perhaps less closely related to these examples, the time and place of several cremations known for Germany make them worth mention here. Fischer (1956, p. 220) reports cremations in the Walternienburg-Bernburger Culture, although the practice only became more general in the Schönfelder Culture. There are also the two *kammerlose Hünenbetten* in Sachsenwald (Sprockhoff 1952 & 1954) in which traces of calcinated bones were found. Close to one of these cremations a sherd from the rim of a corded beaker was found, and relations are also present in the form of a certain type of decorated earthenware with a grave in Rötved, Schonen, indicating that the Sachsenwald cremations are of the same date as the Swedish Bootaxt Culture. Sprockhoff (1952, p. 25, note 22) also points to still other examples of cremations, but all of these are located still further to the East, extending across the Oder River.

This list — which does not claim to be

complete — should also include a recent find in Angelslo (v. d. Waals 1964) where a cremation was found together with late *hunebed* earthenware. This find could be provided with C_{14} dating, 4145 ± 100 (GRN 2370), corresponding to the 23rd and 22nd century B.C. As far as we can judge, these three cultural and absolute datings do not conflict with each other.

On the other hand, mention should not be omitted in this connection of the fact that Neolithic cremations are reported for Great Britain and Ireland. Here we have in mind in the first place the Clyde-Carlingford Culture which, with its court cairns, fits completely into the Megalithic pattern (Piggott 1954, p. 165, de Valera 1960, p. 60). But the Windmill Hill Culture also knew cremations in its long barrows (Piggott 1954, pp. 57, 109—112), as did the Boyne Culture (Piggott 1954, p. 202) and the Dorchester Culture (Piggott 1954, pp. 281 & 353). All in all, the cremations on the other side of the Channel are so widely spread in Neolithic contexts that they must be given just as much consideration in the discussion of Stein as the few German examples. The wish to cremate the dead in Stein may therefore derive from a very wide-spread change in ideas concerning the disposal of the dead. We see, on the one hand, a persisting strong tendency towards collective burial, but on the other hand there are signs of a reaction expressed not only in cremation but also in the individual grave.

The pot found in pieces at the N.E. end of the stone floor can in the first place be compared to the earthenware of the SOM Culture. This comparison is not easily made on the basis of the literature because although coarse earthenware is reported, illustrations are seldom given. Mariën (1950 & 1952a) summarizes the available material on the basis of the Neolithic finds in the Belgian Maas region, from which we obtain the impression of being concerned with a single pottery tradition, but the comparison is weakened by such features as the shape, the Stein pot having a more rounded form. The base of the pot is characteristic of the SOM earthenware. The two separate base sherds from Vaucelles (Mariën 1950, Fig. 7) have a similar protrusion.

Dr. R. Gensen of Marburg was so kind as to draw my attention to a very interesting find complex. A trial trench was made at the end of 1963 in a settlement on the Güntersberg, in the municipality of Gudensberg, Kr. Fritzlar-Homberg, in Hessen. Initial study of the finds from this excavation showed that about 90 per cent consist of thick-walled earthenware containing quartz grains. The thick bottoms often have a protruding foot. The rims are bent slightly outwards and are therefore well separated from the body. Among the finds was a collared flask with a neck decorated with small notches, to which we will return shortly. The entire complex is extremely important for the understanding of the culture that produced the *Steinkisten*.

It is perhaps of importance to mention that after viewing the Wartberg finds in the museum at Fritzlar we had the impression that the pot in Stein has no counterparts in this material. The protruding foot is lacking, and the profile of the neck of the coarse-walled earthenware also differs.

Of the finds from the German *Steinkisten*, the earthenware from Altendorf (Jordan 1954) shows a strong relationship to the material found on the Güntersberg, so that in this respect a relationship with Stein must also be considered probable.

A third group of finds of comparative interest is that of the so-called Vlaardingen Culture. Among the numerous, as yet unpublished, finds from Vlaardingen are sherds from the base of a pot that Prof. Glasbergen and his co-workers assure me are entirely comparable with those from Stein. Other relationships with the so-called Vlaardingen Culture will be found in the discussion of the collared flask and the transverse arrowheads to follow.

The collared flask with the star-shaped collar must certainly be considered one of the most interesting finds from the burial vault in Stein. With respect to this unusual collar, three parallels may be mentioned.

a. A find from a peat excavation at Mellemballe near Odense on Fünen (Glob 1952, no. 33) which, Prof. Dr. C. J. Becker has been so kind as to inform me orally, offers no information for dating.

b. The neck of the bottle dredged up near Oldenburg together with sherds, etc. of the Funnel Beaker Culture (Pätzold 1955, Abb. 4b). This star is seven-pointed, like that of Stein. An undamaged collared flask from the same find complex is considered by Pätzold to be typologically young. The neck fragment is supposed to be older because it is a broken specimen. Within the period that the spot was inhabited, Pätzold may be correct, but whether this is of value for the archaeological dating remains doubtful in my opinion.

c. A 135 mm. high collared flask from the *allée couverte* of Mélus, Ploubazlanec (C.-du-N.) in Brittany (Giot 1960, Fig. 19d & Pl. 24). The star has nine points. The *allée couverte* is one of a group in Brittany recently compared with the *hunebeds* of The Netherlands and N. W. Germany by J. L. Helgouach *. These *allées* have in common that the entrance is in the longitudinal side of the chamber. It is indeed remarkable that four of the six collared flasks found in Brittany (they are on the average larger than those of the Funnel Beaker Culture) all derive from *allées couvertes* of this special type.

Apart from the star-shaped collar, the collared flask from Stein may be compared on typological grounds with examples from Haselünne and Meppen (Knöll 1959, Taf. 34 : 17 & 15 respectively), Kleinenknethen (Sprockhoff 1938, Taf. 50 : 5), and others characterized by a pronounced shoulder and a short neck. Both Knöll and Sprockhoff argue for a relatively late dating of these specimens. Knöll places them in *Stufe* 2, which corresponds with the Walternienburg-Bernburger *Stufe*. Knöll also notes (1959, p. 23) that undecorated short-necked collared flasks occur particularly to the West of the Wezer. According to U. Fischer, collared flasks are known from Central Germany in closed finds from the late Bernburger Culture (Driehaus 1960, p. 191, 1), an additional indication that these bottles were only in use for a few centuries. Typologically, the collared flask from Stein is closely related to the *hunebed* ware from northwestern Germany and The Netherlands.

The same may be said concerning the two collared flasks with spherical bodies and long necks from the *Steinkisten* of Lohne and Altendorf (Sprockhoff 1938, Taf. 17 : 11). In addition, the graves yielded two collared flasks of an entirely different type. They are directly comparable with a find from Wychen (Lüüdik 1955, Abb. 17 : 9). The latter brings us back to the fragments of collared flasks from Vlaardingen (Altena c.s. 1962) which in all probability represent the same type.

Collared flasks are also known from Neuwied* (Buttler 1938, Taf. 23 : 19) and Lohra. The latter indeed lacks the neck, but a complete collared flask from the Güntersberg makes it very probable that the Lohra specimen concerns a similar small, round example. Lastly, I may mention the group of finds from the 'Eyersheimer Mühle' near Neustadt, Pfalz, in which sherds of collared flasks are also included (Sprater 1928, Abb. 70; Buttler 1938, S. 102).

The collared flask from Stein indicates that the dead had had relations with more northerly regions. This is in itself not surprising. Funnel Beaker Ware and axes of northern type are known from Stein and other sites in Limburg (Wouters and Glasbergen 1956). Indeed, many more relations between the Funnel Beaker Culture and the *westfälisch-hessische Steinkisten* can be demonstrated (Knöll 1961; Wurm c.s. 1963). In addition, via the latter group, connections with the Vlaardingen Culture can be made more acceptable.

To find comparative material for the large number of transverse arrowheads we may seek first in the SOM Culture. Favret has calculated

* During the Second Atlantic Colloquium held on 6—11 April at Groningen.

* J. F. van Regteren Altena has been kind enough to inform me as a result of his recent visit to Neuwied that the surviving parts of this collared flask are apparently fragments of two different specimens.

that in chamber tombs carved in rock, 2000 transverse arrowheads have been found as against only 58 leaf-shaped points (Daniel 1960, p. 47). The hypogeum II in Mournouards has given us a completely comparable collection of transverse arrowheads (Leroi-Gourhan 1963, Fig. 10). The Vlaardingen Culture and the Funnel Beaker Culture show the same picture. In the German *Steinkisten* however, the transverse arrowheads are not very numerous; they are as a rule triangular in shape. Only Calden (Uenze 1951), Altendorf (Jordan 1954), and Hiddingsen (Lange 1934) have yielded transverse arrowheads. It is clear that the relations of the users of the burial vault in Stein must be sought, with respect to this element, in a south-western and/or northerly direction.

With respect to the axe we wish to refer to only a few comparable examples. Here, too, the French material must be mentioned first, even though it is not considered typical of a particular culture (Leroi-Gourhan 1963, p. 31). A few examples will suffice. Among the rich material from Montigny Esbly (Arnette 1961, Fig. 12) are several entirely comparable axes. *L'Hypogée* II in Mournouards also includes a similar axe (Leroi-Gourhan 1963, Fig. 9). On the other hand, an axe of the same type was found in the well-known *Steinkiste* of Lohne-Züschen (Mus. Kassel nr. 1263). For the rest, the few axes in the German *Steinkisten* are much smaller and of a different shape.

It proved difficult to find parallels for the bone arrowheads. Bone objects are repeatedly mentioned in the literature, but unfortunately no report is made of what they are. Thanks to the kind cooperation of Dr. W. Schrickel, who has just made a complete study of the inventories of the German *Steinkisten*, the following comparable finds can be mentioned. The already-mentioned *Steinkiste* of Lohne-Züschen contained two complete examples. Their shape, however, is somewhat heavier and far less elegant than that of the arrowheads found in Stein. The actual point is shorter and the stem somewhat thicker. Dr. Schrickel also told me of a single specimen from Rimbeck Kr. Warburg, and this type of bone arrowhead is supposed to have been found at Sorsum Kr. Hildesheim as well.

From the *allée couvertes* I am acquainted only with a so-called *pointe de sagaie* from Montigny-Esbly (Arnette 1961, Fig. 15 : 6) which, although somewhat less delicate than our bone points, is nevertheless comparable.

The foregoing examples indicate that points of arrows or assagais made of bone belonged to the cultural possessions of the community under discussion.

The single small bead is most suggestive of the numerous beads found in the *allées couvertes*. In this respect the connections of the makers of the burial chamber seem to have been orientated towards France.

Summarizing the foregoing, we are strongly impressed by the enormously wide distribution evidenced by the cultural elements in the Stein burial chamber. This is not in itself a new idea: the marked agreement between the SOM Culture, westfälisch-hessische *Steinkisten*, Horgener Culture, etc. has already been pointed out by various authors. But the objects found at Stein confirm this unity in a most fortunate way. Regional differences do indeed appear, but if they are not overemphasized it is clear that our find as a whole forms an integral part of the cultural pattern of the peoples who inhabited Northern France, Belgium, South-Netherland, and Western Germany before the rise of the beaker cultures. We are best informed with respect to their mortuary cult, but it is not excluded that the so-called Vlaardingen culture will provide us with an exceptionally good idea of their manner of living, albeit under somewhat exceptional environmental conditions.

To take up the question of the dating of the Stein tomb, it must in the first place be noted that the C_{14} method cannot be applied to the charcoal because part of the material filling the chamber consisted of waste from the Danubian settlement that through the activities of animals had become mixed with the remains of the cremations. A sample of gueranteed purity could therefore not be collected and absolute dating can only be derived indirectly.

One possibility for this derivation is provided

by the C_{14} dating of the hypogeum II in Mournouards (Leroi-Gourhan 1963, p. 133) which is given as 3812 ± 116 and 3683 ± 115. On the basis of the multiple burials and the lithic material it is tempting to consider this burial chamber as culturally synchronous with that of Stein. However, arguments can be advanced in strong contradiction to this, in my opinion, very late C_{14} dating. These arguments are based, for one thing, on the collared flask with the star-shaped collar. To the best of our knowledge, in any case, these flasks were in use in EN C and MN I (Altena c.s. 1962, p. 217 ff.). We hesitate to ascribe the Stein flask with any certainty to either of these periods, although on purely typological grounds we would have a slight preference for MN I. On the basis of the C_{14} dating for Odoorn (GRN 2226) and Anlo (GRN 1824) which represent an early phase of the Drouwen period and an early Havelte period respectively, an absolute dating in the 26th century B.C. would have to be accepted. If the Vlaardingen Culture is included in these considerations, it could be put on typological grounds that the collared flasks of this culture give the impression of being younger than the Stein flask which is directly comparable with the TRB Culture. As *terminus post quem* for Vlaardingen or as starting date for the neolithic habitation of that place, we have available the C_{14} value of 2450 ± 100 B.C. (GRN 2306) (Altena c.s. 1962, p. 216), which is valid evidence for a dating of Stein in the 26th century B.C. For this determination use is made of an argument based on a typological development of the collared flask. We do not consider this basis to be unshakable as yet, but at this moment it it the most acceptable one we have.

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