Culemborg- Den Heuvel. Bronze Age remains and Iron Age settlement traces next to a breakthrough channel in the Schoonrewoerd stream ridge

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Introduction

In August 1965, local archaeologists retrieved finds in moved soil from a sand-dredging site next to ‘Den Heuvel’, a small farmyard located 2.4 km ESE of the village of Zijderveld. At that time, the later Leiden professor in archaeology L.P. Louwe Kooijmans had planned a series of excavations to study the occupation history of the Holocene Dutch river area that was central to his dissertation (Louwe Kooijmans 1974). As the plot was selected for the enlargement of the sand-dredging pond, Louwe Kooijmans and local archaeologists dug a test trench. Based on the presence of both features and finds, a larger area (in total 0.33 ha) was investigated as a rescue-excavation (fig. 1).

Fig. 1. Location of the excavation.

Although analysis of both the geological and the archaeological data were close to completion, only preliminary results were published by the excavator (Louwe Kooijmans 1966 / 1974; Klasens

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1969). In these publications, the site is described as part of an Iron Age settlement where also Bronze Age sherds and a large three-aisled house were found. The most encompassing description of the site is the unpublished MA thesis by Sloos (1988). The presence of the Bronze Age remains, the detail of the geological investigation and especially the rumour of a house plan, was the reason to study this site once more within the current research program ‘Living in a dynamic (cultural) landscape. The Bronze Age in the Dutch river area’.  

Within the framework of this project, the first author will prepare a dissertation on the Bronze Age occupation of the Dutch river area, with a special focus on the nature of Bronze Age farmsteads and settlements and their relation to the physical landscape. To achieve this, a number of recent (‘Eigenblok’, ‘De Bogen’, ‘Lienden’, ‘Boog C-Noord’) and older (‘Dodewaard’, ‘Zijderfeld’, ‘De Horden’) Bronze Age excavations in the river area will be studied. The second author will compile several articles and detailed maps on the palaeogeography for each of these sites. Both lines of investigation are thought to benefit from the inclusion of other sites excavated, like Culemborg-Den Heuvel, with the following questions in mind:

- Can favourable periods for human activities on the Schoonrewoerd channel belt be outlined by palaeogeographical analysis?
- What is the nature and dating of the break-through channel?
- Are there indications for the presence of a Bronze Age farmstead on the site?
- If so, what is the relation (both spatially as temporally) to the physical landscape?

In order to deal with these questions, we will first discuss the palaeogeography of the site and its implications for human occupation. Thereafter, some comments on the methodology applied during excavations will be presented. After a short general introduction to the results, the relevant finds and features (especially the house plan) are discussed subsequently and followed by our conclusions.

Palaeogeography

The site Culemborg den Heuvel is situated on the Schoonrewoerd channel belt which is from both an archaeological as well as an geological point of view one of the best documented channel belts in the western part of the Dutch river area (fig. 2). It has yielded many archaeological sites downstream from Culemborg (Louwe Kooijmans 1974 : fig.18). In the direct vicinity of the site (0.5 - 2 km), coring campaigns around the Schoonrewoerd channel belt have attested several other sites with prehistoric find-layers. Two of these can be dated to the Late Neolithic or Early Bronze Age, others can also date to the Iron Age (Odé & Haartsen 1997; Haarhuis 1988). The best-known site in the neighbourhood (c. 2 km away) is ‘Zijderfeld’, located 1.9 km to the northwest. This site, excavated between 1965 and 1971, is situated on a thin layer of crevasse deposits (originating from the northern branch of the Schoonrewoerd channel belt) which overlay the top of the Zijderfeld channel belt (Hulst 1991; Theunissen 1999; Arnoldussen 2003; Van Zijverden in prep.). This is the only site in the vicinity that can be dated with certainty to the Bronze Age and Early Iron age.

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Fig. 2. Channel belts and selection of sites.

The Schoonrewoerd channel belt

The Schoonrewoerd channel belt is a characteristic example of an anastomosing riversystem, which is composed of several interconnected channels that enclose flood-basins (Makaske 1998 : 56). Anastomosing rivers are characterized by a very small channel belt, contemporary functioning channels and well-developed crevasse splays. Most anastomosing rivers consist of straight channels, which are generally stable (straight channels as defined by Makaske 1998 : 27-30). Lateral erosion and accretion, which are characteristic for meandering rivers, do not occur. This is the reason why swales are absent.

Most authors who studied the Schoonrewoerd channel belt follow the interpretations of De Boer & Pons (1960), who distinguished two phases of sedimentation represented by a clay wedge split by a continuous peat-layer. Louwe Kooijmans also mentions these two phases as an older "quiet" phase and a younger "wild" phase or rejuvenation (Louwe Kooijmans 1974 : 99). Makaske demonstrated that the lower clay-bed belongs to several older channel belts (Makaske 1998 : 214-217). This implies that the Schoonrewoerd channel belt can be considered a classic one-phase channel belt. Although a marine influence is often suggested, Makaske did not recognize marine influence in the lithofacies east of Molenaarsgraaf (Makaske 1998 : 219-220). Louwe Kooijmans presumed very high flow velocities during the second phase of the Schoonrewoerd channel belt based on the occurrence of sand as bed load in the peat area (Louwe Kooijmans 1974 : 99-100). Makaske explained this by postulating an upstream connection with the Werkhoven channel belt, providing large quantities of eroded coversands (Makaske 1998 : 220-224).
The start of sedimentation of the Schoonrewoerd channel belt can be dated around 3222 cal BC based on $^{14}$C-dates at 13 different locations (Berendsen & Stouthamer 2001: 233-234). Obtaining a date for the end of sedimentation appears to be problematic since the Schoonrewoerd channel belt lacks a well-developed residual channel. The end of sedimentation is dated between 2460 and 2140 cal BC (Makaske 1998: 217). Another date, around 2104 cal BC (mid-point date), is obtained for the end of sedimentation based on several end of sedimentation dates and many taq-dates (Berendsen & Stouthamer 2001: 233-234; for a discussion of the end-date see Makaske 1998: 217). Permanent occupation of the Schoonrewoerd channel belt and crevasse splays seems possible from this date onward.

During the larger part of prehistoric habitation on the Schoonrewoerd channel belt, the Hennisdijk and Honswijk channel belts formed the most nearby active river. The end of sedimentation and beginning of sedimentation of these channel belts are radiocarbon-dated (Berendsen & Stouthamer 2001: 205; 207). The beginning of sedimentation of the Hennisdijk channel belt is dated between 2460 and 2130 cal BC. The end of sedimentation is dated between 1370 and 1050 cal BC. The beginning of sedimentation of the Honswijk channel belt is dated between 2570 and 2200 cal BC. The end of sedimentation is dated between 1410 and 1210 cal BC. The end of permanent occupation of the Schoonrewoerd channel belt will be caused by the start of sedimentation of the Lek and Linge channel belts between c. 400 and 100 cal BC (Berendsen & Stouthamer 2001: 213-215; Van Zijverden in prep.).

**Break-through channels**

Louwe Kooijmans described several so-called break-through channels in the Schoonrewoerd channel belt (Louwe Kooijmans 1974: 100-103). The term break-through channel has been used in older literature to indicate the channel which occurs by crevassing. Louwe Kooijmans, however, described a type of channel which develops during the fossil period of a channel belt. He describes a system where in the northern floodbasin a higher waterlevel exists than in the southern floodbasin or the reverse. In this situation water pressure may build up and a break-through occurs. Such break-throughs result in a break-through channel in the fossil channel belt and a sand sheet in front of the channel. Louwe Kooijmans describes several of these channels: Hoog Blokland Nieuwvlietje (Schaik channel belt), Ottoland De Put, Ottoland Kromme Elleboog, Molenaarsgraaf and Culemborg Den Heuvel (Louwe Kooijmans 1974). Havinga & Op’t Hoff documented a break-through channel near Maurik, where the Ommeren channel belt encloses a flood basin (Havinga & Op ‘t Hof 1975: 272). Verbraeck describes another break-through channel near Middelkoop in the Schoonrewoerd channel belt (Verbraeck 1970: 86; coordinates 133/437). This situation is comparable to the situation as described by Louwe Kooijmans. Another break-through channel is documented between Bergharen en Hernen (Pons 1957: 53-55; Pannekoek Van Rheden 1942). In this case a dune complex that formed a ridge in the floodplain of the Wijchens Maasje channel belt was cross-cut by a break-through channel.

*The break-through channel at Culemborg-Den Heuvel*

Although the idea of the mechanism causing break-through channels may sound persuasive, there is no modern equivalent described in literature. Makaske, who did research on modern anastomosing rivers like the Columbia river (Canada), the Niger river and Bani river (Mali), has never seen anything comparable to a break-through channel, which leads us to believe they are far from usual (pers. comm. dr. A Makakse (Alterra)). In order for these channels to develop there has to be a river that supplies the flood basin with water. Which river(s) was (were) responsible for the seasonal changes in the floodplains north and south of the Schoonrewoerd channel belt? The most plausible explanation is that the Honswijk and Hennisdijk channel belts are responsible for the formation of the break-through channel and the accompanying deposits. In the southern flood basin a large crevasse splay is present, originating from the Hennisdijk channel belt (fig. 2). Recent research at Zijderveld revealed that there has been a short period with a considerable amount of crevassing occurring from one of these channel belts between 1690 and 920 cal BC (Van Zijverden in prep.; De Jong 1970/1971). Crevassing occurs mostly during the final stage of sedimentation of a channel belt (Van Dinter 2001; Van Dinter & Van Zijverden 2002). The lack of Late Bronze Age traces and (Early) Bronze Age ceramics in the bed load of the break-through channel, which is of course only circumstantial evidence, fits this picture very well.
As recorded in the original documentation, Louwe Kooijmans documented two phases in which the break-through channel has been formed at Culemborg Den Heuvel (fig. 3). Both phases resulted in a lobe-shaped sheet-like splay deposit north and south of the Schoonrewoerd channel belt. The
lithofacies of the first phase doesn’t resemble the lithofacies of the second phase. The first phase is characterized by a thin laminated sediment containing large parts of wood, peat and clay pebbles. The sediment itself differs over very short distances (vertical and horizontal) in composition. Louwe Kooijmans describes sediments ranging from silt loam to loamy sand and sand (Louwe Kooijmans used the STIBOKA terminology for describing the sediments, the English terms used in this text refer to the USDA soil taxonomy). Both the geomorphology and the composition described by Louwe Kooijmans are characteristic for crevasse splay deposits of the ‘stage A’ type in the western part of the Dutch river area (Smith et al. 1989; Weerts 1996: 43-45). The second phase is characterized by a non-laminated homogenous sediment, an organic component is absent. Louwe Kooijmans describes the sediment as sandy loam. This composition is wholly comparable to the top sediment of the Schoonrewoerd channel belt. The geomorphology and the composition described by Louwe Kooijmans are comparable to small dike-breach splay deposits, which are considered as an a-specific type of crevasse splays by Weerts (Weerts 1996: 45). Remarkable is the incision of the break-through channel in the northern floodbasin into the underlying “first phase” splay deposits. This incision can not be explained otherwise than by a flood basin induced break-through. So there must at least has been a break-through from the northern flood basin into the southern flood basin. The strong resemblance between the sediments of the “second phase” north and south of the Schoonrewoerd channel belt makes the reconstruction of a second break-through from south to north plausible.

Another hypothesis to explain the splay deposit of the “second phase” in the northern floodbasin, is to assume a “rejuvenation” of the residual channel of the Schoonrewoerd channel belt. The residual channel can be rejuvenated for a short time (several years or even during one event). In this case the residual channel could have been used as an overflow channel of the active Hennisdijk channel belt. This kind of rejuvenation is a very common phenomenon in the Dutch river area. It results sometimes in a crevasse splay in the flood basin and a crevasse residual channel which is incised in a channel belt (see for examples Eigenblok, Van Zijverden 2002: 72-73 fig. 2.8.b.; Kesteren De Woerd, Van Dinter 2001: 61-63 fig. 3.6). Despite the many corings carried out by Louwe Kooijmans and an excavation which covers the larger half of the Schoonrewoerd channel belt, a well developed residual channel could not be attested. Apart from the “wild phase” mentioned above, rejuvenation is not mentioned in literature on the Schoonrewoerd channel belt.

For the “second phase” splay deposits a break-through channel as suggested by Louwe Kooijmans seems the best explanation. This event must have taken place between the end of sedimentation date of the Schoonrewoerd channel belt, between 2460 and 2140 cal BC, and the end of sedimentation date of the Hennisdijk channel belt between 1370 and 1050 cal BC. A date at the end of the Middle Bronze Age B or the Late Bronze Age seems most probable. During the Early and Middle Iron Age flood basin fluctuations due to flooding will have been scarce or most likely absent. Since a distinct paleosol (vegetation horizon) is absent, the break-through channel must have been a semi-permanent open water during this period. Floodbasin water level movements in this period will have been seasonal induced. The top of the vegetation horizon in the flood basin, which can be related to the period of habitation, is similar to the top of the find-layer in the break-through channel c. 0.40 m O.D. The flow velocity in the channel has been extremely low. The sandstrings, which were observed by Louwe Kooijmans in the infill of the channel, are almost certain aeolian.

Excavation: Introduction and Methodology

Louwe Kooijmans’ strategy involved acquiring both detailed knowledge on the presumed break-through channel (to which end trenches II and IV were dug) and excavating as much of the settlement area around the test-trench (II) as time and budget allowed (fig. 4). The archaeologists furthermore had to keep pace with the stripping of the topsoil. The excavation was carried out between February and April 1966, sometimes under harsh winterly conditions. Rain turning the clayey and silty subsoil into mud and the high groundwater level complicated the work.
A dragline was used to remove the topsoil (15-25 cm) in the larger excavated area to the east. At this depth the features were directly visible, indicating a decapitated soil. This level was scraped with shovels by hand to enhance the visibility of features. Sections were made through almost all features and their depths, colours and finds were documented. The purpose of trench III was to investigate the infill of the break-through channel. This trench measured 10 by 10 m and was subdivided in nine segments. Here, a find-layer could be discerned as the darker bottom part of a 40 cm thick layer of brown humic clay. A mechanical digger was used to remove the covering 70 cm of clay. From the top of the find-layer, the level was lowered by spading away slices of soil to retrieve the abundant finds. To acquire both more material and a complete profile through the break-through channel, trench IV was dug to the north. This trench measured roughly 20 by 6 meter. As in trench III, the find-layer was carefully spaded away with shovels and finds were collected in segments. Due to the high groundwater level, no plan of the level underneath the find-layer could be drawn.

Excavation: General description

Based on the original documentation and the descriptions by Sloos, the site was used for occupation in (the end of) the Early Iron Age and the Middle Iron Age. In the larger excavation to the east, the traces of a house plan, two nine-post outbuildings (granaries), several ditches and four-post outbuildings and numerous pits were documented. As both the dating and the structure of this ‘house’ are problematic, these will be discussed in a separate section. Two relatively certain and one dubious nine-post outbuilding have been reconstructed (Sloos 1988: fig. 7 nrs. 1,2,5). In addition to this, we are of the opinion that five more possible four-post outbuildings (fig. 7 nrs. 3,4,7?,8) can be discerned. We assume that more structures were present, but they cannot be isolated with a sufficient degree of certainty from the clusters of features. A few posts of the aforementioned outbuildings contained crumbs of Iron Age pottery, but not enough to date any of them more precisely within the Iron Age. Few (larger) pits yielded enough material to be attributed with some certainty to the Early Iron Age (800-500 cal BC), the Early/Middle Iron Age transition (500-400 cal BC) or to the Middle Iron Age in general (Sloos 1988: 15-19). Lying on the bottom of a pit dated to the Early Iron Age, two fragments of a human skull were found.

In trenches III and IV archaeological remains were abundant, but no features were observed. The nature of the break-through channel indicates that it was for the largest part of the year filled with shallow water. During summers, it might have been a marshy depression, or in periods of extreme low water level, have stood completely dry. Among the finds from the find-layer, bones dominate although also over 40 kg of ceramics were found. These comprise predominantly Early- and Middle Iron Age ceramics. Beside the bones of the livestock, human remains also ended up in the break-through channel. Frontal bones of two or perhaps three human skulls were found on the bottom of the channel infill. The lithic material recovered (c. 23 kg), consisted mostly of unworked stone and tephrite used for
grinding stones. Remarkable items are a pierced tusk of a wild boar (a pendant?), a complete miniature vessel and an iron dagger (fig. 5). The hilt is crowned by a rhomboid shaped iron plate and a round copper cap. The blade has two shallow grooves that fade towards the point. Although for definite answers the object should be re-examined, D.R. Fontijn has suggested that the long hilt might indicate that the object originally has been a sword that was reworked after being broken. Also, some worked (pointed) wooden posts were found. Apart from four Roman sherds, nothing hints of human presence until the start of the Late Medieval period (c. 1050-1250 AD), when various rectangular pits and a large ditch were dug. An interpretation of the datable features is presented in Figure 7.

**Fig. 5. Iron dagger.**

**Evidence for Bronze Age activities**

We shall now return to the main focus of our investigation; the interpretation of the Bronze Age remains uncovered. As the original finds have not been re-examined, we rely here on the description of the finds in the original documentation. Bronze Age sherds (sometimes described as 'Drakestein') have been recovered from 21 different segments and features. The dating of these sherds is hampered by the small size of the fragments, absence of decoration and the fact that small fragments are hard to distinguish from Early Iron Age ceramics that are sometimes also tempered with small fragments of crushed quartz. With one exception (see features), all sherds are found associated with younger (Iron Age) ceramics.

**Finds: Stray finds**

A so-called bifacially worked, plano-convex flint knife that was found on the surface prior to the excavation can be dated to the Early Bronze Age (2000-1800 BC). Two Barbed Wire Beaker sherds were found in the spoil heaps next to the east-section of trench III. Judging from the soil that was still stuck to these at the time of the discovery, they originated from the bed load under the lowest infill of the break-through channel (Louwe Kooijmans, pers. comm.). Three fragments of flint sickles and a sherd of a 'Lappenschale' found in secondary contexts might date to either the Late Bronze Age or the Early Iron Age (Fokkens 1998 : 126-127; Van Heeringen 1989 : 236; van den Broeke 1991 : 206). Since the ceramic evidence indicates that the site was extensively used from the Early Iron Age onward (Sloos 1988), the flint sickles fragments and the possible 'Lappenschale' sherd are thought to date to this period as well.

**Finds: Trench III and IV**

Sloos lists the number (15) of possible Bronze Age sherds from the trenches III and IV (Sloos 1988 : table 11). Nine segments of the find-layer in trenches II and IV contained a single Bronze Age sherd, and two segments yielded three sherds each. There are no indications that these were found on another (or lower) level than the abundant Iron Age ceramics.

**Features**

Unfortunately, Sloos does inform us on the presence, yet not the exact number of Bronze Age sherds found in the easternmost excavated area (Sloos 1988 : 20). Based on the original documentation, seven pits and two ditches yielded (alongside Iron Age sherds) one or more Bronze Age sherds. Only the posthole in trench II yielded two Bronze Age sherds exclusively, but this might equally well represent an intrusion of older material in a later feature.

On the whole, material remains from the Bronze Age originate predominantly from Iron Age contexts. Furthermore, the numbers of Bronze Age finds recovered are small. The single feature containing two Bronze Age sherds should in this light not be seen as evidence for Bronze Age occupation.
The house plan

As mentioned before, the most prominent feature, the house plan, is discussed here separately.

General characteristics

A possible house plan has been discovered in the northeast part of the excavated area, but it was already partially disturbed by the sand-dredging activities (fig. 6). The overall structure is three-aisled and measures at least 13 m. Two parallel rows of posts are set 3 m apart. The distance between posts in a row varies between 3.4 and 2.2 meter. The easternmost roof-bearing posts are set 1.4 m apart. At 2.5 m to the south, another row of posts is located. Two additional posts were found 2.7 m to the north.

Fig. 6. The house plan.
Typology

In general, the structure of the building remains unclear. Louwe Kooijmans assumes that the northern and southern rows of posts (based on their similar appearance and identical orientation) are the wall-posts of a three aisled house (Louwe Kooijmans 1966 : 61). Sloos mentions a farm excavated at Hijken as a parallel (Sloos 1988 : 10-12). Currently we know of two types of type ‘Hijken’ ground plans: the ‘transitional-Hijken’ types of farms (which presumably date between 800 and 400 cal BC) and the Middle Iron Age ‘true Hijken’ types (Huijts 1992 : 67-72). There are, however, some problems with the interpretation of these features as representing a Hijken-type farm. First of all, there appear to be few (if any) comparable Iron Age house-plans that show the typical less distantly spaced last (eastern) set of roof-bearing posts. Even if we assume that these once formed part of the eastern short wall (and neglect the fact that we cannot explain why no other wall-posts of that side have been preserved), comparable structures are scant. Only Wijk bij Duurstede houses I and III (Early Iron Age, Hessing 1989 : 320), house 18 from Hijken (Huijts 1992 : 72,80) and Sleen (Waterbolk 1990 : 185), both Middle Iron Age, show wall-posts at this specific location (yet always accompanied by various other wall posts). In addition, the applicability of parallels from the north(east) of the Netherlands is questionable. Secondly, the fact that the southern row stretches 3 m beyond the roof-bearing posts decreases the interpretation of these as wall posts. The ‘row’ of two posts to the north is considered too fragmentary to play any role in this discussion.

Considering these problems, is it plausible to consider the set of roof-bearing posts as belonging to a Bronze Age house plan? The distance between the rows of roof-bearing posts (c. 3 m), compares well to those of houses at the Middle Bronze Age sites of Zijderveld, Wijk bij Duurstede, Dodewaard, ‘Eigenblok’ and some houses at ‘De Bogen’ (Theunissen 1999; Hessing 1991; Hielkema et al. 2002b; Hielkema et al. 2002a). Furthermore, these houses do also display the more closely spaced final set of roof-bearing posts. As the general width of this type of house rarely exceeds 6.5 m, the two posts to the north and the row of posts to the south are unlikely to represent the walls of a Bronze Age house. One might assume the presence of a wall made of wattle work and/or sods, which has not been preserved. The infill of the ‘wall posts’ and roof-bearing posts is described as being similar. The orientation of the southern row of posts to that of the presumed roof-bearing posts is almost identical. These two arguments complicate a presumed Bronze Age date for the house plan, as other Bronze Age farmsteads displaying such ‘rows of larger posts’ this close to the house are lacking. Rows of larger posts (palisades?) do occur on Bronze Age sites, but usually show no association with the houses proper (Hielkema et al. 2002a : 157,184 (Late Neolithic or Bronze Age?); Harsema 1991 : 26 (Bronze Age?); Hessing 1991 : 42 (Bronze Age?). At 20-25 m to the south of the house, two more possible rows of posts might be reconstructed. They seem to be oriented toward a local depression bordering the break-trough channel.

Dating

The descriptions of the finds recovered from the house unfortunately shed little light on the problem of dating. As the original finds were not studied, we have to be careful not to infer too much on these. One of the supposed roof-bearing posts yielded a crumb of quartz-tempered pottery and some fragments of clay (daub?), one other an undated sherd. The other (presumed wall-)posts contained some crumbs quartz-tempered ceramics, a quartz-tempered sherd and a sherd displaying ‘impressions’. Unfortunately, no more extensive descriptions or drawings of these could be found. The ceramics might be crumbs of either Bronze Age or Early Iron Age sherds and therefore do not help us much. Even if these (for the sake of the argument) are all interpreted as Bronze Age, they only form a terminus post-quem for the construction of the house. One of the Iron Age ditches (that cannot be dated more precisely) crosscuts a roof-bearing post, while yet another appears to end near (or with?) a post of the southern ‘row of posts’.

Conclusion

The scarcity of clear Bronze Age ceramics recovered from postholes of the house cannot be used a dating argument. This will be illustrated by two examples. According to Fokkens, the only Bronze Age sherds recovered near the large Bronze Age house H128 of Oss-Ussen, originated from postholes of the superimposed Early Iron Age house (Fokkens 1991 : 103). A second eye-opener is the fact that the find-layer covering house 1 at Eigenblok site 6 contained well over 10 kg of ceramics,
yet only 99 gram was recovered from the investigated features (Hielkema et al. 2002b : 153; Bloo & Schouten 2002 : 261).

Combining all arguments presented, the choice between a Bronze or Iron Age date for the house cannot be made convincingly. The great similarity between the different posts as observed in the field by the excavator might be the single argument to favour an Iron Age date (on reliability of house plans: Fokkens & Jansen 2002 : 10).

Conclusions

The palaeogeographical analysis has shown that between 2104-1690/1410 (and 1130/960-400) cal. BC conditions for occupation might have been adequate. It has, however, been indicated above that for the investigated areas, both presence and nature of Bronze Age activities remains unclear. The (Early) Bronze Age sherds from the break-through channel indicate that at the time of the forming of the second splay(s), these remains lay on the surface (the Schoonrewoerd levee or crevasse deposits) underlying or next to the channel, albeit that their original context is unknown.

The existence of a break-through channel caused by differences in floodbasin water level at Culemborg-Den Heuvel could be confirmed. It is thought to have developed somewhere between 2460/2140 and 1370/1050 cal. BC, most likely after the Middle Bronze Age-B, perhaps during the Late Bronze Age. As during the Early- and Middle Iron Age sedimentation on the site almost ceased, conditions for occupation were ideal. During this time, a lot of settlement debris accumulated in the shallow water of the channel. The beginning of the sedimentation by the Lek and Linge channel belts between c. 400 and 100 cal BC is seen as the most crucial factor in ending the prehistoric occupation of the site.

Unfortunately, the recognition of a possible Bronze Age farmstead has proven rather complicated. Let us shortly assess the possible reasons for this. First of all, only a relatively small area has been excavated, next to a break-through channel. The fact that the house plan was only partially uncovered complicates the typological dating considerably. Secondly, if the assumed preference for Bronze Age occupation on the (transition of the lower to the) relatively higher silty to sandy grounds holds true (Meijlink 2002; Jongste 2002), we might expect (additional) Bronze Age occupation on the levee deposits and the crevasse splays nearby. This expectation is based on the slope of the terrain (as indicated by the height measurements in the excavations and to a lesser extent by the local topography). Thirdly, the fact that the prehistoric surface (find-layer) is lacking in the eastern part and general rule that in the Iron Age (in contrast to the Bronze Age) more material ended up in features) might have led to an underrepresentation of Bronze Age remains.

Sadly, Culemborg-Den Heuvel displays few of the traits that make excavations in the river area worthwhile. No stratigraphically separated palaeosols were discovered, but this does not imply that these were not present originally, or are not to be found nearby. Other Bronze Age sites in the river area can be used to demonstrate that some aspects of fluvial morphology (the shape of crevasse splays, the presence of residual channels) have influenced the presence (perhaps even orientation) of landscape defining elements like farms(teads), ditches and fences. The absence of clearly definable pre-Iron Age activities or structures at Culemborg-Den Heuvel, possibly caused by the relatively small scale of excavation, gives us little room to investigate the long-term (changes in the) interrelation between man and landscape. Nevertheless, as for example the presence of human remains has illustrated, the site did benefit from the relatively good preservation conditions that are innate to parts of this fluvial landscape.
Fig. 7. Overview of datable features.
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