# New Light on Old Data : a Neolithic (?) Antler Workshop in Dendermonde (Belgium, O.Vl.)

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Résumé

*Une collection de bois de cerf dragués provenant de Termonde montre tous les stades de la fabrication de "haches-marteaux" à partir du bois de cerf jusqu'aux produits finis. Le propos de dater le tout dans le Néolithique sera contrôlé avec des datations AMS.*

## *1. Introduction*

In 1899, A. Blomme published an article concerning archaeological findings collected after dredging in Dendermonde "at the new bridge and at the place where the river Schelde has been widen" (fig. 1). The ensemble belongs as well to the prehistoric, roman as to the medieval period, and there were no indications on the field to separate this material.

In spite of the small illustrations accompanying his article, it was possible for us to confirm the existence of the collection in the museum's depot. Blomme is referring to 30 antler mattocks, while we only found 5 in the collection. So, a part of the collection must be elsewhere or may be lost. Apart from that, the museum owns a large number of antlers, of which many are showing traces of working.

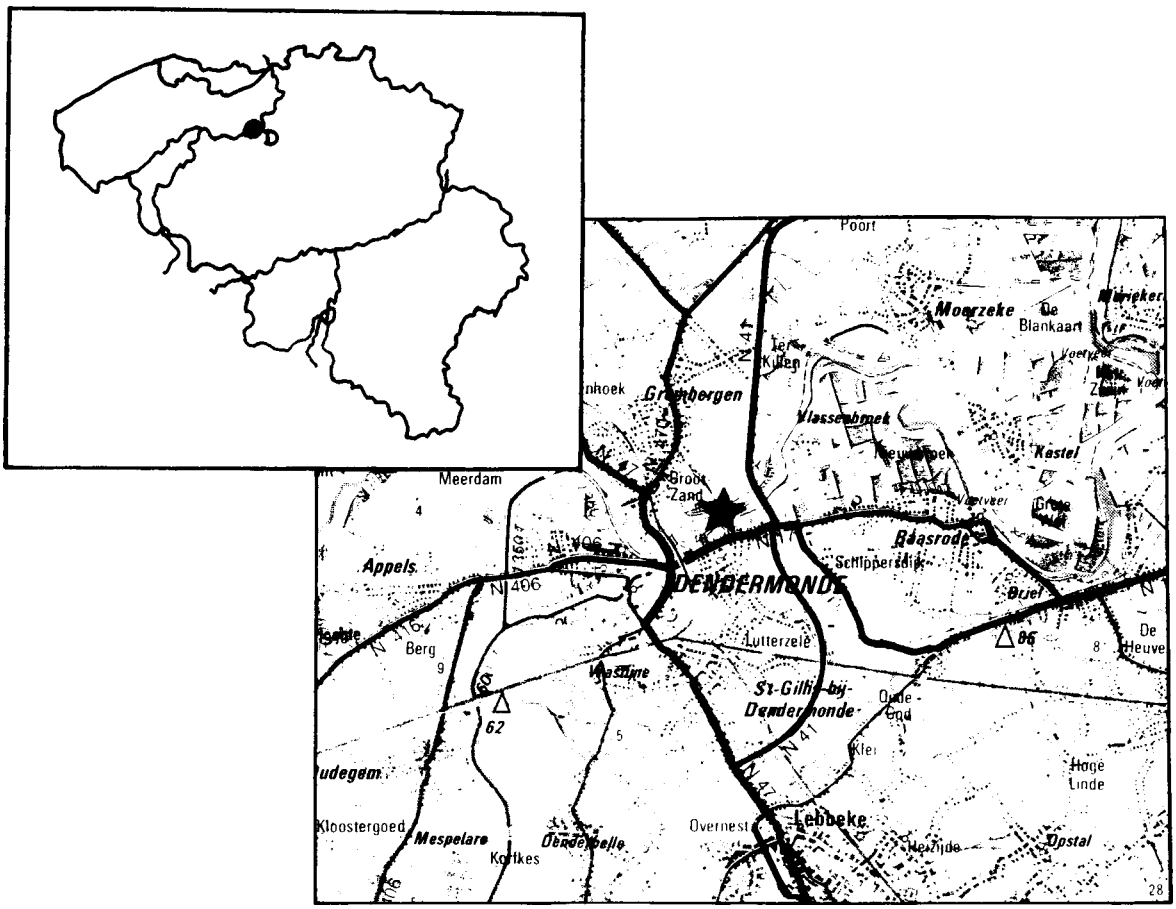


Fig. 1 — Localisation of the place of finding.

2. *The fabrication of antler mattocks*

Five of the seven implements belong to the antler-beam mattock type *(middenspitsbijlen, haches-marteaux (partie médiane) or Tüllengeheihäxte)*. Only one is still complete (fig. 2, inv. 164), others are sometimes badly damaged.

Traces on the mattocks themselves give some information about their manufacture. This has been in most cases the only base for some authors trying to reconstruct the fabrication process. Though we had been blessed with more direct information. The study of 31 pieces with clear working traces yielded 24 pieces which can be interpreted as waste material belonging to the production of this mattocks. It was rather easy to recognize them as well for the simple reason that they constitute the "missing parts" of the mattocks.

The examination of the mattocks and the waste material, made possible to reconstruct their manufacture as follows :

The craftsman had a collection of unworked antlers : between the fragments which seem to have no working traces, we found 11 more or less complete antlers. 6 of them have been chopped from dead animals *(bois de massacre)*, unless it is known that shed antlers are heavier and stronger. The other antlers collected were shed *(bois de mue)*. We can see that man had no preference to left or right antlers : both are represented among the complete antlers, the waste material and the finished mattocks.

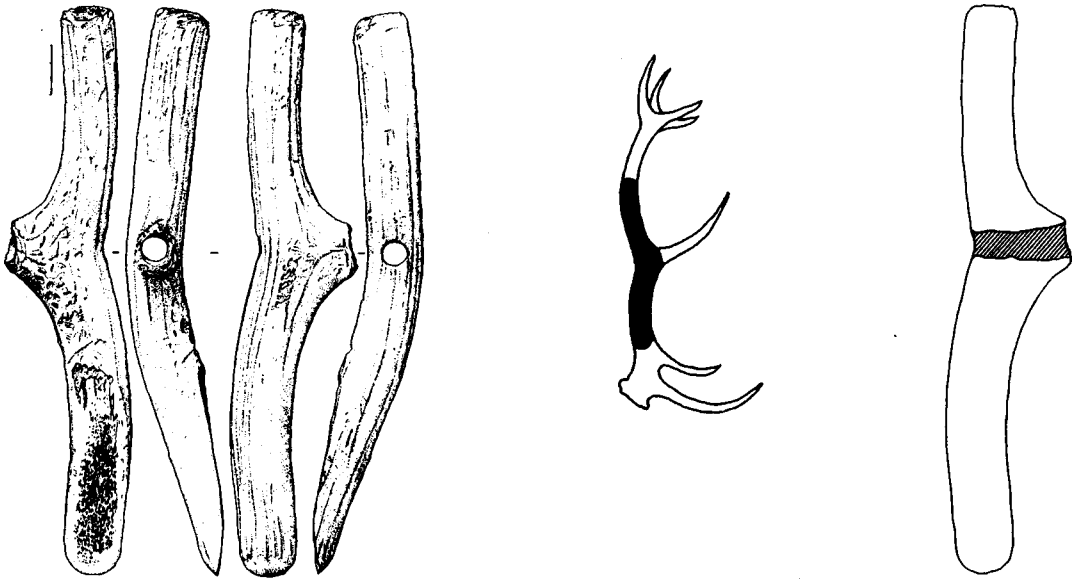

Fig. 2 — Inv. 164 (drawing C. Casseyas).

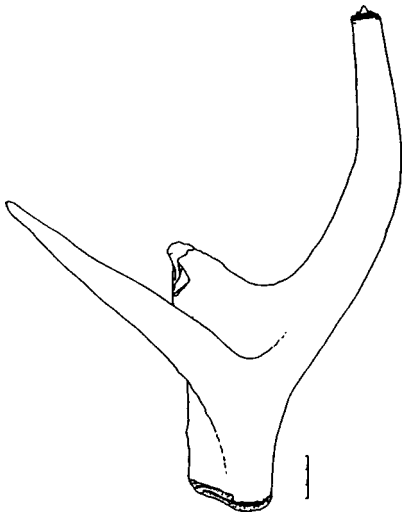

Fig. 3 — Inv. 2708 (drawing C. Casseyas).

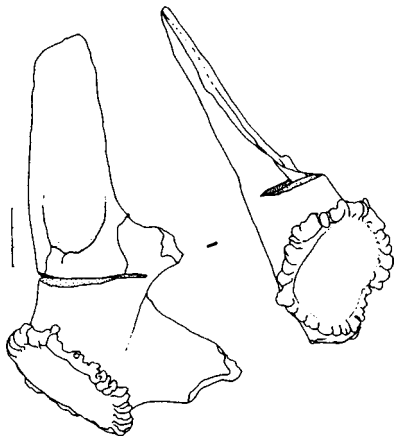

Fig. 4 — Inv. 2749 (Drawing C. Casseyas).

Three antlers are missing their upper part : an incision with a V-profile has been cut round about the antler, above the trez tine. This proves that the first operation was to remove the upper part of the antler (fig. 3). Not always reaching the marrow, this cut was only to control the fracture. 9 upper parts of antlers have been found.

Experimental and ethnographical information show that for easier cutting it is recommended to macerate the raw material some days or weeks in water or urine; Eskimos boil the antlers in water. In our case, it is easy to understand why the craftsman's workshop was situated in the neighbourhood of the Schelde river.

Only on inv. 164, 166 and one piece waste material, we can see that the upper part of the antler could also be removed by 'nibbling', what Billamboz (1977 : 100) called *'entaillage en percussion posée'*.

By removing the upper part of the antler, man was deliberated from many inconvenient tines.

A following important stage was removing the basal part of the antler. Herefore, a special technique was employed : a V-shaped incision was cut at the inner side of the antler, just above the brow tine, or, if existing, above the bez tine. With great force, the basal part was cracked and a diagonal fracture was obtained. 9 basal parts of antlers with that typical fracture have been identified (fig. 4). An exception is inv. 161, where the terminal part has been chosen to manufacture the cutting-end (fig. 5).

The diagonal fracture can be understood in the light of obtaining a rough facet, reducing considerably the toil. The typical waste material of this kind of working has also been published in Billamboz (1977 : fig. 32). The author proposed the existence of a second incision, more distal and at the outer side of the antler beam. Thus, the diagonal fracture should be determined by those two incisions. Billamboz didn't show any prove supporting this hypothesis. The material from Dendermonde shows even the opposite : an unbroken antler with only one incision, the unfinished mattock (inv. 2747) without traces of the second incision and inv. 164 (fig. 2) with the remains of the initial fracture, also without the second incision. The suggestion of Smith (1989 : 281) that the initial formation of the facet was probably achieved by chopping away surplus antler with a stone axe must be regarded as wrong.

The bevel side has always been chosen at the inner side, certainly to compensate the convex bending form of the antlers and for a better balance of the implement.

When the trez tine was removed is not always clear : we have an example where this was already done before breaking the basal part (inv. 2750); in an other case, the tine is still existing on the artefact with a facet (inv. 2747).

By removing the trez tine (nibbling or cutting round about), its scar permitted the craftsman to drill directly into the marrow. The hard outer layer at the opposite side could be taken away by a V-shaped notch (inv. 166 and fig. 5 : inv.161), a conical excision (fig. 7 : inv. 167, reparation), grooving by transverse incisions (inv. 167, reparation and inv. 160) or simply by boring itself (fig. 2 : inv. 164). Because the marrow is often rotten, it is sometimes hard to say which kind of drilling was used. In the case of inv. 164, it looks rather clear that a flint borer left the conical perforation; the reparation of inv. 167 and 160 show a perforation left by a hollow borer and sand. In the case of inv. 160, we can still see that this perforation started on two places (fig. 6).

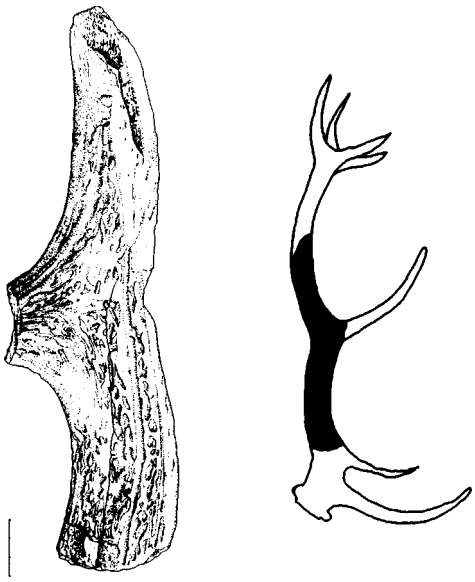

Fig. 5 — Inv. 161 (drawing C. Casseyas).

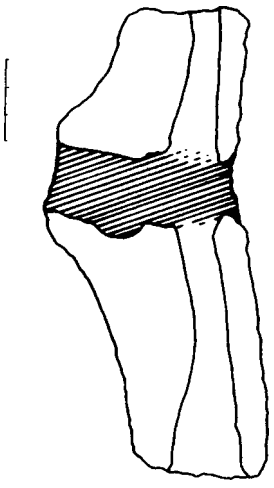

Fig. 6 — Inv. 160 (drawing C. Casseyas).

Fig. 7 — Inv. 167

For finishing the bevel side, its surface was smoothen. Smith (1989 : 281) proposes the use of a flint blade, leaving sometimes 'chatter marks' on the facet.
Most of the finished implements are broken on their weakest places : their cutting-edge and perforation. If not damaged by dredging, we can suppose that they were waiting to be prepared in the workshop. Inv. 167 (fig. 7) can be seen as such a reparation. Blomme (1988 : 7) mentioned a second identical object.

### 3. *Dating*

This type of antler implements which is well known, has still problems concerning its date and function. The reason is that most of these findings were discovered during dredging, where observation of context is missing. When we consult literature, we can conclude that these tools were existing during the early Neolithic, even Middle and Late Mesolithic and were persisting during the Middle Neolithic. Based on their AMS 14C datings, Bonsall & Smith (1990) believe that antler-beam mattocks can be chronologically well defined between 8000 and 5000 BP, while a basal mattock can be as well older as younger.
Among the antler artefacts found at Dendermonde we found one made by a different technique. Its particularity is the elliptic perforation, permitting a stronger haft that couldn't rotate. Those perforations are typical for Seine-Oise-Marne culture. Most of these implements were used to shaft axes, but there are also mattocks, like in Vaucelles. Although the antler artefacts were mixed with younger material, one could wonder if this tool and the antler-beam industry don't make an ensemble. In that case, the workshop could be dated rather late. We must wait the AMS datings by M. Van Strijdonck for eventually confirmation.

### 4. *Use*

Also according to their function, there is still some mist hanging over these objects. Because of the different position of the edge to the perforation, some authors make the distinction between axe and adze. Neither the weight, nor the diameter of the shaft-hole can make believe that these tools were for that kind of woodworking. Many of these tools were also to long and badly balanced for axes and adzes. By the way, neolithic man had stone implements which were much more efficient. It is not excluded that we must interpret some antler mattocks as shafted wedges. Following Smith (1989 : 282), it is the general shape and the kind of wear on the edge that shows that we must seek in the direction of instruments for digging in the soil, leaving scratches and damage on the working edge . It must be checked if those marks couldn't be caused by a retouched border of a flint blade used for smoothen the facet, because those marks, sometimes parallel and making clusters are absent on the other side of the edge.

### 5. *Conclusion*

Although the complete lack of archaeological context, this ensemble is interesting because it belongs to a workshop with raw material, semi-manufactured articles, waste material, and finished antler-beam mattocks, as well as broken and repaired ones, permitting us to reconstruct in detail the production process. We must wait for the AMS datings if we want to confirm or reject the neolithic dating.

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