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## IRISH EARLY BRONZE AGE EXPORTS FOUND ON THE CONTINENT AND THEIR DERIVATIVES

(Figs. 1-3)

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### INTRODUCTION

In 1963 J.J. Butler published his very detailed study of the "Bronze Age Connections across the North Sea" in Volume IX of *Palaeohistoria*<sup>1</sup>. For Ireland this has proved to be a most excellent and necessary pendant to E. MacWhite's similar "*Estudios*" of relations between the Iberian Peninsula and the British Isles. Running the whole gamut of the Bronze Age, it knits together both unpublished and already well-known material into a comprehensive whole. The work is quite international in its scope, and is of great importance for the countries it deals with, including Ireland. But a recent study of the copper and bronze artifacts made in Ireland during the Early Bronze Age<sup>2</sup> shows that the Early Bronze Age material is also open to other interpretations which differ in small but possibly significant points from those offered by Butler. Using the Irish material as a basis, and viewing the continental material through insular eyes, some alternative conclusions are discussed below under the same headings as those used by Butler, namely halberds, axes and lunulae.

### HALBERDS

O Ríordáin's views on the development of the halberd in Ireland and its diffusion to Northern and Central Europe<sup>3</sup> are well-known and have had much influence since they were published thirty years ago. But because of their Eurocentricity they are beginning to lose favour. Instead of O Ríordáin's suggestions of an Irish

origin for the halberd, Butler has suggested that Irish halberds may have had their origin in the Ūnětician area. As evidence of Ūnětician influence in Western Europe he notes the importance of the Oder-Elbe dagger in the development of Breton daggers, and quotes further the halberd-pendants found in Wessex, a halberd of continental appearance found at Ford in Northumberland and the existence in the British Isles of conical-capped rivets and halberds with "outsplaying midribs". He sees the halberds of O Ríordáin's type 4 as the first halberd type to be introduced into Ireland, and from it type 5 developed in Ireland, while types 1-3 may be either local derivatives or may possibly even have existed prior to the introduction of type 4. Butler also argues that the Irish metal industry later reached a stage where it exported type 4 halberds to Belgium, Holland, Germany and Scandinavia, thereby creating a "halberd reflux horizon". This horizon he dates to Wessex I, possibly lasting into Wessex II, though he notes that the find from Faversham<sup>4</sup> could be earlier.

As has been suggested elsewhere<sup>5</sup>, there is no definite evidence that it was from the Ūnětice area that Ireland got the idea of the halberd, though this is certainly one of the most likely possibilities. The important find from Frankford, Co. Offaly<sup>6</sup>, contains a halberd of O Ríordáin's type 5 and a flat riveted dagger which can be paralleled with English daggers which Piggott<sup>7</sup> has dated largely to Wessex I. The hoard from Hillswood, Co. Galway contains halberds of O Ríordáin's types 4 and 5<sup>8</sup>, and shows at least a partial chronological parity of these two types. If types 4 and 5 are found together in the Hillswood hoard, and type 4 was the first to be introduced into Ireland, then type 5 and the Frankford hoard need not be too advanced in the series, as suggested by Butler. But if type 5 and thus also type 4 can be dated through these two finds to Wessex I, then the halberd pendants which, as Butler admits, are dated by ApSimon<sup>9</sup> to Wessex II, must be later than the majority of halberds in Ireland, and cannot be used to show Ūnětician influence on the British Isles during the formative period of the Irish halberd. The conical-capped rivets which are found in Ireland on halberds of O Ríordáin's type 6<sup>10</sup>, and only once on a halberd of type 5, are not typical. Nor can it be proved that those halberds which have rivets of this type are the first in the Irish halberd series. The opposite is quite likely to be the case, and they may well come at the end of the series. They may thus not be used to demonstrate Ūnětician influence on the earliest Irish halberds. It is difficult to judge the Ūnětician character of the Ford halberd, as Butler unfortunately does not illustrate it, but the presence of the "outsplaying midrib" on British halberds certainly suggests Ūnětician influence. This is also strengthened by certain axes which have come to light in Ireland<sup>11</sup> which seem to be Ūnětician in character.

The find from Dieskau 2<sup>12</sup> occupies a crucial position in discussing the relative ages of Irish and German halberds. Butler accepts one of the halberds in this find

as being “as much Irish as are O Ríordáin’s halberds in Scandinavia”. For reasons suggested below, it is preferable to regard this halberd as being not “Irish” but rather as a specimen belonging to a class of “international” straight-midribbed halberds, to which O Ríordáin’s Irish halberds of type 4 belong. But the find also contained a decorated axe of Megaw and Hardy’s type I<sup>13</sup> which is generally recognized as being Irish. Unfortunately the relationship between the decorated axes of this type in Ireland and the different types of thin butted axes found in the hoards from Frankford and from Killaha East, Co. Kerry<sup>14</sup> is obscure. A find from Knocknague, Co. Galway<sup>15</sup> contains an axe whose butt is practically thin (though its shape differs somewhat from the Frankford axes, and even more from the Killaha examples), and also a tanged Beaker dagger; this suggests that production of thin-butted axes in Ireland may have started as early as the Beaker Period in Ireland. No Irish thin-butted copper axes have ever been found with decorated axes of Megaw and Hardy’s type I, while the latter are found either with other axes of the same type or with axes of Megaw and Hardy’s types II or III which may be paralleled with Wessex II. There is thus an inference – which cannot be proved – that the thin-butted and undecorated axes as found in the Frankford and Killaha hoards may be earlier than the decorated axes of Megaw and Hardy’s type I. The exact relative chronological position of the Dieskau 2, Frankford and Killaha finds can not be precisely established, but there is certainly no reason to date Frankford later than Dieskau 2. If anything Frankford and Killaha could be slightly earlier than Dieskau. Thus, while Ūnětice influence on the British Isles is evident, it cannot be proved to be earlier than – or scarcely even contemporary with – the beginnings of halberd production there, and may even in part be later. In summary, it may be said that the halberds of type 4 were probably the first to be manufactured in Ireland, and the idea for them was probably introduced from outside. But, although it is quite likely (for lack of a more likely alternative) that this idea came from Saxo-Thuringia, no evidence can as yet be produced to show that Ūnětice influence was felt on Irish halberds before or at the time of the beginnings of halberd production in the country.

But what then of those halberds found on the Continent which are claimed to have been “Irish”? If having received from abroad the idea of making halberds, Ireland later reached the stage of exporting them to the Continent, as O Ríordáin and Butler postulate, is it not reasonable to expect that halberds of typically Irish type would be exported and found on the Continent? The types which are specifically Irish (though also found in the Highland Zone of Britain) are O Ríordáin’s types 1–3 and 5<sup>16</sup>, which probably developed from type 4 or are entirely local ideas. But all the halberds which have been found on the Continent and which have been regarded as “Irish” belong to O Ríordáin’s type 4. But if this was precisely the type which was first introduced into Ireland, allegedly from Saxo-

Thuringia, why should that be the sole type that Ireland re-exports, and why not the other types? Coals to Newcastle? It is of course possible that this so-called re-exportation took place before the specifically Irish types were developed. But if types 4 and 5 are found in the Hillswood hoard, this is not very likely. As Irish halberds of type 4 are known to contain little or no tin, it can scarcely have been because of their tin content. Possibly a better explanation is that the type 4 halberds found on the Continent which have been described as "Irish" are not Irish at all, but fit into the class of straight-midribbed "international" halberds which are the common denominator and possible source of many local halberd variants, among them the Irish halberds of type 4. This supposition may be borne out by a comparison of the Irish type 4 halberds and the so-called "Irish" halberds on the Continent. Although they have a straight midrib, Irish halberds of type 4 have generally a somewhat asymmetrical blade and the rivets are sometimes asymetrically placed on the hafting-plate. Some, too, have "blood-grooves". But the "Irish" halberds on the Continent have, with few exceptions, symmetrical blades and symmetrically-placed rivets and very rarely have "blood-grooves". Another feature of the Continental blades is that the midrib often starts at a level between the two lowest rivets, while on the Irish halberds it normally starts below this line. Butler and van der Waals<sup>17</sup> have shown recently that the Dutch halberds which were alleged to have been of "Irish" origin were not made of Irish metal, but of a copper with high arsenic, possibly of Central European origin, while the halberd rivets from the Wageningen hoard<sup>18</sup> were shown to have been of "Singen" metal. We might thus be better advised to accept the "Irish" halberds found on the Continent not as imports from Ireland but as local examples of the "international" straight-midribbed halberd, or as local specimens derived from it. The type 4 halberds found in Ireland and the "Irish" halberds found on the Continent are probably cousins, but the former are unlikely to have been the progenitors of the latter. It would seem therefore more advisable not to use halberds in studying Irish influence on the Continent during the Early Bronze Age, but to concentrate solely on the axes and the gold lunulae.

## AXES

It has been known for a long time that Irish axes were exported to the Continent during the Early Bronze Age and were imitated there. But there has been a certain amount of disagreement as to what is Irish, and what is continental imitation. By comparing the Irish material with that found on the Continent, certain additions and subtractions may be made to Butler's list of Irish exports, and these are discussed below according to the types given by Butler.

### Developed flat axes

Of the axes of this type which have been found on the Continent, both Forssander<sup>19</sup> and Butler have stressed the likeness of the Fredsø axe<sup>20</sup> to Irish axes. This is undeniable, and good Irish parallels are forthcoming in an axe from Cloonmullin, Co. Roscommon<sup>21</sup> and in another found in the river Liffey at Dublin<sup>22</sup>. A feature of the Fredsø axe is that in its side view the thickest point is only just above the cutting-edge; this is rare though not unknown on Irish thin-butted copper axes. It is thus quite possible that this axe is an import from Ireland. The dating of this type of axe is difficult, but as suggested above it might be very slightly anterior to the decorated bronze axes discussed below. A distinction must be made between the broader thin-butted copper axes as found, for instance, in the Frankford hoard and the more slender bronze variety as represented by the decorated axe from

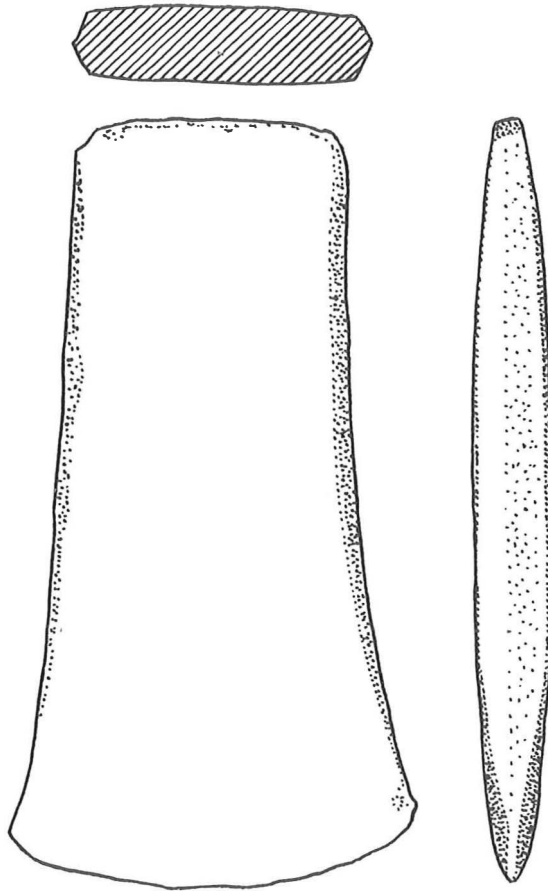


Fig. 1. Flat axe from Mosgaard, Jutland. National Museum, Copenhagen (B.5155).  
Scale 1:1.

Dieskau<sup>23</sup>. Butler claims that both types are found in the Scottish hoard from Colleopard, Banff<sup>24</sup>, but the axes there seem to represent not two different types but rather decorated and undecorated variants of the slenderer bronze type. No find is known where the bronze and the copper types occur together, and this strengthens the notion of a chronological difference between them.

Another axe which has been claimed to be Irish is that from Mosgaard. This axe is not thin- but thick-butted and has faceted sides (Fig. 1). The wide-splaying and deep cutting-edge of the Irish thick-butted axes is not found on the Mosgaard axe, while the facets of the Mosgaard example are missing on the Irish axes of this type. The shape and great thickness of the axes from Scania<sup>25</sup> which are claimed to be "Irish" are not characteristic of the Irish thin-butted axes, and possibly have a greater resemblance to Butler's axe of type "Emmen". It is unlikely that either the Mosgaard axe or the two examples from Scania quoted by Forssander are Irish products.

The axe from the Wageningen hoard<sup>26</sup> has very few exactly comparable parallels, and those which may be quoted such as an axe from the Frankford hoard<sup>27</sup> and an unprovenanced Irish piece<sup>28</sup> do not have such a sharp contrast between the straight-sided upper half and the sharp out-swinging curve of the lower half. Butler and van der Waals<sup>29</sup> showed the axe to be of "Singen" metal. It was thus presumably not made in Ireland, though it could conceivably have been made by that hypothetical Irish smith travelling on the Continent.

Briard<sup>30</sup> claims that what he describes as "*grandes haches-lingots à tranchant évasé*" could be of Irish origin, but as few if any of the Breton flat axes are sufficiently close to Irish examples to be claimed to be of Irish origin, they are better thought of as products of a generally Atlantic metal industry, and are most likely to have been made locally.

The Fredsø axe is thus the only possible example of an Irish developed thin-butted copper axe to have been found on the Continent.

### Decorated flat and low-flanged axes

The path followed by Irish trade-routes to the Continent can be most easily traced by the finds of Irish decorated axes and their imitations. The greatest concentration of these is in Denmark and southern Sweden. Here certain axes have been found which, because of good Irish parallels for their shape and ornamentation, may be regarded as genuine imports from Ireland, or if not, as having been made by an Irish smith. These are the axes from Lumby Taarup and Gallemose in Jutland, Store Hedinge and Selchausdal in Zealand<sup>31</sup> and a hitherto unpublished axe which

was found in a field at Faaborg, Fyn (Fig. 2) and which is now housed in the Museum in Odense.

Certain other axes similar to these have been regarded as Irish exports, but are more likely to have been made in Scandinavia. One of these is the great axe from Ulstrup<sup>32</sup>. Butler has pointed out with justification the close similarity between its ornamentation and that on the Knockaun axes<sup>33</sup>, and he also connects the loops of the Ulstrup axe with those on an unprovenanced Irish axe now in the Bell collection in the National Museum of Antiquities of Scotland in Edinburgh<sup>34</sup>. His other parallel from Co. Westmeath is not so apt as this axe might be better connected with the German "*geknickte Randleistenbeile*". But the herring-bone motif surrounded on each side by dots as seen on the Ulstrup axe is practically unknown in Ireland, and as the diamond-shaped build-up on the upper part of the axe has only

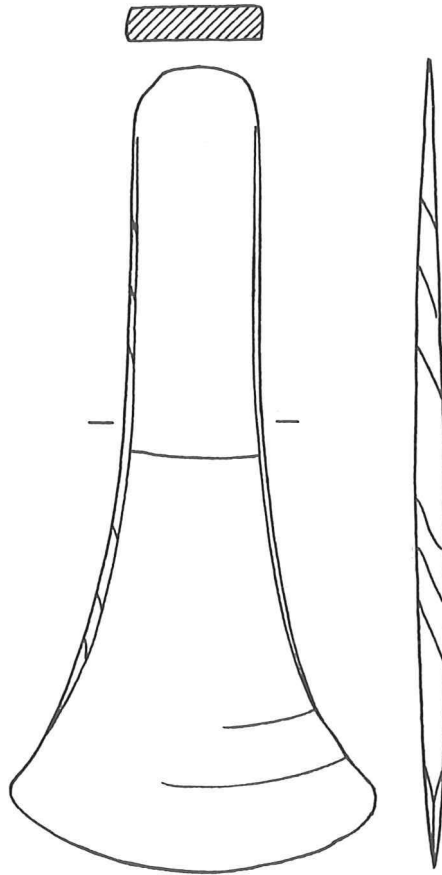


Fig. 2. Decorated axe found near Faaborg, Fyn, Denmark. Odense Museum (by kind permission of Mr. Albrechtsen). Scale 1 : 2.

one approximate counterpart in Ireland<sup>35</sup>, it seems more likely that this axe was made not in Ireland but locally under strong Irish influence. The same is probably true of the second axe from Ulstrup<sup>36</sup>, and those from Flenstofte, Fjälkinge, Löddköpinge, Lilla Bedinge, Skivarp and an unprovenanced axe from Scania<sup>37</sup>.

Of the German axes of this type, that from Dieskau<sup>38</sup> is rightly taken to be an Irish export. The axe from Wessmar is close to Irish axes, but as a convincing parallel for the heavy, long hatched and cross-hatched triangular decoration can not be found in Ireland, it is better regarded as a local product. The same is true of those from Schweta and Griefstedt, which are similar to Irish axes only in their decoration but not in their shape. In their incomplete state it is difficult to decide whether the axes with grooves on the faces from Sassenberger Heide and from Ronnenberg<sup>39</sup> are Irish, and on the distribution map (Fig. 3) they are given as imitations. Definitely local is a recently published axe from Wessum, Kr. Ahaus<sup>40</sup>, while other axes also published by Südholtz<sup>41</sup> are even further removed from Irish prototypes. Another possible import from Western Europe is an axe from Albungen, Kr. Eschwege<sup>42</sup>, but as it is uncertain whether or not the axe bears "raindrop" decoration, it is not mapped here.

Two Dutch axes can be taken to be, if not actually direct Irish exports, pieces which are very closely linked with the Irish bronze industry. These are from Haren and from Nijmegen(?)<sup>43</sup>. Butler and van der Waals<sup>44</sup> give the analyses of these two axes as high Sn. and moderate As., but the origin of metal of this alloy is as yet unknown. It could conceivably be Irish, though this is improbable as two axes of "Emmen" type also have a similar composition. The Belgian axe found between Durme and Schilderhoek, near Hamme<sup>45</sup> can be included in the list of Irish exports. Of the undecorated axes from Holland (not mapped), those from Gemert and 's-Hertogenbosch<sup>46</sup> are close to the Irish industry. But the analyses of these<sup>47</sup> showing the Gemert axe not to fit into any known metallurgical group and that from 's-Hertogenbosch to be of "Singen" metal undoubtedly suggests that they were not made in Ireland. The axes of type "Emmen" seem to be definitely local products, as their analyses again show<sup>48</sup>, though they may to some extent be modelled on Irish prototypes, with influence from Central Europe.

Only one of the decorated axes listed by Megaw and Hardy<sup>49</sup> as having been found in France is probably of Irish origin. It came from a bog in the Département of Loire-Inférieure<sup>50</sup>. The location of an axe found at Boulogne<sup>51</sup> makes its connections with England more probable than with Ireland. All other French decorated axes are locally made, and in many cases are very far removed from insular models. For this reason they are not mapped here.

Finally an isolated axe found at Cabo Finisterra, Suevos in the Galician province of Pontevedra<sup>52</sup> may be mentioned. It belongs to the Barcelos group of axes which appear to be derived from Irish axes, but are all, nevertheless, local products.



### Axes with cast flanges

None of the axes of Megaw and Hardy type III found on the Continent can be claimed to be of Irish origin. However, those from Wassenaar, Holland<sup>53</sup> and Virring, Jutland<sup>54</sup>, although definitely locally made, conform reasonably closely to insular decoration.

As all those axes which can be claimed to be Irish exports to the Continent belong to Megaw and Hardy's type I, it seems likely that there was a comparatively short-lived horizon during the Early Bronze Age when Irish objects were exported to the Continent, and when the trade-routes were open to Irish smiths and their wares. It is possible that the Fredsø axe represents a slightly earlier export horizon, or else it is the earliest known example of the export horizon. As the distribution of the imitations of Irish lunulae found on the Continent corresponds fairly closely to that of the decorated axes on the Continent (see Fig. 3) it is possible that they too belong to the trade horizon of the decorated axes.

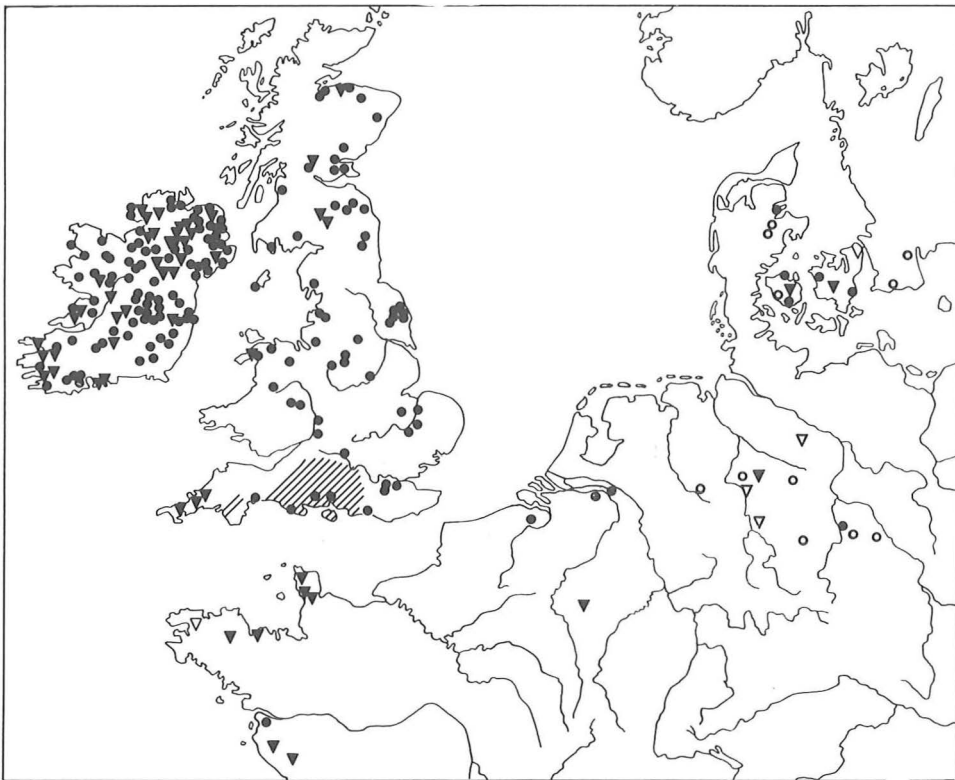


Fig. 3. Distribution of gold (▼) and bronze (▽) lunulae; decorated axes of Megaw and Hardy type I (●) and their continental derivatives (○). Over 250 unprovenanced axes not mapped. The area of the Wessex Culture is hatched.

## LUNULAE

Butler has well shown that on typological grounds none of the Belgian, German or Danish lunulae of gold or bronze can be shown to be of Irish origin, though most of them undoubtedly show Irish influence. His evidence is to some extent backed up by Hartmann's gold analyses of these pieces<sup>55</sup>. Hartmann pointed out that the gold compositions of the Fauvillers and Schulenburg lunulae suggest a possible Irish origin, whereas the Danish lunulae are made of a gold which is very unlikely to be Irish, a suggestion supported by the decoration or lack of it when compared with that of the Irish lunulae.

The French lunulae have recently been discussed in detail by Briard<sup>56</sup>. Many of these lack the triangular decoration so typical of the majority of Irish examples, while the small opening of the neck and the width of the central part of the French lunulae show them to be different to the Irish lunulae and to be of local manufacture. Even though the total number of French gold lunulae is not known, it totals more than the Belgian, German and Danish lunulae combined, and thus France should not be underestimated as a "lunula province". About seven (and possibly more) examples are known from the Départements of Manche, Côtes-du-Nord and Vendée. The Vendée also has interesting connections with the gold-producing Atlantic provinces of north-western Spain<sup>57</sup>. It should also be noticed in passing that a bronze lunula was found at Henvic (Finistère) allegedly together with swords (daggers?), spear heads, flanged and winged axes, and palstaves. The concentration of lunulae in the Cotentin peninsula is quite remarkable. In general the lunulae carefully avoid the region of the Breton Tumulus Culture<sup>59</sup>, to which the Wessex Culture was affiliated.

## CONCLUSION

When the distribution of decorated axes and lunulae and their imitations is plotted on a map which covers Ireland, Britain and the Continent (Fig. 3), it is of interest to note that these types are well represented outside Wessex, particularly in the Highland Zone including Cornwall, but that, with few exceptions, they avoid the area of the Wessex Culture. The same is true of the halberds. This would intimate that the trade route from Ireland to Germany via the English Channel did not go through the territory of the Wessex middlemen, but by-passed it, calling in instead at Cornwall to collect tin. The concentration of lunulae in the Cotentin peninsula further suggests that Normandy played a more important role on this trade-route than it has been given credit for hitherto. From there the route probably went eastwards up the English Channel before striking inland, either west of the Rhine or from the mouth of the Rhine up river – or both.

## NOTES

- <sup>1</sup> Referred to below simply as *Butler*.
- <sup>2</sup> *Prähistorische Bronzefunde Europas* Volumes VI, 1 and IX, 1 (1969) – referred to below as *PBF*.
- <sup>3</sup> *Archaeologia* 86, 1937, 195ff.
- <sup>4</sup> S. P. O Riordain, *Archaeologia* 86, 1937, 274, Fig. 56, England 2–3; H. H. Coghlan and H. J. Case, *PPS* 23, 1957, 91ff. Nos. 97–98.
- <sup>5</sup> *PBF* VI, 1, 48ff.
- <sup>6</sup> *Journal of the County Louth Archaeological Society* 16, 2, 1966 (1967) 85ff. Also G. Coffey, *Journal of the Royal Anthropological Institute* 31, 1901, 276f. with Pl. 33.
- <sup>7</sup> *Abercromby and After, in Culture and Environment*, Essays in Honour of Sir Cyril Fox, ed. I. L. L. Foster and L. Alcock (1963) 53ff.
- <sup>8</sup> O Riordain, *Archaeologia* 86, 1937, 267, Fig. 50, 104–105 are really more type 4 than type 5, although O Riordain quotes them as being of type 5.
- <sup>9</sup> *Annual Report of the Institute of Archaeology of the University of London* 10, 1954, 48ff.
- <sup>10</sup> All the halberds of type 6 have narrow rivet-holes, and although only one example has survived with its rivet intact – that from Breaghwy, Co. Mayo (Mitchell, O'Leary and Raftery, *Proceedings of the Royal Irish Academy* 46 C 6, 1941, 287ff. and Pl. XIX, 2) – it is probable that all the halberds of this type originally had conical-capped rivets.
- <sup>11</sup> *PBF* IX, 1, 64, Catalogue Nos. 1980–85 with Pl. 78, 18–20.24.26.
- <sup>12</sup> W. A. Von Brunn, *Hortfunde der Frühen Bronzezeit aus Sachsen-Anhalt, Sachsen und Thüringen* (1959) Pl. 12.6–Pl. 19.
- <sup>13</sup> *Proceedings of the Prehistoric Society* 4, 1938, 272ff.
- <sup>14</sup> *Proceedings of the Prehistoric Society* 12, 1946, 153 with Pl. 12.
- <sup>15</sup> Coffey, *Journal of the Royal Anthropological Institute* 31, 1901, Pl. 32.44–48.
- <sup>16</sup> Type 6 is not characteristically Irish and was probably introduced there from England.
- <sup>17</sup> *Palaeohistoria* 12, 1966 (1967) 84; 106, Analysis No. 22; 107, Analysis No. 29.
- <sup>18</sup> *Palaeohistoria* 12, 1966 (1967) 81; 106, Analysis Nos. 23–24.
- <sup>19</sup> *Ostskandinavische Norden* (1936) 51.
- <sup>20</sup> *Butler*, Pl. II, a.
- <sup>21</sup> *PBF* IX, 1, 19, Cat. No. 361, Pl. 14, 26.
- <sup>22</sup> *PBF* IX, 1, 20, Cat. No. 370, Pl. 15.3.
- <sup>23</sup> *Butler*, Pl. I, b.
- <sup>24</sup> *Inventaria Archaeologia* GB 29.
- <sup>25</sup> One of these is illustrated by Forssander, *Ostskandinavische Norden* (1936) Pl. II, 5.
- <sup>26</sup> *Butler*, Fig. 1, 3.
- <sup>27</sup> *PBF* IX, 1, 20, Cat. No. 375, Pl. 15.8.
- <sup>28</sup> *PBF* IX, 1, 21, Cat. No. 422, Pl. 16.25.
- <sup>29</sup> *Palaeohistoria* 12, 1966 (1967) 81; 106, Analysis No. 21.
- <sup>30</sup> Les Dépôts Bretons et l'Age du Bronze Atlantique, *Travaux du Laboratoire d'Anthropologie préhistorique de la Faculté des Sciences de Rennes* (1965) 56 and 63.
- <sup>31</sup> For details, see *Butler* 46.
- <sup>32</sup> *Butler* Fig. 4 and Pl. 3.
- <sup>33</sup> *Butler*, Pl. II, c.
- <sup>34</sup> J. Evans, *Ancient Bronze Implements* (1881) 105, Fig. 107.
- <sup>35</sup> *PBF* IX, 1, 39, Cat. No. 1028, Pl. 46, 8.
- <sup>36</sup> *Butler*, Pl. III.
- <sup>37</sup> B. R. S. Megaw and E. M. Hardy, *Proceedings of the Prehistoric Society* 4, 1938, 306f.
- <sup>38</sup> For this and certain other German axes mentioned here see the references given in *Butler* 35ff.
- <sup>39</sup> *Butler*, Fig. 6, 2–3.

<sup>40</sup> G. Südholz, Die Ältere Bronzezeit zwischen Niederrhein und Mittelweser, *Münster-sche Beiträge zur Vorgeschichtsforschung* 1 (1964) Pl. 5, 2. I am grateful to Dr. E. Schubert Frankfurt/M. for information about this book.

<sup>41</sup> Bork, Kr. Lüdinghausen (Südholz, *ibid.* Pl. 6, 3); Nienburg, Kr. Ahaus (Südholz, *ibid.* Pl. 8, 5); Oldendorf, Kr. Halle (Südholz, *ibid.* Pl. 13, 2–3). The decorated axe from Hausberge, Kr. Minden (Südholz, *ibid.* Pl. 15, 3) is too late in date to be considered here.

<sup>42</sup> H. Müller-Karpe, *Das untere Werratal in urgeschichtlicher Zeit* (1951) 19, Fig. 4, 3 (given as Wellingerode); O. Uenze, *Vorgeschichte von Nordhessen* 3, Hirten und Salzsiedler (1960) Pl. 69, 1.

<sup>43</sup> Butler, Fig. 6, 4 and 7.

<sup>44</sup> *Palaeohistoria* 12, 1966 (1967) 84; 107, Analyses Nos. 30 and 33.

<sup>45</sup> van Bogaert-Wouters Museum, Hamme (BR 69). I am grateful to Etienne Rynne for having brought this axe to my notice. It is probably identical with that mentioned in A de Loë, *La Belgique Ancienne* II (1931) 25.

<sup>46</sup> Butler, Fig. 6, 5–6.

<sup>47</sup> J. J. Butler and J. D. van der Waals, *Palaeohistoria* 12, 1966 (1967) 84; 107, Analyses Nos. 31–32.

<sup>48</sup> Butler and van der Waals, *Palaeohistoria* 12, 1966 (1967) 86; 107, Analysis No. 34; 108, Analyses Nos. 35–43.

<sup>49</sup> Megaw and Hardy, *Proceedings of the Prehistoric Society* 4, 1938, 305f.

<sup>50</sup> H. Breuil, *Association Française pour l'Avancement des Sciences*, Congrès Montauban 1902, II, 927, Fig. 1, 2 – Megaw and Hardy, *Proceedings of the Prehistoric Society* 4, 1938, 305, No. 245.

<sup>51</sup> Megaw and Hardy, *ibid.*, 288, Fig. 15, b.

<sup>52</sup> Lopez Cuevillas and Jesus Taboada, *Boletín de la Comisión Provincial de Monumentos Históricos y Artísticos de Orense* 18, 1956, 177f. with Fig. 1 (the fact that the axe is decorated is not mentioned). See also *Revista de Guimaraes* 78, 1968, 5f. with Fig. 3.

<sup>53</sup> Megaw and Hardy, *ibid.*, 288, Fig. 15, c.

<sup>54</sup> R. Hachmann, *Die frühe Bronzezeit im westlichen Ostseegebiet* (1957) Pl. 27, 2.

<sup>55</sup> Celticum XII, *Actes du IV<sup>e</sup> Congrès International d'Études Gauloises, Celtiques et Protoceltiques*, Sarrebruck 1964, 36. It might be mentioned that the German bronze lunula, the provenance of which is given in Butler as 'Altmark', really comes from Dankensen, Kr. Salzwedel – see W. Hoffmann, *Jahresschrift für Mitteldeutsche Vorgeschichte* 40, 1956, 322f. with Pl. 56, 2.

<sup>56</sup> *Les Dépôts Bretons et l'Âge du Bronze Atlantique* (1965).

<sup>57</sup> Monteagudo, *Archivo Español de Arqueología* 26, 1953, 283ff.

<sup>58</sup> J. Déchelette, *Manuel* 2 (1910) Appendice I, 41.

<sup>59</sup> P.-R. Giot, *Brittany* (1960) Chapter 8, 128ff. Compare the map here, Fig. 3, with N. K. Sandars, *Bronze Age Cultures in France* (1957) 357f., Maps III–IV.