INTRODUCTION

This study is an approach toward a history of the trade and industrial connections of the British Isles with Northern Europe during the Bronze Age.

The work is divided into three parts. In Part I the types of tools, weapons and ornaments involved in exchanges between the British Isles and Northern Europe are discussed individually. In Part II a period-by-period trade history is attempted. Comparative chronology is discussed in Part III.

The term ‘Northern Europe’ as here employed includes all the territory from the mouths of the Scheldt and the Rhine to the Vistula; and from the foot of the Central German highlands (bounded approximately by the 600-foot contour, which is shown on our distribution maps) to Denmark and South Sweden. The archaeological boundary of Northern Europe does not, of course, really include the Western and Southern provinces of the Netherlands (it would be interesting to know why the cultures of the North European plains so often fade out between the Hausen and the Ijssel). Norway and Central and Northern Sweden were included within the intended scope of this study, but search of the museums failed to reveal any evidence of British or Irish connections with these areas, until at the very end of the Bronze Age a few links appear with Central Sweden and Gotland. Our North European area has thus a certain geographical unity; it comprehends the low-lying lands facing the North and Baltic Seas, with belts of peat bog alternating with heaths and moraines.

The entire area is completely barren of natural metal resources, except on its southern fringe in Saxo-Thuringia. Only the fine flint from the chalk of Denmark and Scania and the amber washed up on the Baltic and North Sea shores constituted mineral resources of recognizable trade significance. East-west trade cuts across the main natural lines of transport in Northern Europe. The principal rivers flow from south to north. Only the Lower Rhine and its tributaries, the Lower Elbe, and the sea provide east-west water routes. The base of the Jutland peninsula can be crossed with only short portages between the heads of rivers; farther north, the Limfjord provides a way of avoiding the terrors of the Skagerrak. East-west trade and migration routes certainly crossed North Germany, but it is well to remember how much easier it is to float down the Rhine, Ems, Weser, Elbe or Vistula than to strike out cross-country.

No single definite date defines the beginning of the Bronze Age throughout our
entire area. The exact dates at which copper and, later, bronze technology were introduced to Saxo-Thuringia and to Ireland are still really unknown; our study begins some centuries before 1500 B.C. Certain regions and cultures remained firmly Neolithic, or knew metal goods only through importations of finished products, for centuries after the most favoured areas had developed exporting metal industries. We discuss 'Neolithic' trade in amber, flint, gold and copper products, as well as that of the Bronze Age proper. Our study ends at c. 700 B.C.; it covers more than a millennium of Northern Europe's earliest industrial history.

The study is based in the first instance upon material examined in the museums (a list of those visited on the Continent is given), except for the territory east of the border of the Federal German Republic, which passport restrictions made it impossible to visit. In Britain, extensive use has been made of the British Association Card Catalogue of Bronze Implements, formerly housed in the British Museum; but wherever possible the original objects have been examined. Inevitably, some types, periods and zones have been studied more intensively than others, depending partly on the existing state of research and publication, partly on the volume and accessibility of the material concerned. It is regretted that circumstances did not allow the study to be extended to include full examination of the Belgian and especially the Northwest French material, which must contain the keys to many of the problems discussed in the following pages.

Prehistoric relations between Scandinavia and Western Europe, including those of the Bronze Age, were first surveyed by Oscar Montelius (1891, 1910), who advanced many ideas subsequently developed by others. The Irish connections with Scandinavia long occupied the centre of the stage; Britain, the Netherlands and North Germany remaining obscurely in the background except in connection with Beaker and Deverel invasions. Irish relations with the North were reviewed from time to time, as by Brenner (1927) and Malet (1937). Hencken (1931) summarized Ireland's contacts with the North with spatial reference to the problems of comparative chronology posed by pollen zones and Groundhorizont correlations (cf. Mitchell, 1944-5, 1951, 1956). Studies of individual types of particular importance for Ireland's relations with Northern Europe included those by Coffey (1939) and Hardy (1937) on kerneis, O'Riordain (1937) on halberds, Hegner and Hardy (1938) on decorated axes, Jacob-Froissart (1937) on holy horns, Spindlin (1942) on holed spearheads and (1957) on shields, and MacWhite (1944a) on Late Bronze Age amber and (1945) trumpets.

In Britain, Stuart Piggott (1938) set forth the richness of the Wessex Early Bronze Age amber trade, listed and mapped finds of Scandinavian flints in Britain, and called attention to the Wessex connections with Saxo-Thuringia. De Navarro (1951) drew together the evidence for relations between the British Isles and Northern Europe during the Early Bronze Age. Hawkes (1946) had written...
Having drawn attention to certain Northern influences in Britain in connection with "The Dover Urn and the Picardy Pin," and C. M. Piggott (1949) studied the North European connections of the Blackfriars hoard and related finds. Curot (1954) discussed British sword-exports to Northern Europe (subsequently withdrawing some dubious Northern sword-exports to Britain from the record). Undoubtedly the greatest contribution, however, has been made by Ernst Sprockhoff, who in a series of monumental works has put the North German Bronze Age on the archaeological map. His three works on the North German Late Bronze Age hoards (1932a, 1937, 1955), his study of shields and other hammered bronze work (1951) and of swords (1937, 1938), and a flood of general and lesser papers, provided the background for, among other things, his volume (1941) devoted to the relations between Niedersachsen and Western Europe. This transformed the entire problem, and made it possible to see for the first time the continuity of many Bronze Age phenomena across the entire North European plain. This study owes much to Sprockhoff’s publications, and much of it is inevitably a commentary on his material and his views.

One further work must be mentioned: the typescript dissertation on the Bronze Age of the Netherlands by P. Felix (1945), which, despite its dubious orientation and its many inadequacies, provided useful lists and illustrations to work with. How much we owe to the numerous works, published and unpublished, of V. G. Childe and C. F. C. Hawkes, will be obvious to all who have been concerned with the problems discussed in the following pages.

This study was originally suggested by, and was carried out under the supervision of, the late Professor V. Gordon Childe. Almost two-thirds of the text was read by Professor Childe before his last departure from England and his subsequent tragic death. Responsibility for the opinions expressed, for mistakes, omissions and inadequacies, is of course the writer’s own.

The work was submitted to the University of London as my Ph. D. dissertation in 1958. Subsequently, my continued employment with the Biological-Archaeological Institute in Groningen, and with the Netherlands Organisation for the Advancement of Pure Research (Z.W.O.), has made possible a detailed study of the Bronze Age material in Dutch museums. This incidentally brought to light some additional material relevant to the present study, which has accordingly been incorporated. Newly published material which became available in books or major archaeological journals up to the end of 1961 has, as far as possible, been integrated into the text. In the meantime, also, the article of M. A. Smith (1959) appeared. This confirmed independently, and indeed made official doctrine, the re-dating of the Taunton-Barton Bendish phase in Britain (Miss Smith’s ‘ornament horizon’) which was one of the chronological conclusions of the present work. Further, the Hibernian Culture migration from southern England to the Netherlands at the
Introduction

end of the Early or the beginning of the Middle Bronze Age, originally identified by Glasmacher (1954), has been given greater precision, and is shown to have originated from the Wessex area by Dr. J.F. Smith (1976). Lastly, the major work by Junghans, Strograiner and Schröder (1960), with its definition of Aeneolithic and Early Bronze Age metal groups on the basis of spectro-analysis, has made its appearance. Although it appeared as yet premature, at the time the lines were being written, to accept the distribution of metal of a particular JSS group in representing ipso facto a pattern of trade, we have taken the opportunity to include references to their metallurgical classification of objects which figure in the present study.

Discussion of the possible implications of the JSS study for the problem of trade between the British Isles and the Central German area, North Germany and Scandinavia (the area with which the present study is concerned) had, however, to be reserved for another context (Barker and Van der Waals, in Helinium 1964).

References to a number of new and relevant works that came to our attention in the course of 1962–3 have been inserted where this could be done without necessitating major alterations.

The two relevant and important articles in Culture and Environment: Essays in honour of the Cyril Fox (1963) – S. Piggott, 'Abercromby and After: the Beaker cultures of Britain reexamined', and C.G. C. Hawkes and the late R.R. Clarke, 'Goldstedt and Cantre-on-Sea' – arrived too late to influence our presentation.

Several chapters of our original text dealing with much-discussed connections between Northern Europe and certain types of Irish gold work – penannular rings, gorgostra, vessels, 'fibulae' – have been excised. Though they 'belong' for the sake of completeness, the connections are vague and difficult to date, and we had little new to say about them. What new is to be said, Professor Hawkes has said eloquently in his new study.
ACKNOWLEDGEMENTS

In 1953-4 the writer held a Pre-Doctoral Fellowship of the Wenner-Gren Foundation for Anthropological Research, Inc., of New York. A grant was also received from the American-Scandinavian Foundations (New York). The generosity of these foundations permitted a year’s study in Scandinavia, centred mainly in Copenhagen, where the rich collections and library of the National Museum, and the gracious and friendly assistance of the staff of its First Department, were at my disposal. My deep gratitude is hereby expressed to Dr. Therkel Mathiassen, then head of the First Department, and to the entire staff.

For the hospitality of their excavations and their genial guidance to their native field monuments and antiquities I am grateful to Prof. Dr. O. Klindt-Jensen, then of the National Museum, Copenhagen, Mag. Poul Kjaerum of the Aarhus Forhistorisk Museum, and the late Dr. Erik Hirsch of the Bergens Museum. To Professors Klindt-Jensen and Professor P. V. Glob I am grateful for tours of museums and field excursions in the delightful Danish countryside.

In the Netherlands, the writer, together with other students of the University of London, was, for five weeks in 1951, the guest of the Rijksdienst voor Oudheidkundig Bodemonderzoek, Amersfoort, where its Director, Dr. P. Glazema, placed the facilities of the Service at our disposal, and conducted us on an extended tour of museums in the Netherlands. We also participated in the excavations of Dr. Glazema and of Dr. (now Professor) P. J. R. Modderman.

To Professor H. T. Waterbolk, Director of the Biologisch-Archaeologisch Instituut of the State University at Groningen, the writer is deeply indebted for the hospitality of his Institute since 1957. I am also grateful to the former Director, Professor A. E. van Giffen; to Professor W. Glasbergen, Director of the Instituut voor Praehistorie and Prehistoricum of the University of Amsterdam; to Professor Brunswik of the Rijksmuseum at Leiden; to my Groningen colleague, J. D. van der Waals; and to many other Dutch colleagues for their assistance on many occasions.

Individually to thank all those who have contributed in one way or another to this study is unfortunately impossible here. I must however mention Dr. Joseph Raftery and Miss Ellen Prendergast of the National Museum of Ireland, Dublin; Mrs. Maire de Paor of the Department of Archaeology, University College, Dublin; Dr. Eoin MacWhite, Dublin, who generously permitted me to consult his unpublished dissertation on the Irish Bronze Age; Mr. W. C. M. Hodges, then of Queen’s University, Belfast, now of the Institute of Archaeology, London; Professor Stuart Piggott of the University of Edinburgh and Mr. R. B. K. Stevenson of the
Acknowledgements

National Museum of Antiquities, Edinburgh; Professor C. F. Hawkes and Miss Margaret Smith, University of Oxford; Dr. H. J. Case of the Ashmolean Museum; Miss Nancy Sanders; Professor T. Solmski and Dr. J. D. Cores, London; Dr. H. C. Broholm and Professor C. J. Becker, Copenhagen; Professor Holger Arbman, Lund and Dr. Mats P. Malmer, then of Lund; Dr. Andreas Oddeberg, Stockholm; Professor Ernst Sprinchoff, Kiel; Professor Karl Karren and Dr. R. W. Stora, Stillebo; Dr. R. Schindler and Dr. Rolf Hackman, then in Hamburg; Dr. S. Jørgensen, Stockholm; Mr. B. Heukemes, Heidelberg; Dr. Emil Vogt, Zürich.

I wish specially to thank the staff of the Department of British and Mediaeval Antiquities of the British Museum, and particularly Mr. J. W. Brailsford, for generous assistance.

Many photographic prints were made for me by the Department of Archaeology of the Queen’s University, Belfast, for which I am deeply indebted to Mr. E. M. Jope and Mr. H. W. M. Hodges. Other prints were provided by the Biologisch-Archaeologisch Instituut, Groningen. Mrs. Eva Wilson of London generously executed a number of drawings. Others were made by B. Kuitert, B. Kracht and H. Roelink in the R.A.I., Groningen.

For help with the proofs I am grateful to Professor H. T. Waterbolk, Mr. J. D. van der Waal, Mrs. J. van der Waal-Willemsen, Mr. W. H. Zimmerman, Mrs. J. M. Stewart-Peckman, Mr. G. de Woerd, Mr. O. H. Harsema. The topographical index was compiled by Mrs. Zimmerman. Catharina, Jan, and Rose-Marie were as patient as was necessary while the last stages were in progress; for which I am great thanks.

Then I wish to thank my teachers, colleagues and friends of the University of London Institute of Archaeology; of whom I will here specify by name only the Librarian, Miss Joan Taylor, and Miss Geraldine Talbot, also of the Library, without whose help this study could never have been written.

But above all there is the late Professor V. Gordon Childe. To his teaching and inspiration, to his many personal acts of kindness and generosity, I owe much more than I can ever adequately acknowledge. For him this study was intended; to him it is dedicated, in fond memory of his limitless devotion to his students and to the science which he so uniquely made his own.
LIST OF CONTINENTAL MUSEUMS VISITED

Field work for this study was carried out mainly in the years 1951-4. Passport restrictions rendered it impossible for the writer to visit collections in East Germany and Poland, and the literature has been relied upon exclusively for material east of the border of the Federal German Republic. The museum collections in Denmark, Northwestern Germany and the Netherlands have been studied intensively, in Sweden the three main collections were examined, and Dr. Andreas Oldenburg (Stockholm) kindly allowed the writer to examine drawings of bronze contained in the smaller museums not visited. Norwegian collections were studied carefully, but with only negative results as far as this work is concerned. A study-tour in 1954 permitted the writer to see various collections in South and West Germany and Switzerland; some material was examined also at St. Germanen-Lois and in Spanish museums.

I take this opportunity of expressing my gratitude to the directors and staff of the museums named below.

**Denmark**

**Norway**
- Oslo (Universitetet的老者的博物馆), Bergen, Trondheim, Stavanger.

**Sweden**
- Stockholm (Statens Historiska Museum), Lund (Universitet的Historiska Museum), Göteborg.

**Germany**
- Schleswig (Schloss Gottorp), Hamburg (Museum für Hamburgische Geschichte; Museum für Volkskunde), Hamburg (Hamburg Museum), Stade, Oldeburg, Hannover, Chippenhase, Munster, Boe, Heidelburg, Speyer, Stuttgart, Mainz, Boppard, Landshut, Ingolstadt.

**Netherlands**
- Leiden (Rijksmuseum van Oudheden), Nijmegen (Rijksmuseum G. M. Kort), Arnhem (Museum Park), Arnhem, Groningen (see Biological-Anthropological Institute), Utrecht, The Hague, Maastricht, Leeuwarden, Enschede, Zwolle, and others.

**Belgium**
- Brussels (Centraal Museum).

**Switzerland**
- Basel, Zürich, Bern, Aarau.

**France**
- St. Germanen-Lois, Haguenau, Strasbourg.
PART ONE

THE TYPES

Bronze tools, weapons, and other useful objects (Chapters I to X).
Bronze ornaments (Chapters XI to XV).
Gold ornaments (Chapters XVI to XVIII).
CHAPTER I
HALBERDS

The halberd, a clumsy and inefficient weapon, enjoyed a surprising popularity over a wide area during an early phase of the European Metal Age, perhaps more as a parade object than as an implement with which one really tried to smite one's enemies. Copper and bronze halberds have been found in a territory extending from Ireland and Portugal in the West to Poland and Italy in the East, with occasional examples occurring even beyond these limits. Main centres of manufacture, producing readily distinguishable varieties, included the British Isles (where close to 200 examples have been found, the overwhelming majority in Ireland), the Iberian peninsula (especially in the El Argar culture), the Central European area dominated in the Early Bronze Age by the Ubeltricher culture, and an East German-Polish centre. The two last-mentioned areas are included in the halberd list and maps recently published for the broadly “Central European” area by Von Brunn (1959, 25 ff., with Karte 1 and list P. 73-5). He lists 87 finds, containing over 100 specimens (cf. our fig. 3).

The origin of this European halberd fashion has been attributed by various authorities to Italy, the Iberian peninsula, Central Germany and Ireland. The question was dealt with most extensively in a well-known monograph by O Riordan (1936). He demonstrated that typologically the Argaric halberds could not be taken as the prototypes for the rest, but that there was a close and evident relationship between the halberds of Ireland and those of Central and Northern Europe. If Central and North Germany had the most advanced and elaborately made halberds, the splendid series of parade implements with hollow-cast metal hilts, Ireland could boast not only the largest number but also the most primitive, and therefore the most original of the European halberds. Improving on a typological scheme of Coffey, O Riordan distinguished six types of Irish halberds. His Types 1, 2 and 3 were primitive and early, and occurred in Ireland only. His Type 4 was, however, represented not only in Ireland but in Britain, Denmark and South Sweden, and Continental Europe. O Riordan saw this halberd type as an Irish invention, an improvement of his Type 3, which was spread first to Northern and then to Central Europe by actual trade and imitation. His Types 5 and 6 were later,
Halberds lasting into the Middle and even perhaps the Late Bronze Age, and almost exclu­
sively confined to the British Isles. Types 1-3 are, therefore, the critical types for
the question of origins (we must re-examine whether O Riordain’s Eurosceptic view
may be still adopted as valid), and Type 4 the key type for the problem of trade.
In considering the trade pattern we must review the finds in three regions within
the broadly North European area where halberds have been found: first, Denmark
and South Sweden; second, a small group in the Netherlands and Westphalia; and
third, the halberds of Central and Northeast Germany.
The reader will recall that halberd blades of O Riordain’s Type 4, the only type
involved in the trade between the British Isles and Northern Europe, is character­
ised by three stout rivets, a midrib, and a straight or very slightly ogival outline.
Some 34 examples of this type had been found in Ireland itself (some further exam­
iples have since become known), 8 in Scotland, 3 or 4 in England, and 5 in Wales.
In South Scandinavia (i.e., Denmark and southern Sweden) there were 15 exam­
iples (9 in Denmark, 6 in Sweden) which were ‘remarkably Irish in character’. In
the other two regions mentioned there were no halberds so remarkably Irish that
O Riordain wished to claim them as being of actual Irish manufacture, yet he could
 cite two examples in the Netherlands, one in Northcentral Germany, and one in
Central Germany which stood very close to the Irish series. In addition, there
were seven others in Central Germany and the Rhineland, 3 in Denmark and
South Sweden, one in Switzerland, and a few elsewhere which O Riordain classi­
fied as Type 4, but with the explicit qualification that they diverged distinctly
from the Irish type.
In the following we accept unreservedly O Riordain’s judgment as to the degree
of resemblance of individual specimens to the Irish halberds of Type 4; but in the
light of experience in the quarter-century since he wrote, certain interpretations
seem inevitably to call for revision. After discussing the three geographic groups
already mentioned, we consider whether the halberd is to be regarded as an Irish
influence in Northern Europe, or a Central or North European influence on the
British Isles.

1. The Northern Group
In Denmark and South Sweden, a total of 26 halberds have been found. Of these,
15 are, in O Riordain’s words, ‘so homogeneous in type and so similar to the Irish
ones of Type 4 in character that one is constrained to think of them as undoub­
edly the work of Irish craftsmen, whether made in this country (i.e., Ireland) or
made – and the suggestion does not seem too far-fetched for the facts – by a group
of smiths brought from Ireland who had settled in Scandinavia’ (O Riordain, 1936,
p. 299).
In considering the trans-British route by which halberds may have reached Den­mark and Sweden from Ireland, it seems evident that the distribution only of Type 4 halberds ought to be taken into account, and we have plotted these on Map I. Finds of Type 4 halberds in Britain occur near the Aberdeenshire coast, the Firth of Forth, the Yorkshire coast, and the Thames estuary; any of these could conceivably make a jumping off point for the voyage to Denmark. Use of the Great Glen and Clyde-Forth routes across Scotland and a route from Wales to the Thames valley is suggested by the map. Scottish routes have been stressed by O’Riordain, Magee and Hardy, Scott and de Navarro; the latter also suggests the more southerly route, proceeding up the English Channel to Denmark, but here, as de Navarro points out, the absence of halberd finds in the Wessex area creates a difficulty. The Scottish route, then, is the most likely on the existing evidence.

The often repeated suggestion that a number of Scottish halberd hoards are relics of the trans-British trade to Scandinavia is attractive. But the Auchingoul hoard (Banfshs.: PSAS LXXV, 208 ff, Pl. XLIX) consists of four halberds of Type 6; none of the Scandinavian halberds are of this type. The hoards from Kingorth (Bute; O’Riordain Sct. 10–12) and New Machar (Aberdeens; O’Riordain Sct. 11–12) consist of Type 4 halberds; but five of the six halberds in these two hoards are heavily damaged. Both these hoards were found in peat and may represent veneration deposits or scrap, but it is hard to see them as merchants’ hoards.

Various British writers—Magee and Hardy, de Navarro, Sir Lindsay Scott—have endorsed the idea of a settlement of Irish (or, as Sir Lindsay Scott alternatively suggested, 1951, p. 35, Scottish) smiths in the Danish islands. Four of the Irish-type halberds have been found in the Danish islands, four in Scania, one in Ytsmor­galând (in the area in which port-hole-stone cists of Skopho type are concentrated; map inflation, 1916, 299, 406 b) and two in East Jutland; there are also a number of specimens with an uncertain provenance. In general, the area in which the halberds occur is that occupied by the Funnel-beaker (TRB) culture; there are no finds on the western coast of Jutland to suggest a landfall there, and the halberds are absent from the territory of the Single Grave culture. But whether these two Danish Middle Neolithic cultures still actually existed as entities at the time of the halberd importation is not entirely clear.

The question of whether the Danish and Swedish halberds of Irish form were actually made in Scotland, Ireland or Northern Europe is one that may eventually be answered satisfactorily by metallurgical analysis, but to date (1963) no analyses of Northern halberd finds of Irish type have yet been published.

Thus far we have considered only the halberds of purely Irish type found in Denmark and South Sweden; but what of the remainder of the Northern halberd finds? O’Riordain’s Scandinavia No. 16 (a,b)? Two of those from Scania (Nos. 45–46) are metal-shafted halberds of Koveroio’s Type II, and clearly imports from the Brandenburg-Mecklenburg area. O’Riordain regarded most of the remainder as
local derivatives of the Irish halberds, but another view is possible, and I think more probable. Two (Nos. 21 and 23) have blades which in form are strongly reminiscent of the blades of metal-hilted daggers of Uenze's Oder-Elbe type; the incised decoration of No. 21 from Denmark (without exact provenance) recalls that of the halberds from Himmler (Uenze, 1938, Fig. 48: 124) as well as the dagger blades. No. 23 from Kogtved Mose with its grooved edges, six rivets in a shallow are, and narrower midrib expanding at the butt-end, evidently belongs to the same class. These also are likely to be imports to Denmark from North Germany. No. 21 has in its otherwise flat blade two narrow curved converging ribs, a highly uncommon feature; it is, however, paralleled closely on a Central German halberd from Gross Schmiede, Kr. Stendal (Von Brunn, 1959, 59, Taf. 45: 6) and on the blade from Ford, Northumberland (which is probably itself an import into Britain from the Northern Uplands area; see below, p. 25).

Several other Northern halberds (O'Riordain's Scandinavia Nos. 3, 18, 20, 44) have what O'Riordain terms as 'outsplaying midrib', with markedly concave sides. This type of midrib occurs on many wooden-shafted halberds from Germany (i.e., O'Riordain's Germany Nos. 2, 9, 13, 18, 20, 23, 24) and is employed extensively on metal-shafted halberds as well. Most of these are in Central Germany, but exported examples may be noted in Schleswig-Holstein (Bossee, Germany 24); on the Rhine (near Homburg, Germany 16) and in North Hanover (Suderburg, Kr. Uelzen; Zettler, 1941, 116 ff., Taf. IX). One example with a midrib of this type was found in Etruria (Italy 3). This form of midrib does not occur at all in Ireland, but is found on two specimens from Wales (Wales 2, 4). These appear to have been locally made; one has a slender rib down the centre of the wood midrib, a feature occurring only in the British Isles (similar narrow ribs occur on many looped spear-heads). It seems most likely that the 'outsplaying midrib' is of Central German origin, and that the halberds bearing it in Denmark, Italy and Wales are derived from that quarter, by importation and imitation.

On the whole it is probable that most or all of the Danish and South Swedish halberds of O'Riordain's 16-26 group are imports from Central and North Germany.

All the halberds found in Denmark and South Sweden are stray finds, and therefore not directly datable. They are conventionally assigned to the Passage Grave period (Northeastern Middle Neolithic), but without substantiative grounds.

Flett halberds occur in Denmark in the Middle Stone Age period, and Broholm remarks (like an imitation of the imported metal ones (DB II, p. 13), but Glob has since shown that the flint halberds were already in existence in the Danish Early Neolithic, occurring in the early settlement sites such as Bogshøj (DB II, Nos. 18-21; references cited p. 23). Thus we must accept with Glob the possibility that the ancestry of the Danish flint halberd is to be sought in the Mesolithic stone points, or place the beginning of the Irish halberd export at an improbably early date.
The distribution of Type 4 halberds in Northern Europe however, suggests very strongly that they were brought there in exactly the same manner as the flat or low-flanged axes of Irish type; and this assumption from the practical identity of our Maps I and II is supported by the evidence of the hoards to be discussed below. It would therefore seem probable that the halberds as a group belong to the Northern Late Neolithic, along with the axes (cf. Chapter II).

2. The Northwestern Continental Group

Halberds of Type 4 found in the Northwestern Continental area included, according to O Riordain, three from the Netherlands (two, allegedly, from Wageningen, one from Nijmegen) and one from Westphalia (Upsprunge, Kr. Buren; republished by Sprockhoff, 1941, Pl. 32: 4). These, in O Riordain's view, very much alike, and differed from Irish Type 4 halberds in that they had notches instead of holes for the rivets. Notches were not entirely unknown on Irish halberds, but were more characteristic of the Central German ones. O Riordain also regarded the Wageningen, Nijmegen and Upsprunge halberds as being very closely related to the Irish series, but probably not of Irish manufacture. He did not venture to suggest where they might actually have been made, but believed that they represented at any rate an Irish influence, coming by way of southern Britain, and that they could be taken to represent links along the route from Ireland to the Elbe-Saale region, by way of the lower Rhine.

Of these four halberds, only two seem to exist in actuality. The alleged Nijmegen halberd (O Riordain's Netherlands 3) appears to be quite unknown to the Leiden museum (information from Prof. H. Brunsting); it is not actually mentioned in the Janssen catalogue cited by O Riordain, nor in the Holwerda catalogue of 1908; nor could any Dutch prehistorian be found who had ever heard of it.

In the Zeitschrift des Vereins für Geschichte und Altertumskunde in Mainz IV, 1893-1895, p. 342, we find under the signature of P. Reinecke:

'Im Römisch-Germanischen Centrummuseum wird ferner ein Abguss einer unsymmetrischen Schwertstabsklinge aus Holland (wohl von Nymwegen) aufbewahrt (Original im Museum zu Leiden).'

No further details are given. One is inclined to suppose that the halberd cast in question must, if derived from Leiden, be a copy of the Wageningen halberd discussed below, which is the only specimen which is known to have been available in Leiden for copying, and with which the drawing given by O Riordain as the 'Nijmegen' halberd agrees well enough in outline.

Again, of the two halberds allegedly present in the hoard from Wageningen (O Riordain's Netherlands 1 and 2), one specimen (fig. 1: 1) is certainly not a halberd at all, but a trigonial dagger, with a hilt-plaque adventurously shaped descriptively like those of some halberds.
Fig. 1. Hoard from Wageningen, Gelderland. All objects of copper or bronze except 9, of stone. RMO Leiden. 1:3.
The second is equally certainly a genuine halberd. This find we must discuss in detail below. Two halberds are therefore to be deducted from O Riordain’s list. Happily, they can be replaced by two other specimens: one a recent find at Roermond, Limburg, in the Netherlands (fig. 2) and the other an older find recently illustrated, from Wichelen, Prov. Antwerp, Belgium (Pl. Ia). The Roermond halberd (fig. 2) is a fine Type 4 specimen, a foot long (29.4 cm), and very similar to O Riordain’s Scotland 5, and to the Irish-type halberd in the Douskas hoard (PI. II). It was dredged from the River Maas in 1957.

The Wichelen halberd is also a large one (present length 31 cm); the hilt-plate is damaged, and it was originally slightly longer. It has a broad midrib. There were four rivet-holes, arranged as a trapeze, on what was apparently a slightly narrowed hilt-plate. This rivet arrangement, if original, would make the Wichelen halberd to the larger examples of O Riordain’s Type 2 (1936, 245, fig. 242); yet in size the halberd is comparable to those of Types 4 and 6. It is the only halberd of Irish type on the Continent which is not assignable to Type 4.

Wichelen, on the Scheldt, has been productive in finds of bronze implements dredged from the river there; a British basal-looped spearhead is also attributed to this find-spot (see Chap. V). The Wichelen halberd and the Irish decorated Class I axe found near Ghent (see p. 37) constitute a little ‘Scheldt group’ of Irish Early Bronze Age exports.

The Wageningen halberd comes from the hoard (fig. 1) which is discussed and illustrated by O’Riordain (1936, 239, fig. 37). Unfortunately he did not see the original objects, and his illustrations are redrawn from very poor drawings in the original publication (Pleyte, 1896, Pl. IX); some of the objects have quite altered their character in this process. In view of the unusual character of the find and the rarity of halberd associations in Western Europe it is worth describing in some detail.

The objects were discovered in 1841 by a man digging trenches for planting trees in a field. The account explicitly states that they were found together; and their uniform pattern and the rarity of the types in the area, plus the chronological homogeneity of the find, make it extremely unlikely that the find could represent anything but a single deposit. A stone axe of plump cross-section is included in the find. But the ‘beaker-shaped small vessel’ mentioned by Pleyte and O’Riordain is unknown in the Leiden Museum, not mentioned in its register, and indeed nowhere shown by any record whatever to have formed part of the find in question.

We are grateful to Professor C. F. C. Hawkes for details of this find, and for a copy of the drawing given to him by Miss Fidler, Curator of the Muscum Museum, in 1948.

I am greatly indebted to Prof. Brunsting and to Dr. W. C. Braat of the Rijksmuseum van Oudheden in Leiden for information regarding this find.
The 'bronze' (the metal has not yet been tested) are as follows:

1. A small triangular flat dagger, thinning by steps toward the cutting edge; with a semi-circular hilts-plate not quite so large as the base of the blade, with these small rivets. It resembles an unpublished specimen from Singen.

A similar hilt form occurs on some Lamb-type halberds; which no doubt accounts for O'Rorke having erroneously described the Wageningen dagger, from the poor illustration, as a second halberd. The edges are double-outlined, a feature...
seen on many halberds, e.g. that from Rossmound, and on the tanged dagger from Faversham.

2. A small halberd of O Riordain’s Type 4, the flat central portion, steps echoing the cutting edge, and three large notches for rivets being its main features.

3. A small brand flat axe, with slightly convex face and a nodal ridge down the edge. It belongs to the Irish ‘slab-crested’ fauned type (cf. Caplin and Care, 1977, 91 f., fig. 2, no. 25, which is of CC Group I; JSS Group E 11 copper).

4. A thick, fauned halberd-ax, resembling those found on some Irish-type halberds; only one head has been formed.

5. Blank for a similar halberd-ax; neither hand has been formed.

6. A narrow punch or tracer, with square section. Parallels are difficult to find in our region; similar objects seem, however, to be common in the British peninsula and in southern France (cf. Junghans, Sangmeister and Schröder, 1960, Taj. 19, 20, 21, 22, 23, 24, 25).

7, 10. Two simple penannular bracelets with square section. Simple bracelets in Scottish Early Bronze Age finds (Evans, GB 26, 32, 33, 34) are thicker, and of D, oval or round section, and thus not directly comparable. But similar bracelets seem to be known in Iberia and South France (cf. Junghans, Sangmeister and Schröder, 1960, nos. 338, 835).

Further, there are several small fragments of bar and sheet bronze; among these is one roughcast bar, bent into the form of an irregular spiral.

The peculiar importance of the Wageningen hoard is that it combines objects certainly of Irish type (axe, halberd) with unfinished rivets, at least one tool (the punch), an ingot bar, and scraps of sheet and bar metal. This combination strongly suggests that the owner was a metalworker; he could well have been one of those itinerant Irish smiths postulated by O Riordain and by Megaw and Hardy.

If such smiths were working in the Lower Rhine area, along the route of contact between Ireland and Saxo-Thuringia, it would be natural to suppose that some of the other halberds found along the route were made by them.

Further, there are several small fragments of bar and sheet bronze; among these is one roughcast bar, bent into the form of an irregular spiral.

The peculiar importance of the Wageningen hoard is that it combines objects certainly of Irish type (axe, halberd) with unfinished rivets, at least one tool (the punch), an ingot bar, and scraps of sheet and bar metal. This combination strongly suggests that the owner was a metal-worker; he could well have been one of those itinerant Irish smiths postulated by O Riordain and by Megaw and Hardy.

If such smiths were working in the Lower Rhine area, along the route of contact between Ireland and Saxo-Thuringia, it would be natural to suppose that some of the other halberds found along the route were made by them.

Mention must also be made of the halberd found at Apeldoorn, Kr. Meppen, in the Emsland, which is typologically difficult to associate directly with the Irish series. It has five small rivets arranged in a shal low arc; its outline relates it to those Danish and German specimens which are colored in bars to metal-hilted daggers. Its central ribs in bar form are rather to be related to those occurring on Central German halberds like Gross Schweiehden and Back from the so-called multiple-fauned Briton (Anton Deen, All fig. 28) or similar (e.g. Locarno-Apennino, U-1, 305, Taj. 19 f., 31 f.) Early Bronze Age daggers. The Meppen halberd is to be reckoned as a ‘Gallia’ import, not an Irish one. It is assigned to JSS metal group A. A related blade from Northbockholt is cited below (p. 28-1).
The only halberd found in the area of the Saxo-Thuringian Early Bronze Age which O Riordain identified as being very close to his Irish Type 4 is the one in the Deinesau II hoard discussed below (p. 34-5; Pl. IX). O Riordain thought it so similar rather than an actual Irish export, for reasons not clearly stated. To the present writer it seems no less Irish in appearance than the Scandinavian halberds which O Riordain accepted as Irish exports. Its metal analysis suggested Central European copper to Otto and Witter (OW 303); but it is assigned to JSS Group E11 to the same group, oddly enough, as the Irish axe present in the same hoard (three halberds of purely Central German form (OW 300-3) also present are likewise of Group E11). There is also a halberd present in the Deinesau hoard which is of the Irish Group E11, but this (OW 385) is a metal-shafted German specimen1. Although other halberds of purely Irish form are unknown in Central Germany, there are further specimens (O Riordain's Germany 4 to 8) plus others in neighbouring lands which are broadly similar to the Irish type 4. These include specimens from the Rhineland (Rhine near Mainz; near Hamburg; Buechel, the first of these is of JSS Group E or metal, the second of JSS Group C3); but generally similar blades are to be found, if somewhat rarely, throughout the Central European area.

O Riordain knew no evidence for the exportation of Central German halberds to the British Isles. Soon after publication of his halberd paper, Piggott (1938, 84-5; Pl. IX, a, figs. 8-12) called attention to the occurrence in no less than three Wessex Culture graves of pendants made in the form of miniature halberds; two of them possessing ribbed shafts (cf. Stone, 1958, Pl. 54 and 55). Piggott specifically compared them with the metal-shafted halberds of Saxo-Thuringian type, and cited them as evidence of connections between the Wessex Culture and the Saxo-Thuringian area. ApSimon (1954, 48 ff.) dated the graves in which the halberd pendants occur to his Wessex II. It has lately been suggested (Grimes, cited by Ashbee, 1960, 242) that the "very large weapon of twenty pounds weight, like a pole-axe" described by Stukeley as having been found in a tumulus near Amesbury, Wilt., may have been metal-shafted halberd. The weight seems rather excessive, and the description too vague to be relied upon as evidence for an actually imported metal-shafted halberd. Yet one example is known in Britain of a blade which may well represent a Central German halberd. This is an unpublished specimen from the Greenwood collection in the British Museum (inventory number WIG 206), from West Field Farm, Ford, Northumberland (mentioned by Evans, ASB p. 244). Evans grasped it with daggers, but the blade is sufficiently asymmetrical, with a slight curve, to show that it was a halberd. It preserves two curved ribs on the blade, in the manner of the Central German specimen from Gross Schlechten.
Burk and 'Denmark'. The hilt-plate is unfortunately damaged, and some notches toward the top are certainly secondary. The Ford blade may well be an actual import. The ribs appear to have been outlined in pointillé, as with some British multiple-ribbed daggers; the latter have, however, straight ribs.

Though the Ford blade stands alone, there are a number of native-looking halberds in the British Isles which have features evidently borrowed from Central Europe. Well known are the two Irish specimens (Broughshane, Co. Mayo: O Riordain, 1936, p. 321, fig. 79; Cloghan and Cean, 1957, no. 83; of Type 6; metal, CC Group I-JSS Group E or F) and 'Irland', O Riordain's No. 109, of Type 5 (with capped rivets - a type of rivet otherwise practically unknown in the British Isles, but commonly used on the Continent. Further, there are three halberds, two in Wales (mentioned above, p. 144, of Type 4, and one from Scotland) (Falkland, Fife., O Riordain's Scotland 2, also of Type 4) which have 'outsplaying' midribs, as do many Central German halberds. From these we can be sure that at the time that
Halberds

halberds of Type 4, 5 and 6 were being made in the British Isles the smiths were familiar with the appearance of Continental specimens. The halberd connections between the British Isles and Saxo-Thuringia were certainly not entirely a one-way affair; one may reasonably conclude that there was a halberd exchange between the two provinces, even though it is difficult to find any significant number of actually traded specimens.

Various writers (ApSimon, 1954, 40; Raftery, 1951, 143 ff.; Coghlan and Case, 1957, 120-3) have expressed doubt that Ireland was the original home of the halberd family here discussed, preferring a Saxo-Thuringian or Italian origin, yet Central German writers continue to speak of the a "Western European" origin of the halberd. Formally, O Riordain made out a case for an Irish origin which the opponents of the idea have not refined in detail. The chief strength of the O Riordain theory is that there are six types of halberds in Ireland, of which types 1 to 5 can be viewed as a sequence of development, three of which are allegedly earlier than the period of contact with Northern and Central Europe; whereas in Central Europe all halberds are thought to belong to one horizon, that of the developed Unetice culture, and local prototypes have not been claimed.

It is interesting to notice, in this respect, that Hajek (1953, 202, 210-11, 214, fig. 4: 10-11) calls attention to the occurrence in a Unetice grave in Moravia (Horni Hrnjejovic, Grave XIX; No. 35 in the list of Von Brunn, 1959, 74) of a halberd, small and without a midrib, which is every bit as primitive-looking as the halberds of O Riordain's type 1; it is nothing more or less than a simple triangular dagger which has gone asymmetrical. Such a find might well be used to support the idea of a Danubian origin for the entire European halberd development.

And it must be admitted that there is not one single association of any kind to confirm the early dating of the three 'primitive' types of O Riordain, so that one is theoretically free to regard them as debased products of an inferior technology rather than as prototypes. Halberds of Irish type 4 would then be the local type (some of which were exported) directly derived from the simpler of the Unetice types of halberds, type 3 simply smaller versions of the same, and types 1 and 2 (which are rather rare) the crude local products of poorly trained or equipped smiths. Type 5 is an obvious development from Type 4, being only more elongated and curved. The existence of a hybrid specimen of types 2 and 5 (O Riordain's no. 12) is in itself a warning against accepting O Riordain's typology as a chronological series! The metallurgical evidence, as marshalled and analysed by Junghans, Sangmeister and Schroder (1960), shows that the metal of which many Irish halberds of Types 2 and 4 are made is indistinguishable from Central European metal of their Group B 2; some British Beaker daggers are also of this metal, whereas thick-butted axes are not, and neither are halberds of Type 5. In Central Europe, B 2 metal had a limited period of use, and this appears also to be true in
the British Isles; the contemporaneity of Types 2 and 4 halberds is therefore evident.

At Faversham in Kent, an Irish halberd of Type 4 may possibly have been associated with a 'West European' tanged dagger; the tang on this dagger is comparatively small and the blade large and well made, while its shoulders are rather angular, so that one might think of the specimen as being some distance along the way of development toward a Breton-Bush Barrow dagger. Both these Faversham objects are assigned to CC Group III (Cahill and Case, 1957, no. 193); O Riordain, England 4, 25 and JSS group F 1 (Alpine metal), as are many other objects from Brittany, southern England and the Netherlands. Apart from this, all known halberd associations in the British Isles point to a date of Wessex I or later.

The best Irish association is the hoard from Killaha East, Co. Kerry (O Riordain, 1946, 155, Pl. XII). This hoard contained a halberd assigned to O Riordain's Type 6; flat axes of Rathg's narrow-butted type; and a dagger with two rivets, blood grooves and a languette. The dagger is related by its grooves and languette to the Breton and Bush Barrow daggers which characterize Wessex I. Since these daggers are in turn derived from Uenze's Oder-Elbe daggers, which belong chronologically to the Leubingen-Dieskau phase, the Killaha hoard cannot be earlier than that phase. That flat axes of the Killaha type can be contemporary with decorated axes of the type found in the Dieskau hoard is confirmed by the Wilberley Wold deposit (Meyer and Hardy, 1938, 289-4). We have therefore an effective cross-dating between the Killaha stage in Ireland, Wessex I in Britain and the Leubingen-Dieskau Fliegergräber stage in Saxo-Thuringia. Halberds of Types 6 and 4 may be contemporary, as is shown by a find of one halberd of each type at Towyn in Merioneth (O’Riordain, Wales 5-6; Grimes, Guide, 1951, No. 260, fig. 17: 3, 4). Other halberd associations in the British Isles provide no support for a pre-Wessex dating.

The often-illustrated find from Birr, Offaly (Ireland 84) was treated by O Riordain as an unreliable association; and even if it were a genuine hoard, it is clear that the halberd itself (Type 5) is not as early as, and the flat axes are also developed types (Of Migdale hoard, kovasna Gk 26; Butterwick, with Food Vessel, BM LPA fig. 17). The same is true of the uncertain hoard from Slinn, Monkeys, with a Type 6 halberd and two flat axes (Scot 15): a Wessex I date is suggested by Pigott and Steer’s Grosmont (Bib. 30). The find, Ardgill and Sluie Ferry, Norfolk hoards with Type 4 halberds contained Late Bronze Age objects. The grave finds are not likely to be pre-Wessex. At Moyhaugh, Co. Sedges (Isled 99) a Type 5 halberd of bronze (CC Group III-JSS Group E no.1) was found in a stone cist with a decorated cover-slab, accompanied by a cremation. In Scotland damaged probable halberds of unidentifiable type were found in cist graves at Beithquendal, Ellgin (Scot 20), presumably with an extended skeleton in a boat-shaped cist, body
Halberds covered with oxhide, and Craiggorrie near Beauly, with an extended skeleton, barbed and tanged arrowheads and a flint knife. Childes (1946, 119, i and ii) assigns both the Scottish burials to his Period IV on the basis of the grave form. The case for an Italian origin for the halberd rests on finds belonging to the Remedello horizon. Forsander has emphasized the grave from Villafranca near Verona (Ghislanzoni 9 ff., Forsander, 1936, 44 ff.) with its copper halberd, silver crystal-headed pin, and silver lunula, which he regarded as contemporary with the Northern Passage Grave period. O’Riordain also cites the grave from Remedello (p. 235, fig. 34) which belongs to the same horizon as Remedello. One might suppose that the halberds north of the Alps are ultimately derived from these; but some would reverse the process and derive the Italian halberds from Central Europe. The hoard from Montaverano (O’Riordain 234, fig. 33) with its more developed halberd which O’Riordain thought “presents a very Irish appearance” (and indeed is of JSS Group E 11 metal, fig. 67), includes a full Bronze Age flanged axe and the fragment of a three-ribbed dagger blade (also of E 11 metal, JSH 676) which Ursino claims as belonging to his Italian type of metal-hilted daggers (Ursino, 1938, fig. 34). The hoard therefore belongs to the same period as Dískau; its three-ribbed dagger may well have influenced the Arrarat type of British three-ribbed dagger.

Taking all these factors into account, one could conclude that:

a. the earliest Irish halberds are not demonstrably a product of the Chalcolithic wave of contacts along the Atlantic route; on present evidence we should regard them rather as copies and derivatives of the Central European halberd blade;

b. the Unetice halberds may be derived from, or parented to, those of Northern Italy;

c. the ‘primitive’ Irish halberds (Types 1 and 2 and some of Type 3, which have in common the four-riveted rectangular hilt-blade which is not found on other European halberds) are probably a local debasement or improvisation by not fully competent smiths, rather than prototypes;

d. development of the Irish industry under the stimulus of Unetician models, and perhaps metal imports, led to the attainment of an exporting stage, during which migratory smiths and traders brought modified halberds and Irish axes which could compete with the Central German products to the Netherlands and South Scandinavia. This trade probably lasted into Wessex II, as we suggest below in connection with the axes.

Whether there were two distinct phases of contact between the British Isles and Neo-Thurnia, the earlier phase just preceding the rise of the Wensum Culture, the latter during its developed stage is not clear from closed finds but continuous contact throughout the period seems to be implied by the metallurgical evidence. What does seem clear is that the Irish bronzemn of the Early Bronze Age had
nothing to touch to the highly accomplished metallurgists of the Saale Valley, except possibly the proper use of tin; but otherwise had a great deal to learn from them. It is easy to imagine Irish, Wessex or Breton smiths making a pilgrimage to the Han-Thuringian workshops to learn some of their technical secrets. Bearing in mind that the ordinary wooden-shafted halberd is a simple implement, it is hard to believe that the smith who could make a metal-hilted dagger needed to be taught to make halberds by the West!

**List of Halberds of Irish Type in Northern Europe**

This list is based on that of O’Riordain (1936, 313, ff., cf. also Forssander, 1936, 95 n. 3, and Broholm DB I, 206), with additions for the Low Countries, and more recent references. Spelling of Scandinavian place-names follows Broholm and Forssander. The number of the halberd in O’Riordain’s catalogue is given in brackets following the serial number.

### Denmark

1. (Scand. 6) 
2. (Scand. 13) 
   - Daniaer, Copenhagen Amt, Jutland. Mus. Aarhus, Amb. 1910, fig. 1.
3. (Scand. 10) 

### Norway

4. (Scand. 11) 
5. (Scand. 12) 
   - Stavanger, Rogaland, Fyn. Bog find. MC B. 1938; S. Müller, Ordning fig. 155; DO II 275.

### Sweden

6. (Scand. 14) 
   - Dalsland, Vastergotland Amt, Vastergotland. Mus. Goteborg, 45°42.
7. (Scand. 15) 
8. (Scand. 16) 

### Germany

9. (Germany 1) 
   - Dieskau (hoard II), Saalkr., Saxony. PI. Fortsch, 1954, 25; 4: I; O’Riordain, 1936, 211-14, fig. 5; John, 1954, 25, Pl. 11, with further references (more hoards II); Van Beers, 1954, 55-6, Taf. 17; 4. OT 393 (SNS Group E).
10. (Germany 2) 
    - Hohenahr, Rostock, Schleswig-Holstein. O’Riordain, 1936, 211-14, fig. 5; Spindloff, 1944, Taf. 39: 2 (photo).
Halberds

Netherlands

17. (Netw. c) Hapenvan, Gelderland. Myed (see p. 173). Fig. 1. RMOL, Puyica, 1893, 498. Pl. XI. fig. 5. (Inflated, 1967, 128, fig. 37. Butler, 1955, 258, fig. 3. de Laet and Glasbergen, 1959, Pl. 12 (photo); Inv. Inv. 1.1. Length ca. 30 cm.

18. Aronwold, Limburg. Pro. personum. Fig. 2. Glasbergen and Butler, 1961, 255-7, fig. 1. Length 20-4 cm.

Belgium

19. (Helm.) Hap: Antwerp.务实. Mariemont. PI. In: De Laet and Glasbergen, 1959, Pl. 30. (Not of Type IV, not mapped.)
In the earlier part of the Bronze Age, the axe was the most important article involved in the trade in metal-ware between the British Isles and the northern part of Europe. The axe was not only a basic tool, but often also a weapon, and not infrequently an object of magical or religious significance besides. For the men of the Early Bronze Age, an axe was surely the most useful form into which a half pound or a pound of metal could be converted, and it is not surprising that it should have been the most important trade item.

A widespread trade in axes of flint and stone originated in the Neolithic period, and certainly continued through the Copper Age. Thick-butted copper axes were widely if uselessly disseminated throughout Europe in the first half of the second millennium; mainly, it seems, from centres in southeastern and southwestern Europe (Josephone, Stangezieker and Schröder, 1960). At precisely which point Ireland (cf. Coghlan and Casey, 1957) and Saxo-Thuringia became producers of copper axes, and what part these two centres played in the supply of such axes to other areas within Northern Europe, remains to be clarified. The typological insensitivity of early copper axe forms tends to pass the problem on to the spectro-analyst. Thus a few of the thick-butted flat copper axes from Ireland which have been analysed (CC 28, CC 41-2) have been assigned to JSS Group B 2, which should imply an Unetic origin (whether Saxo-Thuringian or farther south not being specified) for the metal in these specimens. These incline to support the Coghlan and Casey hypothesis (1957, 100 ff.) that Irish metalurgy was derived from the Saxo-Thuringian area, for the axes had hitherto been the weakest link in this hypothesis. Yet two flat axes from the Rhineland (Rhine-Hessen, OW 1978, and Mombach near Mainz, OW 1984) are assigned to the Irish JSS Group E 11, so that there may also have been early copper exportation in the other direction. It is interesting to notice, in this connection, that two of the narrow-perforated copper double axes found in the Rhine region - Kolden (Moosel), OW 1977, and Zumstein in Baden-Württemberg, JSS 479, are also assigned to Group E 11. Such metal double-axes (cf. Horsen, 1942) may in the Rhine region bear ornament (fig. 7: I) not entirely dissimilar from that found as commonly on Irish axes, so that the idea of influence may
or the other is perhaps to be entertained seriously. The double-axes in question are a link between the Rhine and Saxon-Thuringia, unfortunately they are not exactly dated, though an Aeneolithic or Early Bronze Age date, at any rate earlier than the Saxon-Thuringian hoard-horizon, is presumed (Von Braun, 1959).

Apart from the Rhenish specimens mentioned above, Irish thick-butted axes have not been identified in the North German area, where a comparatively high proportion of the available specimens have already been tested spectrographically; nor in the South Scandinavian region, where comparatively few analyses are yet available. There is thus little evidence for an Irish copper axe export trade across the North Sea in the period when thick-butted axes were in use.

In the Early Bronze Age proper, there is evidence for a west-to-east trade of variable importance in five basic types:

a. developed flat axes (i.e., the Irish thin-butted type);

b. axes with low flanges. The flanges are generally only millimetres or two high, and could easily have been made by hammering. We prefer to call these low-flanged axes rather than hammer-flanged axes, because the height is easily verifiable, whereas the technique actually employed is not so certain from obtrusions. Decorated axes of Megaw and Hardy's Class I may be flat or low-flanged.

c. axes with high flanges, normally made in the casting; hereafter called, in any case, high-flanged axes. Megaw and Hardy's decorated axes of Class II and III are contained within this group; which proves, however, to be of little importance for our present study.

d. high-flanged axes with a stopridge. What Evans calls a 'doubly tapering' axe, or what in some cases called an 'incipient stopridge', is not here included, but only axes with a distinctly raised transverse rib in the centre. The German term for these, Dupfeil, might usefully be rendered into English as a stopridge axe. The term 'palstave' should be reserved for axes which are distinctly thicker below than above the stopridge.

e. haft-flanged axes have recently been distinguished by M.A. Smith (1959, 171-2 fig. 6: 1-4). These are high-flanged axes with the flanges extending only part way down the blade. (Her fig. 6: 2 we should call a haft-flanged stopridge axe; but it is difficult to see why one should not render the term 'paltaxe' for her fig. 6: 3 and 6: 4).

2. DEVELOPED FLAT AXES

Forssander (1936, 57) claimed four flat axes of distinctively Irish form in South Scandinavia. Two are from Denmark: Frobae on the island of Muro in the Limfjord and Mogstad (Trasp, v. Fjords H.) on an arm of the Limfjord (Hjarfjord Fjord), and two from Scania, neither with exact provenance. They have a moderately expanding blade and gently curved sides.
The most convincing of these is the axe from Fredsø (Pl. Ia), with its gracefully curving sides, slightly rounded butt and convex face; it certainly stands out as a unique specimen in the Copenhagen collection, and is very similar to the small Irish axes such as that from County Roscommon (NIM Ireland Annual Report, 1931-2, Pl. 5: 7). Another axe of very similar form, but slightly larger and with faceted sides, is known from the Netherlands, in the hoard from Wageningen near the Rhine at the edge of the Veluwe (fig. 1), which was described in Chapter I (p. 14). It also rather closely resembles the CC Group I JJS Group E 11 copper ‘thin-butted faceted’ axe from Islington, Suffolk (Coughlin and Case, 1957, nos. 23, 25, fig. 2). An axe of very similar outline was found at Disembert in the Rhineland, if the illustration by Osborn (1897, 64, fig. VIII: 11) is to be relied upon.

These flat axes are a variant of the thin-butted type represented in Scottish and Irish Early Bronze Age hoards (Migdale, Inventaria GB. 26: 1, 2; Auchnacree, Inventaria GB. 27: 1–5; Colleonard, Inventaria GB. 29; Nisn, Inventaria GB. 30: 4–3; Port Murray, Inventaria GB. 31: 4–5; Birr, Coffey, 1913, 7–8). Associations include halberds, flat riveted daggers, and penannular rings (types also represented in the Wageningen hoard, though the rings at Wageningen are thinner and of square section). The Colleonard hoard includes decorated axes with ‘rain’ pattern, which show that whole group can be contemporaneous with the Willerby Wold-Dentatus group of Class I decorated axes discussed below (p. 30 ff.).

The Moesgaard axe is almost squarish, with very slight blade expansion; its sides are faceted (Broquel, DB II, Pl. x: 3). Although both it and the Fredsø axe are stray finds, their location along the Limfjord route, in the amber district of North Jutland, is a valuable indication for the use of this route for trade with the British Isles. The two Scanian finds are according to Forssander (1936, 71, Taj. II: 5) related typologically to the Moesgaard axe, but lack the faceting (Forssander, 1936, Taj. II: 5) related etymologically to the Moesgaard axe, but lack the faceting (Forssander, 1936, Taj. II: 5) related typologically to the Moesgaard axe, but lack the faceting (Forssander, 1936, Taj. II: 5) related typologically to the Moesgaard axe, but lack the faceting (Forssander, 1936, Taj. II: 5)

The dating evidence for these axes is to be derived from Wageningen, Migdale and Colleonard, none of which suggest a date earlier than the decorated-axe-and-halberd trade to be discussed below.

A different form of flat axe, more elongated and comparable in outline with some decorated axes of Megaw and Hardy’s Class I, but in this case having neither flanges nor decoration, is represented in the Pile hoard in Scania. This axe was long ago claimed by Mosegaard (1906, 84, 92–4) as an import from Ireland, basing his judgment not only on the form but on the metal analysis, which showed high tin (10.8%), whereas the local imitations, the axes now called the Pile-type, were of copper rather than bronze. (This is presumably the axe identified in SAM I (194, 154) as O 55:9, Stockholm Museum 3331, which is assigned to metal group F, ‘Alpine copper’.)

The Pile hoard is in the rutilates type, containing imported Uluhör objects from Bohemia or Saxe-Thuringia together with locally made Pile axes, and forming
Flat and flanged axes

a key find for comparative chronology in Northern Europe. Since Forssander (1936) it has been dated to the Northern Stone Cist period, or as we should now say, the Northern Late Neolithic.

Decorated flat axes may best be discussed together with low-flanged decorated axes; both types together forming Megaw and Hardy's Type I.

B. DECORATED FLAT AND LOWFLANGED AXES

In their detailed study of Irish and Continental decorated axes (1938, 272 ff.) Megaw and Hardy demonstrated that Irish axes were traded to the Continent in the Early Bronze Age, and that these exercised a considerable influence on the early metal industry of Northern Europe.

Decorated flat axes were found with two plano-convex flint 'slug knives' (a type generally associated with the Food Vessel culture) in a bog hoard at Derrygragh, Co. Lar­rigan (JRSAI LXIV, 1938, 143-5, fig. 10).

The decorated axes found in Northern Europe included some specimens which were similar to Irish examples (cf. also the additional Irish specimens, JRSAI XCI, Part I, 1961, 73 ff., figs. 13-15, and the Collinsford hoard, Irishman GL, 19) that they were to be presumed to have actually been made by Irish smiths – either in Ireland itself, or, it was suggested, by itinerant Irish smiths working on the Conti­nent. There were also specimens which differed in some respects from the Irish standard, and were to be interpreted as local imitations; and there were also hybrid axes which were certainly non-Irish in form, but which bore decoration more or less closely imitating that found on the Irish axes.

These three varieties of Irish or Irish-influenced axes – it should be stressed – rather rare compared to the numerous group of 'Pile axes' defined originally by Forssander (1936). These are low-flanged axes which approximate to the form of the Irish axes (but are rather thicker than the Irish ones), and which may imitate one type of Irish decoration (and one type only), namely a series of parallel arc-shaped grooves on the face. Many Pile axes were, however, undecorated.

Since the Megaw and Hardy paper was published, nothing has happened to alter their basic thesis, and new discoveries, which are to be enumerated below, serve only to confirm it. It is, however, possible to amplify their findings in one important respect, namely to point to the existence of specimens in the Low Coun­tries and western Germany which suggest a trade route not envisioned in their study.

In order to isolate the pattern of direct trade between the British Isles and
Northern Europe, it is necessary to distinguish the actual Irish products from the local imitations, and to map the former alone. The criteria for this were well stated by Megaw and Hardy; a certain subjective element in distinguishing between originals and imitations is perhaps unavoidable, but it is not so difficult to make this sorting out with the originals in one’s hand as one might suppose from illustrations, and in practice there prove to be only a few specimens that remain in the doubtful class. Such doubtful specimens, mentioned below, we omit from Map II, the purpose of which is to show the distribution of those axes which can be taken, from their great similarity to known Irish and British specimens, to be actual trade-pieces.

The genuine Irish axes tend to be thinner than the imitations; the cutting edge is usually expanded outward in a manner uncommon on Continental axes. The decoration of the face may consist of tracer ornament or broad, shallow furrows arranged in arcs parallel to the cutting edge (the furrows on Pile axes are much narrower than those on the Irish axes). The Irish axes usually have a rounded butt; their sides are often decorated by cabling, hammered lozenges, or faceting.

Geographically the Class I decorated axes fall into two distinct groups; one in South Scandinavia, the other in the Low Countries, South Hanover and Central Germany.

The South Scandinavian group includes finds in North Jutland, the Danish Islands and Scania.

The only Jutland decorated axe regarded by Megaw and Hardy as of Irish workmanship is the one in the hoard from Gallmose (their R 262), with tracer ornament on the upper part of its face and broad furrows on the lower. In size and form it may be grouped with the Connor-Selchausdal variety (cf. below). Chronologically the Gallmose hoard is equivalent to Pile; it contains Unetice products (massive penannular armrings) and axes of Pile type, together with one enormous flanged axe (comparable perhaps with the one from Lawhead in Scotland, A81, fig. 20) and three peculiar and unparalleled bronze objects of uncertain use, described vaguely as harness objects.

A more recent find adds two axes of Irish manufacture to the Jutland list. They were found in the same field at Ulstrup, southwest of Randers on the Gudenaa river (Butler, 1955, 36 ff.), and may be regarded as a small hoard. Both are large axes, in size comparable to the largest decorated axes in the British Isles, and in form they resemble the Connor-Selchausdal group. The longer (29 cm), tracer-ornamented (Pl. IIb), is quite typically Irish and needs no special comment. The other, only slightly shorter (fig. 4), may fairly be claimed as the masterpiece of
the Irish axe industry. Its decoration, while done in a characteristic Irish combination of herringbone and poiltille, is the most elaborate known on Class I axes. But the pattern is evidently a further development of that on one of the two axes found together at Knockaun, Co. Waterford (Pl. 11a) and the agreement in style, pattern and technique is so close that the Knockaun and Ulstrup axes may well be supposed to have come from the same workshop. But the most surprising feature of the Ulstrup axe is the possession of a pair of fine large side-loops. The loops
Flat and flanged axes

have flat faces, which are a direct continuation of the plane of the face; which distinguishes them typologically from the round-sectioned loops occurring on palstaves.

Loops comparable with those on the Ulstrup axe occur on a number of Irish specimens at home. Well known is the flat axe (very much smaller than the Ulstrup axe) from the Bell collection, now in the National Museum of Antiquities in Edinburgh, which contains finds from Northern Ireland, and mainly County Antrim (1911. 17, fig. 4; Evans, AB 11 fig. 107; we are grateful to Professor Stuart Piggott for details concerning this specimen). Another example, a small axe with pierced side­logs, low flanges and cabled sides, comes from County Wexford in Ireland (Na­tional Museum of Ireland, 1944. 277; we are grateful to Mr. E. E. Byrne for knowledge of this axe). There are also sideloops on the atypical highflanged axe with stopridge from Bryn CrOg, Caernarvonshire (Evans, AB 11 fig. 88), found in a grave with an interment, timber cist, a pin with bilobate head with three perforations, and a ranged knife or ram.

Thus the looped Ulstrup axe can be claimed as an Irish product; it represents a rare variant of the Connor-Selchausdal form, and was no doubt intended as a ceremonial axe. Typologically it ought to be late in the series; the decoration has features, such as large X’s and triangles, found more often on Type III axes than on those of Type I (cf. Megaw and Hardy, 1938, fig. 35, PI. L.I. 1); and the Bryn CrOg grave can certainly be no earlier than Wexomo II. It might therefore be argued that the Ulstrup find is later than Gallenose, and perhaps as late or nearly so as the Voring hoard, which is assigned to Brooks’s For femre seriebåt, or Hard­mann’s Horizon II.

Ulstrup lies on the River Gudenaa; Gallenose and Viring are on opposite sides of the same river some 30 km upstream, near its mouth in Randers Fjord. We have suggested that the occurrence of these three hoards containing imported metal­work in the hinterland of the Randers Fjord points to the use of this fjord as an important point of entry for trade with the agriculturally important moraine belt of East Central Jutland, which is one of the main areas of concentration of the funnel-beaker culture in Jutland. Taken together with the probably contemporary flat axes from Morsø and Næs and the halberd from Skalsdale they make a good case for the use of the Limfjord route for the importations from Ireland.

A second group of axes of Irish workmanship is found in the Danish islands. Megaw and Hardy observed that the axe from Selchausdal in Zealand (R. 168) already referred to above, was no smaller than the axe in the Connor hoard in
Flat and flanged axes

Ireland that they could be attributed to the same workshops. Another Zealand axe from Sture-Hedin (R. 268-70) is not specifically mentioned by Megaw and Hardy as a probable import, but seems to me to justify inclusion in this category. Two other axes from Sture-Hedings are a bit too thick in the centre to be accepted as imports but appear to be fairly close imitations; a fourth axe is more Central European in form. Megaw and Hardy list the first-mentioned Sture-Hedin axe separately from the other three, but Brøholm lists all four as constituting a single hoard.

To this short list of probably imported Irish axes in the Danish islands we may add another more recently published. It is a small axe of Class I, with hammered flanges, faint cabling on the sides, and over-all herringbone decoration on the lower half of the face. It resembles one of the axes from the Witherby Wold find in Yorkshire (to be discussed below) and the Irish axe from the Dieskau hoard in Saxony. Cf. also Buhlmann, K., Austrum (Copenhagen and Oslo, 1957, fig. 2, no. 835 A: 712) - decorated axes in the Colleonard hoard (Inv. Helvetica, 1959, fig. 13); Benbow, C., Types (J. Inst. C., 1960, 75, fig. 15: 3); Harrow, North Branston, below, p. 37. It was found in a bag at Lundby Turnep on the island of Eyn (Pl. 11a) together with two small flat-flanged axes with narrow bases, resembling one in the Pile hoard (Forsander 1959, Text XXXV: 3).

Thus there are axes in at least three finds in the Danish islands which can be considered as of Irish workmanship. A fragmentary axe from Flenstofte (R. 253) richly decorated with hatched bands and pendant hatched triangles is rejected by Megaw and Hardy as an import; it must then surely rank as a close imitation.

Across the Sound in Scania, there is one decorated axe (a stray find, Loddekoping, R. 274) accepted by Megaw and Hardy as of Irish workmanship, another, a bronze axe, possibly but not certainly of Irish workmanship (Thurup, R. 275), in a hoard with two Pile axes and two from the Ejklinge hoard (R. 276) which Megaw and Hardy kept 'an open mind', while inclining to believe that they were local copies.

Our second geographical group of decorated Class I axes of Irish workmanship has a remarkable distribution, extending from the Low Countries through South Hanover to the Saale Valley. Beginning with Starensheide, the most important find is the well-known specimen from the hoard found in 1904 at Dieskau (Staller) (Pl. 1c).

This is in the hoard called 'Dieskau I' by Jahn (1935), Otto (1936) and Buhlmann (1957); but 'Dieskau II' by von Bissing (1959), who assigns the designation 'Dieskau I' to the well-known gold hoard. The axe in question, a splendid specimen (length 13 cm) with 'rains' pattern on the face, may be compared with the Irish one in the Lundby Turnep hoard in Denmark (above, Pl. 11a) and the Dutch find from Harrow (below, p. 37) as well as with some in the Colleonard hoard in Banffshire (Inv. Helvetica, 1959, fig. 13); with one of the axes in the Witherby Wold hoard found...
in Greenwell’s Barrere CXXXV (marker, according to Greenwell, than a secondary burial with a somewhat debased all-over corded Beaker in the same tumulus: see Megaw and Hardy, 283-4); Bushmills, Co. Antrim (Coghlan and Cane, 1957, fig. 2, t.10, B). The Bushmills axe has 9.1% tin, and was assigned to CC Group II–JSS Group F 1. The Irish character of this Dieskau axe was recognized by O Riordain as well as by Megaw and Hardy, and can hardly be doubted by anyone acquainted with Irish axes; the fact has been accepted, albeit with a certain unnecessary reserve, in more recent publications from the Saxo-Thuringian side. Otto and Witter were seemingly unaware of its imported character when they discussed the results of their metal analysis (OW 397) which showed that, unlike the typical ‘Saxon’ axe of the area, it contained 12% tin! Indeed, their classification made it appear that despite the tin content, the axe was of local copper; but in the new JSS scheme it is assigned to Group E 10. A analysis thus conforms to expectations at least as far as Central Germany is concerned. The same Dieskau hoard also contains a halberd which O Riordain thought very Irish-looking (cf. above, p. 20). This halberd (OW 303) is also of JSS Group E 10 copper; some halberds of purely Central German form in the same hoard (OW 300–2) are, however, also of the same metal group.

The Dieskau II hoard is therefore a key contact find for the dating of the Irish Early Bronze Age export trade. The hoard is a characteristic one for the main hoard horizon of the Saxo-Thuringian Early Bronze Age which Von Brunn (1955) has catalogued and analysed in detail. In Central European terms this is equated with Reinecke A 1, but it must surely be equated with the very end of that phase. For on the one hand, it is contemporary with the time of Saxo-Thuringian Firstengrab, the monumental tumulus burials of Leubingen type. And on the other hand, the Firstengrab inventory is closely connected with that of the Dieskau gold hoard, which in turn contains an axe of a type regarded generally as characteristic of Reinecke A 2. At most, then, the Dieskau hoard can date to a very short time before the arrival of Reinecke A 2 imports in the Saale Valley. The corresponding phase in Britain is Wessex L.

A second Saxo-Thuringian axe which is surely to be grouped with the actual imports, as far as form and decoration is concerned (although the metal analysis places it in JSS Group E 10) is the axe from Wessmar, Kr. Merseburg (OW 206). The best illustration is fig. 5, from Otto and Witter, 1952, detailed description in Bilig, 1957, 248–9, 256–60. It is a large specimen, comparable in size with the Conna-Schradan group, appropriately slender in profile, elaborately decorated in the best Irish manner (different on the two sides), and with a typically Irish-looking outline, and it contains 12% tin.
Less typically Irish in form and decoration, yet clearly related to the Irish impor-
tive - it is large and thin, with 8% tin (JSS metal group B 2) - is the axe from
Schrotha, Kr. Odelburg, found on the same site as, and presumably associated with,
two Unetice heavy penannular rings. It is described in detail by Billig (1957, 275
fig. 466, a, g, j). Though the straight sides and straight butt (the roughness of
which, however, makes one wonder whether the form is original) give it a some-
what un-Irish appearance, and the motif of small Vs within one another is not
reduced in the Irish repertoire, it is certainly little removed from the Connor-Sel-
chausdal type of Irish axe, and (as Billig stresses) completely foreign to the Unetice
environment. If not an import, it must certainly rank as a close imitation.

In contrast to these, the pair of axes from (according to Billig) the same mound,
found at Griefstedt, Kr. Sommerda, as part of a Unetice hoard (R. 257; OW 703-4;
Von Brunn, 1975, 77, Pfl. 30; Billig, 1957, 201 ff.; fig. 466, 5, 4, 8, 9, 19), despite their
thinner, of an outline more closely resembling ‘Saxon’ than British axes, and
their decoration is also rather removed from that of typical Irish specimens. Still,
decoration, thin outline, and the possession of 9% tin show their relation to the
Irish exports; they are clearly to be considered as hybrids. Despite the similarity
of the two specimens, they fall into two different JSS metal groups (B 2 and C 4).

Sprockhoff (1941, 466, 46 ff.) has called attention to some decorated axe finds in
Westphalia and South Hanover which help to demonstrate a route between the West
and Central Germany. One was found together with a second biflanged axe, but
undecorated) on the Sassenberger Heide, Kr. Warendorf. It is broken, and only the upper half is preserved. The butt is rounded and fairly narrow, the lower part of the face has a series of shallow, broad furrows in the Irish fashion. It contains 27% tin (OW 474), and is of B1 copper (fig. 6: 2).

Hachmann (1957, 61) has described this axe as a Pile axe, to which it has indeed a certain resemblance (Pile axes are, after all, imitations of the Irish type in question) but the find-spot, far outside the limited territory in which Pile axes occur, the width of the facial furrows on the Sassenberg axe (those on Pile axes are very narrow) and the high tin content all argue for its being Irish rather than Swedish.

The axe with which it was associated, an intact specimen, also resembles some Dutch axes which we discuss below, and which we regard as derivatives of the Irish type. It is of JSS Group B metal, and contains 12.5% tin. An axe (fig. 6: 3) from Ronnenberg, Kr. Hannover (its butt end is broken off and missing) also has similar but somewhat narrower grooves on its face. Its proportions are quite Irish, as are the Sassenberg specimen, may be grouped with the probable Irish exports. A third axe with facial grooves illustrated by Sprockhoff, from Hessens am Falkenstein, Kr. Welfenbuttel, is distinctly 'Saxon' in shape, and must rank as a hybrid.

In the Netherlands, a recent stray find is a small low-flanged axe from Haren, just south of the river Maas or Meuse in North Brabant (Modderman and Butler, 1959). This axe is a small one; its original length could hardly have been much over 10 cm (the butt end is broken off and missing). It is ornamented below the septal ridge with tracer patterns, different on the two sides (fig. 6: 4).

A small Irish axe with facial furrows, and with plastic lozenges on the sides, is in the Kam Collections in the Nijmegen Museum (fig. 6: 7) and is perhaps a local find, as suggested by Boeles (1920, fig. 4); but no exact provenance is recorded, and the find may equally well be a modern import. The occurrence of similarly furrowed axes in Hanover encourages one, however, to believe in it, and it may well have formed part of the Maas-Rhine group of Irish exports to which we have already called attention elsewhere (Butler, 1959).

In Belgium, a decorated low-flanged axe with fine tracer ornament on the face, and very Irish-looking, was found near Ghent (unillustrated; de Lat, 1951, 23; we are grateful to Dr. M. E. Marien for a drawing of this axe).

Our Map II makes it clear that these decorated axes of presumably Irish manufacture fall into two distinct geographical groups. The first area comprises part of Jutland, the Danish islands, and southern Sweden. This is the 'Nordic heartland', Kersten's Zone I, the zone of Hachmann's Modenk group. The second group is more linear in character; it extends from 'Holstein' (the Scheldt-Rhine estuary) along the lower Rhine to Wesphalia, then turns eastward through south-
Fig. 6. Low-flanged axes from Northwest Germany (1-3) and the Netherlands (4-7). 1, 2 Sassenberg; 3 Rotenberg; 4 Haren; 5 's-Hertogenbosch; 6 Gemert; 7 Rare collection, Nijmegen. 1-3 after Sprockhoff, 1941; 4 after Skilbraken. Museums: 5, 6 's-Hertogenbosch; 7 Nijmegen.
Flattened and flanged axes

em Hanover, probably following the valley of the Lippe to the Teutoburger Wald, and ends in the neighborhood of Halle in the Saale Valley in Central Germany. Between these two areas is a wide gap, comprising half the Netherlands and the whole of Northwest Germany and Schleswig-Holstein. This blank area is exactly the area of the Early Bronze Age 'Sogeler Kreis'.

That this distribution is no accident, but the reflection of an actual trade pattern, becomes perfectly clear when we consider it together with the distribution of contemporary types (Part II, pp. 200 ff.). The Sogel area did not want, or could not get, the products of Irish Early Bronze Age industry; they went on the one hand to South Scandinavia, and on the other to the Netherlands, Westphalia and Central Germany.

The Irish axes traded to South Scandinavia and to Central Germany included

<table>
<thead>
<tr>
<th>Table I. Composition of Irish axes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Principal constituents (%) of spectrographically tested Irish Early Bronze Age axes found in Germany, compared with examples from the British Isles</td>
</tr>
<tr>
<td>Findspot</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>Dieskau E</td>
</tr>
<tr>
<td>OW 39</td>
</tr>
<tr>
<td>Sassenberg OW 27</td>
</tr>
<tr>
<td>Ulster F</td>
</tr>
<tr>
<td>CC 85</td>
</tr>
<tr>
<td>Abbreviations</td>
</tr>
<tr>
<td>OW: Catalogue no. in Otto and Witter, 1952.</td>
</tr>
<tr>
<td>CC: Catalogue no. in Coghlan and Case, 1957.</td>
</tr>
<tr>
<td>JSS: Junghans, Sangmeister and Schriider, 1960.</td>
</tr>
</tbody>
</table>
some of the finest products of the industry. The Irish axes were imitated there, giving rise to a special series of Poulkebeile and to a larger series of work-axes, the Pile type.

The Irish axes traded to Hanover and Central Germany have proved, on the basis of a limited number of spectrographically examined specimens, to be made of rather heterogeneous metal (JS Group E 00 at Wessmar, E 01 at Diekau, B 2 at Stavenhagen), but to have one thing in common: the possession of a high percentage (9.5% to 14%) of tin. This is also characteristic of the specimens so far tested in the British Isles itself. It therefore appears to be certain that the Irish smiths adhered to and consistently employed quantities of tin approaching the ideal percentage, a time when this was by no means the practice in Central Europe. It is noteworthy too that high-tin percentages occur in the Central German Poulkebeile which are certainly imitations of the imported Irish products. At this time, as we know from the analyses of the Central German hoards, the Saxo-Thuringian smiths were accustomed to making short, thick axes of arsenical copper, which have little or no tin content; when they had tin it was used for halberds (mainly of a ceremonial character) and rings, often in what seems irrational proportions. By Reinecke A 2 (which are we have seen can hardly be very long after the Diekau time) the use of true bronze for axes had become more general.

Von Brunn (1959, 40) goes so far as to suggest that the Saxo-Thuringian smiths may not have deliberately put tin into axes at all, but simply added broken-up bits of foreign tin-bearing axes to their axe metal. This would, he suggests, account for the small and irregular percentages of tin found in so many Saxo-Thuringian axes. This certainly suggests that the Saxo-Thuringian industry had not yet gained understanding of the best use of tin, although this knowledge and capacity was already in the hands of the otherwise far less advanced Irish industry. Possibly the prestige of the thin Irish axe on the Continent, attained by the fact both of its shape and its imitation there, was due to superior use-quality, thanks to its being of bronze.

In Scandinavia, it also appears (though detailed spectrographic evidence is not yet available) as if Irish axes containing tin gave rise to a local industry in which tin was not available. Here the axes imitating the Irish ones preserve the same general length and breadth, but become rather thicker. This is the Pile type of Forssander.

Before discussing the consequences of the Irish trade for the Netherlands, we must first consider another category of axes, the undecorated low-flanged ones.
C. UNEDECORATED LOWFLANGED AXES

There has been no special study of undecorated lowflanged axes in our area. Such a study would be most useful.

It was the writer's impression, from the examination of collections in Northern museums, that no significant number of undecorated Irish lowflanged axes is to be found in South Scandinavia or North Germany. Isolated examples may well have been overlooked.

The case is otherwise in the Netherlands. Here lowflanged axes are in general rather uncommon; Central European types are represented only by one or two isolated specimens, and there are hardly more than a dozen examples of undecorated low-flanged axes of generally Western European form.

Of these, two specimens from North Brabant, a small one from Gemert, a larger one from 's-Hertogenbosch (fig. 6: 5, 6), are remarkably similar in form to the type of axe represented by the Dieskau-Haren-Callemond-Wilberth-Wold group, but only lack the decoration of these. We have not hesitated to claim them as Irish ex-

Fig. 5. Ornamented axes from the Rhineland: 1. Friedrichstein, Hesse, Friedrichthal; 2. Frankenthal, 3. Feldbach. After Behrens.
Fig. 8. Low-flanged axes of Emmen type: 1. Vathervaart, Dr.; 2. Suwoude, Fr.; 3. Emmen, Dr.; 4. Gieten, Dr.; 5. Vathervaart, Gr.; RMO Assen, Assen, Leeuwarden; RMO Leiden.
ports, and include them as part of a small Meuse-Rhine group of such exports (Butler, 1959, 297-299; Butler, 1961, Pl. XVI) and specimens in Germany, such as the complete axe from the Sassenberger Heide (fig. 6: 1).

There we propose to call levee flanged axes of Emmen type, after a find-place in Drenthe. Axes of Emmen type are generally quite similar to Irish specimens; they tend however to be somewhat thicker, and to lack the transverse septal ridge which is so often present on the Irish axes. We have already seen that the Sassenberg specimen was of B2 metal, with 87% tin. Some Dutch specimens tested by chemical methods showed substantial nickel, and thus appear to be of non-Irish metal.

In view of the known export of Irish axes to the Netherlands, and even the presence of a foundry's hoard such as might have been left behind by an Irish smith at Wageningen, it seems reasonable to interpret the Dutch axes as a local derivative of the Irish type. The Sassenberg hoard shows that their lifetime begins during the period of the Irish export trade. At Vreeland, North Holland, an axe of Emmen type was one of the surface finds collected from a presumably settlement site. The material found there, recently published by Brunsberg (1957, 45-48, Pl. XXI: 6), includes a stone hammer-axe, a flint knife, two fragments of amber, and two sherds of pottery. The sherds were considered to be Iron Age, but have lately been recognized (Glaubinger, in Afghanistan, 1, 1960, 75) as stemming from area of the Hilversum-Drakenstein family. The site is only one kilometer away from the Hilversum Culture domestic site (Graanum, 1960), the pottery of which J.H. Smith has compared (1961, 124 f.) with that from Midsland (Clark, 1938) and Ardleigh (Erith and Longworth, 1960) in East Anglia. The circumstances at the first Vogelenzang site were, however, hardly such that one can claim the objects as associated, and however early one may wish to make the Hilversum invasion, one should need more evidence before equating it with the period of the Irish axe trade.

The axes of Emmen type have a distribution in the Netherlands which is more widespread than that of the pure Irish type. The full distribution in Germany is not yet known, although we can point to examples like the Sassenberger Heide one, and another from Bacharach on the Rhine (Bonn Museum). In Belgium, the specimen from Rekem, Limburg (Marien, 1952, fig. 177: 3) can perhaps be brought loosely into this connection; other specimens must be rare or unknown there. We do not know how many may occur in France like the one from Villeneuve-Saint-Georges (de Mortillet, 1886, I, 664).
The development of the axe with high, cast flanges did not, according to Megaw and Hardy, take place independently in the British Isles; the type was an introduction from the Continent. In Britain, cast-flanged axes have a markedly eastern and southern distribution, and are very rare north of Yorkshire (distribution map, Fox, 1947, Pl. VII). In Ireland, finds occur mainly in the centre and north, and are for the most part of a distinctively Irish form. The English axes with cast flanges are evidently derived from Central European types which became common in Reinecke A 2. Good prototypes for British cast-flanged axes are to be found in Saxo-Thuringia as well as in Bohemia and South-west Germany, but the route by which they may have reached Britain has not been studied. The 'Saxon' form of cast-flanged axe with S-curved sides never took root in Britain; but the straight-sided form, equally at home in the Volkermarkbt bronze industry, was widely imitated here, and adapted to local taste. The abrupt turning out of the blade-tips, with their upper edge nearly horizontal, but rarely recurved upwards, is a feature seldom found outside the British Isles.

A parallel evolution took place in Northern Europe, where Central European A 2 axes were both imported and imitated. As in Britain and Central Europe, there is often an angular thickening in the centre of the axe, or an incipient stopridge. In the North the 'Saxon' profile was often retained, but straight-sided forms were also adopted. Typically British or Irish cast-flanged axes are extremely rare in Northern Europe. None are known from South Scandinavia; the closest approach to an Anglo-Irish cast-flanged axe there is the much discussed example from the Virring hoard in Jutland (fig. 31: Forssander, 1936, Taf. XL, D/II, 11-12). But, as Megaw and Hardy pointed out (1938, 285, 291), the profile of this axe forbids its being considered as an export from these islands. Its cabled sides can only be considered as an imitated feature, already known in the North from imported Irish axes of Type I.

A second and smaller axe in the Virring hoard belongs to a type common in North Germany (e.g. Bischheim, near the Pointe Westphal; Spruchhoff, 1944, Abb. 60a-2; the Wildeshausen hoard in Oldenburg, Jacob-Friesen, 1934, 27f.; fig. 2a; the hoard from Oldendorf, Kr. Halle, Hoffmann, 1939, 71, Abb. 15-19). As the Wildeshausen and Oldendorf hoards show, such axes were in use during the Woldde phase. An example of this type appears in Britain in the hoard from Plymstock, Devon (Foraminifera 19:6, G.B. 5, 1931), this axe is slightly shorter and broader than the Continental example cited, but clearly of the same type. Apart from the Plymstock example and a stray find near Amesbury, Wilts. (Blackmore Mus., Salisbury; Index of Bronzes), the type appears to be unknown in the British Isles, and the two South English finds point to connections with North Germany during late Wessex-Stygil times.
Flattened and flanged axes

While cast-flanged axes with ‘incipient’ stopridge occur commonly in Early Bronze Age hoards, the development to a pronounced projecting stopridge seems to appear only on the threshold of the Middle Bronze Age. The general tendency of development of the stopridge axe is toward higher and thinner flanges and a narrower shaft with straight, more or less parallel sides. A vertical rib sometimes appears on the face below the stopridge.

Sprockhoff has called attention to one distinctive form of stopridge axe which is widely distributed across Northwestern Europe, from Britain and Northwest France to the Netherlands and North Germany (fig. 10: 2). Although some of these stopridge axes are ornamented in a style derived from that of the Irish axes, their form is rare in Ireland, which has its own distinctive forms of stopridge axes (Maguire and Hardy, 1958, fig. 9; cf. their ‘Type IV’). The exact distribution of the ‘Northwest European’ type has not been mapped, nor is its exact centre of origin known. Its occurrence in the hoards from Babbin, Kr. Pritz (Sprockhoff 1944, 406 f.), Bannez, Kr. Stade (fig. 11: 2, 3), Veenhout, S. Holland (fig. 11c: Sprockhoff Taf. 26: 16), Römming, Amt. Stargard (Pl. VI: Sprockhoff Taf. 27: 28) Hovred, Kr. Uime, Sprockhoff, Taf. 28: 6, 73, and Odenthal, Kr. Halbe, Westf. (Sprockhoff, Taf. 36: 2, 4) shows that the type is contemporary with the early ‘shield-decorated’ palstaves of the early Middle Bronze Age (see Chap. III).

British examples have not been systematically collected. One occurs in the Welsh hoard from Bettws-y-coed, Denbigh (see p. 61) (Grimes, 1951, No. 527).

Stopridge axes resembling one of the Irish forms have been found occasionally in the Low Countries (Bergen, Dutch Limburg, Felix, No. 41, 406: 155; Hamme, Prov. Namur, Belgium, Marius, 1956, fig. 68: 1).

**LIST OF IRISH FLAT AND FLANGED AXES IN NORTHERN EUROPE**

(cf. Map II)

This list (cf. Map I) comprises only axes which are so like specimens in the British Isles that they may be presumed to be of actual Irish workmanship, although variations in form and context of certain character have been noted.

1. Unidentified flat axes of ‘halberd shaft’ type (1936).

   1. Netherlands. Wageningsen, Gelderland. Hoard: with halberd, daggers, simple bracelets, indeterminate objects, metal fragments, etc. (fig. 1: Sprockhoff, Taf. 11: 214. Pariso, Onder. Anzeige Oudhoden, Gelderlard 1936: 10, Pl. XI: 2-9; Boeke, 1939, 126 ff.; fig. 1; De Lier and Grootbergen, 1934, Pl. viii (photo)). Amsterdam: NL 1.
Flat and Flanged Axes


IV. Undecorated Flattened Axes - type of Killaha, PPS 1946, Taf XII 4.


V. Decorated Flat and Flanged Axes (Megaow and Hardy Type I). 

1. Denmark.


4. Sculptoris, Bootop 1, Lov H., Holbaek Museum. Length 23 cm. R. 76 NM Copenhagen. DB II, PI 3 7 142; DO II, No. 75.


16. Fortsch, 1905, 77; Otto and Wetter, 1938, 174 ff., Fig 1-IV; Otto and Wetter, 1946, 245-246, Fig 4-5; Otto; Mus. Hannover. 1934, 36, Abb 69, 70; Fortsch, 1905, 77; Otto and Wetter, 1946, 245-246, Fig 4-5; Otto; Mus. Hannover. 1934, 36.

17. Netherlands.


Belgium


Netherlands


The relations between British-Northwest French palstaves and those of Northern Europe have been studied from the continental side, notably by Forssander (1936, 216 ff.) and Sprockhoff (1941, 43 ff., 68 ff.). These two authors demonstrated that Western European influence contributed greatly to the development of the North German and South Scandinavian forms of 'work palstave' (the elegant Northern 'coupin palstave' being something quite different). Sprockhoff in particular published and illustrated most of the relevant material from North Germany, providing at one stroke the most useful basis for the understanding of the relationships between the British Isles and Northern Europe in the Middle Bronze Age.

The British side of the palstave story has been comparatively neglected. Indeed, the most useful systematic study of British palstave types since the chapter on palstaves in Evans (1881, 70 ff.) is Breuil's analysis of the palstave finds in the Somme basin (1905, 151 ff.), where a palstave industry flourished with intimate links with that of South England. And lately, M.A. Smith (1959) has defined the main characteristics of early, transitional and late palstave types in southern Britain, and identified some regional types. This process of regional subdivision can certainly be carried farther; and possibly the chronological subdivision too. One needs, in fact, a comprehensive and detailed study of British palstaves as an essential background to the interpretation of the Continental evidence for trade; and such a study does not yet exist. The classification here employed was improvised solely to facilitate comparison between the North European and British-Northwest French material, and does not pretend to be comprehensive as far as the British material is concerned. It was devised independently of the classification proposed by Miss Smith (now Mrs. Brown); where possible we shall indicate points of contact between the two classifications. It may be helpful to the reader if we state at the beginning that certain of Miss Smith's types have little or no part to play in the North European trade; in particular, her 'haft-flanged axe' series, characteristic of Ireland and North Britain, is represented only by the one example in the Low Countries, and this a very early example (Rijswijk, North Brabant; RMOL T.R. 1; Pl. VII: 3 and fig.9). Her 'Southbournes' palstave group is represented in the
Palstaves

North European area only by specimens in the Voorhout hoard (almost all the pal­

taves in this hoard were probably 'high-flanged' in Miss Smith's sense, but corro­
nation has in most cases reduced them to stumps) and one or two strays in Germany
(e.g. Unglingen). The North European finds of Middle Bronze Age British-
Northwest French palstaves are practically all 'low-flanged' (i.e., related to those of
southeastern Britain and Northwestern France) or 'transitional', with only a few
examples belonging to her 'late' type.

For detailed analysis, we shall employ a classification which takes into account a
primary difference in the form of the blade, and secondarily the type of ornament,
if any, appearing on the face of the blade.

Fig. 9. Haft-flanged axe, Rijswijk, North Brabant. I: RMO Leiden.

It is necessary, first of all, to make a basic distinction between two main classes
of British and French palstaves: broad-bladed (Class I) and narrow-bladed (class II).

Broad-bladed palstaves have a blade which widens out gradually from the stop­
ridge to a crescentic cutting-edge which is usually more or less of the order of 2.5
times the width of the tool at the stopridge. The narrow-bladed class is more chisel­
like in shape, with straight or gently curving, nearly parallel sides; the cutting edge
width is often no wider than the width at the level of the stopridge, and is usually
no more than 1.5 times the width at stopridge level. Despite the existence of tran­
sitional specimens, and of specimens of the narrow-bladed type the blade-tips of
which have been expanded by secondary hammering, it is generally obvious at a
glance whether a palstave belongs to one family or the other. It seems sufficiently
obvious that the broad-bladed palstave was invented first, being derived directly

3 (Palstaves related to the 'Southwestern' family occur in Brittany, e.g. in the Treboul
from high-flanged stopridge axes (some with long flanges, some with flanges short­
ened almost or entirely to ‘half-flange’ length), and that the narrow-bladed pal­
stave (which had its main development in the French Middle Bronze Age, early
examples being rare in Britain) was derived from it. The two classes then had a
mainly parallel development, until, in the Late Bronze Age, the broad-bladed class
disappeared, and the narrow-bladed class, by then evolved into M.A. Smith’s ‘late
type’, prevailed in both the southern British and northern French areas.

These two main classes can be divided into numerous subclasses on the basis
of variations in form and ornament.

One formal difference appears, however, more important than others: namely
whether the flanges flank both the upper and lower (blade) parts of the palstave,
or stop short just or less at the level of the stopridge. The more or less flat-faceted
sub-dass we call A, the side-flanged sub-dass B. Further sub-divisions are made
on the basis of the type of plastic ornament found on the face; these sub-divisions
are not meant to be exhaustive, but merely to list the main varieties of palstaves
traded to Northern Europe.

The Types
Class I. Broad-bladed palstaves.
Class IA. The face of the blade of the palstave is flat, or slightly concave or convex.
Its cross-section approximates to an oblong rectangle.
The bases of the side-flanges are joined by a U-shaped rib below the stop-ridge. The ultimate prototype of this form of palstave must be the cast-flanged axe of Megaw and Hardy’s Type IV (1938, fig. 35) which has an angular junction of the base of the side-flanges with the edge of the blade, and often a large U-shaped rib on the face. From these are developed:

a. **The Penge Wood type** (Ant. J. 1929, 223-5; fig. 21). The type is common in Ireland, and was traded to Britain and France. The wings have become shorter, the “shield” accordingly smaller, the whole axe rather narrower. It is often difficult to decide whether such axes are to be called palstaves or flanged axes, the blade below the stop-ridge is often no thicker or only very slightly thicker than the septum above it. A further development of the type, now unmistakably a palstave, is represented by Breuil, 1905, No. 14, a type again common in Ireland and occurring also in South Britain (e.g. Swiny, 1958, fig. 2:2) and Northwest France. The angular junction between flanges and blade is still prominent (cf. Lanesborough, 403 fig. 97).

b. **The North Welsh** type, illustrated by Acton Park, Denbigh (Grimes, 1951, fig. 65:1-3); Swiny, 1958, fig. 21:1; Griffiths, 1956, fig. 25:1). This is evidently a development from the later examples of Type IA in. The angular junction between flanges and blade has disappeared, but a reminiscence of it is preserved as an ornament (fig. 11b, h). The “shield” is still moderately large. In side view the flanges often present their inherited leaf shape, or sometimes become lozenge-shaped. More than half the examples known to the writer occur in Wales (mainly in North Wales), but a few are known from Ireland, Southwestern England and East Anglia, and in the Pembrokeshire hoard in the Netherlands. Five examples occur in the Acton Park hoard, one in the Gloddaeth hoard. The North Welsh variety is distinguishable from varieties (c)-(d)-(e) by its larger size (usually 1.7-1.9 cm in length) and the rather clumsy and variable proportions. Most of the shield palstaves mapped by Swiny (1958, fig. 10, Map 4) must be of our “North Welsh” variety. M. A. Smith (1959, 11) treats the Acton Park type of palstaves as outliers of her “high-flanged” Southwestern group. We consider it certain, however, that the North Welsh palstaves represent a group on the whole earlier than, and in part ancestral to, the Southwestern palstaves of the Somerset hoards, which generally possess later and specialized features.

c. **The “Sheep Kopit-North-West French” type**. These are smaller, narrower, and of more graceful proportions than the North Welsh type, and have a smaller “shield”. On typologically early examples the flanges are leaf-shaped; the sides often

---

1. The only Irish “association” of a palstave of this type, at Charleville, Co. Offaly, is late 1909, a hoard with a “narrow flanged” socketed axe and a socketed idalch (N.I. Dublin, 1944, 266-9). An example from Hambledon Hill, Dorset of Thamer, Kent, is said to have been found with a flat axe (B.M. 14414-27526; Index of Bronzes).
Pals taves

have a knob, bar, or more elaborate raised ornament reminiscent of the angular junction between flanges and blade which characterized Type IAla. At times this ornamental feature becomes an ornamental arch-shaped figure (cf. ABI figs. 58, 81, 69) (fig. 13: 4). This feature seems to be more common in Northwest France and Northwest Germany than in Britain (though it is not unknown there); a similar side-arch is a feature of the Y-ornamented Northwest German palstaves as in the Stade and Hannover hoards of Early Montelius II (cf. Valsømagle in Denmark), and is found also on Northern decorated axes (cf. Broholm, DB II, Pl. 9: 6, Pl. 10: 3) and palstaves of Broholm III.

Typical early examples of Type IAc are those in the hoard from Butley, Hants. (Ady, J. VII, 79, Pl. XXXIII); Breslau, 1907, Nos. 18, 19, 20; ABI fig. 59; and those in the Northwest German hoards from Hannover, Stade, Hannover and Pyritz, dated to Early Montelius II (Example: fig. 10: 4, 5). One example in the Voorhout hoard belongs to this subtype. The fragment in the Hall (Westphalia) hoard is probably also of this type.

Degeneration of this form produces innumerable variants; some of the degenerations are represented in the hoards already mentioned, e.g. at Pyritz. The flanges tend to become triangular in outline instead of leaf-shaped; one or more vertical ribs may appear inside the shield; the shield may lose its encircling rib and become a mere depression on the face of the blade, sometimes even losing its shield-shape and becoming triangular. Loops are a late feature, not appearing in the Early Montelius II finds.

In the British Isles a number of other regional variants of IAc exist, besides those already described. There is (IAd) an East Anglian variety, which tends to be very short (often ca. 13 cm in length), and which often has its blade tips curved upwards, a feature rarely found on the other varieties; some have a long rib through the shield as in Type 1Ad (ABI figs. 85, 86; isolated example in LB 2 founders hoard, Rayns, Essex, Colchester Mus.). An Irish variant (1Au) is short like the East Anglian variety, but distinctly thicker, with exaggerated wings (cf. Asterton Poley Moor, Shropshire, Shrewsbury Mus., Index of Bronzes, with small flat axe of the type sometimes found in Wessex Culture graves). Neither the East Anglian nor Irish variants occur in the North European finds.

In the North German Early Montelius II hoards, and comparable hoards elsewhere like Heilbronn, we find shield palstaves with a rib inside the shield, but never continuing outside it. We have accordingly distinguished the variety with shield and long rib extending through it as a separate subtype, IAlf. The subtype with several ribs inside the shield is also absent from the Early Montelius II hoards; it is really transitional to our Type IAz. We have not given it a separate classification, but have appropriately noted the examples with multiple ribs in the shield in the list of finds of IAc, and have not included them on Map V.

Palaeohistoria Vol. IX: Butler.
f. The shield-and-rib type. This type has a shield with a long medial rib below or through it (Pl. VIb: 3). The flanges tend to be triangular, but slightly convex in outline; there may be slight flanges flanking the blade, with a slightly concave face. It may occasionally have side-loops. The lower part of the blade may have a convex outline. Examples: Bovill, 1905, No. 27-9; Alff fig. 66, 75; occurs in Northeast French hoards such as Mont St. Aignan and Broyes; in Britain in hoards of the Taunton-Barton Bendish phase, and, notably, in British LB II founders' hoards (e.g., Strawbery Bower, B.M. 42/13-13, 2; P.A. XV [134]), with winged axes, etc.). Savory (1958, 22 ff., fig. 6, Maps 4, 5) includes examples of this type under the term 'trident pattern'.
The type does not occur in datable finds in Northern Europe, but is represented by occasional stray finds scattered from Belgium to Jutland (see List, p. 71).

IA2. Trident-decorated. The trident may have originated as a variant of the shield-and-rib type (our IA1f) or alternatively out of the Y ornamentation known both in Northeast Germany and in the West (e.g. in the Stibbard hoard). A Western palstave with Y ornament has been found in Scania (Lund Mus., 1288); Fossmann, followed by Sprückhoff, regarded the Western Y palstaves as prototypes for the Northwest German Y-decorated type, though it would be difficult to point to any closed find in the West which would establish the Western priority of the type. The trident, however, is on distribution clearly a Western feature. It is one of the types listed and mapped for France by Savory (1950, fig. 5; list p. 169); this does not, however, distinguish between the broad- and narrow-bladed types. Trident palstaves occur in great concentrations in Normandy and the Paris basin. British examples: ADL fig. 76; Bognor Regis hoard (SCAL XVI, 7). The type is rare in Ireland, but one (looped) occurs in the Annanborough hoard. An example imported from the west occurs in the Ostenfeld hoard in West Holstein (fig. 16: 7) and is accordingly dated to Kersten’s IA. The trident ornament is imitated on Northern palstaves, e.g. in the Ostenfeld and Frenderup hoards. A variant (IA3) has only the upper part of the trident, having lost the lower rib (cf. a looped example from the Crediton, Devon hoard, M.A. Smith, 1959, fig. 7: 41; two western examples have been found in Scania (see List).

IA3. Decorated with groups of short ribs (fig. 48: 2, 4). This type has (a) a group of three to seven short ribs, or grooves leaving ribs between them, below the stopridge; they may be parallel, converging or diverging; and/or (b) a group of parallel ribs on the septum above the stopridge. Examples: Brueil, 1905, No. 56; Mont St. Aignan and Bernay hoards; in Northern Europe, Frøjk and Arden Mose hoards in Denmark. The ribbed decoration is sometimes imitated on purely Northern palstaves of the same developed Montelius II, as in Ostenfeld (Høgst, 1971, 408a: 4: 1-3).

Ribbed palstaves in Britain were discussed by Clark (1932, 52 ff.) who on the basis of the Steatite and related hoards assigned the entire class of South English ribbed palstaves to the period of the seven-trapezoid complex, c. LB III. The Fossmann and Ostenfeld hoards show, however, that this form of decoration was already in use in Montelius II in palstaves imported from the West. Clark’s list of ribbed palstaves can be subdivided: the broad-bladed variety represented in the Northern hoards and at Mont St. Aignan beginning in the Middle Bronze Age representing the stage represented by the Burton Bradstock hoard. The Bretton (ADL fig. 5) and Steatite form is a distinctive variety of narrow-bladed palstaves, comparatively short and thin and often with a wedge-shaped septum, belonging to the Northumbrian-Welshmor and earps-tongue groups, and does not belong to our Type IA; it is simply the decorated variant of M.A. Smith’s late type.
Palstaves

Fig. 13. Some Western palstaves from Pomerania. 1 Kr. Rogow, 2 Kr. Pyritz, 3 Wustrow, Kr. Brennethagen; 4 Ilmenhorst, Kr. Grimmern; 5 Krusow, Kr. Pyritz. 1-4 After Kersten.

A variant (A3a) has short parallel ribs below the stopridge together with a single long midrib. An example occurs in the hoard from Epe in Gelderland (fig. 77) and a virtually identical specimen in the Blackrock hoard in Sussex (cf. below, p. 69).

1A4. Plain palstaves, otherwise similar to A 2 and A 3, but without facial ornament.

Unlooped examples of a type common in Britain and Northwest France occur in hoards in the Netherlands and North Germany (Voorhout, Rüllow) of early Montelius II, and in stray finds, one in in the Ostenfeld hoard of later Montelius II. The Britannico-Sequanian type merges by imperceptible degrees into Sprockhoff’s ‘Northwest German plain palstaves’ group (1941, 44, map Abb. 373), which may be regarded as Northwest German imitations of the Western form; this deriv-
The Dutch-Northwest German plain palstaves are in general less angular in construction than British-Northwest French palstaves, the cross-section of the upper part, for example, loses its angular H form and becomes a double U (Butler, 1963).

Class III: Palstaves with side-filleted blade. The prototype of this form is the 'Northwest European' stopridge axe (Morgan and Hardy, 1958, fig. 172, PI. LIV f; Sprockhoff, 1941, Taf. 106, 2, 4 (fig. 114) becoming a palstave (IV b) with a slight increase in the thickness of the blade below the stopridge. The cross-section of the blade is distinctly concave or U-shaped. There is often a medial rib on the blade (IV b). In later (IV d) examples the upper part of the axe tends to become narrower and the stopridge more massive; the medial rib may be absent (IV e) or present (IV f). Sprockhoff's (1941) discussion illustrates the evolution entirely with examples found in North Germany, but it is unlikely that the evolution occurred in that region, the type being much more common in the West.

Examples:

HL: ABU fig. 37; Sprockhoff, 1941, 488; 29; 4, Taf. 44; 8.
HL1: R.M. DAG, fig. 36; Sprockhoff, 1941, 488, 26, 24.
HL2: B.M. BAG, fig. 50; Sprockhoff, 1941, 488, 26, 24.
HL3: Breuil, 1905, No. 14; Portsmouth, Brit. Arch. LXXII, 126, fig. 4 (looped).
HL4: Breuil, 1905, No. 13; Portsmouth, Brit. Arch. LXXII, 126, fig. 4 (looped).
HL5: Breuil, 1905, No. 12; Portsmouth, Brit. Arch. LXXII, 126, fig. 4 (looped).
HL6: Breuil, 1905, No. 11; Portsmouth, Brit. Arch. LXXII, 126, fig. 4 (looped).
HL7: S. Leopold, ABU fig. 237; m. Denmark, Public Record, late Period II (fig. 49: 22).

Class II: Narrow-bladed palstaves. The long, almost parallel-sided blade is characteristic. The flanges are generally triangular in outline; the stopridge may be straight or rounded.

Class II A. With rectangular blade cross-section (tending at times to be slightly hexagonal).

II A1. Shield-decorated. These are rare; but an example occurs in the Pressel hoard (Breuil, 1905, No. 22); cf. ABU fig. 67 (Barwell Fen); Bedburg in the Rhineland (cust. in Bonn, Museum, 57-129).

II A1a. Projectile-decorated. Not discussed above, under Type IA 1. British example: Bisney, Somerset (SAC LXXII, PI. III: 47); Grange Fen, Cambs., hoard with gold Tara-type torcs (CAS XII, PI. III). In Denmark: Aardum Mose hoard (late M II) (fig. 16: 5); fragment in early Tumulus hoard at Moikirch near Berne, Switzerland (fig. 16: 8). The ornament copied on Northern type of palstave: Ostenfeld and Frenderup hoards (late M II).

II A1b. With short rib below the stopridge (Breuil, 1905, No. 33). See discussion above under Type IA 1. The decoration is imitated on Northern narrow-bladed palstaves in the Ostenfeld and Frenderup hoards (late M II).
Fig. 14. Palstave from Uenglingen, Kr. Stendal, Altmark. 1. After Stephan.

Fig. 15. Palstave hoard, Hana near Gateborg, Sweden. 1. Mus. Gateborg.
Palstaves

Class II A. Plain. As in the Bessand hoard in Northwest France; British example: ABL fig. 74; Sprockhoff, 1941, Abb. 38, 8, 11. In Northern Europe: Osterfeld hoard (looped) (fig. 16: 3). Parnkole hoard (looped) (pl. 13a).

Class II B. With side-flanged blade, with or without medial rib. This ‘Atlantic’ form is, as Broholm suggests, to be regarded as the prototype for the most common variety of Northern work palstaves in Period II; the Northern variety being embellished with a more elaborate medial rib and usually with prominent side-arches (cf. Frenderup hoard). Possible Western exports are cited in the List below.

The Finds

Having established a working typology, we may now consider the context in which these palstave types occur in Northern Europe.

A considerable number occur in hoards. These fall into several distinct chronological phases.

The earliest phase is defined by a series of hoards extending from the coast of South Holland to the Pyrmont district east of the Oder, and southward as far as Habsheim in Alsace, which have been conveniently assembled and discussed by Sprockhoff (1941, 45 ff.). ‘Hamburger horizon’ (from the hoard in Kr. Stade) would be a convenient term for this hoard group, details of which are given below, p. 72-3, nos. 1-10.

Broad-bladed, shield-decorated palstaves of our Class IAlb-c occur in no less than nine of these hoards. Not one of the palstaves in these hoards is looped. Stray finds of this type also occur in North Germany, and occasionally in Denmark and South Sweden (Map V).

Linnser (1937, 791 ff.) classified these shield palstaves as a North German variety. Jansen (1935) endeavoured to demonstrate their evolution as ‘Ort und Stelle’ in North Germany, and M. A. Smith (1959, 165), impressed by their frequent association with flanged axes, is also inclined in this direction. Fuhrer, Sprickhoff, and Geiermann (1957a, 1957b, 50-1) accept their Western origin. We believe that the last-named writers are correct, for possible prototypes for such palstaves are quite unknown in North Germany. As mentioned above, an Irish origin is probable for the shield-palstave family; it is only in Ireland that the earliest forms are well represented. The development is continued in Britain and Northwest France.

On the other hand, none of the North German hoards furnish clear evidence that the shield palstaves in them were actually cast locally. The Stade hoard (v. p. 72) contains one shield palstave and a number of palstaves of Northwest German type; all are unfinished castings in exactly the same state, together with cakes of ingot metal, and there is no reason to doubt that both types of palstave were cast by the
same hand on the spot. The Ilsmoor hoard (fig. 10) is a merchants' hoard of objects ready for sale, and includes both shield palstaves, Northwest German palstaves, and a Northern massive shaft-hole axe. The Pyrmn hoard (fig. 11) is composed entirely of imported Western palstave types, but the palstaves are individual castings which must also be presumed to have been made locally. The explanation suggested by Spröckhoff, which is undoubtedly the correct one, is that these hoards represent the activity of itinerant smiths in North Germany. (The Halberstadt hoard in Aachen has the same character, being composed partly of shield palstaves and partly of the Rhone type of flanged axe). The Voorhout hoard in South Holland (fig. 11) consists mainly of shield and other 'Western' palstave types; its special significance we shall discuss in greater detail below.

Other Western types of palstaves represented in the Ilsmoor hoard include side-flanged palstaves of our Type IB (Ilsmoor, Rulow) and plain palstaves of Type IA (Rulow, Voorhout). High-flanged stopridge axes also occur commonly in the Ilsmoor horizon, appearing in the Voorhout, Stade, Ilsmoor, Neukloster, Balthin, Hessebe and Rübel hoards. The Neuhaldensleben hoard (PI. XXV) has a palstave of a type not otherwise represented in the hoard group, essentially antverted but with the blade tips splayed out widely, and a massive projecting stopridge (Spröckhoff, 1943, Taf. 69: 2).

The 'Northwest German' type of palstave found in two of the same hoards – Ilsmoor and Stade – is large, thinnish and moderately broad-bladed, with a slightly concave face having a large Y ornament; the sides have a prominent plastic arch-shaped ornament, a feature which also appears on some shield palstaves in the same hoard, and sometimes also on shield palstaves in France and Britain. It seems likely that this arch ornament, which in Broholm III became popular in South Scandinavia, and was used on other types of palstaves including the 'elegant weapon palstave' and on socketed axes (Spröckhoff, 1941, Taf. 28: 2).

This 'Northwest German' palstave is the earliest datable palstave type which is distinctly a product of the broadly North European region, and is chronologically important. Ferner (1929, 120-121) pointed out that it occurred in distinctly earlier finds (see below) and is derived from the standard Nordic-Montelius II palstaves, which are obviously derived from it. (Spröckhoff, 1939, 79 ff.) and Hahnenkamph (1937) have developed this argument and illustrated further examples (note particularly the grave find from Baedeker, Stadhaus (Brauns, 1930, Taf. 13: 14). The form, being a comparatively rare one and evidently short-lived, helps to define the chronology of Broholm I (Montelius Ia), the Ilsmoor hoard, Hahnenkamph's Late Wielbark Horizon IV, with the first stage of Western European palstave manufacture. The remarkable fact of a 'Northwest German' palstave is a stray example from Eemnessen complexus, Cog. Elm (Coombe, 1961, Pl. VII: 1).

Most of the shield-palstaves of the Ilsmoor horizon closely resemble in size and form our South English-Northwest French variant (Type IA1C). Some are cut-
tainly actual imports from this area, and others evidently copies made on German soil by migrant smiths. A special case is represented by the Voorhout hoard (fig. 11) found near the coast of South Holland. It included shield palstaves; plain palstaves; a narrow stopridge axe; a parallel-sided flanged axe with high, rather thin flanges and without a stopridge; and one flanged axe of very unusual form, long and very narrow, parallel-sided in its upper half, and with its lower half rather widely splayed and unflanged. There is also a lugged chisel or ‘transverse chisel’ (see Chap. VIII). The hoard is apparently a foundry-merchant’s hoard, and the lugged chisel probably one of the smith’s own tools. The Voorhout hoard is a very badly corroded and it is difficult to be certain whether their battered edges are the result of use or of their poor state of preservation.

Most of the shield palstaves in the Voorhout hoard agree very closely with those of the ‘North Welsh’ variant (IAh) in size and form, and compare very well with those in the hoard from Acton Park, Rhosnesney, Denbighshire (Grimes, 1951, fig. 6)1 which is a hoard of unfinished castings.

The connections between Voorhout and Acton Park are further strengthened by the peculiar narrow flanged axe in the Voorhout hoard already referred to; three examples of a flanged axe with many similar features, and containing the only approximate parallels which seem to be known to the Voorhout specimen, were found in the Acton Park hoard. Lugged chisels like the Voorhout example are also known in North Wales (see below, Chap. VIII). On the whole it seems as if the Voorhout hoard can be attributed to a travelling smith from North Wales.

Another Welsh connection with Northern Europe may be noted in a rare form of transitional flanged axe-palstaves from Bremke, Kr. Göttingen (Sprockhoff 1941, Abb. 61: 5) which may be compared with a number of examples from the hoard at Betws-y-Coed, Denbighshire (Grimes, 1951, No. 94; Davies, 1937, 335), which also contains a high-flanged stopridge axe.

The hoards of the I1smoor horizon were assigned by Sprockhoff to the earliest phase within Montelius II in North Germany. Hachmann (1957a, 130–1, 1957b, 52–6) places them in his Horizont IV, contemporary with Broholm I and with Tumulus B2, which seems sound. The massive shafthole axe in the I1smoor hoard, and the Northwest German palstaves from the Danish hoard at Valensgaarde, establish a synchronism with Broholm I in Denmark. Tumulus imports in the I1smoor-phase hoards are predominantly of Earlier Tumulus character. The small personal hoard from Hausberg, Kr. Minden (Pl. VII) at the Womer crossroad between East-West and North-South routes, with its richly decorated shield palstaves, and its dagger and flanged axe of Tumulus form, is chronologically important. The Bolder hoard

1 Note that the trident palstaves, illustrated by Sprockhoff (1941, Abb. 39: 3) with the Rhosnesney hoard does not actually belong to the hoard; cf. references cited in list below.
Palstaves (PI. VI a) contain a number of flanged and stopridge axes and early Tumulus ornaments. Finally, the small recently published hoard from Halle in Westphalia (Lange, 1959, 268-70, Abb. 1) contains, along with a fragment of a shield palstave, a fragmentary narrow high-flanged axe of Tumulus Bronze Age model and a broken decorated spearhead related to the type found in the Cascina Ranza hoard.

It seems beyond all reasonable doubt, from any detailed comparison of their contents, that the hoards of the Ilsmoor horizon are, as a group, earlier than the characteristic finds of Broholm I-Montelius IIb, and likewise earlier than the equivalent phase of the Ilmenau Culture or 'Itterbecker Bronzezeit'. They should, therefore, be contemporary with the whole of the Late Bronze Age (the Wielbark phase) of the Sigøj group, and with Broholm I, Montelius IIa, in Denmark, as Hachmann has argued. It follows from this that the minimum date at which they provide for the origin of the 'shield' palstaves of our type IAIb-c is not some vague point within Montelius II (as M.A. Smith, 1959) but rather its very beginning - for there is actually nothing that could be called 'Montelius II' in any sense which is earlier than this Ilsmoor phase. It follows that the 'shield' palstave has a history somewhere in Western Europe which goes back from that point. So much must, we believe, be accepted as fact. Since the place of origin of the 'shield' palstave cannot be southern England (M.A. Smith), and it is equally certain that it cannot be anywhere in the North European area, we are left with Ireland, Wales, and Northern France as possible homes. A Welsh exportation is indeed demonstrable, in the Voorhout-Acton Park connection. The greater number by far of the Western palstaves found in the Ilsmoor horizon consist however, of southern English or northwestern French imports, or of local copies of such imports. Those areas flanking the English Channel must therefore have been manufacturing palstaves of the type represented, for example, in the Butley, Hants. hoard, or even before the time represented by Broholm I.

A second phase of Britonsico-sequences palate exports to Northern Europe is defined by palstaves of Western type appearing in hoards assigned to Broholm II in Denmark and Kerneis's II A and II B in Schleswig-Holstein. The dated examples are much fewer than in the preceding phase, but they are sufficient to provide a sampling of the sort of palstaves then being exported from Atlantic Europe.

In Denmark and Schleswig-Holstein there are two complex hoards of Later Montelius II containing imported Western palstaves, and two small hoards, each consisting of two palstaves only, which are assigned to the same period.

One is the find from Frøjk near Holstebro in Northwest Jutland (Broholm, DB I, M. 80 and 81). Although published as two separate hoards, the find, as investigation by the National Museum showed, was certainly a single deposit, parts of which happened to be turned up by the plough at different times. It is regarded as a votive deposit, but the types are all chronologically consistent and belong to Bro-
Palsaves

II. The second is a good-sized founder’s merchant’s hoard from Ostenfeld, Kr. Rendsburg, representative pieces from which have been illustrated by Kersten (1936, Taf. VI-VII) and Hingst (1956).

The third hoard, consisting only of two western palstaves, was found at Aadum Mose near Ringeborg (fig. 16: 4, 5) and is unpublished; the fourth from Pamhulme near Haderslev in Eastern Jutland (Pl. IXa), contains one Western and one Northern palstave. These four hoards contain altogether eight palstaves of Western origin, together with palstaves which represent Northern imitations of Western forms, and others of Northern form which imitate Western decorative features.

The Western types represented are:

1. Broad-bladed
   - IAz (trident ornament): Ostenfeld (fig. 16: 7; Hingst, 1936, Abb. 3: 4). This palstave has incipient side-flanges flanking the trident, but these die out without extending far down the blade.
   - IA3 (ribbed ornament below stopridge and/or on septum): Frøjk, Aadum Mose.
     The Frøjk hoard has two examples, (1) with four slightly diverging grooves, leaving ribs between, below a rounded stopridge (fig. 16: 1); cf. Pontville (Breuil, 1935, fig. 36) and Mont St. Aignan; (2) with three short slightly converging ribs below an irregular depression representing probably a debased ‘shield’. The reverse side is differently decorated, with a midrib flanked by two slight depressions. There are five short ribs on the septum (fig. 16: 2).
   - IBa (side flanges and midrib), looped: Frøjk (fig. 16: 3).

2. Narrow-bladed
   - IIA (trident ornament): Aadum Mose (fig. 16: 5).
   - IIAz (plain): (1) Ostenfeld, has a mis-cast sideloop (fig. 16: 6); (2) Pamhulme, also with badly cast sideloop. The blade has been drastically shortened by grinding down (Pl. IXa).

These finds, together with stray finds of similar palstaves in Northern Europe, are plotted on Map VI (cf. List below).

The typological differences between these eight Western palstaves of the Period II hoards and those of the earlier phase are striking. Loop ed palstaves are found in the later phase, but not in the earlier. Narrow-bladed palstaves are likewise absent in the earlier phase, but occur alongside broad-bladed types in the later. Decoration with groups of short ribs also appears only in the later phase. Typical
Fig. 16. 1-5 palstaves from Northern Period (Bohletrum) II hoards in Denmark and Schleswig-Holstein. 1-3 Frøjk (NW Jutland); 4-5 Aadum Mose (NW Jutland); 6-7 Ostenfeld, Kr. Haderslev (Saltholm); 8 Meikirch, Kt. Bern, Switzerland (see p. 57).
The shield-decorated palstaves of our Type IA -c, which were so characteristic in the earlier phase, are not represented in the four hoards of the later phase, although they probably went on being made and used (cf. Mont St. Aignan, Neuhaldensleben) alongside more evolved types.

These Northern imports must be derived from the Britannic-Elburzian palstave industry best represented in Northwest French hoards like Mont St. Aignan 1 and Baux-Sainte-Croix (Eure) 2 (Savory’s ‘Atlantic’ Middle Bronze Age industry) and in Britain by hoards such as Bognor, Sussex (SAC LXVI, 230), Billingshurst, Kent, and Burnham, Beds. (deley, J. XIII, 55). These hoards contain both palstaves comparable to those of the Northern Later Montelius II hoards and also, often, shield palstaves like those of the previous stage. The Northern finds establish beyond doubt that, whatever difficulties may exist in determining the lower limits of the ‘Atlantic’ palstave industry, this Western palstave industry was flourishing at a time when developed Montelius II types were in use in Western Jutland.

Our second-phase palstave map shows a significant difference in distribution compared with the earlier phase. There are finds in the Low Countries and a few in Germany, probably supporting the continued use of the Rhine-Westphalian route to Hanover and Central Germany; but there is no longer the deep penetration into East Germany. Instead there is a concentration along the west coast of the Jutland peninsula, with two finds in West Holstein (Ostenfeld, Albersdorf) and three in Northwestern Jutland, near the Ringkøbing Fjord (Ostenfeld, Albersdorf) and the Nissum Fjord (Frøjk). There are also a few finds in East Jutland and Scania.

Mention may also be made of five additional Western palstaves in the Aarhus Museum, three of Type II (135, 136), two of Type I (145, 147), one of the Type IA (in the National Museum of Copenhagen; fig. 62: right; Rosendal, DB IX, fig. 2), and two Type I palstaves (one with Y-sawback, one with G in the Local Museum; Danfoss and 1141, Himmelbjerget) treated by Forssander as presumably from Scania, without recorded provenance.

The West Jutland coastal group is the most important, and suggests coastal trading from the English Channel region. When finds of other more or less contemporary types are taken into account (especially the spearheads from Drenthe and West Holstein, Map VIII; the trapeze-hilted rapiers from the Elbe Mouth region, Map VIII; the Atlantic rapiers from Northwestern Jutland, p. 122 ff.) the impression of seaborne trade in the later Middle Bronze Age is reinforced.

The character of the finds has also changed. We no longer find merchants’

1 Deley, 1919-20, 7 ff. Contains palstaves of our types IA2, IA3, IA4, with one spear (one with two crescs and trapeze-shaped hilt, the other with metal hilt with 3-pc. hilt.
2 Carel, Neweski, 1919, V. 1-31. Palstaves of Types IA3, IA4, IA4A, spearheads with edged socket, plus with ribbed shaft of late Tumulus character.
Palstaves

hoards of purely Western or mixed Western and Northern-Northeast German types, but instead, in two cases, two or three Western palstaves in large hoards consisting overwhelmingly of products of the Northern bronze industry. The Western palstaves probably arrived individually as incidents in the course of trade, but not as the result of itinerant merchant's activities as in the earlier phases.

Both in the flourishing Northern bronze industry of Later Montelius II and in the West, the trade in metal products was conducted on a larger scale than formerly. The size of hoards provides a crude index of this; whereas in the earlier phase hoards rarely included as many as 20 objects, and were of a size which a peddler could carry on his back without difficulty along with his other possessions, finds containing 40 or 50 objects are now not uncommon (e.g. Ostenfeld, ca. 50 objects, of which 33 are palstaves; Potsdam, 34 palstaves; Gladbach, 'about 50' axes; Southamptons, 64 palstaves; Bagner, Thames, ca. 50 palstaves). Neither in Denmark nor in Northwest Germany is it to be supposed that in Later Montelius II there was a substantial market for imports of finished British or Northwest French bronzes. At the same time, the bronze-smiths were ready to provide imitations of imported forms, and it is evident that in the case of palstaves a large class of Northern narrow-bladed types, represented in hoards in Denmark and Schleswig-Holstein as Hohenfelde, Kr. Steinburg (Stein, 1932, 83), Frensherg, Osterholz, Kappel, Schwartau-Pointe, and Fuhlsbüttel, differ only in minor details from the Northwest French narrow-bladed type, and are essentially Northern copies of the Western form. In some cases Western ornamental features were copied on Northern palstaves. Representatives of this type are found in the Ostenfeld hoard, where six palstaves of Northern form have trident ornament (five of these also have groups of ribs on the septum), and another has a group of short ribs on the face below the stopridge (Kersten, 1936, Taf. VI; Hingst, 1956; cf. Kersten, 1958, Taf. 197, from Blanlow, Kr. Rügen).

An important technical parallel between the palstave industries of North and West is provided by the occasional use of bronze moulds in the two areas. Northern examples include a half-mould from near Assens, Fyn (DO IV, No. 434, for making Northern palstaves of the type DO III, No. 101); a similar half-mould found near Lüneburg (de Mortillet, 1908, 48, Fig. 3); and another from a Pomeranian hoard of Montelius II at Völken, Kr. Grömitz (Hindenburg, 1925, 114 ff., Taf. X; Kersten, 1958, Taf. 23), by the North and in the British Isles the bronze mould appears to be a rarity compared with the use of stone or clay for that purpose, the appearance of the bronze-mould technique in both provinces is not likely to be pure coinci-

---

1 Kersten (1958) groups all these derivatives of the 'Atlantic' narrow-bladed palstaves under his series II, 'North German type', stressing their Western derivation.
2 Cf. the Fresnesberg hoard, Beltonia, III, pl. 37.
British bronze palstaves have been listed by Hodges (1954, 80); their main distribution is in South England, with strays in Yorkshire and Wales. Hodges suggests that they are all Late Bronze Age. But the North European palstave moulds are not later than Broholm II, so that it is clear that the technique could have been available for Middle Bronze Age British smiths. M.A. Smith (1959, 168, 169 ff.) points out that the British bronze palstaves moulds are in fact for distinctively British MBA palstave types. The technique was, of course, continued in use in the Late Bronze Age, in Britain, bronze moulds occur for socketed axes and socketed gouges. The practical use of bronze moulds has been demonstrated by Droucher (1973) with a brilliant series of experiments, which dispose once and for all of the myth that bronze moulds could not be used for the direct casting of useful bronze objects.

After Montelius II, the exportation of palstaves from the West to Northern Europe appears to dwindle to relative insignificance, and only occasional finds can be cited from later periods. Indeed, in Montelius III there is not a single grave or hoard in Scandinavia or North Germany which contains a Western palstave.
Palstaves

Fig. 18. Hoard of 1900 from Bregtmoorveld, Drenthe. i: 1. Max. Axten.

Unless the small, narrow-bladed specimen (Type IIa) from a rich grave on Brandstrup Mølle in Vendsyssel (Dinuth, DB I, Grave 1972) is a Western export. This small palstave of 'Western' form (though not of the 'proto' type) is certainly from a Western source. It is of course

In the Netherlands, however, occurs one closed find, to which we have elsewhere called attention (Butler, 1959, pl. II, fig. 5, pl. IV, PI. XIV: a), the small hoard from Epe on Gelderland, which is of special interest. It is certainly a reliable
Palaeohistoria Val. IX: Butler. 69

association, both from the account which accompanied the hoard when it was re­ceived in the Rijksmuseum van Oudheden (letter of E. F. J. Weerts to RMOL, 8 February 1865) and from the identical patina of the three objects. The palstave is quite similar to specimens in the Blackrock hoard in Sussex (C. M. Piggott, 1949, 144-5, fig. 5, third from left) and the Barrows Bridle head in Norfolk (Seeveld G.B. II, 21). It may well have come from a workshop in southern or eastern England.

The palstave was broken in two before deposition, just like the contemporary one from Hollingbury Mill in Sussex (Curwen, 1954, 202, with further refs.). With the Epe palstave was a two-knobbed sickle—a type known on the one hand in the Somerset industry of the later Middle Bronze Age (M. A. Smith, 1959, 144 ff., fig. 11, with further refs.), and in the other in the Tumulus Bronze Age in southern Germany and neighbouring areas; it is Continental in form due to haft-finds extending from Hungary (Oszalok-Debrecen-Zaal: Moczolics, 1957, 124, Taf. II XII: 4) to Kreuznach on the Rhine (Dehn, 1941, I, 60-1, plb. 19, II, 31, 409) with pre-Urnfield types. The Epe specimen has three ribs, like the Kreuznach speci­men; the strongly re-curved tip of the Epe sickle is not an original feature, but due to re-working of a much-used and much reshaped blade. The Epe sickle seems to be a piece of Continental manufacture; the distribution of two-knobbed sickles, as now known, suggests that they reached Epe, and Britain as well, along the Rhine route. The third piece in the Epe hoard is a stopridge axe with high, thick, faceted flanges; it is a very late example of its type, and is seemingly a pro­duct of local industry in the Northern part of the Netherlands (Butler, 1955).

While neither the sickle nor the stopridge can be by themselves be dated in Continental terms with great precision, it is clear that they are both Middle Bronze Age products; thus the Epe hoard provides a so far unique example of a British object of the Taunton-Barton Bendish phase (M. A. Smith’s ornament horizon) in a Continental closed find.

An interesting contrast is provided by another Dutch hoard, also published by the present writer (Butler, 1959, 139-40, 1960, 207 ff., fig. 4, Appendix I: 11, 1960, 101 ff., fig. 29, Appendix No. 53, the hoard of 1900—one of three hoards from the same locality) from Bergersommerwold, Drenthe. Here the palstaves (one complete, the other a fragment of a piece broken up in antiquity) were plain looped narrow-bladed palstaves, of the form which M. A. Smith has characterized as the “late type”. Identical palstaves occur in hoards such as Wilburton and Nettleton, which are typial of the Wilburton industry in southern Britain. The associations at Bergersommerwold include a pair of the Nierelli type which Spronkhoff (1937, 43, Taf. 18, 1940, 88, Taf. 38, 1952, 109-10, plb. 11; cf. F. C. Bath, 1953, 5, 79 ff., plb. 1: 48b) has identified as being characteristic of the Ems-Weser region in Mun­tenia IV. The horizon is that of the Reitersbach culture (Jacobs-Friesen, 1963, plb. 28).
While this work was in press, notice appeared (Nordw. Arch., 1962, 2) of the find of another British-looking ‘late type’ palstave in a small hoard, this time in the Weser area, at Ilten-Bolle, Kr. Grafschaft Hoya. The palstave was found together with a bronze knife with central handle of the ‘double T’ form. This is a rare variant of the ‘Unstrut type family’, it is known principally from finds in the Netherlands and North-West Germany, and, like the Vierling mentioned above, it is a group of Sprockhoff’s ‘true Weser Knife’ (Sprockhoff, 1937, 27 & pl. 3:21). An exceptional find in Denmark is dated to Montelius IV (FNMA 1933, 44; Broholm, DO IV 27). The Ilten-Bolle find therefore tells the same story as the Bleckede-Belsersen find of 1900.

Northern Palstaves in Britain

Imported North-European palstaves are extremely rare in Britain. One example, from Driffield, Yorkshire (ibid., 3:111, 370–1) was apparently found in a grave, with other grave goods now lost. It is a typical example of the ‘common North-European palstaves’ (Forsén 1936, Abb. 41:5, 216 ff.), the commonest form in Denmark, South Sweden and North Germany. Sprockhoff’s distribution map of the German finds (1941, Abb. 59) shows that they cluster thickly in Schleswig-Holstein, Mecklenburg and the Ilmeneau province, but are rare west of the Weser.

The published account of the find is based on second-hand information more than half a century after the event. According to Mr. Robert Orr it was given to his father about 1870 by Mr. Christopher Bell, a cabinet-maker of Driffield, Yorks., and had been found some time before in opening a barrow on the outskirts of that town, known as the King’s Mount or Mount, or else in the King’s field. He is under the impression that more grave goods were found as well as a skeleton, and that they were shared among some of the burgesses of Driffield. Ibid., 370.

Another palstave of the same type, but with richly faceted sides, is recorded in the Index of Bronzes as from Wellington, Somerset, but is described as having been ‘purchased in London’. Were the find-spot better documented it would be a welcome addition to the list of importations from Northern Europe which concentrate so remarkably in Somerset. Faceted palstaves of this type are common in the Northern cultural area (Janssen, 1934, 54 ff.; Konstzewski, Beitr., III, 1643; the faceting is commonly attributed to Irish influence, but it is undoubtedly an inheritance from the trade of the earlier Middle Bronze Age and not a fresh influence acquired during Montelius II. Similar faceting appears on ‘Northwest European’ stopridge axes, and occasionally on shield palstaves like that from Hausberge discussed above, but is not a feature of mature Weser palstaves.
LIST OF BRITISH-NORTHEAST FRENCH PALSTAVES IN NORTHERN EUROPE

(of Map III and IV)

Type IaI ("Welsh" shield-ornamented).

I. South Holland. 

Voorhout. Hoard.

Type IaIc ("South English-Northwest French" shield-ornamented).

(a) in hom'd s:


5. Nellha/dslebell. P. 73, No. 5.


7. Stade. P. 72, No. 2.


(b) stray finds of Type IaIc:

12. Kr. Pyritz. Fig. 13: 2. Kersten, 1958, No. 685.


15. Kr. 


Type Ia ("Shield and rib"-ornamented).

2. Kr. Stendal. 


Palstaves


Type IA1 ("Diocletian" without long chin):

38. Denmark. Fig. 69 (with ornament). Sk. Steinkold, 1946, pl. 119.

Type IA2 (With groups of short ribs or grooves below stopridge and/or on septum):
42. Ringkøbing Amt. Pehr Hostrup. P. 73, no. 17.
43. Netherlands. Fig. 68 (a). P. 73, no. 17.
46. Netherlands. Type IA2. P. 73, no. 17.

Type IB (With side-fanged blades):
47. Netherlands. Type IB. Sprockhoff, 1941, Taf. 17: 21.

Type IIA2 (Trident ornament):

Type IIA4 (Plain):
49. Haderslev Amt. Paludale (with miscast loop; blade heavily ground down). Hoard (PI. IXa: 1). P. 73, no. 15.

Type IIb (Ribbed ornament):

HOARDS CONTAINING BRITISH-NORTHWEST FRENCH PALSTAVES IN NORTHERN EUROPE

Palstaves


13. Netherlands. Gelderland. Epe. Mus. Leiden. Personal hoard (PL VIII a; fig. 17). Palstave Type IA3; sickle with two knobs; flanged stopridge axe. Butler, 1959, 139 ff., fig. 6; 1960, 226 ff., fig. 9; 1961, 10 5 ff., fig. 49; also pp. 123-4. (Fig. 18).

14. Netherlands. Drenthe. Bargrooster. Palstaves Curwen’s Type C; orth west German Nierenringe; small single-edged knife; fragments of spiral armring? Butler, 1959, 139 ff., fig. 6; 1960, 226 ff., fig. 9; 1961, 10 5 ff., fig. 49; also pp. 123-4. (Fig. 18).

Addendum: A Type II palstave, with conical shield and loop, comes from Alvesta, Kr. Larje.长寿 Elle opposite Homburg; it is included on Map IV below.
CHAPTER IV
SOCKETED AXES
(Lists, pp. 79-81, 85, 87, 94; Pl. XI-XI I; fig. 19-26; Maps V, VI)
A. EARLY AND MIDDLE BRONZE AGE TYPES

Until recently, the socketed axe was held to be characteristic entirely of the Late Bronze Age in the British Isles, and to speak of a trade in socketed axes in the Early and Middle Bronze Age would have been considered nonsense. It is now possible to bring at least one socketed axe - be it only an isolated example - into the pattern of British-North European Early Bronze Age trade, and to place at least one type of socketed axe into that of the Middle Bronze Age.

1. The Wangford axe
The earliest socketed axe known in Britain is a small specimen (c. 9.5 cm) from Wangford near Lakenheath, Cambs., published by Lady Briscoe (Antiquaries Journal, XXXIV, 1954, 77, Pl. XVI la, fig. 1). This axe, unique in the British Isles, has a blade in the form of a flanged axe, surmounted by a socket bearing the indication of a cord shaft-binding. It has only one very close parallel, a well-known specimen from Kutten, Saalkreis (most recent publication, Von Brunn, 1959, 61, Taf. 57a, with further refs., also Billig, 1957, 206-7, 307-8, Abb. 7; better known under the erroneous find-spot Cothen O/ Kathen). In both these specimens, the type of flanged axe represented is the "Saxon" type, so that it is reasonable to assume that they were made in the Central German area. The Kutten specimen was apparently associated with a halberd blade, which though not itself metal-hilted, is of the evolved form which is often found with metal hilt. A related object from Przetamin in Pommerania (most recently Kersten, 1958, Taf. 88, no. 799, with further references) actually combines a flanged, socketed axe similar in principle to the Kutten and Wangford axes with a metal shaft closely resembling the metal halberd-shafts. This find from Przetamin serves to confirm the Early Bronze Age date of the Kutten and Wangford axes. The Wangford axe accordingly represents an Early Bronze Age import to Britain from the Saxon-Thuringian or North German area.
2. Socketed axes of Taulltoll-Hademarschen type

(Last pp. 79-81; Map V)

An important connection between the British Isles and North Germany is provided by a distinctive type of socketed axe, which Sprockhoff (1941, 114: distribution map, Abb. 86) has distinguished as the Hademarschen type in North Germany. Socketed axes of this type are long and narrow, almost chisel-like in form, with a rectangular cross-section. A characteristic feature is the single flat moulding surrounding the socket-mouth. The side-loop, springing from the base of the socket-mouth moulding, is usually rather small.

The socketed axes of Hademarschen type are rightly distinguished by Sprockhoff from those of "Breton" form, which have a more elaborate socket-mouth moulding and different proportions.

The Hademarschen-type socketed axes have a curiously limited distribution in Northeast Germany, from the region of the Oder mouth to the Havel-Elbe junction. The example from a grave at Hademarschen, Kr. Rendsburg in West Holstein, which gives the type its name, is a westerly outlier of the German group. Most are stray finds, but the type occurs in two finds dated to Montelius III: the Hademarschen grave (Pl. XII) (Sprockhoff, 1941, Taf. 55), which contains a sword-pommel of Montelius III type and according to Prof. Kersten might be early in Period III, and the hoard from Farbezin (fig. 39: 7, 8) (ibid., Taf. 60; Kersten, 1958, Taf. 37: 717). Later examples are in a Montelius IV hoard from Mecklenburg, and in the large founders' hoard from Veitshöchheim, Kr. Straubing, which contains Montelius V and Hallstatt B objects. The main occurrence of the type, Sprockhoff suggests, should fall within Montelius III-IV, the fact that they have been found in only one of the very numerous hoards of Period V argues that they had gone out of use by that period. He regards the Hademarschen axes as the prototypes for the more developed socketed axes with rectangular section, more bulging socket-mouth moulding, and "war" ornament on the face; this type appears in Northeast Germany in Montelius V hoards such as Plessin, Kr. Demmin (ibid., Taf. 44: 2, 3) but is of course common in Britain and Northwest France (see below, pp. 84 ff., under "Southeastern" type).

The origin of the Hademarschen type provided a puzzle for Sprockhoff, who pointed out that the rectangular-sectioned socketed axe is not normal to the Northeastern Middle Bronze Age, and suggested that one would naturally look to the West for prototypes. But the Breton and other Western socketed axes are not only typologically distinct, but too late in origin for the Montelius III Hademarschen and Farbezin deposits. He therefore suggested with reserve the possibility of their independent origin within their limited area of distribution in North Germany, through the application of the core-casting technique to a form derived from plain-
Socketed axes

Fig. 19. Socketed axes of Hademarschen type from Pomerania: 1 Sehlen, Kr. Ruegen; 2 Barth- Bresewitz, Kr. Franzburg; 3 Alt-Sanitz, Kr. Anklam; 4 Althagen, Kr. Ueckermunde; 5 Daber, Kr. Randow; 6 Bremen, Kr. Prestin; 7 A Samchow, Pomerania, Kr. Naberg; 8 Grunze, Kr. Kammin. After Kersten.

Fig. 19. Socketed axes of Hademarschen type from Pomerania: 1 Sehlen, Kr. Ruegen; 2 Barth- Bresewitz, Kr. Franzburg; 3 Alt-Sanitz, Kr. Anklam; 4 Althagen, Kr. Ueckermunde; 5 Daber, Kr. Randow; 6 Bremen, Kr. Prestin; 7 A Samchow, Pomerania, Kr. Naberg; 8 Grunze, Kr. Kammin. After Kersten.

faced palstaves (cf. his Abb. 84). At that time he knew of no Western close parallels to the Hademarschen axes.

Very similar socketed axes do however occur in the British Isles (List below; Map V). Reference to the Index of Bronzes shows some fourteen examples in England, all in the south, extending from East Anglia and the Thames valley to Somerset and Gloucestershire; the main weight appears to be southern. The British examples were mapped by Hodges (1956, fig. 2). The only example with associations in England is in the Taunton Union workhouse hoard (Pl. Xa) in Somerset; we therefore suggest the name ‘Taunton type’ (which will perhaps be easier to pronounce than ‘schlichtes Viereckbeil’!) for the British series. Despite some minor variation in proportions and in the form of the cutting edge, the Taunton type and the Hademarschen type are essentially the same.
Fragments of a stone mould found in Layer 3 of the settlement site of Gwithian in Cornwall have been claimed (Megaw, Thomas and Wales, 1961) as being for a socketed axe of this type. While the mould fragments are insufficient to establish the form of the axe with certainty, it is evidently for a rectangular-sectioned specimen, and the date of this layer is independently fixed by the occurrence of two bronze pins attributable to the Taunton-Barton Bendish phase.

Aside from the English specimens, there are two stray finds from Scotland (near Annan, Dumfries, which is indistinguishable from some of the North German axes, and Kinross, Perthshire, which is very similar to the Taunton axe). These rectilinear socketed axes also appear in Ireland. One from the hoard from Bishopsland, Co. Kildare, is similar in form to the Taunton axe, and its socket-mouth moulding is decorated with lines of imitated cord, a feature found frequently on Irish bronze work, suggesting that the axe was locally cast. A socket with obliquely slanting ribs in the Bishopsland hoard (Fox’s Type IIIB) also points to close connections between this hoard and the Somerset bronze industry of the Taunton-Barton Bendish phase. Stray finds of Taunton type socketed axes in Ireland include one from County Cork and one without exact provenance. A few other Irish socketed axes which differ in proportions from the Taunton type, but agree in having the rectangular cross-section and the characteristic flat moulding, may be regarded as related; one may distinguish a short variety (e.g. Newtown Crusade, Co. Antrim) and a broad variety (e.g. Baltra, Co. Mayo; N. Berwick in Scotland).

Perhaps also to be regarded as a variant of the Taunton type is the slender rectangular-sectioned axe with three more or less equal-sized ribs at the socket-mouth; these mouldings distinguishing it from the Haddaramen-Taunton type proper, which has a single, flat rectangular-section and the characteristic flat moulding, is not mentioned or illustrated by Sprockhoff, though rare examples can be found in the literature (e.g. the koplas specimen from Horst, Kr. Pritz (Kersten, 1958, Taf. 63; 658). We are not here concerned with axes of purely Nordic form which have treble mouldings, i.e. Montelius, Nos. 194-3, except to note that they do occur already in Montelius III. From Holterberg, Overijssel in the Netherlands comes a socketed axe with a body form strikingly like the Taunton specimen, but with a treble socket-mouth moulding (fig. 20; information from Professor P. J. R. Modderman; found with another axe said by the finder to be of the same type, but without a treble socket-mouth moulding; criticism: Professor P. J. R. Modderman: found with another axe said by the finder to be of the same type, but which has been lost). In Britain, there is the treble-moulded axe from the Leopold Street, Ogdard hoard [London C.B. 5: 12] which must be related to these, although it is an archetypically large specimen.

The British dating of the Taunton-type socketed axes follows from their presence in the Taunton and Bishopsland hoards, the earliest Gwithian, and the apparent absence of the type from Late Bronze Age hoards of the Nettleham-Wilburton and carp-tongue groups. Since the Taunton-Barton Bendish industry is on
whole earlier than the Nettleham-Wilburton phase, (cf. below, 223 ff.) then the Taunton type represents the earliest recognized type of socketed axe in Britain. Its rarity as compared with the standardized types of socketed axes in the normal British Late Bronze Age hoards, and its priority over these types in the North German finds, support this assumption. Its distribution in Britain covers the same area as that of twisted neckrings, but the neckrings have their main weight in the southeast and the axes their heaviest concentration in the northwest. It seems very probable that the Taunton-type socketed axes came to Britain in the same move-

A 'waisted' socketed axe from the Nettleham hoard has a socketmouth moulding of the flat type which occurs on the Taunton-type axes, and may well have been influenced by them. The Northwich axe would then be a hybrid between the waisted axe of the type which occurs at Larnaud (Jura) and the Taunton axe. One Taunton-type axe, from Brigh-

Fig. 20. Socketed axe from Holterberg, Overijssel. 1/2 n.
## LIST OF SOCKETED AXES OF TAUNTON-HADEMARCHEN TYPE

(of Map VI)

<table>
<thead>
<tr>
<th>England</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Cambridge, Camb. Mus. 20 cm.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Sibton, Wodowth, Mus. 10 cm.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Beeton, Camb. Mus. 11.5 cm.</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Houghton, Camb. Mus. 11 cm. Double V dec. on face, groove on collar. Evans, dlll, fig. 146.</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Letchworth, Ste. Albans Mus. 19 cm.</td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Audley (River Colne), 13 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hertfordshire</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7.</td>
<td>Hitchen, Ashmol. Mus. 11.3 cm. Double V dec. on face, groove on collar. Evans, dlll, fig. 148.</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Barrington, Camb. Mus. 11.3 cm. Double V dec. on face, groove on collar. Evans, dlll, fig. 148.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Essex</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>Colchester, Essex Arch. Coll. 12.3 cm. Double V dec. on face, groove on collar. Evans, dlll, fig. 148.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Suffolk</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>11.</td>
<td>Saffron Walden, Essex Arch. Coll. 12.6 cm.</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Sudbury (River Colne), 11.5 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Kent</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13.</td>
<td>Tonbridge, Kent Arch. Coll. 12.4 cm.</td>
<td></td>
</tr>
<tr>
<td>14.</td>
<td>Sevenoaks, Kent Arch. Coll. 12.5 cm.</td>
<td></td>
</tr>
<tr>
<td>15.</td>
<td>Sevenoaks, Kent Arch. Coll. 12.5 cm.</td>
<td></td>
</tr>
<tr>
<td>16.</td>
<td>Sevenoaks, Kent Arch. Coll. 12.5 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Surrey</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td>Wokingham, Wokingham Arch. Coll. 12.4 cm.</td>
<td></td>
</tr>
<tr>
<td>18.</td>
<td>Reigate, Reigate Arch. Coll. 12.3 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Hampshire</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Sussex</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20.</td>
<td>Lewes, Lewes Arch. Coll. 12.5 cm.</td>
<td></td>
</tr>
<tr>
<td>21.</td>
<td>Lewes, Lewes Arch. Coll. 12.5 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Berkshire</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>22.</td>
<td>Newbury, Newbury Arch. Coll. 12.4 cm.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Oxfordshire</th>
<th></th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Gloucestershire</th>
<th></th>
<th></th>
</tr>
</thead>
</table>
80

Socketed axes


33. Overijssel, Holterberg. Present work, fig. 20.

34. Norway. Ribe, Torvet (works). fig. 70.

35. Ireland. Carrowlacken (Shields Coll.).


38. Co. Meath. Rashleigh Coll. (Shields Coll.).


40. Co. Down. Rashleigh Coll. (Shields Coll.).

41. Co. Meath. Rashleigh Coll. (Shields Coll.).

42. Co. Meath. Rashleigh Coll. (Shields Coll.).

36.

Derivatives of the Taunton-Hadeschen Type in the British Isles

(Note: No systematic search has been made for these; the list could probably be extended.)

Broad type


Unexplained in N.I. Dublin:


Short type


Above, we discussed the socketed axes of the Taunton type, which are the British counterparts of Sprockhoff’s Hademarschen type, and which appear to have reached Britain from the region between the upper Elbe and the Upper Oder at a time preceding the emergence of full Late Bronze Age industries. More developed types of socketed axes must now be considered. These afford extensive evidence for trade connections between the British Isles and Northern Europe in the Late Bronze Age. The most intimate connections are between South England and the Netherlands and North-west Germany, but there is also evidence for some trade in socketed axes reaching from Britain (and North-west France) to Scandinavia, East Germany and even Poland, and for Northern trade and influences reaching Ireland.

The evidence does not, however, suggest a massive export trade in either direction. Identifiable exports are comparatively rare.

The Late Bronze Age axe-makers in each region had their favourite local forms, but often borrowed features of form, and even more of ornamentation, from the axes produced by their neighbours. This makes it very difficult to evolve criteria for distinguishing imports from local products. Details of decoration are easiest to take hold of for purposes of analysis, but distribution maps or lists compiled on the basis of ornamentation alone are liable to provide a completely misleading picture.

Details of form are on the whole more reliable. But a systematic formal classification cannot here be attempted, and we may mention here, as an example, only one criterion which appears to be useful for distinguishing British or Western European axes from those of the North European provinces, and which serves a purpose for several of the types to be discussed below. It is noticeable that British and Western smiths were very fond of providing socketed axes with a double moulding around the socket-mouth, the upper moulding being comparatively large and bulging, the lower moulding being smaller (very often it is a thin rib), and placing the side-loop so that its top begins at the lower moulding (as A.B. 4 fig. 135). This arrangement is found very often on axes of our “Southeaster” type, on the Yorkshire type, on...
the square-mouthed "Breton type", and on other British, French and even Iberian socketed axe types. It occurs very rarely in Northern Europe, and then only on axes of body-form which one might otherwise suppose are of Western origin. Single and treble mouldings, and high loop placement, were, of course, used by Western smiths too, though less commonly (we think of the Welsh type, where single moulding and high loop are characteristic, and some other types) but we know of no certain example of the "western" double moulding on a socketed axe of otherwise purely North European form.

Socketed axes in North Germany and their relations to British and Northwest France have been discussed in considerable detail by Sprockhoff (1941, 84 ff.; 1956, I, 1956, I, 1956, I). We have therefore taken Sprockhoff's presentation as a starting-point, supplementing his lists with some further examples from the Netherlands and Scandinavia. Unfortunately we were unable to make a full study of the British and Irish comparative material.

The interpretations here offered, to the extent they differ from Sprockhoff's, are hypotheses which will be confirmed or rejected when the full distribution and associations of the types concerned are known.

1. The 'Southeastern' Type

As one of the Leitformen des Ems-Weser Kiezes during the Late Bronze Age, Sprockhoff (1941, Taf. 38: 6) illustrated a slender, rectangular-sectioned socketed axe, with the double moulding and low loop placement already mentioned above. Its face is ornamented with a pellet immediately below the lower moulding, and with "imitation wings" formed by ribbing.

Tackenberg (1951) has already suggested that this socketed axe-type is not, as Sprockhoff held, British, and it is unlikely that anyone in Britain would disagree with him. Sprockhoff has distinguished between socketed axes with plastic wings (Lappenmesser) and those with the wings imitated by ribbing (Rippennmesser), and has mapped them for us (Ibid., Abb. 95). The ribbed-wing type is very common in Southeast England and in Belgium; Breuil (1905, fig. 7) illustrates some examples from the Somme area not shown on Sprockhoff's map; but there are only three examples in Northwest Germany. Of the German examples, two are illustrated by Sprockhoff; one of them, the example from Klint bei Hechthausen, Kr. Land Hede, already referred to, is British in form; the other, from Aasenmühlen, Amt Chappenhorst (Sprockhoff, 1941, Taf. 38: 2) is clearly not a British piece nor in

---

1 For the distribution of these, see Dunning, Ulster Journal of Archaeology, XXII, 1959, 37 ff. Very few were anciently traded to the North European area, but many examples are found in North European museums, thanks to the modern trade in antiquities.
the Dutch example from the Schoonebeek hoard (ibid., pl. 54). The *Lappeenmäki* axe, on the other hand, implies contact between Northwestern Germany and Northwest France; the *Lappeenmäki* is very rare in Britain. It is striking that all the Northwest French *Lappeenmäki* axes illustrated by Breuil (1915, fig. 7: 74, 75, 77, 78, 79 R) have the low loop placement described above as 'Western', while all the German examples illustrated by Sprockhoff (1941, Abb. 77: 7, Taf. 38: 13, 41: 4, 46: 1-3, 7, 11, 14, 1, 47: 2, 3, 5, 8-11, 17: 2-6, 11, 15) have the 'Continental' high loop placement.

1 Which way the influence ran is problematical. Sprockhoff, having successfully demonstrated by distribution map that the socketed axes with *Lappeen* and those with *Riphahn* have a virtually exclusive distribution, then ignored the implication of this finding, based the imitation-winged axes to Deverel-Rimbury pottery, and used these to postulate an invasion of South England from *Mitteldeutschland* (1941, 115-123). As far as the axes are concerned, it must be emphasized that the *Lappeen* and *Riphahn* axes are not the same form of axe with a minor difference in ornamentation, essentially they are two quite distinct forms, through the ultimate origin of these types remains uncertain. Although the Central German-Northwestern French forms. The ultimate origins of these types require more detailed study; simply Sprockhoff's contrary opinion, we think it probable that both types are proved to be Western or Northwestern varieties of types originating in Central Europe.
Socketed axes

Imitation wings are common on socketed axes in Hungary as well as in Northwest Germany, Northwest France and Britain, and it is probable that the fashion for imitation wings started in the East rather than in the North or West. In any event, this type of ornamentation, imitating the real wings of Central European winged axes, occurs on socketed axes of a variety of forms, and the form of the axe will tell us more about its probable provenance than the decoration. In Britain, ribbed wings are normally found on socketed axes of the form of the Emsdetten axe; usually with the double moulding, low loop, slender, slightly tapering form, and rectangular section with slightly rounded edges. The form, with the ribbed decoration or other forms of plastic ornament, or plain, is perhaps the most common form of socketed axe in Southeast England, and occurs in many hoards in this area; it may for convenience be referred to here as the 'Southeastern' type; though it occurs also, of course, in Southwest France, in the hoards from Plaineau, Marlers and Beauchamp (Bresson, 1956, figs 6, 7, nos. 10, 43, 44, 77-6, 80, 84, 87-6, 91), and in Belgium (e.g. Marien, 1952, fig. 200: 2, 4, from Turnhout, and Bussche; fig. 211: 4, from Jemmeppe-sur-Sambre). The decoration may consist of ribbed wings, one or more pellets, one or more vertical ribs, an X, or combinations of these motifs. These decorated variants and the plain examples may all occur together in hoards.

Although the winged examples are commonly accepted as being contemporary with the carps-tongue complex, the form itself may well be somewhat earlier in origin. Plain examples occur in the Wilburton hoard (Fox, 1923, PI. X: 5) which is considered to belong to LB I, though late within this phase.

Fig. 22. Socketed axe, Breda, North Brabant. I: 2: Mus. Breda.
LIST OF FINDS IN NORTHERN EUROPE OF SOUTHEASTERN SOCKETED AXES  
(cf. Map VI)

Denmark
1. Lolland (Kiholmene H., Viborg A): two examples (one plain, one with single vertical rib) in hoard (PI. XIII): Montelius IV (Robinson, DB III, N. 34); Mus. Viborg.
2. Ansager, Jyderup: Pellet, found.

Sweden

Georgy and Poland
(The clogged-socketed axes Taf. 77: 3 and 78: 1 and 68: 2: plane, resemble the Southeastern form but have a single moulding; Taf. 78: 1, with doubled clogged socket, double moulding but the loop springing from the upper moulding, and a prominent nuckle-shaped facial facet, in a line example of a hybridly hybrid, Mimos 1954.)
8. Trøjborg, Kr. Domense Hills: Plain, faulty casting. La Bamme, 1930/1, Abb. 16.

Netherlands
17. Rijp, North Brabant: Mus. Leiden, Ribbed socket.
18. Edam, North Brabant: Mus. Leiden, Ribbed socket, 2 pellets. PI. XII: 2 (Felsa 426, Abb. 135).
20. Westerwolde, Drenthe. Fig. 23: Berlin, 1960, Fig. 24.
22. Event provenance unknown. Plain, Ribbed socket, Multiple vertical ribs, Felsa 426.

* N-B: 4, 5 and 10 are inventorized in RMR as Dutch finds, but a Happert nr. Monzaak appears on maps on the Belgian side of the Maas.
Socleted axes

The examples from the Netherlands are mainly in the southern provinces of that country, and form a continuum with the North French and Belgian area. The Bargeroosterveld, Elzen, Klint and Hesepe examples are, however, clearly outside the normal limits of distribution of the type, and represent trade contacts with our Huno-Ems province and Sprockhoff's 'Suedniederlande'. Beyond this, there is a thin radiation to East Germany and Poland, Denmark and North Brabant. The dating evidence is provided by the Lovskai hoard, assigned by Broholm to Montelius IV, and the Plestlin and Tempelburg hoards of Montelius V. The Lovskai hoard contains two unmistakable Southeastern socketed axes (both broken), a socketed axe of a type also represented in the North German Montelius V hoard from Plestlin, fragments of a sword blade, a bracelet of a Montelius IV type, and a plain spearhead. The Plestlin founders' hoard is a good representative of the Montelius V-Hallstatt B horizon in North Germany, and contains a remarkable mixture of Western, Northwest German, East German and West Alpine products (Sprockhoff, 1941, esp. 90 ff.); the somewhat similar founders' hoard from Vietkow, Kr. Stolp, contains a similar 'international' mixture, and includes a socketed axe with ribbed wings and single moulding like those in the Plestlin hoard; Sprockhoff, 1941, Tap. 47-51).

Southeastern socketed axes are also known in Central European hoards of Hallstatt B, such as Hochstadt, Kr. Hanau (Muller-Karpe, 1948, Tap. 34: 4); Eibingen, Rheingau, Kr. (Behrens, 1916, 42, Abb. 11: 5); perhaps even Tamachov, Bohemia (Richly, 1894, Tab. XXXIX, 1-4). It therefore appears that the main period of export of the Southeastern socketed axe was Hallstatt-M, with the Lovskai examples apparently somewhat earlier.

2. The Narrow Faceted Octagonal-sectioned Type

A type of socketed axe common to the British Isles and Northern Europe was discussed briefly by Sprockhoff under the heading of 'faceted socketed axes'. British examples of the type have never been fully listed or mapped. Pigott (1937), 177, discussing an example in the Horsham hoard, suggests that their distribution is mainly eastern. Hodgen (1928, 29-30) says they are common in Ireland. He distinguishes a narrow form with octagonal section, common to Britain and Ireland; and a broader form with decagonal section (see fig. 1: 1, 2). In Ireland, he regards the former as an early form in Ireland, and the latter as a later development. Here we are concerned only with the narrow octagonal form. A bronze mould for the narrow octagonal form comes from the Quarnbeck Hills, Somersham (BM LPA, fig. 11: 3); it has parallels in the Netherlands, at Harbooe in Dreiste (Pf. XII. Butler, 1901, fig. 3) and in the Rhinehead at Erkrath, Kr. Düsseldorf (Rutten, 1927, fig. 1: 7, with single socket-mouth moulding). For Northern Europe Sprockhoff (1941, 88-9, 488, 70-3; Tap. 40: 8-9, 15-16).
Socketed axes

87

6, 8) lists 14 faceted axes, mostly in Northwest Germany; to which we can add a few more, bringing the number to 21.

The prototype, according to Sprockhoff, is the transitional palstave-socketed axe from Ramber in Silesia, to which is related the unique socketed axe from the Thamer at Wandsbek (ibid., Abb. 73). These are unfortunately isolated.

The North European list of faceted socketed axes can be subdivided (except for six examples of which we have seen neither the originals nor illustrations) according to their degree of resemblance to the British-Irish octagonal type. The type of socket-mouth moulding, the placement of the loop (if any, a few are unlooped) and variations in the form of the body of the axe may be used for this subdivision.

Oddly enough, the only Northern example with the funnel-shaped socket-mouth moulding, exactly of the form so common in Britain and Ireland, comes from Garth, Nr. Konin, now in Poland (Reinerth, III., Abb. 189); it has the typical low loop-placement, and must surely be a British-Irish export. It was found in a Montelius V hoard. Examples with a Western double socket-mouth moulding, as defined above, are from Nijmegen, Gelderland (Felix 301, Abb. 206) and Honsbeek, Limburg, both in the Netherlands; the former with a low loop, the latter unlooped. The Heselum mould (above, p. 86) is for an axe of this form, with low loop.

A second group consists of examples similar in body-form, but with a single moulding:

4. Hambach, Nr. Hagen, Sprockhoff, 1941, Abb. 76: 2, lacks any moulding, but perhaps belongs with this group.

These have parallels in the British Isles (e.g. South Downs, Sussex, Brighton Mus.; Gloucestershire, Somerset, Taunton Mus.; Wallingford, Berks., Ashmolean Mus., not from the Wallingford hoard; Index of Bronzes).

A third group is distinguished by ribs emphasizing the angles. An example from a grave at Court-Saint-Etienne (Brabant, Belgium; Inventaire B 394) is dated by Marien to Hallstatt D! Not all examples need be so late; an example in the Mehl Roth hoard, Cambrai (Inventaire G. 13, no. 534) belongs to LB 2. In Brittany, an example in the Meier-Toms hoard occurs with, inter alia, carps-tongue types, a Thorsdale knife, Wilde socketed axes, and a gold central European Hall 'ribbed style' bracelet (Briard, 1958, PI. 11: 12). Sprockhoff illustrates (1937, Taf. 5: 17) an example from Land Stargard, and mentions as ‘ein gutes Gegenstück’ one from Louna, Kr. Eckartsberga, and as ‘eine Parallele im Typus’ to it another from Swinemunde. These Sprockhoff attributed in 1937 to Hungarian influence (ibid., 30).
Socketed axes

and assigned to Montelius IV; but on what ground is not clear. From the Jutel of Bremen we have called a number of further examples to South and East England (Deeshend, Wilts.; Blackmore Man; Oldbury Hill, Charfoll, Wilts.; Divines Man; Grange, Wics., Reading Museum; Stobs Braeves, Northants., Northants Central Mus.; Stratford, Northants.; near Norwich, Northants; Strokey, Lincs., Discover Museum; Milton, Cambs.; and one uncertainly from Blanford, Dorset). Breuil (1905, fig. 7–34) illustrates an example from the St. Roch hoard. The Stew-
gird example, with 'Western' socket-mouth mouldings and loop-placement, is therefore to be claimed as a Western export, and presumably the unillustrated ones from Lossa and Sonderhausen too. Ulmer (1905, no. 17) also belongs here.

A fourth group, presumably of Northeast German manufacture, but of rather hybrid form, is represented by the two specimens from Adendorf, Kr. Luneburg and Flens, Kr. Lingen (Spröckhoff, 1941, Taf. 40: 3, 8). Both have single socket-mouth mouldings. The Adendorf specimen has an arch-shaped facial moulding, a feature common on Dutch-NW German axes; the Flens example has three small pellets on its face. Both have 'hatchet-shaped' blades, a feature found on socketed axes of varying form over a wide area (East Frisia and North Germany, Hundt, 1938, 107, Taf. 45:A; Sweden, Montelius, Milun 1175, 1177, 1182; Ireland, Hodges, 1970, 37, fig. 1: 118, 1173, 1174, Mus. London, 1274). They are assigned to Montelius V.

Finally there is a small Scandinavus group of narrow faceted axes, which in socket-mouth mouldings and loop-placement appear to have been influenced by the British-Irish faceted-moulded form, though they are typical, and elaborately ornamented. This group is represented by the examples from Enselev, Amt, Zealand (DO IV 218) and St. Olofs sn., Albo H., Scania (Milun 1175; Mus. London, 1274). They are assigned to Montelius V.

On the basis of the Ratibar axe, which appears to derive from the faceted pal-
stakes which occur in East Germany, Spröckhoff provisioned that the faceted socket-
ed axe family began in North Germany, and represents one of the rare instances of North German influence on the industries of Western Europe. In this he was no doubt right, though the Trassen-Hohensachsen socketed axe story and other things render the phenomenon less isolated than it appeared in 1941. The varieties with single moulding would represent the normal German type; the varieties with double moulding or fringed mouth the British-Irish derivatives. Hodges (1976, 20) suggests that the octagonal-sectioned socketed axes stand at the beginning of the Irish socketed axe development. The date of this type's introduction to the British Isles cannot be determined from the North German evidence, but it is clear that a refinement was being introduced to the British-Irish socketed axe of the octagonal type back to Northern Europe, to the Baltic region, in Montelius V. In Scotland they occur in late hoards (Adabrock, Child, 1946, Pl. XII, t. 7; Horseshoe, Piggott, 1950; fig. 1: 5), in Wales, with 'Welsh' socketed axes (Grimie, 1951,
Socketed axes (Fig. 67-8); in Southern England and Northern France, in carpa-tongue hands (e.g. Grays Thurrock, Arch. Journ. II, 1932, fig. 2). Continental varieties were still current in Montelius VI (Fydelros) and Halstatt times (Cust-Stute-Entzman). The Irish hoards containing faceted socketed axes cited by Hodges tell an ambiguous story: Ballanlis, Co. Armagh, with a small socketed spearhead typical of the Irish Middle Bronze Age; Charleville, Co. Offaly, with a socketed axe; a shield palstave which we should have thought quite early in the Middle Bronze Age, and a socketed gouge, which is usually considered late; Ormon, Co. Roscommon, also with a gouge, and with a socketed knife of Thorndon type; Kish, Co. Wicklow (Raftery, 1951, fig. 199) with another socketed axe of a broader faceted type, a basal-looped spearhead, and a Thorndon knife.

The Thorndon knives also have a parallel in a Montelius V hoard (see Chapter VI, p. 115).

In summary, the octagonal narrow faceted axe seems originally to have reached the British Isles from North Germany. The Wandsworth specimen is early but un dated; the variety with a single socket-mouth moulding, being common to North Germany and Britain, seems to represent the basic type introduced into and copied in Britain at a date not closely definable but presumably in Montelius IV or early V. The double-moulded and funnel-mouthed varieties represent the British-Irish variants, which were traded back to the North, at least to the Netherlands and the Baltic region, in LB II - Montelius V; the type being imitated in North Scandinavia. A variant traded to North Germany from the West is represented by the type with ribs emphasising the angles, current in LB II and afterwards.
3. The Type with Elaborate Socket-mouth Moulding

The Hunze-Ems prototypes are dated to Hallstatt B-Montelius V by the Plessl in and Vietkow, hoards. The Birchington hoard belongs to the carpe-tongue phase; Hoxie and Smith (1975, 185) place it late in that phase, and towards 600. On this basis the Birchington axe was deposited a century or so later than the Hoxie and Vietkow hoards, which with their West Alpine Hallstatt B exports should not be later than c. 700.

4. The Højby Type and British Ribbed Socketed Axes

An axe from Højby is chosen by Broholm (DO IV 22) to illustrate one of the Scandinavian types of socketed axes characteristic of Montelius IV. The Højby type has a hexagonal cross-section, normally straight parallel sides, a single socket-mouth moulding from which the loop descends, and multiple vertical ribs or grooves on the face, the lower part of which consists of a plain rectangular facet.

The only actually imported example of this type of socketed axe known to have been found in the British Isles is the unfinished casting, in very battered condition, found in the late eighteenth century at the Carse Loch, Kirkcudbright (Mus, Edinburgh, DE 7; fig 26; Coles, 1959/60, fig 4: 8).

Hodges (1956, 33) has called attention to two socketed axes in Ireland, which, though not Scandinavian in form, have vertical grooves on their facines in the manner of the Højby axes; these are from Kilrea, Co. Derry (his fig. 1: 2) and Druma, Co. Down. This type of grooving is also found on one of the axes in the hoard from Bourton-on-the-Water, Glos. (Dunning, 1932, 289, fig 3: 3), with six other socketed axes, including the octagonal faceted type and ribbed axes.

Contemplating the Welsh socketed axe in the same hoard (ibid, fig 3: 6), it would not be difficult to imagine that a connection exists between the Welsh type (defined by Fox, 1939, 390, 403-4, with list and further references) and the Højby type. The Welsh type is usually broader than the Højby type, although narrower examples also occur; and the Welsh type normally has the hexagonal section, single socket-mouth moulding and high loop, as well as the rather straight sides which characterise the Højby axe. The resemblances between the Welsh and Højby types therefore go much farther than the similarities between the Højby type and other British types of ribbed axes, such as the Yorkshire type, which always has a rectangular cross-section and the “mercury” double socket-mouth moulding and low loop-placement. While the Yorkshire type as to be regarded as a development from the ribbed version of our Southeastern type, the Welsh type may per-
Fig. 25. Distribution of socketed mit profiliertem Tiillenmund (round dots) and socketed axes of Seddin type (triangles). After Sprockhoff, with additions.
Socketed axes

have take its inception from the Scandinavian prototypes attested in the Irish Sea area directly by the Carse Loch specimen and indirectly by the facial grooving on British and Irish axes cited above.

Vertical ribbing has attracted attention as a feature connecting the British Isles and Northern Europe; Sprockhoff (1941, 122, Abb. 92) compared or contrasted the Northern ribbed axes with the Yorkshire type as sisters facing each other across the North Sea. Piggott (1954), 1270) pointed out that the distribution of Yorkshire axes was complementary to that of the Welsh type and to ribbed socketed axe types in Scotland (Henderson, 1957, 151 ff.) and East Anglia (Clark, 1949, 52 ff.); these include our Southwestern type and others, not to mention the ribbed palstave. Hodges (1956, fig. 6) has mapped an Irish variety. Sprockhoff (1949, 76 ff.) has illustrated a large number of ribbed Lausitz socketed axes. Ribbed socketed axes also occur commonly in Hungary and France. All this seems to tell us merely that the use of three or more vertical ribs on socketed axes was a widespread European Late Bronze Age fashion.

Similarly, rib-and-pellet ornamentation has been claimed to be characteristic of Western Europe; so we may mention finds of socketed axes with such decoration next.

5. Socketed Axes with Rib and Pellet Decoration

The examples of socketed axes with rib-and-pellet decoration from Northern Europe listed below are rather heterogeneous in form. Some are of the rectangular-sectioned form common in France, and probably only secondarily in Britain (Overeynder, Bergs, Bergens, Heringdorf). One is of a curvilinear-sectioned form, with cylinder neck and biconical socket-mouth moulding (Monserr, South Holland).

The Bil specimen looks, from the very poor drawing, as if it might be of the Welsh type.
Socketed axes

The Bergen (Rügen) hoard is assigned to Montelius V; the other examples are stray finds. Their occurrence in the Netherlands, along the Baltic coast, and even on Gotland is noteworthy.

It has, however, been recognized by Sprockhoff (1956, 95-6) that the 32 axes with rib-and-pellet decoration found in Central and North Germany (his Karte 111) comprise for the most part specimens of local manufacture. Our short list, therefore, includes only the specimens that appear to be actual Western exports:

3. Karte VII.
4. Sprockhoff, 1956, Taf. 35: 1, with another socketed axe of applied form.
5. Sprockhoff, 1956, Taf. 35: 10, 11 (Holland, Montelius V.

6. The Small Nordic, Montelius V Type

This is the type represented by Mann 1798 and DO IV 154. The only finds of this type in the West known to the writer are one from Eibergen, Gelderland in the Netherlands (Felix III, Abb. 226; Mus. Enschede) and one from Warminster, Wilts. (Index of Bronzes). Hodges (1955, 74, fig. 6: 8, 1956, 32) has called attention to two unlocalized finds from Ireland; the illustrated example has an imitation cord moulding, which suggests that it is a local copy. Hodges and others regard this type as the probable prototype of the small Irish 'bag-shaped' socketed axe. A feature common to the Irish variety and the assumed prototype is the frequent presence of ribs inside the socket. This feature, however, is not entirely confined to these two types; its occurrence is difficult to detect from published illustrations! Baudou (1953, 244) has noted that these internal ribs never occur in Northern socketed axes of Montelius IV, but are almost invariably present in those of Montelius V and VI.

Conclusions: Several types of socketed axes of the British Isles appear to be derived from North European prototypes imported in small numbers. These include, after the Hanseatic type discussed in a previous chapter, the narrow octagonal faceted type, from North Germany, which was imported and developed in South England and Ireland; probably the Welsh type, from the Scandinavian
Socketed axes

Højby type, directly or indirectly; the type with elaborate socketmouth mouldings, from the Hune-Broe district, a close imitation appearing in the Birchingens, Kent hoard of the carps-tongue phase, and some devolved imitations in Ireland and Scotland; and the Irish ‘bag-shaped’ type, from the small Scandinavian Montelius V type. In the other direction, we find Southemern socketed axes traded to the Netherlands, Northwest Germany, Northeast Germany and Poland, and South Scandinavia, beginning late in Montelius IV; some British-Irish imitations of the settegral axe going to the Netherlands (including one bronze mould) and the East Baltic in Montelius V; and rib-and-pellet axes (perhaps more French than British) to the Netherlands, the German Baltic coast and Sweden, in Montelius V and perhaps VI.

7. Plastic Sazvtooth Ornament

One small Irish ‘bag-shaped’ axe without exact provenance, preserved in the Cambridge Museum (no. 27, 641) has ornament on the faces in the form of a series of plastic pendant triangles at the base of the socket-mouth moulding. This form of ornament is exactly matched on a small group of socketed axes in the Netherlands, consisting of only half a dozen specimens, with a distribution centred on the IJssel Valley (Butler, 1961, 220-1, Pl. IV, fig. 14, ac, map fig. 12 + signs).

The Dutch axes in question are somewhat heterogeneous in form, but appear to be of local manufacture. They form a small local group on the western edge of the territory served by our Late Bronze Age ‘Hunze-Ems industry’ (Butler, 1961).

In the absence of evidence for the occurrence of this form of ornament elsewhere, we can use the small Irish axe in question as a support for the suggestion of contact between the Irish and the Hune-Broe industries brought forth in section 3 above (see pp. 90-1).
CHAPTER V

SPEARHEADS

(List, p. 109; PI. IX, XIII, XIV; fig. 27-31; Map VII)

Next to the various forms of axes, spearheads are the best-represented British export objects in Northern Europe. Again, there is evidence both for actual exports and for the imitation of British forms by North European smiths.

A. THE SPORUPLUND SPEARHEAD (fig. 27)

Unique of its type on the Continent is a spearhead found in a grave in Northeast Jutland at Sporuplund (Fureso, Surnup H., Aarhus Amt), together with a Northern tongue-grip sword and chape of Brabrand’s Period II. Scandinavian authors (Forsanders, 1936, 222; Broholm, DB I, 95; II, 106) regarded it as an import from Britain, and the resemblance of some of its features to one of the spearheads in the Arreton Down hoard (Arch. LXI, figs. 9, 10) cannot be denied. The latter is a one-piece cast socketed spearhead which imitates the peculiarities of the tanged spearhead with a separately cast bronze collar riveted to it (as represented by the spearhead from Snowshill, Glos. [Ibid., figs. 8, 10].

The spearhead from Sporuplund is slightly smaller than the Arreton Down specimen. It also has an ogival blade with lozenge-shaped trans-section. The blade likewise meets the ‘collar’ in an arc, which, however, much shallower than that of the Arreton Down spearhead. It has instead parallel lines on its blade (two lines on one side of it, one only on the other). The ‘collar’ has a convex outline, while that of the Arreton Down spearhead is concave 1.

The Sporuplund socket is narrower than Arreton Down; instead of a rivet it has a headless bronze peg, still in situ, placed close to the base of the socket. The socket-mouth is cut square, the metal is slightly thinner than that of the Arreton

1 The best parallel for this feature is represented by the headless bronze-bladed spearhead on one of the stone mounds in the find at Donagh, Co. Tyrone (Coffey, 1913, 26; Coghill and Robert, Scheme 1936, 526-7, No. 45, fig. 48). The spearhead cast in this form would have, however, a high ridge down the centre of the blade.
Down spearhead; both examples agree in having sockets that are uncommonly thick for spearheads. There are no imitation rivets on the collar of the Sporuplund specimen, nor is there any decoration on the socket.

The two spearheads have much in common despite their differences, and the Sporuplund spearhead is clearly a derivative of the ‘dagger-bladed’ Arreton Down type.

The ‘dagger-bladed’ spearhead, as a rare and transitional type, cannot be supposed to have had a very long life in Wessex; and it must be assumed that the Sporuplund spearhead was made not long after the time of the Arreton Down hoard itself, and probably within the same generation. One would therefore have expected such an object to have been found in Wessex; but it must be assumed that the Sporuplund spearhead was made in Ireland (as suggested by the Omagh mould) rather than in Wessex; the Omagh moulds include daggers and spearheads closely related to the Arreton Down assemblage, and should not be very far from it in time, although one of the Omagh moulds is for a looped spearhead (Coffey, 1913, fig. 5, 5A) and is therefore typologically more advanced than Arreton Down. The equation Late Wessex–Broholm II could be supported by Becker’s suggestion that the Danish historical amber beads of Periods III–IV are imitations of Wessex.
E. LOOPED SPEARHEADS

I. With loops at base of blade

Spearheads of Anglo-Irish type with loops at the base of the blade occur, within the area of our study, in West Holstein (Liesbütel, Andreasbütel), the Netherlands (Exloo-Emmenhoorn, Bergum-Emmenhoorn and Oostblad in the North, and one possibly near Nijmegen), Belgium (Duffel, Wichelen, Oudenaarde) and in the Ilmense region of Northwest Germany (Obergröningen).

The basal-looped spearheads may be divided into those with leaf-shaped and those with triangular blades. Of those with leaf-shaped blades, the two smallest examples, those from Holstein, may be discussed first.

The much-discussed spearhead from Liesbütel, Kr. Rendsburg (PI. XII b), was found in 1880, 'in the upper part of a Hügelgrab above the principal chamber', i.e. a secondary deposit, presumably a grave, in a chambered barrow. Nothing more is known of the find circumstances, but it has been accepted as a closed find by Spracklen, Kersten and other North German archaeologists.

The spearhead is broken and battered; the tip end of the blade is missing (present length 16.5 cm) and its edges much abraded, making the exact original shape of the leaf-shaped blade difficult to reconstruct. The originally round socket-tube has been partially battered by secondary hammering, a thin rib running along the axis of the socket-tube has been partially widened out, partially obliterated by this malreatment. The blade has an internal bevel. The side-loops are flattened into lozenge-shaped plates.

Basal-looped spearheads with a ribbed socket (as distinguished from those with a ridged socket, i.e. the socket-tube has a lozenge cross-section) are rarely found in datable contexts in Britain. One example is in the Glentrool hoard (PSAS LV, 29; LVI, 20); it has a narrower and more lanceolate blade than the Liesbütel spearhead, and has lines of incised decoration around the base of the socket-chamber, very battered, as is the horn from the site of Iolo, Argyll (O Riordain, 1936, pl. 17 fig. 7) with a socketed axe, a needle and a pottery bowl.


The other objects in the find are (1) a bronze-hilted dirk which Kersten assigns to his Period IA in Schleswig-Holstein, and (2) a flint dagger of Forssander’s Type VI, a Northern Late Neolithic type which occasionally turns up in Period II and even later contexts. The bronze dirk is the key object for dating.

The Liesbiittel find was in one of a group of barrows lying on a ridge in the Older Moraine belt of West Holstein, between the valleys of the Stor and Enster,
111

Spearheads

A district which, as Kersten’s maps (1936) show, was one of the most heavily populated regions of Schleswig-Holstein during the Aeldre Bäollefolk. It is a district well situated for communications with the south and west via the Elbe estuary, and with the north and east by numerous ancient trackways, branches of the Heerzveg and Oclzsemveg, leading on the one hand to Lübeck and the east, and on the other to Rendsburg, Schleswig and Jutland. Less than 10 km to the south-east of Liesbuttel lies Aasbuttel, where in 1899 another looped spearhead was found in a barrow, although without associations.

The Aasbuttel spearhead is also leaf-shaped, and with flattened loops, but the blade is flat, lacking the internal bevel of the Liesbuttel specimen, and the upper portion of the socket is sharply ridged. Its length is 16.5 cm. It was illustrated by Montelius (Civ. cit., 418, fig. 53). Kersten’s (1936) Taf. XIX: 8 is labelled ‘Aasbuttel’ but is in fact another view of the Liesbuttel spearhead.

The basal-looped spearhead from Onstwedde (fig. 28a) in the Netherlands is like the Liesbuttel spearhead except for being somewhat larger (length 25.5 cm) and having a ridged instead of a ribbed socket.

Similar basal-looped spearheads with ridged socket, flattened loops, and internally bevelled blade, but varying in size and relative width of the blade, from associated finds in Britain include: Stibbard, Norfolk (AB! fig. 409, B. M. B. II, fig. 36); Sherford, Somerset (Stev. Rep. 1936, 42). The great variety and numbers of spearheads of this type and phase in Britain, and the extent to which they are distributed, is the best known phase of the middle Bronze Age, and it is the most significant type in the history of metalwork in western Europe. The Sherford and Taunton hoards belong to the Taunton Barton Bevel phase, as does the Brading hoard with a variety of penannular bracelets of types not uncommon in this phase. Stibbard, a large hoard of unfinished castings, includes basal-looped looped and unlooped palstaves, plain and with Y decoration, of a distinctive small and debased local variety. A long-lived form is the Leesden variety, possibly not a genuine association. Stibbard should not belong to the earliest phase of the middle Bronze Age, equivalent to Early 5 III, where finished palstaves are not represented, but might be any time after that.

The Bargeroosterveld spearhead (27 cm) has a ridged socket and flat blade, like Aasbuttel but with more elongated blade. The loops have been broken out and it is not clear whether they were of the flattened or ‘string’ variety.

The other basal-looped spearheads from the Low Countries and that from Obergrunhagen (fig. 29) are characterized by exaggerated size. They vary from 36 cm to just under half a meter in length, and have rather wider blades than one customarily finds on British spearheads of their class, although they are British in all other typological details. The type, generally, is represented by Lakesheath (AH II fig. 409), except for the difference in width. The Duffel spearhead (58 cm) has a ridged socket, while those from Wichelen (42 cm), Duffel (42 cm) and Obergrunhagen (reconstructed as 36 cm in length) have rounded soc-
Fig. 29. Spearhead from Obergrfinhagen, Kr. Fallerbostel (NW Germany). 1: a
After Sprockhoff, 1941.
It is apparently this type of large spearhead, with rounded socket and lozenge-shaped loops, which is represented by the badly damaged and fragmentary specimen found in an urn grave at Wiesloch near Heidelberg (Pl. XIVa) together with fragments of a Rixheim-type sword and pottery assigned to Hallstatt AI (Kimmig, 1940, 155, Taf. 8B, Taf. 41: 8, 15). This would be equivalent to Montelius III in the North, and provides a clue as to the probable chronological horizon of the large looped spearheads found in the North, some of which have associations. The Obergrüninghausen spearhead was, like Ansbach, found in a barrow, but unaccompanied. A close parallel to the Obergrüninghausen spearhead from Chambles-sur-Lyon (Loire) in France was 'probably' associated with a shield-ornamented palstave of our type IA (information from Miss N.K. Sandars).

Finally there are two large spearheads with triangular blade and 'string' basal loops, one found in Belgium at Oudenaarde (East Flanders) and another probably in the Nijmegen area (exact locality unrecorded; probably a local find from the Rhine or Maas, judging by its encrustation of river pebbles). These belong to the type (III in the Hawkes classification) represented by Isleham Fen (Fig. 406).

In outline they are similar to the Manx looped spearhead (B.M., RA 4, Fig. 19, with repairs) but the latter has flattened loops, and belongs therefore to Hawkes III.

2. With loops on socket

Three small socket-looped spearheads with plain leaf-shaped blades occur in our North European area: one at Papenvoort, Gem. Rolde, on the Hunsrugg of Detmold; the second at 's-Hertogenbosch in North Brabant; and the third at Swarzow (Schenwurz) on the heights above Danzig on the East Baltic.

The Papenvoort spearhead has its loops in the form of flattened oval-shaped plates; the loops of the Swarzow spearhead are apparently similar (its loops are described as 'flat' by Sturms; they look oval in his photograph). The 's-Hertogenbosch spearhead has lost its loops, having been converted in antiquity (as shown by the surviving traces of patina) from a British looped model into a Continental pegged spearhead—the only case of such a conversion that seems to be known. The loops were, however, probably originally oval in shape, and not 'string'.

The Wiesloch spearhead is not isolated as an example of a basal-looped spearhead traded up the Rhine; others have been found in the Rhine area: Mainz (Ludwigsburger Grab), Marbach in Württemberg, and Port (formerly known as 'Thurnau') in Canton Bern in Switzerland.
loops were first removed; then the lower stumps of the loops were completely ground away, and peg-holes were drilled where these stumps had been sited. The tops of the stumps do expand slightly, suggesting that they also may originally have been of the expanded-plate type (see fig. 30).

The Papenvoort and ’s-Hertogenbosch specimens are stray finds. The Scowarcz spearhead, first claimed as a British export by Kostrzewski (*Plzegl. Arch. CXI, 1923, 168*) was found in a tumulus, in which two flanged axes were also found.

Fig. 30. Spearhead from ’s-Hertogenbosch, North Brabant, originally socket-looped; the loops have been removed and replaced with peg-holes. 2 : 3. Mus. ’s-Hertogenbosch.

Whether these three objects represent a single closed find is, however, not clear; Sturms (1936, 96) notes that ‘die patina on these three objects is somewhat dissimilar, but generally speaking dark green; it cannot be doubted that the three pieces belong together’. Spruckhoff (1934, 21) was less convinced; the question of association, he said, ‘ist nach bisher nicht mehr entschieden’. The flanged axes in question are described by Sturms as of South German form; they are generally regarded as being appropriate to Montelius II in Southern Europe, and Jungiana, Saugmeister and Schneider (1936, 168) see no difficulty in assigning the find in South German terms to Reinecke Aa. Sturms, however, placed it in Montelius II, relying on the spearhead itself as the critical dating evidence, and pointing to the Liesbuttel grave of Montelius II already discussed above. The metal of the objects was analysed by Otto and Witter (spearhead, OW 404; axes, OW 1131-2).
The spearhead has 15% tin, less than 1% lead, and is assigned to JSS Group F1 (Alpine metal). The two flanged axes are also of bronze, and of JSS groups Fl and F2 respectively; the composition of the three objects differs in detail, and therefore fails to throw any certain light on the probability of their having been associated.

In view of these uncertainties, it would appear to be unwise to put much weight on the Scowarcz spearhead for dating purposes.

Kostrzewski’s drawing of the Scowarcz spearhead shows two ribs encircling the base of the socket; Sturms’ description also mentions ‘zweidoppel Rillen’ at the socket-mouth, and they show, faintly, in his photograph. Such ribs are not typical of Anglo-Irish spearheads of this type.

The Trade in Looped Spearheads

Most if not all of the looped spearheads discussed above are likely to be actual exports from the British-North French provinces to Northern Europe; there is no evidence comparable to that which we have cited for palstaves to suggest that the fashion for looped spearheads took root in the North. The concentrations (if this term may be admitted to describe groups of from two to four) of looped spearheads are therefore particularly useful as pointers to the districts which may actually have been visited by traders, raiders or emissaries plying the routes between the English Channel region and the North. The Schelde and Rhine mouths are obvious enough as points of entry. The group in the northern part of the Netherlands is unusually the largest. It may be explained by two equally plausible routes: by way of the Rhine-Nijmegen and then overland to Drenthe, or by trade along the Frisian coast, entering by the mouth of the river Hunte. The two spearheads in West Holstein are evidently to be connected with the trade to the Elbe Mouth region, where palstaves and rapiers from the West also tend to cluster. The Oberspremberg spearhead might have arrived via the Elbe or from either end of the Weser. The exact find-spots depend on local and to some extent accidental factors, but all the finds occur in districts of heavy settlement, and the three German finds as well as that from Skowarcz are from barrows, which argues that they were not simply accidental losses by Western visitors but used and valued in the areas in which they were found. Unfortunately only one of these spearheads, that from Liesbiittel, has a context of associations genuinely useful for chronology; it has been extensively discussed (notably by Sprockhoff, 1936; Childe, 1937, and Cowen, 1948, 233 ff). No one would now challenge Cowen’s conclusion that basal-looped bat-looped spearheads are thereby proven to go back to the Middle Bronze Age in Britain. But it must be understood that Kersten’s IIA dating of the Liesbiittel spearhead does not
Spearheads

Spear heads IOS imply an early Montelius II dating. In Kersten's system (1936, 57 ff.) Period HA in Schleswig-Holstein does not correspond with his II (i.e., Broholm I) in Denmark (no finds of this stage were identifiable in Schleswig-Holstein) but rather with III; similarly, IIIB in Schleswig-Holstein corresponds with II in Denmark. But Broholm (III, 142 ff.) has not abandoned the distinction between IIIB and II in Denmark, both are included in his Period II. If the distinction between them is not enforceable in Denmark, where the richness of development makes finer distinctions possible, the question of whether the distinction between Ker­
sten's HA and IIIB in Schleswig-Holstein still holds good calls for re-examination by the authorities on that area. In any event, it is plain that the Liesbiittel spear­
head belongs to the period corresponding to Broholm II and not Broholm I; it falls in the same period as the Ostenfeld and Frøjkho hoards with their Western pal­
staves.

For the next fixed-point in the chronology of the British spearhead trade to the Continent we must turn to the Weidlich find in the Rhine-Neckar area, which shows that larger basal-looped spearheads were being exported from Britain in the period equivalent to Montelius III. The large spearheads from Obergreinagpen and the low Countries are not likely to be earlier than this; the nearest parallel in datable associations in Britain belong to our Taunton-Barton BrichILITIES phases. Since basal-looped spearheads with expanded loopplates are not a normal feature of the Wilburton and carp-tongue industries, it may be supposed that these types had gone out of use, and the time of these in­
dustries, and the probability of the exports being datable to these Late Bronze Age phases is accordingly slight; unless the dubious Langford Fen association (cf. p. 130 below) be taken as evidence for the late survival of the spearhead type. The large triangle-bladed spearheads with ‘string’ basal loops from Njølanger and Oudeheuvel are typologically the latest of the exported spearheads, and presum­
ably equivalent in Northern terms to Montelius IV.

C. IMITATIONS AND BORROWINGS

While there is no evidence for the imitation of Anglo-Irish looped spearheads in Northern Europe, Spronkoff has called attention to the occurrence of unlooped spearheads in Germany which possess features which he regards as derived from Wessex spearheads by imitation or borrowing. A spearhead from the hoard at Neuhausdorff (P. 90) (Spronkoff, 1943, Taf. 31 a–31 i), which contains two imported Western palstaves discussed previously, has a sharply ridged socket and internally bevelled blade, both features often found on British basal-looped spear­
heads. The Neuhausdorff spearhead may well be an imitation of a British spear-
Spearheads

head, if indeed not an actual import, along with the palstaves, from the British Isles; although it must be admitted that the ridged socket is a not uncommon feature of Northern spearheads from Brakkholmen 1 onwards, and need not in itself be a purely British feature. Hachmann (1957) claims the Neuhaldensleben spearhead as of Northern manufacture (Vålandtype 1959).

A long thin rib running down the length of the socket, such as occurs on the imported Liesbuttel spearhead in Holstein, is also found as one of the identifying features of the spearheads of the Ilmenau culture known as Luneburg Type II spearheads (Tackenberg, 1932, 65 ff.; Schiesinger: Petersdorff, 141 ff.). Sprockhoff has suggested that the socket-rib of the Ilmenau spearheads is a borrowing from the British spearheads of Liesbuttel type (1944, 79). This has been doubted, however, by Tackenberg (1944, 79 ff.) who points out that the socket-rib is the only feature which the British and Luneburg spearheads have in common, and who prefers to believe that the Luneburg socket-rib is an independent local invention, imitating a casting-seam down the centre of the blade. Impossible in this theory, a spearhead with a casting-seam is exactly this position is in fact illustrated by Brandtund (Dokumente, II, fig. 111). On the other hand, the socket-rib has a long prior history in the British Isles (appearing, for example, on one of the Ormsk spearheads possibly, Coffey, 1953, fig. 21b) and Sprockhoff's derivation is chronologically possible; the Luneburg Type II spearheads first appear late in Montelius II but are especially common in III. With spearheads as with palstaves, there was in general a great deal of borrowing back and forth across the North Sea.

A more striking case of imitation appears after the end of the Middle Bronze Age, with the adoption in both provinces of the peculiar technique of casting spearheads with a hollow blade. In Britain, the hollow-bladed spearhead (Class VB in the Greenwell-Brew classification) appears in the Wilburton Fen hoard (Clark, PCH Camb, I, 297, fig. 293) and other typical Late Bronze Age hoards. Two sub-types can be distinguished: One, which may be called VB1, the 'half-hollow' variety, resembles the normal Class V leaf-shaped spearhead in general appearance, differing only in having its blade partially hollow. It cannot always be recognized from published illustrations unless a cross-section is given. The second variety (VB2) assumes a quite distinctive form: the hollow blate wings become much thicker, so that the cross-section is lozenge-shaped or nearly so, and the socket becomes very short. VB2 appears to have a more limited distribution than VB1, being largely confined to South England; only one find is known in Wales (in the St Hilda hoard, Grimes, 1955, fig. 70-71 and one in Ireland (Bognellpark, Co. Roscommon, NM Dublin, P. 1951: 33).

In Northern Germany (especially in Mecklenburg), Denmark and South Sweden are found analogues to the British Type VB1 in technique and general form, although there are differences of detail between the typical Northern hollow-bladed
aparheads (which are regarded as a characteristic form of Montelius IV; Broholm, DB IV, 37; Sprockhoff, 1937, 44-5; Baudou, 1960, fig. 150 (list), Karte 5, Taf. III: IVA; Oden, 1938) and the British ones. The Northern spearheads have a different blade outline, and often have two curving ribs on the socket, a feature not found in Britain. Yet the similarities justify the assumption that the Northern and British series are closely related, and there are a few examples in the North which provide a more intimate link between them. Thus a spearhead found in Scania (Vitshoksl sn.; fig. 31) fairly closely resembles one from Wilburton Fen, and others from the Thames at Richmond (Greenwell and Brewis, 1909, fig. 45) and Fenny Bentley, Derbyshire (B.M. BAG, fig. 91). Another hollowbladed spearhead from Scania (Skurups sn., fig. 31) has a ribbed ornament on each blade wing suggesting imitation of British spearheads of the lunate-openings type, which at
Spearheads

Wilburton Fen and elsewhere are contemporary with hollow-bladed VB2 spearheads in Britain. These features, as well as the similarity of technique, which can hardly be accidental, suggest contact between South England and Scania in the Nettleham-Wilburton phase-Montelius IV.

Spearheads with the "half-hollow" feature analogous to British type VB1 also occur in Northern Europe (a probable British export was dredged from the Elbe at Harburg; Mus. Harburg, 49440), but the type has not been studied on the Continent and its distribution in space and time is therefore unknown.

In the British Isles, "half-hollow" spearheads occur in a wide variety of forms in the Wilburton phase and also in comparatively late hoards such as Stoke Ferry, Harbury Burn and Dereham. Some examples of the long, narrow Boyle type (Arch. LIX, PI. LXXI: fig. 51) represented at Dereham, and in the Huelva hoard in Spain, are "half-hollow".

Another Montelius IV spearhead contact between Britain and North Germany is represented by a form of spearhead with a leaf-shaped blade which has its widest part close to its base, and then curves in sharply to the socket, as in the hoard from Bargfeld, Kr. Uelzen (Bath, 1953, Tyt. XXXI : 126). Bath (Ibid, 82) tells us that it is not a typical Helmarus form. Sprøckhoff (1956, Abb. 64) illustrates some large examples of the same type from Montelius V: one from the Lauen at Burg Lauen (near Bremen) and one from Künstenland, Kr. Anchendorf (on the Ems). Spearheads with blades of this characteristic shape are not uncommon in Britain. Some spearheads with blades of this form have loops on the socket; others have "protective" loops inside the blade (e.g., Cookham, Berks., BM. 1905/7, 13/1). The Bargfeld spearhead might, from the illustration, well be a British export; its socket, however, is partly broken off so that we cannot tell whether it had loops. Another, possibly from a grave, is in Leuticke-Gübel, Kr. Labur, Saxony (Van Brunn, 1954, 26, Tyt. 11: 5). A spearhead with a similar blade form, but with a faceted socket, was found in another Montelius IV hoard at Bad Oldesloe, Kr. Stormarn (Sprøckhoff, 1937, Tyt. 6: 17). It appears to be a hybrid between the British form and the "faceted" type which, according to Sprøckhoff, comes to North Germany from an unidentified source farther south (Ibid., 26; Høeg, 1955, Tyt. 72-82).
LIST OF LOOPED SPEARHEADS IN NORTHERN EUROPE

(ef. Map VII)

I. With loops at base of blade

Germany


3. Kr. Fallscheidt. Obergriethen. 38 cm. Round socket, bevelled blade, lozenge loops. Found in barrow (untraceable). Fig. 29. Sprockhoff, 1934, 79, Abb. 64.

Netherlands


II. With loops on socket

Poland


Netherlands


Spearheads

NON-LOOPED BRITISH OR BRITISH-INFLUENCED SPEARHEADS CITED IN TEXT

Denmark


Sporuplund. 'Dagger-bladed' socketed spearhead. Grave find (Broholm II). NMC B. 1950, 215. Fig. 27. Borchgrevink, DL I, 33: 111, Pl. 18.

Saxony.


A British, or at least Western European, origin has often been claimed for the grooved ogival dagger from Virring in Jutland (Forssander, 1936, Pl. XL) and the very similar specimens from Deutsch-Nienhof, Kr. Rendsburg. A British origin has likewise been suggested for a fragmentary blade found in peat at Østerhoved Mose in Jutland.

That the Virring-type daggers are British in origin appears doubtful to the present writer. Admittedly, these blades are very near relatives to the British and Irish grooved ogival daggers of Ap Simon’s ‘longer’ sub-type (1954, 44 n.), of which the unlocalized dagger from Ireland, Raftery, 1951, Fig. 134, may be cited as an example not unlike the Virring and Deutsch-Nienhof daggers in outline, decoration and rivet arrangement. Ap Simon has pointed out that this sub-type is very close to the Swiss grooved ogival daggers (cf. Kraft, 1926; Flanagan, 1961).

The majority of the Swiss daggers have six rivets, but four-riveted examples also occur. But the four-riveted Virring and Deutsch-Nienhof daggers are also very close to Swiss prototypes. They are slightly narrower in the lower part of the blade than most of the Swiss daggers. In cross-section they are a flattened pointed oval; the Virring dagger has a not very clearly defined medial ridge on the upper part, the Deutsch-Nienhof specimen has a slightly raised midrib, scarcely 1 cm wide at the hilt end and tapering down until it disappears about one-fourth way down the blade. This form of midrib can be paralleled in Switzerland (e.g. Lidden, Kt. Wallis, Mus. Zurich) but not in Britain. Of distinctively British or Irish features (such as the dome-shaped midrib, hatched triangle decoration in run arc below the hilt-plate, ribs along the edges of the blade etc.) there is no trace on the Northern daggers. Although a dagger very similar in size and proportions to Virring (the hilt-plate is damaged but it appears to have had four rivets; present length 23.6 cm, compared to 25.5 cm for Virring) comes from the Thames in Surrey (private collection; Index of Bronzes), a parallel derivation from Switzerland would account for the resemblance. Since the British and Northern daggers are closely derived from the same sources, it is however probable that they are
Daggers, rapiers, knives and razors

Quite contemporary with each other. A West French origin for the Virrin and Deutsch-Nienhof daggers, is to be doubted. Gast (1960, 36–8) gives the impression grooved ogival daggers are rare in Brittany. The French examples mentioned cited as parallel to Virrin’s e.g. Villeneuve St. Georges, De Marniche, 1933, Pl. LXIV 84; Collection Picart, Larrieu, 1948, Fig. 41: 265 are actually full-length rapiers and presumably later in date, though closely in the same family.

More likely to be of Western European manufacture, but not British is the Osterhoved Mose blade published by Broholm (1935, 257–8, fig. 1). Only the lower end of the weapon survives, from its dimensions (the fragment is 36.6 cm long and 5.6 cm wide) it is clear that it is not a dagger but a rapier of exaggerated proportions. The tang-like projection is simply the survival of the thickened midrib, the thinner edges having been broken or corroded away. Both its size and the distinctive formation of the midrib – dome-shaped in cross-section in the area enclosed by the grooved lines, becoming a thin edge below – correspond exactly with the broad rapiers of Sandars’ Atlantic type, as in Plougescast (C du N). The type is represented by several finds in Brittany, one of them (Canetil) is a sword with eight examples, and meaningly manufactured in that province; some examples have metal hilt with a drooping lower edge, a distinctively Western European feature (cf. Holste, 1942, with distribution map of rapiers with this hilt form).

The origins of the blade form of the Atlantic rapiers can be traced to eastern and central Europe. A sword allegedly found at Pella in Macedonia (Holste, 1953, Pl. 15: 8) has a blade resembling the Atlantic rapiers, although the metal hilt has some affinity with Hungarian swords (Holste groups it with the Aep type). Daggers with similar midrifs are found in Switzerland; full-edged Atlantic rapiers come from the Rhone near Lyon, Brissac, the Seine at Paris and the Waal at Nijmegen. Baroque ceremonial versions (cf. Plougescast) have been found at Brissac in eastern France (1952) and Ommerschans in Overijssel, Butler and Bakker, 1961). The same midrib formation occurs occasionally on daggers and narrow rapiers in the British Isles. Finally there is the remarkable short sword from Ker- ler on Öland, the midrib form of which resembles the Atlantic rapiers, but with a leaf-shaped blade recalling Hippe-Sämann and a metal hilt the nearest analogy to which is Trassem (Behrens, 1916, Abb. 6).

Since the only significant concentration of rapiers of size and form comparable to the Osterhoved specimen is in Brittany, it is somewhat probable that the Osterhoved blade is a Middle Bronze Age import to Jutland along the Atlantic route. Its dagger prototypes are attributed to Brunschief Aae, the full-edged rapiers, as the basis of the Pella-Apa connection, would begin in the Earliest Tumulus horizon of Holste. A typical Atlantic rapier also appears in the Middle Bronze Age hoard of Trehard in Brittany (Britard, 1935), the baroque end of the development is dated by the Ommerschans hoard to the time of the Pantalica phase in Sicily.
Daggers, rapiers, knives and sabres

B. TRAPEZE-SHAPED AND RELATED RAPIERS

A few finds of Anglo-Scots rapiers occur in Northern Europe.

Three of these rapiers form a geographical group in North Germany, two in the Lower Elbe area and a third near the coast between the estuaries of the Elbe and Weser. One from Olixdorf, Kr. Steinburg (fig. 32: 3) with a three-ribbed blade of a type not common in South England, lies near the river Stor which flows into the Elbe estuary from the north; another from Ruschwedel, Kr. Stade (fig. 32: 2), just south of the Elbe, with a prominent rounded midrib, two found in a grave in a barrow, though without other associations. The rapier from Wentermann, Kr. Hadeln, has a rounded midrib flanked by two grooves which broaden out to become sides inwardly bevelled facets on the hilt-plate (fig. 32: 1). All three of these rapiers have trapeze-shaped hilts with two rivets. The Olixdorf and Ruschwedel rapiers preserve the outline of the lower edge of the hilt.

1 A Montelius IV hoard from the same place, published by Sprockhoff (1924, i18 ff. Abb. 3), has, apparently, no connection with the rapiers.
which had the triple-arc form known from the metal-hilted Kanturk and Mont St. Aignan rapiers. Hilt-marks of this form are observable on many British trapeze-hilted rapiers.

Another rapier, found in Westphalia, at Greffen, Kr. Warendorf, appears less typically Anglo-Irish in details, but Spruckhoff (1941, 61, Taf. 33: 1) regards it as a product of Irish influence if not an actual import, comparing it with the trapeze-hilted rapier from Lissane. Rapiers of Anglo-Irish types also occur in the Netherlands (Essen, Drente, 3 ribs on blade, but rather short; Museum Nijmegen, without exact provenance, with rounded midrib; Maastricht, typical hilt form; Lobith, Gelderland, long and narrow, four notches. The first two are very British-looking, the second two somewhat deviant). The use of the Rhine-Westphalian route is suggested by these and the Greffen find. These Continental rapier finds unfortunately offer no help for chronology, being all unassociated finds; though the Reckendorf barrow grave is likely to have been of the Middle Bronze Age of the area, which in the Stade district has a Northern rather than a North-German character. The British trapeze-hilted rapier is presumably to be derived from the Tumulus Bronze Age type with a similar hilt form, although usually with a different form of midrib and smaller rivets. The trapeze-hilted rapier from Mont St. Aignan (Seine-Inf.), associated with palstaves and a metal-hilted rapier with the three-arc hilt form, provides a link between the Tumulus and Anglo-Irish series. British associations include the hoards from Maentwrog (B. 1 I. BAG, fig. 29, with basal-looped spearhead with triangular blade); Crediton, Devon (Inventaria, GB. 4, with a palstave of our type II A3a and another of distinctive Cornish-Devon type, related to those of the Somerset industry of the Taunton phase); and in Scotland the Glentrool hoard, which also has Somerset connections.

LIST OF RAPIERS OF ANGLO-IRISH FORM IN NORTHERN EUROPE (TRAPEZE HILT, TWO RIVETS)

1. Kr. Steinburg. (Oetker.) Mus. Schleswig, K.S. 2045a. 3 ribs on blade; three-arc hilt outline (fig. 33: 3). Kersten, 1939, 388, Abb. 11 la (p. 100).
Daggers, rapiers, knives and razors

C. SOCKETED KNIVES

Two socketed knives of British-Irish origin have been published by Sprockhoff (1936, 14, 77, Abb. 4:1). One, a stray find, is from Tostedt, Kr. Harburg (ibid., Abb. 4:1); the other from a Montelius hoard at Beek, Kr. Rurberg (ibid., Abb. 4:2).

Both specimens belong to the Thornden type (Hodges, 1936, 38, fig. 4, cf. the Thornden hoard, Suffolk, Illventaria GB. 11, assigned to LB 2). Knives of this type are common in South England, especially in the Thames Valley and East Anglia, and in Ireland, specimens are also known from France.

D. TANGED RAZORS

The possibility that British tanged double-edged razors were exported to Northern Europe was first raised by the present writer, with I. F. Smith (1936). We were then concerned to point out the connection between British razors and those of the Central European 'Tumulus Bronze Age', which possessed tanged razors from Reinecke B onwards, and thereby to break through the chain of misconception which had led to the erroneous dating of all such razors, together with the things associated with them, to LB 2. It was also suggested that the narrow-tanged (Class IB) razor from the rich Siggel grave at Dremnitz (ibid., 22-4, 49, no. 13, with further references, fig. 34:1) might well be a British export. Two other long-tanged specimens from graves on the North Frisian island of Amrum were also cited as possibly of British origin or inspiration (ibid., 22, fig. 7:6, 7; now also Kersten and LaBarge, 1959, 125, Taf. 52:13, and 131, Taf. 85:19. The first of these can now be seen, from the new illustration, to be much less razor-like than we formerly supposed, and is to be withdrawn from our list.

More recently, further examples of early double-edged razors have been published both in the British Isles and in Northern Europe. Those in the British Isles additional to those listed in Butler and Smith, 1936, include: (1) Great Heck, Kr. Württemberg, inhumation grave, fig. 33:7, H. Müller-Karpe, Bull. Pal. Ital. N.S. XII, 69-70, fig. 4; (2) Westhorpe, Lincs., Denning, Ober­kofel, presumably transcribed as one of the headless Thorsby, Teutoburg, 1959, 143, Taf. 69:21.

Include the specimens from Strathern, Leicestershire (in grave with Wessex-type pygmy cup, Invetcrum GB. 25) and Kilmore, Co. Westmeath (Prendergast, 1966, 78, fig. 22a, b). In Denmark, a good specimen, though with damaged tang, was found in a rich warrior’s grave in East Jutland, at Nim (fig. 33: 2; Sylvest, 1957, 44, fig. 22a; I am grateful to Dr. Sylvest and to P. Kjaerum for a full-size outline drawing of this razor). The grave is dated to Boshage II. Another rich grave of the same period, but this time in the district between the lower Weser and the lower Elbe in Northwest Germany, at Ehestorf, Kr. Bremervörde (fig. 33: 3; Nowotnig,
Daggers, rapiers, knives and razors

117

1958, 151 ff., Zaif, 1: 5, Abh. 41) contains a fine tanged razor, found with remains of its original leather sheath. It has angular shoulders and a slight V-notch. Mention should also be made of the tanged razor with slight round notch at the butt, but without a midrib, from Zeijen, Gem. Veen, Drenthe (fig. 33: 6; Van Giffen, 1949, Abh. 42, no. 76).

This specimen, which is severely corroded, and the edges of which have been abraded, is embedded in plaster in the Anna-Museum, numbered but without a corresponding inventory entry. Reference to the Find Book for 1947 (BO, Groningen) and the original excavation plan shows, however, that it is certainly the specimen excavated by Van Giffen in the prehistoric cemetery of Zeijen, it was not actually found in a grave, but within a rectangular enclosure-ditch of Early Iron Age date (with which it need not necessarily have any connection), together with sherds and stone objects. In the Museum are preserved under the same number, however, only a single wall-sherd of coarse pottery of indefinite type and a fine crinkled scrap of worked flint. Part of the site-plan, with a marginal miniature drawing (adequate for identification), was in fact illustrated by Van Giffen, in connection with later excavations on the same site (Van Giffen, NDV, 1949, Abh. 42, no. 76). Unfortunately it is not clear whether the razor came to the site in question with the Tumulus or with the Urnfield folk, both groups having buried their dead there.

The very rarity of these double-edged razors in Northern Europe suggests that they were never part of the repertory of the smiths in the area, and encourages the belief that the specimens found represent imports. The Drouwen, Zeijen, Ehestorf and Nim specimens are surely to be connected with the British rather than with the Tumulus Bronze Age razors on the basis of their size and proportions and the shape of blade and tang. Three of these specimens come from rich warrior’s graves, which date their beginnings as early as Siegel times (equated by Hachmann, 1957, with Rhenische A2) and also show their use in Northern Period III.

Northern European razors of Class IV were apparently also exported on occasion to Northern Europe. A bifid razor was found by Van Giffen (1945, 217, no. 276, Abh. 13A), in the Urnfield at Gasteren, Gem. Anloot, Drenthe. This razor has a broad V-notch at the butt; its tang has an atypically curved outline, and at the base of the tang a pair of diagonal side-wards projections. Van Giffen interpreted these lugs as the stumps of a ring-handle, such as occurs on Central European Urnfield razors which were occasionally imported to the district. The projections are not, however, carved; they are not clearly broken off; and the end of the tang continues on beyond them—all features which argue against the ring-handle interpretation. We should therefore rather connect the projections on the tang of the Gasteren razor with the lugs found in the same position on the razors of Hodges’ Class IV (Hodges, 1956, 44, list p. 57; Evans, Abh. fig. 278-8). These Class IV razors are, however, leaf-shaped and not bifid. Even better as a parallel for the Gasteren razor’s lugs are, however, the diagonally set lugs which are a feature of...
Daggers, rapiers, knives and razors

one Nordic type of single-edged knife characteristic of Montelius IV (Sprückhoff, 1937, Taf. X: 10; Broholm, DO IV 33; newest example, daggers from Västergötland VI, 1961, 32, 486-486). It may be that the Gasteren razor was made by a smith familiar with this type of Nordic knife, although admittedly specimens of the knife-type in question are so far unknown in the district. Yet in other respects the Gasteren grave resembles Western European blades. It is not, however, a specimen of the fully developed Atlantic bifid type, since it has no midrib, no hole in the blade, and a rather broad notch. The Gasteren grave which contained the razor, the richest grave in the cemetery, belongs to a stage which locally can be equated with early Hallstatt II and late Montelius IV, and may thus be more or less contemporaneous with a Western European bifid exported in the other direction to Sicily in the Cassibile stage (Herckens, 1955). To the same stage at Gasteren belong urns which, as Waterbolk (1954, 209) has pointed out, bear a close resemblance to the East Anglian globular urns of Ardleigh type.

The blade of a large bifid razor (9.5 x 7 cm), with an ornamental midrib, was found in a Central German steinkasten on the Schweringhöhe (Kreis Herzberg) near Heinsberg, Münsterfähr Sudling (Rauch, 1934, 8–9, Taf. XIII: 10). The razor, which has lost its tang and part of the blade, bears, according to Rauch (cf. Koenigswald, 1935, 186, Taf. 1, 1) decoration on the midrib consisting of barely visible small diagonal strokes. The razor was found on the paved floor of the 3 meters long cist. Near it was a roll-headed bronze pin (a seemingly long-lived type), Rauch, Taf. XIII: 10; there were no other grave goods. An adjacent cist of very similar construction contained, however, a pottery bowl, a bronze penannular brooch with slightly expanded, meeting ends, and a bronze spearhead (Ibid., Taf. XIII: 5, 11). These cist graves belong to the ‘Unstrut group’ described by Von Brunn (1934), the Holmsdorf graves are, according to him, to be assigned to Montelius IV.

1 The Cassibile razor may be compared with the Spanish specimens represented in the Huerta de Arriba hoard (Province of Burgos), inventory E. 2: 21–24.
CHAPTER VII

SWORDS

(List, p. 139; fig. 34; Map X)

A. FLANGE-HILTED SWORDS

Finds of British and Western flange-hilted swords in Northern Europe have been studied by Cowen (1952, 135 ff.; 144 ff. [List], PI. XV-XVII). He classifies them as follows:

U-type
Badegow near Crivitz, Mecklenburg-Schwerin; 'North Boheian', Netherlands.

V-type
'North Bohemian'.

Where-Else (not in Strassburg): Hints, L. Urban, Hanover (grave?).

Late Ewart (mostly showing Hallstatt influence)
Gestringen, East Flanders, Belgium; Nijleggen, Gelderland, Netherlands; Bacharach, Rhineland-Palatinate; Krefeld, L. Borkel, and Moers, Westphalia, Germany; Beenz, Brandenburg; Kirkeby, Fyn, Denmark (hoard, Montelius V). Fragment possibly of this type: Hellwitt, Sønderborg A., Als, Denmark.

Carp-tongue (from Atlantic France)
Nijleggen, Gelderland; Cathenburg, Kr. Northern Hanover; Elbe valley near Dresden, Saxony; Kr. Angermünde, Brandenburg (with added Northern antennae-hilt); Wipperfürth, priv. Jäckh, Krefeld, North Rhine-Westphalia (Fragment possibly of this type: Holstein, Sandsbro, Alth, Denmark).

A sword closely resembling the specimen of Ewart type from Bacharach has meanwhile been illustrated from the Rhineland; it comes from Adendorf, Kr. Meers (Landschaftsmuseum, Bonn, 54: 55).

Von Uslar, Dänische Ulfberth 1957, 425, 431, 458 et seq. correctly describes it as a 'carp-tongue sword'; Kutchelow, 1939, 2, Teil I, 14, calls it a typical Hallstatt sword; although she re-illustrates the remarkably similar Bacharach specimen beside 2, Teil I, 14, she calls it Hallstatt-like rather than the other two, to which exact provenance.

The chronological problems connected with these swords were dealt with by Cowen in a series of studies (1951, 129 ff.; 1952, 129 ff.; 1955, 52 ff.). In Cowen's view the earliest British leaf-shaped, flange-hilted swords were derived by imitation from Western Germany early in Hallstatt A, and were very soon imitated in
Britain. The beginning of British exportation to the North, represented by the Badegow sword, should have occurred, in Cowen’s view, before the end of Montelius III— in time to allow the slotted tang of the British swords to be imitated on the swords of the Lower Elbe type (Spröckhoff’s Type II), which are now regarded as a characteristic form of the Dannebrog Culture in its later phase, corresponding with Montelius III. The Lower Elbe swords are short, not leaf-shaped, and generally quite dissimilar to the British sword-type in question; it is a matter of the borrowing of a single feature only. The case thus parallels that of the alleged borrowing by the Dannebrog Culture from Britain of the socketed-hilt for its Type II spearheads, as described above (p. 121). Cowen conceives the possibility, though he doubts the probability, that the slotted scabbard-tang originated on the Lower Elbe rather than in the West.

In fact, no leaf-shaped sword is datable by associations in Northern Europe until Montelius IV, and the force of Cowen’s endeavour to show their presence in Montelius III by way of the pommel-tang on Northern swords of the parallel-sided Spandau type has been weakened by Von Brunn’s suggestion (1958, 17) that the Northern pommel-tangs need not be derived from imported copies of the Erbenheims type. Departure of the Northern Montelius III swords now goes, we cannot tell whether the initial diffusion of leaf-shaped swords to the North and West occurred in Montelius III-early Ha A or Montelius IV-late Ha A. An indirect approach is possible through the leaf-shaped swords with non-flanged hilts, which Hodges (1956, 77, with dist. map fig. 3) suggests are a reaction of native smiths to the earliest incoming leaf-shaped swords. At Southend-on-Sea, Essex, one of these and a fragmentary blade was associated with a looped palstave of our “East Anglian” variety (unpublished; Index of Bronzes) at Penard, Glam. (Grimm, 1951, No. 553, fig. 71: 8-14), with an original socketed axe, a poly-leaf-shaped spearhead, and bronze-tanged arrowheads, none of which seem closely datable, though the socket-mouth, modelling of the Penned use suggests derivation from our Taunton type. The Penned arrowheads have parallels in some of the Central European sword-graves illustrated by Cowen (1955, fig. 29, Wollmuthsee, 468 A, Hesse-Gen- trup); Kimming (1956, 201) cites others, mainly of Hallstatt A, although they occur also in earlier and later contexts, and have no specific dating value. As far as these two hoards go, they suggest that the early leaf-shaped swords in Britain were coming into use about the time of our Taunton-Barton Bendish phase, about the turn of Montelius III-IV; the early Western swords exported to Northern Europe should be a bit later, i.e. Montelius IV. The Hörer sword, according to Cowen (1952, 170) would be late Montelius IV or early V on the basis of its association with a Northern sword of narrow-tang type. The Late Event swords, dated to Montelius V on the basis of the Kirke Søby hoard, reflect, according to Cowen, the influence of Hallstatt swords, and should not therefore be earlier in Central
European terms than Ha C; yet the Kirke Søby spearhead was claimed by Vogt as derived from Ha B. Although Cowen’s typological argument appears irresistible, the chronological implication—the partial contemporaneity of Ha B and Ha C—is not accepted in Central Europe (Von Brunn, 1958, 18). The same chronological problem arises in connection with the carps-tongue swords, which are clearly dated to Montelius V in the North and Hallstatt B in Central Europe. The distribution of the Late Ewart swords on the Continent suggests the use of the same route across the Lower Rhine valley and Westphalia to Central Germany that was used for Irish axes and halberds in the Early Bronze Age; although there is no concentration in Saxo-Thuringia at the far end. The distribution of the carps-tongue swords, though different in detail, harmonises with that of the Late Ewart swords. Beyond Central Germany we get a thin scatter to East Germany, Poland and Denmark; Western socketed axes reach the same regions, as did isolated examples of other products. Further discussions of the meaning of this trade with the East may be reserved for Part II (pp. 226 ff.).

8. TANGED SWORDS

The well-known hoard from Dulduff, Kilkerran, Ayrshire (Anderson, 1886, 173; Leeds, 1910, 5 ff., fig. 23), which contains fragments of a cauldron, and socketed axes, also has two fragments of a sword which has never been illustrated or described. They represent the upper portion of a tanged sword (fig. 34). Of the tang, a length of only 1 cm survives; it is narrow and has a rectangular cross-section. The blade is of lozenge-shaped cross-section, the faces being quite flat. The sides of the blade are gently curved, tapering from rounded shoulders. Both fragments together measure 24 cm; the width at the shoulder is 4.4 cm.

Exactly similar swords, with shoulders rounded like the Dulduff specimen or more angular, with, according to Broholm, a shoulder width up to 5 cm, are very common in Scandinavia and adjacent parts of North Germany. Broholm (DB IV, 28 ff.) claims 90 specimens for Denmark, while Sprockhoff (1952a, Karte 3) maps 75 or more for North Germany, which are strongly concentrated in a roughly triangular area with its corners in Schleswig-Holstein, near Königsberg, and in the vicinity of Magdeburg along the Elbe. The Scandinavian specimens are most densely concentrated in the Danish Islands and Scania, with a relatively thin distribution in Jutland and in South Sweden apart from Scania. Some have decorated blades; many have fitted metal hilt. They are most common in Montelius IV, but

1 The Kirke Søby and related spearheads are discussed by G. Jacob Friesen (Die Kultur, N.F. VIII, 1957, 224 ff.)
The hoard is dated by its cauldron-staples, of Lead's Class A2; Hawkes and Smith (1957, 183 ff.) assign Class A cauldrons to the seventh century. The socketed axes are of the faceted variety. From Anderson's account (op. cit.) it appears that these objects presented to the National Museum at Edinburgh, formed only part of the hoard.

Another tanged sword, unpublished, was called to the writer's notice by Mr. H. W. M. Hodges. This, a complete specimen, was found in the Lower Bann half a mile above the Cutts, Colerain, Co. Derry. Its blade is lozenge-shaped in section; the sides narrow sharply just below the shoulder, and then run nearly straight and parallel to the tip. The shoulders are strongly convex, with a notch or broken-out rivet-hole on each shoulder. A dome-shaped button fits over the end of the tang, and is attached to it by a thin pin which projects from the tang tip and through a central hole in the button, a feature which occurs on more than one variety of sword (e.g. the Morigen sword, Slawno, 1209), and is not particularly common.
as tanged swords. The cross-arrangement resembles that of the large daggers from the Montelius III cist grave in the "Busnahög" Halland (Millnell 1906).

Another unpublished tanged sword (B.M. 63.1-22;14) comes from the Thames at Kingston. Its shoulder is straight and inclined at an angle of 45 degrees, as so many Northern tanged swords (cf. Sachsenwald, Kr. Lauenburg, Kersten, 1951, Abb. 53:2). The blade is lozenge-shaped in cross-section, but the edges are bevelled, and there is a high narrow midrib down the centre which broadens out at the shoulders, a feature not typical of Northern tanged swords. Tentatively we classify it as of Northern origin or inspiration.

C. OTHER NORTHERN SWORDS

Here we may merely refer to Cowen’s discussion of certain Northern swords at one time or another alleged to have been found in the British Isles (Black Gate Museum, Newcastle; British Museum ex Brent Collection; Yorkshire Museum, York; ex Kendall Collection; Dublin Museum), which all lack convincing evidence of British provenance (Cowen, 1933, 199ff.; 1932, 138-9). His statement that ‘no sword of northern origin, nor even one showing northern influence, has ever certainly been found in Britain’ (1952, 178) requires, however, modification in view of the tanged swords here cited.
CHAPTER VIII
CHISELS AND GOUGES
(Fig. 35)

A. LUGGED CHISELS

The lugged chisel (trunnion celt, or as Maryon prefers, stake) in the hoard from Voorhout, S. Holland (fig. 14d) in company with palstaves of our 'Welsh' type and other objects which connect it with the Ilsmoor horizon in North Germany, raises the question of the dating of this metal-worker's tool in the British Isles.

The Voorhout chisel, with nearly parallel sides and distinct projecting lugs, agrees in form with many British and Irish examples of the type, and appears otherwise to have no close parallels in Europe north of the Alps. On typology, location and associations the Voorhout chisel may be claimed as an export from the British Isles.

A lugged chisel with its cutting edge at right angles to the lugs occurred in the hoard from Westbury-on-Trym, Glo. (Monger and Hardy, 1938, R. 37, p. 238, fig. 11) with three decorated cast-flanged axes. Although no precise parallels are known for its transverse cutting edge, it appears that the tool was known in principle in Britain before the end of the Early Bronze Age; so there need be no surprise as to the early Middle Bronze Age dating of the Voorhout specimen. The type may well have reached the British Isles from the East Mediterranean together with other well-known influences from that quarter in the Wessex period; an example

1 Some 15 examples are known in Ireland and one in Britain (see list below). This does not include the type of chisel with very narrow lugs separated from the blade by a moulding or boss such as B.M. L.F.A. fig. 11, a type frequently found in LB I hoards. A very similar example of the latter type was found at Beulahhoof, Kg. Stinch (Spray, 1921, PL. 41 : 11).

2 A different form, in which there is no actual lug, but merely a sharp nick in the sides formed by two curves meeting at an angle, is the more common type in the East Mediterranean (Maxwell-Hyslop, 1935); similar lugged chisels appear in the Unetice bronze industry in Bohemia and Saxon-Thuringia, e.g. Leubingen (Hoff, 1928, PL. 1 : 24), Bernsdorf (Hoff, 1928, PL. XXIII /1), South-west Germany (Kaditzberg, Kg. Ersfeld, Hof, 1936, PL. 1 : 13) and the North (Kg. Lauer, Kg. Nordwinden (Kerenyi, 1938, 704, PL. 1 : 13) and the North (Kg. Lauer, Kg. Nordwinden (Kerenyi, 1938, 704, PL. 1 : 13) and the North (Kg. Lauer, Kg. Nordwinden (Kerenyi, 1938, 704, PL. 1 : 13) and the North (Kg. Lauer, Kg. Nordwinden (Kerenyi, 1938, 704, PL. 1 : 13). Some of these are flanged. Other parallels are cited by Holste, ibid.; for the North see Kersten, 1936, 71 (chisels of his Form I) and Hackmann, 1937.
Chisels and gouges

from Asine in Greece, from a Late Helladic context (Frodin and Persson, 1938, 371, fig. 214: 2; Maxwell-Hyslop, 1953, 69 ff.) is the best Eastern parallel to the Voorhout form. At Balnakeil, New Luce, Wigtownshire, a small lugged chisel appears with a bone crutch-headed pin and a faience quoit-pendant, both types with Wessex connections, with a cremation in a tripodary cinerary urn.

Late Middle Bronze Age and Late Bronze Age associations of lugged chisels in the British Isles include from Brompton, Cheshire, (with two looped palstaves and a hoisted spearhead); Meole Brace, Shropshire (with two looped palstaves); Bishopsland, Co. Kildare (connected with our Taunton-Barton Breckland phase, see below, p. 223; Yattendon, Berks. (LB.4 founders' hoard); Lacekap, Co. Offaly (hoard of metal-workers' tools, including socketed gouge and other late types). The find from Fairley Heath, Surrey, with a lugged chisel rather like the Voorhout specimen, palstaves, a spearhead and socketed axe, is described (BM, LPA, 45) as 'not certainly a hoard'.

It appears therefore that the Voorhout-type lugged chisel was in use in Britain from the beginning of the Middle Bronze Age until the end of the Bronze Age.

LIST OF VOORHOUT-TYPE LUGGED CHISELS IN THE BRITISH ISLES

<table>
<thead>
<tr>
<th>Location</th>
<th>Context</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheshire</td>
<td>Broxtoll</td>
<td>Archaeol. XLI, 238, fig. 97.</td>
</tr>
<tr>
<td>Berks.</td>
<td>Yattendon</td>
<td>PSA (2), VII, 480 ff.</td>
</tr>
<tr>
<td>Kent</td>
<td>Harbledown</td>
<td>ARC, 56, PI. VII.</td>
</tr>
<tr>
<td>Surrey</td>
<td>Farey Heath</td>
<td>VCH Surrey, I, 240; BM, LPA, 45.</td>
</tr>
<tr>
<td>Glos.</td>
<td>Westbury-on-try</td>
<td>PSA XVI II, 239; Legg and Hardy, 1938, R. 37, p. 98, fig. 12.</td>
</tr>
<tr>
<td>Cambs.</td>
<td>Cambridge</td>
<td>Fox, 1938, VII.</td>
</tr>
<tr>
<td>Shropshire</td>
<td>Meole Brace</td>
<td>Ant. J. V, 409, ff.</td>
</tr>
<tr>
<td>Lusmagh, Co. Offaly</td>
<td>(hom'd of metal-workers' tools)</td>
<td></td>
</tr>
</tbody>
</table>

Fig. 35. Gouge and two socketed chisels, Denme, North Brabant. Probably a hoard. 1: 2. BMEO Lusmen.
8 Socketed Gouges

Socketed gouges are very common in the British Isles (Mac Whirte, 1944b) and rare in Northern Europe. Here we merely list the North European examples known to the writer. As Sprackhoff remarks (1933, 169) the question of their origin, whether in the West or in the West-Central European Urnfield Culture, remains to be clarified.

Netherlands


North Germany


Denmark
CHAPTER IX
HAMMERED BRONZEWORK: SHIELDS AND CAULDRONS

A. SHIELDS

In the first chapter of his _Handelsgeschichte_ (1930, 1 ff.) Sprockhoff demonstrated that the Bronze Age shields of the British Isles and of Northern Europe were two branches of a single family, in which he gave the collective name 'the Northwest European round-shields'. Its origin he then placed in the British Isles (cf. also Sprockhoff, 1938 and 1941, 207 ff.). More recently, following upon the discussion of the origins and chronology of Herzsprung shields launched by Heneken (1950, 295 ff.) and MacWhite (1951, 98 ff.), Sprockhoff (1954, 73 ff.) has outlined a new view in which Central Europe figures as the original home of the shield-family; a radial diffusion subsequently bringing Central European shield-types to the British Isles and Northern Europe, as well as to the Iberian peninsula and the Aegean.

To examine the detailed consequences of this conception for the British Isles and Northern Europe, we must turn back to Sprockhoff's 1930 study, which remains the standard account of the shield-material north of the Alps. There Sprockhoff divided the half-a-hundred 'Northwest European' shields into seven types. Typologically the earliest is his Nippewiese type occurring mainly in South Germany (cf. Reinecke, 1956, 23 ff., on the Bamberg shields), but with two outliers in North Germany, in the Lower Oder (Nippewiese) and Lower Elbe (Schlep­pentau) regions respectively. Nippewiese shields were apparently known to the BohusHin rock-engravers (most recently, with many illustrations, Goteborg Museum, 1956), and to the decorator of the famous Wismar horn (Althn, 1945, 33 ff.).

Shields listed and described with references by Sprockhoff (1930, 8 ff.) will here be cited without references, as referred to by 'Spr.', followed by his catalogue number, except for those about which there has been important more recent literature, or new and better illustrations. While this work was in preparation the fine article on British shields by J. M. Cleal (P.P.S. XXVIII, 1962, 138 ff.) appeared. Cleal argues successfully that none of the shields here discussed ought to be dated earlier than the eighth century (H.B.I.B. 571), supplanting Pliny as a doubtful authority and dismissing the Northern attribution of shields to Kent IV. Only new evidence could show whether he has not somewhat too hastily dealt with the indications for earlier beginnings.

1 Shields listed and described with references by Sprockhoff (1930, 8 ff.) will here be cited without references, as referred to by 'Spr.', followed by his catalogue number, except for those about which there has been important more recent literature, or new and better illustrations. While this work was in preparation the fine article on British shields by J. M. Cleal (P.P.S. XXVIII, 1962, 138 ff.) appeared. Cleal argues successfully that none of the shields here discussed ought to be dated earlier than the eighth century (H.B.I.B. 571), supplanting Pliny as a doubtful authority and dismissing the Northern attribution of shields to Kent IV. Only new evidence could show whether he has not somewhat too hastily dealt with the indications for earlier beginnings.
Hammered bronzework

78. Sprockhoff, 1957, 486 (text, fig. 6). The incised figures on the Wismar horn, including the shield-carrying warriors, have been denounced by Althin (Ibid., 444 ff.) as a modern forgery, but Oldberg, Høst (1934, 406) and Sprockhoff (1937, 449 ff.) (1947, 48 ff.) upheld their genuineness. Oldberg dates the ornament to the transition Montelius II-III, which would equate Reinecke D on the correlations now in favour, and support the early dating of the Nipperweise shields; Sprockhoff believes the Wismar piece is späthelmsmäßich in age, as does Cremen (1938).

The shield from Pilsen in Bohemia (Spr. 11, 13 ff.) found in a hoard were dated to Reinecke D or early Halstatt A (Bömmel, 1956, 13 ff.; Sprockhoff, 1954, 73 ff., Fig. 91), was classified by Sprockhoff both as a Nipperweise shield and a Herzsprung shield; it now takes its place as a representative of the earliest phase of the entire Herzsprung development. More developed Herzsprung bronzes shields have been found in North Germany, Denmark and Sweden. Finds since 1930 include the Tønderstrepe shield (DO IV 1957) which is quite like those from Herzsprung; a larger and more elaborate example from Taarup Mose on Falster (Bøcher, 1947, 91 ff., Fig. 1); and a fragment of a shield like the Taarup Mose one in a Montelius V hoard at Skydebjerg on Fyn (Albrechtsen, Fyns Historier, 73 ff., Fig. 7). The hor is especially valuable because it is from the date of the most developed of the Central to North European Herzsprung shields; the entire development in this area is thus bracketed between Pilsen, D or early Hal, and Skydebjerg, Montelius V.

Whether all these shields are of Central European manufacture, or whether production was also carried on (perhaps by immigrant Central European craftsmen) in the area of North Germany where the products of Vo Merhart's Leistenblik school are most densely concentrated, is not for us to decide.

While no bronze Herzsprung shields are found in the British Isles, the Clonbrin leather shield and the wooden shield-moulds from Ireland are all of the Herzsprung

---

1 Hencken (1950) compares one of the Herzsprung shields from Denmark (no exact provenance) with the earliest of the Aegean Herzsprung shields, Altimi Sii (Corse) Shield VI (Hoc. Fig. 8) which he dates to the first half of the eighth century, or possibly the last third of the seventh. This Altimi Sii shield is a miniature representation, on a pain-ted alabaster slab.

2 Von Merhart (1952, 38 ff.) distinguishes three styles of bosswork: a gleichblattstyle, using bosses of all the same size, namely: Breslau Uphof; a Postboshelf style, in which the bosses vary in size, as on the Jensovice-Kirkendrup cups; and a Leistenblik style, using bosses and ribs, namely: Montelius V. These styles may be roughly correlated as follows: (1) the Altimi Sii shield is a Postboshelf style, on an alabaster slab; (2) the Jensovice-Kirkendrup cups are Montelius V. One of the 'Danmark' or 'Herzsprung' shields is in a Postboshelf style; the Taarup Mose shield is in a Leistenblik style; the Sørup shield to be mentioned later is in a Postboshelf style; and the two shields from Herzsprung or Leistenblik work. The Taarup Mose shield and the Skydebjerg fragment have bosses of three different sizes. The style of the Yetholm shields – a strict alternation of rings of equal-sized bosses with ribs – is rather distant from any of these Continental styles.
type. In Sprockhoff’s older theory these were the prototypes of the Central or North European Hemprung shields, in the newer view they are derivatives. Hencken (1935) has made a distinction between Hemprung shields on which the characteristic indentations in the ribbing are of U shape and those with V-shaped indentations, the U-variety being Central and North European, the V-variety Aegian-Berian. Ireland has both varieties. In Hencken’s view this meant a dual origin for the U-variety; the V-variety coming round the Atlantic route from the south, the U-variety coming from Scandinavia. The V-shield from Clonbrin has close resemblances to the shields represented on the tomb-slabs in Berin (Mac-White, 1954), but also to the Central or North European shields. Sprockhoff placed the Clonbrin shield in the same group with Pilsen; but it may be suggested that its rib-arrangement — an inner ring with an interruption, two outer rings with indentations — is really strikingly like that which forms the central motif of the shields from Hemprung, Svenstrup and Nachtielle (which form a homogeneous little group) and of the Taarup shield.

The Nachtielle shield is traditionally of Montelius IV, but its ‘whole birds’ have been compared with those on the Prenzlauer amphora which is of Montelius V, and those on the St. Karnaun halstur fragment which is late Hallstatt B, and the Leistellbuechl ornamentation of the Svenstrup and Hemprung shield has its parallels mainly in North German Montelius V; the Taarup shield is of V in any case. The use of this doubled rib in the Leistellbuechl group and on its shields also finds an echo in Ireland; the wooden shield-mould from Annadale, though without bosses, has similar ribbing.

Four of Sprockhoff’s shield-types — the London, Coveney, Harlech and Yetholm types — are mainly or exclusively British in distribution, although two of them (London and Harlech) are apparently represented on BohusJan rock-engravings. The Coveney, Harlech and Yetholm types appear to be very similar in detail of manufacture, but differ in ornamentation; the Harlech type being ornamented only with concentric ribs, the rare Coveney type with ribs arranged as meanders, and the Yetholm type with concentric ribs alternating with rings of equal-sized bosses. Typologically, Sprockhoff saw the Harlech shields as a development of the Nipperwiese type, and in this he was undoubtedly right, although there is an unbridged gap between them. Whether the missing links were Continental or British only future finds can show.

1 Clonbrin, Co. Longford (Sprockhoff, 1935, Taf. 3a. and often elsewhere; Annandale, Co. Leitrim (Ibid., Taf. 3b), Cloonlara, Co. Mayo (Mahr, 1937, 383, Pl. XXV; Hencken, 1950, fig. 22); Churchfield, Co. Mayo (O’Rorke, 1946, 161, PI. 14: 2); Kilnahamogue, Co. Antrim (Jope, 1950, 62 ff., PI. 8: 16). For the pollen-dating of the Cloonlara shield-mould (of Hencken’s U-variety) see most recently Mitchell, 1956, 214 ff., 230 ff. In fact, in east-way within Mitchell’s ‘very long’ Zone V, there is apparently earlier than that of the Clonbrin because recent, but the shield would have been dug in from a higher level.
Hammered bronze work

Most important in our present context is the fact that two shields which Sprockhoff assigned to the Yetholm type have been found in Denmark, both on the island of Falster. One of these, from Lommelev Mose (PI. XVb) (Spr. 2; also Broholm DB III, M. 25; DO IV 106) is closer to the British Yetholm shields than it is to those of any other type; yet the arrangement of the rib-and-boss ornament of the Lommelev shield differs from the British standard. It has two rings of bosses between each pair of ribs, and the bosses are not continuous, but interrupted by radial free lanes, making a kind of ring pattern. These features suggest Continental rather than British manufacture. The other Danish Yetholm shield, from Sørup Mose, Elskilstrup (PI. XVb: right) (Spr. 4; also Broholm, DB III, 183, 184, M. 24) differs only in very minor particulars from the shield found at Lough Gur, Co. Limerick in Ireland (PI. XVlb) (Spr. 47; also Mahr, 1939, PI. 9: 1). The Sørup shield has seven ribs, the Lough Gur shield six; both have six rings of bosses. On the hypothesis that a small number of ribs and boss-rings is early in the Yetholm sequence, (cf. Hodges, 1956, 44) the Sørup and Lough Gur shields stand at the beginning of the Yetholm type. All other shield-finds of the Yetholm type are, of course, in Britain, where it is the most common shield-type.

The Lommelev shield was found in the bog only a short distance from a hoard of bronzes (lurres, tanged swords) assigned to Montelius IV, but the shield-find was a year later, and its association with the hoard is not claimed. The Sørup shield was, however, clearly associated with another shield, which is the only known example of Sprockhoff’s Sørup type. Its cross-pattern is in P Mohammed; and since the cups and other vessels ornamented in this technique are normally Montelius IV the dating of the Sørup hoard to this period is to that extent supported.

Since the validity of the Langwood Fen, Cambs. association of a Yetholm shield with a basal-looped spearhead has been challenged (Horlock and Smith, 1957, 1958), the Sørup find appears as the only really useful dating-clue for the Yetholm shields. Sheet-metal work in the Yetholm style appears to be rare on the Continent, but a fragment (not from a shield; its rolled edge is straight) in the well-known hoard from Pfeffingen in Württemberg (Behrens, 1916, 32 ff., Abb. 10) has the same alternation of ribs and boss-rows; since the hoard is generally assigned to late Hallstatt A, and contains imported Montelius IV bronzes, it tends to confirm the dating of the Sørup find. As far as goes, this evidence suggests that the introduction of bronze shields to Britain may have occurred in LB I, and therefore before the time of the cauldrons and buckets in LB 2, as set forth by Horlock and Smith (1957). It seems likely that the Yetholm shields from Lommelev and Sørup were made by members of the same group of travelling shield-makers who

---

1. Raftery, 1951, Fig. 176: 2, is erroneously captioned as the Lough Gur shield.
presumably introduced the type to Britain, and perhaps the Herles and Coveney types too. They plied their wares mainly in Britain; only two bronze shields have been found in Ireland (Artnery, Co. Galway; Lough Gru), compared to some 35 in Britain—the majority of these in the eastern half of the island. The distribution pattern thus differs markedly from that of the buckets, which are about equally divided between Britain and Ireland, and even more from that of the cauldrons, which are predominantly Irish (distribution maps Hawkes and Smith, 1957, figs. 4 and 10). Perhaps bronze shields were never made in Ireland at all. The Herles-type shields seem to have come to Ireland at more or less the same time as the Kurd buckets, and the fact that these shields were imitated in Ireland only in the wood-and-leather technique, and not in bronze, may also point to the absence of bronze-shield makers in Ireland. In any case, the Sørup find provides one of the most important of our contact-finds (at the very least a valuable parallelism) between the British Isles and Northern Europe in the Late Bronze Age.

B. THE ABILDHOLT CAULDRON

Unique in Northern Europe is the Irish cauldron, fragments of which were recovered from a bog at Abildholt in Ringkøbing Amt, Northwest Jutland, in 1942. The find has been fully described by Becker (1949, 265 ff., fig. 1-4).

The cauldron, discovered by peat-diggers, was reported to have been virtually complete, but only fragments were preserved. The usual barrow of the vessel could be reconstructed; the remainder is missing except for one of the staples with its ring-handle, and the second handle-ring. None of the shoulder was recovered, but part of the rim is enrolled within the staple (P. XVI).

These are, however, enough to show that the cauldron was of Leeds’s Class A (Leeds, 1930, x ff.). The staple, with three ribs and lateral projections corresponding to those on some Irish Class A cauldrons, is cast directly onto the rim, without cast cross-bars or plate separating the handle from the rim; it therefore belongs to Leeds’s A group, the typologically simplest form. The handlings are, however, hexagonal in section and deeply fluted, a type hitherto associated with cauldrons of Class B. The Dulduff cauldron, of sub-class A2 (Leeds, Ibid., PI. IV, 2, 3) has rings which are hexagonal in section but not fluted. The association of a Sandh-
Hammered bronzework (Chap. VII, B) represents a curious quid quo pro.

Abildholt (Borbjerg s.), lies about 17 km east of Holstebro, near a small tributary of the river Stora, not far south of the Limfjord. The cauldron was found without datable associations. Havvkes and Smith (1957) date Class A cauldrons to the seventh century. To connect the Abildholt cauldron with the amber trade seems almost too obvious to be worth mentioning; amber finds became common in Ireland in this period (MacWhite, 1944a, 122 ff.).
A British origin was suggested by Sprockhoff (1941, 96, Abb. 28; 1955, fig. 4) for the long, blunted-ended, slightly conical ferrules found in a Montelius V hoard at Kronshagen near Kiel, Kr. Rendsburg. In form it resembles the British type well known from the Nettieham hoard (which Sprockhoff illustrates, 1941, Abb. 79, after Hawkes) and others. Ferrules of Montelius V in Sweden (Marbylanga 20, Ohland, and Grosshult, Vanga 20, Scania; (Montelius, Museo 1248–50) and Denmark (Pyrup, Svendborg 5; DO IV 132 with rounded head) are also approximately of the British form, but have incised ornamentation resembling that current in West Alpine Hallstatt B. Sprockhoff distinguishes the British type from another conical type of ferrule, ultimately of East Alpine origin, which, brought northward to Central Germany, became one of the characteristic forms of his Kulturkreise am der Mittelde (Sprockhoff, 1937, 31 ff., Abb. 9, 10, Taf. 6: 3). They occur characteristically in the group of Steinpaclwllgsgraber in the Saale Mouth district, which have been the subject of a monograph by Von Brunn (1954a). These ferrules, usually quite short but occasionally attaining a length of about 21 cm, are chiefly distinguished from the British type by having a pointed end instead of the blunted end found on the British specimens; the latter are normally long. The chronological horizon in which the Central German ferrules appear is equated by Von Brunn with late Montelius III and Montelius IV, corresponding with early and late Hallstatt A respectively. A Welsh hoard from Flyshvosten, Brecon (Savory, 1958, 27–8, fig. 5) contains two ferrules resembling the longer specimens of the Central German form, as Kirihoi Grab 1 (Von Brunn, ibid., Taf. 2 a, 3), and Kobrun (ibid., Taf. 2 a, 3), which are assigned by Von Brunn to Montelius IV. The Flyshvosten hoard also contains an imported Hallstatt A single-edged Urfeld knife, two native looped palstaves, and the fragment of a leaf-shaped sword (we are grateful to Dr. Savory for a photograph of this find). This suggests the possibility that the British ferrules may be derived from Central Germany; with the Flyshvosten hoard constituting an excellent contact-find. The palstaves

1 See also Sprockhoff, 1937, 88, Abb. 4.
A ferrule probably of the British type (the base is missing, so that its original form cannot be determined; the present length is 18.5 cm) was found in the Nether-
lands, apparently at Bruggelen, Gem. Apeldoorn, Gelderland. This object was reported to the Arnhem Museum, and described (Elzinga, 1957, i f.) in company with a hoard of four objects (including another ferrule) found at the estate of 'De Dellen' in Gem. Heerde, some 25 km farther north, but according to Elzinga's investigation the first-mentioned ferrule was a separate find, having nothing to do with the hoard from Heerde. The Bruggelen specimen must, therefore, be treated as a stray find. The ferrule from Heerde has a shaft of the same form, but close to its base there are two encircling ribs, and the base itself is in the form of a disc. The hoard also contains two large pins with hollow, perforated globe heads, of West Alpine inspiration, and a pegged spearhead with flame-shaped blade and long socket (fig. 36).
CHAPTER XI

TWISTED BRONZEWORK: NECKRINGS AND BRACELETS

(List, p. 141; Pl. XVII; fig. 37; Map XI)

The derivation of British twisted bar neckrings and bracelets from Northern Europe was suggested by Evans (ABJ, 376), and he has been followed in this by Hawkes (1932, 46–7) and Mrs. Piggott (1939, 216) in preference to Fox’s suggestion of a Central European origin for them.

Comparison of the British and North European twisted ornaments indicates that a Danish or North German origin is extremely probable for the British neckrings, and presumably also for the twisted bracelets which are usually found in the same contexts in Britain, although the workmanship of the bracelets does not correspond as well with those of Northern Europe. The Irish twisting of gold is on the whole separate and distinct, but a few points of contact may be found with the North European tradition of twisted goldwork, which allow a tentative suggestion that the Irish twisted goldwork may also be of Northern inspiration.

The earliest twisted metal objects in Britain – the pins with twisted stems found occasionally in Wessex Culture graves – are of course imports from the Central European Unetice bronze industry, and were not manufactured in Britain. The only known possible example of British Early Bronze Age twisted metal-work is the curious ‘standard’ from Wilford in Wilts in (Ashbee and Ap Simon, 1954, 326 ff.) with its twisted horns, but since it is a unique object (apart from the distant parallels ranging from 3rd Millennium Anatolia to Sutton Hoo cited, op cit.) its British manufacture is by no means to be taken for granted.

A number of gold twisted ornaments from Ireland (Armstrong, 1933, Pl. XVIII, 418–22) have early East Mediterranean connections and have been used, together with the well-known twisted gold spiral ornament from Troy, to argue for a direct derivation of Irish twisted gold-work via the Atlantic route, independently of Continental Europe.

1 Cf. Childe, 1935, 271; Milford, 1936, 7 ff.; Hawkes, 1937. Note also the bar-twisted ornament in the Landsburg Early Bronze Age (Montelius II) grave at Blackeney, Bo: Celte: 'Wittenberg', Ernst 4, Zentralblatt V (Becker, 1935, 216 ff.) (cf. Piesker, 1958, Taf. 16: 18). This appears to be the ‘bar-twisted’ type of Hawkes.
Twisted bronzework: neckrings and bracelets

In Central Europe twisted ornaments—not only pins, but occasionally neckrings and bracelets—appear in the Early Bronze Age. A loosely twisted ingot torque has been found in Austria. Twisted gold bracelets have been found in Bohemia. A context in South Germany at Regensburg (Geisler, 1938, 7 ff., Abb. 1) and Traunstein (Bode, 1936, 19, Abb. 6: good photographs Root, VIII, Taf. 85). These have sometimes claimed as Irish exports; there are however no close Irish parallels to their form (they are thick in the centre and taper markedly towards the terminals). In the Tumulus Bronze Age twisted bronze bracelets of a standardized penannular form with plane rounded terminals are common, but the twisted neckring is apparently rare in Central Europe until the Urmfield period, when a kind of twisted neckring with terminals rolled in the fashion of the Early Bronze Age ingot torques becomes fashionable. These Central European products do not make as satisfactory prototypes for the British twisted ornaments as the Northern types to be discussed below.

A. Twisted Bar Neckrings

The Northern twisted bar neckrings of the Aeldre Bronzealder have been listed and classified by Kersten (1936, 36 ff., 120). His Form I is characterised by terminals which are rolled into spirals. These neckrings are thin and very tightly and finely twisted; only four examples are known, all in Denmark, and are dated to his period IB. One was worn by the famous lady from the Borum Eshøj trestrunk coffin. His Form 2, with hooked terminals, is quite common. Kersten cites 33 finds, beginning in Period II but mainly in III, of which 16 are in Denmark, 14 in Schleswig-Holstein, and one each at Harburg and in the Bardehage. The form is also known in the Ilmenau Culture (Kersten, 1951, 60, Abb. 30: 2, 30: 1) and in Mecklenburg; in East Germany, examples appear in grave finds at Hr. Parich (Gubinshagen, Fahnert 1938, Abb. 55), at Weitendorf in Brandenburg (Bolen, 1935, Taf. 20: 12) and Gifhorn, Kr. Domini in Pommerania (Kersten, 1958, Taf. 30: 344A and 344C (6); but the North German finds have not been comprehensively listed. In the Aeldre Bronzealder Form 2 neckrings appear very often in women’s graves. Although predominantly an Aeldre Bronzealder type, the Form 2 neckrings also appear occasionally in finds, widely distributed in Denmark and North Germany, of Periods IV and V (cf. Bode, 1936, 54) usually in votive

The conventional term ‘torque’ is applied to such a wide variety of objects, both twisted and untwisted, that we prefer to use the longer but more specific designations, corresponding to Kersten’s Gedrillte Halsringe and Altringe.

Ribbon torques are unknown in Northern Europe and do not enter into the present discussion.
Twisted-bronzework neckrings and bracelets.

More advanced types of twisted neckrings, such as those with cast imitations of twisting, and neckrings with expanded decorated terminal plates, often occur in the same finds, although these types are absent from the finds of Periods II and III. Thicker cast neckrings with hooked ends, often with incised decoration on the smooth terminals, also begin in Montelius IV in Denmark and North Germany. The comparative rarity of Form 2 neckrings in the Northern Late Bronze Age must, however, be emphasized; far from being typical in Montelius IV, as several British authorities have assumed, the type is even mentioned in Spröckhoff’s comprehensive study (1937) of the North German hoards of that period, and is hardly mentioned by Baudou (1960, 74).

By far the greater number of British twisted bar neckrings (List I) are closely comparable in form and details of workmanship with Kersten’s Form 2. Neckrings of this kind are twisted from a square-sectioned bar, with terminal portions left untreated (sometimes the terminals are left square in section; at other times they are rounded off), and with the ends bent to form interlocking hooks at right angles to one another. They vary in thickness from as little as a mm to as much as 20 mm, and in diameter from 14 to 20 cm. On the average, the Northern neckrings tend to have longer smooth terminal portions than the British, but there are many Northern specimens with short terminals, and a few British neckrings (e.g., Barton Bendish, Inventaria GB. 72 (2), No. 5) have long terminals.

Many of the British neckrings in this category have been described in the literature as “cast”, but the criteria by which this is judged are not always stated. Some of those described as cast appear to the present writer to be genuinely twisted, but judgment is best left to those with adequate technical qualifications. In any event, most of the British neckrings in List I compare closely in appearance with the Northern torques of Kersten’s Form 2, and do not bear obvious signs of a cast imitation technique; the British and the Northern Form 2 neckrings were to all appearances made by the same method.

Unique in Britain is the neckring from Hollingbury Hill, which is without hooked ends, the smooth terminals being cut off abruptly. A hoard of four similar neckrings was found at Dave (Namur) in Belgium (Maris, 1952, 269, fig. 253). A single example is in a Montelius IV hoard from Neneveld, Nelle, Amrum (Spröckhoff, 1937, 155; Kersten and La Baume, 1958, 148, Paf. No. 18-24), another is illustrated in Spröckhoff's study.  

1 One hook is normally turned outward, but rare examples are known with an in-turned hook—e.g., Batheaston, Somerset; Barton Bendish, Norfolk; Plaitford, Hants; Oldenburg (bog find, MB VI); possibly Beckendorf, Kr. Stade (grave, MB V), illustrated as in-turned, but the neckring is broken and the original position in the grave is not quite certain (NNU, 1933, 10). It is likely that this neckring is from the excavator.

by Sprockhoff (ibid., Taf. 22: 13) from a Montelius IV hoard from Doer, Kr. Zerbst. Sprockhoff groups these neckrings with his class of neckrings 'with smooth tapering terminals' (ibid., 1957, 44, 51, Karte 22, Taf. 22: 11, 14, 15). He draws that the type is especially concentrated in Saxo-Thuringia, spreading from there to Mecklenburg and the Lower Elbe-Lower Saxony region, as well as in other directions. While the greater number of datable examples are in hoards of Montelius IV, at least two (one of them in Mecklenburg) are in good Period III graves; several others (including one from a grave at Arneburg, Kr. Stendal, which also included a Glentrool-type pin, see Chap. XII) are also assigned to Montelius III in his list. A small number of British neckrings are characterised by greater thickness, an obviously cast technique, and thick blunt hooks. These we may call the West Buckland type (Nos. 10, 17, 18, 20 in list below). In a general way they are ana-
Twisted bronzework: neckrings and bracelets

Loguan to the Northern thick cast torques which begin in Montelius IV, but the workmanship is not closely comparable; the short undecorated terminals of the British specimens being distinctive, and indicating manufacture in Britain. These are likely to be later than the other British torques; as is also suggested by the association of one with a double-looped palstave (West Buckland, Somerset, DH I fig. 87).

Since the most common British type of twisted bar neckring is indistinguishable from many Northern examples of Kersten's Form 2, and the type is rare elsewhere, it seems evident that the type was introduced into Britain from Denmark or North Germany. This type is current in the North from Period II to V, although its greatest incidence is in Period III, at which time the best parallels to the Hollingbury Hill neckring were beginning to appear in Central and North Germany, although their main incidence is in Montelius IV.

Some of the British neckrings comparable to Kersten's Form 2, and the Hollingbury neckring, may be actual imports; most are probably local imitations by smiths who had learned the technique from the Northerners. Their concentrated distribution in South England, and especially in Somerset, seems to imply that torque manufacture was a feature of the Somerset industry of the phase represented by the Taunton Union Workhouse, Edington Barke and similar hoards. It may be noted that the Form 2 neckrings are among the simplest of the Northern types and require the least skilled workmanship.

The Sussex Loops, a contemporary type, provide a further hint that torque manufacture was practiced in South England; for many of the Sussex Loops are made of square-sectioned bars of a length and thickness which suggests that they were originally fabricated with the intention of making them into twisted neckrings. It appears as if a Sussex workshop imitated a local fashion by converting half-fabricated neckrings into a peculiar and clumsy sort of bracelet, probably crudely imitating the form of an imported bracelet of Barton Bendish type (see p. 143).

Finally, the West Buckland type of neckring, comparatively rare, must represent the late products of the Somerset neckring-makers, a parallel evolution to the Northern thick cast types.

The limited distribution and consistent associations of the British neckrings suggest that they represent a comparatively short-lived fashion in South England. It is especially noteworthy that none of the neckrings appear in association with swords or standardized Late Bronze Age socketed axes. In fact the only association with a neckring is with our Taunton type in the Union Workhouse hoard, while associations with palstaves are common. One neckring appears with a rapier at Glen-

---

1 A related twisted bracelet appears, however, in the LB I founders' hoard from Worsthorne Newbrough (Lancashire), Dumf. (Down, 1925, 440 II, Pl. LXIX).
Twisted bronzework: neckrings and bracelets

Several of the finds appear to be ritual deposits with one or more neckrings and palstaves, sometimes in barrows, though none are known to be grave finds. As Plaitford in Hampshire a twisted necking was found with a hooped end-sealed pin; fragments of Deverel-Rimbury globular urns were found a few yards away (Hawkes, 1942, 44 ff., PI. VI, figs. 10-11). The necking and bracelets from Elibourne Wake were found in a lynchet and seem therefore contemporaneous with or later than a Celtic Field system.

In South England the twisted neckings are a characteristic feature of our Taunton-Barrow tradition, with which the Glenrool hoard in Galloway should be contemporary. The Annesborough hoard in Ireland included a Roman fibula along with a twisted necking, a twisted-ornamented hooped palstave and plain bracelet. The deposit had been disturbed by tree-roots, and it is by no means impossible that the fibula was an accidental association; the other objects would all be consistent with the normal associations of the neckings in Britain. The neckings from Glenrool and Annesborough, and that from Villersex-Anthea across the Channel, might be exports from Somerset or alternatively direct importations from Northern Europe.

LIST OF BRONZE TWISTED NECKRINGS IN THE BRITISH ISLES

(cf. Map XI)

Corns

Dorset
3. Holwell Downham. Hoard. 2 neckrings (over 19.5 cm, ~7 mm). With pendants. B.N.I., 54/8-17/2. PSA I, 234; B.N.I., L.P.A. fig. 13: 2.

Irls
5. Plaistow, Bowers Farm. Hoard. 2 neckrings, 25 cm, 15 cm. With hooped end-sealed pin. Winchester Mus. PPS 1945, 24 ff., PI. VI.

Leics
Twisted framework: neck-rings and bracelets

142

7. Barton Broad. Hoard: 2 neck-rings, 18 cm < 10 mm, 26 cm < 8 mm. With palstaves, large spiral-headed pins, treated bracelets. Inventory, GB.


Somerset

9. Gob浣den Horse. Stray. L(4) 83 (4). 7. Barton Bendish. Hoard. 2 neck-rings, 18 cm < 9 mm, 20 cm < 8 mm. With palstaves, large spiral-headed pins, twisted bracelets. Inventar., GB.


13. Edington. Homed. 13 cm < 4.5 mm. With palstaves, large spiral-headed pins, treated and plain penannular bracelets. Inventory, GB.

14. Edington, Homed. 13 cm < 4.5 mm. With palstaves, large spiral-headed pins, treated and plain penannular bracelets. Inventory, GB.

15. Ebbesbourne Werke, nr. Heath House. Hoard. 2 neck-rings, (16 cm < 8 mm, 18 cm < 6 mm). With palstaves, large spiral-headed pins, treated bracelets, knobbed sickles, large quoit-headed pins, twisted and plain penannular bracelets. Inventory, GB.


17. Find-spot unknown. 22.5 cm < 16 mm. B.M. 1910/6. 19/1.

18. Find-spot unknown. 22.5 cm < 16 mm. B.M. 1910/6. 19/1.
Twisted bronze: neckrings and bracelets


British twisted bronze bar bracelets occasionally are found in the same hoards as the neckrings discussed above, and are evidently contemporary with them. The workmanship of most of the British twisted bracelets is, however, lacking in distinctive features which would enable direct comparisons to be made with Northern or Central European bracelets. The British twisted bracelets are usually fairly thick, and are most often simply cut-off sections of twisted bars, without carefully finished terminals, bent into penannular form. They have an improvised look about them, and are probably to be regarded simply as a by-product of the neckring industry.

An exception is, however, constituted by the doubled-wire twisted bracelet from the Barton Bendish hoard, which is a distinctive type with Continental roots. The Barton Bendish bracelet is made of thin wire bent double. The two strands are twisted in opposite directions, and their ends are bent back into hooks which attach to the loop.

Parallels for the Barton Bendish bracelet are however widely scattered in space and time. Bracelets quite similar, but without the hooks, occur both in the North and in Central Europe; the examples known to the writer are:

1. Switzerland. Switzerland, Gnois Riehen, St. Besançon. In hoard of 137 bracelets, including Tutankhamun Bronze Age and Urnfield types. Tschumi, 1953, 16, 276, Abb. 33. Dated by Kimig to Ma A.


3. Saxony. Lützschena-Weischau, Ah. Dresden. 2 examples in hoard dated by Radig (1924, XXIV, 89, Abb. 3) to Monetalus V; though contained older (1924, M IV according to von Brunn, 1934, 55, n. 136).

B. BRACELETS

British twisted bronze bar bracelets occasionally are found in the same hoards as the neckrings discussed above, and are evidently contemporary with them. The workmanship of most of the British twisted bracelets is, however, lacking in distinctive features which would enable direct comparisons to be made with Northern or Central European bracelets. The British twisted bracelets are usually fairly thick, and are most often simply cut-off sections of twisted bars, without carefully finished terminals, bent into penannular form. They have an improvised look about them, and are probably to be regarded simply as a by-product of the neckring industry.

An exception is, however, constituted by the doubled-wire twisted bracelet from the Barton Bendish hoard, which is a distinctive type with Continental roots. The Barton Bendish bracelet is made of thin wire bent double. The two strands are twisted in opposite directions, and their ends are bent back into loops which attach to the loop.

Parallels for the Barton Bendish bracelet are however widely scattered in space and time. Bracelets quite similar, but without the hooks, occur both in the North and in Central Europe; the examples known to the writer are:

1. Switzerland. Switzerland, Gnois Riehen, St. Besançon. In hoard of 137 bracelets, including Tutankhamun Bronze Age and Urnfield types. Tschumi, 1953, 16, 276, Abb. 33. Dated by Kimig to Ma A.


3. Saxony. Lützschena-Weischau, Ah. Dresden. 2 examples in hoard dated by Radig (1924, XXIV, 89, Abb. 3) to Monetalus V; though contained older (1924, M IV according to von Brunn, 1934, 55, n. 136).
Similar but with spiral terminals, and in gold:

Similar to Barton Bendish, including hooks, but larger in size:

Other examples in France and Switzerland are cited by C. M. Piggott (1949, 114) from hoards at Vezer (Charente), Massens (Puy de Dome), Drouin (Somme), Savoy and the Swiss Lakes. Untwisted bracelets of similar form from the Heathery Burn cave and Langehyll in Aughsiny are also cited; and the Sarno Loops, although of thicker, rectangular-sectioned bars, are also in the same family.

Since our Taunton-Barton Bendish phase has contacts with the West Alpine area, East Germany, Schleswig-Holstein and North West France, it is arguable that the Barton Bendish bracelet type was introduced to Britain from any of these areas. Walsh and Herzfeld show that the possible prototypes for the Barton Bendish bracelet exist at an earlier date than was formerly recognized, and one need not necessarily date the Barton Bendish bracelet by the latest examples.

C. Gold Bracelets and Neckrings

In Ireland the rarity of bronze twisted bracelets and neckrings is more than compensated for by the abundance of these types in gold. Although most of the Irish examples of these are of peculiarly Irish forms and techniques, like the ribbon torques and the torques with cruciform cross-section, there are a small number of gold torques that are related in workmanship to the North European types. Neckrings of Armstrong’s ‘screw-twisted’ Type 3 (1933, 201) with hooked terminals, such as his Pl. XII 4, 86, and possibly the example, known only from a poor illustration, from Scalby near Scarborough, Yorks, (Elgee, 1930, 175, fig. 95), are simply gold copies of the bronze neckrings of Kersten’s Form 2, and are most

1 Cf. Fränkel in Inventaria F. 6 (3), fig. 60. Bronze pieces possibly in Hungary, including one from the burial of Lantmác, Cser. Szona (Hunyadi, Alkotmóny, Taf. 40, fig. 4).
Twisted bronzework: neckrings and bracelets

Economically explained as the product of Somerset influence on the Irish gold industry, though the possibility of direct contact with Northern Europe cannot be excluded. A gold hooked-terminal ring (it is somewhat too small to be a neckring, and is classified by Kersten as a bracelet, but in relation to the neckrings in form) was found in a Period II grave at Heidau, Kr. Norderdithmarschen in Schleswig-Holstein (Kersten, 1938, Taf. XVII: 33), and another is known from a grave of Period III at Schörvensee, Kr. Demmin (Kersten, 1958, Taf. 34: 366), and might be an export from Ireland, but apparently locally made bronze examples of the same form (Kersten’s [form E8]) also occur in the North.

Another contact between Ireland and the North is provided by the pair of gold twisted bracelets from St. John’s, Co. Carlow (Armstrong, Ibid., Nos. 82-3, Pl. 61, Pl. XIII: 105, 110). These are very similar in workmanship to the Northern bracelets of Kersten’s Form E9, possessor bracelets with short plain terminals. Many Northern examples have their terminals rounded in section, but examples with square-sectioned terminals like those from St. John’s are also known in the North. Since the type is rare in Ireland and is common in the North, both in bronze and gold (Kersten lists 37 finds from Denmark and Schleswig-Holstein, of which two finds are dated to Period II and 19 to Period III), and bronze bracelets of similar form have an earlier history in the Tombs of Brone Age, it is difficult to claim the Northern examples as an Irish form.

Rather, the St. John’s bracelets may be Irish copies of Northern bracelets, if not actually imported pieces of Northern workmanship. The ribbed bracelets in the St. John’s hoard (if they are not, as Wilde suggested, the sides of gold boxes, like Armstrong, Ibid., Frontispiece, 485-8) might also be regarded as imitations of the North European ribbed bronze bracelets, which also occur in North England (cf. C.M. Piggott, 1949, 71 ff.; Kersten’s E9 bracelets are regarded as a characteristic form of Montelius III.

The rarity of good closed finds makes it difficult to establish whether the twisted gold-work with Northern analogies represents the earliest twisted gold-work in Ireland. It could be supposed that the technique of twisting metal was acquired by the Irish goldsmiths from Northern Europe, either directly or via Somerset, and that the specialized Irish techniques like the cruciform-section torque were developed on this basis. The ebonite torque has the earliest known form in the bronze examples in the Widmore and Edington Battle hoards in Somerset, which belong to the Taunton–Barton Bendish phase; the earliest dating for an Irish gold torque of “Tara” type is provided by the Gravey Fox Ford in Cumbria, with parallels of our Type HA1 (trident) which need be no earlier (Von Hagen, 1968).
There are no examples of Irish twisted goldwork which are datable to an earlier period than that; the most probable date for the St. John's hoard on the basis of the Northern parallels to the bracelets would be Montelius III. It may be recalled in this connection that the Bishopsland hoard (O Riordain, 1946, 161, Pl. XIII), found not far from the Wicklow gold-producing area, contains a wrinkle object which would be suitable for gripping the end of a bar to be twisted into a neckring or bracelet.
As has often been pointed out, the bronze pin was not an indigenous article of costume in the Early Bronze Age in the British Isles, its place being taken to some extent by buttons and in part by pins of bone, a survival of Neolithic traditions. Bronze pins found in Britain are often actual imports or copies of imported types; only a few distinctively British pin types have been recognized. The importance of the imported pin types as indicators of cultural contact and trade, and as clues to chronology, has been stressed in articles such as the "Fordon Pin" paper of Herdman (1944) and the Blackrock article of Mrs. C. M. Piggott (1949). Herdman has especially emphasized the contribution of the Tumulus Bronze Age of Central Europe to a group of pins found in South England and the adjacent districts of Northern France; while his suggestion of a North European contribution to the pin-costume of South England has been further developed by Mrs. Piggott. The influence of the Northern sunflower pin in Scotland and Ireland has long been recognized.

It is somewhat curious that not a single example of the Northern or North German two-piece fibulae, a type so characteristic and common in the North from Broholm’s Period II onward, has ever been found in the British Isles.

The only possible exception would be the fragmentary two-piece fibula from the Ixworth collection in Suffolk (Clarke, 1939, 30–32 pl. V), a collection formerly accepted as local finds by Sir Cyril Fox and Raimond Clarke, but now (cf. Fox in the 1948 reissue of Cambridge Region, App. IV, p. A 16, n. 3) regarded as suspect. Half of the leaf-shaped bow is preserved, with a bronze wire spiral at the end; the pin is missing. The face of the bow has an incised pattern consisting of a series of lines parallel to the edges, and in the centre an hour-glass pattern of parallel incised lines. The leaf-shaped form of the bow is common to both the earlier Luneburg and the earlier Spindlersfeld types of fibulae; the hour-glass pattern however, occurs only in the Spindlersfeld type; the spiral catch plate is also in line with the incised area of the pin, and not turned downward as on the Luneburg pins (Sprockhoff, Mittelmeere-Studien, 39, pl. 7). The Ixworth pin most closely resembles the earlier (Montelius III) examples, and is not unlike one of the pins from the Spindlersfeld hoard itself (Ibid., Taf. 82: 18). Sprockhoff tells us that in Montelius III the Spindlersfeld pins with hour-glass pattern occur only in a very limited region of Northeast Germany, east of the Elbe estuary. It is from here, then, that the Ixworth pin is likely to have
Pins.

But pins of this family with the hourglass pattern also occur in Moravia, Austria, and even on the Middle Rhine (Ibid., Tit. No. 15, A, 18. 3. 18). Unfortunately, nothing is known of the excavations of the future pin, and it cannot be regarded as a certain prehistoric import to Britain, despite the arguments for accepting the Hallstatt fibulae in the first as genuine (Ibid., 1923, 74-5, Ridgeway and Smith, 47).

It is to Brandenburg and to Montelius III that attention has been directed for the possible origin of a small group of single piece pins found in the British Isles, those with disc heads and side-loops. Janssen in a study of side-looped pins in 1935 called attention to the connection between some Brandenburg pins and a few in the British Isles by Montelius II, and Hawkes and Mrs. Piggott have adduced others which may have been influenced by this Northern German group.

Janssen showed that the pin with horizontally pierced side-loop (which he distinguishes from the 'East German' pins with vertically pierced loop, a separate family) had reached North Germany from Central Europe by Montelius II, and Denmark by Montelius III.

Of the looped pins with disc head he distinguishes several varieties; the most important of which for us is a type with plain disc head, straight unperforated and undecorated shaft, and the side-loop placed low on the shaft (a Central Europe group, mostly Hungarian, in these except for having its loop placed directly beneath the head). Janssen cites three of these (cf. Map XII):


The Marzahne grave is dated by Janssen to Period II. Arneburg (with a 'Urnfield' knife incised on the hillock) and Zethlingen are grave finds dated to Period III. The looped pins from Denmark and Schleswig-Holstein (ten examples of which are cited by Janssen, none of which are later than Montelius III) have conical, biconical or other head-forms or differ in other ways from this group. For chronological purposes it is important to note Janssen's conclusion that although some varieties, especially with more elaborately moulded heads, seem to survive into the Iron Age in Central and Eastern Europe, there is no evidence for the survival of any of the forms of looped pins in Northern Europe after Montelius III.

Pins which compare closely with the Brandenburg pins of Marizahne type are limited in Britain to the one example from the Cleveholm hoard in Kirkcudbrightshire. Two such pins are known from Ireland, but without exact provenance: one in the British Museum, and another in the Ashmolean (1927/2893). Since the combination of simple disc head with undecorated, scooped shaft and side-loop placed low on the shaft does not seem to occur in Central Europe, there is a good case for...
Pins

for regarding the Glentrool and the two Irish pins as imports from Brandenburg, at a time not later than the end of Montelius III. The Glentrool hoard contains objects of Middle Bronze Age character, related to those of the Tumulus-Burron Bendish phase of Southern England.

The pins with sideloops and/or disc heads found in South England and Northern France all have features which connect them more directly with Central European types than with the North. Pins with both sideloops and disc heads include two cited by Mrs. Piggott (1949, 112) one from Dorchester, Dorset (Ibid., fig. 3) and the other from Rushall Down, Wilts (Devizes Mus. Cat., H.B.13). The Dorchester pin is a large one with a slightly swollen shaft which is elaborately incised in the Tu­mulus fashion, a sideloop, and a lozenge-shaped plate attached to its side opposite the loop. Its large disc head is decorated with a cast pattern in relief, consisting of a small central spike surrounded by two concentric circles, a circle of small circles, and a circle of small spikes. This astonishing pin does not seem to have an exact analogy anywhere, but combines features from a variety of sources. The shaft may be derived from Professor Harton’s Picardy group of Tumulus-inspired pins; the decoration is rather degenerate, the swelling of its shaft is not pronounced, and it has no perforation in the neck. The sideloop connects it with the Glentrool and Irish specimens already discussed and with several pins in the Picardy group. The disc head with spikes and circular mouldings, though not exactly paralleled elsewhere, has some partial analogies. Circles of spikes appear on the Rushall Down pin (which has a plain shaft and a sideloop) and on a number of pins from Central Europe (Limberg-Heidenstedt, Lower Austria; Wittewesser, 1917, Taf. 10, 3, pp. 95, 105. Only the head and a small portion of the shaft survive); Solférino, near Udine, Italy (Schmitz, 1908, 225, Taf. XXV: 21); Upper Palatinate (no exact find spot given; Naue 1933, 4. 5, Taf. XL, fig. 63); Hungary (Hunyadi, 1891, Taf. CLXXV: 1). The example from the Upper Palatinate was found in a grave dated to Reinecke C or Holste’s Late Tumulus, and is presumably an import from further east. A boss and circle pattern like that on the Dorchester pin (but with no spikes or small circles) was found in an urn grave at Hansa (Leiberherr Heide, Grab 7) in the valley of the Main, dated by Müller-Karpe (1948) zu Beginn der Urnengebieten (‘Reinesche DFix 8’). He cites earlier parallels further east, and a similar pin found with a sword with triangular hilt-plate in Upper Italy which confirms the Hanau dating. The head of the Dorchester pin combines the elements of the Limberg and Hansa pin-heads, while thus giving us an analogy for the Rushall and Dorchester pin-heads in Central Europe at the inception of the Urn­feld period. The lozengy side-plates on the Dorchester pin, too, as Mrs. Piggott has shown, are regarded as purely native British features. They occur on two pins with disc heads and perforated undecorated swollen shafts, one from Laken­heath and the other from Ingletorpe. Verba (C.M. Piggott, 1949, fig. 4). Both are
stray finds. But such a side-plate also occurs on a large pin from Hanley Cross, 
Sussex. The shaft is plain; the head is disc-shaped with a conical boss in the centre. 
It was found in a barrow with ‘the dusty remnants of a skeleton’, a pair of Sussex 
Loops, and a native large loop-headed pin (Sussex Arch. Cal. II, 265-6; plate, No. 1-3). 
These homologous side-plates, it has been suggested, derive from the similar 
shaped plates which often occur on British looped spearheads. The central boss is 
the only other feature we have not met before; its ultimate prototypes appear to 
be in the Spindelkapfnadel of Eastern Germany and late Tumulus pins such as 
occur at Haguenau and in Switzerland, South Germany, and Holland. In Northern 
France the disc-headed pin with boss is found in the Caix hoard; the central boss 
also occurs on Irish disc-headed and sunflower pins.

Thus the pin finds which we have discussed fall into two groups: one probably 
of Northeast German origin, localized in Brandenburg, and unlikely to be later 
than Montelius III; and a second of Central European origin, which as Hawkes 
has emphasized is predominantly late Tumulus in character, with a little Urnfield 
influence. The two streams meet in South England at a time when other immigrations 
from these same regions can be demonstrated, i.e., the period of the Blackeck and 
related hoards which we term the Taunton-Barton Bendish phase.

‘Nordic’ pins

The influx of ‘Nordic’ pin-types to Scotland and especially to Ireland in the Late 
Bronze Age is a striking feature of the period. Sunflower pins are most common 
(some thirty examples); disc-headed pins, cup-headed and funnel-headed pins, and 
Northern varieties of swans-neck pins occur less frequently (Hodges, 1956, 42 ff., 
53-4, fig. 5; Coles, 1958-9, 1959-60).

Of the sunflower pins, Hodges distinguishes two classes: Class I, with heads 
possessing a small hemispherical boss and concentric circle ornament, and Class 
II, with a larger, conical boss. The latter may have concentric circle ornament, 
radial patterns, or no decoration. The Class I pins, which are closest to the 
Scandinavian type DO IV 163 (the pin from Ballynahosk, Co. Donegal, B.M. 
fig. 13: 6, is very little removed from the typical Nordic pins) occur mainly in 
Northern Ireland; the Class II pins, a purely Irish variety, have a more widespread 
distribution in the island. The Scandinavian prototypes are almost all of Montelius 
V, though a few examples occur in IV and VI (Brendon, DB IV, fig. 248, 1960, 
18; Type XXV, Bah. 1961-7). The Irish imitations occur not infrequently in 
hoards, sometimes together with related disc-headed pins and amber (see Hodges’ 
hoard-list, 1957-58: Cromagno, Derrybode, Ballykibrien, Kreeknalappa, Tullich,)
Newport), the broncsmith at Jarlshof in Shetland had sunflower pins in his repertoire (Coles, PSAS LVIII, 1934, 279 ff.). From Hodges’ sunflower Class I set must, however, he deducted the mainly Scottish pins of Orrock-Tarves type (C. M. Piggott, 1947, 106 ff., Coles, 1958/9, with dist. map, fig. 2). These leaves have the sunflower pins but also a romanistic; these must represent a fresh incoming during Montelius VI. The Scottish pins are all of bronze. The example with an iron shaft from an Iron Age A pit at Fengem, Peterborough (Hawkes, 1943, 107 ff., fig. 1), shown by Hawkes to be derived from the North German area about the transition of Wessenstedt to Jastrup A in the fifth century, Coles would start the Scottish series in that century or the late sixth.

The pin-head from the Edinburgh hoard (AB! fig. 194, for the associated swords see Brewis, 1922/3, fig. 54) has its concentric rings grouped in a manner which suggests influence from an East Scandinavian group which according to Baudou belongs to the end of Montelius V and the beginning of VI (Hussovi, Uppland: Moberg, 1941, Taf. III; cf. Minnell 1930-1; and Hansson, 1947, figs. 156, 178, 180; Baudou, 1957, 74, Taf. XXV E1); Coles suggests that the pin had a swan’s-neck originally. The Irish cup-headed pins seem to have their closest parallels in Sweden (Minnell 1930-1). Baudou, 1957, Taf. XVII; Hodges lists cup-headed and conoided pins together; four examples are listed for Ireland (including examples in the Derryhale and Maryborough hoards; at Derryhale with sunflower pins, disc-headed pins, Thornden knife, etc.; Coffey, 1913, 85; at Maryborough with socketed spearheads, axe, etc.). Coles suggests that this pin had a swan’s-neck originally.

Thus it appears that the Northern pin-complex begins to reach Britain and Ireland during LB 2 – Irish LB 3 – Montelius V, with further inclusions in Montelius VI.
Sets of jangies have been found twice in the British Isles and also in several instances in Western France (see list below). They belong to a type not uncommon in the Danish Islands and in the adjacent regions of South Sweden, Mecklenburg and Pomerania. They have lately been discussed by Thomsen (1958), under the name 'ramphorhactae'; cf. also Rynne, 1962.

In the hoard from Parc-y-Meirch, Denbighshire (long known in the literature as the Abergele hoard, but corrected in the republication by Sheppard, 1941, f. 4a) there are two sets of jangies, each consisting originally of six oval discs with beaded rims and projecting loops, by which they are suspended from interlocking rings.

The Lissanode find (recently published for the first time by Rynne, op. cit.) consists of three slightly oval discs, attached by loops to a small ring. Although they are very similar in shape to the Parc-y-Meirch discs they lack the beaded rims. The Lissanode jangle set was part of a hoard, said to have contained 'stirrups and bridles' now lost.

The round or oval form of jangle disc appears to be characteristic of the Western Baltic area. Two forms ought to be distinguished among them. In Form I the disc is round or oval in outline, and the hole for suspension is entirely within the perimeter of the disc itself; while in Form II the suspension loop projects beyond the rim of the disc. The British and French jangle-discs are all of Form II. Several of the Parc-y-Meirch discs have their loops turned at a right angle to the plane of the disc face.

Discs of Form I have been found in Denmark at Egidislevmagle (Høve, Sorø Amt, and Fangel Torp); in Sweden, at Elsin and in miniature form (Svartrup, 1950, Karte 46); and in a number of North German finds (Spruckhoff, 1956, H. 15, Taf. 99, Karte 46). Disc of Form II, varying slightly among themselves in details but corresponding on the whole quite closely to the Parc-y-Meirch type, are known from Danish finds at Holsteinborg, Fangel Torp and Jordby, and from the North German hoard of Niddernhain, Kr. Angermünde. Some of the discs from Fangel Torp and Holsteinborg (PL. XVIII) are virtually identical with the Parc-y-Meirch discs; and
Jingles differ slightly in details. In South Sweden, discs from Eskelhem and Trelleborg differ from the Parc-y-Meirch type in that their suspension loops are larger and more circular in shape. The Northern jingles are related to, but dissimilar in detail from, the Central European pendants which were developed in so many varieties by the Urnfield Culture (cf. Kossack, 1954), and which were occasionally imported and imitated in Northern Europe. The jingle-discs of our Form I and II are almost always attached to rings, and often occur in hoards together with horse-trappings, including bridle bits and sets of the concave, cymbal-like discs described in the German literature as Phaleren or Pferdeschillplatten (Von Merhart, 1956). In the Hereford find the jingles were actually attached to bridle bits; the Svartrapp find consists of a bronze model of a dangling from its choker.

Much smaller jingles of similar form have occasionally been found attached to other types of objects. These are of interest because their suspension loops are at right angles to the discs themselves, as on some of the Parc-y-Meirch jingles. A Danish find from near Kolding has each miniature disc attached to a narrow ribbed 'avule', precisely similar discs were suspended from a bronze terminal for a leather belt found at Albersdorf, Kr. Studerndueemarchen in West Holstein.

The best parallels for the Parc-y-Meirch jingles are those from the Danish Islands. Rimless discs like the Lissanoode and Anzy-le-Rideau specimens are known from several finds in Pomerania (Alt-Ristow, Kiisternitz, and Kirlin, in Kr. Schlawe), though these are of Form I rather than Form II. In view of the detailed similarity of the Western jingles to the Danish ones of Form III, the Parc-y-Meirch and Lissanoode discs and the French specimens must be regarded as actual imports or local copies of imported specimens from the Baltic area.

All four of the Danish hoards in which jingle discs occur are assigned by Broholm to Montelius V; the Kolding 'avule' and the Albersdorf belt terminal are also Montelius V types, and the North German jingles are assigned by Sprockhoff (1937, 106) mainly to the same period, although occasional examples belong to Montelius IV or VI. The Swedish discs may be either Montelius V (Ekes, Svartrapp) or VI (Eskelhem); but all the Swedish jingles are less like the Parc-y-Meirch discs than the Danish ones.

The Parc-y-Meirch hoard, recently discussed briefly by Piggott (1952/3, 183) in connection with hoards containing objects associated with horse-drawn vehicles in the British Isles, has been assigned to EB II; Hurll and Smith (1957, 1951) date it c. 650-600. The looped bronze buttons with dot-and-concentric-circle ornament on their face in the Parc-y-Meirch hoard (Shapero, 1952, PI. Va, no. 89-90) are perhaps also imports from the North, or at least copies of Northern buttons. The French hoards cited below belong to the carps-tongue complex.
LIST OF JANGLES OF NORTHERN TYPE
(cf. Map XIII)

7. Sorø Amt. V. Flakkeberg H. Hoard, MV (PI. XVIIb). (Form very similar to Parc-y-Meirch). Broholm, DB III, M.
15. Gotland. Esheshem. Hoard, MV. Model of horse's head, with jangles suspended from looped toggle. Moberg, 1941, Taf. IV, 68, n° 20 (with further ref.)
CHAPTER XIV
BRACELETS

Two varieties of bracelets found in the British Isles, apart from the twisted bracelets discussed in the chapter on twisted ornaments, may owe their appearance in Britain to influences from Northern Europe. The two types are ribbed bracelets and bracelets with incised decoration.

A. RIBBED BRACELETS

Ribbed bracelets in Britain were listed and discussed by C. M. Piggott (1949, 118 ff., annotated list p. 120). From her list of eight British finds, one could separate, as distinct types, the fragmentary bracelet from West Buckland, Somerset, with its cast boss ornament, and the one from Cornwall, with its broad central midrib; these seem to belong to a different tradition than the remaining six, which are characterised by close-set narrow ribs. Of these, the Ramsgate type, one is in Kent, three in Wiltshire, and two in Somerset. The Ramsgate specimens come from the same inhumation grave as a pair of bracelets with incised pointed-oval motifs, to be discussed below. Of the Wiltshire specimens, two (South Lodge and Thorny Down) come from Late Bronze Age enclosures, and the third, from Lake, was a barrow find, treated and engrossed from the same barrow group, although whether in association with the bracelet is not known. The Somerset examples are from the Bathampton (Monkswood) and Edington Barke hoards (cf. M. A. Smith, 1959, 149 ff., fig. 2: 7, 9).

The ribbed bracelets of Ramsgate type all have parallel sides except the South Lodge Camp specimen, which has sides which converge slightly toward the terminals. The ribs are normally cast, except at Monkswood where they seem to have been made by tooling (see below, p. 177). Where terminals are present they are smooth and undecorated, and with straight ends. An exception is the Lake bracelet, which has its ends rolled in opposing directions so that they interlock—a feature for which it is difficult to cite parallels. The number of ribs varies from five to eleven. The Ramsgate bracelet, with eleven ribs, has its two outermost ribs and the central rib slightly higher than the others; a feature which Holin (1939, 67)
tells us occurs in his Eastern group in Hessen and in North Germany, but not often in South Germany. This feature also occurs in Denmark.

In origin the ribbed bracelet goes back to the Wis­

eccentric culture; the type continues in several varieties throughout the Tumulus Bronze Age, and, more rarely, into the Urnfield period. In Eastern France Deche­

lette includes ribbed bracelets not unlike the British examples among the typical forms of his Period III, which includes Tumulus and Earlier Urnfield elements, but not Later Urnfield types.

The ribbed bracelet appears in Northern Europe as an import from Central Europe in the Pile stage, and becomes naturalized during Period II. Kersten (1936, 48 ff.) distinguishes two families, his B group, with ends that narrow and then expand into a club-shaped terminal (Ibid., Abb. 4) and a C group, with more or less straight sides and ends (Ibid., Abb. 5). No examples of the B group are known in Britain, and it is in the C group that we must look for parallels to the Ramsgate type. The simplest form, C1, is simply a Tumulus Bronze Age form adopted in the North in Period II. The more developed Northern forms, Kersten’s C3 and C5, are parallel-sided and have parallel ribs, and to that extent compare closely with the Ramsgate type, but they normally have terminals which are transversely ribbed or otherwise decorated (a feature unknown in Britain). C4 is a larger and somewhat heavier form with the outer ribs exaggerated into flanges.

Thus the British bracelets most closely resemble the Northern C2-C3 groups, though they lack the terminal decoration of the latter. C5 is a rare type, indeed there is only one example in the North but it is typologically important because it has the slightly expanded ornament ribs seen on the Ramsgate specimen. It comes from Hedeby on the Island of Fohr and is a grave find dated to Montelius III (Kersten, Ibid., 32, 188). C6 is a very common form, and Kersten cites 24 finds, overwhelmingly in Period III. In the Iller行為 Culture, Sprockhoff listed thirteen finds (1937, 154 ff.) in support of his Karte 31, a map of the characteristic Iller行為 forms: the ribbed bracelet is in Abb. 448:19-20. Nine of the thirteen finds are in Kranz Uelzen. Detailed classification is not given, but Sprockhoff has spe­

ically compared the Ramsgate bracelet with his Iller行為 type 194 b; cf. C. M. Piggott, op. cit.). The later phases of the Iller行為 Culture (Kersten, 1937, were terms it the Iller行為 Middle Bronze Age) correspond with Montelius III; we are unable to discover in the Danish or North German literature any suggestions that such bracelets appear in Montelius IV contexts except for a belated example in a hoard tentatively assigned by Von Brunn (1932, 287 ff., fig. 16) to the Late Hall-
Bracelets

Bracelets 157

If these bracelets came to Britain—either from the Scandinavian area or from the Ilmenau, it must be presumed that they had arrived in the British Isles by the end of Montelius II or the latest. Indeed, a recently re-discovered hoard in the Netherlands appears to provide an unexpectedly precise terminus ante quem for their appearance in southern Britain. The hoard is a part from the province of Ommerschans in the province of Overijssel (Butler and Bakker, 1961). It contains a broken portion of an object with tooled ribbing like that of the Somerset ribbed bracelet in the Jistskoveveld hoard. The Ommerschans object is admittedly not curved but flat; yet it is difficult to imagine what the object, given its size and form, could be other than it was intended to be bent into bracelet form; in which case it would provide an excellent parallel for the Jistskoveveld specimen. The Ommerschans hoard also contains, inter alia, a chisel like the Somerset one from Sparkford Hill (M. A. Smith, 1959, fig. 7), and a giant ceremonial rapiers or sword of "Atlantic" type, exactly like the one from Pleggenriet. Most interesting from the dating point of view is the Ommerschans hoard in a range of a type otherwise known only in the Pantalica phase of Sicily, an early specimen of Peroni's A group. Such a rare should date from the very beginning of the Pantalica phase, which according to current views should start either in the century before 1700 B.C. (if we follow Peroni's division of the Pantalica material) or the century after (if we follow Müller-Karpe).

B. DECORATED BRACELETS

This type was also discussed by Miss Piggott (1949, 38 ff.). The bracelets in question are those from the Ramsgate find (a pair, associated in a chalk-cut grave with an inhumation burial and the ribbed armlet mentioned above); a pair from Portsmouth, found with two similar but undecorated bracelets and a leavened paten with slight blade flanges (our type IBa) (ATCh. LXXI, 139, fig. 4); and a pair from Liss, Hants. (AB II, fig. 37). These bracelets all have a pointed-oval motif, which is one of the features of bracelets found very commonly in the Ilmenau Culture. Numerous examples of the Ilmenau bracelets are illustrated by Kersten (1951, 56 ff., Taf. 39 ff.); their distribution is mapped by Sprickhoff (1957, Karte 31). 1

1 Evans suggested that the Liss bracelets may have been associated with the ornamented cast-Ax grid type (AB II, fig. 37) also found at Liss. The discrepancy in their conventional dating is however considerable.
Bracelets

While the round cross-section of the Ramsgate bracelets does not appear to be characteristic of the Ilm enau type, Sprockhoff, who examined the Ramsgate pair in the British Museum, specifically called attention to their Ilm enau affinities, remarking in 1941 (82) that they are "wie die Vorhülle aus dem Ramsgater per mittee deuken". Both the Ilm enau bracelets and the Lanz and Ramsgate bracelets must on the other hand be somehow related to those from Vernaison (Rhône) illustrated by Dichter (Manuel, II, fig. 129: 1). The Ilm enau bracelets differ somewhat from these, having pointed as well as incised lines in their decorations, and panels of cross-hatching. These features are remarkably closely paralleled on a bracelet from the hoard from Steenodde, Nebel, Alten, already cited in our chapter on twisted neckrings and bracelets above, which Sprockhoff (1937) assigned to Montelius IV. This and another related bracelet from the same hoard are apparently not Ilm enau bracelets, though Sprockhoff does not discuss them in detail, and their exact source is undetermined. Similar bracelets occur in Breton Middle Bronze Age hoards, e.g. Bignan in Morbihan (Marville, 1921, 77, Pl. VI), with axe-blades presumed to be of palstaves and rivets which from the peculiar tilt of their heads are likely to be from rapiers; Tailly, Lst-V (Gaut, 1916, 133, fig. 43); Graigny, Lst-V (Bried, Perrine-Brenis, 1964, 128 ff.). The bracelets from the Villers-sur-Authie hoard (with a Form 2 twisted neckring and other objects) have simpler patterns but appear to be in the same family.
CHAPTER XV
AMBER AND FAIENCE
(List pp. 146-7)

A. AMBER

During the Bronze Age the amber trade provides a major continuing link between
the British Isles and Northern Europe. While it is possible that some raw amber
was acquired on the beaches of eastern Britain and the Netherlands, there is no
evidence to show that this source was actually exploited during our period, and we
follow the prevalent archaeological assumption that British amber finds are to be
attributed to importation primarily from North Jutland. There is abundant evid­
ence that North Jutland amber was collected and utilized even in the Mesolithic,
and a number of large merchants’ hoards in that area — one of them, from near
Skive, containing nearly 13,000 beads — show that the fossil resin was system­
ically collected for trade purposes during the Early Neolithic. During the North­
ern Middle Neolithic, the amber trade extended eastward to the Danish islands,
Bohuslän and Bornholm, and amber occurred in numerous grave finds of Single
Grave and Funnel Beaker folk. By the Late Neolithic the trade had extended to
Central and Southern Europe along the Amber Routes defined by de Navarro
(1925), and, in the view of Northern archaeologists, it provided the principal
means of payment for the metal imports that were the essential basis of the rich
Northern Bronze Age. 2

The amber routes to the West have never been systematically studied. It appears
certain that some amber began to come westward during the Northern Middle
Neolithic, though not in great quantities. Struve (1955, 64, 79) is able to cite only
ten amber finds associated with the Single Grave and Bell Beaker cultures in

1 ‘Plenty of amber has been dredged up by fishermen in the North Sea, and plenty has
been found washed up on the coasts of Norfolk and Suffolk, notably between Cromer and
Allcooker (D'Aulaire, de Navarro 193, 153).

2 Recent studies of the Northern amber trade are by Becker, 1947, 294 ff.; with maps
Figs 27-8; 133, 41 ff., 149-53; also 1950, 1 ff.
Amber and faience

Schleswig-Holstein, and four in the rest of Northwest Germany. In the Netherlands, Bouché in 1933 listed nine finds of amber with Beakers. Most of these are with late Beakers of Veluwe type, but in at least one case (Odoorn: Van Giffen, 1911, 486) with a Beaker burial regarded by Van der Waals and Glasbergen (1955, 21, 32, 39; No. 44) as early in the sequence in the Netherlands. Most of these finds in the Netherlands are on the Veluwe.

In Britain, amber occurs very rarely with Beakers. Such finds are known at Driffield and Aicknabield in Yorkshire, the Finsmore Cave, Grindon, in Derbyshire; and Ardifery in Aberdeenshire.

At Driffield, three dome-shaped amber V-bored buttons were found in a rich Beaker grave in a cist, with a crouched skeleton said to have been wrapped in a linen covering (Elgee, 1914, 52; BM LPA, fig. 15). The Beaker is described by Brailsford as of AB type; the neck has zones of diagonal hatching divided by cords, with two separate bands of decoration on the lower part of the body. There is a slight foot. The tanged dagger associated with it is also a hybrid, having a single rivet in the centre of the tang, like the one from Sittingbourne, Kent. A wrist-guard was provided with bronze rivets covered with gold, an unusual bit of luxury. Finally there was the skull of a hawke.

Ardifery in Aberdeenshire provides another rich Beaker grave with amber. Two Beakers (both of Crickmay-Mitchell's Type CA) were found in a cist grave in a tumulus, with a necklace of twelve beads of jet and four (unworked) of amber, a tanged dagger, a fist axe, seven barbed-and-tanged arrowheads, a flint knife and a flint flake. The burials are described as being of an adult male, a boy of twelve, and a dog. (PSAS, XXII, 366; Crickmay-Mitchell, 1934, No. 8-9, with further references) One of the Beakers is decorated in the tri-zonal manner characteristic of Van der Waals and Glasbergen's Beakers with contracted zones, which they regard as developed Bell Beakers immediately preceding the emergence of the Veluwe Beaker. The type appears to originate in Drenthe and to spread to the Veluwe, and the Dutch authors suggest that they are the immediate prototypes of the British C Beakers, crossing the North Sea directly to Northeast Britain. C14 determinations suggest a date of about 1800-1700 for this development in the Netherlands (Van der Waals and Glasbergen, 1955, 37). We suggest below that the development there can be equated chronologically with the Upper Grave phase of the Single Grave culture, and that the invasion of Britain dates from about this time.

Since the V-bored buttons is widely associated with the Beaker cultures in Eu-

1 A dagger with a single rivet, somewhat reminiscent of the Driffield blade, comes from a Urnfield grave at Asperneth, Bic; Haithabu in Saxony (JFAF XXIX, 1953, 71, Abb. 46). Another is from Ireland (Quamstron Bridge, Co. Roscommon; Leitrim, N.M. Dublin, VP 31), still another from the Netherlands (Lentmoerseberg, near Rotterdam), with amber V-bored buttons (see p. 185; see also Pigott in Proc. Festschrift, 1965, 77-8, fig. 16.)
Amber and faience 161

rope, and was made wherever Bell Beaker-using people lived, in materials locally available such as stone, bone, amber and jet; we cannot be certain whether the above-mentioned beads represent imports of finished buttons or whether they were locally made. With the V-bored button from Askham Wald, however, the case is different. While the normal V-bored button is cone or dome shaped with a rounded base, the Askham Wald button is pointed-oval in plan. Such buttons appear to be a distinctively Northern type, represented only in Scania, Denmark, and Schleswig-Holstein. One amber V-bored button of this form was found in the classic portal-stone cist at Skogbo (Fornander, 1935, Taj. XXIV), and another in a stone cist at Hammarby in Scania (Missou, 57) together with Late Neolithic date-potsherds. In Schleswig, a pointed-oval V-bored button was found in a passage dolmen at Albersdorf, Kr. Sylentermarchen (Aner, 1951, 5-6), where it was apparently secondary, a fragmentary flint dagger seems to have belonged to the same deposit. A Danish example comes from a grave at Tvedestrand in Aarshus Amt, together with a middle dagger that does not look particularly early (Broholm, DB I, Grav 49). The bead type is assigned to the Late Neolithic by Gloe, Aner (1951, 6) and Aner (1954b, 246 ff.); a related example comes from a Sogn grave in Denmark (Broholm, Fuglestrander, 1957, 185, Kat. Ni. 33, Taj. 10: 10-17).

Since the Askham Wald bead agrees both in form and material with its Northern counterparts, it seems most probable that it is an actual import, datable to the Northern Late Neolithic.

It was found at the bottom of an oval primary grave pit in Barrow 124 (Mortimer, 91, fig. 213) together with a contracted male skeleton, a Beaker (fragment illustrated by Mortimer), a large leaf-shaped flint dagger, a conical jet V-bored button, a jet pakt-o-ring, a bone pin, a lump of pyrites, a decayed oval-shaped wooden object and some flints (ibid., figs. 209-217). It is therefore an excellent representative of the A Beaker culture in Yorkshire. The Beaker fragment has a band of short vertical rouletted lines immediately below the rim; below this are horizontal bands of finger-nail impressions bordered by lines. Mortimer adds that the base was ornamented "in the form of a cross, produced by three rows of faint impressions with a notched tool".

Jet imitations of the pointed-oval amber V-bored button are known in Yorkshire and elsewhere. Mortimer illustrates examples from Painshill Wood Barrow 200 (with a contracted male skeleton, two other jet V-bored buttons, pig and other animal bones; ibid., figs. 288-290) and Garton Slack Barrow 81 (on the chest of a young female in an oval grave pit; below which, in the same pit, was a dismembered burial with a C Beaker; Abercromby, L. No. 146, Mortimer, fig. 608).

1 Recent surveys are by Aner, 1954, 245 ff., and by Hayek, Parnawa, 1957.
The Painsthorpe and Garton Slack pointed-oval buttons each have two pairs of V-borings, and may be regarded as imitations of the imported type1. Another jet example, with one set of borings, may be cited from Coldfelth, Hereford, found in a cist with a contracted female skeleton, a bronze axe, a necklace of disc and ornamental beads of jet, and an obsidian flake (Lowe, PSAS LXIII, 1938, 217 ff., figs. 5, 6).

At Blinmill, Rothiemaron, Aberdeenshire, two small amber beads were found in a cist grave in a cairn, together with a Beaker-Food Vessel hybrid, a jet spacer necklace, a fragment of bone, and burnt bones (Childe, 1946, 117, No. 44; cf. PSAS VII, 193).

Amber finds attributed to the Wessex Culture are remarkable both for the frequency of their occurrence (no less than 40 of the 99 Wessex Culture graves listed by Piggott, 1938, contain amber) and for the extraordinary craftsmanship represented. Alongside simple beads and V-bored buttons, there are the dagger pommel inlaid with gold nails from Hammeldon Down, the possibly lathe-turned cups from Herne and Chalcolith, the gold-bound amber disc, the spacer-plate necklaces, and the hallmarked pendants, pointing, as Piggott and others have shown, to trade connections with Saxo-Thuringia, South Germany, and the East Mediterranean as well as with Jutland.

As Piggott pointed out, there are no characteristically Danish forms of amber ornaments in the Wessex repertoire. The Wessex amber must have been imported to Britain as raw lumps and/or simple beads, and most of the ornaments were fashioned by Wessex craftsmen. Curiously, the only Wessex ornaments of Northern form — the double-axe bead from Normanton (SP 74, fig. 8: 7) and the double-button from Mammes (SP 60, fig. 8: 17) — are not of amber. An amber dagger pommel is known from Oresund in Scania (Forssander, 1936, Abb. 38: 4). Its form, however, is not sufficiently like the Wessex pommels to make a connection certain. The probability of raw amber having been exported from Jutland is supported by the character of the hoards there, which consist mainly of simple beads and raw lumps, and by the similar absence of characteristically Northern forms in, for example, the Dieskau hoard in Saxo-Thuringia, with its 100 simple beads. More complicated is the question of the origin of the Wessex amber spacer-plate necklaces. In Denmark the idea of a crescentic necklace with spacer-plates undoubtedly goes back to the Early Neolithic, as the famous find from Sortekaer demonstrates (Neergaard, Aarbøger 1888, 285; Biggiudt, 1938, i, fig. 95). Tri-

1 Jet ornaments of Northern Late Neolithic ring barrow graves also occur in Yorkshire (Mack- tor Farnans, Beck and Stone, 1933, 232; Horley, Elsies, Early Men. IV, XVIII, fig. 8). A bone example was found at Norman Harcourt, Chichester, Sussex (Gurney 1944, 144, pl. 10).
angular end-plates also occur (cf. DO II, 130), and it is difficult to believe that such necklaces have nothing at all to do with the British spacer-plate necklaces in amber and jet. There is nevertheless a considerable chronological gap, since the Danish spacer-plate necklaces are confined to the Early Neolithic. And the workmanship of the British necklaces is very different; the British spacer-plates being smaller and more carefully shaped. Elaborate borings such as occur on spacer-plates from Lake (Piggott, 1938, Pl. XI); in Greece at Kavousion (Merhart, 1949, 99); reportedly in an yet unpublished Mycenean Shaft Grave older than those excavated by Schliemann (Mehedin, 1955, 236 ff.); and in graves of the developed Transitional Bronze Age and later in Southwestern Germany (Merhart, ibid.; Hachmann, 1957, 115) are not known in Denmark. According to ApSimon (1954, 44) amber spacer-plates in Britain cannot be dated before the transition from Wessex I to Wessex II. A rectangular spacer-plate appears in the Breton Dagger grave from St. Fiacre in Morbihan (Piggott, 1938, fig. 6), which, with its imported metal-hilted dagger, might be slightly earlier; though the dagger is admittedly atypical and debased (cf. Sandars, 1950, 54). Schmanck (1958, Taf. XXIII: 35) illustrates a rectangular spacer-plate, apparently with two parallel borings, from Ulcinj. Some of the amber beads found with the sun discs in the Knowes of Trotty in Orkney (Inventario GB. 33) are evidently the product of the cutting-up of spacer-plates with complex boring. Jet spacer-plates were found in a cist with a Beaker at Parklaw, St. Andrews, but the grave appeared to have been disturbed, and Beaker and necklace might conceivably represent two different interments (see Crichton-Mitchell, 1954, no. 194, with references; also bar. Note 92). Connections with Saxo-Thuringia or the Northern Ubiquis area are implied by another type of amber ornament, the halberd pendants (Hengestbury and Norman; a third from Manton is not of amber) (Piggott, 1938, 84-85). The Manton and Norman pendants were found in the same graves as gold-bound amber discs, and the third in a cinerary urn with Wessex-type ornaments at Hengestbury Head, Barrow I. While the halberd pendants were undoubtedly made by a Wessex craftsman, their maker must have been familiar with the metal-shafted halberds which were made only in the zones mentioned above, although traded examples reached Sweden, the Lower Elbe and Hungary. There is no certain evidence that any of the metal-shafted halberds reached Britain or Western Europe (but cf. above, p. 24). Our craftsman is likely to have seen his prototypes on the Continent, perhaps on a journeyman tour. Since the three graves in which the halberd pendants occur are likely to be contemporary, on the ground of the gold-bound amber discs and other similarities (cf. ApSimon, 1954) it is a fair assumption that they

Further British parallels are cited by Piggott, Inventario GB. 33 (Upton Lovel Gold Bower, Wilts; Oakley Down, Dorset).
were buried with their original owners, and the date for these graves can be applied to show that the Saxo-Thuringian Early Bronze Age or its Northern Unetice extension survived at least to the border of Reinecke B.

The route or routes by which Jutland amber reached Britain cannot easily be determined; equally good arguments can be adduced for direct trade by sea with North Jutland, overland trade across North Germany and the Netherlands, or indirect trade via the great entrepôt in the SaaLe valley and the axe-and-halberd route through Westphalia. The problem is best discussed in connection with other traded goods, so we shall return to it in Part II. It seems clear from the astonishing concentration of British amber finds in the Wessex area, and their rarity elsewhere in the British Isles, that the wealth of Wessex constituted a rich market which was deliberately sought out by traders from distant areas. The dissected spacer-plates from the Knowes of Trotty, and the amber beads found in a secondary grave in the mound of the Hostages at Tara by O Riordain (1955, 163 ff.) (the only Early Bronze Age amber find recognised in Ireland) presumably represent secondary trade from Wessex.

LIST OF AMBER FINDS OF THE BELL BEAKER AND SINGLE GRAVE BEAKER CULTURES IN SCHLESWIG-HOLSTEIN, NORTH-EAST GERMANY AND THE NETHERLANDS

<table>
<thead>
<tr>
<th>Schleswig-Holstein</th>
<th>Wessex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Struve (Kat. No.)</td>
<td></td>
</tr>
<tr>
<td>578. Kr. Rendsburg.</td>
<td>Groundgrave. Two beads (lost), fl. battleaxe, strikea light, etc. (Bell Beaker with three doubled zones under same barrow, on ground level, under small stone cairn; Steen, Taf. 24 u. – Abercromby I, No. 41, Cat.).</td>
</tr>
</tbody>
</table>

1 But it may be suggested that the find from Crossdriggle near Carrickcrom, Co. Kilmore, with biconical gold beads compared by Armstrong (1933, 41) with Wessex Culture parallels, tubular gold beads (known on bronze from several Early Bronze Age finds in Britain as the Midleton beads), and ribbon tubular beads (also known in the mid-Irelands from the same period), as well as amber beads of unspecified form (Armstrong, ibid, 41, 59, Pl. XIX. 924 and 949) would be at home in this period.
Amber and faience


32 cylindrical beads, two round discs. Part illustrated, Schwantes, 1939, 235, Abb. 300.


Northwest Germany:

Kr. Stein, Halstenbek. Lodde, Studie Jutland 1936, 7 ff.


Kr. Bennemühle. Pannenrieder.

B. Segmented faience beads

Two finds of segmented faience beads within our North European area on the Continent may be mentioned as probably the result of secondary trade from Wessex.

To the well-known find of four segmented faience beads at Elcho, Genn. Odoorn in the Netherlands, which also included beads of amber and tin (Beck and Stone, 1935, 221, 243) can now be added a single blue faience bead from Northwest Jutland. It was found in a megalithic cist, unfortunately without accompanying grave goods of any kind, at Fjaelerslev, Østrup s., on the island of Mors in the Limfjord, and has been fully described by Becker (1934, 241 ff.).

The bead, with five segments and a large perforation, corresponds very closely in appearance...
with the 'normal' type of blue segmented faience beads found in Britain. An Irish flat axe comes from Fodsby on the same island, some 7 or 8 km from Fjallerslev (p. 29). The one in which the bead was found is described by Becker as a type common throughout the Aeldre Bronzealder; a Late Neolithic date of construction is not entirely excluded.

It seems entirely natural to connect the Fjallerslev bead with the amber trade; one is only surprised that there are not more such beads in North Jutland. Amber appears with the segmented faience beads in the Exloo find. The 14 amber beads include simple globular and cylindrical forms, more or less rectangular pendants, and one crescentic bead with a single perforation. The tin beads from the Exloo necklace are often compared with a now lost example from Sutton Veny, Wilts (Hoare, Ancient Wilts., I, 139, pl. XIII); the tin itself is presumably Cornish.

The dense concentration of ‘normal’ segmented faience beads in Wessex, with only one or two isolated finds in areas such as Cornwall, Sussex, Kent, East Anglia, North Wales, Yorkshire and Derbyshire (distribution map Beck and Stone, 1935, fig. 3), corresponds to the similarly marked concentration of amber finds in Wessex. According to Ap Simon the segmented faience beads do not occur in the graves of Wessex I, but only in Wessex II. Some have been found in cinerary urns conventionally dated to the Late Bronze Age, although F. Smith (with the present writer, 1956) suggests that there are good grounds for believing that such urns had appeared before the end of the Wessex Culture. In any event, it appears that the ‘normal’ segmented faience beads ‘are likely to have been imported at one time, or to have arrived in a closely spaced series of shipments from one source.’

In Western Europe outside our area such beads are very rare; examples being known only from Parc Guerin, Morbihan (Beck and Stone, 1935, 244–5) and from Fuente Alamo in Spain (Ibid., 225), the latter being attributed to the El Argar culture. Additional finds have been listed by Stone and Thomas, 1956, 32ff.; with a full review of the faience bead material. Widely separated from those in space, and in the opinion of Continental authorities earlier in time, are segmented faience beads found in eastern and central Europe: in Hungary, forming, according to Miljkovic, an ‘import horizon’ in Young B, which he equates with Perjamos and Early Unetice cultures (Miljkovic, 1953, 277); in Moravia in Unetice contexts; in Lower Austria, one example at Leopoldskron (Wilhalm, 1937, 88ff., discussed by Pittioni 1954, 277); placed by Pittioni in his Ragelsdorf-Oggau-Loretto group at the end of the Late Neolithic, contemporary with late Bell Beakers; in Poland (Sulimirski, 1946, 124) in the Tomaszow and Szczecinek Polish Barrow Grave cultures, the latest limits of which extend, according to Sulimirski, into the Unetice period.

If, as seems probable, the Exloo and Fjallerslev segmented faience beads were obtained in Britain, it seems on present evidence that they must be supposed to have arrived during Broholm’s Forste metalcultuT or somewhat later.
CHAPTER XVI
SUN DISCS
(P. XVIII; fig. 38, 39; Map XVI)

The golden sun disc, symbol of a Bronze Age cult or religion common to the British Isles, Northern Europe and wider areas as well, plays a prominent and en­
thrilling part in our story. The "sun disc idea" has often been claimed to be of Irish origin, and its diffusion in the form of gold discs, and its translation into the most diverse media - rock carvings in Scandinavia, wheel-headed and disc-headed pins in North Germany and Central Europe - attributed to an emanation from the El Dorado of the West. Perhaps this is true; but the "sun disc idea" can be shown to have a respectable antiquity in Northern Europe, going back beyond the time when sun discs can be shown to have been known in Ireland. In fact, it is possible to suspect that the idea itself first reached Ireland from the North.

The golden sun discs were studied by Jacob-Friesen (1931) who divided them into two classes. The earlier, Class I, discs are small (less than 12 cm in diameter) and are usually perforated in the centre. The later type, Class II, is larger than 12 cm in diameter and without perforation. Actually, some smaller discs found in the British Isles (e.g. the discs from Mull and the Irish disc, B.M. LP.4 fig. 14, upper: 6) are from their decoration and technique, clearly not earlier than the Middle Bronze Age, and are more usefully grouped with Class II than with Class I.

A. CLASS I SUN DISCS, THEIR PROTOTYPES AND IMITATIONS

The Class I sun discs were further divided by MacWhite (1951) into several sub­
classes on the basis of their ornamental motifs. The number of examples assign­able to each sub-class is so small that the use of the classification does not seem necessary in the present context. The Irish Class I discs possess varying combina­tions of cross patterns and concentric circles of lines, zigzags and punched dots; some have "ladders" arranged either as crosses or circles. Most have a pair of perfor­ations in the centre; one is unperforated; one from Kirk Andrew, Isle of Man, has two perforations close to one edge. The four discs from the Knowes of Trotty, Hoymarwick, Orkney (Iowesea G.I 53) each have or have had a single large per­
Sun discs

foration in the center. Some gold discs from Wessex Culture graves with two holes in the centre appear to have served as the base of gold-capped cones. Small Wessex discs from Lake are unperforated, but these were mounted in uncertain ways. A special feature of the Irish-British discs is their occurrence in matched pairs. A pair of small discs was found in a grave with a Wessex Beaker at Mere Down near Gillingham, Wilts. (Abereromby, 1956, I, Beaker No. 14, tanged dagger and disc O 8, Bone, 1958, 93, 103, PI. 14.)

A second Whitekirk grave find of a similar small disc is from Monkton Farleigh (Stone, 1958, 83, Pl. 175; private possession; copy in Devizes Museum; information from L. V. Grinse11, and this was perhaps also a Beaker grave; Irish-type sun discs have also been found in the Iberian peninsula, in one case (Cabeceiras) with a gold lamella (MacWhite, 1951, 50); MacWhite also cites a find from Brittany, Cist, 1956, 64, refer to separately.)

No actual gold Irish sun discs have been found on the Continent in our North European area; but related discs occur in copper and baked clay; these can be regarded as imitations of the scarce and expensive golden articles.

The related North European discs occur in Denmark and Poland. The first is a fragment of an arsenical copper disc excavated in 1946 from a flat grave under what may have been a ploughed-out long mound at Sabin, Tom Sogn, near Silkeborg in Jutland (Bec4er, 1947, 273 ff., figs. 74-76, DO II, 139, Otto and Witter, 1952, 54). The disc appears to have been a circular one, of which about a third survives, originally about 7 cm in diameter, of thin hammered copper. It is ornamented along the edge with a single row of small hammered-up bosses. A line of similar bosses run radially from what would have been the centre of the complete disc, suggesting that it would have had a cross pattern. There is a single small perforation near the presumed centre; Glob reconstructs it (DO II, No. 139) as having had two central holes much in the manner of the Irish sun discs.

Bec4er compares the Sabin disc to the copper one from the Dribihain Neolithic cemetery and settlement site at Brzesc Kujawski in Poland (Jazdzewski, 1938, 195). One of these, from Grave XXXIV, is circular and has two pairs of perforations placed close to the edge; it has a circle of small embossed dots around the edge like the Sabin disc, but the centre is decorated with three larger bosses arranged as a triangle. A second Brzesc Kujawski disc (found in the settlement occupation layer) is triangular in shape, with a single perforation in one corner; it also has an edging of embossed dots.

The copper discs of Sabin-Brzesc Kujawski type are derived from the copper and gold discs such as the ones known in the Southeast European hoards of Hu­basesti (Romania) and Straifhof (New Wiener Neustadt, Lower Austria) (cf. rev., most conveniently, Drishah, 1970, 153 ff., Abb. 6-6, with further references). Those discs are considered, in the most recent view, to be products of the Bodrog-
Sun discs

Fig. 38. Discs of sheet gold or copper from the Continent: 1 Hohaseiiri, Romania; 2 Bresci, Kujawski, Poland; 3 Soldof F, Austria; 4 Salten, Jutland; 5 Hangyé. c. 5:12. After Driehaus.

The gold disc from Kirk Andrews in the Isle of Man is unique in the British Isles in having a pair of perforations at the edge rather than at the centre; and it is decorated with three concentric rings of fine embossed dots at the edge, recalling the two rows of similar dots (but more closely spaced) on the Stollhof gold-disc. It is a modest linear decoration. It seems probable therefore that the Kirk Andrews disc is derived from the Stollhof type. It could be an actual import (suggested by the absence of direct parallels in Ireland) or an Irish imitation (suggested by the absence of bosses in the centre and also the single pair of edge-perforations, the Stollhof and Bresci-Kujawski discs have two pairs). In either case very far-flung trade contacts are implied, even if one declines to think in terms of direct trade between Ireland and Transylvania, which are a long way apart. A few objects of "Hungarian-Jugoslavica" copper (JSS Group Eoo) occur in Ireland (Coglan and...
Sun discs

Case, 1957, nos. 77 (unfinished thistle-tipped axe, unfinished), 81 (Treleick, Co. Tyrone, anomalous oblong axe), 82, a bevelled axe, and 83, bronze halberds, are presumably much later. If the Kirk Andrews disc is of Irish manufacture, it carries with it the implication that gold-working was being carried out in Ireland at a time corresponding to, or very little after, Jordansmühl and Salten, which is considerably earlier than any conventional dating of the Bell Beaker migrations.

Another copper disc, from Nieder-Kraigt, Kr. Königsberg (now pow. Chojna) just east of the Oder, brings us typologically closer to the Irish cross-and-circle sun discs. (Bohm, 1935, 25, 193, No. 22; Taj. 7: 18; Bachhake, 1935, 200–201). It is decorated with a double-armed cross, and with a double circle at the edge, in five embossed discs. Although broken into several fragments, the disc as reassembled is nearly complete. A small missing portion at the centre deprives us of the knowledge of whether it had central perforations. (That it had a central boss like the Unetice disc from Bohemia and like one from Kiebitz near Mügeln cited by Bohm (1935, 45) seems impossible). It may be regarded as a further development of the type represented at Salten; the absence of linear ornament distinguishes...
it from the Irish cross-and-circle sun discs. The Niederkrainig disc was found with a cylindrical arm-spiral and a rather battered flat copper axe, the original form of which is not easy to make out. But the combination of flat axes and arm-spirals occurs also in the Bygholm hoard in Jutland, dated to the beginning of the Northern Middle Neolithic; therefore the Nieder-Krani g hoard could also be supposed to belong to the first half of the Middle Neolithic.

Our next find is a baked clay disc or ‘pot lid’ found in a megalithic grave at Bognaesgaard, Herslev S., Sømme H., near Copenhagen (PI. XVIII; original publication APM I, PI. 47: 29, p. 157-58; photograph DO II, 1932). This flat and circular disc, 11 cm in diameter, has impressed on one face what can only be described as a remarkably good imitation of a sun disc pattern. It has a cross pattern, the arms of which are formed of two parallel lines of small circular impressions; around the edge of the disc is a double circle of similar impressions, and within these a zigzag circle formed of impressed strokes. In size and pattern it closely resembles the pair of Irish gold sun discs from County Wexford (fig. 39; Armstrong, 1933, figs. 432-433). The Wexford discs have a central cross formed of a single row of tiny bosses or points flanked by lines, and the edge motif has lines as well as points parallel to the edge; these lines are missing from the Bognaesgaard disc, but otherwise one might well be a copy of the other. Another very striking feature of the Bognaesgaard disc is that at its centre there are two impressions which are noticeably wider and deeper than the impressions of which the rest of the pattern is composed, and these impressions correspond exactly in their position to that of the central perforations on the Wexford and many other Irish sun discs.

Again, a clay disc of the same general type from Nebel, Amrum, has four actual small perforations in the centre, like those of some Ulrician and Breton gold sun discs. The ornament of the Nebel disc consists otherwise only of a simple radial pattern of impressions. It was found in a megalithic tomb, Rieseubett II (Kromer and La Baum, 1935, 140-2, Pfl. 17:14).

We do not wish to claim that all clay discs of the Bognaesgaard-Nebel type, broadly speaking, are sun discs. It is clear that the clay discs (frequently described as ‘pot lids’ in the Northern literature) have a long history in the Funnel-Beaker culture; related discs have been found in settlement sites of the Ubdergast Culture in Holland (Holloszai II, 1936; 3 f); and, as Beeker has pointed out, they are related to the ‘baking plates’ of the Michelsberg culture. Their original function does not particularly concern us here. We are, however, convinced on the basis of the really startling resemblance between the Bognaesgaard and Wexford discs that on at least one occasion a Funnel-Beaker potter deliberately made a clay disc to resemble a metal sun disc which he had actually seen. This resemblance is, he it noted, far closer in detail than any of the cases hitherto cited in the literature between sun discs of different materials. It is also interesting to note
that some of the characteristic decorated clay ladies of the Northern Middle Neolithic have 'ladder' cross motifs which resemble those on some Irish gold sun discs; for example, the lady from Steenby, Bornholm (NMC, A 33412), with a very close ladder cross surrounded by a zigzag circle. One could indeed make out a case, without much difficulty, of deriving the style of the Irish cross, circle and zigzag sheet-gold sun discs from the Finnish style of pottery decoration, as represented on the clay discs and ladies of the Funnel-Beaker culture. On the other hand, the Bognaesgaard disc, with its central impressions imitating the perforations of discs of this Wessex type, strongly suggest that the Bognaesgaard potter had seen, and was directly imitating, a golden disc of Wessex type.

In defining the sub-periods of what we now call (after Becker) the Northern Middle Neolithic, Mathiassen (91 ff., fig. 9) pointed out that 'potlids' without a central perforation, and sometimes decorated, were prominent at Troldebjerg, less common at Blandebjerg, and rare at Troelshøj; while at the later sites of Business (MN III) and Lodde (MN IV) the discs without central perforation had disappeared altogether. On this basis, it could be presumed that the Bognaesgaard disc, an unperforated specimen, belonged to the first half of the Middle Neolithic, and was not later than MN II. On the other hand, the Nebel disc was found in a megalithic chamber with pottery of MN IV as its earliest accompanying material. On the British side, the well-known grave from Mere Down, Wiltshire contains, along with a Bell Beaker early in the Wessex series, a pair of gold discs which in character and style of ornamentation are much like the County Wessex type, although considerably smaller. It will, therefore, provide, when the dating of the Bognaesgaard disc in Scandinavian terms is fully clarified, a useful synchronism between the early British Bell Beakers and the Scandinavian chronology.

The sun disc from Moordorf near Aurich, published by Jacob-Friesen (1931, Taj. I) lacks close analogies either on the Continent or in Britain. Typologically it appears to lie somewhere between the Wessex type and the Middle Bronze Age sun discs. The character of its decoration is more like the former; but it has a large central boss, and its rim attachments suggest the later type. Central bosses are a feature of copper or bronze Utikivi decorative discs, but in Ireland they appear on the gorget terminals (Armstrong, 1933, Pl. VIII-X) which in style are related to Northern Period I/II types. The workmanship of the Moordorf disc is perhaps more likely to be Irish than Norwegia; because of its typologically intermediate position one could perhaps assign it to the Late Neolithic or to Broholm I, though this is little more than a guess.

In summary, we suggest that the ultimate prototypes of the Irish sun discs are to be found in the Bedreggeralver and Jordaan motif cultures, the idea may have reached Britain by way of Northern Europe before the end of the Northern Early
Neolithic. These earliest sun discs are characterized by edge-holes rather than central perforations (i.e., they were worn as pendants) and embossed dot decoration rather than lines. The Salten disc suggests that the cross pattern and central perforations might already have been known on the Continent at this time. Certainly by the second half of the earlier Northern Middle Neolithic, linear crosses, zigzags and ladder patterns had appeared on the sun discs, combining the older sun disc decoration with new motifs from the repertoire of the Megalithic potters, who also made other ritual objects in a similar style; at least one potter seems actually to have copied a metal sun disc on clay.

B. CLASS II SUN DISCS

Jacob-Friesen's monograph (1937, 25 ff.) demonstrated in detail the close relationship between the Irish and Northern sun discs of his Class II. Most of these are larger than the Early Bronze Age Class I sun discs; they are characterized by compass-drawn or punched concentric-circle motifs, and usually consist of gold leaf mounted upon a bronze or other backing. The essential unity of the tradition in Ireland and Northern Europe is proven not only by the general similarity in style and form of the sun discs in the two provinces but by such a detail as the two pierced lugs at the edge of the bronze disc from Ireland (B.M. RCAI fig. 175), which correspond closely to those of the famous Trundholm disc.

The number of finds of Class II sun discs in the two provinces is approximately equal. Altin (1945, 190 ff.) lists, apart from the stylistically earlier Moorder disc, six finds in South Scandinavia and Schleswig-Holstein: [Jagersberg, Zealand, Broholm, 1943, 45; Grav 131; Teoder, More Nørre H., Jutland, Ald., 72, Grav 228; Sjæll Land Tønder S., Flintholm II, Juliand (86), Grav 627] and Trundholm (Om 1., Zealand, Nordske Væghus, 1, 385 ff.; Tagherupshøjden, Scania (Altin, 1943, 468-103), Glesing, Kr.: Nordfjordmuseet (Jacob-Friesen, 1937, 300). In the British Isles five finds are known: Ireland, B.M. RCAI fig. 177; Latton, Co. Cavan, Armstrong, 1933, 47-9, fig. 17; Ireland, B.M. RCAI fig. 177; MoI: PSAS LXVIII, 1.

1 Altin (1945, 190) draws attention to a probable Swedish parallel to the Trundholm chariot, found at Tagherupshøjden, Skåne, Sweden. The find includes two bronze horses, less elegant than the Trundholm horse, but larger than the Trundholm bronze sword; in the same style, the old find account mentioned “fragments of a small wagon and a bronze disc of the size of a spade blade,” though these are not preserved. There are also three pedestals and three spearheads in the find, which date it to Montelius II. Cf. Dreseher, Acta Arch. X, 1962, 50-5, Abb. 3.
Sun discs

17 4

Sun dises (Sønder Tranders and Tødsø) survive as reconstructed minute fragments and the Swedish disc is lost; the Lansdown reconstruction is regarded as hypothetical by Powell (1953) but the fragments certainly show boss-and-ring ornament and ribs.

The discs from the British Isles are smaller than the Northern ones; Lansdown, the largest of the British specimens (reconstructed as c. 17.5 cm in diameter) is slightly smaller than Gliising, the smallest of the Northern discs. The Lansdown fragments have lent themselves to reconstruction as a fairly close although smaller replica of the Jaegersborg disc. Two of the Irish specimens (B.M. B.A.G. fig. 117 and Lattoon) have filled-triangle decoration which is not matched in the Northern series; the broken pattern of the Lattoon disc is a unique feature. The small disc from Ireland (B.M. B.A.G. fig. 119) is very close stylistically to the Irish gold box covers and gorget terminals, and also to the Continental gold box style. If the Trundholm disc, with its spiral ornament, was made in Northern Europe, the Lattoon and Mull discs and the Irish disc (B.M. B.A.G. fig. 117) were equally certainly made in Ireland; the other two belong to a style common to Ireland, Northern and West Central Europe which, as Kimmig (1948–50) very plausibly suggests, may have been practised by itinerant goldsmiths who in each province made up ornaments in forms corresponding to local preferences.

The Northern sun discs are all dated by style (Trundholm) or by associations to Broholm II (cf. most recently Althin, op. cit.). Of the Irish discs, two (Lattoon, Mull) are associated with other gold ornaments of advanced Late Bronze Age types (a lock-ring of triangular section and dress-furnace on Mull, penannular rings with trumpet-terminals at Lattoon). B.M. B.A.G. fig. 117 is related to the Trundholm disc by virtue of its lugs, but its ornament is more devolved and it may be later. B.M. B.A.G. fig. 119 has cross ornament, which, as Powell notes, is unknown on Continental goldwork before Moustier 111; the style, as Broholm (1948) emphasizes, is a long-lived one, persisting throughout the Late Bronze Age, and close dating is therefore difficult. The Lansdown disc, despite the uncertainty of its reconstruction, might be considered to be the earliest of the Class II discs in the British Isles if its analogy with Jaegersborg has any validity. It was found in a cist grave in a barrow, with fragments of ceramic urns (B.M. B.A.G. fig. 95); it is tempting to associate it with the Northern current, strongly felt in Somerset, in our Taunton-Barton Brinkish phase.

Related objects also occur in Central Europe, as the gold-covered disc from Melikovs Grave 1 in the Tyrol (Childe, 1948, Pl. XXIV.1:6), dated to the earliest phase of the Tyrolsi-Ursfelden (On to Childe, HaA to Kimmig) and Wixœn on the Rhine (connected by Mozsolies, 1950, with Velemenszentvid, which she dates to HaA, by the wire-wound technique of its edging). Related discs in bronze, scattered from Italy to Hungary, are discussed by von Bon-
Influences from this quarter undoubtedly played a part in the evolution of the style of the Northern and Irish sun discs and related forms of metalwork, but in present evidence their relation to the Irish sun discs is less direct than the relation to Northern Europe.

With three of the five Class II sun discs in the British Isles dated by association or style to a time later than that of the Northern discs, the probability of an Irish origin for the type becomes very small indeed, and the Class II sun discs may confidently be included in the list of Northern Middle Bronze Age influences on the British Isles.

Note. Reference may perhaps here be made to two North European finds of thin gold 'bar style' penannular bracelets of Northern Neolithic date, which may possibly be of Irish origin. Both have very slightly expanded ends, and resemble a type quite common in Ireland (Annals of tli, 1912, 355, No. 152), though the examples there are supposed to be of Late Bronze Age date. One Northern specimen comes from Holmenbjerke, Sk. Stade, between the Oste and the lower Elbe (Cassau, 1933, 50, Taj. III b and Va, 6, 214, 26). It was found in Grave I of a Funnel-Beaker (TRB) flat grave cemetery; its date ought to be within the Northern MN. The second example is from Schwesing, Sk. Hohen, on the Northern Frisian mainland (Bott, 1904, 1906, 160; 1904, 153). It lay close to one of the stones defining the corner of a 26 m. long rectangular chambered cairn.
CHAPTER XVII
LUNULAE

(List, p. 185; fig. 40; Map XIV)

Five gold lunulae have been found in our North European area: three in the Danish islands (Zealand two, Fyn one), one in the German province of Hanover, and one in Belgian Luxembourg. All five are evidently closely related to the Western European gold lunulae represented so numerously in Iceland (more than 60 examples), Cornwall (four), "Vaies (one), Scotland (five or six), Atlantic France (six plus) and the Iberian peninsula. In addition, a number of copper or bronze lunulae have been found in North Germany (five examples) and Bohemia (one), and have been claimed as imitations of imported gold ones. The Northern gold lunulae are all stray finds; the copper or bronze ones however occasionally occur in graves and burials, and might be of some help in fixing our notoriously associative gold lunulae in their chronological place. But the interpretation of these finds in terms of trade and cultural relations is by no means as simple as the mere plotting of them on a distribution map has suggested in the past.

a. Gold Lunulae

That the Danish gold lunulae differ significantly in form and details of workmanship from the typical Irish ones has been pointed out by Hardy (PPS 1937, 465). Indeed, none of the five examples in our area possesses the rich geometric ornament in tracer technique which is found characteristically so most of the Irish specimens, the bulk of the British and some at least of the French finds. One of the Danish examples, from Grevning, Zealand, is completely undecorated, and of course undecorated lunulae do occur in Ireland (e.g. Armstrong, 1933, Pl. III: 15, Pl. VI: 71; the former without exact provenance; the latter at Trevoa, Co. Donegal, and to have been found with a large flint arrowhead: Armstrong No. 51, p. 95). The common features of the other two Danish lunulae and those from Belgium and North Germany is linear groove decoration parallel to the edges. The lunula from Fredensborg, Zealand, an extremely and atypically narrow example, has two grooves along its outer edge (a slight ridge having been pushed up between them) and a single groove along the inner edge. The specimen from Skovshøjrup, Fyn (fig. 40),
Lunulae

...have two grooves contained by three slight ridges at the outer edge, and three grooves and faint ridges at the inner; it also has a band of four grooves along the centre. The lunula from Schulenburg, Hanover, has three grooves at the inner edge and two at the outer. Hardy describes the grooves of the Danish specimens as ‘traced’, and the presence of faint ridges between them suggests that the material in them had been forced out; but it is important to note that the grooving is quite different in character from the linear ornament that occurs on Irish lunulae. The traced lines of the Irish lunulae are very fine and narrow, and the marks of each individual tracer stroke are distinguishable. On the Danish lunulae, however, the lines are much broader and deeper, and have the appearance of continuous furrows; no tracer strokes are visible.

Grooving of the latter character occurs, however, on one of the two lunulae found at Harlyn Bay, Cornwall (allegedly with a flat axe of developed type; Bullen, 1914, pl. 22; Smith, 1924, 95 ff., fig. 1–3). It has four such grooves along its outer edge and three along the inner; the inner series of grooves is lined, however, with a single row of small carots. In the outer series of grooves the insertion groove comes some way from each terminal and is replaced by a row of carots which continue to the terminals. There are no end-panels. (The second Harlyn Bay lunula is of the more richly-decorated Irish type; Class III in Craw’s classification.)

A Scottish lunula, from Coulter, Lanarkshire, may also be cited here; it too is margined with linear grooves, without decoration inside, and lacks end-panels. Some of the grooves, however, are embellished with punched dots, a feature occurring on the Welsh lunulae from Llandydro and some Irish examples. Finally, a lunula from Kerrie, Côtes-du-Nord, though broad like the Irish lunulae, is decorated in the edge-grooving style, without panels; there is a row of carots along the inner edge as on the Harlyn Bay example already cited. The shape of the terminals, from Lantier’s illustration (1948, fig. 21) is unlike any of those we have described; its triangular shape recalls the triangular end-pieces of the jet necklaces with which the lunulae are often compared.

The two decorated Danish lunulae are also distinctive in that the grooves continue on to the terminal plates, and form a thumbed pattern. The shape of their terminal plates is also unlike any others, being straight-sided, more elongated and narrow. The terminal plates of the Skovshøjrup and Grevinge lunulae are rounded at their ends, while those of the Fredensborg one are pointed. These features mark

1 Craw (PSAS LXII, 1928/9, 175) divided the Anglo-Irish lunulae into four classes on the basis of their degree of resemblance to the arrangement of the Poltalloch-type jet spacer necklaces, with Class I most closely resembling the latter, and the other three forming a degeneration series from the assumed prototype. En Technique (68-69) is assigned to Class I, and is most closely paralleled by the lunulae from Skovshøjrup and Grevinge. The other French specimen (29-47) most closely resembles the richly-decorated Classes I and II.
of the Danish lunulae from any of the others and support the view, first advanced by Dechelette, that they were made locally rather than being imports. The terminal plates of the Schulenburg lunula are of a shape not easy to match exactly; they swell out gradually and then expand into a broad T.

The lunula from Fauvillers, Provo Luxembourg, Belgium, has linear decoration only, but in addition to the edge lines there are distinct side panels, consisting of simple transverse parallel lines. There is no geometrical ornament. The shape of its terminals is more closely matched in the Irish than in the other Continental specimens.

Typologically it is possible to group the Kerivoie, Fauvillers, Harlyn Bay and Coulter lunulae as intermediate between the numerous Irish type and the rare Northern variety; having in common linear edge-grooving as their main ornament,
and end-panels absent or rudimentary. The largest of the Breton lunulae from the Kerivoie (C.-du-N.) hoard (Giot, 1960, 162, fig. 51b) appear to be related to these. It is one which are most closely related to the well-known Iberian example from Calahorra de Bemis, Portugal (Barro-Gimpera, 1929, fig. 4), with its series of grooves down the centre and simple edge-margins and plain panels outlined in fine repoussé points, although the Calahorra specimen is not very similar to any further north. If so found, it will be recalled, with two small gold sun discs ornamented with concentric grooves; one of the discs has two small perforations in its centre like some British Beaker-period discs (see above, p. 157 ff.); the second has four such perforations arranged as a square in the centre. These are most closely paralleled by the Irish discs of MacWhite’s Type Ic, of which concentric circle ornament is characteristic. If these discs are really derived from the British ones then their date could be as early as the Wessex Beakers. The resemblance between the Calahorra lunula and the silver one from Villafraanca near Verona in Italy (Forssander, 1936, Abb. 40 ff.), which has pointillé edging and decorated end-portions which might be regarded as rudimentary end-panels, and a small hole at each end for attachment like the Calahorra piece, might also argue for an early date; the Villafraanca lunula was found in a grave with a copper halberd and a tanged flint arrowhead, and is assigned to the Remedello culture.

The associations of the gold lunulae in the British Isles are, as is well known, neither numerous nor secure. The Harlyn Bay, Cornwall, find includes the two lunulae already mentioned, one of Craw’s Irish Class III type and the other which we have put in the edge-grooved group, and a flat axe; but Craw and other writers have regarded the association of the axe as far from certain. Other not very useful associations are mentioned by Armstrong (1933, 10) and need not be repeated here, but Craw’s argument for considering the hoard from Orton, Huntingdon, as probably from the same interment as the basket-shaped earrings which were found in a cist in the mound (PSAS VIII, 1871, 18; XXI, 1871, 151) needs valid, and would point to a late Beaker or Wessex date. The previously mentioned Breton hoard from Kerivoie combines lunulae with Orton-type neckrings (which are in turn related to basket ornaments; see now Moucha, 1960, fig. 171) and a small headband.

Craw’s identification of the lunulae with the spacer-plated jet necklaces has been of greater weight in dating the Irish lunulae than the recent associations. The two types have complementary distributions; the lunulae are very common in Ireland, where spacer-plated necklaces are rare; in Scotland the few lunulae are distributed on the margins of the area of greatest concentration of the necklaces. Moreover, Clark (1932, 40-1) demonstrated that the combined lunula-jet necklace distribution coincides remarkably with that of Fund-sockets, which agrees well with the evidence of the associations of necklaces given by Clark, twice with Beakers,
ten times with Food-vessels, once with a Common Urn). Further, as Piggott has pointed out, some of the jet necklaces are ornamented with patterns mimicking the effect of the complex borings of Kokavatos-type amber spacer plates. The bulk of the Irish lunulae would then belong to the Food-vessel culture of the Early and Middle Bronze Age.

b. Capper or Bronze Lunulae

The copper or bronze lunulae and related collars from Central Germany and Bohemia have been discussed by De Navarro, Sprockhoff, Kleemann and Hachmann; but these authors come to widely differing conclusions concerning their origin and relation to the Western European lunulae.

Unique in some ways is the collar from Volary in Bohemia (Schlaller, 1948, 105, Taf. XIX: 1). It is lunate in form, but is not flat like a lunula; it has rather the form of the bronze collars of the Middle Bronze Age (so declares Hachmann, 1954, 95, 99 n.11). Its ends are rolled to form cylindrical loops. According to Schlaller it is made by hammering. The face is ornamented with two hammered-up ridges, one close to the inner edge, the other central; the outer edge has a row of double triangles. It is made of copper or tin-poor bronze, and was found in a cist grave, with pottery of Late Neolithic affinity but comparatively developed metalwork; its dating has therefore offered considerable difficulty. Menković (1953, 196, 197, references there cited) places it early in the development of his Stary group (Schlaller Gruppe), which would be at the end of Early Unetice, while Mescher (1961) argues for an even earlier dating. Lunulae or collars are otherwise unknown in the Unetice culture proper.

We turn now to the German lunulae. The first example, regarded by Sprockhoff as the earlist of the group, is a stray find from Göttingen. It is a casting (not made by hammering) of thin sheet metal, and in shape quite like a broad Irish lunula, its face is decorated only with a faint ridge about a third of the way from the inner to the outer edge. The ends have been hammered out at right angles to the plane of the face to form long tapering terminal plates, which were then rolled to form loops. Sprockhoff describes it as "evidently an imitation in bronze of an Irish gold lunula".

Next come two lunulae found together at Bodenwerder, Kr. Hameln. Both of these have rolled terminals quite like the Göttingen piece. One has three ribs on its face, one of them nearly central and the other two fairly near the edges; they are not hammered up, but cast. The second Bodenwerder lunula is similar in shape, but the entire surface is flat and decorated with longitudinal herringbone rows divided by transverse rows of herringbone into four panels. This decoration resembles less anything found on lunulae than the tracer patterns found on many
Iri sh flat axes, with which Spröckhoff compares it. Irish axes with very similar herringbone ornamentation were demonstrably exported both to Denmark and Central Europe; but the same sort of decoration is also found on Central European axes which have nothing to do with Irish types.

The Göttingen and Bodenwerder lunulae finds constitute a 'Weser group' in South Hanover. Schulenburg is not far away, and Spröckhoff regards the Schulenburg gold lunula as a strong argument for deriving the Weser lunulae from the 'Irish' lunulae.

With the South Hanoverian lunulae Kleemann (Gesammelte, 1955, 137 f.) associates two others. One is a Brandenburg find, without more exact provenance than 'the Altmark', which is closely comparable with the Göttingen specimen. It is cast, with a single midrib; the triangular terminals have been hammered out and fluted, and their ends rolled into loops. It was probably associated with two bronze rings, one a plain bar with oval section, of medium size, and the other a flat bar with a single rib on one side, bent into the form of a bracket with overlapping ends.

The other is the lunula (or rather, collar) from Oegeln, Kr. Guben in the Lassitz (Kleemann, ibid.; Neue Lassitzer Magazin, V, 1926, 211, Fig. 5; 19; Bohm, 1935, 26, 103 No. 16, Fig. 7, 13, 139, which is already known to the English literature through De Navarro's discussions of it 1951, 8). But the lunula collar appears from Bohm's illustration to have had a margin consisting of one or more grooves; in fact it divided into five panels by groups of transverse lines. From the photograph it appears not to have had terminal plates. The collar was part of a hoard, rare too, which included (according to old drawings reproduced by Bohm) ingot bars of the Spallgellbanen type and three flanged axes, apparently of the 'Saxon' type. The Spallgellbanen, rare in North Central Germany, are certainly imports from Central Europe, where they occur frequently in hoards.

The relations between the German lunulae, the Velvery one and the gold lunulae have been variously evaluated by the Continental writers. Spröckhoff saw the Weser group as direct imitations of imported 'Irish' lunulae, and implied that the Velvery specimen was an import from Germany. Kleemann on the contrary believes that the Velvery lunula is the prototype of the Weser group. Hachmann has a third view; he stresses the difference in technique of decoration (cast in the Weser group, hammered at Velvery) and believes that they are typologically distinct and unconnected. He maintains that the hammered loops of the Bodenwerder-type lunulae are derived from Ulikite ingot torques, and that they may be as late as the Virring-Tinsdahl phase, but could also be much earlier.

Even Spröckhoff modified his view of the Irish origin of the German lunulae;
asking (1940, 28) whether the concept of the ‘Irish lunula’ was not too narrowly

banded. ‘Perhaps’, he declared,

it really has to do with a larger zone which at the beginning of the Bronze Age possessed
sheet metal collars as common property, as seen including scale sections of Central
and Western Europe, in which the preference for collars found local expression, in Ireland
in the form of the lunula, in South Hanover in the form of the Weser group, and in Bohemia
with the Velvary collar. To these can be added the band from the Ruhr valley near Münster
in the Vechte area and the copper collar from Munich accused in the Palatine. But Switzerland
also had the bronze collar at this time, as is shown by the little-known example from
Bex. From Upper Italy one could point to the silver basket ornament from Vélino, and
with the corresponding Portuguese ornament we link up once again with the Irish lunula.’

This conception of a widespread lunula or collar fashion finding varying expression
in different centres, has been further developed by Kleemann in a paper devoted to
this theme. He regards the Irish lunulae as the youngest examples of this fashion,
drawn ultimately from the East Mediterranean. He follows Sir Lindsay Scott
(1941, 20) in bringing the Northern gold lunulae from Atlantic France.

Having examined the North European lunulae and the recent expressions of
opinion regarding the relationships among them, we may now attempt to sum­
mart their implications for the problem of Anglo-Irish relations with Northern
Europe. It appears, first of all, that it is no longer possible to regard the lunulae
per se as of Irish or Scottish invention; at least, there is no evidence for the
assumption that any Anglo-Irish lunulae are necessarily earlier than those of
Villafraile, Calabriano or Velvary. These lunulae, to which an early date can be
assigned on the basis of associations, are comparatively simple in their decoration.

The Calabriano association of a simply-decorated lunula with a pair of gold sun
discs with Irish affinities suggests the possibility that the lunulae could have reached
Ireland as early as the Wessex B Beaker phase. In any case it seems probable that
the more simply decorated type, which is common to the Iberian peninsula,
Western France, Belgium, Germany, Denmark, Cornwall and Scotland, as well
as Bohemia – though admittedly in only one or two examples in each case – is
typologically the earlier. The Haryl-Bay find, however, shows that the two styles
at least overlap, and some examples of the ‘early’ style may actually be late.
Craw’s typology, therefore, is not valid as a sequence. It is still possible, however, to
regard the specifically Scottish-Irish style of elaborate lunula decoration as having
been inspired by the spaceplate ornaments of jet or amber.

The elaborately decorated lunulae may have been exported from Ireland to
Western France (it is not certain whether the elaborately decorated lunulae from
Normandy and Brittany are of Irish or of local manufacture) but not, as far as pre­
sent evidence goes, to Northern Europe. None of the elaborately decorated variety
is securely dated. The Haryl-Bay flat axe is of the Migdale type, some examples
Lunulae

of which are certainly of Wessex age; in any case the association is far from
certain. The Orton lunula, which Craw assigns to his Class I but which is com-
paratively simply decorated, is dated to Late Beaker-Wessex I by the basket
earrings, if Craw’s argument for believing in their contemporaneity be accepted.
Such a date is, after all, not unexceptionable.

The Northwest European lunula group characterized by grooved decoration—
to which belong the Kerivoie, Harlys Bay, Coulter, Fauvillers and Schulenburg
specimens—are without associations, except at Harlys Bay. We have seen that
they cannot be of Irish workmanship, but are certainly related to the Irish type,
as is shown, for example, by the form of their terminals. Typically they fall
between Calchainc to and Velvary on the one hand, and the elaborate Irish
type on the other; a Wessex date could be suggested with reserve on the basis
of the Harlys Bay find, and this dating can be supported by stylistic considera-
tions. The characteristic feature of the type, as we have seen, is the use of a
grooving technique; the lines are arranged in parallel bands, following the curve
of the edges of the lunulae, and sometimes with a band of grooves down the
centre. There is a geometrical element, but employed with great restraint, con-
stituting of curves or zigzag bands. In style the Danish lunulae from Frederiksborg
and Skovshøj are closely related to these, and differ only in the shape of the ter-
minals, and here a rhomboid decoration element comes in.

A degree of resemblance to these stylistic features is to be found in the sheet
gold work of the Bush Barrow phase of the Wessex culture. The outlining of the
edges with parallel bands of grooves is quite closely matched on several of the pieces
from Bush Barrow itself: the lozengeshaped plates, the belt-hook, and the gold
cone (Piggott, 1938, Pl. 51). The belt-hook is particularly striking because of the
way in which the grooves follow the curve of the edges. The zigzag bands are found
also on the larger lozenge plate and the cone (and also, it might be added, at Vel-
vary). The precise ruling of the lines, in contrast to the irregular working of the
linear decorations on the Irish sun discs, is also a common feature of the Bush
Barrow goldsmith and the Northwest Europeans and Danish lunulae. Similar gold-
work also occurs in Brittany, such as the gold box excavated from a dagger-grave
at Lanuc by Van Giffen (B.A.I. Groningen; as yet unpublished). The rhomboid
pattern on the terminals of one of the Danish lunulae recalls in a general way the
predilection for the lozenge shape shown by the Bush Barrow goldsmith. The
workmanship of the Bush Barrow pieces is much superior to that of the Irish
and the patterning somewhat more elaborate, but both avoid the elaborate
hatching favoured by the Irish lunula-makers. Although the Bush Barrow gold-
work has features not matched elsewhere, the Northwest Europeans and Danish
lunulae can be regarded as belonging to a related though not identical style.

Like so many elements of the Wessex culture, this goldwork style is common to
both sides of the Channel. Since there is no evidence that lunulae were made in
Wessex, it seems not unreasonable to attribute the origin of the Northwest Euro­
pean lunula group to Northwest France (as has indeed already been suggested by
Sir Lindsay Scott and Kleemann) and to suggest Wessex I as a date by which
the edge-grooved lunulae are likely to have been evolved.

The Schulenburg lunula establishes a link between the Northwest European
gold lunulae and the Weser group of copper or bronze ones; which is strengthened
by the 'Irish axe' ornament of one of the Bodenwerder specimens. Chronologi­
cally this fits with the dating of the Northwest European lunulae suggested above,
for it is clear that Irish tracer-decorated axes were being traded to Central Ger­
many (Dieskau, Wesmar) through South Hanover at a time equivalent to the
Wessex I stage, and other Irish axes (but without tracer ornament) are known in
Hanover (v. Chapter I). The Schulenburg lunula and decorated axes, though of
different origins, may well be associated in a single trade complex.

There are, however, typological difficulties, for the specific features of the Weser
lunulae are not those of the Northwest European group: we may recall the cast
ribs, the rolled terminals, and the absence of decoration resembling any of the
Western lunulae. It seems likely that the Weser lunulae were made (in Hanover?)
by a smith who was imitating the general form of an imported lunula, but employ­
ing his own techniques; Hachmann and Kleemann believe that the techniques in­
volved are Unetician. The workmanship is crude, especially if one considers the
high standards attained by the Saxo-Thuringian bronzesmiths not so far away;
yet one of these primitive pieces seems to have been traded to the Altmark across
Saxo-Thuringian territory! It may be that the Weser group is really to be connected
with the earlier, but isolated, Velvary lunula rather than with the Schulenburg-
Northwest European group. On the other hand the Oegeln collar, which is con­
nected with the Bodenwerder by its panel arrangement, is as late as Reinecke Az
if the old illustrations of its associations are to be relied
up.

The Danish lunulae are clearly derived from our Western edge-grooved type,
but judging from the distinctive shape and decoration of their terminals they
were made in the North. Some support for this view can be derived from the
finds in Denmark of the gold objects 'with one-shaped ends' which have been
discussed above. Their terminals provide an analogy with the lunula terminals,
and some of them may have been made by the same goldsmiths who made the
Danish bracteates. That we cannot use the North European lunulae finds as evidence for direct trade
relations between the British Isles and Northern Europe, but if our dating of them
is correct they merge in with the broader trade current involving Irish axes, hal­
berds, and amber. The direct ancestors of the Western European lunulae are pro-
Lunulae

...bably represented by the Caliceiro piece, which may, on the basis of its association with sun discs, belong chronologically to the Bell Beaker phase; from there the idea spread to Brittany, and then to Cornwall, Scotland and Ireland on the one hand and Belgium, Central Germany and Denmark on the other, about the time of Wessex I. Goldworking seems to have begun in Denmark at this time, and in Ireland the lunula was taken up, and enriched with the 'spacer-plate' pattern, by the Ford-road people who had command of the Wickle gold. The lunula fashion on the Continent may also have been served by an independent current reaching Central Europe from Italy, giving rise to the Velvary and other collars mentioned by Sprockhoff; the South Hanoverian school may result either from the Western European or Central European current. In the Middle Bronze Age the 'lunula fashion' gave way to a 'collar fashion', with the Irish gorgets as their equivalent.

LIST OF LUNULAE IN NORTHERN EUROPE

[Cf. Map XIV]

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.

1. Gold lunulae decorated in edge-grooved style

France
Photo: Laborit, 1965, Fig. 21; drawing; Gott, 1966, Fig. 30b.

Germany
Hahne, 1912, 56 f.; Taf. 101, Jacob-Feuer, 1932, Taf. 24 a; Elert, Real., VII, Taf. 41.

Denmark
De Lue, 1932, ll, Fig. 47; Selmer, 1914, Fig. 17.
Lunulae

II. "Undecorated gold lunulae; terminals of Danish form"

Denmark


II. "Copper or bronze lunulae (and related collars)"

Germany


12. Altgörlitz (no exact provenance), Brandenburg, Kunstsammlung Veste Coburg. Cast rib. Probable hero; with simple hammering ornament, found with collar like the lunula Emaus 38, 30 E. Sprockhoff, 1939, 3 ff., 408, 1941, 3 ff., 408: 32.


14. Synthetic Collar; hammered rib, double triangle ornament. Schawel, 1928, 1935, Teil XXXV: 1; Manders, 1923, 196, 196: 57 with further refs.; Manders, 1938, 481 ff., Fig. 171.
CHAPTER XVI

BASKET-SHAPED EARRINGS AND ORNAMENTS WITH OAR-SHAPED ENDS

(P. XIX, XX; fig. 41-3; Map XV; List p. 190)

In the British Isles, basket-shaped earrings occur both in sheet gold and in copper or bronze. All British-Irish specimens are characterized by a short tongue and a more or less broad ‘basket’, which contrasts with a group of generally similar ornaments in Eastern Europe, especially in Poland, which have generally longer tongues and elongated narrow ‘basket’. The British-Irish gold earrings may be plain or ornamented with impressed grooves and/or pointille. The gold of which they are made is presumed to be of Irish origin, though more specimens are known in Britain than in Ireland; the British specimens tend, in fact, to occur in the eastern part of the island, with Radley in Oxfordshire as the exception. Associations of the gold earrings include a well-known Beu Bell Beaker grave group (Radley) and a grave with a Beu Bell Beaker with all-over cord ornament (Kirkkah; but one specimen was oddly found on the old surface under the rampart of an Iron Age camp (Bolby Scar). One find (Orton, fig. 41) was from the same cairn as, and may have been associated with, a gold lunula of our ‘edge-grooved’ type. The copper or bronze earrings were found in one case with a contracted inhumation (Cotgrave) and in the other with the largest Scottish Early Bronze Age hoard (Migdale).

In Northern Europe, a number of basket earrings have been found which correspond more or less closely in form to the British ones, and which have been viewed as certain or probable British exports. The pair from the cave ‘Trou du hace’ at Sinsin, Prov. Hainaut, Belgium, are argued as having tongues at both ends, and being corrugated over the whole surface. Other gold specimens occur as far away as Poland: in Eastern Poland in the Early Bronze Age hoard from Wasosz, and in southeastern Poland in a grave group from Rusilow near Skalat (PI. XIXb), near the borders of the Ukraine and Bessarabia. The latter site is actually closer to ancient Troy, which has yielded more elaborate earrings held by Childe and others to be the prototypes of our British type, than it is to Ireland. The Rusilow grave group belongs to the Southeast Polish Barrow grave culture. Its flint dagger and stone hammer suggest a dating comparable to Northern Late Neolithic A and Unetice.
Basket Earrings and Ornaments with Oar-shaped Ends

The Wasosz hoard contains a Unetice-type low-flanged axe as its most readily datable object.

The narrow Polish basket earrings (fig. 42; Butler, 1958, Pl. VII-VIII, fig. 13, 15), may be made entirely of bent wire, or of sheet copper or bronze, but one example in sheet gold has been published (Knapowska-Bielakowiczowa, 1957, 76-8, Ryc. 18). This Polish type, known also as a willow-shaped lock rings (cf. Nowotny, 1961, 93-4, fig. 22b), is associated especially with the Moesovian culture in Poland, and appears also in the related Nitra group in southwestern Slovakia and eastern Moravia. It is dated to an early phase of the Unetice period. Yet the Schénfeld and Zedlitz hoards, with versions of these same earrings (Butler, 1956, Pl. VII, VIII) show by their axes to belong to a mature Unetice phase, not readily separable in time from Wasosz and perhaps Migdale. It is noteworthy that Zedlitz contains small metal cones of the type also found at Migdale.

If both ends of a length of copper or bronze of gold wire be expanded into plates, instead of only one end as in the case of the basket earrings, we have a related type, the 'ornaments with oar-shaped ends'. As with the basket earrings, we must to have a distinction between a western European type with short terminals and an Eastern type with long ones. The short-terminal Unetice type is somewhat rare, but is represented in copper or bronze by specimens from Yarmouth, Oxfordshire and Longhallan, Aberdeenshire, and in presumably Irish gold by the Arlon specimen from Belgian Namur (Pl. XX).
An interesting hybrid is the specimen from Bennekom, near the lower Rhine in the Netherlands. Glasbergen (1958) was able to show that this necklace or diadem was found in a grave with a Bell Beaker of Veluwe type. The find-spot must have been within easy walking distance of the site of deposit of the Early Bronze Age Wageningen hoard (see pp. 18-19). From the form of its terminals the Bennekom...
Basket Earrings and Ornaments with Oar-shaped Ends

ornament must be assigned to our Eastern group; yet the decoration on the terminals strikingly resembles in technique and style that found on the Orton earrings; so that one must suppose that the Bennekom ornament was made by a basket earring maker of the British school.

Related gold objects, decorated however in a style recalling not so much the basket earrings as the Scandinavian gold lunulae, occur in Denmark and southern Sweden (Butler, 1958, Pl. XI). We have suggested the possibility that these Scandinavian ornaments with oar-shaped ends belong not to the Iron Age, to which they were hitherto assigned, but to the Northern Late Neolithic, and that they may be by the same makers as the Northern gold lunulae. These in turn are inspired partly by the Western Europeans ‘edge-grooved’ lunulae (Chapter XVII), but also by the Northern Unetice ornaments with oar-shaped ends.

LIST OF BASKET EARRINGS OF WESTERN TYPE IN THE BRITISH ISLES AND NORTHERN EUROPE
(cf. Map XV)

Ireland

Britain
1. Sutherland. ‘Helmsdale’. Copper or bronze. J. Anderson, PSAS XXXV, 1900/1, 266; S. Piggott and M. Stewart, Inventaria GB. 2: 2-3.

Belgium
1. Namur. ‘Cave “Trou de Heuve”’. Marien, 1952, 186, 192, 480, fig. 173. (Not shown on Map XV).

Poland
1. Poznań. ‘Cave “Turem de Here”’. Marien, 1952, 190, 194, 484, fig. 172. (Not shown on Map XV).
PART TWO

CHAPTERS OF TRADE HISTORY IN THE BRONZE AGE

I Prelude to the Bronze Age
II The Early Bronze Age
III The Middle and Late Bronze Age
Gradually, in the Third and the first half of the Second Millennium B.C., the flatlands of Northern and Northwest Europe were occupied by farmers and stockbreeders, who attacked the perimeter of its forests with fire and stone tools, began the cultivation of virgin lands, set cattle and sheep to graze on the grasslands, and laid the foundations of stable and permanent societies. Older Mesolithic inhabitants were partially replaced, partially absorbed, partly provided with new means of livelihood and cultural development.

Competence upon the sea must have been a characteristic of most of the Neolithic societies that peopled the perimeter of Europe. Of their seagoing vessels no evidence has survived, but they were able to occupy islands large and small, transporting their families, livestock and seed over water. The Baltic Sea must have been as familiar with the boats of the Northerners as were the Atlantic routes with the vessels of Western Neolithic pioneers. Well-known parallels in megalithic architecture in the Atlantic and Baltic zones, and Northern influences detectable in pottery in the British Isles, demonstrate at least intermittent traffic across the North Sea even in the Northern Early Neolithic.

While for many centuries stone tools and weapons were the primary equipment of these societies, metal were already being worked in the ore-rich mountains of Central and Eastern Europe. Much of the stone equipment of the Early Neolithic "First Northern" farmers reflects the influence of metallic forms; actual copper ornaments have been found in one of their settlements (Barkaer) and in a contemporary grave (Salten) in Jutland: the first trickle of what was later to become a flood of metallurgy from the south, dimly foreshadowing mighty developments of industry and trade. Geology had cheated the North Europeans partly by depriving it of native metal resource, geography partially made amends by providing river routes – Vistula, Oder, Elbe, Weser, Rhine – down which by canoe or raft the fruits of the mountains could descend conveniently to the plain. In the Northern Early Neolithic, the routes were already known and in use, although as yet only a few primitive metal objects came along them.

With this earliest metal trade from south to north we have connected the small golden sun disc from Kirk Andrews in the Isle of Man, with its simple patterni
Prelude to the Bronze Age

decoration and marginal holes for use as a pendant. It is unique of its kind in the
British Isles, but has prototypes in Hungary and in the Stollhof hoard in Austria.
Drihaus believes such discs were made as the verlobungen of the Bahn culture, of
gold from Transylvania; copper discs of similar character were traded northward
to Jordowau (Jordansmühle), Bresze Kujawski, and Stolten. It does not seem too
far-fetched to suggest that the Kirk Andrews disc or its prototype (for it may be
after all a local copy, in which case it would be, typologically at least, the older
example of Irish goldwork) reached the Irish Sea by way of Northern Europe,
brought by the people who introduced cord-ornamentation to Beacharra pottery,
and who perhaps brought back with them the inspiration to dolmen-building
which according to Becker must come to Denmark from the west during Early
Neolithic C.

Possibly contemporaneously or slightly later, northern contacts are discernible
in the south of England. The thin-butted axe found in Juliberrie's Grave in Kent
(Piggott, 1939, 267 ff.) must be an import from Denmark, but such axes continued
to be used through the first half of the Middle Neolithic in the North. As Childs sug-
gests, the Juliberrie's Grave axe may have been brought by the builders of the
Medway neolithic tombs, which in plan are very similar to Northern oghamtyres,
and which imply some intrusion, possibly from North-west Germany, into Kent.
With this movement may be connected the sherds of Northern Early Middle Ne-
olithic pottery from Orpington, and other finds of Tiefstich pottery from West Har-
tpool on the Durham coast belonging to the same phase. Although Piggott sus-
pected that they were modern collectors' throw-outs, their eastern location, near
suitable landfalls, argues somewhat in their favour.

Further evidence for contact between Denmark and the British Isles in the
second half of the Northern Middle Neolithic is provided by the dish "pot lid" from
Bogsnæsgaard in Zealand, the decoration of which is evidently copied from a metal
sun disc of the type represented in copper at Nieder-Kraing in Brandenburg and in
gold to Ireland. The Bogsnæsgaard disc reproduces with astonishing fidelity,
considering the difference in material, the pattern of the Irish discs from County
Wexford, even to the imitation of the central perforation. The simplest explana-
tion of this would be that the Zealand potter was copying an Irish gold sun disc;
but no actual Irish gold has been found in the North in this period, unless the
gold bracelets from Schweining and Hünfelderlinde are accepted as belonging to
the end of the Northern Middle Neolithic. There are grounds for suspecting
that the Irish sun discs are themselves derived from a fashion already widespread
on the Continent. The prototypes, as has already been suggested, are the Stollhof-
förderamts-Steinhoh-Koch Andrews disc-pendants appearing in the Early Neo-
lithic, and the Niederkring type developing from them. The zigzag patterns which
appear on the Bogsnæsgaard and Wexford discs are of course a characteristic motif
on the Northern Tayfllick pottery of the period. Cross-ornamented and perforated discs were also made in other materials - amber discs like DO II 465 are essentially an expression of the same idea, and metal-poor Corded Ware folk in Central Germany utilized similar buttons made of bone and shell. From this it may be concluded that the 'sun disc idea' was common to several Early and Middle Neolithic cultures in Northern Europe, and need not be an Irish invention. The Irish discs are directly inspired by the Continental fashion; the availability of gold in Ireland enabled the type to be reproduced in precious metal in that country while the North European cultures usually had to make do with substitute materials.

The small gold sun discs from Mere Down in Wiltshire are a reduced version of the Wexford type; if their contemporaneity with Bognaesgaard and Wexford be assumed, a correlation is provided between Wessex Bi Beakers and the period of the decorated potlids in Denmark, MN IV.

This period, Northern MN IV-V, is undeniably a very important one for the spread of copper metallurgy north of the Alps and the extended development of the trade in copper products on the North European plain and in the British Isles. Bell Beaker folk are generally held to have played a very important role in these processes; other cultures and agencies must also have made important contributions.
Prelude to the Bronze Age
(cf. Coghlan and Case, 1957; Jungkans, Schumowski and Schröder, 1960). But characteristic products of this period, such as flat axes and tanged daggers, have not for the most part yet been shown to be readily assignable to particular production centres on the basis of their form alone. The measures of spectrographic analysis are being brought to bear on this problem, but at present writing it does not as yet appear to be possible to give a clear answer to either of the two questions which ought to be posed in connection with this study: what precisely was the relationship between the Central European or Central German area and the British Isles in this period, and was there already an Irish axe trade to South Scandinavia in this period. One can hope that we shall have at our disposal some day maps for the early copper trade in our area comparable in clarity to the maps showing the contemporary trade in Grand Pressigny flint knives and their imitations in other flint (fig. 44).

The more or less general use of wheeled vehicles is probably to be postulated from this time onward. Single-piece disc wheels seemingly belonging to PF Beaker (Corded Ware) culture, pollen and C¹⁴ dated to this period, have been found in some numbers in bogs in the northern part of the Netherlands (Van der Wal, in Palaeohistoria X, 1964, 103 ff.); and it would be odd if such wheels, once known, went out of use entirely in the subsequent Bronze Age.

It is clear that there were at least occasional exchanges of goods and ideas between the British Isles and both the Baltic region and the Netherlands during the second half of the Northern Middle Neolithic, in which period the first Bell Beaker and Corded Ware migrations are probably to be placed, and at least occasional contact between the British Isles and Central Germany during this period. It is in this period, too, that the earliest significant trade in copper tools and weapons becomes discernible, and in this period that the Irish copper industry is likely to have taken root.

II. THE EARLY BRONZE AGE
(Fig. 45, 46)

The true history of trade begins, as Childe has often emphasized, only with the emergence of a Bronze Age economy. Copper, and to an even greater degree tin, being rare substances, and a complicated technology being required to mine them and convert the raw material into usable implements, the crafts of miner and bronze smith could only be practiced by a limited number of full-time specialists. Trade was an essential mechanism in the transition from the Neolithic to the Bronze Age.

Within the area of our study copper ores are found only on the periphery, in
The Em'ly Bronze Age

Fig. 45. Left: the Sogel Kreis, as represented by Sogel-type daggers and nicked-Aarsted axes. Right: the Unetice trading area, represented by finds of large Unetice hammers and of triangular metal-hilted daggers.

After Struve, combining maps of Forssander, Uenze and Sprackhoff.

the mountain areas of Saxony and Thuringia and in Ireland and Highland Britain; and just beyond its borders, in Bohemia and Brittany. While copper implements were apparently produced in all these ore-bearing regions during the period discussed in the preceding section, the economy of our entire region remained essentially Neolithic; copper tools and weapons were merely an occasional supplement to the overwhelmingly preponderant use of stone. The spread of bronze-using was a long-protracted and uneven process, and many areas remained Neolithic for centuries after others were enjoying a plentiful supply of metal goods. Each separate district has its own individual date for the beginning of its Bronze Age; for our area considered as a whole, however, we may date the beginning of the Bronze Age to the time of the development of the remarkable metal industry of Saxo-Thuringia and the spread of its influence through commerce over a large part of Northern Europe.

Saxo-Thuringia was undoubtedly the first region in our area to acquire a full Bronze Age economy. The copper resources of Vogtland, the Harz, the Erzgebirge and the Thuringer Wald provided the basis for its development; the Unetice
farmers who migrated from Bohemia to the districts of the lower Unstrut and the middle Saale and to the Upper Lusatia were its primary local market. It appears from Blunden’s account (1953, 177 ff.) that none of this Saxo-Thuringian development is to be ascribed to the phase conventionally described as ‘Early Unetice’; the migration of his Slany group to the Saale did not take place until the close of the Bronze Age, and falls within the Hochallgärtzeit period, with the

Fig. 46. Distribution of low-flanged axes of Pils type. After Forssander.

Fürstengräberzeit, the time of the princely barrow graves and the great hoards, as its climax. Schmidt-Thümmel (1955, 211 ff.) nevertheless defends the existence of an Early Unetice phase in Saxo-Thuringia, assigning to it the cemetery at Nohra, Kr. Nordhausen in the Harz. Bell Beakers are contemporary with it; three flint daggers imported from the North found in graves of the Nohra cemetery suggest its correlation with Northern Late Neolithic A or even (if Struve’s view of the flint dagger development is correct) with the Upper Grave phase, at the end of the Middle Neolithic.

The difficulty of establishing chronological subdivisions within the Saxo-Thuri-
The Early Bronze Age is emphasized by all recent writers. Yet it must represent a substantial period of time; the considerable bronze industry could not have developed overnight.

An important mercantile centre for its industrial products appears to have been situated near the junction of the Elbe with the Saale River near Halle. Here, at the climax of the period (when some calamity caused its trading stocks and treasures to be consigned to the earth for safety, never to be recovered) a remarkable concentration of merchants’ hoards provides a good impression of the scale of the industrial activities of the Saxo-Thuringian producers. Half a dozen hoards found within a radius of a few miles of Dieskau – two from Dieskau itself, two others from nearby Halle-Kanova, one from Bennewitz, another from Schkopau – contained collectively more than 750 flanged axes, together with numerous halberds, narrow double-axes, ingot torques, armrings, spiral ornaments and other objects. Some two amber beads in one of the Dieskau hoards, and their frequent occurrence in graves of the period, illustrate one aspect of their trading activities, for the Halle district lies on the main Amber Route to the Mediterranean. Also from Dieskau comes a personal hoard of objects of precious metal—a golden flanged axe, ingot torque and bracelets, and a silver ring—perhaps the property of a priest, chief or rich merchant, or a person combining all of these functions. Rich burials in great barrows in the same district, especially those at Leubingen and Helmstedt, provided with lavish gifts of bronze and gold, are interpreted as the graves of powerful local chiefs who provided the shield of security which enabled the local industry and trade to develop, sharing the profits but monopolizing the honour and glory.

Saale and Elbe carried the products of this industry northward to Brandenburg, Mecklenburg, Pomerania and western Poland, and in smaller quantities to Denmark and South Sweden. Eventually bronze-workers themselves ventured northward and set up workshops in the North German provinces, there developing local types of daggers and other weapons not produced in the original centre.

While the Saxo-Thuringian merchants systematically exploited the market to their north, they made no attempt to develop the territories to their west. Hoards of Saxo-Thuringian merchandise are very rare west of the Elbe and Saale valleys, and even stray finds of their products are not numerous in northwest Germany (cf. fig. 45b). Yet enough of their products must have come west—

1 Not actually in the Halle district, however; though amber is found in contemporary Uralian graves in the Lusatia (a grave from Pless contained 32 amber beads).

2 The most recent discussion of the Halle amber and its concentration of metal wealth is by Jahn, 1950, 81 ff., with full references. Cf. also Schilipp, 1953, 17 ff. Jahn doubts that the local salt resources were exploited commercially at this time. Von Bumm (1949/50) gives a list of Early Bronze Age hoards in Saxony and Thuringia.
The Early Bronze Age

ward to exert a powerful influence on the development of Western European metalwork.

The most important of these influences, as Nancy Sandars has shown (1979, 14 f.), is to be seen in the development of the dagger in Western Europe. The characteristic straight-bladed tanged daggers of the Amurican Bronze Age are imitations of Unetice's Oder-Elbe type. The Breton daggers are technically simpler than the Oder-Elbe prototypes, lacking the metal hilt, the rivet in the tongue, and the elaborate geometrical decoration of the face, but their form and rivet arrangement are otherwise similar. A sharply defined midrib is the only feature of the Breton daggers which is not found on the Oder-Elbe type, although midribs are found on other varieties of Italian and Central European metal-hilted daggers and halberds. In Britain, the daggers typical of Ap Simon's Bush Barrow stage, the earlier phase of the Wessex Culture, include examples that are identical with some Breton daggers, and may have been introduced to Wessex by Breton smiths. Their distribution, though mainly concentrated in Wessex, extends to Yorkshire, derivatives blanks appear in Scotland and Wales, and in Ireland (Unetice pin, and five-bladed axes imitating Unetice types, also occur in early Wessex graves, while at St. Fines in Brittany an imported metal-hilted dagger, quite typical but which appears to resemble Unetice's 'Saxon' type more than any of his other varieties, was found in an Early Bronze Age grave. At Atherfield in Kent a tanged dagger with four small rivets, closely resembling Unetice daggers, occurs in a grave with a dagger of Breton-Bush Barrow type and an Irish narrowsided flat axe (Ap Simon, 1954, fig. 2). The bronze cross and tubular heads in the Mighdale hoard, the Ford dagger and the transfixed sword are likely to be direct importations from the Unetice sphere.

If the Breton and Amurican daggers are derived from the Oder-Elbe type, it must follow that no part of the Wessex Culture is earlier than the quite advanced stage of the Unetice metal industry represented by its northern extension.

The exact routes by which these Unetice metal influences first reached the West are not clearly defined. Oder-Elbe daggers and their derivatives appear at Gauhakeleim in the Rhine-Main region, Donauberg in Alsace, and the Seine at Paris; a cross-France route is not clearly documented, and it is equally possible that they came down the Rhine and reached Brittany and Wessex by sea. In the Netherlands, in addition to the Kilha dagger, discussed by De Naval To and Ap Simon, and the Topoped Mountain Cairn specimen (found with a Type E Food Vessel), the National Museum in Dublin contains several other daggers belonging to the Unetice-Breton-Wessex family. Examples may be cited from Despontzen, Co. Derry (Langporte, grooved, pent-garnet sector midrib, p. 252); River Bann at Lochran's Island (four small rivets, flat midrib); P. 263 (no locality), four small rivets, flat midrib; P. 264 (no locality), grooved, with flat midrib, small rivets (original number not ascertainable).
Saxo-Thuringian or Northern Unetice products are very rare, but the recently found small four-riveted knife-dagger from Bargeroosterveld, with horn hilt studded with tin nails (Glasbergen, 1956, 191 ff.), has a blade of Unetice or Adlerberg type which is virtually identical with that from Aylesford, Kent already cited. Similar knife-daggers have even been found in Ireland.

We are inclined to believe that the introduction of the halberd Types 4 and 6 to Ireland is intimately connected with the events which brought the Oder-Elbe dagger influence to Brittany and Wessex. Since a number of South British and Irish halberds show unmistakably Saxo-Thuringian features, and some may well be of Central German metal, there are good grounds for supposing the exportation of some Central German halberds to the British Isles, and their imitation by Welsh and Irish smiths; while the Killaha hoard establishes the contemporaneity of at least one developed Irish halberd with a dagger related to the Bush Barrow type.

No Irish halberds are demonstrably earlier. Since the origin of the Central German halberds can be explained by derivation from Central Europe, and many Unetice metal types are clearly related to those of North Italy, there is no compelling reason to believe in an Irish origin for the halberd. The idea of an Irish centre of diffusion of the halberd rests principally on the presence in Ireland of a number of Central European 'primitive' halberds, but typologically it is by no means obvious that these are necessary links in the evolution of the Type 4 halberd. There is in fact a distinct break in tradition between the Irish halberds with a rectangular hilt-plate and the 'international' type; which suggests that, whether or not the primitive Irish halberds have an older history, the Type 4 halberd represents a new type introduced to Ireland. While Ap Simon would bring the new type directly from Italy, we think it more likely that it reached the British Isles by way of Saxo-Thuringia, along with the Oder-Elbe daggers and that the Irish smiths were more interested in the halberds.

In any event, it is safe to say that the Irish as well as the Breton-Wessex industry received a considerable stimulus from its Central German contacts. Its expansion into overseas markets is securely attested only after such contacts had taken effect.

In the phase of expanded overseas trade between the British Isles and Northern Europe, the traffic falls into two geographically separated patterns: one mainly between North Ireland and North Britain and Jutland and the Baltic area, the other between South Ireland and South Britain and the Low Countries, Wesphalia, South Hanover and the Saale Valley (the Wessex amber trade conforms to neither pattern and represents a special case).

The first pattern of Anglo-Irish influence is that extending from South Britain to the Low Countries and tributaries. Irish axes and halberds are numerically the most important, together with a few examples of probably Irish goldwork and occasional other bronzes.
The Scheldt estuary provides one point of entry for Irish products, as is suggested by the Irish axe found near Ghent and the halberd from Wichelen, which compares in form with bronze ornaments from presumably Beaker graves in Britain, suggesting that Irish gold products reached East Belgium. The Rhine is a more important route, providing access to the important centres of population on the Veluwe and in the Nijmegen area. The finds from Wageningen, in the Rhine Valley at the edge of the Veluwe, with the Irish flat axe and halberd, riveted dagger related to a Bingen type, trace and other bronzes, may be interpreted as the property of an itinerant bronzemaster of Irish or Scottish extraction, and by itself is sufficient to suggest that such travelling bronzemasters from the British Isles provided the Netherlands with its earliest metal industry. Several Irish-type low-flanged axes, among them decorated specimens, have been found in the central part of the Netherlands, in a region thickly settled by Veluwe Bell Beaker people. Low-flanged axes of Irish type, which seem to be local derivatives of the Irish low-flanged axe, occur somewhat more thinly in that country: they are presumably the products of a small local industry that took root in consequence of the activities of the Irish itinerant smiths.

An important contribution toward providing a cultural background for the trade and bronzemasters’ activities in the Netherlands has been made by Glasbergen in showing the high probability that the gold ornament from Oostereng was found with a Veluwe Beaker. We have suggested that this ornament with oar-shaped terminals is a combination of Anglo-Irish workmanship (related to the basket-shaped earrings) and a Northern Unetice type of ornament, derived from the Polish basket earrings of our Form C. It seems very likely, from the evidence cited above, that Veluwe Beakers were flourishing at a time corresponding to Northern Unetice, the Fürstenberg type in Saxo-Thuringia, and the Later Beaker and Wessex period in Britain; which implies that in the Netherlands the makers of Late Beakers are likely to have been the people whom the Early Bronze Age smiths served, even if the bronzes are never found in their graves.

Up the Rhine and through Westphalia and South Hanover extends the remarkable trail of Irish axes and halberds, first pointed out by O’Riordain and confirmed and given greater precision by Sprockhoff’s publication of the Ronnenberg and Sassenberger Heide finds. The trail leads directly to the Saale Valley, where finds of Irish axes and a halberd of Irish form (though apparently not of Irish metal) document the direct trade contacts between the British Isles and the Saxo-Thuringian Early Bronze Age. The Diekau hoard provides the most useful chronological peg for this trade. Along this route, too, is found the Schellenberg gold lunula, which we believe is more likely to be of Breton than Irish origin. Adjacent to this route is found the ‘Weser group’ of copper or bronze lunulae, which appear to be
local imitations of the Western gold lunulae, but which, in the opinion of some continental authorities at least, owe something to Unetice traditions of workmanship.

While the extension of Anglo-Irish trade from the Netherlands up the Rhine would occasion no surprise, the use of the route from Westphalia to the Saale basin is by no means natural and inevitable. There are formidable barriers of hill, forest and moor between; the bulk of the Harz is impervious to cut-off communications between east and west, and there is no through water route. Normally in the Neolithic and Early Bronze Age the Harz serves as a dividing-line between cultures and puts a stop to east-west trade. Yet there is some evidence for Beaker and Corded Ware people having made use of the route; there is a thin trail of Saxo-Thuringian faceted battle-axes along it, reaching to the Veluwe (Struve, 1955, Taj. 27), and, even more remarkably, a similar trail of finds of Beakers with over-all cord ornamentation (see Struve’s Taj. 36), exactly paralleling our axe-and-halberd route. It is very striking that this particular variety of Beaker is the only pottery type which forms a continuous chain between Saxo-Thuringia and the British Isles; and that it was a Beaker of just this type which Greenwell found in the Wilberby Wold barrow in Yorkshire under conditions which suggested that it was contemporary with an Irish axe which has a close parallel in the Donkau hoard.

One may suppose that there was a caravan route along this otherwise little-used trail, linking the Saale with the Lippe and the Rhine, along which Beaker and perhaps Corded Ware herdsmen drove their beasts, some of the animals laden with trade goods. Finished metal goods need not have been the primary object of the trade; it seems impossible to believe that Ireland was systematically supplying Saxo-Thuringia with axes and halberds, nor is there evidence for the wholesale exportation of bronze weaponry from Saxo-Thuringia. Some bronzes did evidently go in both directions, but the main purpose of the route must have been other than this. Several suggestions, apart from archaeological intangibles, may be made. It may, as De Navarro has suggested, have been the Amber Route by which Wessex was supplied; the Wessex halberd pendants fit in well with this concept. It may have been the route by which the small Netherlands bronze industry, which we have suggested was established by Irish or Scottish smiths, obtained its supplies of copper. Contacts between the Irish smiths in the Netherlands and the Saxo-Thuringian metal-merchants would adequately explain the apparent flow of Central European raw metal to the lands on the periphery of the North Sea and the English Channel; and it would scarcely have been mere labour to have brought...

1 Thus, as has already been noted, Unetice hounds do not penetrate westward by this route; Grand Pressing flint daggers were traded westward to Westphalia but no farther (Struve, 1955, Taj. 33). S.O.M. says rather Westphalia but go no farther eastward.
The Early Bronze Age

copper to the Netherlands from Central Germany than from Ireland, Scotland or Wales. Very hypothetically, it might be suggested that some Cornish tin was traded to Saxo-Thuringia by this route. The metal analyses of some of the great Saxo-Thuringian hoards show that even at the climax of the Early Bronze Age not only halberds but axes were often being made of copper, with little or no tin. In the Dixius hoard, for example, the implements vary in tin content from 15% to none at all; while the Irish axe in the hoard contains 14% tin. From this we might conclude that while the Irish smiths had access to ample tin supplies, the Saxo-Thuringian smiths sometimes found it in short supply. Was there a tin trade from Cornwall to Saxo-Thuringia? Apart from the tin beads from Sutton Veny and Eisin and the tin nails in the Ringgenburger dagger-hilt already mentioned there is remarkably little evidence for a tin trade, but most of the tin ingots must have disappeared into the melting-pots of the Early Bronze Age smiths.

The Scandinavian Trade

Our second pattern of Early Bronze Age trade across the North Sea links the British Isles with Denmark and South Sweden, with radiations extending as far as Central and South-east Poland. While in the period corresponding to the first half of the Northern Middle Neolithic we could point to only rare and occasional trade contacts between the British Isles and South Scandinavia, the second half of that period and the Northern Late Neolithic seems to display a certain regularity of trans-North Sea traffic. The best evidence for continuity of trade is provided by the finds of flint implements of South Scandinavian types in Britain. Piggott (1938, vol. 2) and Willett (1952/3, 191 ff.) have listed and mapped some 35 finds of Northern flint axes and daggers, concentrated principally in Yorkshire and South-East England. While some of these may be losses by modern collectors, their consistent distribution and the fact that many are not of first-class workmanship argue (as Piggott has pointed out) for their acceptance as a group as genuinely prehistoric importations. Although all except the hoard of two axes and a dagger from Ramsgate are stray finds, they can be dated typologically, and the relative frequency may serve as a crude guide to the frequency of imports in each sub-period of the Danish chronology:

Later Middle Neolithic (Northern MN III–V) thick-butted axes, gouges and chisels with straight sides. Of the twelve finds listed by Piggott and Willett, four are in Yorkshire, apparently entering at the Humber and going westward along the Aire route. Two find sites in the Lower Thames region, two in the South-West (Hants. and Dorset) and two in South Wales, suggesting trade along well-known routes.
Late Neolithic (not assignable to sub-periods): thick-bladed axes with splayed blade, imitating metal axes (like DO II 535-3). Seven finds, of which four are in Kent and the Thames Valley, and only isolated strays elsewhere (Cambridge, Manchester, Newport in Monmouth). An eighth example was allegedly found with another Northern flint axe and a dagger of Type V at Ramsgate and is accordingly assigned to LN B.

Late Neolithic A: Type I daggers. Six examples listed by Piggott, all in East Anglia or the Thames Valley except one from Stockley near Wakefield in Yorks. We add a good example from Sussex (Springfield Clump, Parham) published by Curwen (1937, fig. 35: 2). No examples of Types II or III have been recorded in Britain.

Late Neolithic B: Type IV and V daggers. Only two examples are listed by Piggott, one from the Ramsgate hoard mentioned above, and one from Biddenden in Kent, which is very debased, atypical and dubious.

Late Neolithic C: Type VI daggers. Four examples (two from Kent, one each from Cambridge and Suffolk).

It appears that there were some imports of Northern flints to Britain in each phase, indicating that the trade went on over an extended period and does not represent a single import horizon. But three-fourths of the closely datable imports (i.e., excluding the axes with splayed blade) occur in the Late Middle Neolithic and Late Neolithic A, which were evidently the peak periods. The finds in South Britain are four times as numerous as those in the North, there are no finds in Yorkshire definitely attributable to LN B or C, but the trade to East Anglia and the Thames Valley continued into those phases.

The first trade from South Scandinavia to Britain calls to mind the South Scandinavian flint export to northern Norway and Sweden during the same period (cf. Clark, 1948, 279 ff. ; Backer, 1952, 37 ff.), but it is doubtful if the trade to Britain has the same significance. The Scandinavian first trade represents well-organized commerce, amply by large merchants’ hoards of flints, to areas without their re-

sources of their own, while there are no comparable hoards of imported flints in Britain (except the Ramsgate hoard of those implements), and the strays are found in areas where there could have been no conceivable economic need for flint importations. The British finds are rather to be taken as flints individually brought by mariners engaged in employment other than flint trading, or perhaps brought along by Beaker immigrants from the Netherlands, where South Scandinavian flints are also fairly common.

It might seem natural to connect the appearance in Britain of the products of the
South Scandinavian flint workshops and mines with the trade in the other Northern export to Britain which survives in substantial quantities, amber.

The Early Bronze Age

South Scandinavian flint workshops and mines with the trade in the other Northern export to Britain which survives in substantial quantities, amber.

The pattern of the amber trade is, however, quite different from that of the flints; it clearly implies well-organized commerce, and proceeds directly to the best market, the Wessex Culture, which in turn may have traded occasional ornaments of the precious gum to such distant places as Tara and the Knowes of Tain.

A few examples of Northern amber appear, however, to have reached North-Eastern Britain independently of the Wessex amber trade as beads or buttons appearing in Beaker graves at Artillery Hill, Driffield, and Aldhams Wood. Special interest is attached to the Aldhams Wood bead, as a virtually unique example of a characteristic and datable Scandinavian export found in a datable grave in Britain. It suggests that British Beakers run on into the period of the Northern Late Neolithic; Late Neolithic A would be a probable date in view of the bead (paralleled at Skogsbo) and the leaf-shaped flint dagger. Imitations in jet, shale or bone of Northern types of ornaments - beads like DÖ II 357 and the double-axe bead from Wessex graves at Manton, and the ring-pendants from Stowce. Horseshoe (Green, 1935, fig. 146) Wessex and Yorkshire (Piggott, 1938, § 8 8) support the case for direct trade between Denmark and Britain across the North Sea, since the types are not known in the intervening areas of North-West Germany and the Netherlands. The ring-pendant, a Late Neolithic type in Denmark, supports the argument for Late British Beakers overlapping the Northern Late Neolithic. Whether the main Wessex amber trade was conducted through the medium of the Saxon-Thuringian merchants, or by overland route across North-West Germany and the Netherlands, or directly by sea is difficult to establish but the Wessex connections with Saxon-Thuringia are so much stronger than their direct links with South Scandinavia that there is perhaps a greater probability of the first alternative. There is, however, the Fjallerslev segmented faience bead in the amber territory, and the Voring axe which may be a local copy of a Wessex export, to support direct Wessex connections with North Jutland in Wessex II, the peak time according to Ap Simon, of the Wessex amber imports.

The return products from the British Isles to South Scandinavia are, however, overwhelmingly of Irish type, consisting of 15 halberds and an equal number of recognizably Irish axes. They are strikingly absent from North-West Germany and Schleswig-Holstein, and concentrated mainly in North Jutland, the Danish islands and Scania. Some Irish gold may also have been exported to those regions, although the gold objects found there cannot be claimed as of Irish craftsmanship; yet Irish gold ornaments in the form of basket earrings have been found in Poland, and a bronze copy of an Anglo-Irish (?) basket earring appears in the Tissfeld found in the Elbe mouth region (Montelius, 1903, fig. 143).

The North Jutland group of Irish axes - the flat axe of Middletype from Mora -
In the Limfjord and the decorated axes from Gallemose and Ulstrup — together with the halberd from Skoanaal — strengthens the probability that the principal route of importation was by way of the Limfjord route, probably departing from Yorkshire or Scotland. A significant number of the axes are of North Irish workmanship, the recently published find from Ulstrup adding two excellent examples to those of the Connor-Seilchausdal type pointed out by Megaw and Hardy. We have suggested that a trading centre for imported metal-work, and probably also for the export of amber and flints, existed near the mouth of the Gudenaa in the Randers Fjord, which would account for the Gallemose, Ulstrup and Virring hoards concentrated in that area. Similar trading centres may well have existed in the Danish islands or Scania. Gloh postulates the existence of a specialized class of merchants in Late Neolithic times, who conducted the trade in amber and flints and the metals acquired in exchange; as with the amber in Britain, the metals in Denmark gravitated to the best markets, the rich farmlands of the Gudenaa Valley and the Islands and Scania which must then have been under cultivation by the people who built the Northern Stone Cists.

The exact chronological limits of the axe-and-halberd trade have been difficult to determine because of the paucity of closed finds; the halberds have been traditionally assigned to the Northern Middle Neolithic and the decorated axes since Forssander to the Late Neolithic. We have assumed that the two types are in fact contemporary; their distribution is virtually identical, suggesting that they are part of the same trade pattern. Irish decorated axes and halberds are demonstrably contemporary at Di Eskau. The flat axes of Migdale type belong to the same phase, on the evidence of British hoards and the Wageningen hoard in the Netherlands. The upper limits of the trade cannot be directly established by evidence on the Continent, but a minimum date is suggested by the Wkelby Wold find — which we believe cannot be earlier than Northern MN IV-V. The Gallemose hoard established some decorated axes as contemporary with the time of the princely tombs in the Dannebrog valley — conventionally equated with Northern Late Neolithic B, though the evidence is not unambiguous — and on typological grounds one might regard the Ulstrup double-looped decorated axe as no earlier than Wessex II and the Virring-Frejdal phase (see facies austriacus).

Whether the axes and halberds were direct imports from Ireland or were made by itinerant smiths who settled in South Scandinavia is a question which has been much discussed in the literature. The idea of a colony of Irish smiths in the North was first suggested by O. Erichsen, endorsed by Megaw and Hardy, and further developed by De Navarro, who suggested that such itinerant Irish smiths taught the secrets of metallurgy to native apprentices in Scandinavia and thereby paved the way for the development of the Northern Bronze Age. Sir Lindsay Scott believed that the colonists came from Scotland rather than Ireland, and emphasised...
that in view of the navigational difficulties involved in regular crossings of the North Sea the colony could not have maintained contact with the homeland.

The colony idea is an attractive one, and we have suggested above that such a colony was actually established in the Netherlands. But in the case of Scandinavia there is a difficulty: can we really visualize a smith’s colony unable to maintain contact with the mother country? The essential requirement for a bronze smith’s activity being an assured supply of raw materials, it is difficult to visualize a group of craftsmen deliberately putting 300 miles of water between themselves and their source of supply unless the maintenance of contact were feasible. We must assume that regular contact was maintained with Scotland or Ireland — in which case the simple exportation of finished bronze from Ireland becomes a more economical hypothesis — or else believe that the migrant smiths counted on securing supplies of copper or bronze in the North; such supplies would in the nature of the case have been of Central European origin. Metallurgical analysis of the Irish axes found in Scandinavia would, then, prove or disprove the colony hypothesis. Pending such a test, we are inclined to believe that the axes of purely Irish type found in the North were made in Ireland itself. An argument for this is that axes of the Selchausdal-Ulstrup type are among the finest products of the Irish industry — indeed, the looped Ulstrup axe is its masterpiece — and it is difficult to imagine that the best smiths in Early Bronze Age Ireland would have set off on so perilous and uncertain a venture.

We have suggested above that Later Beaker people were still current and in occupation of substantial territories in Britain as well as on the opposite side of the North Sea during the period of the Irish axe-and-halberd trade with the Netherlands and Central Germany, and that some of these Beaker folk are likely to have played a role in the actual trade itself. The same ought to be true of the Northern trade. Indeed, much of the evidence for the contemporaneity of the Later Beakers with the axe-and-halberd trade comes from North Britain: the Wilberby Weld barrow, where Irish axes were apparently contemporary with a B3a Beaker; the Collensie cairn, where C Beakers were contemporary with a dagger with a gold pommel mount datable to Wessex I, and the evidence of the elongated V-shaped buttons which suggests that C and A Beakers overlap with the Northern Late Neolithic. These, together with the increasing evidence for the existence of Late Beakers in Ireland (P. Rees, 1936) strengthen the case for believing that the Beaker folk were a trading people and were present in the right place and at the right time to serve as intermediaries in the trade to Scandinavia. If our view of the chronology and course of the Beaker invasions is correct (below, p. 223–9) the North Sea must have been virtually a Beaker lake during the Northern Upper Grave period and the earlier part of the Northern Late Neolithic. Close continental relatives of the British Late Beaker people were certainly present in the Dutch
The Early Bronze Age

lands and North-West Germany during this time; their colonies existed not only in Drenthe and the Veluwe but along the major rivers of North-West Germany and even in Schleswig-Holstein, as recent German research has increasingly emphasised. According to Struve, ‘Western’ Bell Beakers may survive in Schleswig-Holstein (as in the as yet unpublished habitation site at Berlin, Kr. Segerberg) into the period of the Northern Type I and II daggers, and a number of examples have been cited of Beakers closely related to Later Beakers of Britain which are clearly contemporary with the Upper Grave period through association with characteristic battleaxes. Since the Beaker folk had the habit of navigating the sea and rivers along our principal trade routes, it might be supposed that they had a substantial part of the carrying trade in their hands. While Beakers of specifically Western origin, as opposed to North and Central German types, have not been found in Denmark itself, this in itself need not be a barrier to believing that South-Scandinavian harbours were occasionally visited by Beaker folk from across the North Sea.

This view does not, of course, exclude the possibility that mariners from the Northern lands also sailed out into the North Sea and occasionally visited Britain. The maritime tradition in the Baltic is likely to be as ancient and as well-developed as that of the Atlantic route, and the people who brought South-Scandinavian flints 150 miles or more up the coasts of Sweden and Norway could have been capable of crossing the North Sea too. In the traditional view the South Swedish Bureaucratic people were responsible for the first trade to Northern Scandinavia; but Becker (1954) has recently argued that the Pitted Ware people were the principal mariners of the Baltic and should be credited with this commercial enterprise. While Miss Isobel Smith has recently argued against the long-established view of Childe that British Elfdorf and Pentre aloud pottery is to be attributed to an extension of the Baltic Dning-place-Pitted Ware folk to Britain, it may be that some of the parallels in ceramic decoration which gave rise to the older view are the result of contacts of this sort.

On the other hand, the Pitted Ware culture is not known to have outlasted the Middle Neolithic period in South Scandinavia (Becker, 1954, 235 ff.); at present knowledge their possible role in the Atlantic trade would therefore at most be confmed to the pre-Wessex contacts discussed above. In the Northern Late Neolithic

In fact Struve shows on his map of Bell Beakers and Bell Beaker-influenced Single Grave pottery (1955, Fig. 13) a number of finds of Beakers with features which he attributes to specifically ‘Western’ Beaker influence in Denmark, a few of these are in the Lolland area, and others along the Ebeltoft-Fineholm route. Struve also suggests that the Northern flint daggers owe their origins to Beaker folk from Britain, indeed, the stone flint dagger from Blundallstoft, Kent (Northdown Museum, Br. File 10, c.23) could be an exported British dagger.

In fact Struve shows on his map of Bell Beakers and Bell Beaker-influenced Single Grave pottery (1955, Fig. 13) a number of finds of Beakers with features which he attributes to specifically ‘Western’ Beaker influence in Denmark, a few of these are in the Lolland area, and others along the Ebeltoft-Fineholm route. Struve also suggests that the Northern flint daggers owe their origins to Beaker folk from Britain, indeed, the stone flint dagger from Brodlandstoft, Kent (Northdown Museum, Br. File 10, c.23) could be an exported British dagger.
The Early Bronze Age

there is considerable evidence for a Western European influx into parts of South Scandinavia, as witnessed by the well-known similarities between the South Swedish stone cists of Skogsbo type and those of the S.O.M. Culture in France and Westphalia, reinforced by similarities between Stone Cist and Horgen-S.O.M. pottery (cf. Vogt, 1938, ii 8; Childe and Sandars, 1950, ii 11; Piggott, 1954, 155), despite the reservations of Becker (1954, 155). There is, however, little to connect the S.O.M. culture with the metal trade.

In summary, the evidence suggests that there were two principal trade routes in use in our area during the Early Bronze Age: one directly overseas between North Scandinavia and Britain and Ireland, the other between Ireland-South England and the Low Countries, Westphalia, South Hanover and Saxo-Thuringia. During the Northern Early Neolithic only rare and sporadic trade is detectable, alongside the evidence for cultural contact between West and North adduced by Piggott, but to this period seems to belong the typologically earliest metal object in the British Isles, the Kirk Andrews sun disc pendant. It is possible that the earliest types of copper objects - the tanged daggers and square-butted axes - came from the British Isles from Central Germany, contemporaneously with the first Beakers, during the later Northern Middle Neolithic (MN IV-V). To this period seems also to belong the sun disc of More-Westford-Norfolk type, and possibly the gold bracelets found in megalithic contexts in North-West Germany. Also in the later Northern Middle Neolithic, MN IV-V, traders or migrants from the Lower Rhine may have brought with them the Central European halberds and daggers which served as models for the Early Bronze Age industries of Brittany, Western and Ireland; at the same time, Western flint daggers may possibly have served as a stimulus for the Northern flint dagger industry in Schleswig-Holstein, spreading (as Struve's view) from there to South Scandinavia. By the Northern Late Neolithic the Irish industry had developed to a degree which enabled it to dominate the market in the Netherlands, exchange products with Saxo-Thuringia, and compete to a degree with the Saxo-Thuringian industry for the South Scandinavian market. The lunulae of our edge-grooved type appear to belong to this phase; at the same time Scandinavian flints were coming to Eastern England.

To what extent the trade pattern thus established persisted into the stage represented by Wessex II-V or the western metal trade-British in the Ulstrup double-looped axe of the Ulstrup double-looped axe, and the precise inspiration of the Wessex cast-flanged axes is uncertain, and the pin imports and grooved ogival daggers evidently come from sources other than Saxo-Thuringia. The advanced character of the Ulstrup double-looped Irish axe affords some ground for supposing that the Irish trade extended down to Wessex metalworkers, but closed finds to support this suggestion are

The Early Bronze Age

there is considerable evidence for a Western European influx into parts of South Scandinavia, as witnessed by the well-known similarities between the South Swedish stone cists of Skogsbo type and those of the S.O.M. Culture in France and Westphalia, reinforced by similarities between Stone Cist and Horgen-S.O.M. pottery (cf. Vogt, 1938, ii 8; Childe and Sandars, 1950, ii 11; Piggott, 1954, 155), despite the reservations of Becker (1954, 155). There is, however, little to connect the S.O.M. culture with the metal trade.

In summary, the evidence suggests that there were two principal trade routes in use in our area during the Early Bronze Age: one directly overseas between North Scandinavia and Britain and Ireland, the other between Ireland-South England and the Low Countries, Westphalia, South Hanover and Saxo-Thuringia. During the Northern Early Neolithic only rare and sporadic trade is detectable, alongside the evidence for cultural contact between West and North adduced by Piggott, but to this period seems to belong the typologically earliest metal object in the British Isles, the Kirk Andrews sun disc pendant. It is possible that the earliest types of copper objects - the tanged daggers and square-butted axes - came from the British Isles from Central Germany, contemporaneously with the first Beakers, during the later Northern Middle Neolithic (MN IV-V). To this period seems also to belong the sun disc of More-Westford-Norfolk type, and possibly the gold bracelets found in megalithic contexts in North-West Germany. Also in the later Northern Middle Neolithic, MN IV-V, traders or migrants from the Lower Rhine may have brought with them the Central European halberds and daggers which served as models for the Early Bronze Age industries of Brittany, Western and Ireland; at the same time, Western flint daggers may possibly have served as a stimulus for the Northern flint dagger industry in Schleswig-Holstein, spreading (as Struve's view) from there to South Scandinavia. By the Northern Late Neolithic the Irish industry had developed to a degree which enabled it to dominate the market in the Netherlands, exchange products with Saxo-Thuringia, and compete to a degree with the Saxo-Thuringian industry for the South Scandinavian market. The lunulae of our edge-grooved type appear to belong to this phase; at the same time Scandinavian flints were coming to Eastern England.

To what extent the trade pattern thus established persisted into the stage represented by Wessex II-V or the western metal trade-British in the Ulstrup double-looped axe, and the precise inspiration of the Wessex cast-flanged axes is uncertain, and the pin imports and grooved ogival daggers evidently come from sources other than Saxo-Thuringia. The advanced character of the Ulstrup double-looped Irish axe affords some ground for supposing that the Irish trade extended down to Wessex metalworkers, but closed finds to support this suggestion are
The Early Bronze Age lacking. The Virring axe and the segmented faience bead from Fjallerslev point rather to the opening up of connections between the North and the English Channel region, which is supported by the South English distributions of Danish amber and late Northern flint axes; thus foreshadowing the dominant trade pattern of the Middle Bronze Age. It appears that the end of the Early Bronze Age was one of crisis for the older, established bronze industries; the Saxo-Thuringian industry disappears entirely from the record, and the Irish influence in Northern Europe is no longer detectable. The explanation for the change may be a purely economic one. During the classic period of the Early Bronze Age the bronze-smith's art was a relatively monopolistic one, centred in the primary metal-producing areas such as Hungary, Bohemia, Saxo-Thuringia, Ireland and Brittany. But in the course of the period iron-smiths began to set up workshops in regions lacking in indigenous metal resources, and to produce objects adapted to tastes of their local customers. The local industries represented by the Arreton Down industry in Wessex, Fox Tower in Northumberland, the Oder-Elbe and Malchin groups in North-East Germany and the Sogel and Luneburg groups in North-West Germany are all illustrations of this process. A similar process gave rise to the Adlerberg and Straubing industries in South Germany and then to the local groups within the Tumulus culture distinguished by Holste. The result of this increasing competition must have been a shift in emphasis on the part of the older industries, on the one hand to the exportation of ingot metal rather than finished objects, and on the other to the production of more specialized types which could not so easily be produced by small local workshops. The vast numbers of ingot hoards which characterize the closing phase of the Central European Early Bronze Age and the wide diffusion of some early sword types may be indications of this process.

In any event, the Middle Bronze Age brings with it a substantially different pattern of trade relationships.

III. THE MIDDLE AND LATE BRONZE AGE

(Fig. 47-48)
reservations, we outline the trade-phases and the chronological periods to which they broadly correspond as follows:

1. **Illsmoor phase.**
   - Broholm I; late Wohlde; early Middle Bronze Age in Britain and Ireland (Acton Park–Budey).

2. **Gisselfield phase.**
   - Broholm II (M II BC, Kersten II AB), perhaps extending into part of Montelius III; late Middle Bronze Age in Britain.

3. **Talltolli phase.**
   - Late Montelius III, part of IV; traditionally Late Bronze Age I in Britain; see Tunsen–Barton (Brookly, Ettonholme), hiatus; time of the 'first swords'.

4. **Aurignacian phase.**
   - Advanced 3 Montelius IV; developed Late Bronze Age I; Nettleham–Vilborton phase.

5. **Coops tolle–NF phase.**
   - Montelius V; British LB 2 and 3; Irish Late Bronze Age B.

The Leitmotiv running through all these phases is the trade in bronze axes, which continued without interruption, and provides us with dated contact finds in each phase. Spearheads may well have been involved in the trade of all phases too, but the dating evidence is less secure, and the non-looped spearheads have been insufficiently studied. Very probably there was a trade in Northern amber and in Irish ingot gold at all periods. Short-lived types help to fill out the detailed pattern in each of the individual phases to be discussed below.

1. **The Illsmoor phase.**

   As shown in Chapter III, the British (or Brittonico-Sequanian) palstave trade extended over a long time; it runs through our phases 1 to 4. Its greatest bulk falls, however, in phases 1 and 2. The distinction between phases 1 and 2 is not merely typological; there is a marked difference in the character of the activities represented in them.

   Phase 1 is defined by the hoards of the 'Illsmoor horizon' in North Germany. The chronological position of these hoards has recently been reviewed by Hachmann (1957); he places them late in his Wohlde phase in North-west Germany, corresponding with the time of the Valsømagle hoard in Denmark (Broholm’s period II) and with Tumulus Bz in South Germany. They coincide with his Horizon IV. The main types of palstaves exported from Britain at this time were the early shield-ornamented palstaves (our types 1A–c), some fanged-blade palstaves (1Aa), and some plain palstaves (1Va). All the palstaves of this phase are unlooped.

   There is no unambiguous evidence for the exportation of British spearheads during the Illsmoor phase. Yet the Sporuplund spearhead (p. 98), which was not
deposited until Richolm II, might have been made and exported during Phase I. The Liebenfelde and Slesvencq spearheads we assign to Phase II (see Chapter V), and the Neukalnhohlen spearhead is not certainly of British manufacture. A relationship certainly exists between the Northern spearheads current in the Valsømagle-Wohld fase and the British looped spearheads of Herken types C3 and D3 (flattened basal loops, leaf-shaped blade), but the question of which way the influence ran requires detailed study.

The tanged razor from Drouwen, Drenthe, found in a Sbgel grave (Fig. 33: 1; pp. 115 ff) appears to the writer to be a British export or a Continental copy of a British Class I razor, and should belong to the beginning of Phase I, or even earlier.

From the economic point of view the outstanding feature of Phase I is the remarkable distribution across Northern Europe of small merchants’ and founder-merchants’ hoards, sometimes containing nothing but British-Northwest French palstaves, sometimes a mixture of Western and local types. These hoards rarely contain as many as twenty axes. In some cases (e.g. Stade) it is clear that Western and local types were being cast by the same smith, in those cases we can, as Spooner reminds, only gauge at the ‘nationality’ of the smith. In the case of the Varsolhofer hoard in North Holland, it appears possible, however, to identify the smith as a visitor from North Wales. One hoard containing nothing but Western palstaves actually lies east of the Oder, at Perin.

The distribution of early shield palstaves (Map III) suggests that as with axes and halberds in the Early Bronze Age, there was a route from the Old Rhine mouth (Voorhout) across Westphalia and through the Pol’tavestfalen to Central Germany. The two finds (both hoards) in the Stade district emphasize the importance of the Elbe mouth as a point of entry. By which of these two routes the finds in the Oder region arrived is difficult to determine. A few finds occur also in North Jutland and the adjacent Gøteborg district in Sweden. The Habsheim hoard in Alsace shows that a similar trade went up the Rhine.

The background of this curious penetration of North Germany by Western palstaves, and perhaps by Western smiths, is to be sought ultimately in the collapse of the once all-powerful Unetice industry, leaving a gap to be filled by whoever had the means. A great decentralization of production followed the Unetice climax.

Possibly this is putting the cart before the horse; it is conceivable that the Unetice giant with its highly centralized production and distribution network broke down because of the increasing competition of the local industries which were springing up everywhere in Late Unetice times. Possibly too many Leubinger-Helmsdorf chiefs were exacting too much tribute from the Unetice trade; local industries, importing only the raw materials, could escape the extortions and at the same time provide bronze to the local taste. In this view the Unetice hoard-business would represent not a political or military interlude, but Europe’s first crisis of over-production, the stocks of unmarketable bronzes accumulating like reserve-wares or television sets in a trade slump of our own times.

Palaeohistoria Vol. IX: Stadeln. 35
In Central Europe, all of Holstein’s regional Tumulus groups appeared; by South Scandinavia, for instance, small and thin axes typified the Valaske industry, or what Hachmann (1957) prefers to call the Muhlbach group. Northeast Germany, which had remained firmly stone-using during classical Urnfield times, developed the local industry characterized initially by ‘nickel’-flanged axes and Sigel daggers, dirks, or rapiers. For these, Spengel (1941, 86 ff.) cautiously suggested a Western European origin, but Hachmann (1957) has meanwhile argued in convincing detail for the derivation of the Sigel daggers, etc. from the Apa-type swords of Hungary, the phallicite Rodheide from the West Alpine region, during Reinecke A2, and the trapese-hilted rapiers of Wohlde type later (not before B1) from Central Europe. These types clearly have nothing to do with the Atlantic West.

Probably the new Northern industries were short of both skilled craftsmen and raw materials. They produced mainly weapons, and no very great quantity of these. The North European hoards of the Benseker horizons make it certain that at the time of Hachmann’s Wohlde phase there must have been an industry in Britain capable of exporting not only its palstaves but its merchant-smiths to the Continent. Once the shield-palstaves of this group are to be early by the Continental horizons can be broken down into at least four more or less contemporaneous regional varieties (we have distinguished ‘Irish’, ‘Welsh’, ‘South English-Northeast French’ and ‘East Anglian’ variants), it appears that there were at least four regional bronze industries in the British Isles at that time. Neither the Irish nor the East Anglian industries contributed to the trade of the Benseker horizons; the Northern finds of shield-palstaves all come from the Welsh and South English-Northeast French groups. The Acton Park hoard in Denbighshire and the Bursley hoard in Hampshire contain palstaves only of types represented in the Benseker horizons abroad, and therefore may be taken to typify an early phase of the Middle Bronze Age in Wales and South England respectively, and it is from these industries...

Derivatives of relations of the Sigel and Wohlde daggers and rapiers can be cited from Britain and Ireland, where they are not altogether uncommon, but they have not yet been systematically studied, so it is difficult to say whether they represent an influence from Northeast Germany or a parallel derivation from Central Europe through France. Examples (with the capped rivets normal to the Sigel and Wohlde types, but having the thin midrib normally found on these types): Thomas A. Thomas (1945.ffg. 85), very Sigel-like; Charles D. Thursfield, Kent (Spence, 1932, 154; P.V. Spence, 1941, 257), Sigel-like, but hilts unemployment; Quaile, Glades, Cork (1922, 1923); P. V. Spence, 1941, 257; W. H. R. (1930, fig. 10), very Wohlde-like; E. Symes, Benhilton, Sexham (Covers, 1937), fig. 25: 2). The Wohlde-like blades have been cited here two or three times, but they are characteristic of the Northeast German specimens. For the distinction of the Wohlde from the Sigel type see Hachmann, 1957, and his numerous illustrations. The small four-riveted daggers attributed to Wohletr and doubtfully associated with a halberd (O’Riordain, 1937, 204, fig. 5) is very similar to true Wohlde daggers in its blade form.
tries that the merchant-adventurers set out to carve a sphere of influence on the Continent. 1

To what extent this invasion of abyss might have been motivated or influenced by the existence of a common population on both sides of the North Sea at this time is a problem which we shall touch upon later.

2. The Ostell/eld phase
Phase 2 is defined by the developed Montelius II (Brøholm II, Kersten II A-IB) hoards and graves containing British and British-Northwest French exports. Palstaves are the most common type; some spearheads are also assignable to this phase.

A group of rapiers not closely dated may belong to this phase or the next.

The Western palstave repertoire involved in the export-trade now includes looped as well as unlooped palstaves, and unrefined types (our Class II) as well as broad-bladed palstaves of our Types IA (ribbed), IA (groups of short ribs), IA (plane) and IB (side-flanged blade). The Lauholted and Sporuplund spearheads (pp. 96-9) are datable to this phase by associations, and the Aasbiittel and Neurven specimens and one or two of the looped spearheads from Drenthe probably belong here too. The Nim and Elsehorn rares (p. 115) are dated to this phase.

In phase 2 we no longer find in Northern Europe the merchants’ founder-mERCHANTS’ hoards consisting wholly or partially of Western types which were so typical in the preceding phase. The day of the journeyman smith from the West was over. The reason for this is plain enough; South Scandinavia was now in its Stortid, with a great bronze industry producing on a massive scale; to its south, the Ilmenau Culture satisfied its needs by securing bronzes by a considerable trade with the North; and there was no market for any systematic importation of finished bronzes from the West. This applies, however, only to the territories bey-

1 The absence of Middle Bronze Age moulds in South England and Wales led Hodges (1956, 66) to suggest that in the Middle Bronze Age ‘lowland England played no part in the actual production of the implement’. But from the Wessex period onwards South England had mould types and axes in bronze; and we were able to confirm in Dublin that the mould patterns were not among the most common in Wessex. Several South-English-Northwest French sites have yielded moulds of Western types that were not among the most common in Western Europe. The mould evidence thus contradicts the mould-evidence. To the moulds we shall return below.

2 None of the shield-palstaves of the types represented in Phase 1 are clearly datable by associations to this phase, except possibly that in the Neuhaldensleben hoard, which is difficult to date closely; the second Western palstave in this hoard looks late, while the spearheads could be considered early, and the Bohemian palstave is not closely datable. Western hoards (Gloekkern, Mont St. Aignan) show that the early shield palstaves do not die out with the early phase of the Middle Bronze Age in the West, so none of the stray finds of ‘early’ shield palstaves in Northern Europe may reasonably belong to Phase 2.
The Middle and Late Bronze Age

and the Weser; in Northwest Germany and the Netherlands different conditions prevailed.

First, we must notice the concentration, unparalleled in any other phase, of easily identifiable British exports found along the west coast of Jutland, from the Stora to the Elbe: the palstave finds from Frøjk, Aadum Mose, Tim s., Osterfeld and Ahlersdorf, and the looped spearheads from Lamberth and Ahlersdorf. These give a strong impression of a coastwise trade, which is fortified by the group of rapiers centring on the Elbe Mouth region, if these really belong to Phase 2. Down the West Jutland coast, parallel to it along the various branches of the Ochseweg or Heerweg, an important amber route is said to have run (Brøndsted, 1939; Kersten, 1951), connecting with the Elbe and Weser routes to the south. And apart from amber it is difficult to suggest any particular reasons for a concentration of British-Northwest French trade with the barren heath-lands of West Jutland, though the older moraines of West Holstein are more fertile, and strategically located for command of trade. Yet the period concerned should be too late for the main Wessex amber trade, and too early for that of the Late Bronze Age. Perhaps the amber imported to Britain in the Middle Bronze Age mostly went up in the smoke of cremation fires1. Or does the Wessex Culture really last so late as Broholm II, as would be suggested by the Spangenhof spearhead?

In any event, the handful of Western palstaves and spearheads found along the Jutland coast must be interpreted as the surviving visible symptoms of more extensive trade in something else, and not as the primary objects of trade themselves. Another possibility that suggests itself is that the West was delivering supplies of raw metal — copper, tin, gold — to the Northerners, who had a massive metal industry to maintain without an ounce of native ores. The North undoubtedly imported metal from Central Europe, but this does not exclude the possibility, which can only be suggested and hardly prove as yet, that there were metal deliveries from the West too. There is a remarkable concentration of gold finds in Jutland in Mosegaard II and III, mainly of wire spiral ornaments, certainly not made in Ireland, and probably of local make from imported gold supplies. Some

1 Some amber finds with late Wessex-Overhanging Rim Urn associations (for references see Fox, 1943, 130; Haegel, 1939, 130; Spangenhof, 1939, 129; Westmec, 1939, 130; Butcher and Smith, 1941, 145) are thought to belong to the Middle Bronze Age (for references see Fox, 1943, 130; Butcher and Smith, 1941, 145; Kersten, 1951; Tramer, 1955, 157; Burcher, 1957, 157; Butcher and Smith, 1941, 145).
Continental authorities (e.g. Keesing, 1948, 50; Von Brunn, 1955, 91) have thought that the Northern gold of the Middle Bronze Age is more likely to be of Irish than of Transylvanian origin; and perhaps they are right.

In Denmark, North Germany, and the Netherlands, the imported Western palstaves were widely imitated, giving rise to the entire series of Northern, North German and Dutch 'work palstaves'. The palstave apparently found in a grave at Driffield, Yorks., appears to be the only example of a Northern palstave exported to Britain, apart from the dealer's specimen attributed to Wellington, Somerset (see p. 79). The metal-hilted dagger from Blackrock, Sussex (C. M. Piggott, 1949, 115 f., fig. 43) appears also to be a Northern Period II export, though found in a hoard of later date. The Lansdown, Somerset gold sun disc (p. 74) suggests a Northern Period II context, but is too uncertain as to its original form and its date and place of manufacture to be reliably identified as such.

The Netherlands and Northwest Germany have, apart from the small number of ornamented Western palstaves shown on our Map IV, a very large number of plain palstaves of generally Western form, which were mapped by Spröckhoff (1941, 466-75). The formidable task of dividing these into actual imports, imitations, and local variants has not yet been attempted. They become rare east of the Weser basin, although a few examples reached the Netherlands. Apart from a few examples in the hoards of the Ilm horizons, these plain palstaves are almost all stray finds, so that their chronological subdivision among our phases would be precarious at best. Taken as a whole, they show that the Netherlands and the Ems-Weser region were under Western influence during the Middle Bronze Age as far as their axes were concerned; although for other types they seem to have depended more on the South and West German Transilvan Bronze Age. The absence of hoards makes it impossible to tell whether the migrant-smith pattern of trade of Phase 1 continued into Phase 2 (or into Phase 3, for that matter) in this region.

As Middle Bronze Age British exports, belonging either to Phase 2 or 3, we may claim the looped spearheads from Borger, Osnabrück, and Obergrilshagen, and perhaps that from 's-Hertogenbosch, and the rapiers from Lübeck and Greiffen, perhaps being Continental imitations (Chap. VI; Map VII). These contribute to the pattern of British influence upon the Netherlands and Northwest Germany.

At some time during the Middle Bronze Age—certainly by Phase 3, probably earlier—Britain and Northern France may have acquired from Northern Europe the technique of using moulds of bronze for casting palstaves (Chap. III, pp. 66-75). The technique was in use in the North in Brakel II; its practicability and advantages have recently been shown experimentally by Osche (1957), and where suitable stone for moulds was rare, as in lowland England, there would be every reason for its adoption. To travelling bronze smiths of the sort implied by the
hoards of the Emscher horizon, it would have been invaluable. One would not expect many bronze moulds of the Middle Bronze Age to survive; they would never have been in the possession of any but a bronze smith, and the smith normally had a melting-pot ready for a worn-out specimen. The fact that only five bronze palstave-moulds are known from Britain, and a few from France, need not mean that the technique was not extensively used.1

3. The Tawton phase
Here for the first time we can record a marked Northern industrial influence on Britain.

Most important are the socketed axes of Taunton type, which can be identified (Chap. IV; Map V) as imports and imitations of the Hademarschen type of Mecklenburg and adjacent districts. There are also the twisted neck-rings (Chap. XI; Map XI), a Scandinavian-North German type likewise imported and adopted in Britain. The Glentrool pins (p. 148 ff.; Map XII), found only in Scotland and Ireland, also derive from North Germany, apparently from the district near the Elbe-Havel junction, which is on the border of the region in which the Hademarschen axes occur. The Cothill, Berkshire, razor (Sprockhoff, 1941, Abb. 69: 2), the Blackrock, Sussex, decorated finger-ring (C. M. Piggott, 1949, II 6 ff., fig. 1: 3) perhaps the Ramsgate decorated bracelet (p. 155) and, rather dubiously, the Spindlefeld fibula in the Ixworth collection (which may be a modern collector’s import; p. 147), also illustrate connections with North Germany.

In addition, there are a number of new types which appear in Britain – like twisted bracelets, ribbed bracelets, knobbed axes – which might have reached Britain either from Central Europe and France or from Northern Europe, their exact origin being difficult to localize.

The Hademarschen axes, the Glentrool pins, and the Blackrock finger-ring, may come to Britain from a common source in East Germany; the neck-rings (both the hooked-terminal type which became the normal type in Britain and the Middle Elbe type with plain terminals represented uniquely in Britain at Hollingbury Hill) are also represented in the Spindlefeld-Wingesdorf horizon in East Germany, from which the other types come; so it may be supposed that all these forms arrived in Britain as part of a single movement. It was more than a casual importation, since it resulted in socketed axes and twisted ornaments being manufactured for the first time in Britain; a transfer of techniques is involved.

1 The bronze mould for a palstave of British type attributed to the Luxemburg region has been shown by Drescher (1957) to be a modern copy. The original from which it was copied has not been identified.
The close dating of this movement from East Germany in Continental terms involves the assumption that several of the types did indeed arrive together. Individually, some of them had a rather long life, but if they left at the same time, their departure must have occurred at a point which is common to the lifetimes of each of the types involved. Here we need merely summarize the dating evidence, which was considered in detail in the appropriate chapters.

The Form II neckrings: Widespread in Montelius V, though only very common in Montelius III, and rare elsewhere.

The neckrings with plain ends (as Holingbury): mainly Montelius IV, though represented already in some East German finds of Montelius III.

The Hadenhamien neckrings: dated by only three finds, two of them in Montelius III, one in IV. One is a foundered hoard of IV. Main lifetime presumed by Sprockhoff to be Montelius III-IV, otherwise they would be better represented in Period V hoards.

The Glentrool pins: dated by three German finds: one in Period II, two in Montelius III.

The decorated fillgirrings (Blackrock) has its parallels in Montelius III.

Montelius III is the only point of time common to the lifetime of all these types. This would be the time of the Marzahne grave, which has two of our types (neckring with plain ends, Glentrool pin) and of the Hadenhamien grave, with the
The Mi ddle and Late Bronze Age

watermost example outside Britain of the socketed axe type to which it gives its name; it would also agree with the dating of the alleged Hunnic prototype of the Ranehunte decorated bracelets, the Hunnic bracelets being a typically Hunnic Middle Bronze Age form. It would appear that the turn of Montelius III-IV would be the last possible date that such an assemblage could have reached Britain as a unit. In Central European terms this might be at or just after the turn of Hula- 

Hula (Auerbach, vol. 1: 198).

The contemporaneity of the types concerned seems from the British side to be well assured. They occur characteristically in finds of a group discussed rather considerably in recent literature (Fox, 1947; Hawkes, 1942, and also Anonymus GL 3–7; C. M. Piggott, 1949; Savory, 1948; M. A. Smith, 1953), which are united by the common possession of certain rather short-lived types, native and imported: Picardy Pins and their derivatives, Susse Loops, twisted neckrings, spiral finger-rings, large "loop-headed" or "quoit-headed" pins, and others. We group the Somerset hoards, the Picardy Pin and Blackrock find-groups, the Barton Bendish hoard in Norfolk, the Oxford hoards, and certain others (see list below) as a "Taunton- Barton Bendish phase" in South England.

The dating of this find-group, or of its various individual components, has, however, offered considerable difficulty; the extremes have ranged from the Middle Bronze Age, before 1300 B.C., to the very end of the Bronze Age, c. 500 B.C. Mrs. Piggott (1949) was troubled by the apparent occurrence in the Blackrock hoard of Northern imports datable to Montelius II, III and IV; though the individual objects concerned should not have had a long survival-value. She dated the Blackrock hoard and the other finds of this horizon to the transition from LB 1 to LB 2, c. 750 B.C., contemporaneously with late Montelius IV; but called particular attention to the discrepancy with the Orth European chronology thereby created. Curwen (1954, 202–3), who had previously dated the Blackrock and related finds to the Middle Bronze Age, accepted Mrs. Piggott’s dating with obvious reluctance, pointing out that the Blackrock types of palstaves never occur in Somerset hoards of the Late Bronze Age, i.e. with socketed axes. Somerset is hardly likely to have been a retarded area in the period concerned. Recently, Harris (Fecundum GL 3–7) has assigned the Oxford hoards to LB 1, but the Barton Bendish hoard to LB 2; and Savory (1958) has equated the Somerset hoards, and the Welsh hoard from Ffynnonau, with “Late Bronze Age I, c. 1000–800 B.C.”

With Curwen, we must emphasize that the native types in this horizon are, despite the occasional socketed axe (Taunton; Oxford Leopold St.), Middle Bronze Age types, and add that imports from the Continent are also essentially of Middle Bronze Age character, with only a hesitant foot in the Late Bronze Age. Savory makes the same point (1958, 5).

In any event, it is clear that the Taunton-Barton Bendish phase is essentially
earlier in origin than the typologically more advanced group of finds represented by hoards of the Nettleham-Wilburton type, with no continuity or overlapping between them than is to be expected in any two successive phases. If both these find-groups be assigned to LB I, then the Taunton-Barton Bendish industries should represent an early horizon within LB I. This will perhaps be clearer after we have discussed the North European connections of the Nettleham-Wilburton industry.

In considering what went back from Britain to Northern Europe during trade Phase 3, we are handicapped by the fact that no identifiable British export has come to light in any grave or hoard in Northern Europe accompanied by good Montelius III objects. The only possible exception is the palstave in the Brandstrup grave (p. 68), which is of Western type. The Wiesloch find in the Rhineland lends indirectly, since its Hallstatt A date should equate with late Montelius III. Its badly damaged large band-looped spearhead of Herxen D3 type (p. 114) suggests that the Obergrubenhagen spearhead in the Hunsam region might also be a British export of the same period. The stout-handle spearheads in the province of Groningen are also D3, as are the still larger Belgian specimens from Duffel and Wichelen. D3 spearheads occur in our Taunton-Barton Bendish phase (Sherford, Taunton, Brading; see p. 100), though it is not certain that they are strictly limited to this phase.

In the Netherlands, a palstave ornamented with a thin midrib and short ribs flanking it, virtually identical with one in the Blackrock hoard (C. M. Pigott, 1949, fig. 2: 3) ran back in a small personal hoard together with a sword with two knobs (a variety otherwise known only in Tomtum Bronze Age contexts in Hungary and South Germany, and in the Somerset hoards of our Taunton-Barton Bendish phase) and a flanged stopridge axe of Middle Bronze Age tradition at Epe, Gelderland. In Cowen’s dating, some British-exported swords would belong to this phase (see Chap. VII); the present writer would rather group them with Phase 4.

Ireland and Scotland have a few connections of their own with Northern Europe during Phase 3. The Glentrool pins we have already discussed; the Glentrool hoard also has amber beads, and a fragmentary twisted necklace which may be an import from Northern Europe or from Somerset, one cannot tell which. In Ireland, apart from the unclassified Glentrool pins, there are the St. John’s, Co. Carlow twisted bracelets which seem to be direct imports, and the Northern influences on the Irish gorgets which Powell attributed to Montelius III, though this is really only a tentative post quem (Powell, 1953). The connection between the Irish trumpets and

---

1 The Somerset two-handed knives, which are discussed elsewhere (Butler, 1959) make this relative dating certain: they are a Transhum type which disappears in Urnfield times in South Germany. But one has turned up in a Hockenhirtich grave (see Arch. Ev. 1296–1297).
the ‘pre-lur’ horns of Vismar type from North Germany in Montelius III or IV, seems too vague to evaluate positively; probably they are both simply imitations of cows’ horns, as suggested by MacWhite. The Bishopsheld hoard, with its local copy of a Taunton-type socketed axe and a sickle with elongated knob, seems to reflect indirect Northern influence by way of Samarre, along with which goes the Annesborough hoard (?) with its twisted neckrings (see pp. 141, 143).

Lastly, mention must be made of the curious resemblance between Irish ‘bowl’ Food Vessels and the Northern gold bowls of Montelius III first pointed out by Menghin (1934); with Powell we prefer to think of the clay vessels as having been influenced by the gold more than the reverse. The ring-ornamented pendants from Birtwhittington, Kent and Leaarden Heath, Pow. Usworth, are somewhat also city imitations of the boss-and-ring ornamented gold vessels best known in Northern Europe.

**LIST OF FINDS ASSIGNABLE TO THE TAUNTON-BARTON BERNISH PERIOD**


2. Dorset. Blandford. Minster Farm. Looped palstave, pendants (spears); Hawkes DJ, pl. X, fig. 3.


7. Nants. Brading, Isle of Wight. Spearhead Hawkes DJ, pl. XIX, fig. 3. DBRJ 37, fig. 140.


11. Kent. Bisham. Spearheads, pendants; Hawkes DJ, pl. XIX, fig. 3.


4. The Bargeroosterveld phase

This phase is defined by contacts between the British Isles and the characteristic Northern industries of Montelius IV. Typologically it is easy to separate from phase 3, but difficult to aggregate from Phase 5. Yet there must be a chronological Phase 4, which must be put all standard Late Bronze Age products earlier than the Carps Tongue-Montelius V-early Hallstatt B period. The existence of Phase 4 depends on the assumption that no Montelius IV is as late as the second half of Hallstatt B. If this be true (and on contemporary theory Montelius IV corresponds roughly with the second half of Hallstatt B) then any British export found in an unequivocal Montelius IV context must be pre-carps, pre-LB 2.

Appropriate contact-finds are rare, but not entirely absent. The two most important are those from Bargeroosterveld and Barrien-Bielen (p. 69) and that from

1 Why West Alpine zigzag axes occur in Denmark only in Montelius IV, and in North Germany only in Montelius V, is a mystery awaiting clarification. Vogt (1949/50, 229) assures us that the Danish zigzag axes are of the A, not B type. We follow the Northern authorities as to what is in IV and what in V, but take the liberty of assuming some overlap between Montelius IV and early Hallstatt B, for reasons to be explained later.
The Middle and Late Bronze Age

Løvskai in Viborg Amt, Jutland (p. 85). The shield-hoard from Eldshøjtrap (p. 130) is important, though its attribution to Montelius IV needs confirmation; and the alleged grave find from Hørve, with a British sword (Chap. VII) is a problematical one. The Gasteren grave (p. 117) contains a copy of a Western bifid razor and the Helmsdorf grave perhaps an exported one (p. 118).

These finds provide a Montelius IV terminus ante quem or ad quem for palstaves of Curwen's Type C (Nørretofte; a late variant of palstaves of our Type III (p. 13 above); Yetholm-type shields (Chap. IX); socketed axes (without ribbed wing ornament) of our Southeastern type (Chap. IV); bifid razors (Chap. VII); and (in late Montelius IV or early V according to Cowen) a sword transitional between the British Wilburton and Ewart types (Hørve).

The socketed axes, palstaves of Curwen's type C, and Wilburton swords are types represented in the Wilburton hoard, and typical of the industry we describe by that name; and which Suurøy (1958, 8 ff.) has also discussed under the name "Wilburton complex". It is certainly partially contemporary with the Carps-tongue industry, but the Northern evidence here cited establishes it as having begun within a developed phase of Montelius IV. Whether the shield-makers were directly associated with the Wilburton industry, or operated independently, is difficult to say; the distribution certainly does not support their attribution to the Carps industry, nor to Irish manufacture.

Hollow-bladed spearheads (above, pp. 106 ff.) constitute at least a significant parallelism between the Wilburton industry in South England and Montelius IV in the purely 'Nordic' area; the origin of the type has not been determined, but the Scanian examples illustrated suggest that the British variety and the British-Irish spearhead type contemporaneous with it with lunate openings in the blade were imported in Sweden.

The British types exported to the North in Phase 4 continue into Phase 5, so their distribution is best discussed in connection with that phase.

A curious connection between Scotland and Jutland in Montelius IV has been thought to be provided by the bone toggles (Piggott, 1958, 247 ff.; Childe, 1935, 176; Broholm 1933, 109; DB IV, 66 ff.; DO IV 70). The four Danish finds are all in urn graves; two are in Viborg, one in Aalborg, one in Vojens Amt. The toggle from Koresethamn (Aberdeen; Callander, 1934: 65 15: 7; Piggott, 1956, 64 b) is very similar in form to the Danish type; others differ in varying degrees. The Scottish toggles are associated with a variety of Cinerary Urns. Childe (1935) used these toggles to establish a synchronism between the Scottish and the Northern Bronze Age chronology, but Piggott now suggests that the Scottish toggles are unrelated to the Danish ones. The exportation of metal goods from Denmark to Scotland is signified by the Dulduff tanged sword (found as an old piece in a later hoard) and the Carne Loch socketed one, both apparently imports of Montelius IV.
Two other tanged swords of Northern origin or inspiration are recorded, the specimens from Coleraine, Co. Derry, and the Thames at Kingston (Chap. VII). Some Irish and British socketed axes imitating features of the Northern Montelius IV Højby type have been cited (Chap. IV), and we have suggested that the ‘Welsh’ type of socketed axe shows signs of having been derived from the Højby type. There is apparently a tendency for these Scandinavian Montelius IV influences to cluster round the periphery of the Irish Sea.

From Central Germany, the Wilburton industry appears to have derived its bronze ferrules (Chap. X); the Flyshhunsu find in Wales constituting a contact-
of unknown origin are the spearheads of Bargfeld type (p. 108), the blade form of which resembles that on some British spearheads.

We also assign to this phase, but admittedly more on grounds of general probability than proof, and contrary to the view of Cowen, the early British sword-exports (Elderslie: and the two 'North Brabant' swordlets), as well as the Horus specimen already mentioned.

Developed looped spearheads are difficult to date precisely; possibly belonging to this phase are the specimens found 'probably near Nijmegen' and at Oudenaarde, East Flanders (p. 104), both of Havlich Type Eii. Whether the earliest 'faceted' socketed axes reached the British Isles in this phase is at present undetermined; we would like to believe that the narrow octagonal type reached the British Isles in Montelius IV, so that the find from Kish, Co. Wicklow (Raftery, 1951, fig. 199) could be dated at about the transition of Montelius IV-V and stand for a developed phase of Irish LB A.

5. The Cuxpur -jol/Joll telius -jol/Jol VI phase

Although this phase takes its definition from the export products of the industries named in its title, it will of course include those of the Wilburton industry, which flourished on into British LB 2, and other British and Irish industries of the period.

Socketed axes exported from the West are not uncommon in Northern Europe; they include in this phase probably most examples of the Southeastern type (Map VI), some narrow faceted axes (we regard as Western exports the examples with double socketed-mouth moulding and with funnel-shaped socket-mouth moulding, and those with ribs on the angles) and the socketed axe with rib-and-pellet decoration. Probably most of these came from South England and North-west France.

Western sword-exports include the Late Ewart type and the carps-tongue type, the former presumably mainly from the British Isles, the latter mainly from North-west France (Map X).

In addition there are rare examples of Thorndon knives and socketed gouges (assuming that the latter are all of Western origin), a fibula, an Irish zandalon, and Irish penannular bracelets. 1

No two of these types produce, when mapped, the striking identity of distribution pattern which we found for Irish axes and halberds in the Early Bronze Age. Since the numbers of objects involved are in each case small, the differences in

1 The gold bracelet from Lunteren, Gelderland (Butler and Van der Velden, 1964) The gold bracelet from Grabshof, near Bremen (Koford, 1933, 40 ff.) found in a pot of Harpsted type, belongs to Northern Period V; the copper bracelet from Bothmerby, Saxia (Newcome, 1944, 347-2, fig. 2) looks strikingly like a West African object.
distribution may in some cases be purely a matter of chance; three or four new finds, or old finds brought to light, might alter the appearance of any of the maps considerably.

The Netherlands shows a fair number of Southeastern socketed axes, one Western socketed axe and a mould, a rib-and-pellet axe, a Late Ewart and a carps-tongue sword; the finds concentrate in the South of the country and the Ninjegers area. The Hunsro-Ems-Weser area has a few Southeastern axes (and the Goldhöft ring), the foothills of South Hanover have a Western faceted axe, a rib-and-pellet axe, two Late Ewart swords, a carps-tongue sword. Central Germany has a Western socketed axe, two rib-and-pellet axes, a carps-tongue sword. The Lower Elbe region has a Southeastern axe, a Western faceted axe, a Late Ewart sword, a Thorsund knife. The Oder Mouth region (broadly speaking) has a South eastern socketed axe, two rib-and-pellet axes, a Late Ewart sword, a carps-tongue sword, a Thorsund knife. Northwestern Poland has a Southeastern socketed axe, a British-Irish faceted axe; further south is a rib-and-pellet axe and a carps-tongue sword. North Jutland has only the Abildholt cauldron (and the Løvskai Southeastern axes dated to Phase 4); South Jutland and the Danish islands, a Southeastern axe and a Late Ewart sword (with a fragment possibly of a second one, not mapped), a ferrule, and (presumably of Phase 4) the Edbelstrup shield. Scania has only a Southeastern socketed axe; Vänersborg a rib-and-pellet axe, and Gotland two rib-and-pellet axes.

Of the nearly fifty Western imports included in this tabulation, the Netherlands and Northwest Germany absorbed half (half of these in the Lower Rhine-Maas area, the other half scattered); a third were taken up by the "Nordic" area (about equally divided between South Scandinavia and Northeast Germany-Northwestern Poland); and the remaining sixth went to Central Germany and Southwest Poland. Northeast Germany yields rather less than one might have expected; the "Nordic" area rather more. From the maps it appears that the Lower Rhine-Westphalan trade route, used in the Early and Middle Bronze Age, was still going strong; rib-and-pellet axes, Late Ewart swords, and carps-tongue swords seem to have gone that way. From Central Germany, the route fans out, leading on the one hand to Brandenburg and the Oder Mouth, and on the other, less important, to Southwest Poland. In Phase 5 this river-and-overland route seems to have been much more important than the direct sea-route to Scandinavia; only the Abildholt cauldron can be cited as evidence for any interest in the Limfjord route, and the uniqueness

1 We have included here British and Irish types and those which might be either of British or Northeast French manufacture, but not purely French types, such as Breton axes of the large "square-mouthed" and small "votive" types. If carps-tongue swords be considered as entirely of French manufacture, as has been thought by some authorities, they may be deducted from the totals; the pattern is not significantly altered.
of this find is emphasised by the fact that, apart from the Gahlstorf and Lus­
teren bracelets, it is the only certainly Irish product of the entire lot. The Thorndon
knives (Tostedt, Boek) and the Western narrow faceted axes are, of course, types
common in Northern Ireland, but they are common in Eastern England too. It has yet to be
shown whether Irish and English versions of these types can be distinguished. A
case could be made out for importations to the North by way of the Elite 5 entry, supported by the Klinit bei Hochhausen socketed axe, the Tostedt knives,
the hollow-bladed spearhead from Harburg, and the Kronshagen ferrule; the
Baltic imports might of course have come by this route as well as by the
route across Germany. Northeastern socketed axes and Thorndon knives might
have reached the Baltic region exclusively by this route, on the basis of the known
distributions.

Western types were occasionally imitated in the North – some socketed axes,
some ferrules seem to fall into this category – but in general the significance of
the Western exports for the development of the industries of Northern Europe
was very slight in Phase 5. We have suggested hesitantly that the Northern
reinforced markings ofouchform cross-section might have been influenced by the
Irish type, which is certainly of earlier origin, but this is only a specu­
lisation. Northern
Europe was, of course, under heavy Central European trade-influence at this
time (Spodekoff, 1950-1), and the East-West trade was a merely peripheral pheno­
menon.

North European trade objects found in the British Isles attributable to Phase 5
are extremely rare. The jangles from Pant y-Moch and Llanynedd (Chap. XIII)
and the socketed axe from Warminster, Wilts. (p. 94) may be actual imports. If
any of the Northern-style pins (p. 150-1) are actual imports, they will be mainly
in Scotland and Northern Ireland. The majority are certainly imitations. The only
Northern products known to have been exported to Ireland on a considerable scale
in the Late Bronze Age is amber (MacWhite, 1944), which occurs quite commonly
in Irish hoards of the period; otherwise, it appears that only occasional prototype
objects were imported, to be imitated on a considerable scale by the native crafts­
mens. The Northern pins were closely copied, but a distinctive Irish variant quickly
developed. Shields apparently stemming from the Lattmuhle workshop of North
Germany (Chap. 13) were imitated, but in wood and leather rather than bronze.
Scandinavian socketed axes were at first closely imitated (p. 94-5) but soon trans­
formed into purely Irish renditions. It is not very clear whether the Irish gold
variants of the Northern bronze ribbed collars, the gorgets were based on
Northern Late Bronze Age models or on older, Middle Bronze Age types; and
for the late Irish sun disc (p. 173 ff.) on Northern Late Bronze Age parallels are
known. More decisive still are the Irish trumpets (MacWhite, 144; Herdson, 1931);
they may have been inspired by the North German Middle Bronze Age 'proto-'
trumpet, or merely by a cow’s horn, and only their ornamental cone-shaped studs are attributable to a Northern inspiration of Montelius V.

While the Irish craftsmen and the population they served were evidently extremely receptive to certain Northern influences and models, their receptivity was certainly highly selective. The transformation of bronze-types into gold or wood and leather, the alteration of forms to suit traditional native taste, the absolute rejection of the Northern curvilinear art in favour of old-fashioned geometry, all show that the Northern influence on Ireland was a superficial one. If the Northern influence upon Ireland appears strong, it is only by comparison with Britain, which, apart from a few imports to its Highland periphery (amber at Adabrock, Lewis, Caille, 1946, Pl. 12: 14, Balmashanner, Angus, PSAS XXVI, 182, Llangyfelach, Anglesey; the Parc-y-Meirch jangles, the Scottish sunflower and Orkney-Tarves pins, the cone-headed pin and amber bead from Heather Burn) appears to have little to match. Yet, if we are correct in supposing a connection between the ‘Welsh’ type of socketed axe and the Northern Háby type, and between the British and Northern hollow-bladed spearheads, and those with the blade-form of Bargfeld type (pp. 91–3, 106 ff.), then Britain in the Late Bronze Age had about as much connection with the North as did Ireland. Admittedly, the specifically Montelius V derivations from the North are almost totally lacking in Britain, which contrasts oddly with the fact that it appears to be Britain and not Ireland that sent as many bronze-exports to the North. It is an almost exact reversal of the state of affairs which prevailed in the Early Bronze Age, when Ireland was exporting the metals and South England was getting all the amber, Scandinavian flints, and Unetice imports. A adequate explanation of this situation is not easy to find.

MacWhite has suggested that in the period of Scandinavian influence on Ireland, Denmark was losing its command of the amber trade to the south, the markets being supplied by fresh sources of amber especially from East Prussia. He therefore suggests that Denmark, compelled to market its amber in order to procure metals, turned to Ireland both as a market and as a source of supply. This explanation would suit the conditions of Montelius VI better than those of Montelius V, a time of prosperity in Denmark. Hedges (1956, 49) has envisaged Scandinavian fishermen visiting the Irish and Scottish coasts, and barrating their personal possessions for provisions. One can well imagine a great increase in traffic on the open sea in this period, when, as the Northern razors and rock carvings show, the ship had become an object of adoration in the Baltic area. Sea voyagers of the Late Bronze Age would undoubtedly have been equally ready to conduct peaceful barter or to raid and loot as opportunity offered. But it is precisely evidence for this sort of activity that is lacking in the Irish finds; one would have supposed that Northern visitors to Ireland would have left behind at least a few swords or spearheads. The maritime distribution of the Herzsprung shields could, how-
ever, argue for their diffusion by mariners. The jangies are more puzzling: were horses carried on Bronze Age vessels? The diffusion of Western weapons across Northern Europe might be used to argue that really it was the West that provided the sagas and Vikings of the Late Bronze Age.

The relations of Britain with the Netherlands and Northwest Germany are a special chapter still to be considered. Suggested that the "Dutch Deverel" urns have been removed from the period in question (Glasseben, 1954, 1956, J.P. Smith, 1961), there is no ground for supposing any major folk-movement between Britain and the Lower Rhine area during the Late Bronze Age; all would have been quiet on this front until the Hallstatt and Harpstedt incoming at or after its close. Arisbigl.-Gannem type urns, however, suggest some sort of coastwise movement connecting the North Frisian islands, the Reekling of Drenthe, and the East Anglian coast in MIv-Halb. Evidence for trade between the British Isles and the Hanse-Ems-Westover region is not as abundant as we might have expected in Montelius V; that region, as Sprockhoff has repeatedly emphasized (1941; 1952 a), had a special insularity of its own. Britain appears to have obtained its narrow faceted socketed axes originally from this region (p. 46 ff.), and later to have sent a few back. The socketed axe and profih Kovt Falsborow in the Birching, Kent hoard, and its derivatives in Ireland and Scotland (p. 50 -1 f.) show some Hanse-Ems-Westover influence upon the British Isles; the plastic sawtooth motif on axes is an additional link. Further, the bronze half-model for a socketed axe from Hasmoite, Drenthe (PL XII bottom row; Butler, 1961, 200-7, fig. 10-12 for drawing) is surely of British or Northwest French manufacture. Axes of our Southeastern type and Ewart and Carpa-tongue swords represent, however, the numerically most important groups of trade objects, and even these are not strikingly numerous in the Dutch and Northwest German area. Clearly, the pattern suggests contacts through trade and travel across the North Sea, but not a major migration of any sort.
PART THREE

CONTACT FINDS, TRADE PHASES, AND COMPARATIVE CHRONOLOGY

I Notes to the chronological table
II List of contact finds, British Isles – Northern Europe
CONTACT-FINDS, TRADE PHASES, AND COMPARATIVE CHRONOLOGY

Since trade provides the essential raw material for comparative chronology, we may conclude our study with a list of the contact-finds which govern the comparative chronology of the British Isles and Northern Europe, and a chronological table.

The list of contact-finds is selective rather than exhaustive; it includes the most reliable finds available which can be evaluated chronologically. It lists grave groups and hoards containing either actually imported objects or very close imitations, found in association with datable native products. A few finds not quite up to this standard have, however, been included for phases which would otherwise be devoid of contact-evidence.

The Table of Comparative Chronology is divided into five lines representing the major regions of Northern Europe concerned in this study, two representing Lowland England-Wales and Ireland-Scotland respectively, and lines for North-west France and Central Europe. The following notes to the chronological table explain the terms used and the correlations offered where these differ from hitherto standard practice.

1. NOTES TO THE CHRONOLOGICAL TABLE (PL XXI)

Line 1: Central Europe
For the Urnfield period, we have followed the chronology newly outlined by Müller-Karpe (1957, 1958, 1959), with Hallstatt A divided into two phases and Hallstatt B into three (see also Garstang, 1931; Kinsol, RA 1951-4; Müller-Karpe, 1954; 1955; Sandars, 1956, v.v. 1 ff., tables; M. A. Smith, 1957, 1958, f. f., table). It will apply only with modifications to some Urnfield areas; here we employ it for comparison and to see how it works in relation to our Northern and Western regions.

We also give for comparison Müller-Karpe’s absolute dates, whereby Reinecke D occupies the thirteenth century, His B the eighth, and the remaining Urnfield phases a century each in between.
Hachmann (1957) has argued that Reinecke A2 should be contemporary with the Shaft Grave epoch of Mycenae, and therefore be current in the sixteenth century. This would leave only the fifteenth and fourteenth centuries for the "purer" Tumulus Bronze Age (as defined by Holm, 1953a), though its late survivals should run on into the fifteenth century. The possibility of the amber spacer-bead question (Milojcic, 1955, 316 ff.; Hachmann, 1957, 11 ff., 77 n4) is left open. Hachmann utilized the subdivisions of the Neolithic and Early Bronze Age of Saxo-Thuringia proposed by Ulrich Fischer (1952, 51 ff., with chronological table; 1956). Middle Bronze Age material is thin in Saxo-Thuringia, leaving open the question of the length of survival of Late Unetice industries. Further north, there is the much-discussed Middle Bronze Age hoardgroup with Regelbrunn spirals, ribbed collars, etc. (Rillow, Babbin, Rossenthin, Stecklin, Krilssow, etc.), into which our Western shield palstaves were received. The exact dating of the individual hoards varies greatly from author to author (Forssander, 1939; Von Brunn, 1954b; Spruck-
Notes to the chronological table

Hooff, 1955, 34; Hachmann, 1957). It is followed by the horizon with early Spindlersfeld fibulae (S. proc. Hooff, 1938b, z05 ff.), equated with Montelius III and mainly early (pre-Jensovice) Ha A. This Lusatia culture is set, in the recent view (Michaie, 1951, cf. von Brunn, 1953), indigenous, but a radiation of the Central European Funnelbeakers, and begins not before Reinecke-Montelius III. Von Brunn’s Unstrut and Saale Mouth groups (1954) begin late in Montelius III and run on through most of Montelius IV-Jensovice Ha A.

Line III: South Scandinavia

Here we use the terminology proposed for the Neolithic by Becker (1954), and the Bronze Age period-division of Broholm (DB; OD III-IV). Neolithic-Early Bronze Age correlations are best discussed in connection with Lines IV-VI (below). Broholm II, the classical Shetland (Montelius IIIb, Kersten’s II AB in Schleswig-Holstein) is now held, on the basis mainly of square-hilted swords (cf. Holmso, 1955b) to run parallel with Reinecke C (Holmes’s Late Tumulus), and even to oversail part of D (Sprockhoff, 1955; Hachmann, 1955, 43 ff.; Müller-Karpe, 1955, 55 ff.; cf. Von Brunn’s remarks on the Spandau hoard, 1958), and Montelius III with part of D and early Ha A. The parallelism of Montelius IV with late Ha A (Jensovice-Ha A) was the main burden of Sprockhoff’s Chronological argument (1955), apparently leaving Montelius V to correlate with Hallstatt B (Horemans, Pönitzke) and (Cowen, 1953, 140 ff.; Sprockhoff, 1956) with part of Hallstatt C as well.

Here Müller-Karpe’s scheme of a three-century-long Hallstatt B creates a problem: the equations M IV-Ha Aa and M V-Ha B, part of C would imply a Montelius IV a century long, and a Montelius V stretching over something like three and a half centuries. But there is in fact evidence that Montelius IV runs parallel not only with Müller-Karpe Aa but also with his B’s. Indeed, Baudou (1960, 34 ff., table) parallels Ha B and Ha with Montelius IV (which thereby becomes two centuries long, leaving Aa to run alongside III (but without discussion or evidence) and Holl in the parallel only with Montelius V (thus reduced to only one century in length). This could obviously make good sense as far as correlations are concerned, although it leaves the relative length of the Northern periods different from what one might expect.

Lines IV-VI: Schleswig-Holstein, Northwest Germany, Netherlands

These may be considered together in part, since a series of successive horizons cut across most of the entire area. In the Neolithic there must have been migration-horizons. Ludik-Kaelas (1955) suggests that the Funnel-beaker culture reached Drenthe (and therefore presumably crossed the intervening territory) no later than Scan-
Notes to the chronological table

dinavian EN C; there meeting the Western megalithic tradition and building the Hullbeddell. Next follows the international early Single Grave, A-Axe spread, which is equated by Struve (1955) with NMN II, though Becker (1954a) would have it only in NMN III. Van der Waal and Glasbergen (1955) place the arrival of this wave in the Netherlands at ± 2,000 BC on the basis of C14 determinations. A century or so later, their scheme, come the earliest, international Bell Beakers. Next comes Van der Waal’s all-southern Bell Beakers with Corded-ware influence, including the all-over corded type. These were, according to Struve, current at the time of the Grand Pressigny flint importation and the K-axe, late Ground Grave-early Upper Grave phase, which he equates with NMN IV. In the Netherlands, Bell Beakers of Type α6 (the nearest relatives of British C Beakers, and the predecessors of the Veluwe Bell Beakers) should also belong to this time.

The Late Neolithic brings Veluwe Bell Beakers, Kistenbecher coming presumably from Western Europe, along with the Para Basin stone cists that reached Westphalia and Sweden, and the fusion and decay of the Neolithic pottery traditions.

The Early Bronze Age chronology of the South Scandinavian-North German area has now been reviewed in great detail by Hachmann (1957), who provides closely argued correlations with Central Europe. He distinguishes four successive horizons in the North, each horizon representing the beginning of an import-wave from Central and Eastern Europe. His Horizon I comprises the exports of the Saxon-Thuringian Pfahlgraberei and its contemporaries (A1/a1), which produce the Pilz-Gallfrau phase (conventionally NLN B in Scandinavia, the ‘Soltau’ flint daggers being considered as imitations of the triangular metal-hilted ones). Horizon II comprises exports from the Año-Hipho Samson phase in Southeast Europe (which he equates with the Shaft Grave epoch and with Reinecke Aa) and from Silesian-South German Aa. These give rise to two different groups in the North: the Sigel group in Northeast Germany and most of Jutland, and the ‘Mosbach group’ in South Sweden, the Danish islands, and part of North Jutland. The distinction between the Sigel and Mosbach areas persists into later phases. Typologically, Hachmann’s early phase of the Mosbach group corresponds to Broholm’s Feuer Morhofter after the subtraction of the ‘Sigel’ elements and certain types which he dates to different horizons. Then comes Horizon III, which is characterized by exports from Tumulus B1; it brings with it the daggers and rapiers of Wohlde type, which he holds are later than the Sigel type. Horizon III introduces the Wohlde phase of the Sigel group.

1 Junghans and Sangmeister (1957) report that the tanged dagger and axe associated with the typologically early (i.e., Pre-Sigillar) Beaker are of Adlerberg and Alpine copper. The chronological implications are a Reinecke Aa date for this grave.
The Wohlde phase persists through Horizon IV, which is characterized by Tumulus B2 exports. In this phase belong the hoards of what we have described above as the ‘Ilsmoor horizon’, this is where the Western shield palstaves come in. Horizon IV in the Mosbach area brings in the assemblage typified by the Valvasor hoard: broadly, Brakeln I, with differences of detail. Hachmann’s four horizons have been indicated on the chronological table by ‘HH’. The relation of the West to this scheme we shall discuss below.

After the Wohlde phase, the Middle Bronze Age of the area we are discussing breaks up into three different regions: the Northern culture occupying Schleswig-Holstein and the Stade district across the Elbe as well as Scandinavia, the Ilmenau Culture occupying the Luneburg Heath and adjacent districts, and a nameless tumulus culture using Kiimlllerheralldlii, Tumulus-type ornaments, and Western or Western-derived palstaves in the Hunze-Ems- Weser area (Spruckhoff, 1941). The exact date at which the Northwestern German Urnfields emerge is difficult to establish; Tucknaberg (1935) suggested Montelius IV, Van Giffen (1943) Montelius V. Recent evidence suggests that an Urnfield immigration reached Drenthe in HaA2-M IV (Waterbolk, 1962). A regional ‘Hunze-Ems’ metal industry existed in MV (Butler, 1963b).

Notes to the chronological table

The Wohlde phase persists through Horizon IV, which is characterized by Tumulus B2 exports. In this phase belong the hoards of what we have described above as the ‘Ilsmoor horizon’, this is where the Western shield palstaves come in. Horizon IV in the Mosbach area brings in the assemblage typified by the Valvasor hoard: broadly, Brakeln I, with differences of detail. Hachmann’s four horizons have been indicated on the chronological table by ‘HH’. The relation of the West to this scheme we shall discuss below.

After the Wohlde phase, the Middle Bronze Age of the area we are discussing breaks up into three different regions: the Northern culture occupying Schleswig-Holstein and the Stade district across the Elbe as well as Scandinavia, the Ilmenau Culture occupying the Luneburg Heath and adjacent districts, and a nameless tumulus culture using Kiimlllerheraldii, Tumulus-type ornaments, and Western or Western-derived palstaves in the Hunze-Ems- Weser area (Spruckhoff, 1941). The exact date at which the Northwestern German Urnfields emerge is difficult to establish; Tucknaberg (1935) suggested Montelius IV, Van Giffen (1943) Montelius V. Recent evidence suggests that an Urnfield immigration reached Drenthe in HaA2-M IV (Waterbolk, 1962). A regional ‘Hunze-Ems’ metal industry existed in MV (Butler, 1963b).

Line VII-IX, The West

Now we can consider the relations of the Atlantic Northwest to the Northern areas. Contact-finds in our list, pp. 244 ff., are referred to as ‘CF’.

A. Funnel-beaker influences upon the Windmill Hill culture have been weighed by Piggott (1954, 311 ff.; 1955, 96 ff.). Datable contacts in the early phases are difficult to find. We would like to think that the Kirk Andrews gold pendant or sun disc (p. 169), with its Stollhoff-Brzesc Kujawski-Salten affinities, will eventually find its place in a pattern of Early Neolithic contacts between North and West.

B. The early Single Grave-Beaker with Promontory Font 1950 did not reach Britain, though it got as far as the adjacent coast of Holland. We assume that the earliest Bell Beakers in Britain must be contemporary or nearly so with the similar Beakers in the Netherlands. The Mere Down-Wexford-Bogensegaard sun contact (CF 1) permits a tentative equation of the early British Bell Beakers with NMN IV. Piggott (1954) places the arrival of the Bell Beakers in Britain in the middle of the Late Neolithic.

About this time, Ireland seems already to have been exporting gold bracelets to Schleswig-Holstein (CF 2, 3).
C. A later wave of Beaker migration from the Lower Rhine, bringing the prototypes of British B3 and C Beakers, 'barbed wire' ornamented Beakers, and other coarse varieties, seems likely to correspond chronologically with the Kaxe Grand Pressigny - Indo-Early Upper Grave phase (p. 29 ff.). J. F. Smith (1955, 94 ff.) has called attention to the barbed-wire and other Beakers from the Lyonsne coast, deposited before the transgression which Pigott (1954) had used to mark the boundary between the Middelhui and Lower Elbe. Miss Smith equates the Lyonsne transgression with the Boberg transgression on the Lower Elbe, which took place early in the Northern LN, and drowned Unetice imports as well as late and debased Single Grave and barbed-wire pottery. These inundations are presumably to be equated with the West Frisian II transgression of the Dutch coastal area, which begins c. 1500 B.C. on the basis of C 14 datings (Altena et al., 1962).

D. The Western European gold basket earring exportation and the related Oostereng ornament (Chap. XVIII) provide a chronological link between some British Beaker types, Veluwe Beakers in the Netherlands (CF 8), Northern Unetice (CF 2) and the Southeast Polish Barrow Grave Culture (CF 6). The Achlan Wold Beaker grave (CF 4) can be so far as NLX on the basis of its imported amber bead.

As far as the Continental context-fields go, it is difficult to draw any distinction between the period of the basket-earring exportation and the period of the Irish axe-halberd trade to the North (CF 9-14), which is contemporary with Hochmair's Horizon I. Within Britain, the Willey Wold find (see pp. 23, 35) tells the same story, as does Sangmeister's arguments for a 'reflux horizon' in Reineke A1.

Wessex I and the Armorican Early Bronze Age begin within the lifetime of the Northern Unetice phase, their typical daggers being provincial imitations of Unetice Oder-Elbe type (Sandars, 1950; ApSimon, 1954); the Killaha find extends this horizon to Ireland. Both Wessex I and Wessex II have Shaft Grave contacts, so the transition between them should fall within the sixteenth century. Wessex II has its contacts in Central Europe with Reineke A2, which is also sixteenth century on Hochmair's dating. The halberd-pendants and the gold-bound amber discs should place the end of Wessex I and of the Northern Unetice phase after 1400 if De Navarro (1951) is right about the Mediterranean origin of the discs; this would agree with the views of Stone and Thomas (1955) about the dating of the normal segmented faience bead importation to Britain.

An important context-find apparently dating from Wessex times is the tanged razor from Dromen in Drenthe, which we suggest is an export from Britain, an imitation of a British Class I razor (CF 19). The Plymtree flanged axe of North German type (CF 18) may be of the same period.
E. A terminus ante quem for the beginning of the Middle Bronze Age in Britain, Ireland and Northwest France is provided by the hoards of the Illsmoor horizon (Hachmann’s Horizon IV). The contact-finds provide direct links with the Nether­lands-Northwest Germany (CF 20-24); the Tumulus Bronze Age (CF 25; CF 26, Habshiem, is not a typical ‘Tumulus’ find, the Rhine-type axes being a surviving Early Bronze Age form), and the East German Middle Bronze Age (CF 23-4). The event-chronology of Hohke (1958b) would have required the Illsmoor horizon to be parallel with Tumulus B2; Hachmann has shown that it cannot be before B2, which is more credible. The British Middle Bronze Age would then begin c. 1450 with the Acton Park-Budey phase, overlapping somewhat the end of Wessex. In Ireland the Omagh mould-hoard (pp. 96-7) would be of this time.

F. A more developed Middle Bronze Age phase, represented by ‘Atlantic’ hoards like Mont St. Aignan and Baux-Sainte-Croix (see pp. 75 ff.) and numerous equivalent British hoards, is dated to the time corresponding to Broholm II by its exports in the Frøjk and Ostenfeld hoards (CF 27-8). The Lubinitz (CF 20) and Sporup­lund (CF 30) finds also belong to this time, though the Sporuplund spearhead seems archaic here.

G. Next comes our Taunton-Barton Bendish phase (pp. 219 ff.), with palstaves and spearheads in the native tradition and a variety of novelties—Central European, Northern, and locally devised—representing the culmination of our Middle Bronze Age industries and the beginning of certain phenomena traditionally associated with the Late Bronze Age. Its Northern connections appear to be of late Montelius III and early IV. During this phase the first British swords ought to be appearing—the importations from Central Europe, and the Ballintober swords. To this phase we assign CF 31-40. The Glentrool and Bishopsland hoards provide a link with the industries of the Highland zone and Ireland.

H. The Wilburton industry is the standard Late Bronze Age industry of Britain, beginning earlier than, but persisting alongside, the carps-tongue industry. Its Continental contacts are closely with a developed phase of Montelius IV. Barger­onterveld (CF 42) and Læskeå (CF 44) display its exports in that period; the Hiver sword (CF 45) represents the transition between this and the next phase. The Barger­onterveld and Barsebo–Bolmen (CF 43) hoards provide a link between the Wilburton industry and the early (still Montelius IV) phase of Sprækhoff’s Røn­Frøjk, best represented by the hoard from Reischach (Martin, Misser IV, 239 ff.; Sprækhoff, 1935, 214 ff.). The Røn­Frøjk hoard is an important one, containing Northern and Northwest German products, a Hallstatt A winged axe, an Urnfield pot of Central European origin, and a range of the type which occurs in
I. The carps-tongue industry, which traditionally defined Late Bronze Age 2 in South England, derives its starting-date from Central Europe; its winged axes, bracelets, etc. are of the types current in the Rhenish hoards of late Hallstatt B. Since carps-tongue exports (carps-tongue swords, southeastern socketed axes with ribbed wing decoration; see pp. 227 ff.) also occur in late Hallstatt B hoards, there is an effective cross-dating, even if the carps-tongue phase goes on to overlap with Hallstatt C (Horox and Smith, 1957, with detailed datings). In Northern Europe, products of the carps-tongue industry appear in Montelius V contexts (e.g., p. 245). Other British products of the time, like socketed axes and knives and a late Ewart sword, have also been found in Montelius V contexts (p. 251). The Montelius V sword is probably an imitation. Montelius V products also occur in the Parry-march hoard (p. 58) and in French carps-tongue hoards (Chap. XIII). A probably very old Northern tanged sword of Montelius IV type was found in a Scottish hoard at Drudian (p. 73).

On the basis of the Muller-Karpe chronology and the Northern correlations based on it, our Taunton-Barton Bendish phase, or at least the purely native elements in it, would run from about the middle of the twelfth century, the Continental novelties and their British imitations probably being mostly eleventh century (as against Mrs. Piggott’s eighth century for Blackrock), the Wilburton industry would begin in the tenth century (subject to adjustment when we know more of the relations of Muller-Karpe’s BI to its neighbors), and the carps-tongue industry from early in the eighth century.

Lastly, we have evidence of Montelius VI incomings in the form of late sunflower-swans neck pins (p. 150; p. 54, to which should be added the Orrock and Tarves finds). These could be late seventh or sixth century.

Here we have been endeavouring to give dates to the Bronze Age metal industries in the first instance; the dating of cultures is to some extent a separate problem. The Beaker cultures can be fairly closely dated on the basis of their Continental links with the Funnel-beaker and Single Grave sequences; the insular Food Vessel cultures begin according to Piggott (1954) in late Neolithic; the Wessex Culture is closely dated by its extensive trade contacts. The British Cinerary Urn cultures have links in their early phase with the Wessex Culture, with Isobel Smith (1958, 16), we have suggested that a wider variety of British and Irish cinerary Urn types must have been current in Late Wessex and Middle Bronze Age.
Notes to the chronological table

times than had formerly been supposed. It is clear that some things traditionally linked with the Deverel-Rimbury culture and assigned to LB 2 must really be older. The types of objects derived from the primary silting of the ditches of the Wessex Deverel-Rimbury settlements – Class I razors, ribbed bracelets, a palstave – are types appropriate to our Taunton-Barton Bendish phase; the Ebbesbourne Wake hoard (p. 144) was buried in the lynchet of a Celtic Field-system; the Plaitford hoard (p. 141) may have been associated with Deverel-Rimbury globular urns. These suggest the possibility that the Deverel-Rimbury culture may have its origins about the time suggested by Hawkes in 1942, rather than at the later time subsequently favoured. No specific name has yet been suggested for the pre-Deverel Rimbury urn culture or cultures which represent the British source of the Hilversum Urn culture of the Netherlands. Finds such as Ramsgate (Chap. XIV), where ribbed bracelets were found in an inhumation grave, and Peardy Pen in a storage pit with a pot analogous to the Dutch Drakenstein Urns, and Birlington, Kent, where a palstave hoard was found in a pot ornamented with rings analogous to one in the Netherlands (p. 211), will have to be taken into account in evaluating the complicated cultural pattern at the time of the Taunton-Barton Bendish industry. The find from Hainley Cross, Sussex (pp. 197–8) also shows that inhumation burial was not entirely out of vogue in this phase.

II. LIST OF CONTACT FINDS, BRITISH ISLES – NORTHERN EUROPE

This list includes grave groups and hoards in the British Isles containing datable Northern exports; grave groups and hoards in Northern Europe containing British and Irish exports; and a few contact-finds from other areas which help fill gaps in the record. Unless otherwise noted, the trade-objects are actual imports or very close imitations which are indistinguishable, or nearly so, from actual imports. Finds of questionable value for cross-dating have as a rule been omitted.

Abbreviations:
G grave; H hoard; HH Hachmann Horizon; NMN Northern Middle Neolithic; NLN Northern Late Neolithic; M Munsell; TBB Taunton-Barton Bendish.

1. Bogllaesgaard. G. Clay 'pot lid' with pattern closely imitating Irish gold sun disc of Wexford type. From megalithic tomb; typologically datable not later than NMN IV. PI. XVIII. Pp. 171–3

2. Honnecourt. G. Gold palstave type and Irish pin; in Funeral-urner the grave, 16th century. NMN. P. 175 ff.
14. Wagenroof. H. Irish flat axe, halfhead Type 4, other bronzes. HH I. Fig. 1. Pp. 17 ff., 45-50, 1.
17. Tonsela. H. Bronze basket earrings related to Courland-Migdale type; Ax bronzes. HH II. P. 206.
18. Phytho. H. Flanged axe of North German type (probably copy); Woman I bronze. Pp. 44, 43a.
19. Demons. G. Class 1 razor, British or imitation thereof; Sigel amulets. HH I. Fig. 53. Pp. 115 ff.
20. Zinens. H. Shield palstaves, NW European stopridge axes, Northern bronze battleaxes, Northeast German palstaves. HH IV. P. Ve. Pp. 21, Chap. III.
22. Voorhout. H. Shield palstaves, plain palstaves, NW European stopridge axe, a typical flanged axe cf. Acton Park, lagged chisel. HH IV. Fig. 12. Chap. III.
25. Hausberg. H. Shield palstaves, Tumulus dagger, flanged axe. HH IV. PI. Vb; Chap. III.
26. Helston. H. Shield palstaves, Rhein-type flanged axes. HH IV. Chap. III.
27. Fröh. H. Atlantic palstaves, Broholm II bronzes. PI. VIIb; Fig. 16: 1-3. Chap. III.
28. Gremy. H. Atlantic palstaves, Kersten HA bronzes. Fig. 16: 6-7; Chap. III.
30. Speyerhof. G. ‘Dagger-bladed’ spearhead of Wessex II or Irish (Omanh) type. Broholm II sword, chap. Fig. 27; pp. 96-8.
32. Gleen. H. Glenoidal pin, retinal neckring, amber beads, British-Irish rapier, spearhead, palstaves, etc. TBB. P. 145, no. 29.
33. Rockholt. H. Bronze dagger-hilt of Northern type, decorated spiral finger-ring of North German type, Sussex Loops, native palstaves, etc. TBB. P. 223, no. 22.
34. Petros. H. Bronze dagger-hilt of Northern type, decorated spiral finger-ring of North German type, Sussex Loops, native palstaves, etc. TBB. P. 223, no. 22.
35. Flölsdorh. G. Ferrules with pointed end of Central German III type; developed Ha A Urfeld knife; spearhead. Pp. 133, 224.
36. Els. H. Palstaves of Curwen’s Type C; Northwest German Nierell-M; developed Ha A Urfeld knife. Fig. 18; p. 73, no. 18.
37. Barrold-Bial. H. Palstaves of Curwen’s Type C; Knife with ‘double’ T handles, M IV. P. 75-75, no. 18.
List of contact finds, British Isles – Northern Europe

51. Konungeslags. Ferrule resembling British type; M V bronzes. P. 137.
53. Deolej. Northern tanged sword, casliorsn, socketed axes, etc. Fig. 34; pp. 119–21.
56. Osnebygden. Fragment of uncompleted ribbed bracelet of Ranmagn type, ram of Pantalica (Sicily) Type A; Phlengesant sword, other bronzes and stone tools. TBB-Pantalica I. P. 137.
BIBLIOGRAPHY

(For abbreviations, see pp. 263 ff.)

Abercromby, J., 1912. A study of Bronze Age Pottery in Great Britain and Ireland, 2 vol.
Almqvist, Nils, 1930. Bronzefunde und Freilichtarcheologische Chronologie, 3 vol.
Lund.
Bibliography


Becker, C. J., 1954b. ‘‘ A Segmented Faience Bead from Jutland; with Notes on Amber beads from Bronze Age Denmark ‘’. Acta Arch. XXV, 74 ff.


Behrens, G., 1916. ‘Bronzezeit in westdeutschland. ‘

Beltz, R., 1910. ‘Vorgeschichtliche Altertiissler Mecklenburg-Schwerins. ‘


Bohm, Jaroslav, 1936. ‘Spätbronzezeitliche Scheibenlöffeln aus Böhmen ‘. Gmwnia, XX, 9 ff.

Bohm, Waltraut, 1935. ‘Die ältere Bronzezeit in der niederösterreichischen Vor- und Frühgeschichte ‘.

Breoli Greppe, P., 1933. ‘Relationes geologicas entre l'Irlanda et l'Ouest de la peninsule Ibérique ‘. Preludios II, 153 ff.

Brey, Willhelm, 1954. ‘Uitdeel Onderzoek naar de Opgemerkte de Kolommen van molen en molen Midden-klaviers. ‘

Bremer, Therese, 1937. ‘Die Stellung Irlands in der europäischen Vor- und Frühgeschichte. ‘

Brewis, P., 1953. ‘The Bronze Age in Great Britain. ‘

Briard, J., 1956. ‘Le Depot de Fondeur de Treboul en Douarnenez (Finistère). ‘

Briard, J., 1958. ‘Le depot de Penavern en Rosnoën (Finistère). ‘

Briard, J., 1961. ‘Depots de l'age du bronze ‘.


British Museum, 1950. Roman gold (Cinal BM RAG).

Broholm, H. C., 1933. ‘Studier over den yngre Bronzetalder i Danmark. ‘


Broholm, H. C., 1938. ‘Nye Fund fra den ældste bronzealder. ‘


Broholm, H. C., 1948. ‘The ‘Idalskov Find. ‘

Broholm, H. C., 1953. ‘Broholm’s Oldtid. ‘

Brown, M. A., and Blin-Stoyle, A. E., 1959. ‘A Sample Analysis of British Middle and Late Bronze Age Material, using Optical Spectrometry. ‘

Von Brunn, W. A., 1949. ‘Vor Frühbronzezeitliche Untersuchungen aus Sachsen und Thüringen. ‘


Bi  bl iography


Bibliography


Childe, V. G., 1943. 'A Bronze-Worker's Aerial and other Tools recently acquired by the Manchester Museum; with a note on another Scottish Aerial'. PSAS, XXXII, 4 ff.


Clark, J. G. D., 1936. 'A Bronze Age Site in Mildenhall Fen, West Suffolk'. Antiquity, XVI, 29 ff.

Clark, J. G. D., 1940. 'A Find of the Late Bronze Age near Stuntney, Isle of Ely'. Antiquity, XX, 52 ff.


Coffey, George, 1909. 'The Distribution of Gold Lunulae in Ireland and Northwestern Europe'. PRIA, XVI, 251 ff.

Coffey, George, 1911. 'Further Notes on the Development of the Sporran'. JRSAL, XLII, 24 f.

Coffey, George, 1912. 'The Bronze Age in Ireland'. Dublin.

Coffey, George, 1913. 'Recent Prehistoric Finds Acquired by the Academy'. PBA, XXX, C, 1 ff.
Bibliography

249


Coghlan, H. H., and Case, Humphrey, 1952. 'Early Metallurgy of Copper in Ireland and Britain'. PPS, XXIII, 14 ff.


Coles, J. M., 1933. 'Scottish Bronze Age Settlements'. PPS, XII, 1 ff.


Coles, J. M., 1948. 'European Bronze Age Shields'. PPS, XVIII, 238 ff.

Correll, L., 'L'Age du Bronze en Nawroad'.

Couren, D. J., 1953. 'Two Bronze Swords from Ewart Park'. Arch. Aran. 4th S., X, 13 ff.

Couren, J. D., 1948. 'A note on the relative chronology of the Late Bronze Age in Britain and the Mountain System in Northern Europe'. PPS XIV, 213-4.

Couren, J. D., 1937. 'The Earliest Bronze Swords in Britain and their Origins in the Continent of Europe'. PPS, XVII, 193-5.


Crawford, O. G. S., 1912. 'The Distribution of Early Bronze Age Settlements in Britain'. Geographical Journal 1912, 184 ff.


Crichton-I Mitchell, Margaret E., 1933-4. 'A New Analysis of the Early Bronze Age Beaker Pottery of Scotland'. PGAS, LVIII, 172 ff.


Curwen, E. C., 1934. 'A Late Bronze Age Farm and a Neolithic Pit Dwelling on New Barn Down, Clapham, Nr. Woking'. SAC, LXXV, 137 ff.


Bibliography


Dunlop, Margaret, 1938. L’Age du Bronze en France. L’Archéologue XLVIII, 472 ff.


Evans, E. E., 1931. "The Late Bronze Age in Western Europe." Man, 1931, 229 ff.


Fox, Sir Cyril, 1943. 'A Bronze Age Barrow (Sutton 268) in Llandow Parish, Glamorganshire', Arch. LXIX, 89 ff.


Fisher, S. J., and Hooper, W., 1944. Late Bronze Age Cult from Beckswood', Survey Arch. Col. XLIX, 126.


Ghislandino, E., 1932. 'La Tomba eneolitica di Villafraanca Veronese', BPI, LI, 9 ff.


Giot, P. R., 1949. 'Deux depots de Bronze Finisteriens (Rosnoen et Treboul)'. Bulletin de la Société archéologique du Finistère, LXXV.

Glassbergen, W., 1956a. 'The Late Neolithic Gold Ornament from Bennekom. I. The Discovery'. Palaeohistoria V, 53 ff.

Glassbergen, W., 1956b. 'De Dolk van Bargerveen'. NDV, LXXIV, 191 ff.

Glassbergen, W., and Butler, J., 1961. 'An Irish halberd from Roermond (Dutch Limburg)'. Helinium I, 55 ff.

Glob, P. V., 1944. 'Studier over den jyske Enkeltgrav skulptur'. Amboger, 1944.

Glob, P. V., 1952. Danske Oldsager II.


Gogan, L. S. 'The Ballochmyle Gold Grille or Gorgone (medallion effigy)'. ULIA Library.

Bibliography


Greenwell, William, 1892. "Recent Researches in Yorkshire, Wiltshire, Berkshire, etc.", Arch. LIV, 5 ff.


Bibliography

Hencken, H., 1942. 'The Bronze Age and the Beaker Age'. JRAS, LXVI, 11 ff.
Hencken, H., 1952. 'The Second Banff Crannog No. 2'. PR IA, XLVII, C, 1 ff.
Hencken, H., 1951. 'Palaeobotany and the Bronze Age'. JRSAI, LXXXI, 53 ff.
Henderson, Vol., 1937/8. 'Scottish Late Bronze Age Axes and Swords'. PSAS, LXXII, 150 ff.
Hoffman, H., 1936. 'Die allsgehellde Bronzezeit in Holstein'. Festselmft Kiel, 93 ff.
Holste, F., 1938. 'HUgelgraber von Lochham, B.A. lVIClI 1chen'. Niemblrger StIIdiel/, 95 ff.
Holste, F., 1940. 'Frischenmendelische Schulen aus Stiftungsmaterial'. Grossem, XVI, 4 ff.
Holste, F., 1942. 'Ein westeuropaisches Vollgrif fschwert aus SUdd eutschland'. Germania, XXVI, 4 ff.
Holwerda, J. H., 1908. 'Bronzdepotvondst bij Voorhou t'. Olldh. NIed.
Holwerda, J. H., 1925. Nederlands vl oegste geselliedel/.is. 2nd Ed. Amsterdam.


Jessen, K., 1950. 'Ein Kulturzeithorizont bei Halle/Saale während der frühen Bronzezeit'. JMDV, XCV, 81 ff.

Jesper, E. 1950. 'A Late Bronze Age Shield Mould of Wood from County Antrim'. UJA, XIII, 62 ff.


Bibliography

Kiekebusch, I., 1959. 'Neue Bronzeschwert-Funde aus dem Rheinland'. Boissier Jahrblleh CLXV, 1 ff.


Kimmig, Wolfgang, 1940. 'Zur Frage der frühen Mangelschwerter von Archeologischen Funden'. Deutsches Archiv XXX, 1 ff.


Kleemann, O., 1953. 'Feststellungen über eine äußere Nähe der Römer'. Generalia XXXI, 135 ff.


Kossack, Georg, 1954. 'Studien über die Urgeschichte der älteren Hallstattzeit in Mitteleuropa'. Romisch-Germanische Forschungen XX.


Bibliography

Leeds, E. Thw’low, 1930. ‘A Bronze Cauldron From the River Cherwell, Oxfordshire, with notes on similar and other bronze bowls of allied types’. Arch. LXXX, 1 ff.

Leyden, Alexander, 1957. ‘Zum Frühesten Auftreten der Jastorf-Kultur im nordischen Raum’ in Arch. LXXX, 1 ff.


Macalister, R. A. S., 1921. The Archaeology of Ireland.


Mendes, Henri-Etienne, 1953. ‘Versuch einer Gliederung der Aunjetitzer Kultur in Mitteldeutschland’. JMDV, XXXVII, 1 ff.


Mertins, O., 1895. 'Depotfunde der Bronzezeit in Schlesien'. Schlesiens Vorzeit, VI (1895), 341 ff.

Mertins, O., 1906. 'Fegweiser durch die Urgeschichte Schlesiens'.


Millet, J., 1955b. 'Late Beaker-Ware decorated with Impressions made by a Thread-Wound stamp'. Bel. ROB, VI, 32 ff.

Millet, J., 1956a. 'The Investigation of some Barrows in the Provinces of Brabant and Utrecht'. Bel. ROB, VI, 44 ff.

Millet, J., 1956b. 'Bronze and Iron Age Habitations in the Margrinen'.

Millet, J., 1957. 'Bronze and Iron Age Habitations in the Margrinen'.

Millet, J., 1958. 'Chronology of the British Bronze Age'. Bel. ROB, XII, 17 ff.


Bibliographie


Müller-Karpe, Hermann, 1959. "Beiträge zur Chronologie der Umfelderkultur östlich und südlich der Alpen".


Nowotny, W., 1953. "Die aurischnischen Gräber von Kugel, Borneo und Borneo".


Bibliography

Piggott, C. M., 1949. 'A Late Bronze Age Burial in Sussex and Wurston'. PPS, XVI, 153 ff.
Piggott, Stuart, 1957. 'The Early Bronze Age in Sussex'. PPS, XV, 30 ff.
Piggott, Stuart, 1959. 'The Early Bronze Age in Sussex'. PPS, XV, 30 ff.
Piggott, Stuart, 1957. 'A Late Bronze Age Burial from Peeblesshire'. PSAS, LXIII, CVII, 175 ff.
Piggott, Stuart, 1955. 'Windsor: East or West?'. PPS, 1955, 96 ff.
Piggott, Stuart, 1958. 'Segmented Bone Beads and Toggles in the British Early and Middle Bronze Age'. PPS, XXIV, 227ff.
Pitman, H. G., 1903. On a Roman Limestone from the Chilterns. J. Arch. CY, 47 ff.
Raftery, J., 1941. 'On a Bronze Halberd from Co. Mayo and a Bronze Spadehead from Co. Westmeath'. PPS, XLVI, 3, 299 ff.
Raftery, J., 1951. Finds from Three Late Bronze Age Barrows at Peelambere'. papers, 200 ff.
Raftery, J., 1951. 'Finds from Three Late Bronze Age Barrows at Peelambere'. J/Me/R, 200 ff.
Rothmann, C., 1936. 'Steinzeitliche Grabkammer und daruberliegendes Skelettgrab der Bronzezeit im westlichen Norddeutschland'. Forschung Guenni GmbH.
Rothmann, C., 1936. 'Steinzeitliche Grabkammer und daruberliegendes Skelettgrab der Bronzezeit im westlichen Norddeutschland'. Forschung Guenni GmbH.
Sprockhoff, E., 1932b. 'Dr ei bemerkenswerte Bronzen aus Niedersachsen'. JbUr, XXIX, 46 ff.
Sprockhoff, E., 1934a. 'Uber die Befestigung vorgeschichtlicher Lanzenspitzen'. Marburga Studien, 205 ff.
Sprockhoff, E., 1937. Die Gerll/anischen Vollgriffschwerter. Romisch-Germanische Forschungen, IX.
Sprockhoff, E., 1938b. 'Methodisches'. Festschrift Mainz II, 86 ff.
Sprockhoff, E., 1936. 'Die älteren bronzezeitlichen Hortfundde der Südoberdeutschen Zone des nordischen Kretes'. Arch BRGK, XXXI, Part II, 1 ff.
Sprockhoff, E., 1938. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, XVI, 4 ff.
Sprockhoff, E., 1938b. 'Die späteren bronzezeitlichen Hortfunde Norddeutschlands. Periode IV'. Kataloge des Romisch-Germanischen Zentral-Museum Mainz, Nr. XII.
Sprockhoff, E., 1939. 'Zur älteren Bronzezeit von Holstein'. Offa, XV, 2 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
Sprockhoff, E., 1939. 'Zum bronzezeitlichen Formenkreis am Altmühlberg'. NNU, VII, 4 ff.
262

Bibliography

Tackenberg, Kurt, 1951. 'Zum Ems-Weser Kreis der Bronzezeit und seinem Runen­
werk'. Festschrift Gustav Schröntz, 142 ff.

Thomas, Nicholas, 1954. 'Notes on Some Early Bronze Age Grave Groups in Devizes lntu­
seum'. Wilts. AN HJ, LV, 311 ff.

Thrane, H., 1958. 'The rattle pendants from the Parc-y-meirch hoard, Wales'. PPS XXIV, 221 ff.

Uenze, Otto, 1938. 'Die frühbronzezeitlichen Dreiecksdolche. Vorgeschichtliche For­
schungen', XI.

Uenze, Otto, 1938. 'Die frühbronzezeitlichen Dreiecksdolche. Vorgeschichtliche For­
schungen', XI.


Van der Waals, J. D., and Glasbergen, W., 1955. 'The ICoven types and their distribution in the
Netherlands : intrusive types, mutual inAuences and local evolutions.'. Paleohis­
toria, IV, 5 ff.

Vogt, E., 1938. 'Die frühbronzezeitlichen Dreiecksdolche. Vorgeschichtliche For­
schungen', XI.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Vogt, E., 1948. 'Die Gliederung der schweizerischen Frühbronzezeit'. Festschrift fiir Otto Tschumi,
53 ff.

Watterson, W., 1929. 'Staffhalls : Barrow in Hampshire'. No. 8.

Weigelt, Brors Magnus, 1930/1. 'Fredshogsfundet : Ett Skanskt depotfynd fran bronsalder s
fjärde period'. IIIleldelanden I V, 34 ff.

Zettler, Charlotte, 1941. 'E ine fruhbronzezeitliche Dolchspitze aus Suderburg'. NNU, XV, 126 ff.
ABBREVIATIONS

Am'b., Amst.Engl.:
Aarboger for nordisk Oldkyndighed og Historie. Copenhagen.

AIH.
Koren, John. AIH. Ancient Boreal Implements.

AIK.
Aarboger for nordisk Oldkyndighed og Historie. Copenhagen.


AJA.


Arch.
Archaeologia. London.

Archl.
Archaeologia Aeliana. Newcastle-on-Tyne.

Arch. Camb.
Archaeologia Cambrensis. Cardiff.

Arch. J.

BROB.
Berichten van de Rijksdienst voor het Oudheidkundig Bestuursonderzoek. Amsterdan.

B.M. Bag.

B.M. L.P.
British Museum. 1958. Late Prehistoric Antiquities of the British Isles.

BPY.

Chron.

DB.

DBA.
...
Abbreviations

DA

ESA
EA
Eurasia Septentrionalis Antiqua-Helvieti.

FNMA
Fra National museums Arbejdsmarke. Copenhagen

INhVA
Inventaria Archeologica.

JPE
Jahrbuch fur Praehistorische und Ethnographische Kunst. Cologne

JCHAS
Journal of the Cork Historical and Archaeological Society.

JGAHS

JMDV

JRSAI

JSGU
Jahresbericht der Schweizerischen Gesellschaft fur Urgeschichte.

JVSTL
Jahreschrift fur die Vorgeschichte der Sudost-Thuringischen Lande. Halle/Saale.

ML

NRA
Nationalmuseet. Copenhagen.

NDV
Nieuwe Drentse Volksalmanak.

OJ.B.
Oudhedsrechtelijke Mededelingen uit 's Rijksmuseum van Oudheden te Leiden.

PPC

PPS

PPREA

PRIA

Proceedings of the Cambridge Antiquarian Society.
Abbreviations

PSAS

PZ

Real.
Ebert, VI., ed. Reallexikon der Vorgeschichte. 5 vol. Berlin.

BG16M (Festschrift, Jahrbuch, etc.)
Reichsmuseum für Vorgeschichte zu Münster.

SAC
Saxon Archaeological Collections.

Surrey Archaeological Collections.

SICM
Società Italiana di Cultura Etnologica.

SAG
Surrey Archaeological Collections.

ULJ
University of London Institute of Archaeology.

VM
Varia Archaeologica. Vienna.

WAM
Wiltshire Archaeological Magazine. Devizes.

WJAC
Zeitschrift für ueraltere Archäologie und Kunst-Geschichte.
Map I. Hoards of Irish Type IV in Northern Europe (Chapter I; listed p. 24).
- hoard; • stray find; ◗ find-spot approximate.

Map II. Irish flat and low-flanged axes in Northern Europe (Chapter II; listed p. 45).
- flat axe; • low-flanged axe; ◗ hoard.
Map III. ‘Shield’ palstaves of the Funnel belt area in Northern Europe  (Chapter III, listed pp. 71 under Type I, cols. 1, nos. 1-2).

Map IV. Western palstaves of Period II (Bronze Age) in Northern Europe  (Chapter III, listed pp. 71-72, cols. 2, nos. 22, 24, 26, 27, 30, 31, 33-5, 38, 40-2, 44, 47, 48, 51, 53).

Map III. ‘Shield’ palstaves of the Funnel belt area in Northern Europe  (Chapter III, listed pp. 71 under Type I, cols. 1, nos. 1-2).

Map IV. Western palstaves of Period II (Bronze Age) in Northern Europe  (Chapter III, listed pp. 71-72, cols. 2, nos. 22, 24, 26, 27, 30, 31, 33-5, 38, 40-2, 44, 47, 48, 51, 53).
Map V. Socketed axes of Taunton-Hademarschen type. (Chapter IV, listed pp. 79-81).

Map VI. Socketed axes of 'Southeastern' type in Northern Europe. (Chapter IV, listed p. 81).
Map VII. Looped spearheads in Northern Europe. (Chapter V; listed p. 109-110).

Map VIII. Rapiers of British-Irish forms in Northern Europe (Chapter VI; listed pp. 114-5).

Possible exports.  © hybrid.
Map IX. Western Class I razors in Northern Europe. (Chapter VI; see pp. 114–5)
- grave find; • stray)

Map X. Western flange-hilted swords in Northern Europe. (Chapter VII; listed p. 142).
- Late Ewart type; + cape tongue; O hoard.
Map XI. Bronze twisted bar neck-rings in the British Isles (Chapter XI, listed p. 141-3).

Map XII. Pins of Glentrae type (Chapter XII, listed p. 148).
Map XIII. Jangles of North European type. (Chapter XIII; listed p. 134)

Form I; Form II.

Map XIV. Lunulae of gold ('edge-grooved' type only) and copper or bronze lunulae in Northern Europe. (Chapter XVI; listed pp. 185-6)

- gold edge-grooved;
- copper or bronze;
- find-spot approximate.

Map XV. Basket-shaped enclosures of Western type in Northern Europe.
(Chapter XVII, listed p. 190).

Map XVI. Certain early sun discs of copper, gold or baked clay. Location map.
(Chapter XVI).

---

<table>
<thead>
<tr>
<th>Abbreviations for countries:</th>
<th>DK</th>
<th>Denmark</th>
<th>NL</th>
<th>the Netherlands</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>Belgium</td>
<td>F England</td>
<td>Pol</td>
<td>Poland</td>
</tr>
<tr>
<td>CH</td>
<td>Switzerland</td>
<td>F France</td>
<td>S Sweden</td>
<td></td>
</tr>
<tr>
<td>D</td>
<td>Germany</td>
<td>F Ireland</td>
<td>S Northern Ireland</td>
<td></td>
</tr>
</tbody>
</table>

### INDEX OF FIND-SPOTS CITED IN TEXT

#### A

<table>
<thead>
<tr>
<th>Find-Spot</th>
<th>Location</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aabdam Alme, Tim, Ringkøbing A., DK.</td>
<td>55, 57, 63, 65, 72, 73, 218; fig. 16 (p. 64)</td>
<td></td>
</tr>
<tr>
<td>Aalind, gen. Zweeloo, Drenthe, NL.</td>
<td>165</td>
<td></td>
</tr>
<tr>
<td>Aasbiittel, Kr. Rendsburg, Schleswig-Holstein, D.</td>
<td>98, 100, 102, 109, 215, 216</td>
<td></td>
</tr>
<tr>
<td>Aberg, V. Fawkes, Bristol, D.</td>
<td>132, 236</td>
<td></td>
</tr>
<tr>
<td>Abergyle, Strathaisle, Highland, D.</td>
<td>229</td>
<td></td>
</tr>
<tr>
<td>Adalbert, Ringkøbing A., DK.</td>
<td>131, 132, 227, 228, PI. XVIa</td>
<td></td>
</tr>
<tr>
<td>Achlam Twold, Yorkshire, Engl.</td>
<td>160, 161, 206, 238, 242</td>
<td></td>
</tr>
<tr>
<td>Actoll Parl?, Denbigh, Wales.</td>
<td>51, 61, 62, 212, 214, 242</td>
<td></td>
</tr>
<tr>
<td>Adabroch, Lewis, Hebrides, Scotl.</td>
<td>88, 229</td>
<td></td>
</tr>
<tr>
<td>Aedelvold, Kr. Lüneburg, Lower Saxony, D.</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Ajeil, gen. Bergen, Limburg, NL.</td>
<td>PI. VII: 4</td>
<td></td>
</tr>
<tr>
<td>Albersdorf, Kr. Süderdistmarschen, Schleswig-Holstein, D.</td>
<td>65, 71, 124, 126, 206</td>
<td></td>
</tr>
<tr>
<td>Alberslund, Norfolk, Engl.</td>
<td>139</td>
<td></td>
</tr>
<tr>
<td>Alborg, Kr. Denmarkmarsk, D.</td>
<td>94; fig. 19</td>
<td></td>
</tr>
<tr>
<td>Alfeld, D.</td>
<td>18, 96</td>
<td></td>
</tr>
<tr>
<td>Allovington, par. Stones, Poland (formerly Ko-Schlesien)</td>
<td>132, 134</td>
<td></td>
</tr>
<tr>
<td>Alnwick, Kr. Amiens, Ypres, D.</td>
<td>69; fig. 70</td>
<td></td>
</tr>
<tr>
<td>Alnwick, Wilt.</td>
<td>20, 24</td>
<td></td>
</tr>
<tr>
<td>Alnwick, North Ferriby, Jux. D.</td>
<td>116, 96; 30 (p. 110)</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Barn. Scotl.</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Leicesters, Ire.</td>
<td>129</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Antrim, Ire.</td>
<td>55, 141, 143, 229</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Yorks.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Down, Scotl.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Derry, Scotl.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Tipperary, Ire.</td>
<td>45, 112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wexford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Wicklow, Ire.</td>
<td>112</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Waterford, Ire.</td>
<td>75, 79</td>
<td></td>
</tr>
<tr>
<td>Alvechurch, Co. Westmeath, Ire.</td>
<td>77, 79</td>
<td></td>
</tr>
</tbody>
</table>

---

**B**

<table>
<thead>
<tr>
<th>Find-Spot</th>
<th>Location</th>
<th>Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Babbin, pow. Pyrzyce, Pol. (formerly Kr. Pyritz, Pommern, D.)</td>
<td>45, 60, 61, 234, 243</td>
<td></td>
</tr>
<tr>
<td>Bacharach, Rheinland-Pfalz, D.</td>
<td>20, 43, 119</td>
<td></td>
</tr>
</tbody>
</table>
Index

G

Gallia (now Gallia), Bremen, D. 226, 227, 228
Gallia (now Gallia), near Bremen, D. 226, 227, 228
Gallekose, Randers A., DK. 31, 33, 46, 127
Gardereil, gem. Barneveld, Gelderland, NL. 165
Garsillott, Oxon, England. 188
Gartoll Sach, East Riding, Yorkshire, England. 161
Gau Biche, Kr. Oppenheim, Rheinland-Pfalz, D. 200
Gellert, North Brabant, NL. 43, 47, fig. 6 (p. 38)
Geltv. Gentbrugge, East Flanders, B. 119
Geroldshausen, Kr. Würzburg, Bavaria, D. 113, fig. 33 (p. 116)
Gessie, Scania, S. 25
Ghent, Flanders, B. 18, 37, 47, 202
Giessell, Kr. G., Hessen, D. 71
Gießen, Drenthe, NL. fig. 8 (p. 42)
Glastonbury, Somerset, England. 167
Glelloll, Kr. Demmin, Pomerania, D. 137
Gllllty Fen, Cambs., England. 57, 134, 146, 215
Glossfield, Montgomeryshire, Wales. 106, 134
Gii/zow, (now Golczewo) pow. Kamien, Poland; formerly Kr. Kamień, D. 80, fig. 19 (p. 76)
Gii/zow, pow. Chojnice, Bory Tucholskie, Poland; formerly Kr. Krasnystaw, D. 83, 244
Gochers, Cornwall, England. 77

H

Habasesti, Romania. 168, fig. 38 (p. 169)
Habloten, Almere, F. 153, 154, 212, 243
Habschach, Kr. Breisgau, Schleswig-Holstein, D. 25, 26, 27, 27, 27
Hagenow Forest, Almere, F. 243, 247
Hagens v. Gollgen
Haidenheim, Kunhau, Hungary. 112
Haidensteig, Br. Magdeburg, D. 33, 34
Hahn-Kiepen, Kr. Halle, Saxony. 239
Hahn, Twiskeburger Wald, Westfalen, D. 33, 34, 35, 36
Hammelburg, S. 183
Hannover, N. 165
Hansensland, gen. Haren, Groningen, NL. 165
Harley Sta., Cornwall, England. 175, 176, 179, 180, 181, 182
Hee, Vlaanderen, Flanders, B. 231
Hendriks, J., Marrons, E., Den Haag, 141, 222
Hendriks, H., Marrons, E., Den Haag, 241
Henriette, G. 81
Hennes, H., Geesthacht, Kr. Breisgau, Schleswig-Holstein, D. 30
Herrero, D. 231
Hertl, H., Marrons, E., Den Haag, 141, 222
Hertel, H., Marrons, E., Den Haag, 241
Hesbert, Kr. Warendorf, Westfalen, D. 132, 137
Hetzendorf, Kr. Hof, Lower Austria, Austria. 166
Hildebrand, F., North Frisia, D. 156
Hillegersberg, gen. Berg, Gelderland, NL. PI. IV, 4, fig. 8 (p. 25)
b. Decorated axe from Dieskau Hoard II, Saalkreis, Saxony. After Förstich.
c. The Irish-type halberd from Dohna Hoard II. After Förstich.
Decorated axes from Ulstrup, Jutland. Photos Fællesmuseet, Aarhus (Cf. fig. 4).
a. Hoard from Neudahlen (Saale).
b. Hoard from Hauberg, Kr. Minden, Westphalia.
c. Hoard from Ilsmoor, Kr. Stade (lower Elbe area) after Spengel, 1941 (Fig. 16).
PL. VI

a. Hoard from Reichen, Mecklenburg. After Sprockhoff.

b. Palstaves from (left) Tim and (centre) unknown Danish find-spot; (right) the Frøjk hoard, NW Jutland. After Bockelie.
PL. VII

a. Hoard from Epe, Gelderland. — Fig. 17. Photo RMO Leiden.

a. Portraits found from Parnale, S.E. Jutland. Photo: Max. Haderslev.

b. Alleged hoard from Scowarz (Schönwarling) near Danzig. After Stenman.
1. From the Taunton (Union Workhouse) hoard, Somerset, England. After Pring.

From the Vehmaa hoard. After Forssander.
Socketed axes and a bronze mould from the Netherlands. Upper and centre rows: "South-eastern" socketed axes from 1, near Helmond, Brabant; 2, 3, Kam coll., Nijmegen; 4, 5 Heppenrett, Mersch, Luxembourg. Flashed axe shown (no. 4) from the Mark at Nijmegen. Bronze mould (bottom row, left and right) Havelte, Drenthe. Museums: RIVO Leiden and Assen. Photos CFD Groningen and RIVO Leiden.
a. Razor from grave at Nibe, NE Jylland. Photo courtesy Dr. B. Sylvester. (= Fig. 33: 2).

b. Hoard from LøvskaI, Amt Viborg, Jylland. Viborg Museum. Author’s photo.

a. The burnt and distorted fragment of a looped spearhead from an Urfeld grave, Wurzach near Heidelberg, Germany. Photo B. Hellkemers.
b. Loopoid spearheads from Oudenaarde and Wulshoven, Belgium.
After De Laet and Clinckx.
Pl. XV

4. Shield from Ebeltoft (Sørø Mose), Falster, Denmark. After Cole.

5. Shield from Lommelev (Værløse Mose), Falster. After Broholm.
PL XVI

a. Handle and attachment from a cauldron found at Abildholt, NW Jutland. After Becker.

a. Gold twisted bracelet of Kersten Type E from Denmark. After Broholm.

b. Jangles from the hoard of Holsteinborg, Zealand, Denmark.

Photo: National Museum, Copenhagen.

b. Grave group from Rusilow, Poland. Courtesy Prof. T. Solowski.
Gold diadem or neck ring from Arlon, Prov. Namur, Belgium. Photo ACL, Brussels.
TABLE OF COMPARATIVE CHRONOLOGY

<table>
<thead>
<tr>
<th>Centuries (approx) B.C.</th>
<th>XVI</th>
<th>XVT</th>
<th>Xv</th>
<th>XIV</th>
<th>XIII</th>
<th>XII</th>
<th>XI</th>
<th>X</th>
<th>IX</th>
<th>VIII</th>
<th>VII</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Western CENTRAL EUROPE</strong>&lt;br&gt;S. Germany</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CENTRAL GERMANY</strong>&lt;br&gt;E. Germany, Poland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DENMARK</strong>&lt;br&gt;&amp; South Sweden</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SCHLESWIG-HOLSTEIN</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NORTHWEST GERMANY</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>NETHERLANDS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>N. Belgium</strong>&lt;br&gt;NORTHWEST FRANCE</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Lowland</strong>&lt;br&gt;ENGLAND&lt;br&gt;&amp; Wales</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IRELAND</strong>&lt;br&gt;&amp; Scotland</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TABLE CONTENTS:**

- **Western CENTRAL EUROPE**
- **CENTRAL GERMANY**
- **DENMARK**
- **SCHLESWIG-HOLSTEIN**
- **NORTHWEST GERMANY**
- **NETHERLANDS**
- **N. Belgium**
- **NORTHWEST FRANCE**
- **Lowland**
- **ENGLAND**
- **IRELAND**

**CULTURES AND PERIODS:**

- **Early Bronze Age**
- **Tumulus Bronze Age**
- **Urnsfield Period**
- **Hallstatt C1**
- **Hallstatt C2**
- **Early**
- **Fürtengräber**
- **Lausitz Culture**
- **Münsterland Culture**
- **Jókulsarlon Culture**
- **Urnes Culture**
- **Hunze - EMS Industry**
- **Early Beaker Industry**
- **Atlantic: Middle Bronze Age**
- **Armorian EBA**
- **Wessex EBA**
- **MIDDLE BRONZE AGE**
- **Glentrool**
- **LATE BRONZE AGE**
- **Kish**
- **Dowris**

**CULTURAL GROUPS:**

- **Single Grave Cultures**
- **Funnel-beaker Culture**
- **Bell Beakers**
- **Oval Beakers**
- **Spindlewhorls**
- **MIDDLE NEOLITHIC**
- **LATE NEOLITHIC**
- **Funnel-beaker Culture**

**DIAGRAM INFORMATION:**

- **Figures:**
  - **PL.XXI**
- **Countries and Regions:**
  - **Lowland**
  - **England**
  - **Wales**
  - **Ireland**
  - **Scotland**

**Additional Notes:**

- **Table of Comparative Chronology**
- **Palaeohistoria Vol. IX: Butler**