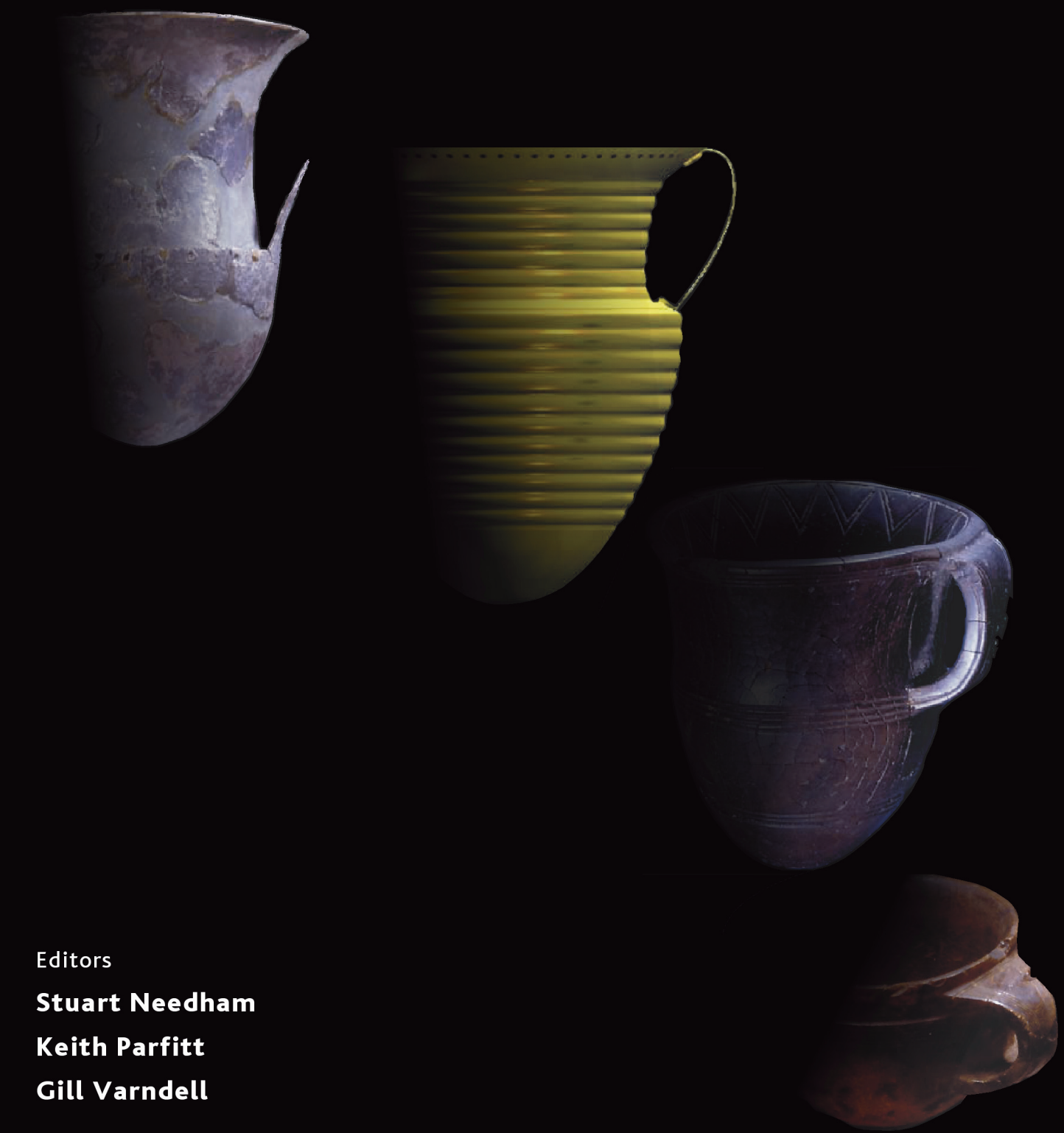
The Ringlemere Cup

Precious Cups and the Beginning of the Channel Bronze Age



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Illustrations by
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Front cover: Cups (from left to right) from Saint-Adrien (no. 8), Ringlemere (no. 1), Farway (no. 14) and Hove (no. 11); design Stephen Crummy

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Foreword

The pursuit of a context for such a rare thing as an Early Bronze Age gold cup was a must. Little did we realise how rich a site at Ringlemerethe cup was signposting, moreover one previously unknown. Indeed, not just an unknown site, but an unknown prehistoric monument complex with the first secure henge to be recognized in Kent and the additional reward of an overlying Anglo-Saxon cemetery, itself of considerable significance.

Initial thoughts of a modest exploratory cutting to see whether an immediate context for the artefact could be found were overtaken by greater ambition even before a spade went in as it emerged from geophysical survey that the cup lay within a large ditched monument. Trench 1 in the spring of 2002 revealed not only the basal structure of a mound, but also the richest assemblage of Grooved Ware, associated lithics and features yet known from Kent. With the threat of the plough biting ever deeper into the surviving intact deposits, the scope of the campaign was scaled up again. Total excavation of the upstanding part of the monument became the only sensible option.

However, scaling up a fieldwork campaign always means lengthening the delay before final reporting on the results. So, rather than allow the detailed study of the cup and its parallels to languish for longer than necessary, we have decided on a bipartite report structure for the prehistoric evidence. Even so, a hard line has not been drawn between star find and excavated evidence; this project was above all about seizing a rare opportunity to place an iconic object in multi-level context. Five years on from its discovery, we can already point to a specific context on the site that we think the cup came from and we can begin to relate this to a longer site history involving a henge monument and a barrow. So we make no apology for outlining that history even though some aspects of it are necessarily provisional. In addition to a future companion volume on the full array of prehistoric evidence, it is already apparent that the Anglo-Saxon cemetery merits its own detailed publication.

But the focus of this volume is the find that started it all off – the Gold Cup… .

Summaries

In 2001 an Early Bronze Age gold cup was discovered by Cliff Bradshaw, a metal-detectorist, at Ringlemere Farm, Woodnesborough, in east Kent. It belongs to a well known series of 'precious' cups made of gold, silver, amber and shale, and has much in common with the celebrated gold example from Rillaton, Cornwall. The find set in motion a campaign of survey work and excavation on the site; preliminary results are given here.

The cup was found to have come from a circular ditched monument (M1), originally over 50m in diameter. The monument is interpreted, in its original form, as a Late Neolithic henge with an external bank, a single entrance and a central rectilinear timber structure; a mound was later added to the interior. Henges with comparable diameters, orientations, central structures or added mounds are discussed. No evidence for prehistoric burials has been found at Ringlemere M1, but a precise context for the cup has been deduced, placing its deposition with a contemporary amber pendant, one of two amber objects from the site, at an advanced phase of the site's life.

Fieldwork has also demonstrated the presence of other monuments clustered around M1 and occupying gently sloping ground near the headwaters of the Durlock Stream. This volume gives a synthesis of current knowledge of the elusive Neolithic and Early Bronze Age monuments of east Kent. It also contains a summary of the long sequence of activity revealed by excavation, including intensive Grooved Ware occupation preceding and/or contemporary with the henge, and much later use of the denuded mound as a focus for an early Anglo-Saxon cemetery.

The 15 other precious cups from north-west Europe are reviewed afresh in terms of form and contexts largely on the basis of new study. Their stylistic and technological backgrounds are elicited and their function argued to be highly specialized. Despite the presence of common features, most of the cups are seen to be individual creations, probably the products of their respective regions of discovery. This has significant implications for what the cups represent and how they relate to growing waterborne exchange along an axis from the English Channel to the lower Rhine and the Frisian coast. The cups are interpreted as key elements in a ritual package that helped 'service' a specific maritime contact network operating in this zone.

One of the key materials being exchanged westwards within this network was amber, highly prized for cosmological reasons in southern Britain and Brittany. While amber was clearly much sought in Wessex for the manufacture of spacer-plate necklaces and other ornaments, it is argued that southern coastal communities were those responsible for supply of the precious raw material. A range of distinctions is brought out between the two regions – Wessex proper and the southern English littoral – to demonstrate that, although articulating with one another, they had rather different identities, craft skills and ritual preoccupations. Ringlemere adds further evidence to help undermine the joint fallacies that all Early Bronze Age valuables stem from a Wessex-led ideology and that a 'Wessex culture' or 'Wessex series' is a meaningful term for the varied ritual and material expressions in Early Bronze Age southern Britain.

Resumée

En 2001, une coupe en or du Bronze Ancien a été découverte par Cliff Bradshaw, au détecteur à métaux, à Ringlemere Farm, Woodnesbourgh, dans l'est du Kent. Elle appartient à une série bien connue de coupes 'précieuses' en or, argent, ambre et schiste bitumineux et présente de nombreux points communs avec le célèbre exemplaire en or de Rillaton, Cornouailles. La découverte a été à l'origine d'une campagne de prospection et fouille du site dont les résultats préliminaires sont présentés ici.

Il s'est avéré que la coupe provenait d'un monument circulaire ceint d'un fossé (M1) d'un diamètre de plus de 50m à l'origine. Le monument a été interprété comme un 'henge' (cercle) du Néolithique final, doté d'un talus externe, d'une entrée unique et d'une structure centrale rectiligne, en bois; un tertre a été ajouté postérieurement, à l'intérieur. La discussion porte ici sur les 'henges' de diamètres et orientations comparables, à aménagements internes ou tertres ajoutés. À Ringlemere M1, aucune sépulture préhistorique n'a été mise en évidence, mais le contexte précis de la coupe a pu être déduit, associant son dépôt à celui d'un pendentif contemporain en ambre, un des deux objets en ambre du site, à une phase avancée de l'occupation du site.

Les fouilles ont aussi révélé la présence d'autres structures groupées autour de M1, occupant un terrain légèrement en pente proche des sources de la Durlock. La publication présente une synthèse des connaissances actuelles sur les monuments assez insaisissables du Néolithique et du Bronze Ancien, dans l'est du Kent. Elle résume également la longue séquence d'activités révélée par les fouilles, avec une forte occupation pendant de la culture des 'Grooved Ware', antérieure et/ou contemporaine du 'henge', puis, beaucoup plus tard, une utilisation du tertre erodé comme centre d'un cimetière anglo-saxon précoce.

La typologie et les contextes des quinze autres coupes précieuses du nord-ouest de l'Europe font l'objet d'une actualisation fondée principalement sur de nouvelles études. Styles et techniques sont clarifiés et la fonction de ces coupes s'avère hautement spécialisée. Bien qu'elles présentent des caractéristiques communes, la plupart d'entre elles sont des créations uniques, probablement produites dans leurs zones de découverte. Les implications sont considérables pour le statut de ces coupes et leur lien avec l'expansion des échanges maritimes le long d'un axe reliant la Manche, l'embouchure du Rhin et les

côtes frisonnes. Les coupes sont considérées comme des éléments clefs d'un mobilier rituel qui aide à l'instauration d'un réseau spécifique d'échanges maritimes dans cette région.

Au sein de ce réseau, un des principaux matériaux acheminés vers l'ouest était l'ambre, hautement prisé pour des raisons cosmologiques dans le sud de la Grande-Bretagne et en Bretagne. Bien que l'ambre ait été clairement recherché dans le Wessex surtout pour la fabrication d'espaceurs pour colliers et d'autres ornements, il est proposé que ce soient les communautés installées sur la côte sud qui soient responsables de la fourniture de la précieuse matière brute. Un ensemble de différences est mis en évidence entre les deux régions – le Wessex proprement dit et le littoral sud de l'Angleterre – qui montre que, bien que liées l'une à l'autre, ces deux régions ont des identités, des savoir-faire et des préoccupations rituelles assez différents. Ringlemere apporte des arguments supplémentaires pour dénoncer les liens erronés qui associent tous les objets de valeur du Bronze Ancien à une idéologie orchestrée par le Wessex et qui font de la 'culture du Wessex' ou des 'séries du Wessex' un terme qui englobe la variété des expressions rituelles et matérielles du Bronze Ancien du sud de la Grande-Bretagne.

Catherine Louboutin

Zusammenfassung

Im Jahr 2001 entdeckte Cliff Bradshaw, ein Sondengeher, in der Nähe der Ringlemere Farm bei Woodnesborough in Ost Kent eine frühbronzezeitliche Goldtasse. Sie gehört zu einer bekannten Serie solcher 'kostbarer' Tassen aus Gold, Silber, Bernstein oder Schieferton und hat viel gemeinsam mit dem berühmten Goldexemplar aus Rillaton, Cornwall. Der Ringlemere Fund führte zu einer Kampagne von Geländesurveys und Ausgrabungen; vorläufige Ergebnisse werden hier präsentiert.

Es stellte sich heraus, daß die Tasse aus einem runden, von einem Graben umgebenden Monument (M1) stammte, das ursrpünglich einen Durchmesser von über 50m gehabt hatte. In seiner originalen Form wird dieses Monument als spätneolithisches Kreismonument ('henge') mit vorgelagertem Graben, einem einzigen Eingang und einer zentralen, rechteckigen Holzstruktur interpretiert; zu einem späteren Zeitpunkt wurde im Inneren ein Hügel hinzugefügt. Kreismonumente mit vergleichbaren Durchmessern, Ausrichtungen, Zentralstrukturen und hinzugefügten Hügeln werden hier diskutiert. Es konnte keinerlei Nachweis für prähistorische Bestattungen bei Ringlemere M1 erbracht werden, aber es war möglich einen präzisen Kontext für die Tasse zu folgern. Dieser plazierte ihre Deponierung, die zusammen mit einem gleichdatierenden Bernsteinanhänger – einem von zwei Bernsteinobjekten vom Grabungsgelände – erfolgte, in eine fortgeschrittene Phase des Fundplatzes.

Weitere Untersuchungen zeigten, daß andere Monumente, um M1 herumgruppiert und auch auf dem leicht abfallenden Terrain in der Nähe des Oberlaufs des Durlock Baches, vorhanden waren. Der vorliegende Band enthält eine Synthese des gegenwärtigen Wissenstandes der schwer fassbaren neolithischen und frühbronzezeitlichen Monumente in Ost Kent. Die Publikation beinhaltet außerdem eine Zusammenfassung der langen Aktivitätssequenz, die die Ausgrabung offenlegte, einschließlich der intensiven 'Grooved Ware' Besiedlung, die dem Kreismonument voranging und/oder gleichzeitig mit ihm stattfand, sowie der viel späteren Nutzung des inzwischen stark verflachten Hügels als Fokus eines frühangelsächsischen Friedhofes.

Die 15 anderen 'kostbaren' Tassen aus Nordwesteuropa werden im Hinblick auf ihre Form und Fundzusammenhänge besprochen, auf der Basis einer weitgehenden, neuen Studie. Ihr stilistischer und technologischer Hintergrund wird eruiert und es wird argumentiert, daß ihre Funktion hochspezifisch war. Trotz des Vorhandenseins gemeinsamer Züge werden die meisten Tassen als individuelle Kreationen angesehen, vermutlich als Produkte der jeweiligen Region, in der sie entdeckt wurden. Dies hat signifikante Implikationen für den Bedeutungsgehalt der Tassen und für die Frage wie sie mit dem wachsenden Austausch auf dem Wasserweg entlang einer Axe vom Ärmelkanal zum Niederrhein und der friesischen Küste im Zusammenhang stehen. Die Tassen werden interpretiert als Schlüsselelemente in einem Ritualpaket, das half ein spezifisches maritimes Kontaktnetz, das in dieser Zone bestand, zu 'erhalten'.

Eines der Schlüsselmaterialien, die innerhalb dieses Netzwerkes nach Westen ausgetauscht wurden, war Bernstein, der aus kosmologischen Gründen im Süden Englands und in der Bretagne hochgeschätzt war. Während Bernstein offensichtlich in Wessex hochgefragt war für die Herstellung von Schiebern für Halsketten und von anderen Schmuckstücken, wird hier argumentiert, daß Gemeinschaften an der Südküste für die Versorgung mit dem wertvollen Rohmaterial zuständig waren. Eine Reihe von Unterschieden zwischen den beiden Regionen – Wessex im eigentlichen Sinne und der südenglischen Küstenzone – wird herausgearbeitet, um darzulegen, daß sie trotz aller Interaktion eher verschiedene Identitäten, Handwerkstraditionen und rituelle Glaubens- und Ausdrucksformen besaßen. Ringlemere hilft weither dabei die Trugschlüsse, daß alle frühbronzezeitlichen Wertobjekte aus einer Wessex-orientierten Ideologie stammten und dass 'Wessexkultur' und 'Wessexserie' aussagefähige Begriffe für die vielfältigen rituellen und materiellen Ausdrucksformen der Frühbronzezeit im Süden Englands und in Wales seien, zu unterminieren.

Sonja Marzinzik

Acknowledgements

Thanks are due first and foremost to the landowners – Andrew, Robert, Christopher, Jeremy and other members of the Smith family at Ringlemere Farm – who readily allowed access to their ground and have taken a keen interest in the progress of the work from the first. The excavations have been funded by substantial grants from the British Museum, the British Museum Friends (Townley Group), the British Academy, English Heritage, the BBC and the Kent Archaeological Society, together with a donation from Cliff Bradshaw, the finder of the site. At English Heritage, David Miles, Peter Kendall and Sarah Jennings have provided assistance and support throughout the early stages of the project up to completion of Trench 1 and the production of an assessment report on its results. Louise Martin and A. Payne undertook the initial geophysical survey work with some valuable results and demonstrated the potential for further work. Thanks are also due to the staff at Kent County Council's Heritage Conservation Group: Simon Mason monitored the earlier stages of the project, examined the available air photograph cover and conducted a preliminary contour survey of the site, whilst Stuart Cakebread provided details of local sites recorded in the county.

Roger Bland, Michael Lewis and Andrew Richardson of the Portable Antiquities Scheme attended to the reporting requirements of the gold cup under the terms of the Treasure Act and have given much support and encouragement to the subsequent fieldwork undertaken on the site.

Unpaid volunteers have conducted the bulk of the excavation work, led by a small number of full-time, salaried staff from the Canterbury Archaeological Trust (C.A.T). Of the full-time team, Grant Shand, together with Enid Allison and Richard Helm have made substantial contributions to the project, whilst Barry Corke has acted as site records officer, surveyor and draughtsman. C.A.T.'s Director, Paul Bennett has given much support, guidance and practical help throughout.

Volunteers from various local archaeological societies, including those of Lenham, Maidstone, Otford and Thanet, and most particularly the Dover Archaeological Group, have made a valuable contribution to the work, together with a number of other local helpers. Of the individual volunteers, Don and Tassa McGregor, Tina Parfitt, Geoff Halliwell, David Holman, Richard Hoskins, Leslie Smith and John Smythe deserve a special mention for their long-term commitment to the project, whilst Cliff Bradshaw tirelessly worked on his barrow between 2002 and 2004, undertaking both metal-detecting and excavation as required. Geoff Halliwell kindly funded some initial radio-carbon dates from the site. Help in kind has also been provided by Ovenden's plant hire.

The excavation campaign would not have been possible without the wholehearted support of Leslie Webster, Keeper of Prehistory & Europe at the British Museum, the British Museum's Research Board and the Townley Group. Similarly, Richard Bradley and Alison Sheridan have given magnificent support for grant applications. Valuable specialist assistance and advice has also come from Sonja Marzinzik (Anglo-Saxon curator), Saul Peckham (photographer), Tony Simpson (scientific technician) while several members of the Conservation Department are involved in the painstaking removal of fragile Anglo-Saxon artefacts from soil, notably Denise Ling, Fleur Shearman, Clare Ward and Duygu Cleere.

In the context of this volume, one really vital contribution has been the willingness and enthusiasm of museum curators and private owners to allow new study of precious cups in their respective collections: Jost Bürgi and Urs Leuzinger (Museum des Kantons Thurgau), Richard Le Saux (Brighton & Hove Museums), Julien Parsons (Exeter Museum), Alison Roberts (Ashmolean Museum, Oxford), Peter Saunders (Salisbury & South Wiltshire Museum), Peter Woodward (Dorset County Museum) and the private owner of the Gölenkamp cup. Sir Hugh Roberts of the Royal Collection Trust kindly gave permission for a fresh thorough inspection of the Rillaton cup, and we also thank Elizabeth Stuart, Duchy of Cornwall, for her continued support. Tobias Springer was of immense help in providing study facilities at the Germanisches Nationalmuseum, Nürnberg, when two of the continental cups were on loan for an exhibition there. We also thank Alison Sheridan and the National Museums of Scotland for allowing reproduction of their images of some cups, and Jane Marchand of Dartmoor National Park and Jacky Nowakowski of Cornwall Archaeological Unit for bringing the contemporary watercoloured sketch of the Rillaton cup to our attention. Mr Jim Woollcombe kindly gave permission to reproduce the sketch. It is thanks to Mary Cahill, National Museum of Ireland, that we are aware of the Liscahane amber pommel.

We are extremely grateful to Catherine Louboutin and Sonja Marzinzik for their translations of the summary into French and German respectively. Finally, Richard Bradley and Ann Woodward cannot go unmentioned in their roles as peer-reviewers of the text; they provided valuable pointers which resulted in significant improvements to the text.

Chapter 1: Background and Survey Work

Keith Parfitt

In early November 2001 Cliff Bradshaw of Broadstairs was metal-detecting in a recently harvested potato field at Ringlemere Farm, near Sandwich in Kent (**Fig. 1**), when he discovered a gold vessel buried at a depth of about 0.40m below the surface (**Front cover**). Suspecting it to be an important object, he was able to find a parallel in the celebrated Rillaton gold cup, recovered from an Early Bronze Age cairn on Bodmin Moor in Cornwall during the 19th century (Smirke 1867; Needham 2000a). Having informed the farmers and all the relevant authorities, Mr Bradshaw invited Keith Parfitt, Field Officer with the Canterbury Archaeological Trust, to visit the find-spot soon after the discovery (Parfitt 2001). The vessel had been found on a low, but quite distinct, rise in the middle of the field. Mr Bradshaw suspected that this might be the remains of an otherwise unrecorded round barrow, an opinion supported by preliminary inspection.

The site lies in the parish of Woodnesborough, about 1.5km west of the parish church (NGR TR 2938 5698; **Fig. 2**). The neighbouring parish church of Ash is 1.55km to the north, with Ringlemere Farm some 400m to the south-east and Black Pond Farm on Fleming Road 150m to the south-west (**Fig. 3**). The mound is situated at an elevation of between 10 and 13m above O.D. and in subsequent fieldwork has been designated Monument (M)1.

At the British Museum, a more detailed examination of the gold vessel confirmed its Bronze Age identification. With only the Rillaton vessel in Britain and four or five more parallels in gold on the Continent, it was clear that the Ringlemere cup would be of both national and international importance. Versions of these cups are also known in other materials, including amber and shale in southern England and silver in Brittany. The distribution of such cups thus ranges from southern England to the Alps and the new find from Kent represents a pivotal addition to this select corpus.

Given the importance of the find and its apparent association with the remains of a previously unknown round barrow, it was agreed through a Steering Group,[1] consisting of a partnership of local and national archaeological organisations, that the find-spot should be investigated on three grounds:

- it provided an unparalleled opportunity to identify the immediate context of one of these rare cups in unusual materials;
- it was crucial to prospect the site further because of the risk of damage and looting when the find became public knowledge;
- there was an on-going threat of damage to the context of the find and the remains of the monument from annual ploughing.

A programme of field-walking, geophysical survey and

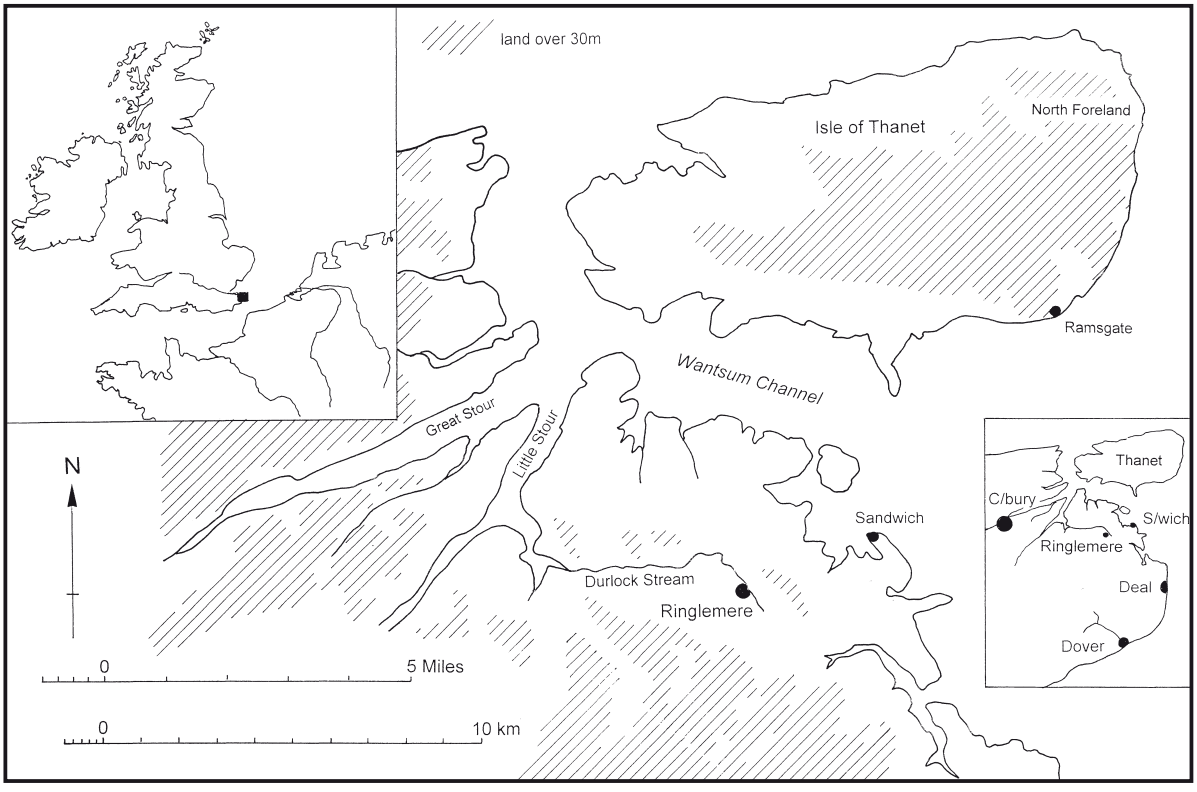


Figure 1 Location map for Ringlemere. Coastline around north-east Kent showing the Wantsum channel at its maximum extent during prehistory.

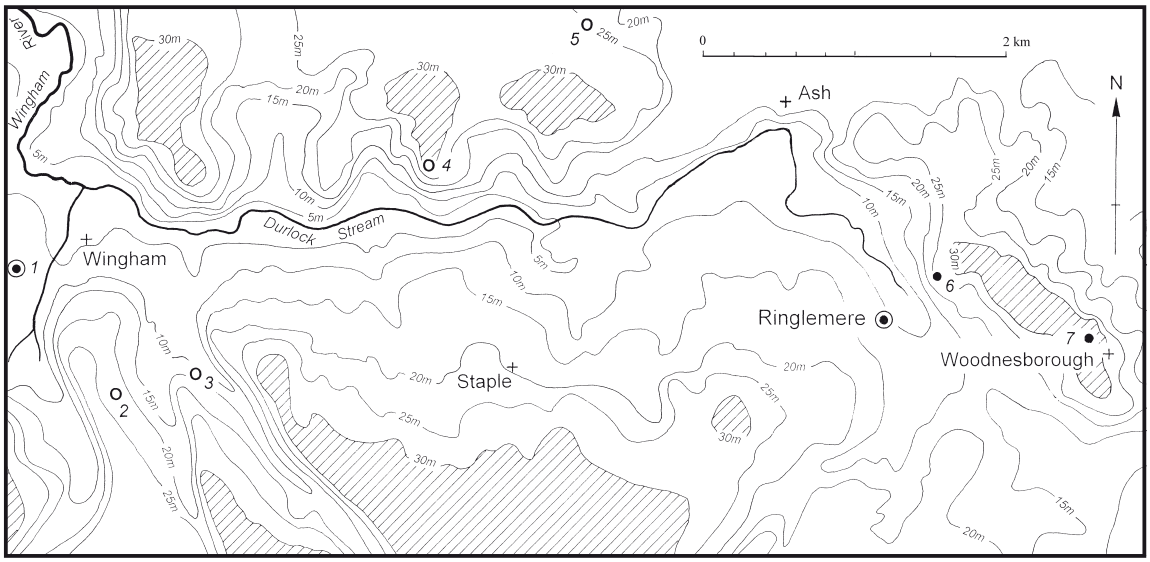


Figure 2 Ringlemere and the valley of the Durlock Stream. Other possible Bronze Age monuments around the valley are shown. Key to sites: 1, Wingham Bridge, monument complex (see **Figure 17c**); 2, Neavy Downs, ring-ditch with beaker; 3 & 4, ring-ditches on air photographs; 5, double ring-ditch on air photograph; 6, RAF Ash, destroyed mound; 7, Woodnesborough Church, destroyed mound

excavation was agreed, and from this has evolved the Ringlemere Ancient Landscape Project, led by the Canterbury Archaeological Trust. The full excavation of monument M1 is a collaborative project between the Trust and the British Museum. At the time of writing six separate excavations have taken place over four years, 2002–2005.

Finds have been acquired by the British Museum, the gold cup through the Treasure process and the bulk of the assemblage through generous donation by the Smith family.

Geology and topography of the region

Ringlemere lies some 3.75km west of the ancient Cinque Port town of Sandwich in Kent (**Fig. 1**), towards the bottom of a long north-east facing slope. This slope constitutes the southern side of the broad, shallow valley of the Durlock Stream (**Fig. 2**). The underlying geology around the site is Thanet Beds, partially sealed by deposits of gravel and head brickearth. Rolling chalkland of the North Downs dip-slope rises gently to the south, its heights lying 21km away.

Today, the Durlock Stream begins at a spring which rises in the immediate environs of the site (**Fig. 3**) and flows for about 8km westwards to join the Wingham River, which in turn empties into the Little Stour near Ickham (**Fig. 2**). A ridge of Eocene sands separates the Durlock valley from the south-western edge of an extensive tract of drained marshland which represents the now silted remains of the former Wantsum Channel (**Figs 1 & 2**). Throughout the prehistoric and Roman periods the Wantsum appears to have been open water (Champion 1980). Archaeological evidence for settlement around its shores suggests it was a much-used waterway, providing a more sheltered alternative to rounding the North Foreland for vessels traveling between the Thames estuary, the southern North Sea and the English Channel.

The Wantsum Channel divided the Isle of Thanet from the Kentish mainland until medieval times. It seems to have been formed by rising sea-levels at the start of the Neolithic period, if not a little before, and by the Bronze Age the silting-up process must have been underway (**Fig. 1**). On the evidence of prehistoric finds recovered from the surrounding area, however, it would seem that the shores of the Wantsum were well populated, and received a disproportionate share of metalwork deposits during the Middle and Late Bronze Age (Champion 1980, 229; Perkins *et al.* 1994, 310).

Ringlemere lies just over 4km from the Wantsum shore which seems significant in terms of the continental connections of the Early Bronze Age items from the site – the gold cup and two pieces of worked amber. The Wingham River may once have formed a fairly broad inlet opening off the main Wantsum Channel and its lower reaches might have been usable by ancient vessels with shallow draught. A rare example of such a craft, of Bronze Age date and sewn-plank construction, has been discovered in the valley of the river Dour, at Dover, just 16km to the south of Ringlemere (Clark, ed. 2004a & 2004b; **Fig. 1**).

The lower reaches of the Wingham River are, however, now infilled with a complex sequence of riverine clays and peats (Dover Archaeological Group archives) and peat samples recovered north-west of Wingham church (**Fig. 27**) provided Harry Godwin with some of the material for his pioneering paper on the 'Vegetational History of the Kentish Chalk Downs as seen at Wingham and Frogholt'. This work produced a series of pollen diagrams suggesting that the region had been extensively deforested, presumably through agriculture, by the earlier Bronze Age (Greenfield 1960; Godwin 1962; see Chapter 5).

Accepting a general absence of woodland, as is suggested by Godwin's research, reasonably long views would have been available from the summit of the mound at Ringlemere inland, in a wide arc extending from north-west, through west and south to south-east. The view across the Durlock valley in the opposite direction, between east and north, however, is limited by the well-defined ridge which lies in that direction. This high ground generally reaches an elevation of between 25 and 35m OD (**Fig. 2**). It effectively obscures any view from Ringlemere to the Wantsum Channel, the Isle of Thanet and the open sea beyond, all of which can be clearly seen from the top of the ridge. If such coastal vistas were of interest to the local prehistoric inhabitants, they were apparently not important in the siting of M1.

The region around Ringlemere is generally rich in archaeological remains, with numerous prehistoric, Roman,

Anglo-Saxon and later sites. However, the bulk of the recorded information has been the result of antiquarian investigation, chance discovery or, in more recent years, development-led intervention. With the notable exception of the extensive research work carried out at Richborough (Cunliffe 1968; Millett and Wilmott 2003), there have been few large-scale excavations or detailed programmes of field survey in the area. There can be no doubt that much awaits discovery and the intensive survey and excavation work conducted at Ringlemere since 2002 is salutary on this point. The following account provides an overview of discoveries made up to the end of 2005 and must be treated as an interim statement on work still incomplete.

Field walking and metal detector surveys 2002–2004

Initial field walking in 2002 involved detailed surface artefact collection over an area centred upon Bradshaw's mound (M1). All material of archaeological significance was collected and bagged by individual 5m squares. Prehistoric calcined flint and worked flint was found to be spread across the entire survey area with noticeable concentrations being plotted around the mound. Other finds included occasional Roman, medieval and post-medieval pottery and some fragments of Roman tile but there were no significant concentrations of these. In 2003 and 2004 the survey area was extended across the valley, using a slightly less intensive search pattern based on 30m squares. By Easter 2004 more than 130 such squares had been surveyed. It is now apparent that an unbroken scatter of prehistoric struck flint and calcined flint is present across the area examined, although its density is generally less than recorded in the area of M1.

Gridded metal-detector surveys have also been undertaken. Typically for the region, these yielded a light scatter of late Roman coins together with other artefacts of Roman, Anglo-Saxon, medieval and post-medieval date. There have also been two important prehistoric finds. At a point about 200m to the north-east of M1, a rare cast bronze brooch of Hallstatt D2/D3 type was discovered (**Fig. 3**; Parfitt 2005). The type is well known on the Continent but there are very few close parallels from Britain; it is almost certainly an import.

The second find comprises fifteen objects found scattered in the ploughsoil around 150m to the south of M1 (**Fig. 3**): a 37mm length of thin gold wire with a diameter of 2.7mm and weighing 3.27g; the mouth fragment of a broken socketed axe with wing decoration; a plate-like fragment of copper alloy, possibly from an artefact; an unidentified tang fragment, and 11 pieces of raw metal. Some of the last are from copper plano-convex ingots, others are more amorphous small lumps, perhaps casting waste. The axe is datable to the Ewart stage, *c.* 1000–800 BC. Much of this material could derive from a closed hoard deposit, but alternatively the group could indicate a metalworking site. More work in the area is planned.

The suggestion has been made that the gold wire piece may have been residual from the manufacture of the rivets in the gold cup, for it has roughly the correct diameter. There are two obstacles to such a conclusion: firstly, the piece would appear to be associated, albeit loosely, with considerably later material – almost a millennium later. Secondly, the composition of the wire does not correspond, for it has a much higher gold content and correspondingly less silver (approximately 87% and 12 % respectively based on non-destructive surface analysis; compare the cup's composition – Chapter 3).

Geophysical surveys 2002–2003

by Aaron Birchenough

The application of geophysical survey techniques to adjacent areas has suggested that M1 is, in fact, the focal point of a more extensive prehistoric ceremonial landscape, now effectively invisible on the surface due to centuries of plough erosion (**Figs 3 & 4**).

An initial survey, covering some 1.4ha around the cup's findspot, was undertaken by staff from English Heritage's Centre for Archaeology. As well as magnetometry, earth resistivity was applied and this revealed the approximate outline of monument M1, together with two smaller ring-ditches (M2 and M3) situated immediately to the south-west (Martin 2003). Further magnetometry surveys were undertaken by the writer in 2003 in adjoining areas. This fieldwork produced some significant new information and the results were submitted as an undergraduate dissertation to Bournemouth University (Birchenough 2004). The Ringlemere site currently appears to comprise at least 12 major magnetic anomalies of archaeological significance, of which 9 are ring-ditches (**Figs 3 & 4**). These vary considerably in both size and morphology. It has also been possible to recognise at least three on aerial photographs of the area.

The following provides a summary and interpretation of the main results of the geophysical survey work to 2003. None of the major anomalies identified, other than M1, has yet been tested by excavation and it seems certain that other features remain to be located. Indeed, concentrations of minor anomalies, considered likely to be archaeological in nature, are also present in a number of places. The ring-ditches seem to fall into two distinct linear arrangements, one running south-east from M1, the other lying immediately to its west (**Fig. 3**). There is every reason to suppose that an extension of the survey area would reveal more features.

The 2003 survey was conducted using a standard Geoscan FM36 fluxgate gradiometer (vertical probe separation 0.5m) fitted with a Ps1 automatic data logger, employing parallel traverses over a 30m grid system. The resolution was set at 0.1 nT and the digital average was set at 16. Readings were taken every 0.5m. In total, the surveyed area amounted to more than 52,000m^2. The most obvious anomalies represented on the data-plot are recent: two parallel linear responses along the eastern margin of the survey area represent the bed of the now dismantled East Kent Light Railway, built in the early 20th century (Lawson Finch and Garrett 2003; **Fig. 4**). Further exaggerated readings were produced by electricity poles which run across the field (T1, T2, T3). The other main anomalies, however, all appear to relate to more ancient monuments.

The survey evidence indicates the existence of a clear linear arrangement of at least four ring-ditches (M6, M7, M8, and M9) extending in a south-easterly direction from the main monument, Ml (**Fig. 3**). These run along the contour of the valley. Monument M6 lies just under 60m from M1 and despite the weak nature of the magnetic response, the results indicate that its ditch is approximately 24m in external diameter. Worthy of particular note is the strong circular anomaly, perhaps a pit-like feature, which occurs within this ring-ditch. Located upon the northern side of M6, but even more ephemeral in its magnetic response is M7. This appears as a very small ring-ditch, approximately 8m in diameter. Its apparent placement over, or

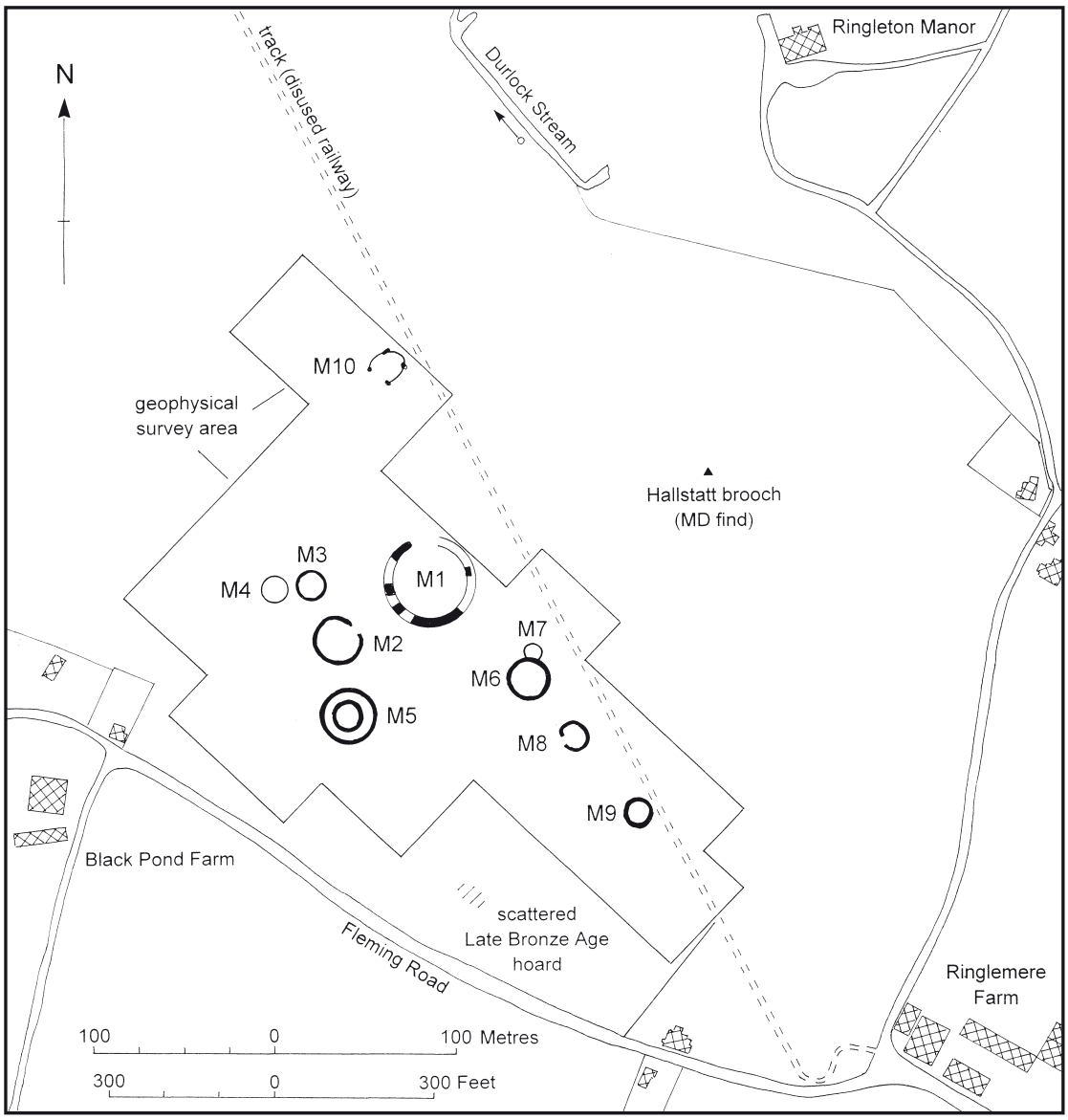


Figure 3 Ringlemere monument complex; M1 is the site of the gold cup (**see Figs 7 & 10**), M2-10 are those revealed by aerial photography and geophysical prospection.

as an appendage to, the north side of the ditch of M6 could suggest that it is the later of the two monuments.

Some 20m from M6 lies M8, another ring-ditch, with a diameter of about 18m. Of interest here is the apparent break in its circuit on the south-western side (**Figs 3 & 4**). Inside the ditch there is an indistinct, arc-like, central anomaly represented by an area of raised magnetic response. There are also a considerable number of magnetic anomalies outside the presumed break in the ditch circuit. These are presently difficult to interpret but may be of archaeological origin.

The last ring-ditch on this alignment is M9, 40m to the south-east of M8 and about 160m from M1. It is approximately 10m in diameter and impinges on (or *vice versa*) the north-western end of an irregular rectilinear feature measuring about 25 x 40m . The exact nature of this structure (M12) remains unclear (not shown on **Fig. 3**).

The other group of ring-ditches (M2, M3, M4 and M5), occurs to the west of the main monument (M1) and occupies a slightly raised outcrop of natural gravel. The most responsive of the anomalies here was M2, previously located in the English Heritage survey, but also known from aerial photographs (Pitts 2002, 452) and visible from the ground in growing crops. Approximately 28m in diameter, it would seem that this slightly irregular feature represents a fairly large, possibly penannular ring-ditch, the potential entrance facing M1. The ditch terminals are apparently marked by two anomalies, perhaps pits or large post holes. A positive interpretation of the penannular nature of the ring-ditch is, however, hampered by the presence of an angled linear anomaly, presumed to be a later field boundary ditch, running across the ditch circuit. The trench for a modern gas main also runs east-west across the centre of this monument. Less distinct to the east, and intertwined with M2, is a possible rectangular feature and associated enclosure which is seen more clearly on aerial photographs of the site (not shown on **Fig. 3**).

Some 14m to the south of M2 lies monument M5. Whilst the magnetic response given was weak, it is apparent that it is a circular, double-ditched monument. Also recorded on an aerial photograph, the outer ditch is of almost equal proportions to M2, at about 28m in diameter, whilst the inner ditch is some 16m across (**Figs 3 & 4**). The two remaining ring-ditch anomalies (M3 and M4) lie to the north of M2 and are of more modest proportions. Monument M3 is approximately 18m in diameter and also seems to have been crossed by a later field boundary ditch. As with M2 and M5, this monument has been identified on aerial photographs (see Pitts 2002, 452) and also by ground observation.

Situated several metres to the west of M3 is the faint trace of

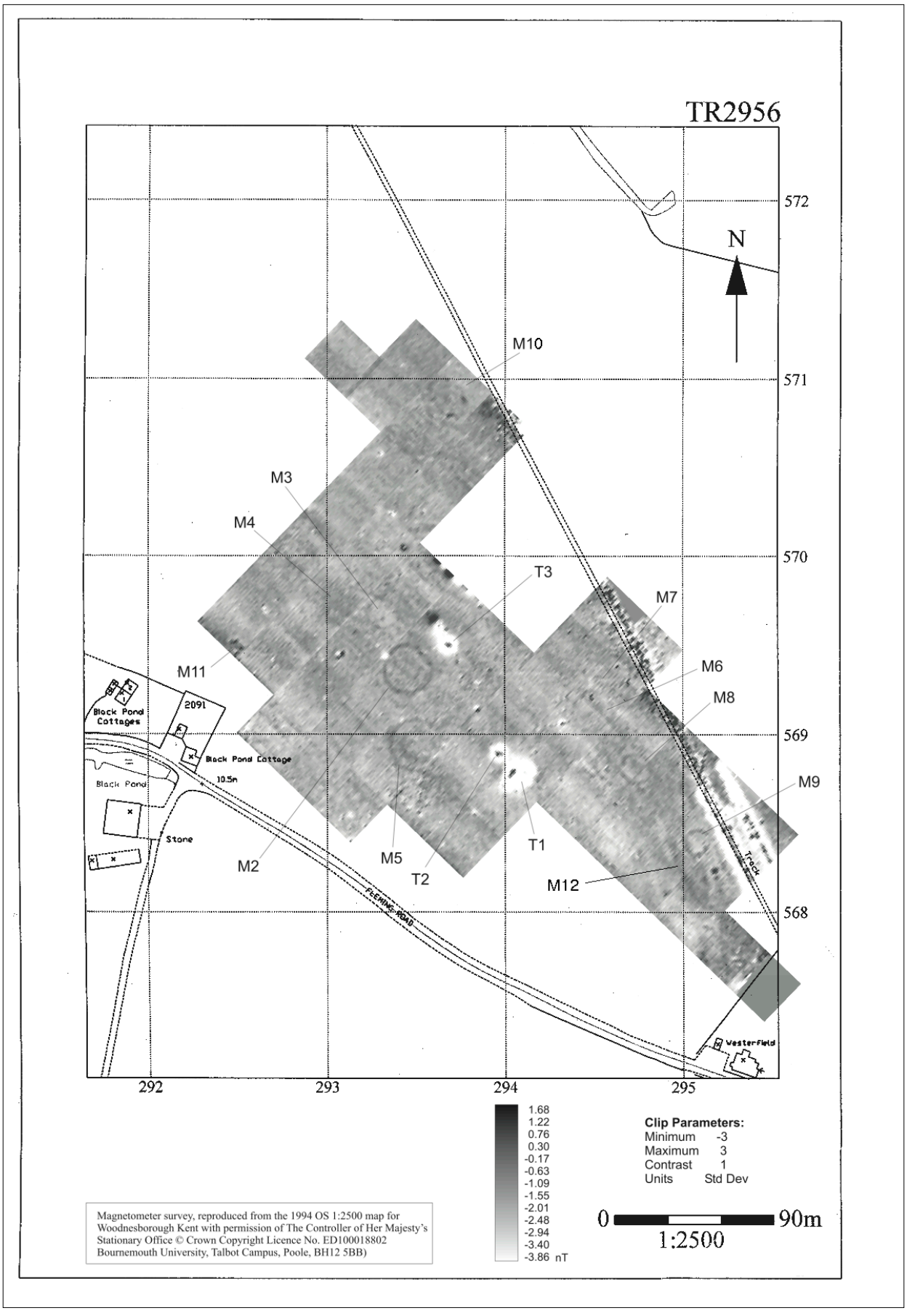


Figure 4 Magnetometry data plot of surveyed areas at Ringlemere

another circular ring-ditch, M4, whose diameter is roughly 14m. The narrow width of ditch indicated suggests that it may represent a post trench rather than a barrow quarry ditch.

Monument M10, located 60m to the north of M1, is altogether a much more difficult feature to interpret. Its most obvious characteristics are the four irregular anomalies that occur close to the cardinal points of the compass, at a distance of around 14m from each other (**Fig. 3**). These could represent

large irregular pits or post settings. They appear to be either incorporated into, or superimposed onto, a faint ring-ditch. A subtle, yet discernible, central anomaly recognisable from the data might represent another pit.

Feature complex M11 is located some 120m to the west of M1 and has again been transected by the gas pipe trench. It may represent a series of circular pits, or is perhaps just one large pit (not shown on **Fig. 3**).

Note

1 Representatives of English Heritage, Kent County Council, The Portable Antiquities Scheme, Canterbury Archaeological Trust, Dover Archaeological Group, Dover Museum and the British Museum.

Plate 1 Aerial photograph of Trench 1 fully excavated

Plate 2 Site under excavation, Trench 5

Chapter 2: Excavations 2002–2005

Keith Parfitt

Following the initial survey work in 2002, it was clear that the only prospect of establishing a useful context for the Ringlemere gold cup would be to excavate a sizable area around the findspot. Accordingly, English Heritage provided funds for the excavation of an area measuring 10 x 30m on the north-western side of mound M1 (**Pl. 1**, **Fig. 5** Trench 1; Parfitt 2003a; 2003b). This work confirmed the presence of surviving mound material, encircled by a substantial ditch. The mound sealed an earlier soil profile and cut-features associated with large quantities of struck flints, calcined flints and Late Neolithic Grooved Ware pottery (Chapter 4).

The immediate context of the cup appeared to be a position at the ploughsoil/subsoil interface which was not very informative (but see further below). Despite this, the wealth of data and artefacts recovered demonstrated that further work on the site would be of considerable value. Indeed, since the plough was continuing to erode the mound, with the tines of the sub-soiler cutting down into the pre-mound land surface, total excavation of the upstanding monument seemed highly desirable. The large area of the monument, the survival of some stratified deposits and the scale of the ditch meant that with limited funding the work would have to be spread over a number seasons. To date, funds to cover the cost of the work have come from the British Museum, the Townley Group (British Museum Friends), the British Academy, English Heritage, the BBC, the Kent Archaeological Society and Cliff Bradshaw.

In the autumn of 2002 Trench 2 was excavated on the lower, downhill, part of the monument, at an angle to Trench 1, with the specific aim of testing the preservation of the monument in this area (**Fig. 5**). Initially, it was hoped that preservation might be better here than in Trench 1, but in the event, the work showed that the edge of the mound and ditch had been severely truncated by a deep terrace or negative lynchet, perhaps connected with cultivation or quarrying. In 2003, Trench 3 was cut south-eastwards from the south-east end of Trench 1 in order to examine further the central area, complete a NW–SE section through the monument and determine an overall diameter for the enclosing ring-ditch. It also established the presence of another terrace or lynchet on the south-east side of the mound more or less perpendicular to that through Trench 2. Later in 2003 Trench 4 was set alongside Trench 1 to extend exploration of the interior (a small part of this trench was finished in 2005). An unexpected result was to find that the enclosing ditch was broken by a causeway on the north side (**Fig. 5**). Trench 5 followed in 2004 on the opposite side, alongside Trench 3; it examined much of the southern quadrant and demonstrated that there was no entrance opposite that on the north. The latest work, Trench 6 in 2005, saw the western quadrant of the mound between Trenches 1 and 5 fully excavated along with two flanking segments of ditch. By the end of the 2005 season about three-quarters of the enclosed area had been examined (**Fig. 5**).

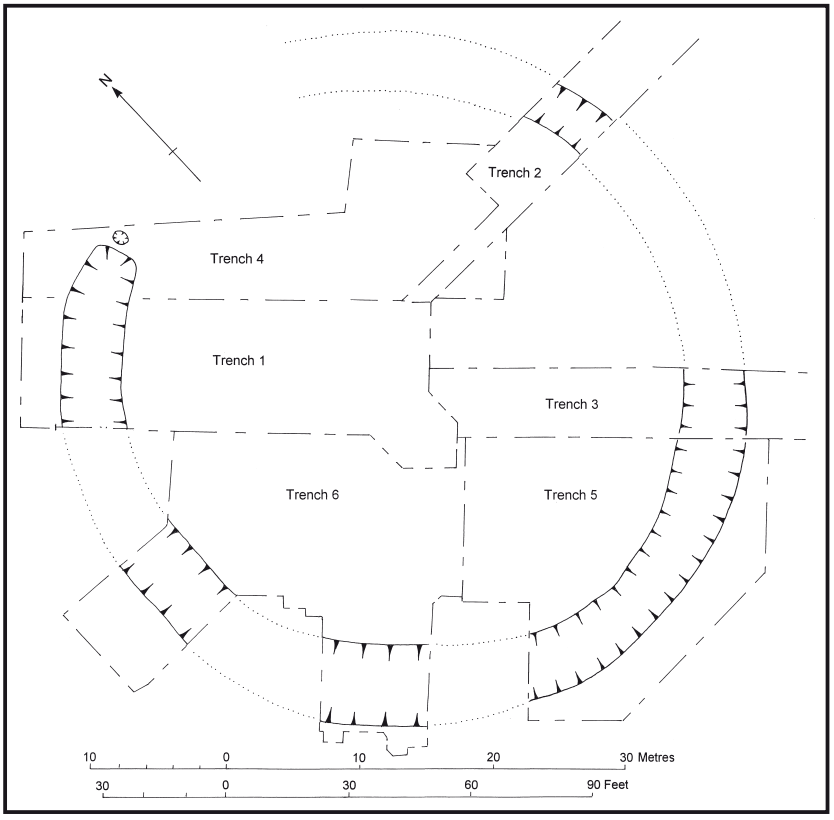


Figure 5 Excavated trenches at Ringlemere M1, 2002–2005.

Overall, the site has proved to be a difficult one to investigate, with the similarity in colour and texture of the clayey soils, the frequent lack of clearly defined edges to cut features and the occurrence of extensive animal burrows dug through most of the stratified deposits (**Pl. 2**), combining to hamper progress. Despite these problems, the information recovered from Trenches 1–6, now allows a provisional account of the development of the site of Monument M1 to be set out. It is hoped that detailed analysis of all the data once the excavations are completed will allow this sequence to be further refined.

Early Occupation

Mesolithic activity

A small proportion of the large quantities of prehistoric flintwork recovered from Ringlemere may be dated to the Mesolithic period (see Butler, Chapter 4). In addition, a microlith and a tranchet axe (not yet studied by Butler) were found in 2005, although no associated features or implement concentrations have yet been identified to indicate activity on this very spot. The presence of fresh running water, in the form of the nearby Durlock Stream, would have made the area attractive to Mesolithic people.

Finds of Mesolithic date are not at all common in north-east Kent and are largely confined to isolated surface discoveries of axes and adzes (e.g. Ogilvie 1981; 1983; Hoskins 1995). The only significant local site is that at Lower Farm, Finglesham, located some 5.5km south-east of Ringlemere. Like Ringlemere, the Finglesham site is situated at the foot of the downs, on brickearth. It is an occupation site with an extensive flint assemblage (Parfitt and Halliwell 1983), which is characterised by a large number of heavy axes, sharpening flakes and an absence of microliths. Associated luminescence dates indicate a late Mesolithic date (Parfitt and Halliwell 1988, 80; Butler 2005, 118).

The new Mesolithic finds from Ringlemere thus represent a very useful addition to this comparatively poorly represented period in east Kent. The low yield of microliths within the excavated assemblage, despite careful sieving of the deposits, further reinforces the view previously arrived at by the writer that microliths were seldom used in this region. Overall, the Mesolithic industry at Ringlemere presently appears to be of a broadly similar character to Finglesham. It is tempting to suggest a similarly late date but much more work is required.

Neolithic Settlement

Preserved below the mound of M1 is a buried soil profile. To date about 730m^2 of this artefact-rich soil have been excavated and totally dry-sieved through a 1cm mesh. Sealed under it are more than 150 cut-features, in the form of variously sized hollows, pits, post-holes and three hearths (**Fig. 6**). These features are most numerous on the south-western side of the enclosed area,

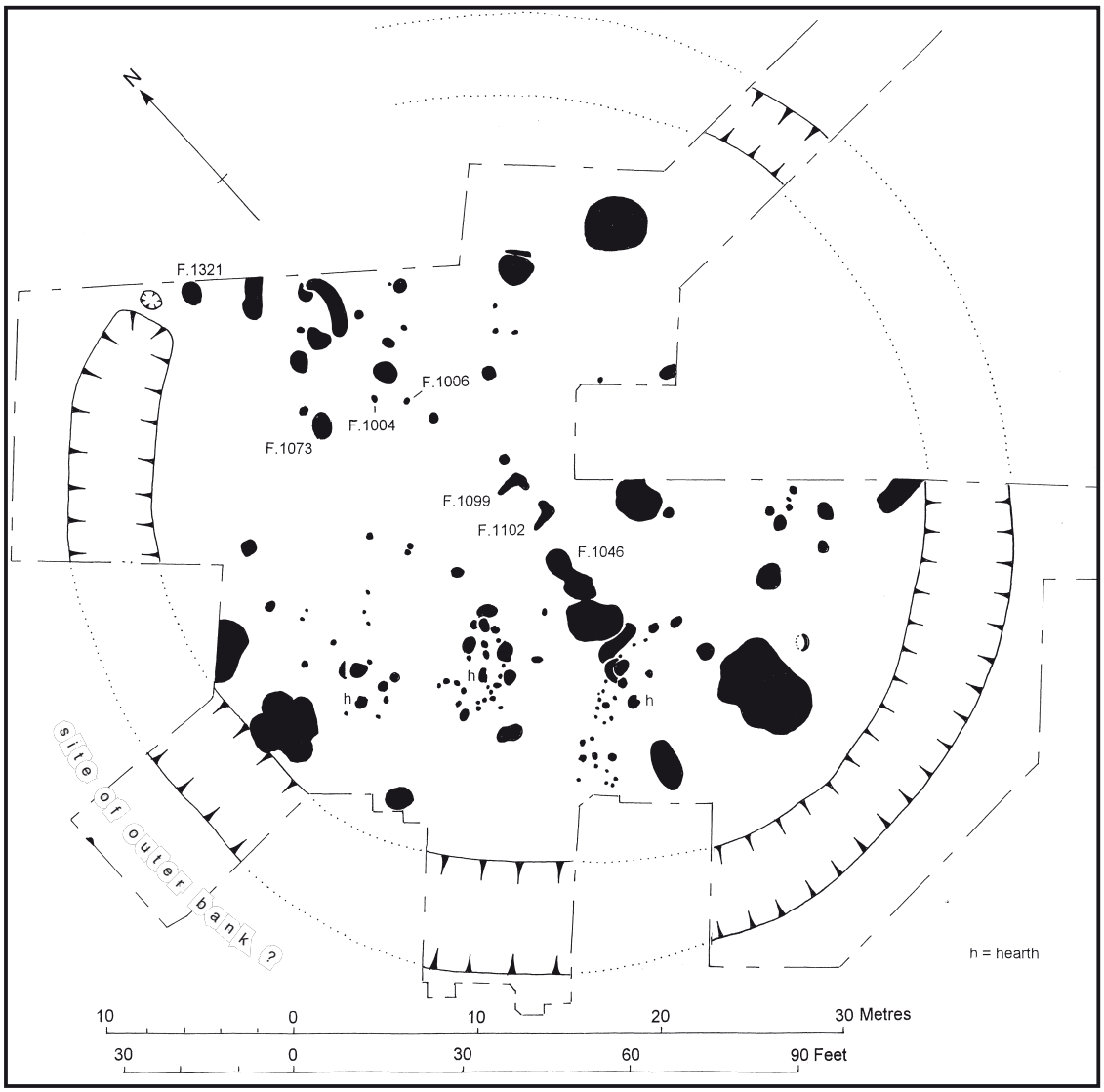


Figure 6 Plan of all pre-mound features within M1. Those discussed in text (including flint report) are numbered; the hearths/ovens are indicated by 'h'.

where the hearths are located. Indeed, pits and post-holes seem to be clustered around the hearths. An arc of 15 post-holes, possibly relating to a large building, occurs in the area of the south-east hearth. Collectively, these remains provide clear evidence for occupation on the site prior to the erection of the barrow mound.

The buried soil, cut-features and turf stack of the mound have together yielded over 5,000 sherds of pottery, large quantities of calcined flint, struck flint including many finely worked scrapers and other tools, together with parts of ground stone axes of non-local rock. The particular contents of several pits suggests that they include special 'placed' deposits of pottery and flintwork. Despite the large quantities of lithic and ceramic material recovered, however, there are no corresponding assemblages of prehistoric faunal remains. Disappointingly, animal bone and marine shell simply have not survived in the brickearth and there is virtually no such material from any of the prehistoric deposits investigated. By analogy with the faunal assemblages recovered from other Neolithic and Bronze Age sites it may be reasonably surmised that considerable quantities of bone and shell were once present at Ringlemere but that these have all decayed without trace.

The pottery recovered from the pre-mound deposits and features consists almost exclusively of Late Neolithic Grooved Ware. The same is true of the material in the turf mound and it is likely that this material was taken directly from the same occupied land surface nearby. A small number of Beaker sherds have been recognized in both the pre-mound topsoil and the mound core. Some of the pits have contained large sherds of Grooved Ware, perhaps deliberately placed, and one pit has yielded a radio-carbon date of 2890–2600 cal BC (2 sigma; Beta-183862; **Table 3**) from contained charcoal. Collectively, these finds provide clear evidence for intensive use of the site before the construction of the barrow mound. Their relationship with the enclosing ditch has yet to be established – at present they are thought to belong at least in part to pre-monument occupation, perhaps only fortuitously preserved in this area because of the protecting cover of the mound. Nevertheless, the question is raised as to whether such earlier activity on the site in some way influenced the positioning of the later monument. Interestingly, Cleal has previously highlighted the close correlation between Bronze Age barrow sites and the occurrence of earlier Grooved Ware (Cleal and MacSween 1999, 6).

Analysis suggests that the majority of the flintwork recovered from Ringlemere is of later Neolithic date (Chapter 4) and there can be little doubt that most is contemporary with the Grooved Ware pottery. In addition to the Mesolithic material identified (see above), another small group of flints appears to be of earlier Neolithic date. So far no associated pottery or features of this period have been identified.

Grooved Ware is not well represented in Kent and the present assemblage is by far the largest yet recovered from the county. Locally, small assemblages of Grooved Ware have previously been recovered from the submerged land-surface of the Lydden Valley north of Deal (Halliwell and Parfitt 1985, 40) and in pits at Mill Hill, Deal, where associated radiocarbon-dates suggest a period of use between 2880 and 2450 BC. (Parfitt 1998a, 377; see **Table 3**). Finds of derived Grooved Ware occur in several east Kent round barrows, including Eastling Wood, Sutton (Grinsell 1992, Sutton 2; Parfitt, Allen and Rady 1997), Haynes Farm, Eythorne (Grinsell 1992, Eythorne 1; Parfitt 2004, fig. 5) and Ringwould Free Down, Ringwould (Grinsell 1992, Ringwould-with-Kingsdown 2; Woodruff 1874, 26, plate II, fig. 7). The quantity of material so far recovered from Ringlemere, however, is far in excess of the combined total from all these earlier explorations.

The Neolithic period, in general, is still poorly understood in east Kent. Major field monuments, well known in other southern counties, appear to be sparse in the landscape (Barber 1997), although the recent excavation of a large causewayed camp near Ramsgate, on the Isle of Thanet (Shand 2001), together with the discovery of a possible second, noted on an aerial photograph between Eastry and Tilmanstone, just south of Ringlemere (Oswald *et al*. 2001, 153 no. 47), suggests that this is likely to be mainly due to intensive later cultivation of the land rather than any genuine Neolithic lacuna (see Chapter 5 for further discussion). Known occupation sites are mostly represented by isolated pits and surface scatters of lithic material. Indeed, such evidence appears to be typical of large areas of southern Britain (Holgate 1988, 32, 67) and clearly much has been lost to the plough over the centuries. The site preserved below Ringlemere M1 thus provides excellent prospects for the recovery of detailed Neolithic occupation evidence which has elsewhere been destroyed.

Monument M1

The geophysical survey and excavation have now confirmed that the low mound initially identified by Bradshaw is a man-made structure of prehistoric date. It is a circular monument comprising a central barrow encircled by a ditch. There is also some evidence for an outer bank. When upstanding, the mound had provided a convenient home for generations of burrowing animals and conceivably it may have served as a medieval rabbit warren belonging to the manor house at Ringleton, on the opposite side of the valley (**Fig. 3**). The animal activity, however, has led to much disturbance of the mound structure and has probably caused some movement of artefacts.

The pre-mound land surface

Survival of part of the mound had preserved an earlier land surface beneath. A distinctive but discontinuous layer of brown to black manganese, about 10–20mm thick, separated the mound from the buried topsoil, and was best preserved under the central part of the turf core. It apparently represents decayed vegetation. Preliminary analysis of the buried soil has revealed no evidence for cultivation of the ground prior to the construction of the mound; instead it suggests long-term pasture following possible woodland clearance (Heathcote 2003). As already described, large quantities of Grooved Ware and flintwork were recovered from the buried profile, some of which may precede the first monumental phase. However, we now believe that some of the features and finds under the mound are likely to relate to a pre-mound enclosure phase (see below).

The mound

Exceptionally for the heavily ploughed landscape of east Kent, the base of the barrow mound survived at Ringlemere, with a maximum thickness of 0.50m at the centre. A core of soft, decayed turf (**Figs 7 & 8**) was enclosed by an outer deposit of

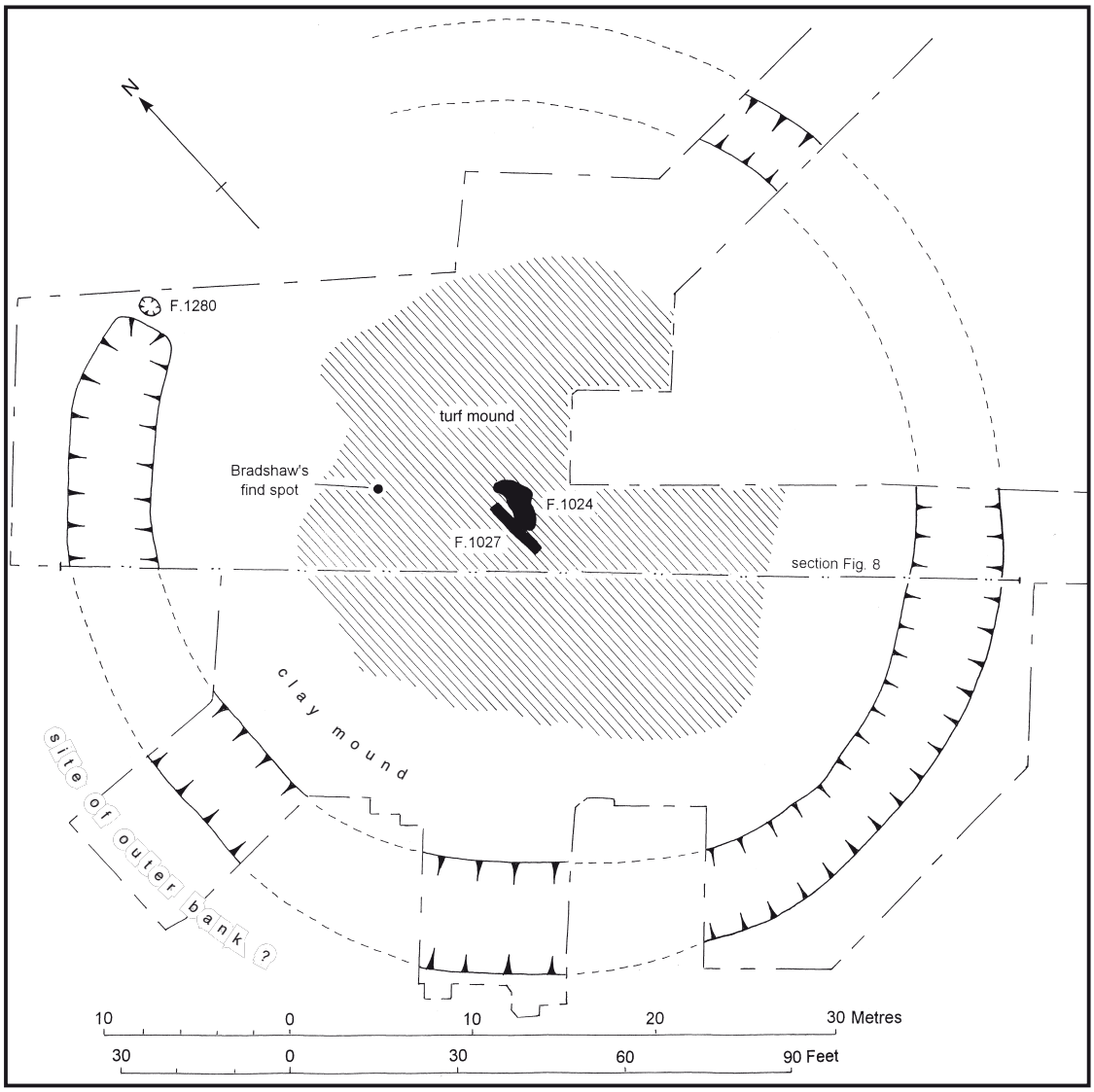


Figure 7 Plan of surviving and interpreted earthworks constituting M1, features cut into the turf mound, and Bradshaw's location for the cup.

orange-brown clay; although they are different in character, the interface between the two elements was diffuse and in many places difficult to closely define. The turf core contained much residual domestic rubbish in the form of struck flint, calcined flint and broken pottery (mostly Grooved Ware with small amounts of Beaker), clearly derived from earlier activity on the site (as described above). Despite the fuzzy definition, it was possible to map the extent of the central turf stack and show that it survived to between 25 and 29m across (**Fig. 7**). It appears to have been somewhat irregular in outline, with a tendency towards a vaguely sub-rectangular, rather than neatly circular, plan. This shape might imply that the turf stack was simply a dump which lay in the centre of a broader mound and not a free-standing structure in its own right.

The outer part of the mound seems to have been composed of fairly clean clay. It sits on a surface that is often a little lower than the old ground surface under the turf stack and which, moreover, does not have as well developed a soil profile. This might suggest that the turf had been stripped in order to contribute to the body of the central core, the clay later being dumped on the resulting lowered surface. The outer mound appears to have originally extended as far as the lip of the enclosing ditch (**Fig. 9**, context 1020) but it had been partially cut away by later terracing in most areas (see below). Within the make-up of the outer mound, an absence of material derived from the distinctive lower clay and gravel deposits through which the ditch was cut implies that the material of the mound did not include up-cast from the ditch.

The ditch and bank

The enclosing ditch is of substantial size, 41.5m in diameter internally and 50m externally (**Figs 7 & 8**). The ditch itself survives between 4 and 5m across and about 2m deep, with a broad, flat bottom (**Fig. 9**). Analysis of laminar sediments in the base of the ditch has shown that they were water-laid, implying that the ditch had held water, at least in wetter seasons. This is likely to be a reflection of the nature of the clayey subsoil rather than any specific design feature, however. The higher ditch fills in excavated segments from the north-west to the south-west show that more material was slipping in from the outside than the inside (**Fig. 9**), suggesting the former presence of an external bank, of which no trace now survives. The bank was evidently made from the spoil from the ditch, for it had a proportion of gravel derived from the natural gravel bands which are sealed under the brickearth.

None of the deposits filling the ditch were rich in artefacts and many of the layers were sterile. Most of the finds recovered seem to represent residual material derived from earlier activity

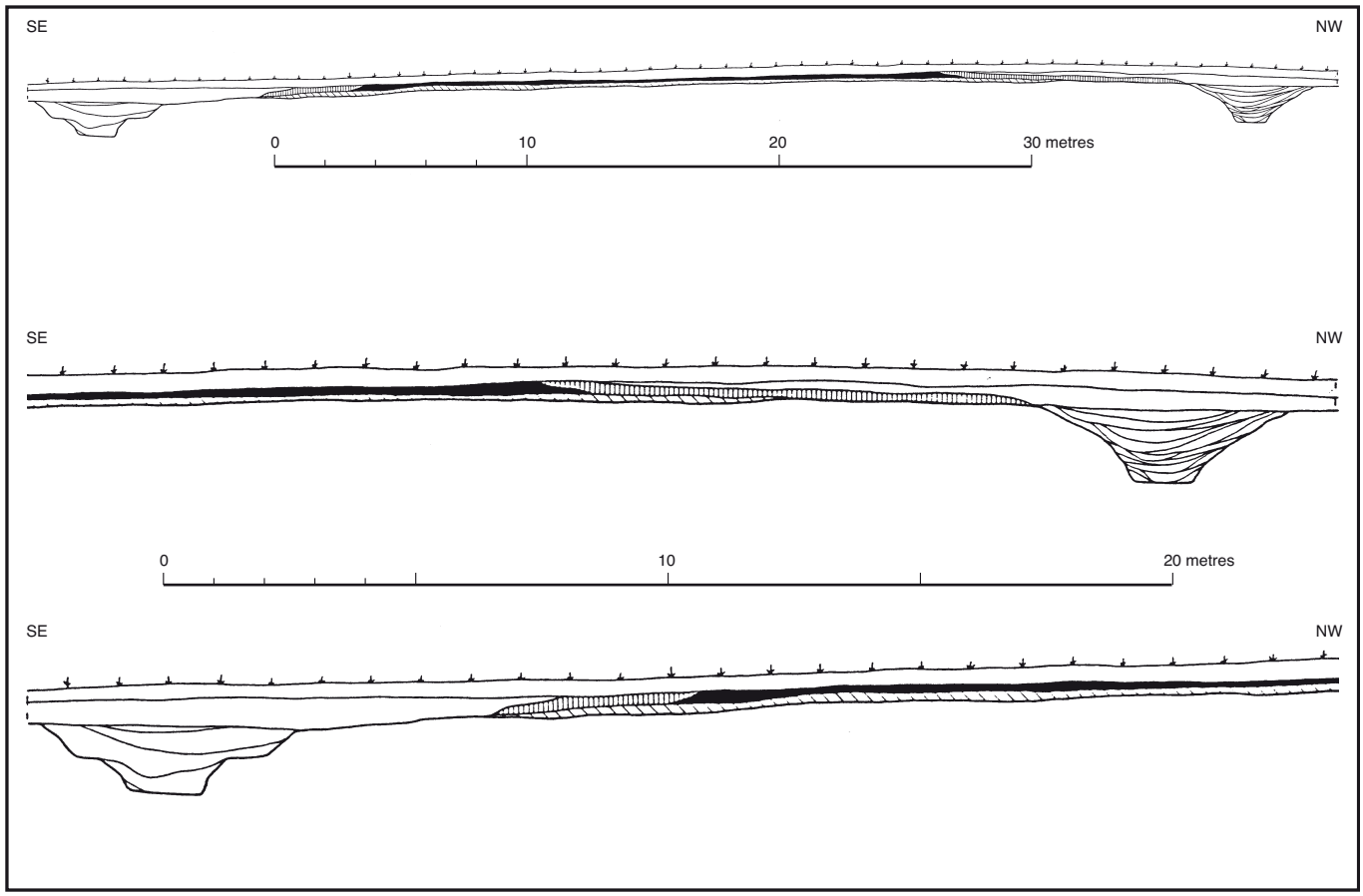


Figure 8 Cross-section of monument M1, south-east to north-west (Trenches 1 and 3). Turf core in solid black; outer mound shaded vertically

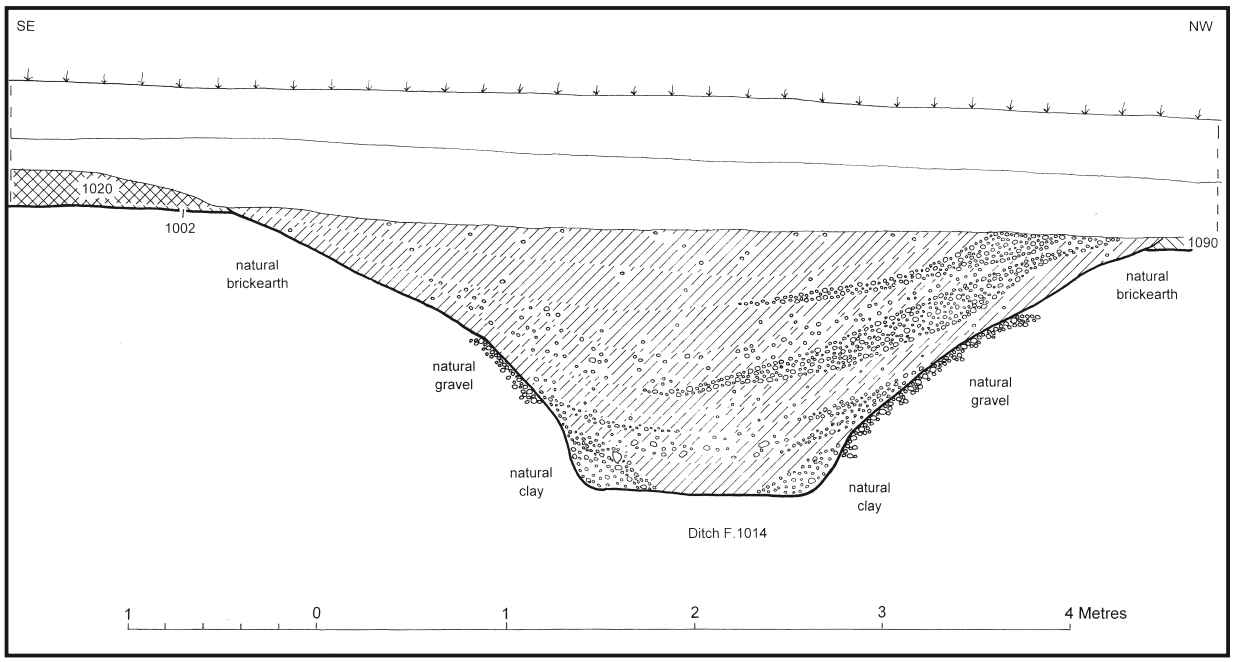


Figure 9 Cross-section of excavated ditch in Trench 1, north-west side of the monument

on the site. On the south side, however, two areas of deliberately laid flint cobbles were found lying on the base of the ditch. These included a small amount of humanly struck flint but, overall, the date of the construction and filling of the ditch remains to be ascertained.

On the northern side, a deliberate break in the circuit of the ditch formed an entrance causeway at least 3m across. What appears to be a large post-pit (F. 1280) is set immediately adjacent to the terminal (**Fig. 6**), but complete excavation of the entrance and phasing of the interior features is required before its full significance can be determined.

Evidence for human burial

Given the character of the monument, it initially seemed likely that Early Bronze Age burials would be associated. This prospect was encouraged by the gold cup, since some of the parallels are from graves. However, after excavation of almost 80% of the mound no formal prehistoric burials have yet been located and evidence for the presence of human remains on the site is still extremely sparse. Tiny flecks of calcined bone, possibly human,

were recovered from a large oval pit, F. 1073, sealed under the mound 12m NNW of the monument's centre (**Fig. 6**). The burnt bone was mostly confined to the upper layers of the north-eastern half of the pit and may represent a scattered, unurned cremation deposit. It is possible it relates to the Grooved Ware phase of activity rather than later and there is currently no evidence that the addition of the mound was connected with interments.

Central structures

Although excavation of the central area of the monument has failed to produce unequivocal evidence for a burial or grave, it has revealed a noteworthy sequence of structures absolutely at the centre of the monument. These merit detailed discussion here because one feature produced one of the Early Bronze Age amber objects from the site and may also have contained the cup.

Immediately beneath the modern ploughsoil, the mound remnant was found to have been cut by an irregular pit (**Figs 10 & 11**; F. 1024), which showed some evidence of disturbance from burrowing animals. This pit was roughly oval in shape and measured 3.30m (N–S) by 1.45m (E–W). It survived to a depth of 0.13m, with steeply sloping sides and a slightly undulating base, which was somewhat banana-shaped in plan. The main filling consisted of a grey-brown silty clay-loam with decayed wood fragments (Context 1026), which contained a few prehistoric sherds, a quantity of struck flints and calcined flints. The pottery is likely to be residual; four sherds are tiny and another is from a thick base, probably Grooved Ware. This main fill was sealed by a 0.02m thick layer of decayed wood (Context 1025) which occupied the top of the pit (as truncated). It has been possible to identify some of the wood as coming from three species (Cartwright – Chapter 4). The amber object – a pendant fragment – was the only find from this upper layer (Chapter 4).

Below the pit and cut from a lower horizon was a pair of narrow L-shaped slots (**Fig. 11**; Fs 1099 and 1102). These were sealed under the mound material and became visible only after the buried topsoil horizon had been excavated. The main axis linking them roughly aligns on the entrance to the north (**Fig. 10**). The slots seem most suited to holding upright contiguous posts or planks; indeed, highly degraded woody remains were recorded in the base of the southern L-slot, F. 1102. Such a timber structure would form a rectangular 'cove', 2.4m across and open to the west. This was potentially a mortuary structure (cf Ashbee 1960, 52–4) or a focal point for ritual performance at the very centre of the enclosure such as can be paralleled in certain Late Neolithic ritual monuments (discussed later in this Chapter). No internal floor or specific occupation deposits were associated with the cove. A few small pottery sherds were found in the feature fills, together with some struck flints including three scrapers (Butler, Chapter 4) but all this material is probably residual.

Four samples containing wood and charcoal from the southern slot were assessed for their identification potential by Rowena Gale (2003) and later fully analysed (Cartwright – Chapter 4). Some charcoal fragments were subsequently extracted from two of the samples (Samples 2 and 3) and sent for radio-carbon dating in the hope of obtaining at least a broad indication of the age of the feature, which at the time of excavation did not seem at all certain. They gave very different

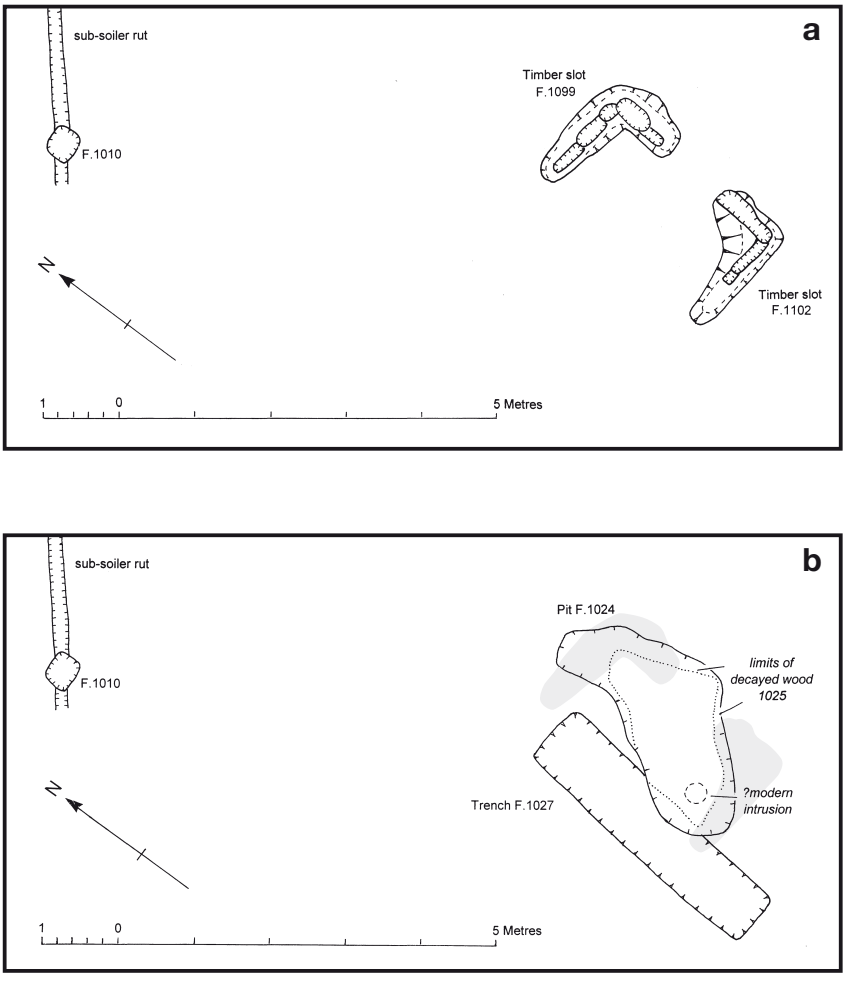


Figure 10 Detail plans of central features: a) pre-mound; b) post-mound

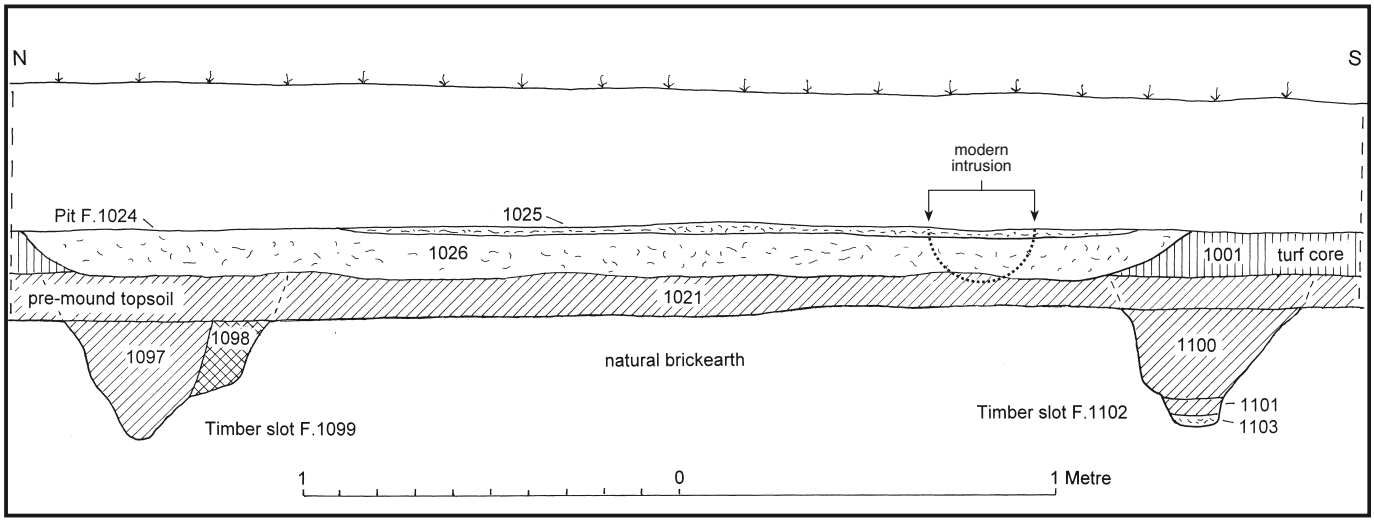


Figure 11 Composite section through the central features

results. Sample 2 produced a determination of 3460 ± 40 BP (Beta- 180487; 1890 – 1680 cal BC; **Table 3**), whilst Sample 3 gave a determination of 1750 ± 40 BP (Beta-180488; AD 130–410). Given that it was well sealed by the main fill of the slot and the mound, presumed contamination is likely to be from percolation of organic matter or adjacent animal disturbance. It is hard to account for a Roman period date otherwise. If contaminant organic matter was responsible, it is possible that it had also affected Sample 2 from the same context, thereby making the radiocarbon measurement fall later than the true age of the sample. On balance, therefore, neither date can presently be rated with much confidence.

Immediately west of the three features so far described was a long rectangular trench (**Figs 7 & 10**; F. 1027). This was parallel to the main axis of the cove, but in contrast was clearly dug through the mound core. As recorded it was 3.68m long and 0.78–0.88m wide, surviving to a depth of 0.23m, the top having been truncated by the plough. The trench penetrated the subsoil much less deeply than the cuts for the cove (**Fig. 11**), which is consistent with the feature being dug in from a higher level (0.35m difference between the deepest parts of the two features). This slot had, however, been clipped on its eastern edge by the later pit (F. 1024). Like the earlier and later intercutting features, F. 1027 too contained some decayed wood, this time small quantities scattered through the fill of fine brown loam (Context 1028); none could be retrieved for identification. Three small sherds of pottery are probably residual.

There are two questions to resolve in relation to this set of central features. Firstly, the presence of unburnt wood remnants in all phases of the sequence initially seemed to suggest they were not particularly ancient (cf Parfitt 2003b, 36). The material present in the L-slot (F. 1102), in fact contains a mixture of unburnt wood, partially burnt wood and charcoal, but no burnt material was discovered in layer 1025. Wood is known to survive, exceptionally, under barrows even when there is no waterlogging. The second problem was the conundrum that the trench F. 1027 on the one hand seemed to relate to the cove structure, closing its western side, yet on the other was cut from a different stratigraphic horizon to the cove slots. This can actually be resolved by interpreting a sequence which encompasses the building of the turf mound and for which the northern alignment remained important. On this basis we offer the following interpretation of the sequence.

1) A timber cove, *c.* 2.4 x 1.2m in plan, was erected at the exact centre of the enclosure at the time of its original construction or during later use. The main axis was aligned approximately on the north-facing entrance through the ditch. The cove was apparently originally open to the west, while the gap between the L-slots could have offered a narrow (0.85m) window facing east – in effect a portal. The posts set at right angles at either end were in shallower slots and may have been braces for the main alignment. The surviving depth of the post-emplacements below the old ground surface (up to 0.50m) could have easily supported a structure 2m or so high. Indeed it is possible that the uprights would have been linked by lintels, in which case the structure could have been a little taller.

2) Either while the cove remained standing or later, a turf mound or platform was built around it covering the central area within the ditched enclosure. It was probably not especially high, to judge from the next phase.

3) A trench (F. 1027) was dug through the centre of the turf mound, again respecting the N–S axis. This is now presumed to be a foundation trench for a later façade of timbers set in the top of the mound. It may be coincidence that this new façade largely closed the open side of the original cove for it is offset a little to the south. As an entirely new façade it could still easily have respected the original north-south alignment. The difference in positioning of this new façade could perhaps reflect a slight shift in the apparent centre of the monument following the construction of the turf mound.

4) Finally, an irregular pit (F. 1024) was dug into this central spot from the top of the turf platform, or from a higher level if the mound had been raised in between times. The pit occupies more or less the full area of the underlying cove and this must by now have decayed or been truncated. The western side of the pit clipped the façade bedding trench, potentially when the posts were still standing. Indeed, it is possible that the façade and pit were functionally linked, one dug quickly after the other had been erected. The overall dimensions of the pit, at about 3.30 by 1.45m, are rather large for a grave and, in the absence of any skeletal material, other ritual functions for this pit seem more likely (see below); there is no reason to think the new pit was intended to contain a replacement façade.

5) The woody layer present across virtually the whole pit is

likely to represent a lining, perhaps a 'floor' of branch material; had it been timber subsiding from higher it is less likely to have resulted in such a uniformly horizontal layer. As found, the lining was 0.10m above the base of the pit, but we cannot know the original depth of the pit, nor whether the soil below the decayed wood was early silting while the feature stood open or deliberate backfill. The amber ornament recovered from this woody layer had presumably originally lain on top prior to decay; if not a grave good, it seems highly likely to be another form of ritual offering.

6) Close to the south end of F1024 was a small intrusion, a pit of about 0.30m diameter. It was filled with loose soil and some decayed vegetation and appeared to be of very recent origin. We now believe that this could have been Bradshaw's original excavation to unearth the gold cup. If so, the findspot is placed 1.5m to the south-west of the estimated centre of the monument but some 8m from Bradshaw's stated findspot.

Re-establishing the gold cup findspot

The primary objective of English Heritage-funded Trench 1 had been to establish a context for the burial of the gold cup. Bradshaw had marked the spot, but his marker was removed by ploughing before archaeological inspection of the site thirteen days later. Fortunately, Bradshaw had also at the time of discovery paced out the location from a nearby electricity pole, 38 paces away, and by repeating this exercise he felt confident he could re-establish the findspot to within a metre or so. This exercise was repeated at intervals over the following three years and resulted in locations varying by about 2m. The original stated position is shown in **Fig. 10** (F.1010).

Bradshaw was also able to describe something of the soil around the cup. He particularly remarked on a thin black/brown deposit (*c*. 1cm thick) of organic material like decayed wood below the ploughsoil of about 0.25m depth. The original Treasure Receipt Form (filled out by Michael Lewis, then Finds Liaison Officer for Kent) stated that he had 'noticed narrow black/brown band around hole'. Shortly after, Bradshaw drew a sketch section of the soil profile with his hole dug through it, the cup lying at the bottom. About half way down through the soil his sketch shows the horizontal band; at the hole it is shown belling upwards a little, this presumably being a convention to show it curving round the back wall of his hole as if viewed from a little above the horizontal. When asked later about the relationship, Bradshaw replied that he was unsure whether the organic layer had gone across the soil containing the cup; he evidently did not remember seeing the layer first, before reaching the cup. The cup lay in what he described as a 'light sandy soil' below the level of the organic layer.

The cup lay on its side with the heavily dented face uppermost. It contained a quantity of organic material which Bradshaw carefully tapped out (dry) and placed in sealed bags. These were submitted to the British Museum with the cup and are reported on in Chapter 4.

Careful excavation around the spot first indicated by Bradshaw revealed a shallow depression, cut about 0.22m deep below the base of the ploughsoil and containing some modern vegetation (F. 1010). No ancient sub-soil features were found within a radius of 4m. This might be Bradshaw's original hole, but its re-excavation revealed no traces of gold, no other artefacts and, most importantly, no evidence for the distinctive dark organic layer previously described by Bradshaw. The location is 8–9m to the north-west of the centre of the monument (**Fig. 10**). The surrounding deposits are riddled with animal burrows and there was also a deep sub-soiler furrow running across the spot which might have accounted for the damage sustained by the vessel.

However, there is now strong evidence that the findspot was really at the centre of the mound – the hole recently dug into pit F. 1024 (see above). There are reasonable grounds for accepting that the thin organic layer Bradshaw noted in the side of his original excavation is the same deposit as the woody layer (Context 1025) subsequently discovered in the top of pit F. 1024. No other comparable organic deposits have been found at the relevant level anywhere else on the site, including the area of Bradshaw's stated findspot for the cup. The sample of organic material which Bradshaw had found within the cup proved to contain decayed wood without any charcoal not unlike that exposed in the top of F. 1024; moreover, one piece was identifiable as possibly *Acer campestre* which matches one of the species from F. 1024 (Cartwright, Chapter 4).

In order to argue that the cup originally lay within the fill of pit F. 1024, we would need to assume that the presumed plough impact had not moved it far. Farmer Andrew Smith and his ploughman Cedric Marsh, from their long experience of working this field, are both of the opinion that a fragile vessel such as the gold cup could not have been pulled any distance through the ground by a plough or sub-soiler tine without being very much more extensively damaged than the present find. Impact by the plough, however, could well have pressed the cup through the woody layer in F. 1024 if the vessel had originally lain upon it. This would have punched a hole through the layer, but the finder's observations were not specific enough to know whether this was the case.

Bradshaw remains adamant that his paced-out location to the north-west of F. 1024 is the true findspot of the gold cup, but given the loss of his definitive marker before scientific investigation of the site, the writers of this report favour the vessel's original place of deposition as being within F. 1024, along with the amber pendant.

Post-monument activity

Later prehistoric to Roman activity

At monument M1 itself, later prehistoric activity may be attested by struck and burnt flints recovered from the plough soil and, particularly in the upper filling of the ditch. Some of this material may be reworked from the artefact-rich underlying deposits. However, Trench 6 also revealed a broad scatter of charcoal with occasional sherds spread across the levelled ditch; the pottery includes a rim and neck of Earliest Iron Age type, *c*. 850–600 BC. This shows that the ditch was already totally full with the implication that the outer bank was also largely or entirely denuded; certainly material from the bank is inferred from the ditch fills. A likely explanation is that agriculture early in the 1st millennium BC was levelling these already eroded features. Broadly contemporary, or only a little earlier would be the scatter of copper and copper alloy material recovered from 150m south of M1 (Chapter 1), with the slightly later Hallstatt brooch to the north-east (**Fig. 3**; Parfitt 2005).

Finds of Roman date are similarly thinly scattered, but coins, pottery, tile and other odd artefacts recovered from both the

survey work and excavation imply activity somewhere in the vicinity during the Romano-British period. The nearest site presently known is that at Black Pond, located near the top of the slope, several hundred metres to the south-west (Ogilvie 1982). However, the more immediate source of small Roman finds is likely to be manuring scatters, especially given the evidence for persistent ploughing around the mound at this time. Indeed, as excavations have proceeded on different sides of the mound, it has become clear that a distinct negative lynchet is present on three sides; it cuts laterally into the west, south and east sides leaving a steep erosion scarp through the mound remnant and underlying profile. Only on the northern side does this feature appear to be of slight gradient.

Having bitten into the mound, at some point erosion ceased, and accumulation of soil, presumably gradually transported from up-slope, began to fill the negative lynchet. The resulting profile, accumulated over a lengthy period from before the 5th century AD to some time after the 6th century, is in places 0.70m deep. The soil comprises three layers of different character and ultimately laps up onto the sides of the mound. However, only the modern ploughsoil has been found extending unbroken right across the surface of the remnant mound.

Anglo-Saxon occupation and cemetery

The clearest evidence for Anglo-Saxon settlement in east Kent is generally provided by cemeteries, rather than occupation sites and the region around Ringlemere is well endowed with such remains (see Meaney 1964; Richardson 2005). Collectively, the evidence suggests that this general locality had been extensively occupied by Anglo-Saxon settlers from the start of the 6th century and it seemed that this was an area of early, if not primary, colonisation (Everitt 1986, 116–7). Before excavation work commenced at Ringlemere, the possibility had been considered that the ancient mound might have served as the focus for a subsequent Anglo-Saxon 'flat' cemetery because such post-Roman re-use of prehistoric burial sites is now becoming an increasingly familiar situation in east Kent and beyond (Parfitt and Brugmann 1997, 4). Indeed, Bradshaw had initially speculated that the mound (M1) might be of Anglo-Saxon date. Nor did it seem to be pure chance that the Ringlemere site was overlooked from the north-east by the important 6th century Anglo-Saxon burial site at Coombe, some 750m away(Davidson and Webster 1967).

A number of metalwork items known from around the Ringlemere site had implied some sort of Anglo-Saxon activity in the immediate area from the outset of the fieldwork and the discovery in 2002 of a complete 6th-century pottery vessel set into the outer mound of M1 further raised expectations. Nevertheless, the discovery the following year of a classic Anglo-Saxon sunken hut cut into the north-western side of M1, not far

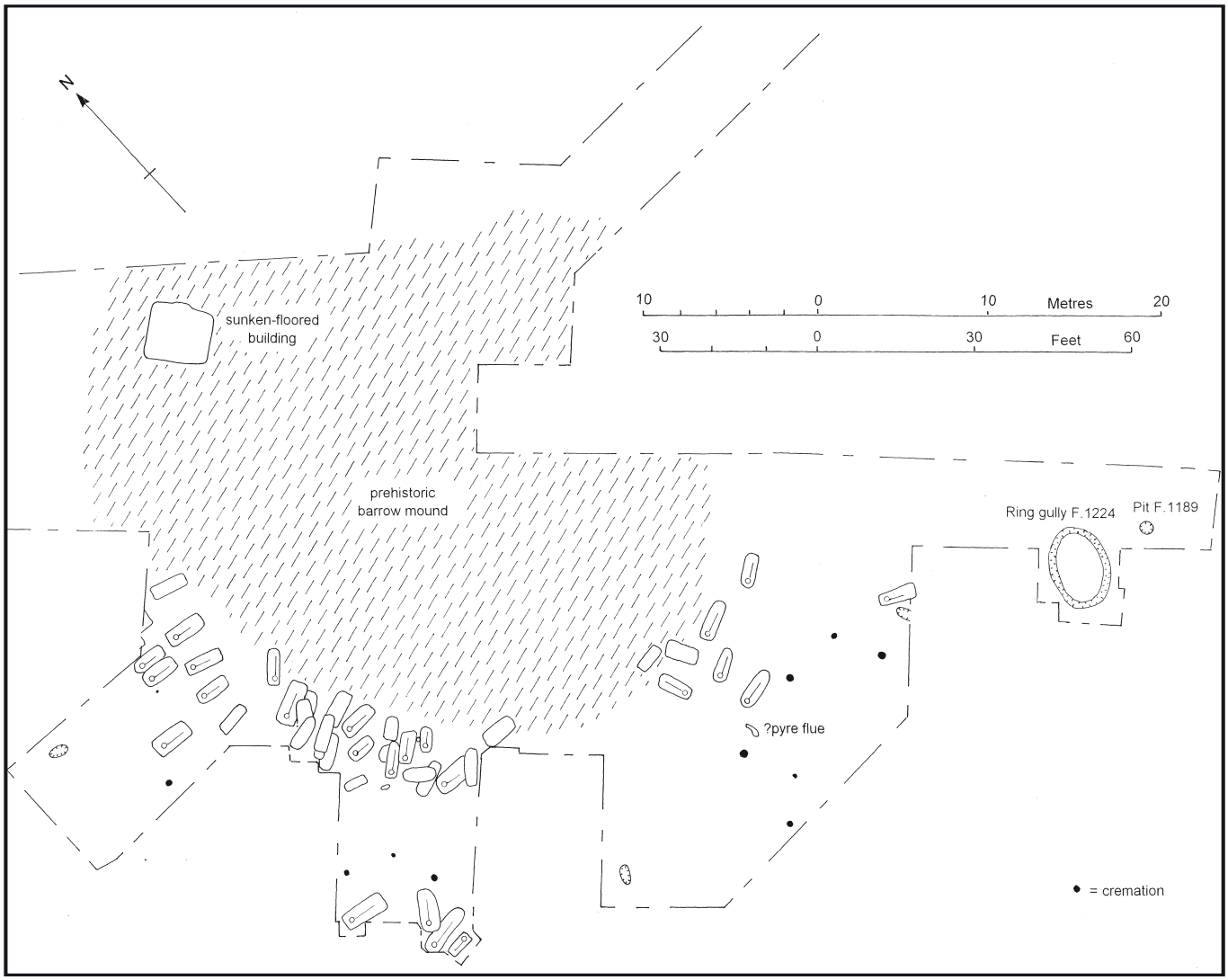


Figure 12 Plan of Anglo-Saxon use of M1

from the findspot of the pot, was completely unexpected (**Fig. 12**). Probably in-filled during the 7th century, the hut-pit is so far an isolated structure but it serves to alert us to the possibility of further buildings. On topographical grounds, any focus of settlement might well be found sheltering low on the valley slopes, close to the Durlock stream – presumably always a reliable source of fresh running water.

Despite the examination of several substantial areas outside the barrow ditch no trace of any Anglo-Saxon burial ground around the mound had been discovered by the end of the 4th season of excavation (Trench 4) and it began to seem unlikely that there had been such a re-use of Ringlemere M1. Then, new excavations on the south side of the mound in 2004 (Trench 5) led to the discovery of no less than 13 burials of Anglo-Saxon date, perhaps part of a larger cemetery extending away from the mound to the south.

The excavation of Trench 6 in 2005 led to the discovery of another much larger group of Anglo-Saxon graves, tightly packed onto the terraced area along the south-west and west side of the mound. These cut through the earliest soils filling the terrace and over 50 graves have now been excavated in all, with every suggestion of more lying beyond the investigated area (**Fig. 12**). Most of the burials are inhumations, but there are also a dozen cremations – a burial rite rarely encountered in east Kent during the early Anglo-Saxon period. On the south side, a small oval pit with heavily burnt sides located adjacent to cremation Grave 2 may represent the base of an associated cremation pyre flue, although no datable evidence was recovered from the feature, which had been partially disturbed by burrowing animals.

Preliminary inspection of the cremation urns and grave goods associated with the inhumations indicates that the bulk of these burials are of 5th-century date. Objects recovered from the inhumations include fine glass vessels, beads, brooches, silver rings and pins, buckles and various iron objects, including knives. No weapon-graves have been discovered as yet.

Some exceptionally important early graves appear to be represented at Ringlemere and these will require detailed study. Their analysis will form the basis of a separate report in due course but already it seems that this new cemetery site is going to be of considerable significance for Kentish Anglo-Saxon studies.

Later history

According to historical records, the Ringlemere monument complex once lay on land belonging to Ringleton Manor. The site of the manor house is situated across the valley 300m to the north-east of the excavated site (**Fig. 3**). The history of this manor has been previously outlined by Hasted (1800) and Davidson and Webster (1967). Here, we may usefully note that it is recorded in the Black Book of St Augustine's Abbey (1070–82) and Domesday Book (1086) and thus was in existence by late Anglo-Saxon times (Davidson and Webster 1967, 6).

Evidence for cultivation of the adjacent lands during the medieval period and early post-medieval periods is provided by a scatter of medieval peg-tile, together with smaller amounts of pottery and metal-finds, presumably brought out to the field with the manure. No doubt this material originated from the farms at Ringleton Manor and Ringlemere.

Recent changes to the landscape seem to have been relatively few. In 1912 the East Kent Light Railway line was laid across the area, just below the barrow site (Lawson Finch and Garrett 2003), although the associated earthmoving seems to have been quite limited and no archaeological discoveries are recorded. A number of old field boundaries have been removed in recent years to create larger fields and a substantial length of the Durlock stream has been confined within an underground pipe (Andrew Smith pers. comm.)

The field containing Monument 1 has been regularly under the plough since at least the 1930s (Andrew Smith pers. comm.) and the Tithe map implies that this was the case 100 years earlier. In all probability, the area had been cultivated for many centuries before this; indeed, we have described above the evidence for prolonged agricultural activity in or around the Roman period. Even if the mound itself remained out of cultivation at this stage and later, the persistent attrition of the edges could have given rise to enhanced erosion off its slopes. Finally, given the extent of animal burrowing encountered during excavation, it may not be unreasonable to speculate that the mound served as a rabbit warren during medieval times. Such burrowing activities can lead to deflation and accelerated erosion of mound structures.

From henge to barrow: Ringlemere M1 and comparable monuments

by Stuart Needham

Once it had been established that a remnant of a mound survived at the site and, moreover, that this was encircled by a ditch, the initial assumption was that the monument was, straight-forwardly, a round barrow. The diameter of the ditch suggested that it would have been an unusually large example, but such are known scattered across the country; Ann Woodward has termed them aggrandised barrows (Woodward 2000, 139–40). However, any initial assumptions that the mound once rose to a considerable height or that it was contemporary with the digging of the ditch now have been reconsidered (Parfitt and Needham 2004).

Certainly by the 7th century AD the outer skirt of the mound would not have been very much higher than it is today to judge from the sunken-floored building cut into the northern side (**Fig. 12**). This might be explained by previous agricultural activity. A little earlier, probably mainly during Iron Age and Roman times, the mound had been subjected to lateral plough erosion, causing the negative lynchets all around. However, we can now also argue that the core mound of turf was never particularly high, for the comparatively narrow second-phase façade trench described above, which survived to a depth of 0.23m, if correctly interpreted as a foundation for prehistoric timber uprights cut through the thickness of the mound, seems unlikely to have ever been more than say 0.75–1.0m deeper. This would suggest a first phase mound little more than 1m high.

It is likely that the mound was enlarged later. This depends on reconstructing the thin surviving layer of orangey clay encircling the core as originally having formed a capping over the turf mound, a bipartite structure familiar in conventional Early Bronze Age barrows. Often such mound additions followed secondary interments in an already established burial monument. Again, it is the erection of the timber façade in the top of the turf core which suggests the outer mound would not have been added immediately.

Monument phase 1

Whatever the original size of the turf mound, we have to take account of the implications of the first central structure, the cove, which preceded it. It seems unlikely that the cove stood before the ditch was constructed and it is possible that it was added secondarily to the centre of an existing enclosure and was part of a sequence of activity leading to construction of the inner mound.

Small rectilinear structures of varied forms can be found under Early Bronze age barrows (Ashbee 1960, 52–4). Two examples very like the Ringlemere cove are worth drawing attention to. A cove structure in a probable burial context has recently been excavated at Llanfair Discoed, Monmouthshire (Chadwick and Pollard 2005). Slot foundations on three sides are very similar in plan and orientation to the Ringlemere cove, but at Llanfair it occupies the base of a pit interpreted as a grave, itself central within a small ring cairn. Barbed and tanged arrowheads and Beaker sherds suggest it is a Beaker period grave with associated mortuary structure.

Another cove-like setting with a maximum width of 2.3m occurred under the burial mound of a barrow at Arreton Down, Isle of Wight (Alexander *et al.* 1960). Again the cove is formed of two angled slots, each formed of two intersecting pits. In this case association with a burial deposit is not in doubt; a cremation was placed centrally within the structure and was accompanied by a riveted bronze flat dagger and possibly also a bone belt-hook. Clare (1986) covers other examples of square settings inside small ring ditches which are most likely burial sites. While these are plausible comparisons for the cove at Ringlemere, here there is no evidence for associated burials and, moreover, we can point to a quite different setting for such structures.

The early phase of Ringlemere M1 can be reconstructed as a penannular enclosure with substantial ditch and an external bank enclosing a level interior surface of some 42m diameter (**Fig. 13**). The entrance points a little west of north and, if contemporary, the cove is situated at the very centre of the enclosure. It remains to be determined from full excavation of the interior and post-excavation analysis how many other features are contemporary, rather than belonging to earlier settlement activity. The first-phase monument is clearly a henge, apparently with just one entrance (class 1 – Atkinson *et al.* 1951; Harding and Lee 1987).

Enclosures accepted as henges or hengi-form have widely varying diameters, orientations, earthwork morphologies and internal structures and, taking account of all these constituent features, they have defied any simple classification (Burl 1969; Clare 1986). One should not therefore necessarily expect to match all features closely between individual sites, for there was clearly an element of 'bricolage' in the designed or accretive plan of henges. Nevertheless, some important comparisons can already be made between Ringlemere and other henges. This

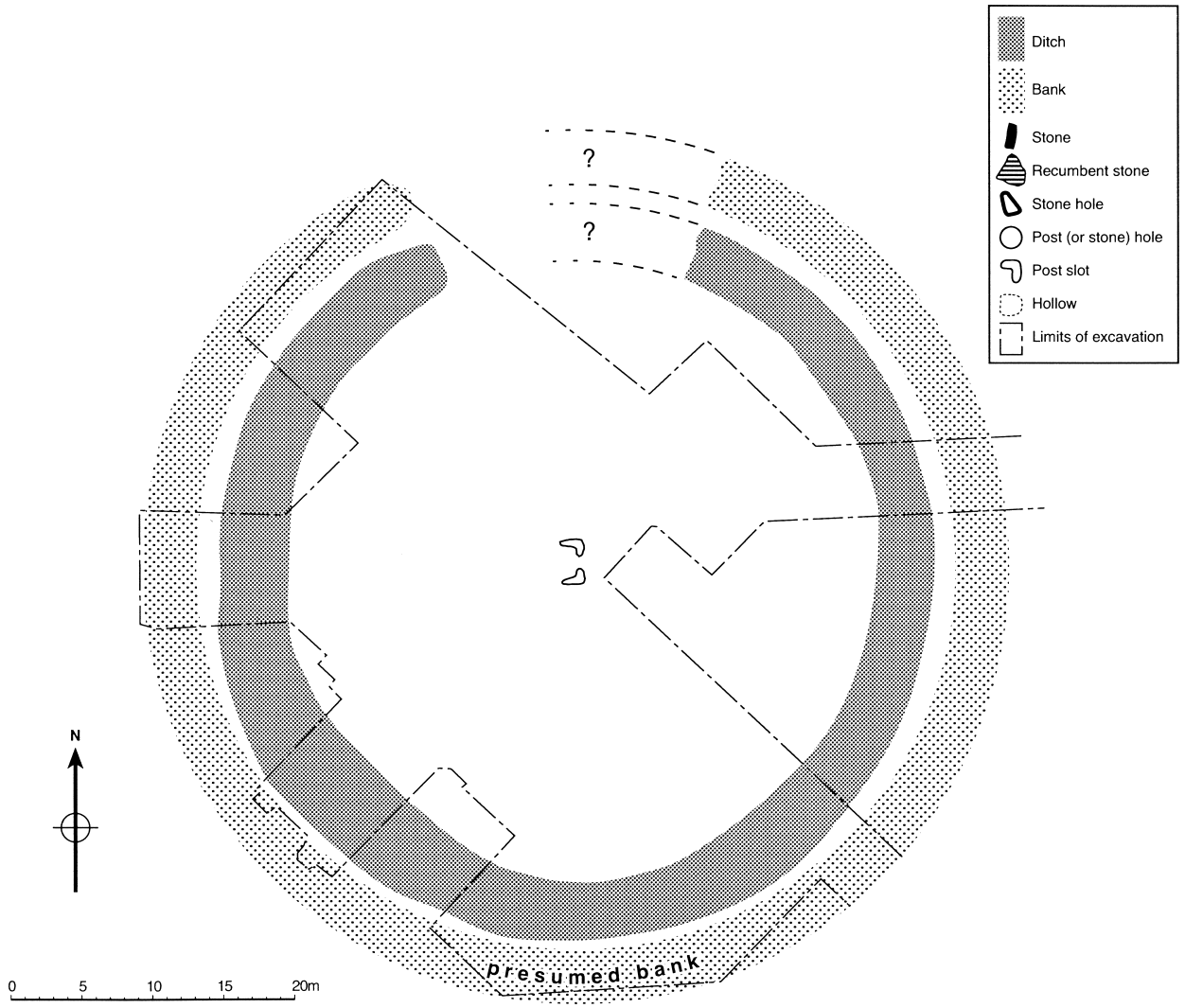


Figure 13 Simplified plan of the initial henge at Ringlemere. (NB It is likely that further internal features will prove to belong to this phase.)

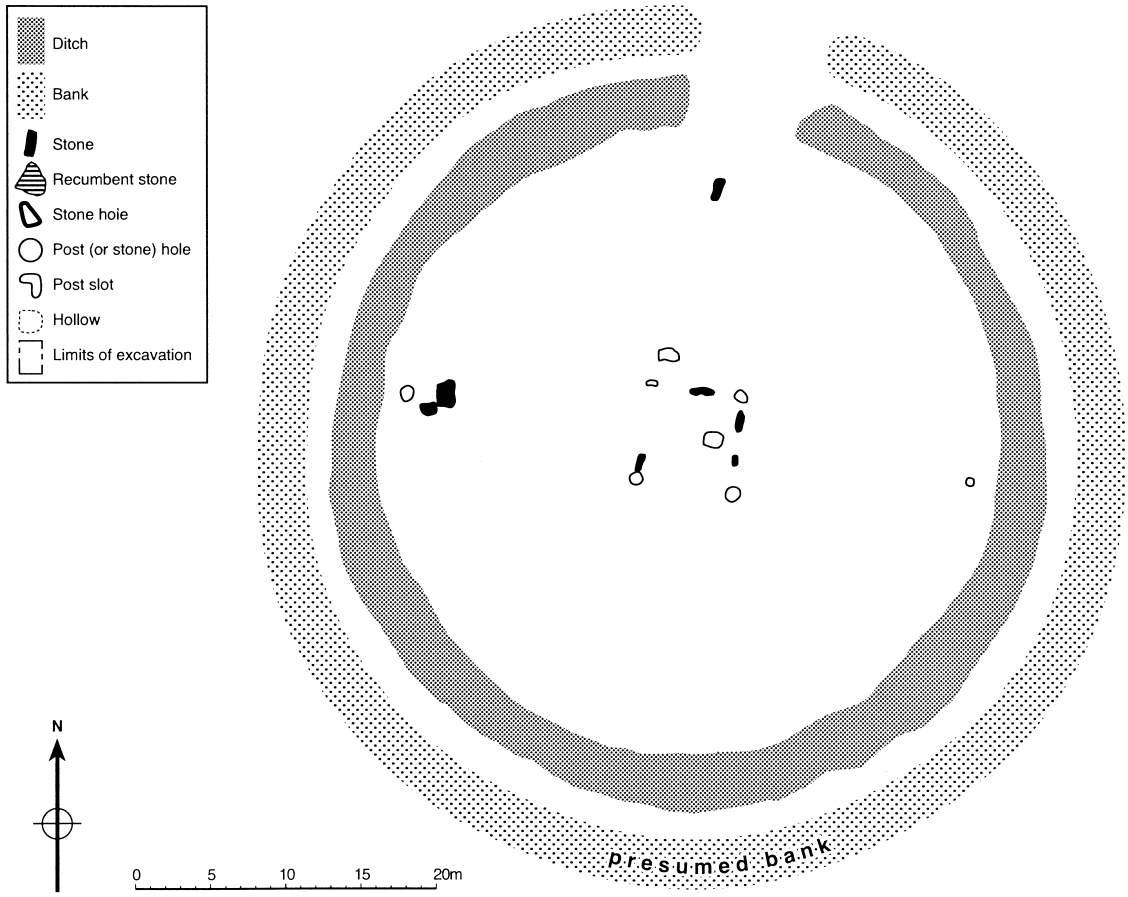


Figure 14 Simplified plan of henge at Site IV, Mount Pleasant, Dorset; Wainwright's phase 2 structures are shown (after Wainwright 1979)

will need more refined consideration later when more is understood of which features belong to the first monumental phase at Ringlemere M1.

The diameter of the Ringlemere example corresponds with the main peak for class 1 monuments, 40–50m internally (Harding and Lee 1987, 39 fig. 28B). Orientations in the north-east quadrant are also the most frequent for single-entrance classic henges, with a smaller number facing in the opposite direction (Harding and Lee 1987, 37, 38 fig. 27a). In these respects, therefore, the Ringlemere monument fits into the modal plan for class 1 henges. More intriguing, however, is the fact that at least two class 1 henges not only match the diameter and approximate orientation of M1, but also have similar rectilinear central structures.

The first is the 'Site IV' henge situated inside the vast 'henge enclosure' of Mount Pleasant, Dorset (Wainwright 1979, 29 fig. 16). The internal layout shown in **Figure 14** is that interpreted as phase 2 by Wainwright in which stone monoliths and pits or post holes are used to define a central rectilinear space 6.5m^2 and, just inside the ditch, three 'cardinal' points. The latter are in fact systematically rotated a few degrees clockwise from west, north and east thus conforming to the enclosure's alignment, just east of north. Like Ringlemere M1, the ditch describes a good circle; it has an internal diameter of 43m, an external one of 49m.

Dating of the Mount Pleasant IV enclosure relies on pottery and three radiocarbon dates for primary ditch silts. The latter are in good agreement with one another (**Table 1**), but may not date the very first construction phase. The antler and bone objects sampled came from ditch segment VII from the top of a pit, but immediately beneath the basal profile of the main ditch (Wainwright 1979, 17 fig. 10). The pit in question is one of several surviving beneath the ditch cut-line and may well indicate an original circuit formed of pits or shafts, not unlike Maumbury Rings (Bradley 1976). The dates, calibrating to the middle of the 3rd millennium BC, would thus relate to the backfilling of those pits with the main enclosure ditch dug thereafter, perhaps immediately thereafter. Associated pottery from the ditch is principally Grooved Ware, but two Beaker sherds in the lower fills (Longworth 1979, 75, P139, P221), although possibly intrusive from higher(one belongs with a larger number of sherds stratified a little higher), are actually unproblematic at a date shortly after 2500 BC (Needham 2005).

Table 1: Selected radiocarbon dates for Formative and Class 1 henges

Orientation	Site	Context	14C Result (BP)	Calibrated date* (cal BC; 2 sigma)	Lab. Ref.	Reference	Sample Details
?	***Flagstones, Dorset***	Child burial at base of ditch	4490 ± 70	3370–2920	Har-9158	Healy 1997, 38 table 1	Human bone
		Base of ditch	4450 ± 90	3360–2900	OxA-2322		Red deer antler
		Child burial inserted into lower ditch silts	4210 ± 110	3100–2450	OxA-2321		Human right femur
		Base of ditch	4030 ± 100	2900–2300	Har-8579		Red deer antler
WSW	***Llandegai A, Gwynedd***	Internal pit FA 370	4480 ± 50	3360–3010 (2950–2930)	GrN-22954	Lynch & Musson 2004, 118	Cremated bone; adult female
		Internal pit FA 1	4450 ± 40	3340–2920	GrN-27192		Mature oak charcoal
		Ditch middle fill(level 4)	4420 ± 140	3550–2650	NPL-221		Mature oak charcoal
		Cove – feature ACC3	4480 ± 145	3650–2750	NPL-224	Lynch & Musson 2004, 119	Charcoal: mainly oak, some hazel
		Cove – feature ACC2	4420 ± 40	3330–3220 3180–2910	GrN-26818		Charcoal: mainly one oak plank?
		Cove – feature ACC4	4320 ± 30	3020–2880	GrN-26817		Oak charcoal
SW	***Arminghall, Norfolk***	Base post hole 7	4440 ± 150	3650–2650	BM-129	Harding & Lee 1987, 195	Charcoal
N	***Stones of Stenness, Orkney***	Ditch, basal fill	4425 ± 50	3340–2910	OxA-9763	Ashmore 2000; 2001	Cattle hoof core
		Ditch, basal fill	4405 ± 50	3330–2900	OxA-9765	Ashmore 2000; 2001	Cattle mandibular ramus
		Ditch, basal fill	4390 ± 50	(3330–3230) (3180–3150) 3120–2890	OxA-9764	Ashmore 2000; 2001	Cattle left radius
		Ditch, basal fill	4310 ± 70 (110)	3350–2550	SRR-350	Ritchie 1975–6	Animal bone
		Ditch, basal fill	4240 ± 45	2920–2660	OxA-9762	Ashmore 2000; 2001	Wolf bone
		Burnt deposit in central feature	4190 ± 70 (110)	3100–2450	SRR-351	Ritchie 1975–6	Charcoal
		Bedding trench of square structure	3680 ± 270 (380)	–	SRR-592	Ritchie 1975–6	Decomposed wood
NE	***Stonehenge, Wiltshire***	Ditch primary fill	4432 ± 22	(3310–3230) (3180–3150) 3110–2920	UB-3794	Pitts 2000, App. 1; Cleal *et al*. 1995	Antler
		Ditch primary fill	4430 ± 18	(3279–3230) 3110–2920	UB-3789		Antler
	→	Ditch primary fill	4410 ± 60	3340–2900	BM-1583		Antler
	Excavation of ditch	Ditch primary fill	4393 ± 18	3090–2910	UB-3793		Antler
	3015 – 2935 BC	Ditch primary fill	4390 ± 60	3330–2880	BM-1617		A ntler
		Ditch primary fill	4381 ± 18	(3080–3060) 3030–2910	UB-3788		Antler
		Ditch primary fill	4375 ± 19	(3080–3060) 3030–2910	UB-3787		Antler
		Ditch primary fill	4367 ± 18	3030–2910	UB-3790		Antler
		Ditch primary fill	4365 ± 18	3030–2910	UB-3792		Antler
(?NE)	***Balfarg Riding School, Fife***	Ditch middle fill	4425 ± 50	3340–2910	GU-1670	Barclay & Russell-White 1993, 160–2	Charcoal: hazel
		Ditch middle fill	4385 ± 55	(3330–3220) 3180–2880	GU-1904		Charcoal: alder, birch, hazel
		Structure 2, boundary post	4330 ± 85	3350–2650	GU-1907		Charcoal: oak, alder
		Structure 2, internal post	4285 ± 55	3090–2680	GU-1905		Charcoal: alder
		Structure 2, boundary post	4155 ± 70	2900–2560 2520–2490	GU-1906		Charcoal: oak, alder
ENE	***Coneybury, Wiltshire***	Central structure post hole	4370 ± 90	3350–2700	OxA-1409	Richards 1990	Animal bone
		Ditch primary fill	4200 ± 110	3100–2450	OxA-1408		Animal bone
?	***Briar Hill inner circuit, Northamptonshire***	Primary silts in segment 176A(1), west side	4130 ± 150	3100–2200	Har-5216	Bamford 1985, 127	Small-counter sample
		Primary silts in segment 165B(1) [?late pit cutting segment 162]	3900 ± 90	2650–2000	Har-5125		Small-counter sample
		Cove	4010 ± 90	2900–2200	Har-2607		Charcoal: various sp.
N	***Mt. Pleasant IV, Dorset***	Ditch primary fill or prior shaft fill	3988 ± 84	2900–2200	BM-667	Wainwright 1979	Animal bone
		Ditch primary fill or prior shaft fill	3931 ± 72	2620–2190	BM-666		Antler
		Ditch primary fill or prior shaft fill	3911 ± 89	2700–2050	BM-663		Charcoal
		'Hearth' low in ditch middle fill (pale loam)	3630 ± 60	2200–1770	BM-668		Oak charcoal
		'Hearth' high in ditch middle fill	3274 ± 51	1690–1430	BM-669		Oak charcoal

Table 1: Selected radiocarbon dates for Formative and Class 1 henges cont.

Orientation	Site	Context	14C Result (BP)	Calibrated date* (cal BC; 2 sigma)	Lab. Ref.	Reference	Sample Details
N	***Maumbury Rings, Dorset***	Bottom of shaft 1 (pre-henge)	3970 ± 50	2620–2300	BM-2282N	Bowman *et al.* 1990, 65, 71	Red deer antler
		Uppermost fill of shaft 3 (pre-henge)	3940 ± 130	2900–2000	BM-2281R	Bowman *et al.* 1990, 65, 71	Red deer antler
NNE	***Woodhenge*, *Wiltshire***	Ditch floor	3817 ± 74	2470–2030	BM-677	Pollard 1995a	Antler
		Ditch, primary silts	3755 ± 54	2470–2030	BM-678		Animal bone
NNW	***Gorsey Bigbury, Somerset***	Ditch secondary silts, 'occupation' layer (Beaker-associated; various levels)	3800 ± 74	2470–2030	BM-1088	Harding & Lee 1987, 261–2	
			3782 ± 62	2460–2030	BM-1089		
			3666 ± 117	2500–1650	BM-1090		
			3663 ± 61	2210–1880	BM-1086		
			3606 ± 67	2150–1740	BM-1091		
			3602 ± 71	2140–1740	BM-1087		

* Ranges in brackets have relatively low probability

On Wainwright's phasing, the central square arrangement was introduced later, as indicated by the occurrence of an 'extensive spread of ash and charcoal, fresh sarsen flakes, stone mauls, flint artefacts, animal bones and numerous sherds of Beaker pottery' at the base of the pale loam in the upper ditch fills (Wainwright 1979, 28). An associated radiocarbon date on oak charcoal is 3630 ± 60 BP (BM-668). On this chronology, the stone setting is later than the multiple timber circles, but the spatial coherence between the two structure sets is striking and Pollard suggests instead that they were pene-contemporaneous (1992, 218–9). At the very least the positions of the first structure were still visible when the second was laid out.

The second excellent parallel is the Stones of Stenness on Mainland, Orkney, which again is a good circle (**Fig. 15**). The interior is 43m in diameter, the outer lip of the ditch 54m; excavations have revealed a 6m wide bank outside (Ritchie 1975–6). The central structure is a 3 x 3m square setting of low sill-stones, thus similar in dimension to the Ringlemere cove, but differing in being an apparently closed space which has been interpreted as a hearth by Colin Richards (2005, 218–25); burnt material was recovered from its interior. The stone phase may well be a late 'monumental' version of an earlier structure on the same spot (ibid); Richards finds evidence for earlier demarcation of the same space by an equi-armed L-shaped slot

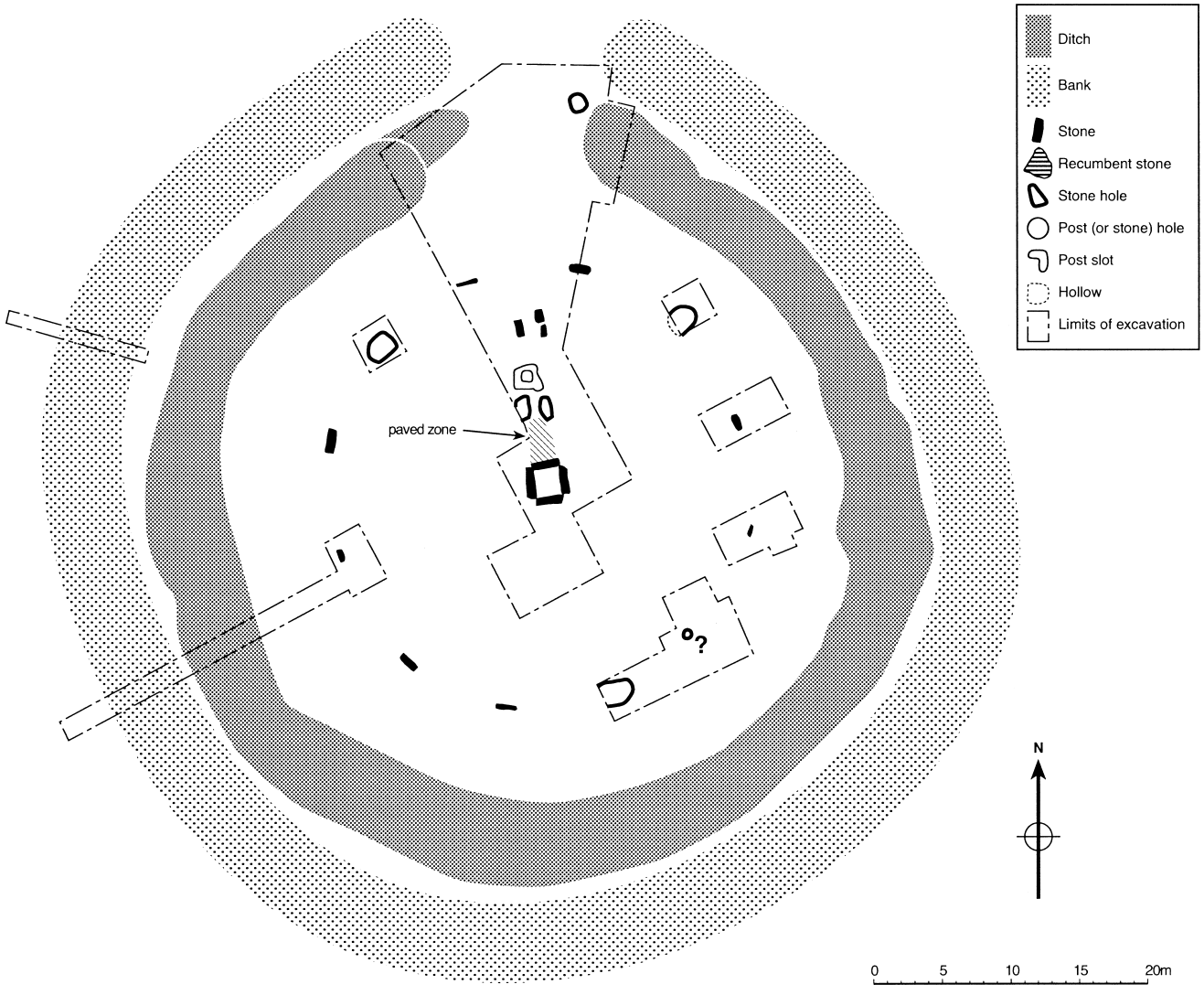


Figure 15 Simplified plan of Stones of Stenness henge, Orkney (after Ritchie 1975–6)

and this too he sees as a hearth. However, if these were slots for timbers, as seems most likely, they imply an angled wall or facade rising above the ground surface.

The limited areas excavated in the interior of the Stones of Stenness also revealed a range of other features, particularly on the line between the central structure and the entrance (Ritchie 1975–6). Moving outwards, there is first a 3m length of 'paving' leading to the gap between two stone-holes, perhaps forming a portal. Immediately beyond is a small square slot, 1.5m across, the foundation trench for a four-sided structure of timber or upright stones that were later removed. Next on this line is a 'dolmen' of three stones defining a similar ground area, but already by 1974 a restoration set in concrete. Finally, the whole central zone is encircled by a ring of 11 or 12 colossal upright stones about 30m in diameter; 4 remain *in situ*.

Dating of the Stones of Stenness henge has recently been amplified by a new suite of radiocarbon dates (Ashmore 2000; 2001). Most are for material from the primary ditch silts, presumably therefore dating the early life of the enclosure (**Table 1**). They show conclusively that construction must have been around the turn of the 4th to 3rd millennia BC. A single date for burnt material from the central structure seems to relate to continuing use of the site into the earlier half of the 3rd millennium.

Ringlemere, Mount Pleasant IV and Stones of Stenness are only the most closely comparable in plan among a growing body of henges and contemporary ceremonial sites which have small rectilinear structures associated. Several such associations have been noted and discussed by past researchers (Ritchie 1975–6; Wainwright 1979; Clare 1986; Burl 1988; G. Barclay 1999), but it is now possible to add a number of further examples, not all certain on extant evidence; these are introduced below.

The 'rectilinear' structures concerned are by no means all of the same form, nor necessarily function. Graham Ritchie (1975–6, 19ff; followed by Burl 1988, 3–5) felt that the square structures in the centre of some monuments should not be equated with the three-sided 'coves' in others, whereas Clare (1986, 300) loosely grouped all rectilinear structures together and saw their origins to lie in earlier Neolithic mortuary structures (see for example Burl 1979, 116 fig. 5). Both positions are defensible, but at the same time unhelpful for understanding specific functionalities. Clearly the element of a small to medium sized rectilinear structure was well embedded in Neolithic structural principles; that might mean the basic form could be drawn upon for a variety of purposes and this supports Ritchie's case for scrutinizing the evidence available for any differentiation. Precise lay-out in plan may not, however, be as important as evidence as to how the feature was used, as derived from position in the site, size, reconstruction of superstructure and excavated debris (eg Pollard 1992). Such factors might, for example, override formal differences between those seemingly four-sided in plan and those apparently with only three sides.

The Coneybury Hill class 1 henge, Wiltshire, is 'sub-oval' in shape, encloses an area of 32 to 38.5m diameter and faces east-north-east (J. Richards 1990), in these respects differing from the previous class 1 henges discussed. Julian Richards thought that the excavated pits/post-pits at the centre might have formed part of a circle (1990, 134), but this looks unlikely, even allowing for what remained unexcavated. As Pollard has recognised (1995b, 125), three of the most substantial features – 1177, 1601, 1603 – are very similar in character and would make a neat rectangle 4 x 4.5m with the addition of a fourth outside the excavated area (**Fig. 16**). Smaller features adjacent would seem to have supported smaller timbers partially filling three sides, but remaining open away from the entrance, in this way comparable to the Mount Pleasant IV structure. As at Mount

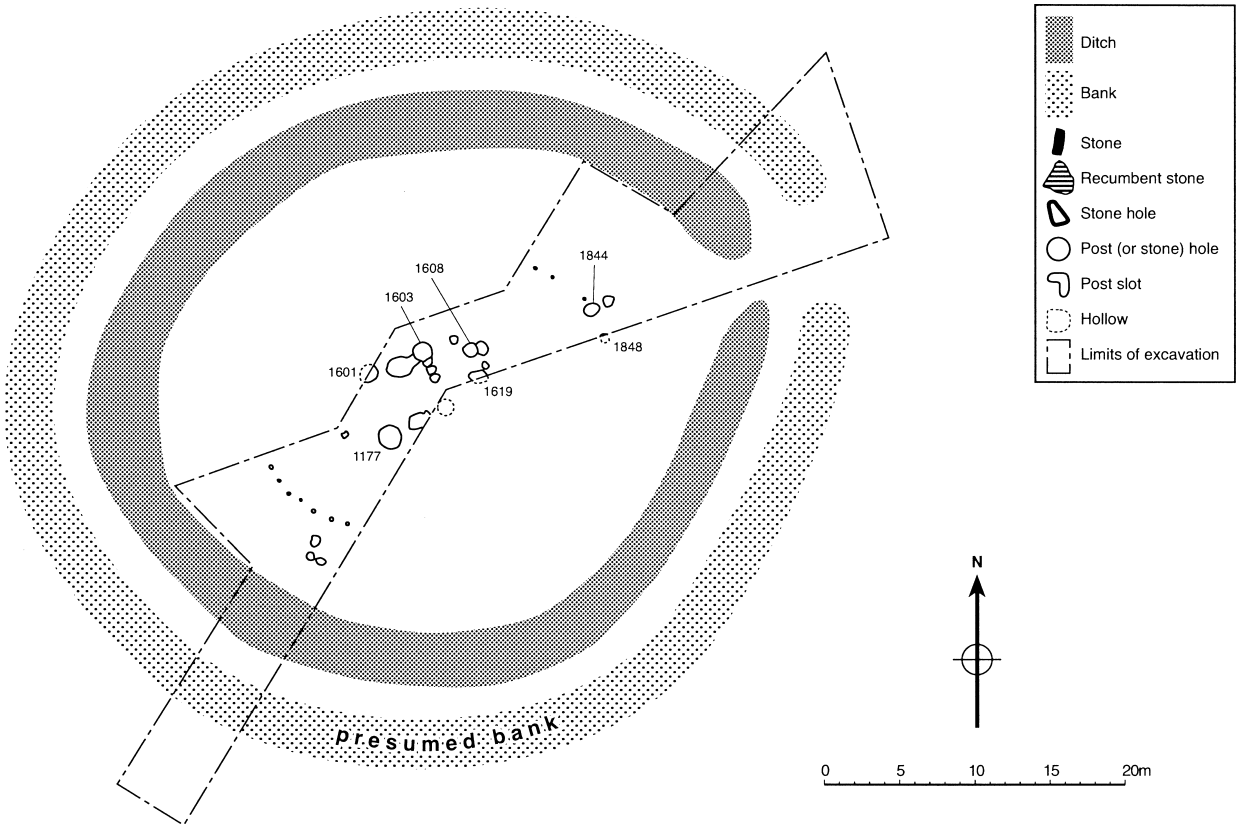


Figure 16 Simplified plan of Coneybury henge, Wiltshire (after Richards 1990)

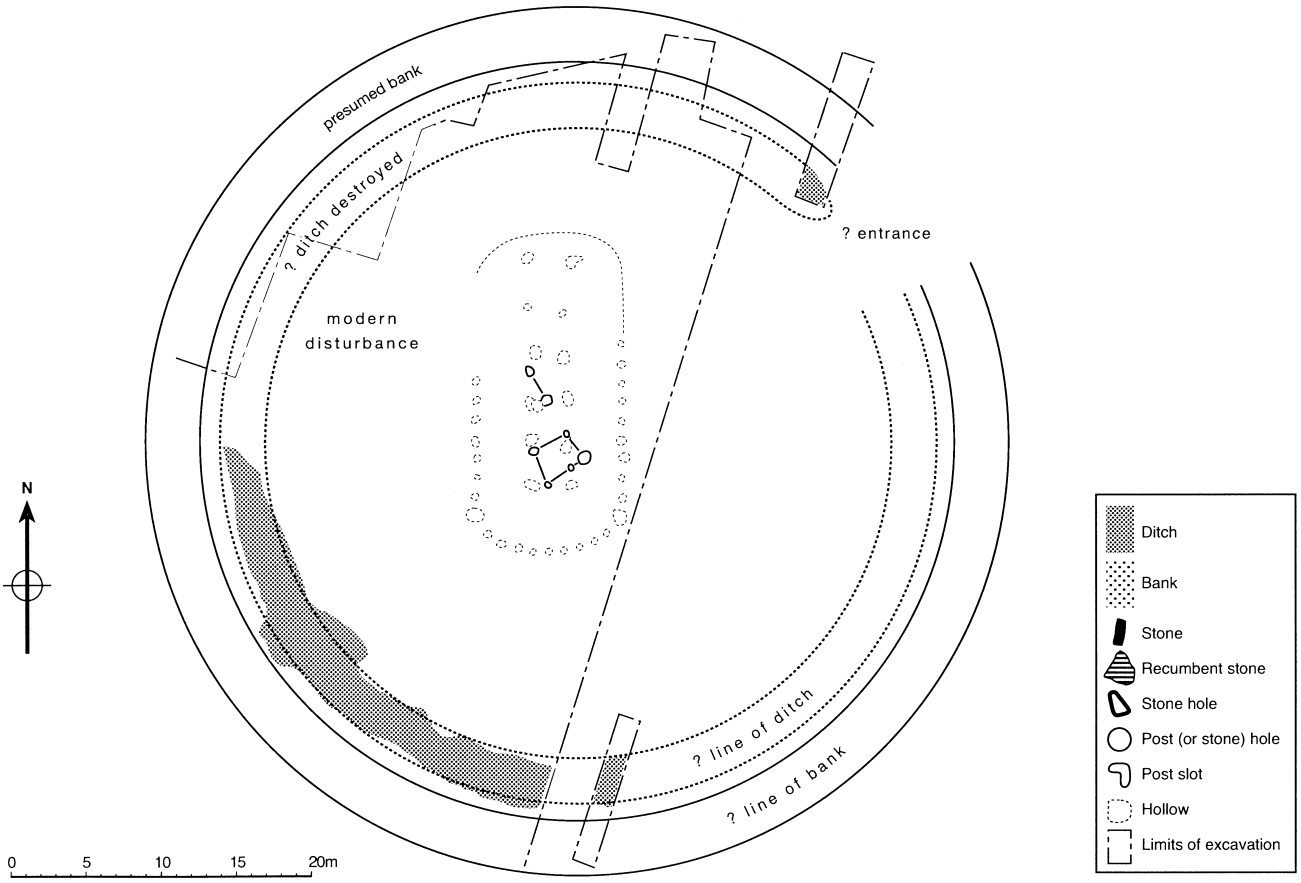


Figure 17 Simplified plan of possible henge at Balfarg Riding School, Fife (adapted from Barclay and Russell-White 1993). The internal features are suggested to belong to two main phases.

Pleasant and Stones of Stenness, the rectangle is aligned with the axis through the entrance and this alignment is enhanced by two intermediate pairs of posts noted by Richards (1990, 134–9; posts 1844 with 1848, and 1608 with 1619), these again recalling the arrangements at Stones of Stenness.

The dating of Coneybury relies on two rather imprecise radiocarbon dates. Bone from one of the larger central structure features, 1601, was dated 4370 ± 90 BP, and that from primary ditch fills, 4200 ± 110 BP (**Table 1**). These dates would relate best to pre-Beaker Grooved Ware phases, but sherds of Beaker pottery suggest continuing activity after the middle of the 3rd millennium BC. In fact most of the Beaker pottery is in layers also yielding still later pottery, down to the Middle Bronze Age, suggesting it was already old when deposited in the higher ditch fills, perhaps in the course of ploughing.

On the evidence of an early depiction, four monoliths once stood in a square arrangement in the middle of the large class 1 henge of Mayburgh, Cumbria (Topping 1992, 250–3); only one now survives. The enclosure has an internal diameter of 88m and is unusual in being ditchless, the massive bank being made up of imported pebbles.

A partly destroyed enclosure which is likely to have been a classic henge monument was excavated at Balfarg Riding School, Fife (Barclay and Russell-White 1993). It was also found to have suffered marked subsoil truncation in its northern half. The original shape of the enclosure is uncertain, as is the position of the ditch and entrance(s). However, the excavated ditch circuit has an internal diameter of about 40m. Grooved Ware and material datable by radiocarbon were associated with both the middle ditch fills and parts of the interior surface. A most striking structure was revealed in the interior – a large rectangular building with bowed end walls – and was interpreted by the excavators as an unroofed mortuary house. A second, very similar in plan, lay outside, 35m away to the south west.

The post holes at the southern end of the earthwork-enclosed building were more numerous than elsewhere in this or the second house and five superfluous features can be made into a small slightly trapezoid cove, aligned diagonally to the superimposed building and enclosing 3 x 2.5m (**Fig. 17**). One corner post lies at the predicted centre of the ditch, assuming near circularity. The henge can feasibly be constructed with a north-east facing entrance which might thus have aligned with the long axis of the cove.

Class 2 henges can also have related central structures. Arbor Low, Derbyshire (**Fig. 18**), is famous for its central setting of up to seven stones, some of which are recumbent, which is often regarded as a collapsed cove (Gray 1903, pl. XXXVIII; Barnatt 1990, 35–8; Hart 1981, 39 fig. 4.4, 41). Gray's excavations found no evidence for holes in between the two large recumbent stones and if they were ever upright they must cover their respective sockets, as Barnatt has conjectured. They would have been on opposite sides facing the entrances and forming a cove 3m or more across. Standing 3m high, they would have effectively blocked the view of the cove's interior from the direction of the entrances (Barnatt 1990, 38). The henge's interior is about 43 x 54m across.

Another relevant class 2 henge is that of Cairnpapple Hill, West Lothian (**Fig. 19**). The interior was fully excavated by Piggott (1947–8). Again the internal platform is of very

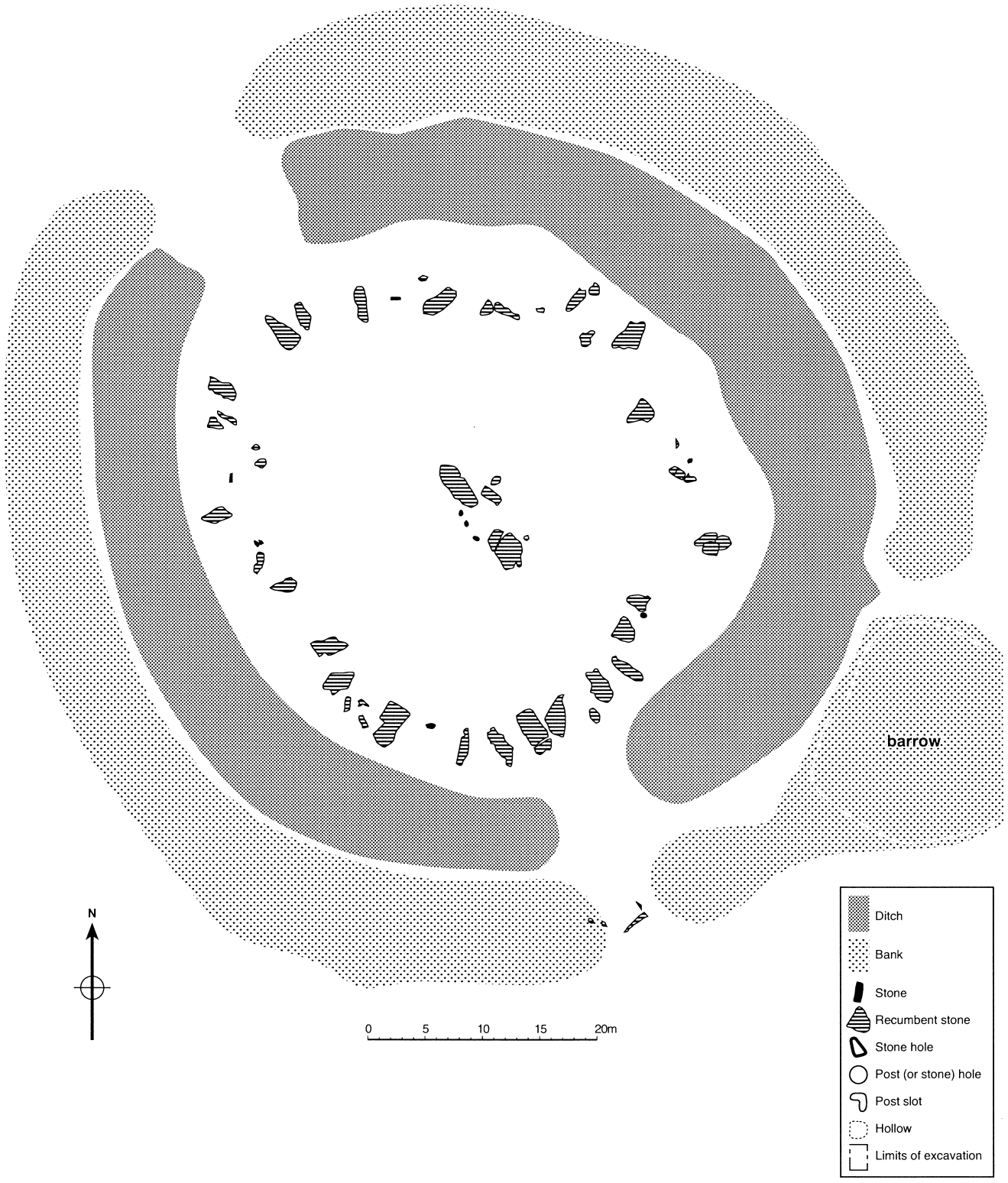


Figure 18 Simplified plan of Arbor Low henge, Derbyshite (after Gray 1903)

comparable size to those discussed so far, 35 x 40m, and it contained two relevant structures. The site sequence has been reconsidered by later writers, most recently by Gordon Barclay (1999), and there is considerable debate about the exact phasing of the early (pre-cairn) structures. The 'structure' nearest the centre is represented by three linear 'pits', or slots, set on the edges of a larger hollowed zone, which might be contemporary or later. The slots are likely to have held upright stones or timbers (Ritchie 1975–6). Piggott had reservations about whether they belonged with the initial henge phase (his period II) because of their eccentricity to the ditch and bank (1947–8, 79). However, the henge itself is one of those that seem to have been deliberately made to be asymmetric around the axis through the entrances. Moreover, it may be that he was expecting the wrong element to be central. Rather than the setting as a whole, it appears that it was the large socket, up to 6m long, that was intended to be central. The feature is aligned on the south entrance and perhaps also on a narrow gap through the terminal to the west of the north entrance (**Fig. 19**). It recalls the phase 2 façade at Ringlemere.

A revised perspective on Cairnpapple can be gained by developing Ritchie's suggestion that this central rectilinear

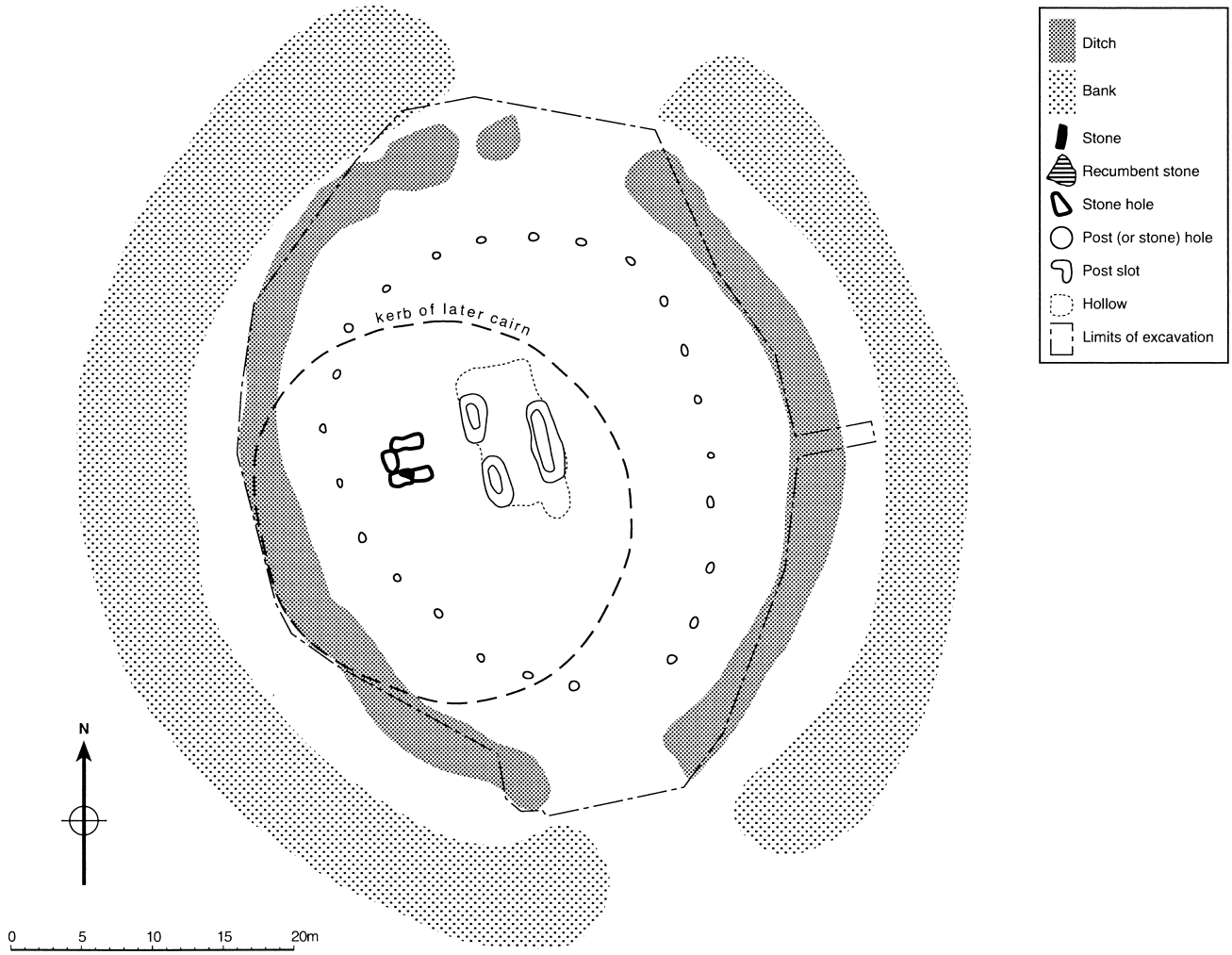


Figure 19 Simplified plan of Cairnpapple Hill henge, West Lothian (adapted from Piggott 1947–8)

structure went together with another early structure immediately to the west – the 'cove' (this is followed by Barclay in his phase 2; 1999, 39). The structure has a maximum external width of 3.5m and although most sockets are now empty, they are best seen as for modest sized stones. Indeed one upright is surely still essentially *in situ*; it is incorporated into, but out of character with, an oval stone-slab surround for a subsequent Beaker grave, which will have truncated the eastern end of its socket (Piggott 1947–8, 91 fig. 10, pl. IX.2). The cove faced east with a potential sight line through a portal formed by the westerly two uprights of the 'central' setting and thus onto the flat face of, or through a window in, the central façade. It is also noteworthy that the outer circle of uprights, probably timber posts, is flattened on the east side, opposite the westerly offset position of the focal structures, and this gives a symmetry about an axis perpendicular to the axial passage through the entrances (itself offset from the centre line of the monument) .

There is no stratigraphic evidence against these features at Cairnpapple belonging to a contemporary structural set. They pre-date two graves, one with two Long-Necked Beakers, the other with a Food Vessel, and an encircling two-phase cairn (Piggott's periods III–IV). The structure set should pre-date the 2nd millennium BC and could be significantly earlier (Barclay 1999, 32–4). Beaker sherds (unillustrated) were apparently recovered from the fill of one of the central structure sockets (Piggott 1947–8, fig. 5), but they might relate to demolition as much as construction.

The Devil's Quoits, a class 2 henge in Oxfordshire, yielded a cluster of shallow post holes at its centre (A. Barclay *et al.* 1995, 43 fig. 26). Most survived to no more than 11cm deep, possibly having been truncated by agricultural activity, including medieval ridge-and-furrow. Alistair Barclay was concerned that a structure may have survived incompletely and suggested that the post holes represented an oval setting (ibid 71–3). However, the main arc of post holes forms a semi-circular setting 9m across and open towards the western entrance. The presence of close-set and double post holes suggests the structure went through two-phases or was repaired. Within the cresecent defined are five further post holes, one of which (F90) is equidistant from the crescent's ends. It is just possible that three of the others may have belonged to a rectilinear setting, but if so one had been destroyed or missed. This arrangement of posts as a crescent is reminsicent of what may be reconstructed at the centre of Balfarg henge.

Balfarg is an atypical henge with two entrances set at about 100° from each other, the ditch enclosing an area of around 65m diameter (Mercer 1981; Mercer *et al.* 1988). It lies close to the Balfarg Riding School enclosure already discussed. Despite considerable erosion and a difficult glacial till subsoil, the excavator was able to identify many internal features, some of which could be reconstructed as concentric circles or arcs thereof, mainly for timber uprights. The main circle, A, had a 'portal' structure facing west and this seems to define the main axis of approach to the centre (**Fig. 20**). Inside was a lighter

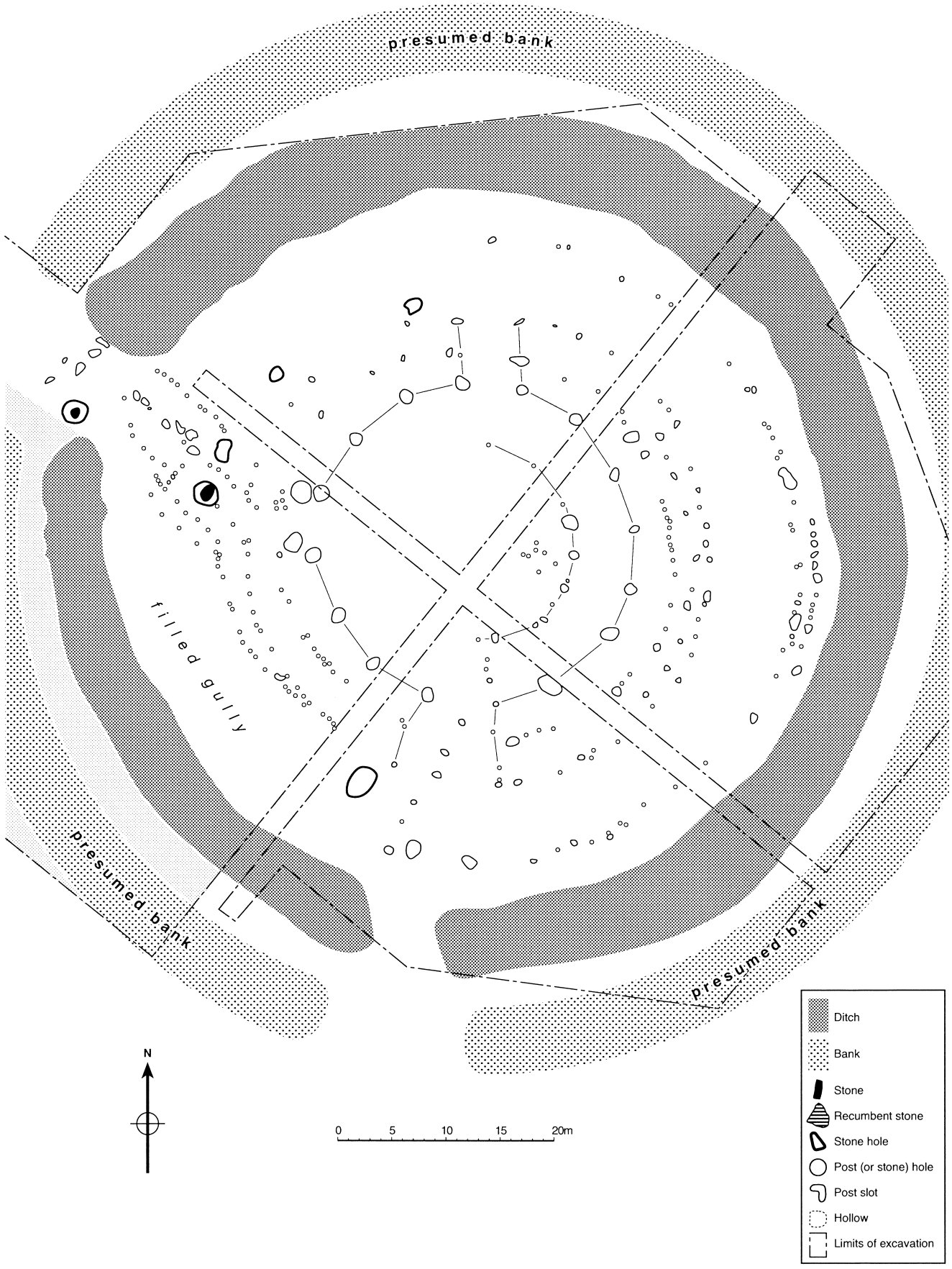


Figure 20 Simplified plan of Balfarg henge, Fife (adapted from Mercer 1981). Only selected internal features are shown here.

semi-circular structure screening the back (east) side of the inner space, away from the main approach. Focally sited towards the back of the semi-circle and a few metres behind the centre of the whole monument was a cluster of small post holes, some having evidence of burning (Z9 – Z15). These are not unambiguously reconstructed and may not all be post holes, but a small rectilinear or trapezoid structure is possible. The very centre of the site is almost bare of features, but a late Beaker grave was inserted, presumably considerably later than the site's foundation.

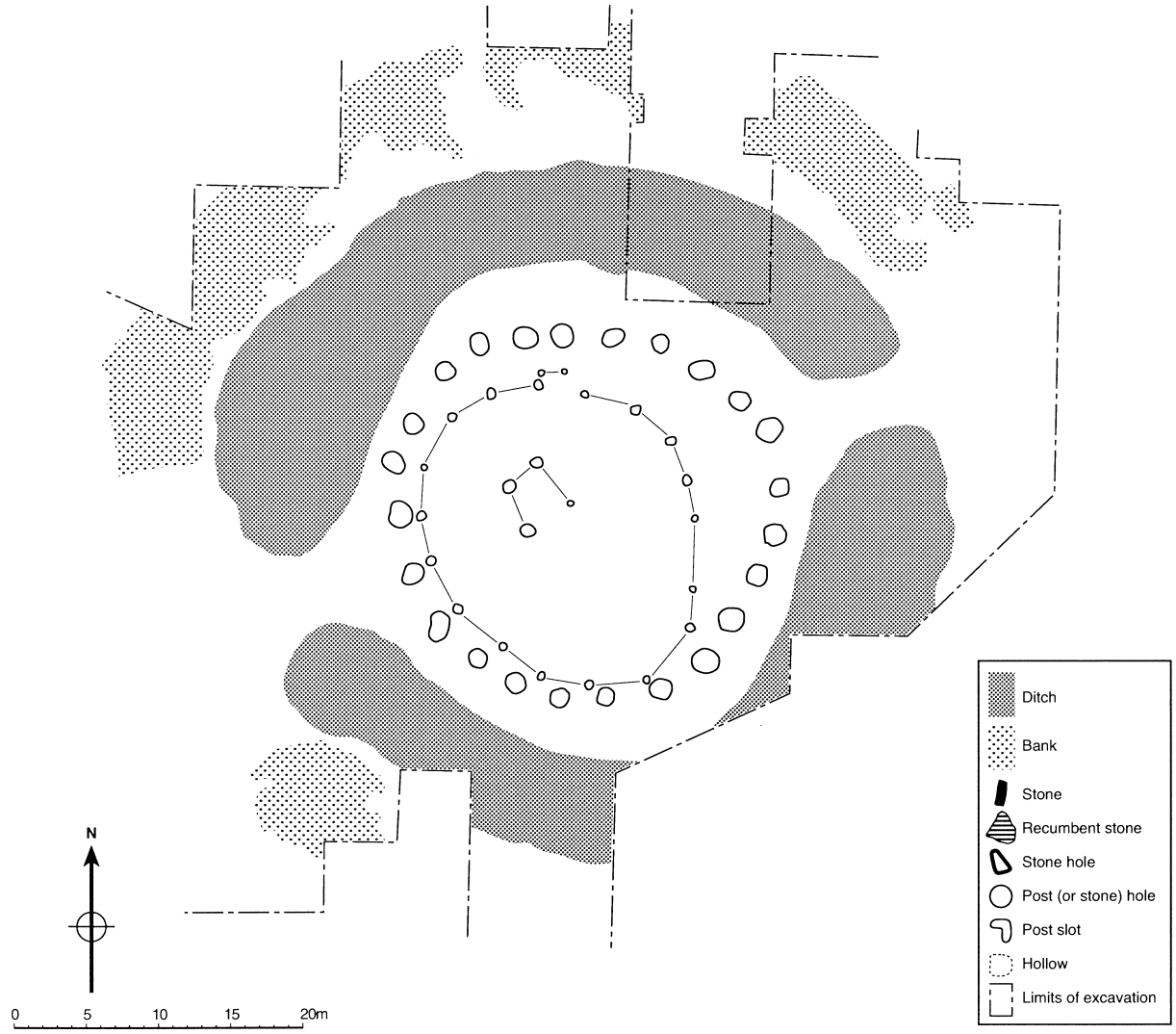


Figure 21 Simplified plan of North Mains henge, Perthshire (adapted from Barclay 1983)

At North Mains, Perthshire, there is again the possibility of a small cove or quadrangular structure near to the centre of a henge of 35 x 32m internal diameter (**Fig. 21**). A sequence was recognised by the excavator in which the ring of substantial posts, circle A, must have been erected before the henge earthwork was constructed because of the consistent orientation of their ramps outwards, towards the ditch; had the ditch already existed, this would have made erection of the big timbers even more difficult a task than it already was (G. Barclay 1983, 180). Inside circle A was an egg-shaped ring of slighter posts, circle B, whose eccentricity relative to circle A and the enclosure has led to the suggestion that it was earlier still (Gibson 1998, 36–7). This need not necessarily be the case since there is no overlap between the two 'circles' and an alternative explanation for their eccentricity could lie in the deliberate creation of a forecourt area between them on the east side, arguably the main approach.

Four pits or post holes – F40, F41, F43, F45 (G. Barclay 1983, 152–4) – form a slightly trapezoid setting, about 3.5m long and contracting from 3.5 to 2.5m in width. Although not central in the monument, it is sited focally within ring B, just north-west of its centre, its wide end facing the centre (south-east). If this was the open side of a cove, it may have faced away from the entrance to ring B, for such is potentially defined by F37 and F38 which were recognized by the excavator to form a pair lying immediately outside the north of ring B. None of the relationships here prove contemporaneity between the various structural elements and there may have been a sequence of additions. Nonetheless, it is possible to see all these elements as constituting a unitary plan at some point in the site's history.

The single-entrance henge-like enclosure at Llandegai A, Gwynedd, atypical in having an internal bank only really repeated at Stonehenge, may also have a cove structure, but unlike the classic henges discussed so far, the cove lies immediately outside the entrance. A set of pits and postholes containing cremated human bone deposits at that location has hitherto been described as a 'cremation circle' (Lynch and Musson 2004, 48–54). However, this is something of a misnomer; the three main features are elongate slots, each between four and 5m long. Together they form what can readily be reconstructed as a cove enclosing an area of 7 x 4.5m and facing NNE. Other features in the group are modest by comparison although some may have held single posts, two being situated in front of the putative open side of the cove.

Although described as pits, the long oval features could have been slots for upright timbers and/or stones. The westerly one, ACC2, even contained in its centre the base of a broken and partially keeled over monolith, but concentrations of charcoal to either side suggest that it stood between or replaced timbers which had burned *in situ*. The back-wall slot, ACC3, had a

central linear bed of charcoal all along its base, and another against its northern edge; they are suggested to have originated in planks (ibid, 51), in which case they could be the base of one or more phases of a timber-framed wall. Deposits of cremated bone are recorded in plan as having formed a neat ring around the central line of the slot and would be consistent with having been buried at the foot of a wall panel, both internally and externally (ibid, 49 fig. 22).

The eastern slot, ACC4, contained less charcoal occurring as five patches fairly regularly distributed along its length and suggestive of burnt post positions. Three radiocarbon dates, one for charcoal from each of the three slots, show broad contemporaneity with the earthwork of the 'formative' henge, ie towards the end of the 4th millennium cal BC (**Table 1**).

A slot foundation for a slightly trapezoid timber cove 5m long, 2.5m wide and facing east was excavated at Briar Hill, Northamptonshire. It stood in the southern part of the innermost circuit of a triple segmented ditch enclosure, the whole of which was initially taken to constitute an earlier Neolithic causewayed enclosure (Bamford 1985, 43 fig. 22). The innermost enclosure was 95 x 85m across, but the cove itself is dated by radiocarbon and Grooved Ware sherds to the Late Neolithic, as are three other internal features. There is also an undated linear façade trench, 6m long, placed immediately behind the cove.

The Late Neolithic features must be much later additions to the original causewayed enclosure; Chris Evans (1988, 85–6) was first to challenge the notion that all three ditch circuits were part of the 'coherent design' originally argued by the excavator. It is now much more likely that most of the inner circuit was appended to a stretch of the middle circuit to form a near-circular enclosure with an external bank, contrasting with the existing internal banks (Mercer 1990, 63–4; Bradley 1998b, 79; Oswald *et al*. 2001, 55, 56, 77, 133–4, 153). The earthwork in this rejuvenated phase is not well dated; sparse finds are still of earlier Neolithic material, perhaps residual, and two radiocarbon measurements are on small samples. Nevertheless, the latter do suggest contemporaneity with the enclosed cove and associated features at a date around 3000 cal BC and the complex may qualify as a 'formative henge' in Jan Harding's terms (2003, 10–20).

Flagstones in Dorset is another enclosure that may fit into this category and has much in common with Briar Hill's inner circuit – very small ditch segments and an internal diameter of 97m (Healy 1997). Radiocarbon dating again places its construction and early use to either side of 3000 cal BC. Only about half of the interior was available for excavation and it is not certain where the entrance or entrances lay. One strong candidate on the north side was defined by a wider gap than normal and shallower flanking ditch segments of distinct profile than elsewhere, possibly incorporating post sockets (ibid 33, fig. 20 section J). A little south and west of that gap, 20m distant overall, were three contiguous shallow pit features (ibid, 41). Unfortunately these had been partly destroyed by medieval field boundaries, but they define three sides of a space of 4 x 2m open to the south-east. It seems quite possible that this too was the foundation for a timber cove.

In the south-west quadrant of the enclosure, immediately inside the ditch, was a semi-circular ditch about 7m across, three enclosed pits each contained cremated human bone (ibid, 41). Although semi-circular, this mini-enclosure is highly reminsicent of the Llandegai A cove in its size, position on the south-west perimeter and association with bone.

Another monument created in this 'formative' phase was Stonehenge; there may even be indications of a rectilinear feature here amidst the considerable ground surface losses caused by the subsequent stone settings in the central zone. The timber structures are generally believed to have belonged to pre-stone phases and are ascribed to Stonehenge 2 (Cleal *et al*. 1995). This may be an over-simplification arising from the fragmentation of the evidence, but a thorough consideration of this problem cannot be tackled here. However, a trench opened by Atkinson close to the centre of the site yielded just two post holes 3.5m apart (Cleal *et al*. 1995, 149 fig. 69). Moreover, these would be consistent with one side of a square or quadrilateral four-post setting symmetrically disposed around the theoretical centre of the enclosure. It is tempting, on this limited evidence, to hypothesise that an early phase of Stonehenge had a central rectilinear structure.

Similar questions need to be asked of the features that have been revealed by geophysical survey at the centre of the Stanton Drew great stone circle which is now seen to lie immediately inside a ditch enclosing a space of 125m diameter (David *et al*. 2004, 344–9). At least two major features here are now shown to lie at the centre of as many as nine concentric circles of pits and/or post holes. For the sake of completeness, we should also mention the record of a possible cove inside a now lost earthwork – perhaps a henge – at Tisbury, Wiltshire (Bradley, in Barrett *et al*. 1991, 106).

Related structures also occur within circular stone and timber monuments that lack an immediately enclosing earthwork; even so, some of these are associated with great-henge enclosures or with large palisade enclosures. The great majority of the 'open' circles have a maximum diameter much smaller than the henges and formative henges discussed. The stone circle at Balbirnie, part of the Balfarg complex in Fife, is only 14m in diameter and central within it is a closed kerb-defined square about 3.5 x 3m which only really finds structural parallel at Stones of Stenness (Ritchie 1975–6). In contrast is the North circle within Avebury great henge, some 97 x 93m across, with its equally grand stone cove facing north-east and enclosing about 8 x 4.5m (Smith 1965, fig. 68; Burl 1976, 307 fig. 50a, 320–33; Gillings and Pollard 2004, 13 fig. 4). The southern circle inside Avebury is of similar size and had instead the tall 'obelisk' stone at its centre. To the west of the obelisk Keiller excavated stone holes forming a three-sided setting of smallish stones, the long side being 32m long, but the short axis (7m) may be incomplete if the setting extended beyond the excavation trench (Smith 1965, 198–201; Gillings and Pollard 2004, 122 fig. 16, 13 fig. 4).

The two timber circles inside the Durrington Walls great henge both feature four-post central settings which are slightly trapezoid and comprise substantial timbers (Wainwright and Longworth 1971). Dimensions are 5 x 5m tapering to 4m within the North circle and a little larger within the South circle. Similar arrangements of comparable dimensions are becoming recurrent in timber 'circles', some having extended entrance features. Examples are now known at Knowth, Co Meath (Eogan and Roche 1997, 101 ff), and Ballynahatty, Co Down (Hartwell 1998, as well as nearby at Durrington 68, sealed under a later

barrow mound (Pollard 1995b), and perhaps some more Irish sites (Sheridan 2004, 28–9). An additional structure was set inside the Ballynahatty four-poster (BNH6): 14 posts defining a 3 x 3m square which Hartwell sees as having supported an excarnation platform (1998, 39–40). Ten metres outside the entrance of this structure was excavated a three-sided cove foundation of similar dimensions; a second matching example is deduced from geophysical survey.

A variation on this pattern may be evident at the north-east stone circle at Stanton Drew (David *et al.* 2004, 352). Here, the long-known stone circle of about 33m diameter with a short approach avenue facing east has recently been found to enclose substantial features, presumably once holding big timbers – a four-post setting (*c.* 6m^2) with a narrower appended 'portal' facing east. A similar but larger 'portalled four-poster' has appeared inside the south-south-west circle in the same complex. It is as much as 17m square and the portal instead faces NE. In fact, the addition of an earth resistance survey here suggests that this timber-cum-stone circle is enclosed by a ditch of a little over 40m internal diameter (David *et al.* 2004, 350–3); it may well be a second henge to go alongside that found around the great stone circle.

Yet another variant on the theme appears at West Kennet structure 2. A small rectilinear setting of posts, 3.5 x 3m, lies immediately outside the inner of a double-ring palisade, itself set within the large palisade enclosure 2 (Whittle 1997, 76–85). It appears to have been an annexe to the inner ring of posts which has a gap at this point, thus forming an entrance porch, but its posts would have been much less substantial than the ring itself. This particular structure was not dated by radiocarbon, but did contain Grooved Ware. The palisaded enclosures at West Kennet are mainly datable to the later 3rd millenniun BC.

Two final coves should be mentioned, neither apparently inside an enclosure, but both associated with complexes already discussed. The destroyed stone cove at Beckhampton was again trapezoid, faced south-east and enclosed a relatively large space, about 10 x 8m. It stood at the end of and perpendicular to the Beckhampton stone-lined avenue leading west out of Avebury, but was as much as 1.5km from that great henge (Burl 1988, 4 fig. 3). However, it is also necessary to consider its relationship to a previous unknown enclosure alongside; this was subsequently traversed by the avenue (Gillings and Pollard 2004, 79–81). The outlying stone cove at Stanton Drew is again situated south-west of the complex of three stone circles, but is much smaller in scale, about 3 x 2m. These 'external' locations bring back to mind Llandegai A, where the cove lies outside the henge's south-west entrance.

Three other class 1 henges have yielded dating evidence and offer parallels for Ringlemere in terms of orientation and/or area enclosed. Maumbury Rings, not far from Mount Pleasant, is difficult to reconstruct in detail because of the substantial alterations made to convert it into a Roman amphitheatre (Bradley 1976). This involved significant reduction of the internal ground surface which will have removed any internal prehistoric features, including all but traces of the ditch. Nevertheless, Bradley's careful calculations leave little doubt that a ditch was originally present directly above the ring of deep shafts which penetrate well below the later destruction level. As far as can be estimated the internal diameter of the ditch would have been in the region of 45m and the outer diameter 55m or more. The probable single entrance was just east of north. Two radiocarbon dates have been obtained from red deer antlers from the early excavations by H. St George Gray: 3970 ± 70 BP (BM-2282N) for the bottom of shaft 1 and 3940 ± 130 BP for the uppermost fill of shaft 3 (BM-2281R).

Other class 1 henges of similar orientation to Ringlemere are less comparable in dimensions and regularity. Woodhenge has a slightly oval plan and its diameter is larger (internally around 50m); the entrance faces about 30° east of north. Two radiocarbon dates are from early contexts within the ditch; antler from the ditch floor produced a result of 3817 ± 74 BP (BM-677) and animal bone from the primary silts gave 3755 ± 54 BP (BM-678). Another somewhat irregular example is that at Gorsey Bigbury, Somerset, it points just west of north and has an internal diameter of between 20 and 24m. A rich deposit of occupation debris in the secondary silts of the ditch yielded many Beaker sherds and six radiocarbon dates on charcoal falling between 3800 and 3600 BP (**Table 1**; Harding and Lee 1987, 261–2).

As a henge in its first manifestation, the Ringlemere M1 enclosure would belong to a tradition of 'Late Neolithic' monument design. In reality, the construction of such monuments spans the very end of the fourth and much of the 3rd millennia BC (J. Harding 2003, fig. 6), the last part of which is contemporary not only with continuing Grooved Ware, but also with early Beaker material and the earliest metallurgy. Nevertheless, there is little evidence that classic henges (*sensu* Harding and Lee 1987) were constructed after 2000 BC; indeed, the latest good dating for an early phase of a class 1 henge is around 2200/2100 BC (**Table 1**).

In this context the current dating of the cove at Ringlemere, 1890–1680 cal BC, might suggest that it was a later addition to the enclosure and related more to those examples known from Early Bronze Age burial contexts. However, there are significant uncertainties relating to its radiocarbon dating (Chapter 4) and there must be a strong presumption, given the emerging pattern of evidence for Late Neolithic ceremonial monuments, that it was a key feature of the original henge. From this non-exhaustive survey it can be seen that up to 15 earthwork enclosures share with Ringlemere the presence of a cove or similar rectilinear structure – a *secretum*; in 11 or 12 cases the secretum lies at the heart of the monument. Furthermore, there are nine 'open' circles of timber or stone uprights that again, with one exception, have central secretums. These open circles tend to be smaller in diameter, but often set within a larger monumental complex involving great henges and large palisade enclosures. The same is true of two known 'outlying' coves, one of which is linked to its associated complex by an avenue.

It should be emphasized that in drawing together this set of broadly comparable sites in terms of their lay-out, it is not to be suggested that all functioned in exactly the same way, either at secretum or whole-site level. This is an aspect that will be explored in greater detail in another context.

Monument phases 2 and 3

In its second phase as a monument a turf mound was added in the interior of Ringlemere M1. Aside from the off-centre pit (F. 1073) with possible flecks of cremated bone, there is no evidence that it was erected to cover a burial deposit. A berm may have been left between it and the lip of the ditch, but the later edge

truncation makes this impossible to ascertain with certainty. Given the arguments presented above, that the turf mound was never more than about 1m high, it would seem that the intention was not to impress viewers with sheer monumental scale, but rather to create a raised platform for the enactment of ritual activities. Although not high, such a platform set amidst gently sloping topography would have distinctly enhanced visibility of the performances from the immediate surrounds. It may for example have off-set the partial barrier effect of the encircling bank.

The turf platform was given a new structural focus, the linear façade of timbers (F. 1027), again respecting the previously important northerly orientation. Together, platform and post setting would have provided an excellent dais for performing ceremonies (Fox 1959, 139–43; Barrett 1988, 38; Barrett *et al.* 1991, 128). Attention has also recently been given to the potential role of barrow mounds to enhance inter-visibility between critical parts of the landscape (Woodward 2000, 139–140, 142). Dating of this Ringlemere phase is not yet very precise, but some Beaker sherds occur in the old ground surface sealed by the mound and in the turf of the mound itself. The mound is unlikely to have been erected before the last quarter of the 3rd millennium BC (see Chapter 4, Beaker pottery).

Periodic activity in the centre of the platform around the façade could help explain the curious survival of wood fragments in the central cut features. It is possible that regular trampling there would have compacted and depressed the surface locally, acting to exacerbate puddling whenever rain fell. This might just have tipped the balance towards longer periods of wetness in the underlying deposits, at the same time producing a less permeable capping which prevented rapid drying out. The latter effect might also have been aided by the later capping with a clayey mound.

The third monument phase may, perhaps, have related to a burial, but even this is uncertain. The pit (F. 1024) dug into the centre of the turf mound contained a raft of wood, perhaps a 'floor' lining, the amber pendant fragment and quite probably the gold cup. Had this been a burial by inhumation, the skeletal remains would have decayed badly or totally; furthermore, any fragments surviving above the wood layer could have been dispersed by modern ploughing. If the orange clay deposit encircling the turf core is the basal remains of a secondary capping mound, this would traditionally be seen to be associated with a significant secondary burial. However, the shape and large size of the phase 3 central feature is far from classic for an Early Bronze Age grave, and it must be considered equally possible that the pit had another ritual purpose connected to the activities on the mound. Whatever, it continues the sequence of events that make it clear that the centre of the henge-cum-barrow retained a focal position for some time.

The addition of a mound within or attached to a classic henge (ie discounting small sites which merge into conventional barrows – see Chapter 5 for some discussion of Kentish examples) is not a particularly common phenomenon, but a growing number of examples are known. The most celebrated are the large mounds at Knowlton, Mount Pleasant and Marden (Bradley, in Barrett *et al*. 1991, 105; Woodward 2000, 92) and the smaller one attached to Arbor Low (Gray 1903). The Knowlton mound has not been excavated, but on the aerial photographic evidence it would seem that the large mound stood within its own ditch and then, separated by a wide berm, the earthworks of a substantial henge with a narrow entrance facing north-east (Grinsell 1959, 159 fig. 6, 174 – Woodlands 1; Woodward 2000, colour plate 17). The mound itself is about 38m in diameter and 6.1m high, while the internal diameter of the henge ditch is about 100–102m (Harding and Lee 1987, 127 fig., 129).

At Cairnpapple, West Lothian, much of the interior, including the early structures discussed above, was covered by a cairn erected in two phases (Piggott 1947–8). One difference from Ringlemere is that the cairn was offset to the west rather than being centrally placed; secondly, it was clearly erected to commemorate formal burials, which seems not to have been the case at Ringlemere. At Catterick, North Yorkshire, the reverse sequence has been found; the bank of a henge incorporated a pre-existing cairn (Richard Bradley pers. comm.).

An unexcavated monument – either disc-barrow or henge – at Eggardon Hill (Grinsell 1959, 169 Powerstock 4a), Dorset, has two mounds, one impinging on the south-west side of the bank, the other centrally placed with a maximum diameter of about 14m leaving a wide berm outside (Piggott and Piggott 1939, 151 fig. 8; RCHME 1952, xxxii, 185 no. 29). The internal platform diameter is about 40 x 45m and two possible entrances aligned NW–SE have been noted in the past. On the ground these are unconvincing as original entrances, instead appearing as partly denuded earthworks due to later traffic. It may be no coincidence that these two breaches align on the nearby road junction, suggesting a past footpath crossing the monument. There is also good evidence for a second, outer ditch, grouping this site with Grinsell's 'Dorset' variant of disc barrow (Grinsell 1959, 18).

A similar monument on the South Dorset Ridgeway (Grinsell 1959, 171 Bincombe 60f, pl III; Woodward 2000, 141 ill. 73) is more promising as a henge-with-barrow. There is today a good break in the bank on the north side, although the internal ditch seems to continue uninterrupted. Grinsell noted that the berm around the mound was not of constant width, which might perhaps signify a two phase design with the original site centre not closely re-located in the second phase. The internal diameter of the ditch is about 54m. If nothing else, sites like these emphasise the grey boundary that may exist between classic henges and the succeeding 'fancy' barrows with ditch and external bank.

At Maxey, Cambridgeshire, a circular ditched enclosure of large diameter, some 120m, has an east facing entrance which straddled an oval barrow. At some point in its history a ditch-enclosed turf mound 32 x 36m in internal diameter was added at the centre (Pryor and French 1985; Bradley 1993, 101–2). Francis Pryor regarded the enclosure as a henge (class 1), but the combination of large diameter and yet relatively slight ditch profile is not normal for such monuments and an alternative possibility is that it is akin to the perimeter enclosures seen round Neolithic round barrows at Duggleby Howe and Maes Howe, or it is a 'formative' henge.

Flagstones enclosure is in many ways similar to Maxey and has much more secure dating evidence. Almost centrally in the original enclosure of 97m diameter a burial was inserted much later, in the early 2nd millennium cal BC. The grave was enclosed by a new ring-ditch about 25m internal diameter and covered by a mound (Healy 1997, 39).

A much smaller monument – class 2 henge or hengi-form –

at Ballymeanoch, Argyllshire, may also relate in that it has a low surviving mound (Craw 1930–1, 278–9; RCAHM Scotland 1988, 52). The entrances are aligned ENE–WSW and the internal diameter is a maximum of 20m. The presence of two cists might suggest that this was initially constructed as a burial monument, but neither is central or obviously primary.

A possible mound remnant has been suggested at Balfarg Riding School, the probable henge discussed above. The post holes of the southern end of the internal building were sealed by a stoney layer, doubtless originally more extensive, but surviving here due to a surface hollow (Barclay and Russell-White 1993, 84). The excavators considered it possible that this was the last vestige of a low mound erected over the site of the former building. Although they suggest that the ditch was dug after the building already existed, this is not supported by any stratigraphic or radiocarbon evidence. If a mound was indeed once present, it is clear that it need not be contemporary with initial ditch digging.

A final site to be discussed in this context is Bryn Celli Ddu, Anglesey (Hemp 1930). Frances Lynch has argued that its passage grave set within a circular mound is concentrically placed over an earlier circular monument comprising a ditch and internal circle of stone uprights (Lynch 1969, 110–12 fig. 29). The internal diameter of the enclosure was about 21m. This provides another possible parallel sequence, although no evidence has been found for an external bank or an entrance causeway. This leaves some uncertainty over the relationship of the first Bryn Celli Ddu monument to henges, a difficulty compounded by the fact that the passage grave is best dated to the late 4th millennium BC. Moreover, a number of variant sequences have been proposed for the site, in one of which the ditch initially encircled a mound with a peripheral ring of monoliths. These features were later all covered when the mound was enlarged to the diameter of the now largely silted ditch, in the top of which was set a new mound-edge kerb (Bradley 1998a, 8–9). Intriguingly, just outside the ditch at the entrance to the passage grave Hemp uncovered a small cove-like setting of stones in the centre of which was the burial of an ox. The cove is 3.5 x 2m but not datable relative to the main monument phases.

Chapter 3: The Gold Cup

Stuart Needham

General condition and problems

The image presented by the Ringlemere cup is striking partly because of the obvious quality of the original workmanship, but also because of the severe crumpling it has suffered (**Colour Pls 1 & 2**). The greater part of the damage appears to be due to impacts of similar nature – heavy blows with a hard, pointed object or objects. The most swinging blow was received to the middle of the side opposite the handle at or just below the carination, leaving this side with a deep cleft. Diametrically opposite is a lesser dent just below the handle, presumably arising from resistance to this impact. Because of the rigidity of the corrugated conical lower body the main cleft has caved in as a roughly triangular shape with crisp surrounding arrises. To the right of it the original morphology is little affected, but to the left of the cleft there is another lesser dent, again with a linear central crease running vertically up the body. This is the only significant damage to encroach on the uncorrugated, basal part of the body (**Pl. 12**).

It is probable that the main blow and the opposing resistance, which nearly pinched together part of the middle of the body, also accounts for the flattening of the upper body roughly into a narrow pointed ellipse (**Pl. 3**). At the two ends of this ellipse the rim and neck have been crushed on a near-vertical axis into acute angles. The remainder of the circumference features other more or less severe buckles interspersed with seemingly more intact stretches. The stresses involved have acted unevenly causing the sheet metal to fold at a limited number of points on the circumference. The stretch of wall inside the handle has been partially flattened, the handle itself having been pressed up against it and almost folded double towards the top (**Pl. 4**). A tear runs half way across this fold, and there is a further substantial tear across the lower end where it joins the carination because the handle has been pulled upward in the process of being crushed (**Colour Pl. 2**).

Another substantial blow has caused damage of different character. It has badly gashed the side of the vessel to the right of the handle base (**Pl. 5**). The metal immediately around the gash shows marked but local crumpling on both faces and part of a rectangular impression has been left on one edge.

As close inspection proceeded, it became apparent that there was a sudden turn in profile at the top of the 11th rib (numbered from the bottom rib upwards) for the greater part of the circumference. The upper body (neck) has partially collapsed, or concertinered, into the lower body, leading to a marked double bend at the carination. This leaves the body immediately above for the most part inaccessible because it is tucked inside the double bend.

Explaining this collapse is not straightforward. One possibility considered was that it derives from an earlier phase of damage, due to strong or sustained pressure on a vertical axis through the cup. Further reflection, however, makes this unlikely. It would have had to be uneven compression which allowed one side to survive unaltered, in which case one would expect evidence of a gradational change between the intact profile on one side and the markedly altered profile opposite. Instead, the change is sudden at two creases – one negative the other positive – associated with the main crushing. This strongly suggests that the partial concertinering was integrally linked to the other major damage and caused by multi-directional stresses acting on a complex three-dimensional geometry.

It would be extremely important to determine how much of the damage was modern and how much ancient, for example, deriving from pre-depositional rituals. Although there are at least four major aspects of damage – two large dents, the gash, the vertical concertinering – these do not necessarily imply separate events. All could actually be reconciled with the

Plate 3 Top view showing crushing of the mouth

Plate 4 Profile view showing crushed handle

Plate 5 Detail of gash in side of body

incidence of a single massive blow from agricuatural machinery with consequent crumpling effects due to soil resistance and the geometry of the hollow object. Equally, there is no certainty that the damage was all simultaneous.

What may be significant, however, is that there are no occurrences of multiple contiguous or overlapping dents that might be expected had the object been subjected to a sequence of blows from an ancient implement. If, therefore, we are to contemplate the possibility of ancient damage, it has to be seen as 'single-strike' in any given orientation. On balance the character of the damage observed seems much more likely to be the result of one accidental, but substantial encounter with a massive object.

Surface patination

by Susan La Niece

The gold has a distinctive, fine-grained, red patina, preserved in the recesses, particularly in the folds of the damaged area, and inside the rim. On some areas just inside the rim there are unexplained linear marks in the patina. Endoscopic examination shows the patina layer is thinner inside the cup. It is not present on the most accessible areas of the outer surface, where it had been rubbed with a cloth previously used by the finder for polishing coins. Traces of corundum (alpha-alumina, Al_2O_3) were identified by X-ray diffraction analysis in the pointillé decoration and crevices where the handle joins the body of the cup. This is an abrasive, here probably representing modern residues of chrome polish on the cloth.

The red patina was identified by X-ray diffraction analysis as silver gold sulphide (AgAuS) (JCPDS 19-1146). This patina was first published from research into silver-rich gold antiquities from Egypt (Frantz and Schorsch 1990). This is the first recorded instance of the patina from Britain, perhaps because it is rare for gold objects to be examined straight from excavation, before thorough cleaning.

Reconstructing the original form

No restoration of the cup has been attempted because of concern that opening the severe buckles might alter the metal structure. This made even more important the need to create a virtual restoration to allow good visualisation of the object in antiquity. This has proved to be doubly important given that the profile reconstructed was not that initially assumed from casual inspection.

Undistorted segments of the cup show good circularity in plan and we can assume that it was close to circular from top to bottom. Virtual restoration then depends on three types of observation:

partial profiles taken from intact segments;
total surface length of the profile along any radial slice;
circumferences at a range of planes through the full depth of the vessel.

The sheet metal being relatively thick, it is thought that any stretching due to distortion is likely to be insignificant. Taken together these observations act as a constraint on one another and, if sufficient data can be obtained, there is little margin for error in the overall reconstruction. Judging a segment to be intact depends on observing an even radial curvature, a lack of any obvious dents and creases, and internal 'coherence' between the features (mainly ribs) contained. There are three segments of near-intact profile which are large enough to offer valuable information on shape.

Intact segment A: The first is obvious – one side of the lower body running all the way from the base up to rib II. The profile (**Fig. 22; Pl. 6**) must be very close to the original even though there may be slight distortion of some radii due to the severe damage to either side. As a double-check on radii, circumferences were measured around ribs I and II, a process made difficult by the deep cleft in the front of the body.

Intact segment B: A smaller segment situated within one side of the pronounced cleft is somewhat surprisingly intact. This was not at first appreciated, but is of enormous significance because

in addition to the smoothly cusping profile of ribs 6–10 of the lower body, it shows the profile to turn at rib 11 and continue at a new angle for ribs 12 and 13 before any significant distortion intervenes (**Fig. 22; Pls 7 & 8**). What this segment shows beyond any doubt is that the middle of the cup was not the weak or moderate carination familiar on its parallels. Instead the upper body turns suddenly inward at rib 11 producing a shoulder occupied by ribs 12 and 13. The shoulder is sloped, forming an angle of about 110° with the body below and thus nearer to the horizontal than the vertical. The presence of this strong

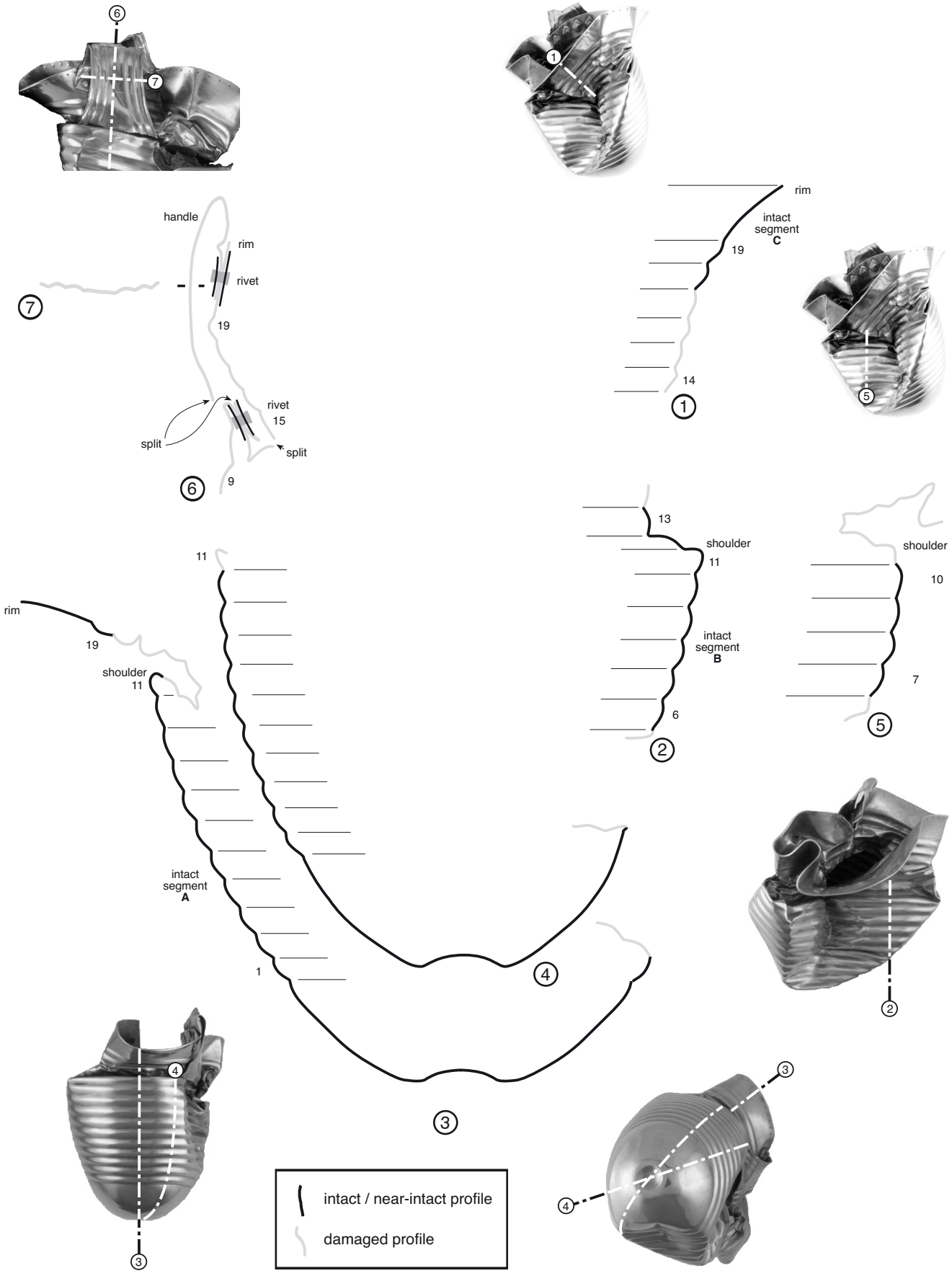


Figure 22 Drawn profiles of the crushed vessel at selected points (scale 100%)

Plate 6 Profile of intact segment A, the lower body

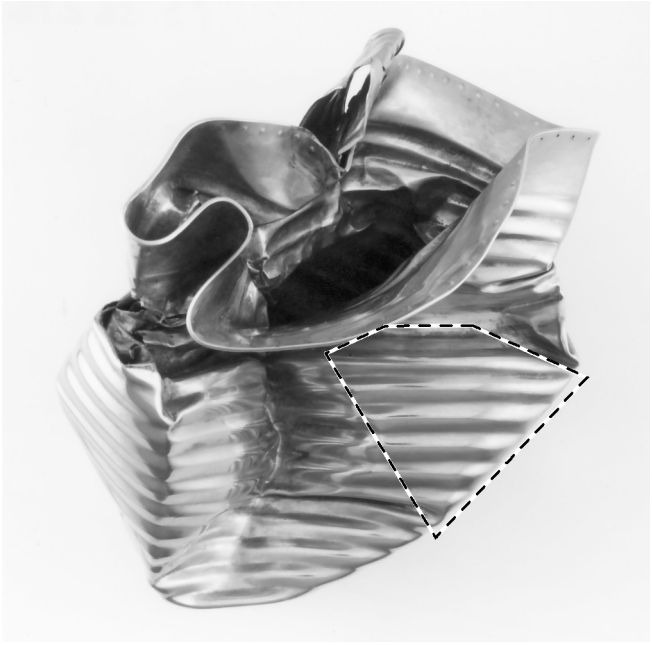


Plate 7 Face view of intact segment B (outlined)

shoulder undoubtedly explains the concertinered damage described above.

Intact segment C: Fortunately the third segment encompasses part of the rim and extends down through the smooth band and then ribs 19 and 18 before some flattening or buckling of ribs 17 onwards (**Fig. 22; Pl. 9**). This segment is not pristine, but undulations are minor and the broad form unlikely to be much altered. It gives a good basis for the angle at which the rim stood and the profile of the upper neck. Although difficult due to the severe contortions, it was possible to obtain circumference measurements at the rim itself and on rib 19 and thus a reliable reconstruction of the mouth of the cup.

The mouth portion is, however, left floating free relative to the lower body and shoulder. Ribs 14–16 are disfigured all round and, moreover, these plus ribs 12–13 are inaccessible for much of their circumferences because of the concertinering. The shape of the neck is therefore the least well documented empirically and has to be interpolated between the other profile stretches. In practice, the established angles of the latter in conjunction with the measured depth of ribs 14–16 leave little uncertainty in the linkage.

For the virtual restoration (**Colour Pl. 3**), the body was generated through a 'lathed profile' and the handle was based on a 'swept profile', both available in standard computer 3D-graphics packages. The work was undertaken by Stephen Crummy.

Description of the reconstructed form

The Ringlemere cup would have stood around 123mm tall, the greater part, 78mm, being the lower body to the shoulder (**Fig. 23**). The diameter at the shoulder was 96mm, that at the neck a minimum of about 76mm and at the rim 109mm. It currently weighs 183.7g, which should be close to the original weight since very little if any metal has been removed at the gash. Further dimensions, both measured and calculated, are given in the catalogue.

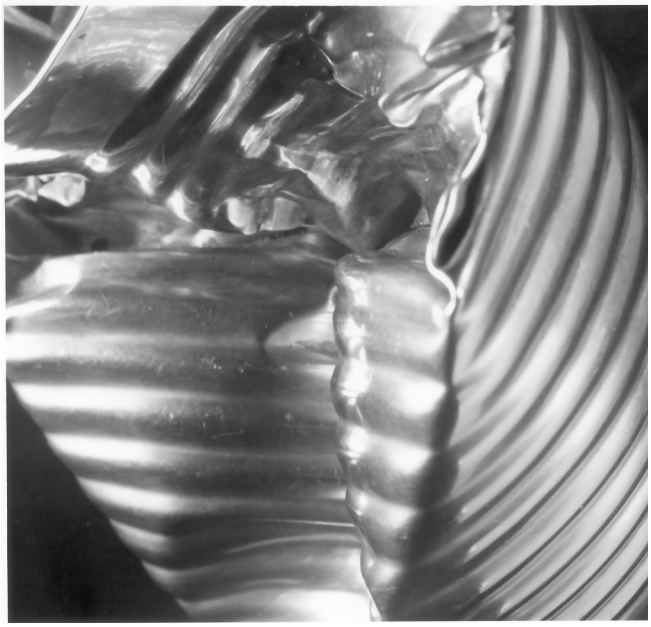


Plate 8 Profile of intact segment B

Plate 9 Face view of intact segment C (outlined) with the rim horizontal

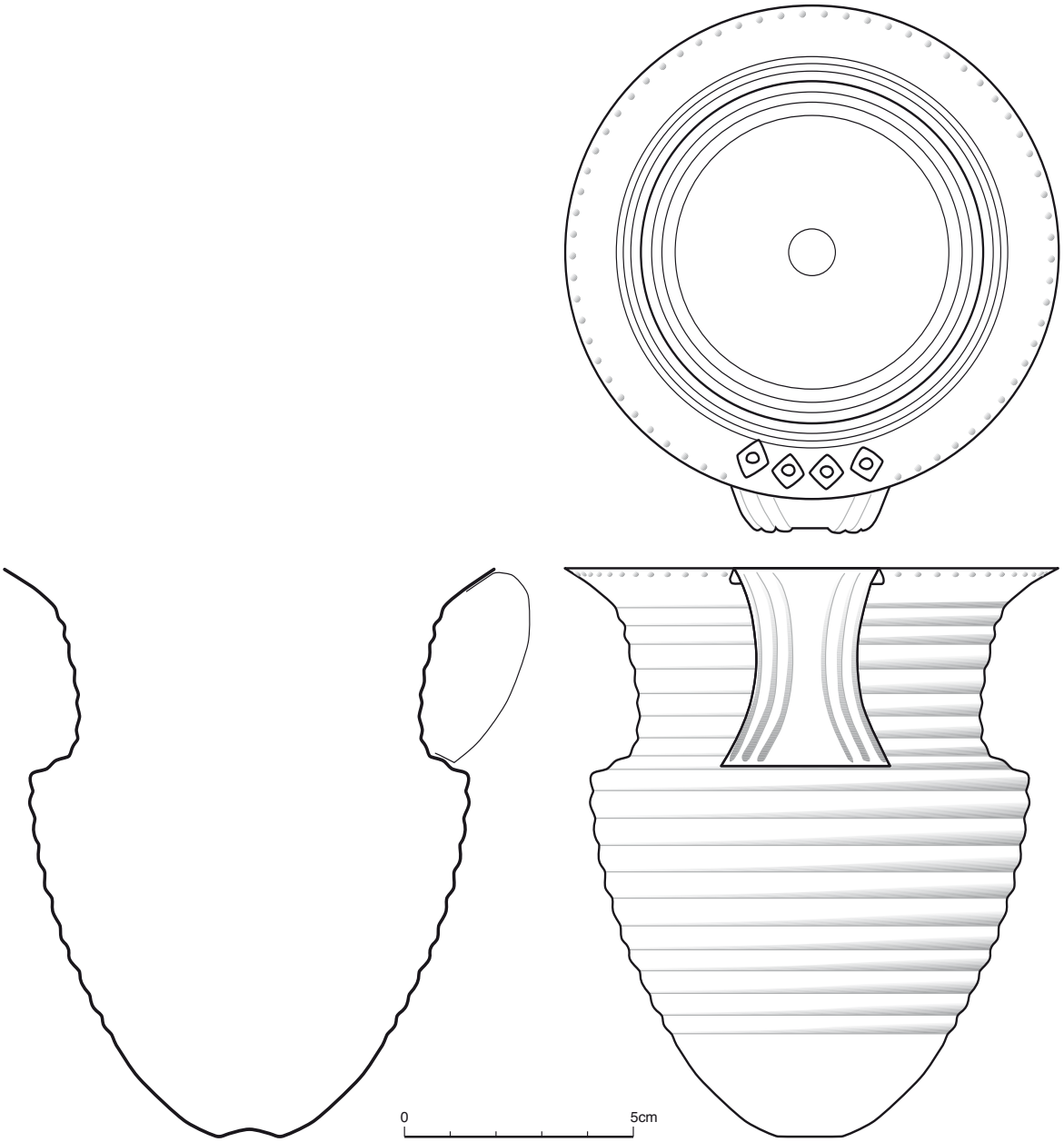


Figure 23
Reconstruction drawing of the Ringlemere cup (scale 67%)

Starting at the base, there is an incredibly neat omphalos just 12mm in diameter and 2.0mm deep. The wall initially rises in a smooth gently convex profile and this sweeping curve is maintained for the ribbed part. The wall is essentially vertical by the time it reaches the shoulder. The ribs both here and higher each present an even curve in profile and meet at sharp creases between. The only rib with a different profile is that on the shoulder, rib 11; a relatively sharp (but not angular) turn divides this broader rib into two, a vertical lower part and a more horizontal upper part.

Above rib 11 the upper body presents a strongly concave and slightly asymmetric profile overall. The minimum diameter would have been below the centre with a strong curve to the shoulder and a more gradual curve sweeping out to the well flared rim. Most of this is ribbed, but the uppermost band of 15mm returns to a smooth metal profile and presents the rim at around 35° to the horizontal. The rim itself is in the same order of thickness as the rest of the walls and is basically flat-topped. Immediately beneath the rim is a row of 62 dots punched from the outside of the vessel and interrupted only at the handle.

While the body of the vessel has all been raised out of a single piece of gold, the handle is a separate piece of sheet metal attached top and bottom by four rivets passing through tab extensions. The handle has a fairly symmetrical hour-glass shape in face view, is about 0.3mm thick at the edges and is decorated and strengthened by ribbing outlining either side (**Pl. 6; Colour Pl. 2**). The ribbing is again cuspate with two ribs between three grooves in each set. The central zone was flat, but is now a little buckled. The handle expands to its broadest at the tabs which are turned inwards to rest flush on the corresponding parts of the body. The upper tab is attached to the smooth wall immediately below the rim and, as reconstructed, would have only needed to be gently angled from the top of the handle. The lower one must instead have turned inwards sharply, approaching a right-angle, and is affixed to rib no 12, that on the shoulder closest to horizontal.

For the top fixing, the nature of the riveting is easily observed inside the vessel (**Pl. 10**), but for the outside the crushing of the handle means that only the outermost rivets are really visible. The lower fixing is much more difficult to view. The collapse of the shoulder on this side of the cup has taken the tab down into the tight double fold. Very little of the outside

Plate 10 Detail of the inner upper rivet fixings

rivets can be seen by looking into the external fold beside the handle, while the internal ones are tucked up a similar fold not visible from the mouth of the cup. A boroscope, operated by Tony Simpson (the British Museum, Dept. Conservation, Documentation and Science), enabled something to be seen of the latter and about half of one outer rivet can be seen from the inside through a tear in the vessel wall (**Pl. 11**). Radiography confirms that size of rivets and their washers, plus orientation of the latter, are consistent throughout the lower tab.

All rivet ends show the same arrangement with circular, slightly domed and probably only slightly expanded heads barely protruding beyond their diamond-shaped 'washers'. The shallow dome meets the washer almost seamlessly to the naked eye and there are no visible cracks from the clenching process. Slight hammer marks are evident under magnification, but the heads have probably been well polished after closure. Dimensions are typically around 3mm for the diameter of the heads, 8.5–10mm for the length of (accessible) washers and 7–8mm for their width. In three positions the washers have their long axis horizontal relative to the body; this was advantageous in terms of the ease of fitting the washers on and in a rib (lower fixing) or under the turn (upper fixing). However, inside the vessel at the top they are instead set vertically, presumably for design effect where they would have been most visible.

Metal composition

by Susan La Niece

The gold composition was identified by X-ray fluorescence analysis. It was possible to analyse the main components, the cup and the handle, on both the surface as found, and on small areas of fresh metal, where there was already some damage. The results illustrate the extent of surface enrichment caused by burial corrosion, or perhaps by the manufacturing process. A similar degree of enrichment might also be surmised for the

Plate 11 Detail of inside of cup showing a lower outer rivet head through a tear

rivets and the washers, on which only surface analysis was attempted.

The gold composition, with only trace levels of copper but a significant quantity of silver in the metal, is consistent with the use of alluvial gold with no refining or deliberate alloying. This is typical of Early Bronze Age British goldwork (Hartmann 1982).

		wt %		
		Au	Ag	Cu
Cup	– surface	82	18	0.2
	–- clean metal	76.9	22.9	0.2
Handle	–- surface	74	26	0.4
	–- clean metal	71.6	27.5	0.9
Rivet	–- surface	77	23	0.8
Washer	–- surface	78	21	0.5

The analyses have a precision (a measure of reproducibility) of c. ± 2% relative for gold, c. ± 5% for silver and c. ± 20-50% for copper, the precision deteriorating as the detection limit of 0.1% is approached. The accuracy of the analyses on clean metal should be of a similar order.

Traces of manufacture, wear and damage

Rivet washers

There is an important difference in detailed shape between the upper washers under the handle and those inside the mouth. The former are rather crisp around all their edges including the corners. This is also the state of the one visible outer washer in the lower row. In contrast, all of the exposed corners and edges on the upper internal washers are rounded off to some degree (compare **Pl. 5** with **Pl. 10**). Only the outermost tip of washer 4 under the handle is similar in this respect. These differences are all consistent with the fact that the inner rivets and washers would have been much more exposed to rubbing during finishing and/or use. It seems rather unlikely that differential rubbing would have resulted just from the finishing; surfaces under the handle could easily have been reached by burnishing tools if there had been the desire to bring the whole surface to a consistent level of polish. So while it is possible that some 'wear' occurred during finishing, it is suggested that the strong differential in wear was due to repeated attrition over a period of use. Logically, it could have arisen through regular cleaning of the inside of the vessel which was not so necessary under the handle.

Rim

Evidence from around the rim has similar implications. The one stretch relatively inaccessible to casual contact, that alongside the handle, has a flat top with crisp angles, although the inner, more exposed one is fractionally more rounded under magnification. By contrast, for the rest of its circuit the 'angles' are significantly rounded both internally and externally, leaving just a narrow flat band in between. It may be inferred that the rim started with a crisp square profile when the body was finished and before the handle was attached. Subsequent rubbing, probably mainly during its use-life, progressively reduced this to a sub-square profile.

Base

The omphalos is still very neat in outline and profile (**Pl. 12**). Its surround shows two possible patches of wear in diametrically opposing segments, but these are so slight as to be of uncertain significance. Other subtle dents and creases around the unribbed zone are side effects of the major damage or, in some cases perhaps, original hammer marks not fully planished out.

Striations

There are many very fine striations running circumferentially all over the body which result from finishing, re-polishing in antiquity and the finder's cleaning. Striations of similar grade run instead vertically on the handle, but this is to be expected since the best surface finish would be obtained by polishing in line with its linear mouldings.

A series of coarse parallel striations aligned diagonally on the handle are clearly secondary (**Pl. 5**). They are limited to the flattened central stretch in between the double bend at top and a slight bend towards the bottom, hence formed at the time of the crushing, or subsequently.

There is a third, intermediate grade of striations, in the order of 0.05mm wide, in two locations on the plain band below the rim. In both cases a band of roughly horizontal striations continues round a tight bend in the mouth. Their formation must therefore precede the major damage and, while a phase of slight abrasion due to movement in the ground is possible, the relative fine-ness of these scratches and their alignment favours that they are due to rotational rubbing/scouring of the mouth during use.

There is a multitude of other small marks over the surface, some clearly associated with the major damage episode and others, running parallel to major lines of buckling, almost certainly due to cleaning.

Dot decoration

The punched dots frequently have a slight lip to the left of the impression, suggesting that the tool used was being struck from the right at a slight angle to the perpendicular.

Plate 12 Detail of base showing the omphalos

Technology of production

by Susan La Niece

The body of the cup was made in one piece by hammering. A goldsmith today would take a flat disc of gold and hammer it while holding it firmly against a stake to force the metal progressively into the form of a hollowed vessel of the required proportions (Armbruster 2000, 159 fig. 88). Annealing, that is heating to relieve stresses in the metal, is required at regular intervals in the process. Working from the centre, the metal is beaten while continually rotating the gold against a series of stakes until the required diameter of the cup is obtained. At intervals the craftsman will ensure that the rim is thickened by tapping at right angles to the edge. Once the shaping is completed, the surface can be planished by gently tapping against a support, to smooth out any hammer indentations. The corrugations can be shaped by working the cup from the outside against a former held inside. The former need only be a block of wood into which a number of grooves are cut. The cup is rotated a few degrees and repositioned on the former, to continue the grooves around the circumference. The surface can then be polished with fine abrasives.

The handle was hammered out as a flat strip then cut to the required shape. The longitudinal grooves were worked from one face, leaving rounded ribs between. Once completed, the strip was bent to form the handle, the ends turned to form attachment tabs, perforated and then secured with domed rivets. These were hammered tight from the inside of the cup while the cup was supported.

No advanced tools or materials would have been required for making a vessel of this type; the technology can have changed very little since the Ringlemere cup was made. However, the quality of the workmanship does indicate that the goldsmith had considerable experience in making fine goldwork.

Chapter 4: Other Prehistoric Material

The amber artefacts
by Stuart Needham

Two amber artefacts were recovered during the excavation of Trench 1. Both have been identified as of Early Bronze Age types broadly contemporary with the cup (although one was at first thought to be so fresh as to be more recent!) A pommel fragment was unfortunately not *in situ*, having come from an animal run somewhere in the eastern half of the trench (not precisely located). The second fragment is identified as from a pendant and came from the pit (F. 1024) cut into the turf mound at the centre of the monument (**Figs 10–11**). It was retrieved from spoil immediately after it had been excavated from the upper, woody layer (1025) towards the southern end of the feature. These are the first Early Bronze Age amber artefacts to be recognized from east Kent, although an amber bead necklace has recently been discovered at a barrow site near Longfield in west Kent (Askew 2001).

Pommel fragment
Condition

Approximately half of the object, or a little more, survives (**Fig. 24a; Colour Pl. 4**). All of the original surfaces are crazed and weathered to a matt orangey-brown colour. Fractured surfaces along one side of the mouth and at the main break are the glass-like dark orange of freshly fractured amber. At these breaks the weathered surface is seen to be extremely thin (< 0.1mm). Minor loss by chipping close to the pointed end and along the near-intact side of the mouth appears to be ancient.

Form

The top of the pommel had an elliptical or more probably a lenticular plan; uncertainty is due to removal of a chip to one side of the apex. In side view the top is very gently domed and extends to a pronounced lip, the socket wall beneath contracting sharply. The lip itself is flattened all round with a vertical facet between 1.5 and 2.0mm deep. The undersides of the lip meet in a ridge on the longitudinal axis running out towards the apex. Where the mouth is intact, the socket wall is 1.2mm thick. The socket was lenticular in plan and tapers slightly in profile towards a flat to rounded end.

The intact perforation is an exceedingly neat cylindrical drilling, 1.5mm in diameter; it would have continued through to the other face, where a fragment may survive in the break. If a second peg hole existed towards the other end, reconstruction suggests that the two would not have been symmetrically placed.

Dimensions

Extant length 13.4mm
Extant width 8.8mm
Depth 6.7mm
Estimated original length 20– 21mm
Estimated original width 9mm
Depth of socket 3.7mm
Extant length mouth 9mm
Width mouth (one side damaged) 5.5mm

Identification, parallels and dating

The form of this pommel compares well generally with several in Hardaker's group II (1974), most of which are made of bone or similar organic materials. More specifically, it is similar in proportions and size to two of only three previously known amber pommels, those from the Manton barrow, Preshute G1a, Wiltshire (ibid, 10-11 no. 7; Annable and Simpson 1964, 47 no. 208; Cunnington 1907-8, 7 no. 1, pl.) and Winterbourne Stoke G9, Wiltshire (Annable and Simpson 1964, 60 no. 453; Thurnam 1871, 503 fig. 196). The Manton pommel is badly decayed, between 26 and 28mm long and around 10mm deep (**Fig. 24b**), hence a little larger than Ringlemere all round; (Hardaker's stated length of 22mm does not correspond with two views in his drawings). It has two symmetrically placed pegholes of fine bore. The Winterbourne Stoke example is now lost (Annable and Simpson 1964, 60 no. 453), but fortunately Thurnam published a drawing from one of Hoare's unpublished plates (1871, 503 fig. 196). It appears as around 24mm long and 6mm deep, again highly comparable to the Ringlemere example (**Fig. 24c**). No peg holes are apparent in the engraving. The one surviving associated artefact is a simple flared cup with dot decoration, a form not unlike the squatter version in the Manton grave.

These three amber pommels belong to the main group of pommels post-dating *c.* 2000 BC and termed *long oval pommels with pronounced lips*; they mostly equate with Hardaker's group II and twelve examples are now known in bone (Needham forthcoming). The amber examples are not quite so long on the main axis as most bone ones, but a bone pommel from Narrowdale Hill, Staffordshire, is only 19.5mm long (Hardaker 1974, no. 9), while those from Irthlingborough, Northamptonshire, and Radwell I, Bedfordshire, may not have been much longer (Needham forthcoming). This shortening may simply be due to their being intended to furnish knives rather than daggers. It is suggested that pommels under 35mm long generally belong to knives and may in turn signify female graves (ibid). The Ringlemere pommel is likely to have been attached to a slender handle, not more than 12 x 6mm in cross section.

The remaining amber pommel known from Britain is the ornate and famous example (sadly destroyed) from Hameldon Down, Devon, which was inlaid with dozens of tiny gold studs (Hardaker 1974, no. 33, pl. IIe; Pearce 1983, pl. 128). This too is oval with a pronounced lip, in keeping with an early 2nd millennium date, but the oval is of broader proportions than the main group above. In shape it finds good parallels in the gold-covered wood(?) pommel from Ridgeway 7, Dorset, and the

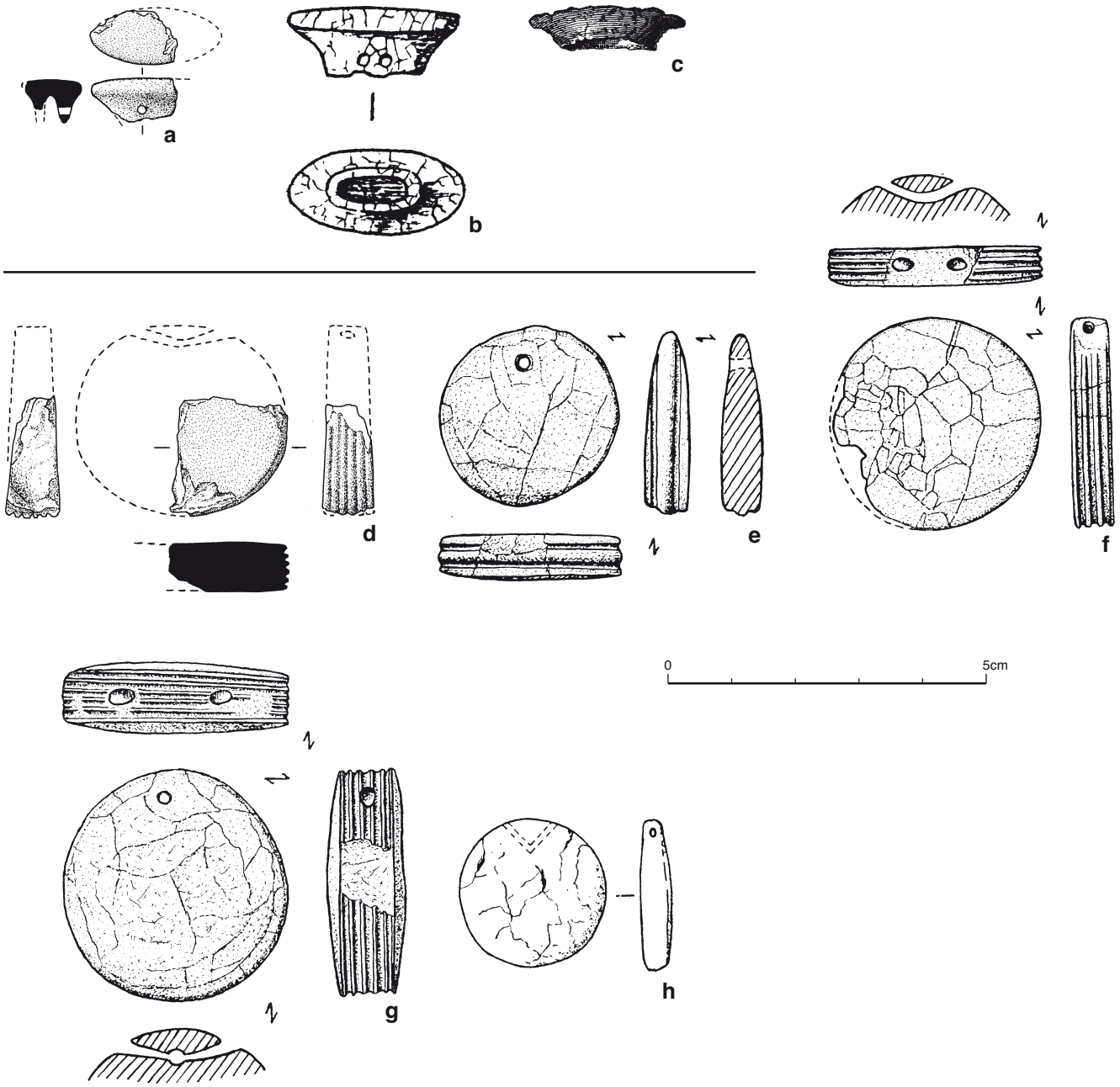


Figure 24 The Ringlemere amber objects and their closest parallels: a) Ringlemere; b) Manton Preshute G1a, Wiltshire (after Annable and Simpson 1964); c) Winterbourne Stoke G9, Wiltshire (after Thurnam 1871); d) Ringlemere; e-g) Kernonen-en-Plouvorn, Côtes d'Armor (after Briard 1970); h) Wilsford G7, Wiltshire (after Annable and Simpson 1964). Scale 100%

bone or ivory example from Grange, Co. Roscommon, Ireland (Hardaker 1974, fig. 7, pl.2). These were classified as group VI by Hardaker, but two others in that group are entirely different. An unpublished amber pommel from Liscahane, Co. Cork, excavated with fragments of Encrusted Urn by Barra Ó Donnabháin (Mary Cahill – pers. comm.), also belongs to this group; it is reconstructable to 40mm in length compared to 45–60mm for the other three. It has a double-socket mode of attachment very similar to the Grange example.

Oval pommels with pronounced lips occur in a good number of datable graves and span the earlier half of the 2nd millennium BC (Needham forthcoming). The very similar amber example from Manton comes from a grave group which is of classic Wessex I (Bush Barrow series) composition. Current dating of this assemblage is 1950/1900– 1750/1700 BC. The slightly larger bone example from a Collared Urn cremation at Irthlingborough, Northamptonshire, is radiocarbon dated (by the cremated bone) to 3520 ± 30 BP (GrA-19652/20156/20176 combined), calibrating to 1970–1740 BC. Four more graves yielding socketed bone pommels with pronounced lips have been dated to 3665 ± 45, 3590 ± 100, 3520 ± 30 and 3257 ± 80 BP (see Needham forthcoming for full details).

Pendant fragment

Condition

The original surfaces are lightly weathered, matt orangey-brown with incipient crazing and some more reflective orange patches. The two straighter edges are fractures – these and some chipped corners expose very dark orange glass-like amber and it is possible that some damage occurred during recovery. The weathered surface is shown to be extremely thin.

Form

Two faces are virtually flat and are parallel on one cross-sectional axis, but converge significantly on the orthogonal axis (**Fig.24d; Colour Pl. 4**). The original edge of the object is a very

neatly fashioned squared side engraved with five grooves. In plan the middle section follows an even curve of about 12mm radius, but this is flanked by straighter stretches; it appears not therefore to have come from a totally circular object. One of the straighter parts is at the thickest end and is most likely to be close to the base of the ornament on the assumption that the ornament would hang best if suspended from the slighter end. It may be that the outline is simply that of a disc which was not perfectly circular (see parallels below), but if so, it was rather asymmetrical given the care in execution evident; the alternatives are a sub-hexagonal or sub-pentagonal shape.

The grooves are of crisp V profile, their sloping walls retaining longitudinal scoremarks from the cutting instrument, perhaps a flint tool. Although neatly executed and regularly spaced, under magnification they do not exhibit constant profiles or widths to a high precision. The ribs left standing in between retain a flat crest, but those along the two outer angles are narrower, more rounded beadings.

Dimensions

Maximum dimension 24.5mm
Maximum intact thickness 7.9mm
Estimated thickness at base (before chipping) > 8.0mm
Minimum intact thickness 6.7mm
Estimated thickness at thinnest point of fragment (before chipping) *c.* 6.0mm
Groove width 0.4– 0.8mm
Groove depth *c.* 0.2mm

Identification, parallels and dating

This is obviously an object of ornamental character, but the absence of any point of attachment makes its identification a little speculative. Nevertheless, there are sufficient points of comparison with other Early Bronze Age ornaments to suggest that this would have been from a disc-like object, presumably serving as a pendant. A variety of amber pendant and bead forms are known from Britain (Beck and Shennan 1991).

Circular amber discs with symmetrical profiles in all directions are a well known feature of just four Wessex 1 graves. Those at Manton Preshute G1a, Amesbury G44 and Wilsford G8 have gold bindings around the edges, leaving the centre as exposed amber. They have narrower edges than on the Ringlemere piece, but still carry edge grooves; they also have encircling grooves on their faces (Annable and Simpson 1964, nos 188-9, 195; Clarke *et al.* 1985, 109 fig. 4.32). An example from Wilsford G7 is plain and has no gold binding (**Fig. 24h**), in this respect seemingly similar to the Ringlemere one.

More specific parallels for the features on the Ringlemere piece can, however, be found among the 12 amber ornaments from the Armorican tomb of Kernonen, Côtes d'Armor (**Fig. 24e–g**; Briard 1970; Needham 2000b, 165 fig. 6.23). Here three rather thick discs of different sizes have squared edges which are broad enough, on the largest one, to carry five parallel grooves as at Ringlemere (**Fig. 24g**). The others have two and three grooves. Their diameters are 29, 34 and 37mm, the last being very close to that reconstructed for Ringlemere. The faces of the smallest Kernonen example (**Fig. 24e**) converge towards the point of suspension, but the other two are parallel-faced. The largest one, that otherwise most similar to the Ringlemere piece, has the symmetrical swollen profiles of the Wessex discs. The Kernonen discs are not perfectly circular and it is therefore perhaps possible that the Ringlemere outline also derives from an imperfect circle.

The derivation of this disc form of pendant is uncertain, but one possible source of inspiration is the earlier 'pulley-rings'. These are open in the centre, but have a more-or-less broad annular band often carrying one or occasionally two edge grooves – for example, an unprovenanced example of shale or jet in Devizes Museum (Annable and Simpson 1964, 43 no. 133, 96 fig. 133). At 50mm diameter this is larger than the Ringlemere ornament is likely to have been, whereas the gold-bound amber discs are between 25 and 30mm diameter.

All three of the types discussed – the Wessex discs the pulley-rings and the Armorican discs – were most often suspended by means of a V-boring penetrating one side of the ornament. This is most likely therefore to have been the mode of suspension for the Ringlemere ornament, but two from Kernonen have a straight face-to-face perforation, in one case doubling up with a V-boring. While the pulley-rings are a feature of mature Beaker contexts, *c.* 2200–1950 BC, all the amber disc parallels cited here are datable again to Wessex 1 or the equivalent Armorican phase - Kernonen/Kerodou.

Prehistoric pottery

Grooved Ware

by Gillian Varndell

The bulk of the prehistoric pottery retrieved from the site to date is Late Neolithic Grooved Ware. The assemblage is of considerable size (over 5,000 sherds so far) and derives from pre-mound occupation. Grooved Ware pottery was recovered from cut features, the buried soil and from the turf mound. Some of the pits yielded very large sherds including the greater part of of a tub-shaped vessel (**Fig. 25.3**). Some sherds have burnt residues and one has produced a date from associated charcoal (see below). One vessel appears to be entirely fire-blackened.

A preliminary assessment was carried out after the first year's work, and an evaluation of the material excavated subsequently confirms the initial impression that this assemblage falls into the Clacton sub-style (Wainwright and Longworth 1971, 236ff). The range of decorative traits includes the use of wavy cordons occurring externally and on internal rim bevels (**Fig. 25.6**). Cordons are finger-pinched and not applied, and this sometimes manifests itself quite crudely when fingernails and tips are used to mould the cordon into a wavy shape. In some cases this technique produces raised lentoids forming a herringbone pattern between grooves or ridges. There are zones of nail impressions (Fig. 25.1), impressed circular pits and other impressions in staggered rows. Occasionally a solid round-sectioned tool has been used to create jabbed impressions. Grooved decoration includes opposed lines as well as one or more circumferential grooves. A minority of vessels appears to be fairly small and thin-walled with larger, thick-walled vessels in the majority. Jar and tub shapes predominate.

Most of the sherds range from moderately eroded to quite fresh. The bulk display bipartite colouration, red externally and black internally. There is little by way of filler other than grog although some vessels have sporadic large flint grits. Breaks may have a finely laminated appearance.

The regular association elsewhere in southern Britain of

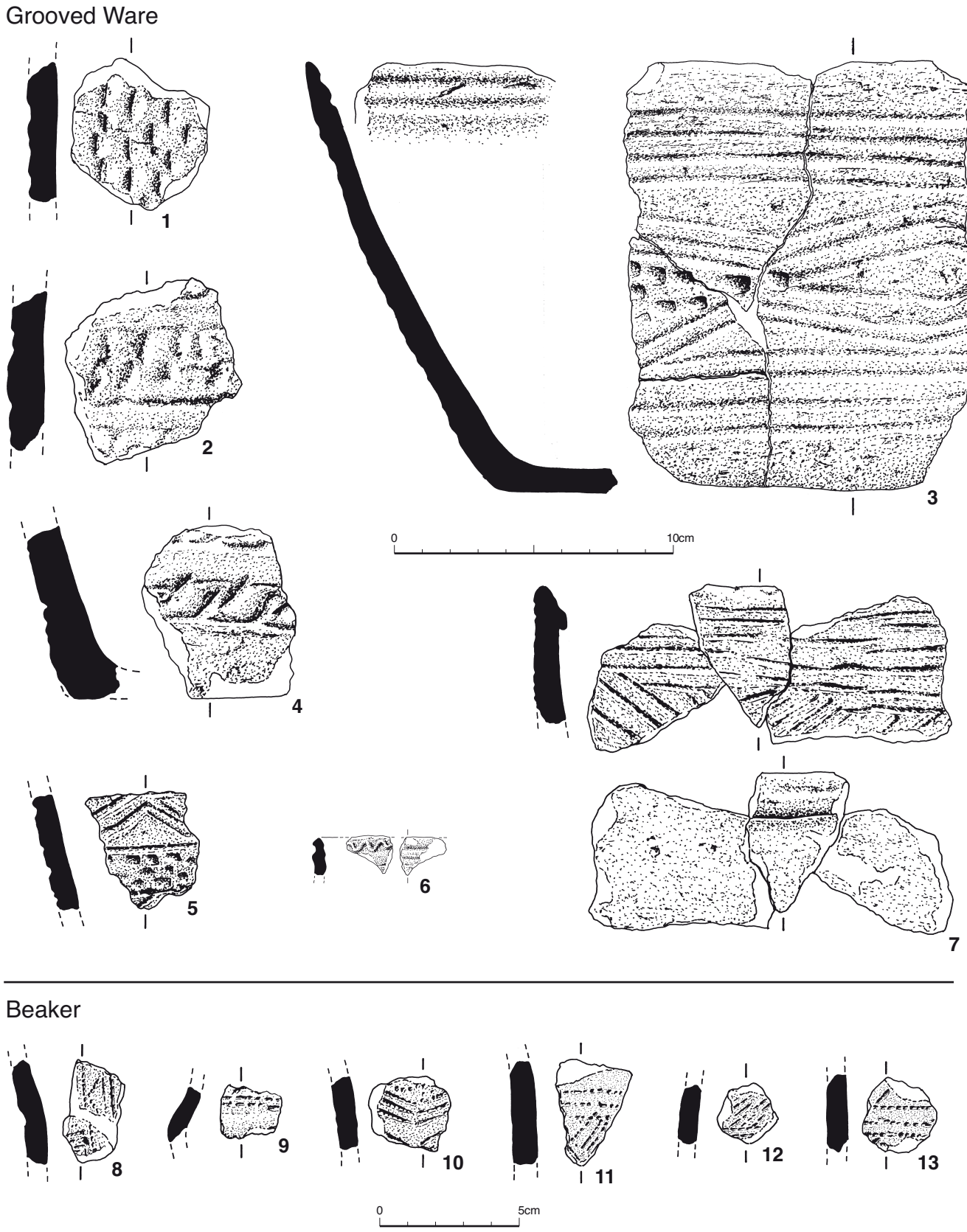


Figure 25 Selection of Grooved Ware and Beaker sherds from Ringlemere M1. Scale 50%

Grooved Ware with Neolithic ritual sites has posed the question as to whether its occurrence in some quantity under Ringlemere M1 is more than fortuitous. Clearly this exciting possibility requires much more excavation and analysis before we can venture an informed opinion but either way, some form of regular Late Neolithic activity must have occurred at Ringlemere.

Beaker pottery
by Stuart Needham

From preliminary inspection of the prehistoric pottery it is apparent that there is a small admixture of Beaker ware in both the turf mound and the pre-mound soil horizon. The quantity is very small by comparison with Grooved Ware, but will be significant in terms of the chronology of the sequence.

The Beaker sherds recognized so far are mainly fineware

thin-walled vessels, ranging from 4–9mm thick, and made in fine-sand fabrics with occasional to sparse grits of well crushed calcined flint. Colour is mainly two-tone with pale to mid grey core and buff to light orange exterior. A selection is shown in **Figure 25**. Decoration is predominantly by tooth-comb stamp with the probable addition of fine incised line. Although the sherds are mainly small to medium sized, several motif variations are already apparent. Most are probably based on horizontal filled/reserved zoning, sometimes with pendant triangle rows (**Fig. 25.11**), but departures include one with vertical panel division (**Fig. 25.8**; context 1209) and another with a weak zigzag field comprising a reserved band between multiple lines (**Fig. 25.10**; Context 1001/131 – mound).

The Beaker material is all rather weathered, partly because of the friable nature of the fabric, but taking into account sherd size as well, there is little to suggest this material was newly deposited at the time the turf mound was erected. With Beaker pottery first coming into use in Britain around 2500/2400 BC and some of the design elements unlikely before about 2250 BC (Needham 2005), the Ringlemere assemblage suggests that the turf mound should date to the last quarter of the 3rd millennium BC at the earliest.

Flintwork

by Chris Butler

To date, well over 30,000 prehistoric worked flints have been recovered from the excavation of Ringlemere M1, with several thousand more from field-walking in the area. At this stage, only an assessment of the 12,000 flints from the initial field-walking and Trenches 1 and 2 has been carried out (**Table 2**) and the following report is based on the results of that study. It should be seen as an interim statement on the nature of the lithic material present on the site. Nevertheless, it is already clear that several different industries are represented by the flint assemblage. Six different types of raw material have been noted, most of which could be obtained as nodules in the vicinity of the site, or from other sources nearby.

Table 2 Details of the analysed flintwork from Ringlemere

	Fieldwalking	Trench 1	Trench 2	Total
Hard hammer-struck flakes	897	2928	1232	5057
Soft hammer-struck flakes	137	1317	88	1542
Hard hammer-struck blades	10	45	7	62
Soft hammer-struck blades	9	119	9	137
Soft hammer-struck bladelets	17	76	2	95
Bladelet fragments	9	112	4	125
Flake/blade fragments	306	2177	464	2947
Chips	6	479	58	543
Shattered pieces	53	420	128	601
Chunks	17	24	8	49
Axe thinning flakes	3	16	0	19
Core rejuvenation flakes	5	21	1	27
Crested blade	1	4	0	5
Core tablets	2	0	0	2
Single platform flake cores	53	44	23	120
Two platform flake cores	46	46	16	108
Multi platform flake cores	9	7	1	17
Single platform blade core	1	3	0	4
Single platform bladelet core	0	1	0	1
Discoidal core	2	2	3	7
Core fragments	4	29	8	41
Tested nodules	3	0	0	3
End scrapers	72	129	33	234
Side scrapers	24	26	8	58
End & side scrapers	19	37	0	56
Hollow scrapers	2	8	4	14
Button scrapers	2	5	0	7
Miscellaneous retouched pieces	16	2	1	19
Combination tools	6	4	1	11
Piercers	10	11	4	25
Awls	2	2	0	4
Notched flakes	17	5	1	23
Notched blade	1	1	0	2
Backed knives	3	3	0	6
Discoidal knife	0	1	0	1
Serrated flakes/blades	0	6	3	9
Burin	0	1	0	1
Truncated blades	0	3	0	3
Arrowheads	1	15	2	18
Fabricator	1	2	1	4
Tranchet adze	0	1	0	1
Tranchet adze sharpening flake	1	5	0	6
Misc. axe/adze fragment	0	3	0	3
Polished axe fragment	1	0	0	1
Chopper	1	1	0	2
Pick	3	1	1	5
Hammerstones	11	11	3	25
Cores re-used as hammerstones	18	4	2	24
Total	**1801**	**8157**	**2116**	**12074**

Mesolithic activity

There was a small group of residual Mesolithic material, making up less than 5% of the analysed assemblage. These pieces included bladelets, a tranchet adze, a number of tranchet adze-sharpening flakes, a pick and some flake implements. Despite the fact that there were bladelets and bladelet fragments in the assemblage, there is little evidence that microliths were being produced at the site. This seems typical for Mesolithic sites in east Kent (see above p. 8), which tend to have no microliths and instead have high proportions of tranchet adzes and adze-sharpening flakes (G. Halliwell and K. Parfitt pers comm.; Butler 2005, 118; Butler forthcoming). The mix of implement types would suggest the presence of a longer-stay camp site, rather than just a short-stay hunting or special-task site.

Early Neolithic activity

There was a component of the analysed assemblage that comprised soft and hard hammer-struck blade and long-flake debitage, much of which had prepared platforms. This material, which was mostly of one flint type, also includes a small number of cores typical of the Early Neolithic, with prepared platforms at right angles to one another, as well as some crested blades. Furthermore, Early Neolithic flintworking traits could be seen on a group of well-produced implements that included scrapers, backed knives, serrated flakes and a burin, together with other retouched pieces made on blades and long flakes.

In addition, a small leaf-shaped arrowhead was recovered from Trench 2. The type is primarily characteristic of the earlier Neolithic (Green 1984) and, taken together with other earlier material, seems to indicate an Early Neolithic phase of activity at the site, for which no associated features or pottery have yet been recognised. It may also be noted that a fragment of Neolithic ground stone axe of coarse-grained rock comes from the pre-mound topsoil in Trench 1. Further fragments of both flint and stone polished axeheads have come from subsequent excavations on the site (K. Parfitt – pers.comm.).

Late Neolithic and Bronze Age

Most of the excavated flint assemblage is of Late Neolithic character, possibly extending into the Early Bronze Age, and comes from the same range of contexts as the large collection of Grooved Ware pottery. It had a mixture of hard and soft hammer-struck debitage, with hard hammer-struck flakes predominating, together with flake cores and limited evidence of platform preparation. The large proportion of fragments, chips and shattered pieces found indicate that knapping and implement manufacture were very probably taking place on the site.

The implements include large numbers of finely retouched scrapers with abrupt retouch around the distal end and occasionally along one or more sides. One or two scrapers had invasive retouch around the distal end, and there were also a number of button scrapers. The latter is a Beaker/Early Bronze Age type. Amongst the other flake implements found were piercers, awls, notched pieces and knives, a polished discoidal knife and a number of combination tools, which are found in the Late Neolithic and Early Bronze Age. Sixteen later Neolithic transverse arrowheads were also found, together with a single Early Bronze Age barbed-and-tanged arrowhead. These arrowheads cover a broad span, at least c. 3000 to 2000 BC. Transverse arrowheads are frequently found in association with Grooved Ware pottery (Wainwright and Longworth 1971, 257–9).

A number of pits under the barrow mound contained Neolithic flintwork and pottery (**Fig. 6**). Amongst these, pit F. 1004 produced six pieces of worked flint, comprising three rough hard hammer-struck flakes and three scrapers, one of which was broken. Pit F. 1006 contained 21 pieces of worked flint, which apart from the mostly hard hammer-struck debitage included five scrapers. Central L-shaped timber slot, F. 1099 (see above) produced 22 pieces of worked flint, including two end scrapers and a side scraper.

Pit complex F. 1046, near the centre of the enclosed area, contained a total of 229 pieces of worked flint. The debitage is predominantly hard hammer-struck with a large proportion of fragments. The implements include a number of end scrapers on blades or long flakes, some of which appear to have prepared platforms. An oblique arrowhead and two further retouched fragments which may be arrowheads, were also recovered from the pit. Some of this material is residual Mesolithic material, with other pieces, especially the long flake/blade scrapers, resembling the depositions in pits F. 1004 and F. 1006. The worked flints contained within these pits may be interpreted as special 'placed' deposits.

The flint assemblage contained within the make-up of the mound dates from the Late Neolithic to Early Bronze Age, with some residual Mesolithic and Early Neolithic components incorporated. Although there appears to be little overall difference between the debitage from the pre-mound topsoil and that from the mound, there is a tendency towards longer, almost blade-like flakes from the pre-mound topsoil. The implements from the pre-mound soil also tend to be Neolithic rather than Early Bronze Age. The initial ditch fill seems to have an assemblage that is broadly contemporary with the mound.

The final component of the analysed assemblage, seen in the modern plough-soil and also in the upper ditch fills, and therefore associated with later use of the site, is later Bronze Age material, comprising hard hammer-struck flakes and a few crude scrapers (Ford *et al.* 1984).

Conclusions

Overall then, the substantial flintwork assemblage recovered from the Ringlemere site includes material dating from the Mesolithic period through to the later Bronze Age. The main phase of activity is associated with the Late Neolithic and Early Bronze Age activity at the site, and a full analysis of the assemblage in due course will enable comparisons to be made with other sites of this period in Kent and elsewhere in southern Britain.

The excavations and field-walking have also yielded very large quantities of calcined flint (approaching 500 kg). Plotting the surface distribution indicates that the entire area is liberally covered with such material, with a marked concentration in the area of M1. A number of other minor concentrations occur further away from the mound implying extensive prehistoric activity across the area. A number of struck flakes which have been subsequently calcined are present which demonstrates that flint working and flint calcination were, at least in part, contemporaneous activities.

Wood remains

Identification of wood and charcoal remains associated with the central features and the cup
by Caroline Cartwright

Wood and charcoal samples recovered from four contexts were submitted for identification: those excavated archaeologically from contexts 1025, 1103 and 1104 and that retrieved by the finder with the gold cup. Standard techniques of wood identification usually require transverse, radial longitudinal and tangential longitudinal thin sections to be made of each wood sample. These thin sections, approximately 12–14 microns in thickness, are usually cut on a base-sledge microtome, and are then mounted on glass microscope slides and examined by transmitted light optical microscopy with darkfield and polarising capabilities and a range of objectives providing magnifications from x50 to x1000. However, these wood samples were far too dessicated and powdery to be thin sectioned, so they were examined using the fracture method and reflected light microscopy normal for charcoal, but under similar magnification. Each fragment of sufficient size was fractured by hand to expose the required transverse and longitudinal surfaces. Identification of the surviving diagnostic features was carried out according to standards laid down by the International Association of Wood Anatomists (IAWA), published by Wheeler *et al*. (1986) and Wheeler, Baas and Gasson (1989). For each wood sample, the key features were also compared with reference collection specimens and text descriptions.

The samples from the southern L-shaped slot F. 1102 (1103, 1104) included a mixture of charcoal, partially burnt and unburnt wood. In 1103 ('Samples 1–3') identifiable material was of *Quercus* sp. (oak), *Acer campestre* (field maple), *Corylus avellana* (hazel), *Buxus sempervirens* (box) and F*agus sylvatica* (beech). The first three species were found in all three conditions, the box as charcoal and the beech as partially burnt wood.

Context 1104 ('Sample 4') contained only tiny fragments of charcoal and partially burnt wood; those identifiable were *Quercus* sp. (oak), *Acer campestre* (field maple) and *Corylus avellana* (hazel). Also noted were soil pellets with dark, possibly mineral staining.

Under the binocular microscope many of the tiny fragments of unburnt wood from context 1025 appeared to be fragmenting in an irregularly 'prismatic' fashion. When sectioned for examination, these orange-brown fragments rapidly disintegrated into very fine powder, owing to their extremely desiccated state. Despite this condition, sufficient diagnostic features survived to enable the identification of the following three taxa: yew (*Taxus baccata*), field maple (*Acer campestre*) and beech (*Fagus sylvatica*). It is worth emphasising that none of the fragments in this batch is root material. *Acer campestre* was selected for radiocarbon dating (below).

The small sample of organic material found with the cup was received from the finder in two small self-seal bags. One bag contained very fine root filaments from modern cereal crops. The other had a few tiny fragments of unburnt wood which are possibly from *Acer campestre*, but which have a slightly darker colour and less 'prismatic' appearance than those excavated from context 1025. The difference in condition means that it is not certain from the taphonomic and anatomical evidence alone that they can be considered to be from the same context.

Assuming that the majority of the wood fragments from 1025, 1103 and 1104 are not modern or intrusive, it is worth noting the type of ecology which the identified taxa represent and some of the distinctive properties of the timber yielded.

The yew is a slow growing, long-lived evergreen tree which prefers chalky soils, often in the dense shade of oak woods. Yew timber is strong but elastic and is particularly well suited to the manufacture of archery bows. It is also used for tool handles, furniture veneers and firewood. The field maple is most commonly found in hedgerows, edges of woods or as understorey in woodlands. It is frequently associated with ash, hazel and oak on heavy calcareous soils. As it coppices strongly it is very suitable for hedges. Its wood is fine grained, but as it is seldom available in long lengths, its use is largely confined to small turned artefacts, marquetry and firewood. Beech trees grow well on chalk and limestone but are also tolerant of a wide range of soils and conditions. Large trees may produce building timber, although not generally suitable for outside use; instead the wood is mainly used for furniture, small turned artefacts and veneers. It is a particularly good source of firewood and charcoal.

Hazel (*Corylus avellana*) comprises deciduous shrubs and small trees, often found as understorey in oak woodlands. Hazel is frequently coppiced, providing long sticks, hurdles, thatching and spars. The wood is relatively fine grained and is useful for cask hoops, basketry and good firewood. Management of hazel woods not only ensures productive coppicing timber but also maximises the harvest of the nutritious nuts (when protected from large birds, squirrels and mice).

Oaks (*Quercus* spp.) are large, long-lived deciduous trees which will tolerate a range of soil pH and moisture conditions, including wet soil and dry clay. Oaks yield good all-purpose long lasting and durable timber, useful for building, furniture, firewood and charcoal. Coppicing of oak woodland produces stakes and poles for fencing.

The box tree (*Buxus sempervirens*) is an evergreen species that once formed part of woodlands which are now very rare. Its preferred habitat is on chalk and limestone slopes, sometimes with beech. Box timber is very hard, heavy and close-grained and is used for tool handles, precision instruments and decorative carving and turnery.

In conclusion, the wood and charcoal samples recovered from excavated contexts 1025, 1103 and 1104 at Ringlemere have been identified as typical southern England oak and beech wood components consisting of field maple (*Acer campestre*), hazel (*Corylus avellana*), oak (*Quercus* sp.), beech (*Fagus sylvatica*) and box (*Buxus sempervirens*).

Radiocarbon dates from the central structures
by Keith Parfitt and Stuart Needham

Since the excavation of monument M1 is ongoing, no systematic dating programme has yet been instigated. However, a few samples have been submitted for radiocarbon measurement in order to give some early indications on the chronology of the site sequence and particularly the central structures (**Table 3**).

Table 3: Radiocarbon and OSL dates for Ringlemere and Mill Hill, Deal

Site	Feature	Material	Date BP	Calibrated date (2-sigma) BC	Lab. ref.
Ringlemere	Pit F. 1321 – charcoal at interface of two layers	Charcoal – whitebeam (*Sorbus aria*) and box (*Buxus sempervirens*)	4170 ± 40	2890–2600	Beta-183862
Ringlemere	Buried soil 1020/103	Pot sherd (KF 49)	2530 ± 460 BC	2990–2070 (1-sigma)	OSL(Oxford)
Ringlemere	L-slot F. 1102, context 1103 sample 2	Unidentifiable charcoal flecks, 1.3g	3460 ± 40	1890–1680	Beta-180487
Ringlemere	L-slot F. 1102, context 1103 sample 3	Unidentifiable charcoal flecks, 1.5 g	1750 ± 40	AD 130–410	Beta-180488
Mill Hill	Pit SRD F. 428	Cow bone	4105 ± 45	2880–2500	OxA-7441
Mill Hill	Pit CRD F. 1	Sheep bone	4020 ± 60	2870–2450	OxA-7531

Beta-183862 gives an initial indication that at least some of the Grooved Ware activity on the site belongs to the first half of the 3rd millennium BC rather than the second half. Further samples will be dated in due course. Radiocarbon dates for Grooved Ware contexts at Mill Hill, Deal, are shown for comparison.

The decayed, unburnt woody material at the base of F. 1102, the southern L-shaped slot, was thought to be too degraded to allow the extraction of any suitable samples for radiocarbon dating. Small charcoal fragments, which occurred in the same deposit, provided an alternative. In the light of initial uncertainties about both the age and potential significance of this feature, it was decided that it would be worth attempting to get dates from this charcoal, accepting from the outset that the sample material was far from ideal. This in fact seems to be the case for the two results are somewhat unsatisfactory in being very divergent from one another. There can now be little doubt that sample Beta-180488 had been contaminated by later, intrusive organic matter. The Early Bronze Age date for sample Beta-180487 may be reliable but the possibility remains that, if intrusive organic matter accounts for the other measurement coming out late, it may also have infiltrated this one. Another sample , this time of unburnt wood fragments, was submitted from context 1025 in the stratigraphically later pit F. 1024. After rigorous pretreatment it failed to yield datable material (Groningen Laboratory – Van der Plicht, pers. comm.).

Chapter 5: Ringlemere and Ritual and Burial Landscapes of Kent

Keith Parfitt

Kent's lack of prehistoric monuments – the price of being the 'Garden of England'

The general lack of prehistoric field monuments across much of Kent has long been recognized, even though the rolling chalk downland of east Kent in particular has readily invited comparison with the similar landscapes of Sussex, Wessex and the Yorkshire Wolds, so rich in prehistoric remains. Yet prehistorians throughout the 19th and 20th centuries have been continually disappointed by the absence of comparable numbers of upstanding Neolithic and Bronze Age structures in this region (e.g. Woodruff 1874, 17; Champion 1982, 32; Barber 1997, 82). As a consequence, until recently, Kent has often been envisaged (sometimes almost subconsciously) as being less densely occupied during the prehistoric past than many other parts of southern Britain.

However, it is now quite clear that the paucity of visible ancient remains is very much the result of subsequent land-use. Thus, central to understanding the preservation, distribution and survival of local prehistoric field monuments is a thorough appreciation of the nature, extent and intensity of agricultural activity throughout the historic period, particularly over the last two or three centuries. In this context, the prehistoric complex now identified at Ringlemere effectively presents a microcosm of the situation across much of the county and serves to demonstrate that, even though there is often virtually nothing to be seen on the surface, with detailed investigation, there is still much of significance too be discovered below the fertile top-soil of the 'Garden of England'.

Potential Neolithic ceremonial enclosures and henge monuments in Kent

From the excavation evidence there would now seem to be two main periods in the prehistoric development of Ringlemere M1 (Chapter 2). In its earliest form, the monument appears to have constituted a Class 1 henge. Subsequently, the addition of a central mound transformed this monument into a barrow of large diameter, but not necessarily very high, which may or may not have served as a place of burial.

In Kent generally, henge monuments have remained elusive or controversial, thus making the new discoveries at Ringlemere of exceptional interest and importance. Other possible examples of henges and ceremonial enclosures, however, are now also beginning to be identified and it would anyway seem improbable that Ringlemere M1 was the only such monument that existed in prehistoric Kent.

Not far to the north-east of Ringlemere, at Richborough (**Fig. 26**), Paul Ashbee has recently noticed (Ashbee 2001, 86; 2005, 113) how William Stukeley's drawing of the Roman amphitheatre there (Stukeley 1776, 36.2d; reproduced in Ashbee 2001, fig. 5) has very much the appearance of a henge. He suggests a Roman adaptation of an earlier monument, similar to the sequence known at Maumbury Rings, Dorchester (Bradley 1976). Moreover, a recent geophysical survey of the Richborough site has revealed two large enigmatic side-features which cannot be readily understood in the context of a Roman amphitheatre (Millett and Wilmott 2003, 190), perhaps further raising the possibility of an earlier monument here; only detailed excavation will resolve the issue.

Aerial reconnaissance across the county has revealed further possible henge sites. An assessment conducted by the RCHME in 1989 (unpublished) listed 11 air photograph sites in Kent that might represent henges, although only one of these seemed likely (RCHME 1989, list 18; Bewley, Crutchley and Grady 2004, 72). Of the potential sites noted, ten lie on the chalklands in the eastern-most part of the county, with no less than seven occurring on the Isle of Thanet, including two close to the excavated Lord of the Manor monument complex described below. Two more possible henge sites (refs KE 674.14.1, TR 2900 5260; KE 674.83.1, TR 3034 5422) lie on downland near Eastry, only a short distance to the south of Ringlemere (**Fig. 26**); site 674.83.1, about 45m across, is almost 3km away, with the much larger KE 674.14.1 cut through by Thornton Lane, some 4.4km distant. This latter site, of which just under half has been recorded by aerial photography, is of particular interest because of its apparent double ditch and large size, around 200m in diameter. Three round barrows have been previously recorded from the immediate area (see below) and one of these can now be seen to lie near the centre of the enclosure.

The clearest identifiable example of a henge monument, however, is located some 40km to the west of Ringlemere, at Bredgar near Sittingbourne. Here, the crop-mark of an apparent Class 2 henge has been recorded on high downland to the north of Trundle Wood (ref. KE 735.1.1, TQ 8847 5907). The monument is oval in outline, between 30 and 40m across, with opposed entrances on the south-east and north-west sides.

Further possible candidates for henges may exist among the 50 double and triple concentric ring-ditch sites that have also been noted on air photographs of the east Kent and Thanet chalklands (RCHME 1989, list 19). Excavation of several has now taken place, mostly on Thanet and although details of most have yet to be published in full, it is apparent that the bulk of them are complex monuments of multi-phased development. Evidence for internal features, re-cutting and replacing of the enclosing ditches, together with finds of Neolithic pottery and flintwork combine to show that most of the excavated examples are not straightforward Bronze Age round barrow sites. Indeed, it has been suggested that a number originated as Late Neolithic ceremonial enclosures, which were only later developed as burial sites and covered by a barrow mound, now invariable destroyed. Perkins (2004, 76) has termed such sites 'henge-barrows'.

On the southern side of the Isle of Thanet, about 10km

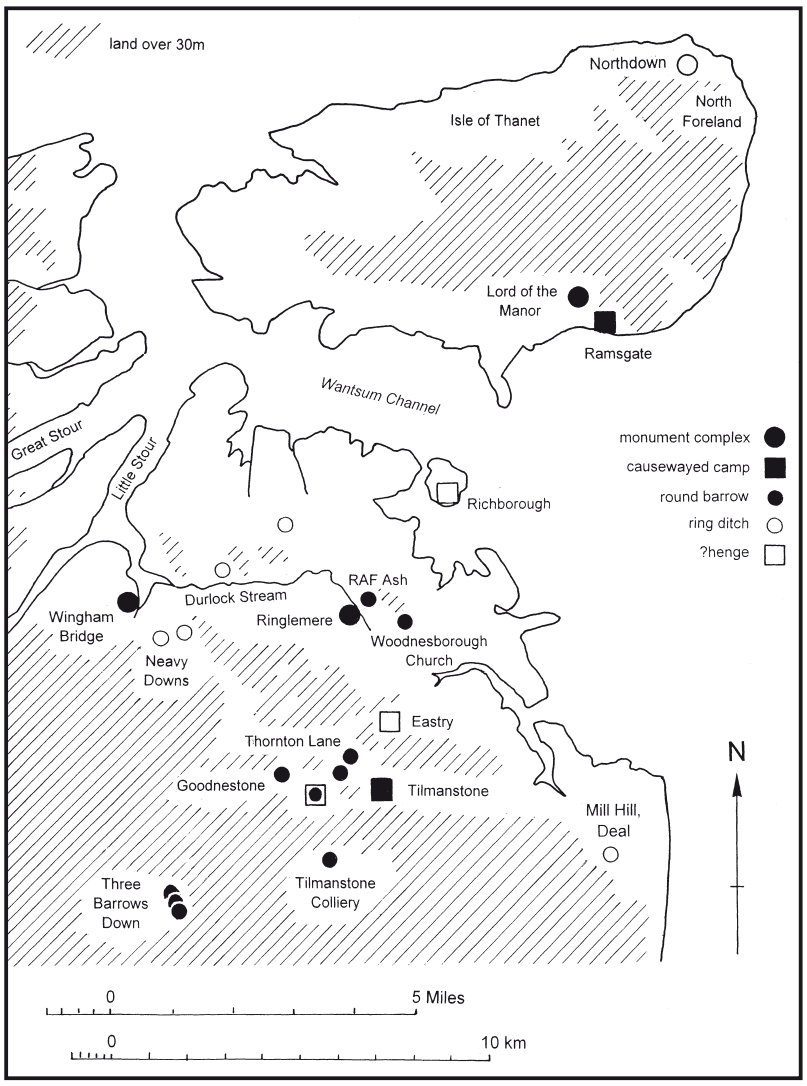


Figure 26 Map of north-east Kent showing location of principal prehistoric sites mentioned in the text

north-east of Ringlemere, a key site lies at the Lord of the Manor (Ozengell) crossroads (**Fig. 26**) where excavation of a complex, concentric triple ditched enclosure was undertaken in the 1970s (LOM Site I). Situated on a chalk ridge overlooking the sea and the Wantsum Channel, this monument was associated with a cluster of other ring-ditches. Two of the RCHME's possible henge sites lie nearby.

Analysis has suggested four phases of development to LOM Site I (Macpherson-Grant 1977). A circular outer ditch, unbroken by any obvious entrance causeway, was believed by the excavator to be the earliest feature and this enclosed an area about 24m in diameter, possibly with an internal bank. It was provisionally dated to the Late Neolithic period (Macpherson-Grant 1977, 15). During Phase 3, sometime in the Early Bronze Age, a grave containing two crouched inhumations was cut at the centre of this enclosure, surrounded by an inner ditch and probably covered by a small mound. Later, in Phase 4, further burials were added to the central barrow, which was then enlarged by material derived from a new penannular middle ditch, cut just inside the assumed position of the internal bank of the original Late Neolithic enclosure.

Further excavations on the site led to the suggestion that at least two of the other adjacent ring-ditches might also have originated as Late Neolithic enclosures (LOM Sites IID and III). Site IID consisted of a single penannular ring-ditch enclosing an area about 17m in diameter, with a broad entrance causeway on the south-western side. Internal features included post-settings and a hearth, and later, a central crouched inhumation. The excavator believed that the monument had undergone three phases of development, the earliest dating to the Late Neolithic period (Macpherson-Grant 1980). Site III was another single ditched enclosure, with an internal diameter of almost 20m. It was provided with an entrance causeway on the south side and again appeared to have gone through several phases of development, with a central cremation burial contained within a Bronze Age Collared Urn, added during Phase 2 (Perkins 1980).

On the north side of Thanet, at Eastchurch Road, Northdown, Margate, the discovery of another large 'Neolithic ceremonial circle', perhaps subsequently re-used as an early Bronze Age burial site, awaits detailed publication, along with a group of adjacent barrow ring-ditches (**Fig. 26**; Rosa 1982, 18; John Willson pers. comm.).

Some distance to the west of Thanet, a possible Neolithic ceremonial circle has been identified above the valley of the River Medway on Holborough Hill, near Snodland (Grinsell 1992, Snodland 1). Here, a previously excavated, plough-damaged ring-ditch with an internal diameter of about 25m (Evison 1956) has, on the evidence of the pottery contained within its lower silts, recently been recognised as originating as a circular Neolithic enclosure (Harding 2003, 19). At the time of its investigation, it was assumed to be the remains of a simple Bronze Age round barrow. There was no surviving evidence for the presence of any primary burials, nor a barrow mound,

although the prior existence of the latter was suspected by the excavator because, like Ringlemere, the monument had subsequently served as the focus for an Anglo-Saxon cemetery.

If the sequences proposed for these Lord of the Manor and other ring-ditch sites are fundamentally correct, the notion of Late Neolithic ceremonial circles which evolve during the Early Bronze Age into burial monuments marked by round barrows could mirror the sequence now interpreted for Ringlemere M1 (Chapter 2). Clearly, detailed publication of all the Thanet sites is urgently required before any more useful local comparisons can be made.

It seems likely that further and more secure henge monuments will be identified in Kent over the coming years, especially if the pace of fieldwork continues to increase at its present rate. Currently, however, Ringlemere M1 seems to be the most convincing classic henge within the county.

Bronze Age barrows and ring-ditches in east Kent

At some stage after its construction, the original henge enclosure at Ringlemere, with its central timber structure, was significantly modified by the addition of a mound to create what, in conventional archaeological terms, may be regarded as a round barrow, the last vestiges of which are still visible today. This general sequence may be broadly comparable with the smaller, less well-preserved 'henge-barrows' previously examined at the Lord of the Manor complex on Thanet (see above, this Chapter). At Ringlemere, the new barrow mound was surmounted by a centrally positioned timber façade, apparently intended either to replace or enhance the original timber 'cove' (Chapter 2).

Bronze Age round barrows represent the most common prehistoric monuments known in Kent and Ringlemere M1 in its later form can now be added to the list of surviving remains. During the early 1990s, in the last of his great surveys, Leslie Grinsell was able to detail about 170 round barrow sites in Kent overall (Grinsell 1992), of which half were concentrated in the eastern-most part of the county, mainly on the higher chalk downland to the south and west of Ringlemere. In constrast, few sites were known on the Tertiary and later clay and sand deposits that skirt the foot of the North Downs dip-slope (Ashbee and Dunning 1960, fig. 1;Grinsell 1992, fig. 1), though this is precisely the region where Ringlemere and another newly identified monument complex at nearby Wingham Bridge (detailed below) are located. Even as Grinsell, then 85 years old, was completing his long-planned Kent survey, it was becoming increasingly clear from the results of aerial photography that for every visible barrow mound in the county there were dozens of others that had been destroyed by ploughing. The unpublished 1989 RCHME study of crop-mark evidence across the county (see above) had already identified over 640 probable sites in Kent (RCHME 1989, lists 19–21).

Shortly after Grinsell's catalogue was published, Dave Perkins attempted a revised quantification of the numbers of levelled Kentish barrows. In 1995 he counted 739 potential round barrow sites in the county, recorded on air photographs (Perkins 2004, 76). As with the extant mounds, the distribution of these sites was very uneven, with three-quarters of them again lying in the eastern-most part of Kent. For the block of chalkland between Deal, Canterbury and Folkestone some 356 ring-ditch sites were noted, with another 315 spread across the much smaller area of the adjacent Isle of Thanet. Adding Grinsell's figures for surviving mounds and newly discovered sites such as the Ringlemere and Wingham Bridge complexes, it now transpires that a total of over 900 probable round barrows is recorded from Kent. The average density of barrows on Thanet, an area intensively studied by Perkins for many years, seems to approach parts of prehistoric Wessex, at almost 4 sites per km^2. On the chalk downs of mainland Kent east of Canterbury, the density is lower at about 1.25 barrows per km^2. West of Canterbury, up to the south bank of the Thames and into the Weald, which together account for some four-fifths of the total area of the historic county of Kent, however, the number of recorded barrow sites remains very much smaller. At least in part, this will be due to the obscuring effects of woodland and soils less conducive to the formation of crop-marks, together with urban sprawl from London, rather than any genuine absence of prehistoric monuments. Even allowing for originally lower barrow densities in these regions compared to the eastern part of the county, the former presence of 2000 Bronze Age round barrows across Kent now seems very likely. Such a figure may be compared with the area of prehistoric Wessex, around four times larger than Kent, which has an estimated total of over 6,000 round barrows (Cunliffe 1993, 117).

Amongst the plough-eroded sites recorded on air photographs in Kent are examples with double and triple concentric ring-ditches, many of which are likely to represent complex sites with several phases of development. As noted above, some of these sites could even have originated as henge monuments. Also represented by crop-marks are clusters of half-a-dozen or occasionally more ring-ditches grouped together. From the available evidence, however, it would seem that the very large nucleated barrow cemeteries such as are famously known on the Wessex chalklands, are essentially absent from Kent (as in many other parts of the country). Surviving barrows on the Kentish chalklands most frequently occur singly or in pairs and very occasionally in groups of three or four (Ashbee and Dunning 1960, 48). Almost all are simple bowl barrows, invariably without a visible ditch. As far as can be determined from the surviving remains, the more elaborate forms of round barrow – the so-called 'Wessex fancy barrows' – are not present in any significant numbers in Kent (Grinsell 1992, 357), although extensive plough damage will have destroyed the relevant evidence at many sites. A saucer barrow has been preserved in Warren Wood at Crundale, near Ashford (Grinsell 1992, 357; Crundale 1). This has the remains of a bank set outside a still visible ditch which encloses an area about 18m in diameter (Kent SMR, TR 04 NE 26). It appears to be the only extant example of an embanked barrow surviving in east Kent, although we now also have the (limited) evidence for an outer bank at Ringlemere M1. Moreover, the evidence implying that the mound of M1 was never very high suggests that, in traditional field-worker's terms, this too might be regarded as a (large) saucer barrow.

Although examples of primary cremations and inhumations have been recorded, perhaps unsurprisingly, modern excavation of many heavily plough-damaged Kentish prehistoric barrow sites has failed to yield any contemporary burials and it must be that these have been previously destroyed. The discoveries under one upstanding barrow mound excavated in the 18th century by James Douglas, on Bay Hill at St Margaret's-at-Cliffe near Dover, demonstrates the potential nature of the problem.

This mound was found to contain the cremated remains of a child 'deposited exactly at the centre of the barrow on the surface of the native soil, without any excavation whatever, the mound of earth raised simply over it' (Douglas 1793, 120). Clearly, such a fragile burial deposit could not have survived on any heavily plough-eroded site.

It is difficult to document the destruction of the prehistoric round barrows of Kent at all closely but it seems likely that their erasure has been a continuous process over many centuries. Two of the three barrows situated below the North Downs scarp at the foot of Castle Hill, Folkestone, seem to have been under the plough by the Iron Age (Rady 1992) and comparable evidence for destruction in pre-Roman times is reported from the Lord of the Manor complex on Thanet (Perkins 2004, note 2). A number of other mounds, such as those at Holborough Hill, Snodland (see above); Mill Hill, Deal; Long Hill, Buckland and Bay Hill, St Margaret's must have survived as visible monuments until at least the 6th century AD, however, because they provided *foci* for early Anglo-Saxon inhumation cemeteries, as now also clearly seen for Ringlemere M1.

It seems likely that many prehistoric barrow sites had already been lost county-wide by the time of the first antiquarian interest in the region; thus Kent's early barrow diggers, most notably Bryan Faussett and James Douglas, working at the end of the 18th century, generally located and excavated mounds that were of Anglo-Saxon date, with just a few earlier monuments. Douglas opened a prehistoric mound not far from Ringlemere, somewhere on Shingleton Down, near Eastry, in 1782; it produced a central cremation in an urn (Douglas 1793, 160–1; Grinsell 1992, Eastry 3a). This may have been one of the mounds which still survive off Thornton Lane (see below).

About 6.5km to the south of Ringlemere, a barrow almost 9m in diameter and surrounded by a ditch was excavated ahead of its destruction by an extension to Tilmanstone Colliery in 1911 (Ashbee and Dunning 1960, 57; Grinsell 1992, Eythorne 2; **Fig. 26**). Situated on a chalk ridge-top, a detailed report on this site was never published. However, it would seem that an inhumation burial was discovered near the centre of the monument and, in a position not stated, a slotted incense cup was recovered (**Fig. 33.4**) but this has now been lost for many years (Jessup 1930, 122).

Several mounds off the chalkland, in the general vicinity of Ringlemere, were recorded by early antiquaries. Stukeley (1776) notes that 'there are a great number of large barrows about Sandwich, one at Winsborough [Woodnesborough] with a tree upon it…; between that and Sandwich [town] is another called Marvil hill' (Iter V, 126 footnote). Whilst travelling along the Roman road from Canterbury to Richborough, Stukeley had noted at Wingham '… a very large barrow, of Celtic make, by the road side, called the Mount: upon enquiry I found there were several more in the parish…' (Stukeley 1776, Iter V, 124: quoted in Grinsell 1992, 356; Ashbee 2001, 72; and see below; **Figs 2 & 27**).

The mound at Woodnesborough seems to have been just north of the parish church and is also described and illustrated by Hasted (Hasted 1800, 122; **Fig. 2**) but, like all the other mounds around Sandwich, it no longer survives. Situated on higher ground about 1.5km to the east, the Woodnesborough mound was probably visible from Ringlemere but a prehistoric date for it cannot be demonstrated. Indeed, it could have been of natural origin, as could several of these other lost mounds. The barrow at Wingham, however, appears to have been recently re-discovered (see below, Wingham Bridge; **Fig. 27**), but now survives only as an eroded remnant of the monument Stukeley observed.

The combined results of geophysical survey and aerial photography have indicated that grouped around Ringlemere M1 there are at least nine other ring-ditches (monuments M2–M10), all of more modest proportions (**Figs 3 & 4**; Chapter 1). Many of these are likely to represent conventional round barrows now levelled by ploughing. Nevertheless, one (M5) is double-ditched, and the evidence from the geophysical survey suggests that some of the other lesser monuments could be complex or multi-phase structures; two may have causeways. Collectively, these monuments appear to constitute a nucleated barrow group, of a size not often encountered in Kent (see above). Ringlemere also stands out as being unusual for the substantial size of one of its monuments (M1) and the occurrence of rare and exotic items of gold and amber here. Together, these features mark out the Ringlemere complex as having an elevated status within the region during the Late Neolithic–Early Bronze Age. Lying on the slopes of the Durlock valley, however, this newly identified complex does follow a general pattern emerging nationally, in which Bronze Age barrow groups are being regularly identified in valley or head-of-valley locations, sited close to springs and streams (Woodward 2000, 73).

The top of the long ridge just to the north-east of the Ringlemere site (**Fig. 2**) represents another classic location for the positioning of Bronze Age round barrows, although nothing now survives here. Nevertheless, it is of relevance to note that immediately opposite the site, the summit of a short spur projecting into the valley and forming a local high-point, was once occupied by an artificial mound. This low circular mound was destroyed by the construction of RAF Ash just after the Second World War, but Ronald Jessup and O.G.S. Crawford had previously made an inspection of the site and believed it to represent a tumulus, even if re-used as the base for an 18th-century windmill (Davidson and Webster 1967, 4–5; **Fig. 2**).

Further west, ring-ditches known from aerial photographs imply the former presence of other round barrows on the higher ground adjacent to the Durlock valley (**Fig. 2**). North-west of Ash there is a large double ring-ditch (Kent SMR, TR 25 NE 35) which has yet to see any investigation. Some examination of a single ring-ditch on Neavy Downs south of Wingham was possible when it was cut through by a pipe trench in 1960 (Ogilvie 1977, 122; Grinsell 1992, Wingham 1). It appeared to be some 30m in diameter and was associated with a Beaker of Clarke's East Anglian type (Clarke 1970, Corpus no. 409), although the exact context of the vessel could not be determined.

On the chalklands to the south of Ringlemere, the closest recorded barrow sites are the three mounds situated off Thornton Lane near Eastry, about 4.4km away (Grinsell 1992, Eastry 1–3; **Fig. 26**). Unfortunately, these mounds are now almost ploughed-out but aerial photograph evidence suggests that they might be associated with a large henge enclosure (see above). Much better preserved is the single, 1.3m. high barrow surviving in woodland at Knowlton Park, Goodnestone (Grinsell

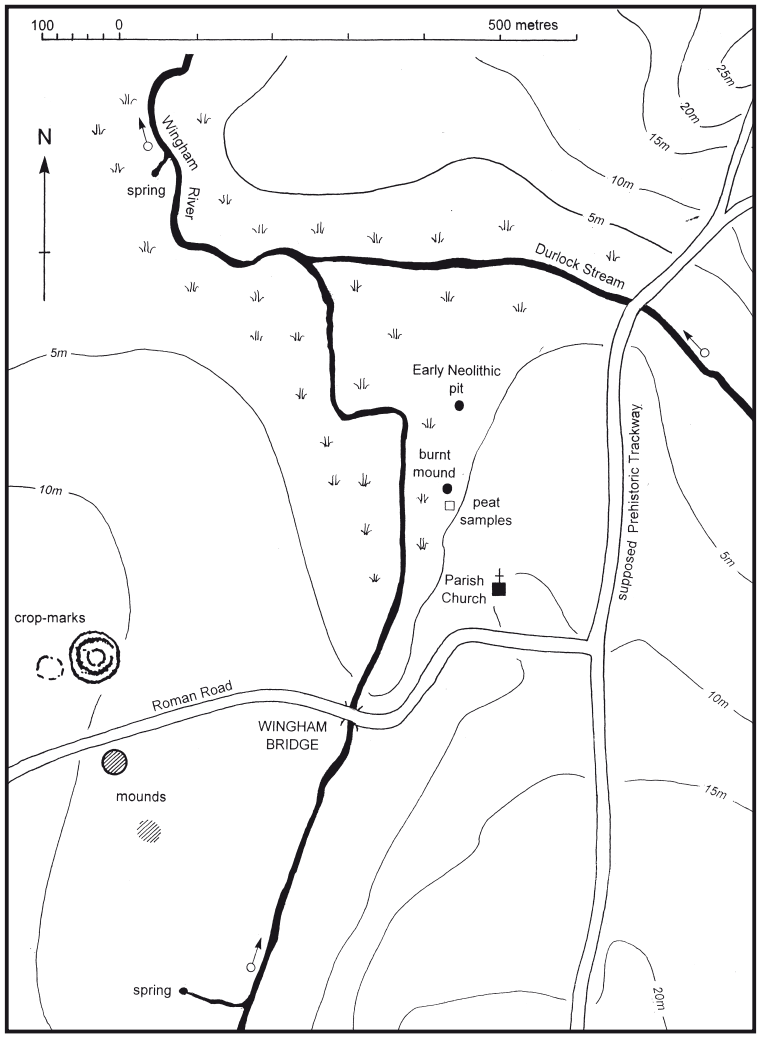


Figure 27 Plan of the Wingham Bridge prehistoric monument complex

1992, Goodnestone 1; **Fig. 26**), 4.5km to the south-west of Ringlemere. Locally, the finest barrow group lies in a wood on Three Barrows Down, Womenswold, some 8.5km to the south-west of Ringlemere (Grinsell 1992, Womenswold 1–3; **Fig. 26**).

Wingham Bridge – another local valley-side monument complex

A low mound recently observed by Grant Shand on the western outskirts of Wingham, some 5.7km to the west of Ringlemere, could well represent the last remnants of the large barrow previously recorded in this area by William Stukeley (see above) but now otherwise lost. Situated by the road-side near Wingham Bridge (NGR TR 236 572), the mound lies on the southern side of the present A257, Canterbury–Sandwich road, which is highly likely to have been the route that Stukeley followed to Richborough (**Fig. 27**).

The mound lies towards the bottom of a gentle slope which constitutes the western side of the valley of the Wingham river. It stands at an elevation of about 9m OD, just above springs which mark the source of the river. The subsoil here is head brickearth. An aerial photograph of the site provided by Kent County Council Heritage Conservation Group shows the faint outline of an enclosing ring-ditch, around 28m in diameter, leaving little doubt that this is the remains of a prehistoric barrow. Nor is this newly identified barrow an isolated feature because the remains of a second low mound are visible in the same field about 100m to the south, whilst a similar distance up-slope to the north, on the other side of the road, crop-marks show another ring-ditch immediately adjacent to a larger, more complex triple concentric ditched circular monument (Kent SMR, TR 25 NW 65; **Fig. 27**).

About 400m to the north-east of Wingham Bridge, in the valley-bottom (**Fig. 27**), an Early Neolithic pit containing an important group of pottery and other artefacts, has been previously reported, together with a nearby spread of calcined flint and burning debris likely to be a prehistoric 'burnt mound' site (Greenfield 1960). Adjacent peat deposits were the ones sampled by Godwin to produce the important pollen diagrams previously noted above (Chapter 1).

On the opposite side of the valley of the Wingham River, about 1km south-east of the newly identified ring-ditches, lie Neavy Downs, with their possible Beaker barrow (**Fig. 2**), crossed by the modern B2046 which is believed to follow the line of a prehistoric trackway leading inland, southwards from the shores of the Wantsum Channel (**Fig. 27**). No doubt further investigations in the region of Wingham Bridge would be highly informative but already there seems to be enough evidence to suggest the presence of another Neolithic and Bronze Age centre of activity here.

Reconstructing Kent's lost ritual and burial landscapes

In Wessex and a number of other southern regions, ritual landscapes established in the Neolithic period apparently often continued into the Early Bronze Age, with round barrows frequently clustering around earlier, Neolithic monuments. We now appear to be glimpsing elements of a similar prehistoric

pattern across the heavily ploughed landscape of east Kent and the Isle of Thanet. In addition to the newly identified monument complex at Ringlemere, another Neolithic-Bronze Age focus of activity would seem to be emerging close to the head-waters of the Wingham River, less than 6km further west. The valley-side location of the Wingham Bridge monument complex is indeed very reminiscent of Ringlemere and the relatively close proximity to these two sites, within the same valley system, may suggest that they were connected in some way.

Taken together, the evidence from Ringlemere and Wingham Bridge, along with the previously excavated ridge-top complex at the Lord of the Manor on Thanet, combines to suggest that there were a number of local Neolithic-Bronze Age ceremonial centres scattered across north-east Kent, on either side of the Wantsum Channel. Other discoveries help to reinforce the view that these were significant places. Thus, a Neolithic causewayed enclosure and part of a possible cursus monument have now been excavated within 1km of the Lord of the Manor complex (Dyson, Shand and Stevens 2000, 472; Shand 2001; **Fig. 26**) whilst two possible henge monuments are recorded on air photographs in the same region. Another probable causewayed enclosure has been noted on an air photograph near Tilmanstone, 4.5km to the south of Ringlemere (Oswald *et al*. 2001, 153 no.47) and only just over 1km east of the monuments off Thornton Lane, Eastry, which include round barrows and the possible henge enclosure (see above; **Fig. 26**).

Some distance further to the west, beyond our main area of concern in this discussion, another region which must be mentioned is the Medway valley, between Maidstone and Rochester. Here, the famous megalithic long barrows clustered in two groups on either side of the valley, have long been known (Holgate 1981). Now, with the recent discovery of a large Neolithic rectangular timber building at White Horse Stone not far from the Lower Kits Coty burial chamber, the identification of a possible new causewayed camp at Burham (Dyson, Shand and Stevens 2000, 472; Oswald *et al*. 2001, 152 no.44), along with the circular enclosure at Holborough (mentioned above), this region stands out as another one containing an important ritual Neolithic landscape, which is in need of extensive, detailed modern study.

Elsewhere in Kent, evidence for Neolithic long barrows remains comparatively scarce. The nearest upstanding remains to Ringlemere are represented by a group of three long mounds above the Stour valley, around 22km to the south-west (Parfitt 1998b). However, recent air photograph analysis again has identified a dozen potential new sites scattered across the Kentish chalklands (RCHME 1989, list 17; Bewley, Crutchley and Grady 2004, 72). Six of these sites lie within 11km of Ringlemere, further underlining the prehistoric landscape potential of the region.

Chapter 6: Precious Cups of the Early Bronze Age

Stuart Needham

History of discovery and study

The first record of a cup belonging to the group of 'precious cups' defined for the Early Bronze Age dates back to 1774; it was found at Stoborough in Dorset seven years earlier and was possibly made of shale (cat. no. 16). The piece has been lost since early the following century and cannot be attributed to this group with absolute certainty. However, the burial rite and monument, described in enlightened fashion for the time, is patently consistent with an Early Bronze Age date (Hutchins 1774, 26–7; Gough 1786, xlv–xlvi). Moreover, by interpreting Gough's drawing rather than the schematic reconstruction in Hutchins, the cup has much in common with the subsequent finds of carved cups. In tune with the state of knowledge of the time Gough ventured: 'There is no pretence for this having been the body of Edward the Martyr, AD 978, but it is highly probable that it belonged to some petty prince or chieftain of the Saxon or Danish times.'

The next cup to come to light was the amber one from Hove, 1856 (cat. no. 11). We are fortunate to have another fine description of the grave and its contents with a sober assessment of their parallels (Phillips 1856). Phillips was able to make a number of comparisons with barrow material published by Colt Hoare which was already being ascribed to the 'Bronze Period'.

Three more cups were discovered or brought to antiquarian attention in the late 1860s. Already at this time Smirke, Way, Hutchinson and Kirwan were noting similarities between the first few cups known despite the fact that three different materials were involved. Smirke (1867, 192–3) and Way (1867, 197), in the first publication of the Rillaton gold cup (cat. no. 2; 30 years after its discovery), likened it to the Hove amber version. Although Albert Way had '…great difficulty in suggesting a date… .' (ibid, 196), the associated bronze objects at the two sites, plus some other evidence from Cornwall and Scandinavia, led him '… to assign the relics to a remote period, when the use of that metal prevailed' (ibid). Way's further discussion of broader stylistic comparisons paid particular attention to corrugated objects, amongst them the Mold cape and the Cuxwold armlet, now linked together with the Rillaton and Ringlemere cups, *inter alia*, as part of an embossed tradition of goldworking (Needham 2000a).

Kirwan and Hutchinson were independently drawing a parallel between the newly excavated Farway shale cup (cat. no. 14, quickly followed by no. 15) and those from Rillaton and Hove (Kirwan 1867–8, 630–2; Hutchinson 1867–8). They both also drew attention to the earlier Stoborough find (above and cat. no. 16) thus bringing it in for consideration as a related vessel. Originally described as 'a small vessel of oak, of a black colour', Kirwan ventured that 'it is more probable… . that it may have been of the Kimmeridge shale of the district' (1867–8, 628). He went on to make some comparisons with certain ceramic cups, but these have stood the test of time less well.

Later in the 19th century a second amber cup was unearthed, from the Clandon barrow, Dorset (cat. no. 10). Although the excavation was not properly published until much later (Drew and Piggott 1936), Abercromby dealt with it and the other three cups known in shale or amber in his comprehensive treatment of Bronze Age pottery. He commented that they 'are remarkable as regards both material and form, and more especially as they seem to have been turned on a lathe like similar wooden cups from Denmark' (Abercromby 1912, 29). On this point of technology he was following Evans (1897, 446), rather than Thurnam (1871, 524) who inclined towards hand turning. Thurnam seems to have been the first to note the comparison with surviving wooden cups or bowls from the Danish waterlogged coffin burials, but we now know that these are a little later than the precious series under consideration. Another key feature of Abercromby's publication was the early use of photographs, thus providing us with the first published examples of the two Farway cups and that from Clandon (1912, pl. LXII fig. 3a, pl. LXXXI figs 260, 261).

The next thorough treatment was by R.S. Newall, occasioned by Salisbury and South Wiltshire Museum's acquisition of two shale cups (cat. nos 12 & 13) as part of the Job Edwards collection (Newall 1927–9). Sadly, the provenance of these two is effectively unknown; Newall concluded that 'probably Wiltshire' would be a safer description than the 'Amesbury neighbourhood' (ibid, 111) and we have followed his advice in even more tentative fashion here (possibly Wiltshire). By this time, the number of illustratable vessels in this series from England was eight. He listed but dismissed two other examples as of unknown form and date – from East Riding, Yorkshire, and Rempstone, Dorset. One of the Scandinavian wooden vessels (from Dragshoi) and ceramic cups from Swiss Lake sites were also mentioned, but are not now considered particularly relevant.

Piggott gave the shale and amber cups fairly brief discussion as part of his seminal formulation of the Wessex Culture, deferring to Newall (Piggott 1938, 82–3). However, he did make a rather pertinent suggestion regarding origins which was later to be taken up by Gerloff. Being at pains to find form parallels for the English precious cups and, moreover, given other evidence for links with the Aunjetitz world, Piggott wondered whether '…it may not be too fantastic to suggest connection with the handled cups of similar form characteristic of this phase' (1938, 83). He was of course referring to the many ceramic examples of the Aunjetitz and congener cultures. He also noted the silver sheet fragments from St Fiacre (cat. no. 9) which he alternatively described as from a cup or a bowl (ibid, 68, 100). Aveneau de la Grancière, the excavator in 1898, thought that the fragments were unreconstructable and were from a burnt *bronze* vessel (Aveneau de la Grancière 1898, 88, 93).

At some point after 1938 restoration of the Saint-Fiacre fragments was attempted in the Ashmolean Museum by mounting them on a wooden former of the shape envisaged. Although we offer here a modified reconstruction, this earlier attempt showed that they belonged to a cup-sized vessel.

Even though the complete Gölenkamp example had been found much earlier, in the 19th century, it was the discovery of the Fritzdorf gold vessel in 1954 that first made clear that similar precious cups could occur on the Continent (von Uslar 1955). Von Uslar showed that although not identical vessels, the Fritzdorf and Rillaton cups were strikingly similar in their handles and rivet fixings. A decade later Briard linked the lost gold object from Ploumilliau (cat. no. 6) to this precious cup series (Briard 1965, 76–7).

So by the time of Sabine Gerloff's important review of these cups in the early 70s (Gerloff 1975, 177–96), it was clear that an interrelated series could be identified stretching from Cornwall and Brittany in the west, to the middle Rhine in the east. Potential examples that she considered from more outlying locations – the Cuxwold ornament from Lincolnshire and the Caldas de Reyes cups from Pontevedra province, Spain – can be dismissed from this series for different reasons. The former can now be seen to be so similar to the Lockington armlets as to leave little doubt of a similar identification (an identification suggested by many scholars over time; Needham 2000a). The three handled cups in the Caldas de Reyes hoard are thick and heavy (between 540 and 640g), having been cast by the lost-wax method, and they are of rather different style from the series under consideration here (Armbruster 1996; 2000, 128–35, 201–2). The dating of the large Caldas de Reyes treasure has been much debated, but Armbruster points out that both the technology of the cups and the many associated massive-bar ornaments (arm- and neck-rings) are in keeping with a later Bronze Age date, rather than earlier.

Consolidation of a 'Rhineland' distribution came with the public appearance in 1974 of the Eschenz example, it having been unearthed much earlier in 1916 (Hardmeyer and Bürgi 1975). Coming from the head of the Rhine in the Alpine foreland, Eschenz indicated penetration of this precious cup series into the heart of Europe. The research it engendered also brought into the open the 19th-century find from Gölenkamp, near the German/Dutch border, a vessel with some significant similarities, but in many ways the most deviant of the whole group under discussion.

At about the time that Eschenz was published, Jacques Briard was excavating a second silver example from a tomb at Saint-Adrien (Briard 1978; Briard 1984, 134 fig. 83, 135 fig. 84, 225–6); this added further weight to the Armorican distribution (cat. no. 8). The only other related find we are aware of since is a cup published for the first time in 2001 (Wamser and Gebhard 2001) and said to be from Germany, but wholly lacking any contextual or historical information, a decidedly unfortunate situation given its potential importance (cat. no. 7).

For the sake of completeness, mention needs to be made of two small rim fragments of jet vessels or ornaments, both from Northumberland. The respective publishers have suggested they could come from vessels, but neither comes from a well-dated context. The fragment from Hebburn Moor is part of a surface collection made over many decades (Newbiggin 1941) and cannot necessarily be accepted as Bronze Age or even prehistoric. Its radius of curvature is not given. The second fragment was excavated by George Jobey from within a small double entrance enclosure (hengiform), where it was 'lying on the disturbed brash surface above bed-rock' (Jobey 1966, 37–42 fig. 15). The fragment is under 4cm long and 1.8cm deep with an estimated external diameter of 10cm; the wall thickens towards the rim which has a flat top and bulbous outer lip. Jobey was not confident that this was from a cup.

With the final addition of Ringlemere, the current distribution of Early Bronze Age precious cups is that shown in **Figure 28**. The intensity of the distribution along the southern coastal strip of England is striking, but may be enhanced by deposition and recovery factors relative to the opposite shores of France and Belgium. The Armorican finds also basically fall within 'coastal' zones, although Saint-Fiacre would seem to relate to the Morbihan coast facing the Bay of Biscay rather than to the Channel. At the east end of the distribution, the three provenanced finds are more inland, although two come from locations on the Rhine and the Gölenkamp example is not far distant from the Frisian coast (100km).

Comparative features of the cups

Before exploring further the contacts and transfer of influences implied by the precious cups, it is necessary to review the series and the extent to which they represent a single phenomenon, or ideal of style or usage. For Sabine Gerloff, an important common property was the biconical shape combined with a single handle (1975). Of course they are also united by being fairly small vessels, but size in itself cannot be a defining attribute since small vessels also occur among the ceramic repertoires of the north-west European Early Bronze Age.

The presence of a handle is similarly of limited value as a defining feature, not least because a minority of the precious cups actually lacks handles. Again, handles can occur on various types of ceramic pot in Britain (see below) and are standard on the aptly named vases á anses of Brittany, but they only systematically appear on cup-sized ceramics further inland in continental Europe (**Fig. 28**). In fact, Gerloff, developing an initial suggestion from Piggott (1938, 83), argued persuasively that many ceramic cups of the mature Early Bronze Age in the middle to upper Rhinelands – belonging to the Adlerberg and related cultures – offered good form parallels for some of the north-western precious ones (Gerloff 1975, 184). This connection remains significant, we believe, and deserves further exploration of transmission process and reason for imitation.

What has become clearer from our new study of the cups is that although there are many common features, not all examples conform in all key respects. Indeed, when examined on a trait by trait basis, there is a surprising amount of diversity (**Fig. 29**; **Tables 4 & 5**). No specific trait forms are universal and few are predominant among the series. This variability needs to be examined in relation to geography, chronology and material used.

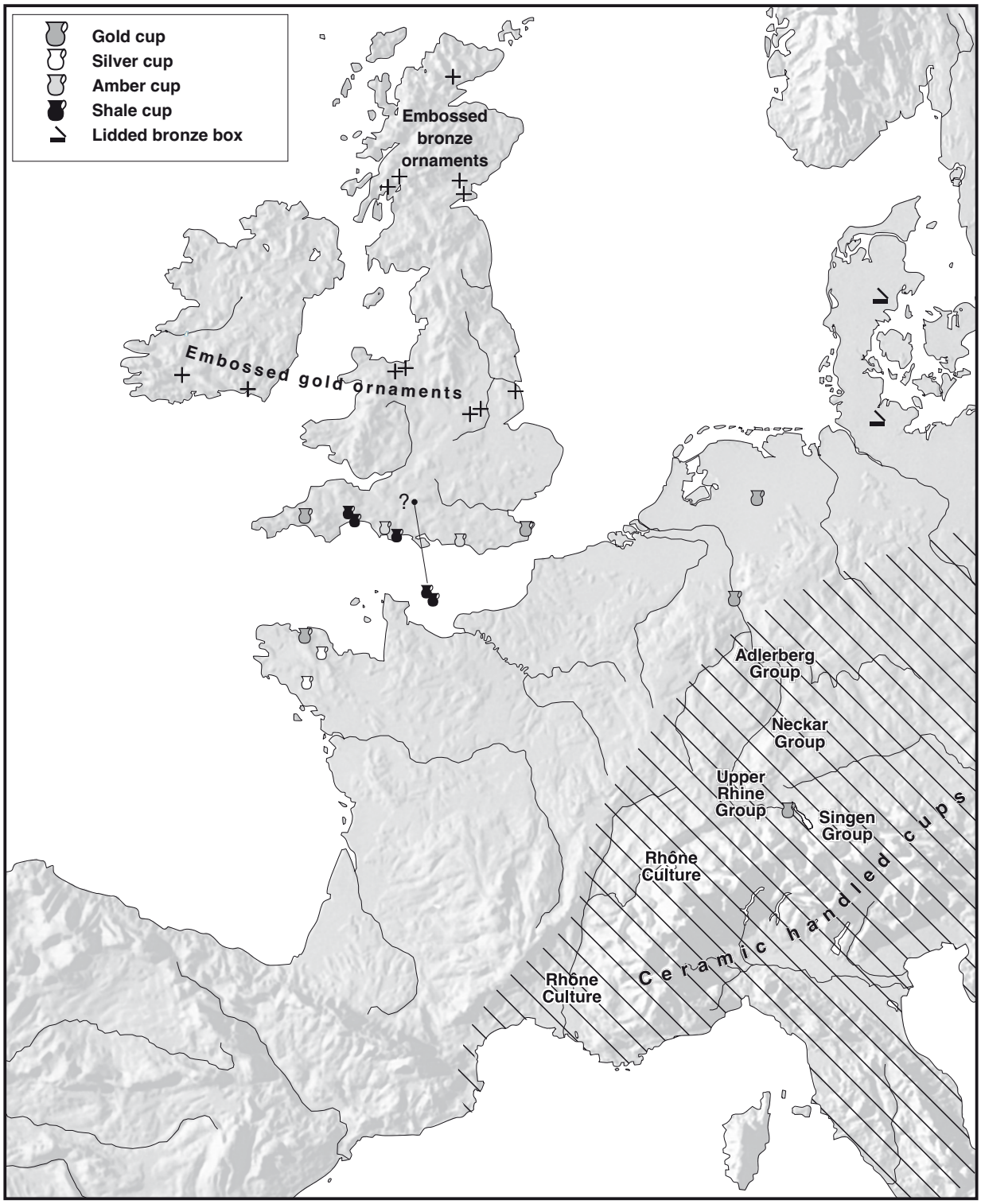


Figure 28 Map of recovery for north-west European Early Bronze Age precious cups. Also shown are the sources of inspiration for form and technology – ceramic handled cups and embossed sheet metalwork.

Gold

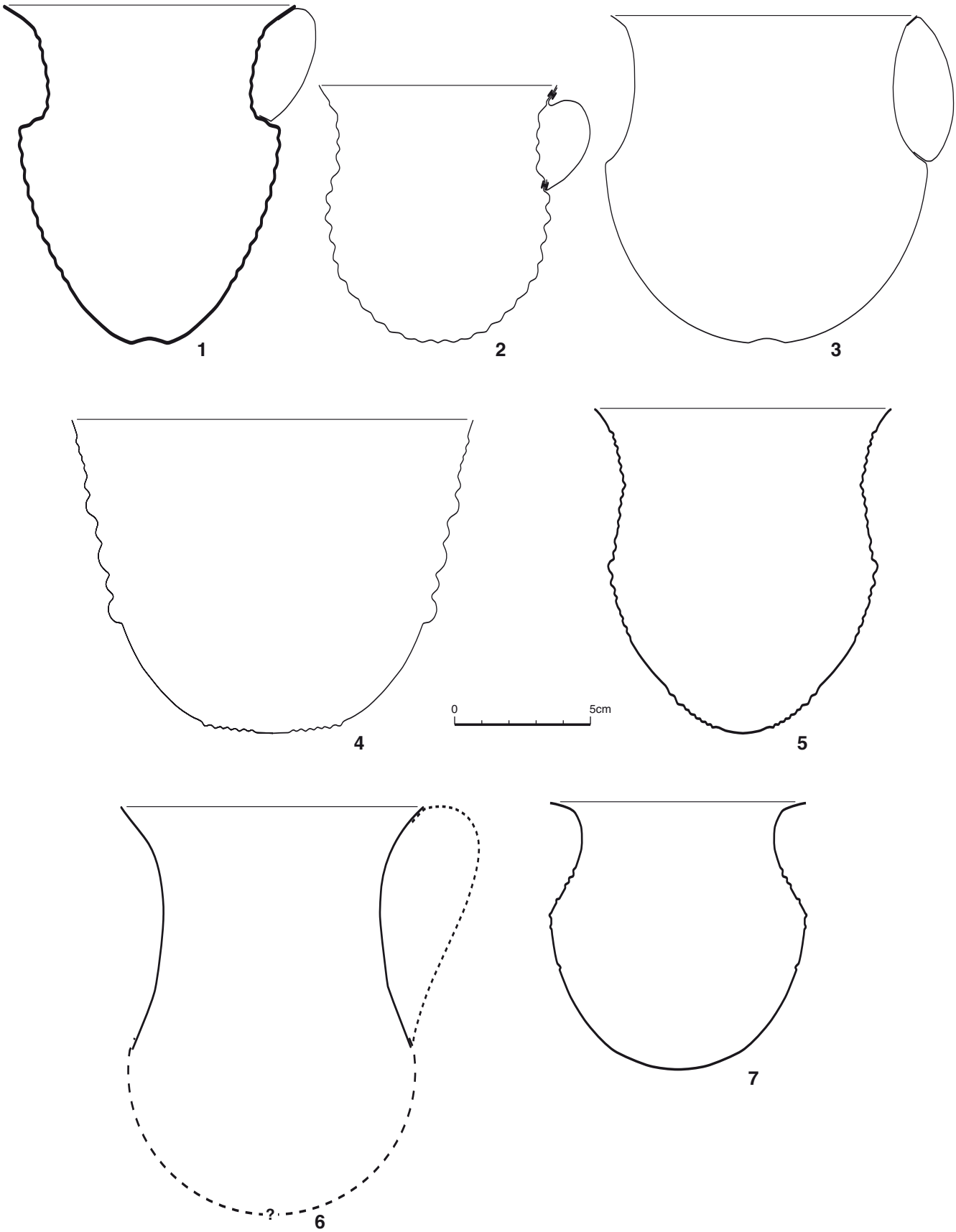
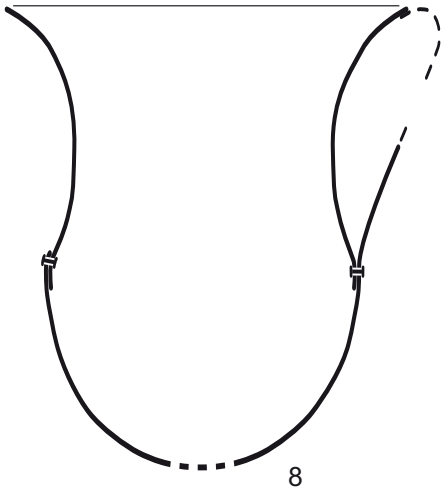


Figure 29 Comparative profiles of the precious cups (for full 'ideal reconstructions' see respective catalogue entries)

Silver



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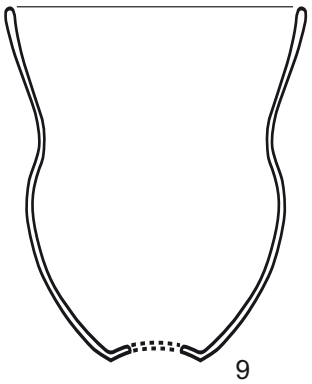

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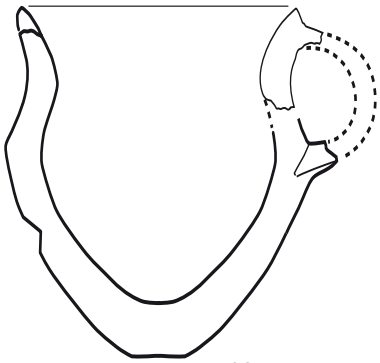
Amber



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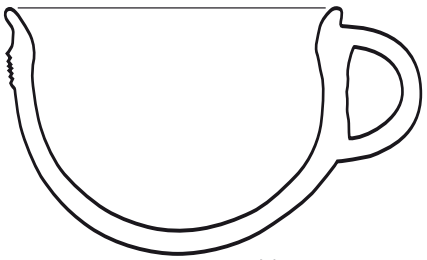

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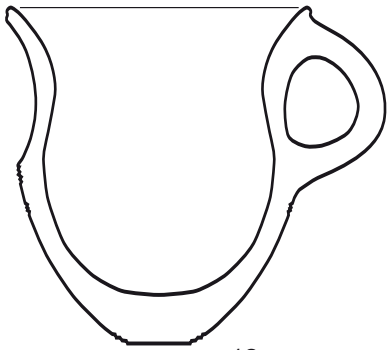
Shale



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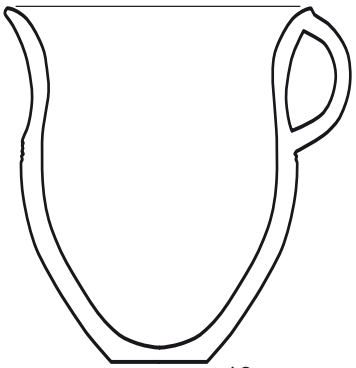

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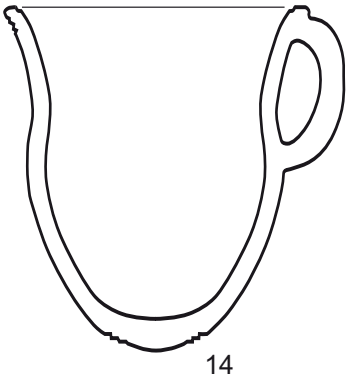

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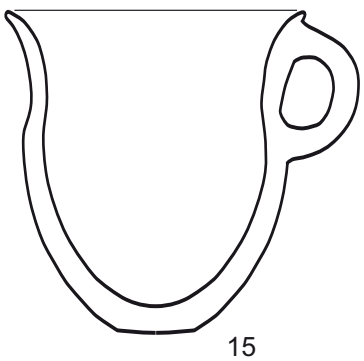

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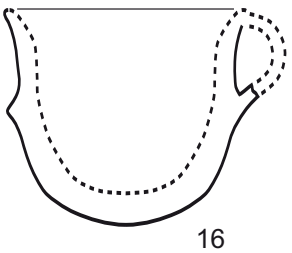

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Table 4 Summary of principal dimensions of precious cups as reconstructed

Provenance	Height (mm)	Mouth diam.(mm)	Carination diam.(mm)	Weight (g)	Capacity (litres)
1. Ringlemere	123	109	96	184	0.60
2. Rillaton	95	85.5	77.5	77	0.36
3. Fritzdorf	121	116	122	221	0.91
4. Gölenkamp	116.5	149	-	255	1.31
5. Eschenz	118	110	98.5	136	0.69
6. Ploumilliau	>90	110	98	Lost	>0.52
7. No provenance	98	94	94	90	0.45
8. Saint-Adrien	122	106	86	Fragmentary	0.53
9. Saint-Fiacre	93	80	68	Fragmentary	0.31
10. Clandon	92	76	80	(115, as restored)	0.21
11. Hove	65	89	88.5	-	0.21
12. ?Wiltshire 1	88.5	80	73	Incomplete	0.20
13. ?Wiltshire 2	93	82	72	Incomplete	0.23
14. Farway 1	90	80	66.5	- 0.23	
15. Farway 2	85	77.5	69.5	Incomplete	0.18
16. Stoborough	55	65	60	Lost	0.08

Table 5 Summary of attribute variation for precious cups

Provenance	Cat. no.	Metal/ carved	1 or 2 part body	Grooves/ embossing[1]	Handle[2]	No. handle grooves	No. rivets	Washers[2]	Other handle grooves[3]	Body[4]	Mouth form[5]	Carin[6]	Base form[7]
Gölenkamp	4	M	1	C	a	-	-	-	-	S	3	0	2
No prov.	7	M	1	C	a	-	-	-	-	M	1	2	1
Eschenz	5	M	1	C	a	-	-	-	-	N	2	1	1
Rillaton	2	M	1	S	p	5	3	p	0	N	2	2	1
Ringlemere	1	M	1	S	p	3	4	p	0	N	1	3	3
Fritzdorf	3	M	1	0	p	3	4	p	0	M	2	3	3
St Fiacre	9	M	(1)	0	a	-	-	-	-	(N)	4	1	(3)
St Adrien	8	M	2	0	p	(0)	7	a	0	N	1	2	(1)
Ploumilliau	6	M	2	0	p	?	7	a?	-	-	2	-	-
Farway 1	14	C	1	C	p	2	-	-	0	N	3	1	1
Stoborough	16	C	(1)	C	(p)	-	-	-	-	S	(3?)	3	(1?)
Hove	11	C	1	S	p	5	-	-	T	S	3	2	1
Clandon	10	C	1	0 (S?)	p	(0)	-	-	-	M	3	2	2
?Wiltshire 1	12	C	1	S	p	3	-	-	TV	N	2	2	2
?Wiltshire 2	13	C	1	S	p	4	-	-	T	N	2	1	2
Farway 2	15	C	1	S	p	2	-	-	0	N	2	1	2

Key

- \- N/A
1. 0: none, S: simple design, C: complex design
2. a or p: absent or present respectively
3. 0: absent, T: transverse, V: v-shaped
4. Body proportions - S: squat, M: medium, N: narrow
5. Mouth form – 1: very flared, 2: moderately flared, 3: slightly flared, 4: slightly convex
6. Carination – 0: none, 1: slight, 2: moderate, 3: strong
7. Base form – 1: rounded, 2: flat or near-flat, 3: omphalos

There is a surprising spectrum of capacities from as little as 0.08 l to 1.3 l (calculated from the estimated original profiles; **Table 4**). The main variation in capacity is straightforwardly explained by difference in materials. All of the carved cups of amber and shale have capacities under 0.25 l. Most form a tight group between about 0.18 and 0.23 l. The unavoidable thickness of the body of the carved cups severely reduces their capacity relative to a sheet metal vessel of comparable external dimensions. A second factor is that, for the amber ones in particular, size would have been limited by the block of raw material it was possible to obtain.

The metal cups all have capacities greater than 0.3 l but in a broad range extending to over a litre. The smallest estimated capacity, for Saint-Fiacre, is uncertain due to its very fragmentary state. Rillaton, Saint-Adrien and the unprovenanced cup fall between about 0.36 and 0.53 l; Ringlemere and Eschenz between about 0.60 and 0.7 l and Ploumilliau would have been comparable if its lower body matched the shape of Saint-Adrien. The Fritzdorf vessel has a larger capacity of approaching a litre while Gölenkamp is larger still, primarily because it has no carination and the body continues to flare unchecked all the way to the rim.

The number of cups is small, but it is possible that there is a trend with larger capacities found in more easterly locations than the smaller ones. This can only be tested for the metal versions given the more restricted geographical occurrence of the carved cups. However, the four largest capacities (>0.65 l) come from Kent and the Rhineland group, with just the possible addition of Ploumilliau. Three of the smaller capacities (<0.5 l) are from Cornwall and Armorica; the fourth is the unprovenanced gold cup.

In terms of the underlying body form (ie ignoring initially corrugations and grooves), the strongly flared mouth of the Ringlemere cup is really only closely paralleled on the

unprovenanced gold one and the St Adrien silver cup (nos 7–8; **Fig. 29**; **Table 5** – mouth form 1). The shoulder-like form of the carination is equally unusual, only Fritzdorf (no. 3) coming close. Other cups have moderate or indistinct carinations, with the exception of Gölenkamp (no. 4) which has no break at all in its flared profile. Fritzdorf also has a neat small omphalos, a feature otherwise only present at Saint-Fiacre, according to our new reconstruction. To isolate these three in this respect may, however, be a little artificial since most of the other cups also have a defined base roundel which, when not an omphalos, can be either a rib-encircled boss or a flattened circular surface, in either case of small diameter. Only the Hove cup (no. 11) certainly lacks any defined base feature, the fragmentary nature of Saint-Adrien (no. 8; **Fig. 47**) precluding certainty. Whether the bases are omphaloid, rounded or flat, they all basically give rise to cups that would have great difficulty standing unaided on a flat surface, especially when full of liquid; they are inherently 'unstable'.

Body proportions are rather variable through the series with two, and perhaps three, cups being particularly squat (Hove, Gölenkamp and Stoborough no. 16). However, the majority, at least eight cups including Ringlemere, have relatively slender proportions (carination diameter/height less than 0.82). There is no correlation between body proportions and geographical location.

Decoration of the body is generally fairly restrained and two main types correlate with the material employed. The corrugations seen on Ringlemere are a feature now uniting five gold cups, while the other four metal cups (two of gold, two silver) probably all had uncorrugated sheet bodies with decoration restricted to punched dot rows at the rim. In contrast, six out of the seven carved cups (amber and shale) carry narrow bands (or broader fields on one) of multiple incised grooves. These do not mimic the corrugations either in scale or coverage and yet this could have been achieved by a highly competent craftsman if desired. Indeed, it would appear that the Clandon cup (no. 10; **Fig. 49**), otherwise plain, was given a single crescentic groove on the lower body opposite the handle. Conversely, the metal versions could just as easily have been decorated with incised lines if directly copying the shale/amber versions. The implication is that these two decorative forms were for some reason integral to the respective materials, technologies or traditions of production. There was an accepted way of decorating a precious cup according to the material from which it was made.

The corrugations are in fact treated very differently on each cup on which they occur. Rillaton (no. 2; **Colour Pls 5–6; Fig. 41**) bears truly sinuous corrugations of fairly constant amplitude and depth until they get close to the base. In contrast, the corrugations meet in well defined, albeit obtuse, angles on Ringlemere to give a continuously cuspate profile; again there is only a little variation in amplitude. Gölenkamp (no. 4; **Colour Pl. 9; Fig. 43**) has two distinct grades: small sinuous corrugations in a band below the rim and concentrically on the base; much larger bulbous ribs on the main body separated by flat zones carrying boss rows. Two grades are also present on Eschenz (no. 5; **Colour Pl. 10; Fig. 44**), but the larger is represented by just a single prominent rib on the carination; it divides two fields of continuous small corrugations. It too has boss rows, but also totally novel components: panels of diagonal ribs on the lower body and a single band of embossed cabling. Each element of the last is in the shape of a stretched out 'S'.

The unprovenanced, ?Germany cup (no. 7; **Fig. 46**) is similar to Eschenz in having a relatively elaborate embossed design employing ribs in different motifs. A limited number of narrow horizontal corrugations divide the body into registers. The lower two are filled respectively with alternating panels involving in both cases vertical ribs. The lowest register has intervening reserved triangles with a supplementary rib along the top border; in the register above, vertical-rib panels alternate with long oval, dot-lined grooves. The shoulder field is plain but for horizontal ribs, while the neck has yet another novel motif – a continuous double zigzag again executed as dot-lined grooves which spring from a horizontal double dot-groove just under the rim. This recalls the band of decoration inside the mouth of Farway 1 (no. 14; **Colour Pl. 13; Fig. 53**) and the single motif on top of the handle of ?Wiltshire 1 (no. 12; **Fig. 51**). However, it is also carried through onto the later flask like vessels from Villeneuve-Saint-Vistre, and Lienewitzer Forst (**Colour Pl. 14**; Springer 2003, 15–16 figs 7 & 8; Eluère 1982, 104–7 figs. 125–6, 159 fig. 158; Ellmers 2003). In fact, it is easy to see these latter vessels as the direct descendants of the Eschenz/ '?Germany' form of the early series, but now with the addition of the encircled boss motif (*Kreisbuckel*) which so critically marks out the later tradition of Bronze Age embossed gold (Gerloff 1995; Needham 2000a, 48).

The distinctive handles present on many of the Early Bronze Age cups have commanded much attention in the past. They are not universally present, however, and it is noteworthy that the three examples on which they are definitely absent are among the four furthest East in the overall distribution. This may be another point of significance in the heralding of the predominantly handle-free series of embossed gold vessels of the later stages of the Bronze Age in northern central Europe.

At least 11, and possibly 12, cups had handles, all four materials being represented. The handle evidently had not survived on the Ploumilliau piece (no. 6; **Fig. 45**), but seven rivet emplacements under the rim testify to its original existence. Of the remaining 10, or 11, at least 8 carry groove decoration running parallel with the convex sides. This is either incised on the carved materials or formed as narrow corrugations on the metal ones – Ringlemere included. The type of decoration on the Saint-Adrien handle (no. 8; **Fig. 47**) mentioned by Briard (1984, 225) is not described, while the surviving handle stumps of the Clandon amber cup (no. 10; **Fig. 49**) show no groove ends; normally they extend the whole length of the handle. Handle grooves occur as a band of between two and five on either side of the handle, with three being the most recurrent, as seen on Ringlemere, Fritzdorf (no. 3; **Fig. 42**) and the shale cup from ?Wiltshire 1 (no. 12; **Fig. 51**). Three of the carved cups also have horizontal grooves on the handle, usually at top and bottom thus forming a frame with the side bands, and one of these (?Wiltshire 1) has in addition the double-line 'V' motif suspended from the top.

The handles are all waisted to some degree, expanding top and bottom towards the body attachments. This 'hourglass' shape is in fact widespread on ceramic vessels which have handles from many periods and is presumably a general attempt to provide a stronger union with the body; such handles are separate components which are luted onto and/or plugged into

the body. Where the precious metal cups have a handle, it too is attached, although in one case (Saint-Adrien, no. 8; **Fig. 47**) it is formed as an extension of the lower body portion and only needed attachment at the top. This is also likely to have been the construction used for Ploumilliau (no. 6; **Fig. 45**). The five metal handles were fixed by between three and seven rivet emplacements per end; perhaps significantly seven rivets occur on the two Breton handled cups, while fewer were used elsewhere: three at Rillaton (no. 2; **Fig. 41**), four at Ringlemere and Fritzdorf (no. 3; **Fig. 42**). It is only on these last three that rivet-washers survive and the closely matching diamond shape on Rillaton and Fritzdorf which has long attracted comment (von Uslar 1955) now extends to Ringlemere.

There is evidence for a handle on all of the extant carved cups although this is a tentative interpretation for Stoborough (see cat. no. 16) and this would have been shaped from an initial lug left on one side of the block being worked (Sloper 1989). Experience would quickly have taught the craftsmen that the waisted shape desired would naturally have arisen by cutting the sides of the lug to a trapezoid plan tapering away from the body (*contra* Sloper's fig. 1a). If cut thus as flat planes converging on one another outwards, the intersection of those planes with the curved handle profile would naturally result in the classic waisted shape in face view. The precise degree of waisting may have been less easy to predict while roughing out the blank and this makes it difficult to assess the significance of the spectrum of curvatures found. The strongest waist curvatures all occur on carved cups (Hove no. 11, ?Wiltshire 1 no. 12, Farway 2 no. 15; **Figs 50, 51 & 54**), with the Ringlemere handle being more intermediate.

There is one further decorative feature to be discussed – the occurrence of pointillé rows. These are subtle in their impact – sometimes to the point of being easily overlooked – and yet would seem to be of symbolic importance or an engrained part of a tradition, for they occur on virtually all of the metal cups. No evidence survives on the Saint-Fiacre fragments (no. 9; **Fig. 48**) and the feature is definitely absent from Gölenkamp (no. 4; **Fig. 43**). In every other example one or two horizontal rows occur just below the rim, although at Rillaton (no. 2; Kinnes 1994, A26) only a short row beside the handle exists. Normally, the rows are punched directly into the plain band below the rim, but on the Eschenz example (no. 5; **Fig. 44**) they have been set into the uppermost two grooves of the neck corrugations. This groove-set pointillé is echoed on the unprovenanced gold cup (no. 7; **Fig. 46**) – in its oval motifs as well as the V motifs suspended below the standard under-rim pointillé.

As relatively consistent as its presence is on the metal cups, such dot decoration is wholly absent from the carved cups. That their materials would not have lent themselves so readily to taking dot decoration may be a factor; nevertheless, some similar effect could surely have been achieved if this was really important to convey a certain message. It is noteworthy, for example, that contemporary spacer-plate beads of jet include dots in their decoration. We do therefore seem to have an unexplained feature which was important to the integrity of the gold and silver vessels, but not to that of the amber and shale ones. Dot decoration does have a long ancestry on sheet metalwork going back, in north-western Europe, to the earliest ornaments of the Copper Age (*c.* 2500–2150 BC; Taylor 1980, 22–4). While this ancestry does not in itself explain the meaning of the dots on the cups, it does give a strong line of continuity in the realm of prestige metalwork.

Dating evidence, sequence and origins

Seven of the 16 cups have associations that may help with relative dating; not all are necessarily closed associations and they are also weighted towards the west, five in England, two in Brittany. This makes it particularly difficult to ascertain the relationship with Adlerberg ceramic cups in the critical interaction zone of the Rhinelands (**Fig. 28**).

The two Armorican silver cups (nos 8 & 9) both come from tombs that contained relatively rich inventories. The possibility has been raised that in both cases these inventories were the product of more than one burial event spread over a long enough time for perceptible change to have occurred in classic grave goods (Needham 2000b). Both, however, are series 2 assemblages, where the last diagnostic accompaniments can be dated to the Kernonen-Kerodou phase, *c.* 1950–1750 BC. In the case of the well excavated grave of Brun Bras at Saint-Adrien (no. 8), it seems almost certain (given the absence of a body) that the cup was among a small group of prestige items surrounding the latest interment in a coffin (Briard 1984, 56 fig. 33); a Trévérec type dagger is included and is considered diagnostic of Kernonen-Kerodou (Needham 2000b, 173). These are among the earliest demonstrable contexts for precious cups. A radiocarbon determination on an oak plank in the Brun Bras grave gave an even earlier date (3650 ± 35 BP; GrN-7176; 2140–1930 cal BC), but is potentially based on mature wood.

A specific context for the Ringlemere cup must remain unproven (see above), but even if not in closed association, it is likely to be significant that the cup and the two amber objects are the only Early Bronze Age artefacts recovered from the site so far (excluding Beaker material) and all were recovered from a limited area of the interior. Because the cup has certain similarities to that from Rillaton, it was at first assumed that they would be closely contemporary, datable to the period of Wessex 2. However, the detailed morphological and technical comparisons made above, plus the clear fact that precious cups had an overall currency of some three to four centuries, allow scope for reconsideration. The two amber objects at Ringlemere are best dated earlier, broadly contemporary with the Bush Barrow grave series of Wessex 1, *c.* 1950–1750/1700 BC. The pommel is best paralleled in the Manton grave, in Wessex (whose second cup is not of Aldbourne type characteristic of the succeeding phase – *contra* Taylor 2005, 316, 324, but instead a Longworth type 7, trunco-conic cup – Longworth 1984, 52), while the probable pendant has parallels in both Wessex and more specifically in the Kernonen tomb, eponymous to the contemporary phase in Armorica.

The Clandon amber cup (no. 10) is more certainly of this earlier phase. Although apparently not deposited as a classic grave group (Drew and Piggott 1936), it and a few other prestige objects were clearly part of a single depositional horizon trapped between the inner cairn and a later mound enlargement. The objects associated at this horizon are all acceptable as specific to the Bush Barrow/ Wessex 1 period (Gerloff 1975, 182).

Three British contexts are of the subsequent, Camerton-Snowshill grave series, *c.* 1750–1550 BC, a Camerton-Snowshill dagger being present in each case. The associated cups are of gold, amber and shale showing that varied materials coexisted.

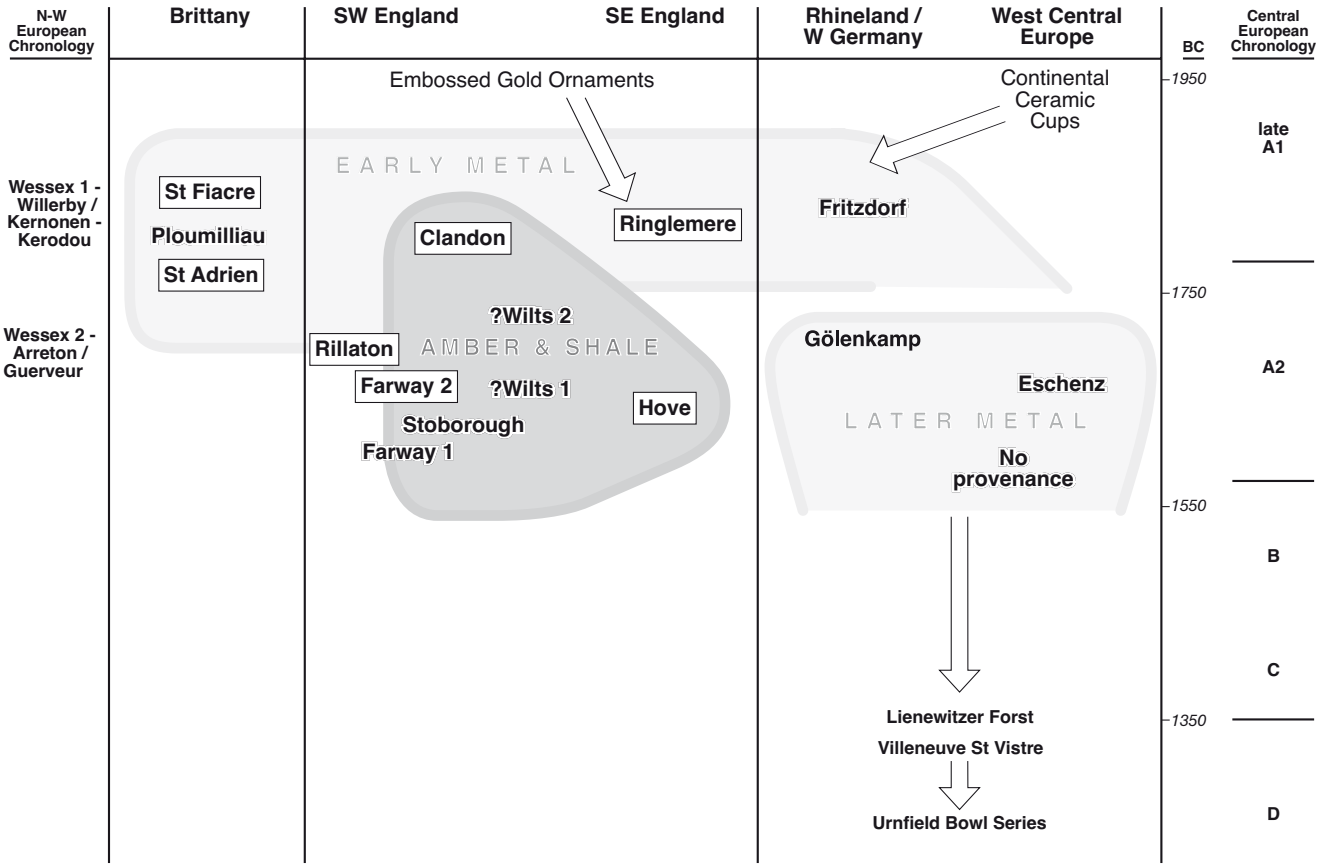


Figure 30 Suggested chronology for Early Bronze Age precious cups

At Rillaton (no. 2) the cist also contained other objects now lost, but no useful descriptions or depictions are known. At Farway 2 (no. 15) the dagger lay on charred material, the cup approximately 1m away; both were among the stones of the central cairn, but may not represent exactly the same depositional event. Finally, the Hove cup (no. 11) came from a closed grave group (**Colour Pl. 12**); not only is the dagger closely datable typologically, but so too is the developed style of battle-axe present – Roe's stage V Snowshill type (1966, 237). A perforated whetstone is less diagnostic in itself, but is a type primarily placed in graves during the Camerton-Snowshill phase (Wessex 2). A final piece of evidence from Hove is a radiocarbon date on remains of the coffin, 3190 ± 46 BP (BM-682; 1610–1310 cal BC); this is an early-run measurement and now looks a little on the young side.

With these fixed points and the evidence of feature comparisons between individual cups it is possible to venture a tentative chronology for the whole series (**Fig 30**). The Saint-Fiacre (no. 9) and Saint-Adrien (no. 8) cups are both plain-bodied, excepting under-rim pointillé; the third Breton, incomplete example (no. 6) matches in this respect and has the bipartite construction of the latter. It is thus also best placed in an early phase. Its associated gold spoon or ladle has a dot row outlining the handle, decoration recurrently found on early sheet goldwork from primary Beaker times on.

Clandon (no. 10) too, just across the Channel from Brittany, is essentially undecorated and this raises the likelihood that the remaining plain-bodied vessel, Fritzdorf (no. 3), is of an early phase. From an interpretive point of view this helps to make sense of the initial north-westwards transmission of the idea of handled, unstable cups from the middle Rhineland or beyond, where the ceramic versions abound. Fritzdorf's handle and its fixing are of neat workmanship, whereas the body seems rather less proficient even allowing for later denting and distortion (**Colour Pl. 8**). The omphalos is neatly executed, but this would be a technically easier feat than obtaining good all-round shaping of the body.

Connections between Armorica and western central Europe are clearly attested at this date. Not only is there the general stylistic parallelism seen in the mutual adoption of long grooved daggers a little earlier (Quimperlé and Rumédon types in Armorica; Oder-Elbe types in northern Aunjetitz zone), there are four daggers at Singen (close to Eschenz) of Atlantic inspiration if not manufacture (Krause 1988; Gerloff 1993, 75 footnote 48) and, more poignantly, a Rhône-type dagger in the Saint-Fiacre assemblage (Needham 2000b, 164 fig. 6.6). One should also mention the Gaubickelheim hoard from the middle Rhine in which one dagger betrays some affinity with the Breton Quimperlé style (Hundt 1971; Needham 2000c, 40).

Ringlemere would thus stand out as the one early cup which was not plain-bodied; is this a problem? Certainly if Fritzdorf is early, we have an ideal model for the handle and its fixings, plus important similarities in profile, which leaves only the matter of the corrugated body. Embossed goldworking had already been developed to a highly proficient standard in central Britain by the years either side of 2000 BC, at this date employed for ribbed armlets (Needham 2000a) – so the technology and the ribbed style were already available by the time the idea of precious cups emerged in the lands flanking the Channel and the Rhine. Since these cups were for the most part individual interpretations, indeed individual creations by leading craftsmen at their respective points of gestation, it is eminently plausible that the conjunction of cup and embossing could have been made early on, as soon as these influences impinged on one another.

Arguments based on the technical sophistication involved can also be dismissed once it is appreciated that the Mold gold cape may date as early as the period in question or, if later, only a little later (Needham 2000a). There is no particular obstacle to an early date for the Ringlemere cup and nothing specific to push it later; it may be that it was indeed contemporary with the amber items from the site.

Rather than allowing Rillaton to drag down the date of Ringlemere, it may be that it would be worthwhile to consider whether Ringlemere should elevate the date of Rillaton. The context of Rillaton is as solidly dated as it can be in the absence of most of the grave group; Camerton-Snowshill daggers are still best interpreted as a later style than those in the Bush Barrow grave series, despite earlier debates on the subject. However, the Rillaton cup hardly seems to be in fine condition, especially when it is considered that unlike many of the other cups, it was protected from the weight of a mound by a stone cist. The difficulties of discriminating between ancient and more modern wear notwithstanding, the condition of the upper original rivet suggests that the cup was far from fresh when buried.

Thus far, we would suggest that an early phase of cups includes plain-bodied examples of gold (2), silver (2) and amber (1). One or both of the simple-ribbed gold cups may also belong this early. Three gold cups from west central Europe are the only remaining metal cups and are not dated by association. In all three the embossed decoration is more complex than on the British pieces. All three have no handle, thereby departing from the previous ideal. The design of Eschenz (no. 5; **Colour Pl. 10**) and, even more so, that of the unprovenanced cup (no. 7; **Fig. 46**) seem to be moving towards the earliest of the later Bronze Age vessel series of continental Europe. In particular, it is not hard to see the flasks from Villeneuve-Saint-Vistre and Lienewitzer Forst (**Colour Pl. 14**; Eluère 1982, 104–7 figs. 125–6, 159 fig. 158; Springer (ed) 2003, 293–7; Ellmers 2003), dated to around the 14th century BC, as being direct descendants of the style and technique, albeit once the new array of motifs appropriate to the later (Urnfield) series had become key design elements.

The final group to be discussed in terms of dating comprises the majority of the carved cups, excluding only Clandon which has been dealt with. The associations at Farway 2 (no. 15) and Hove (no. 11) are of the later phase – Camerton-Snowshill – and the others can be argued to belong here on stylistic cross-linking. All have horizontal groove bands, while the more complex motifs on Stoborough and Farway 1 have parallels with designs on late metal vessels. The vertical-to-diagonal hatching of the lower body of Stoborough (no. 16; **Fig. 55**) could represent the same theme as the diagonal-filled panels seen in a similar position at Eschenz (no. 5; **Fig. 44**), while Farway 1 (no. 14; **Colour Pl. 13**) shares with the unprovenanced cup (no. 7; **Fig. 46**) a row of deep pendant triangles, or zig-zags. The zig-zag is of course a commonly employed motif in decorating a variety of materials and was certainly frequently used on Beaker ceramics at an earlier date. However, the position on the two cups, descending from the rim, makes them strikingly similar, albeit that one is carved inside the mouth, the other is impressed from outside, creating ribs inside.

The single 'V' motif on the handle of the ?Wiltshire 1 vessel (no. 12; **Fig. 51**) may be linked less certainly to the continuous triangle row. Otherwise, the two ?Wiltshire vessels share with Hove (no. 11; **Fig. 50**) transverse handle grooves, these additional to the edging groove bands present on the whole group, but apparently absent at Clandon (no. 10; **Fig. 49**).

Flattened bases link the two ?Wiltshire cups (nos 12 & 13; **Fig. 29**) and that from Farway 2 (no. 15) with the Gölenkamp late gold vessel (no. 4), but it also appears earlier at Clandon (no. 10). Another base form, the ringed-roundel, puts Farway 1 (no. 14) with the other later gold cups, Eschenz (no. 5) and unprovenanced (no. 7); indeed Rillaton (no. 2) as now reconstructed would have been a variant on this theme. Even the multiple rings on the flatter Gölenkamp base (**Fig. 43)** reflect a similar concern with neatly styled concentric design at the very bottom, where earlier some had neat omphaloi or were simply rounded. Farway 1 is unique among the carved cups in adopting this otherwise gold-focused design theme.

To summarise and simplify the complex interactions and chronology deduced above, it is possible to define three groups of precious cups (**Fig. 30**). Chronological primacy can be given to an *Early Metal Group* comprising six vessels of silver and gold. Rillaton may be a little later but otherwise these can be attributed to the period *c.* 1950–1750 BC (Kernonen-Kerodou/ Bush Barrow/ Reinecke A1b). They were initially inspired by the ceramic cups of west central Europe and the Rhône Culture which share in having single handles and frequently being unstable. Fritzdorf was pivotal typologically and geographically in this formulation of precious metal cups. Why this imitation should have occurred is discussed below. An alternative source of inspiration is feasible for the Breton cups, given the Rhône culture connections, but it seems highly unlikely that these two developments would have happened in isolation from one another. The inter-regional contacts traversing northern France mentioned above could easily have promoted parallel developments in certain spheres.

Cups of the *Carved Group* in amber and shale (seven vessels) were first developed during the early period as attested by the Clandon find, but the great majority thus far would seem to belong to the succeeding period, *c.* 1750–1550 BC (Camerton-Snowshill/ Reinecke A2–beginning B). Given the prevailing chronology and the fact that all are from southern England, it is most likely that they were a response to the early metal cups, rather than having been directly inspired by the ultimate ceramic prototypes.

Third is a *Later Metal Group* comprising just three cups with more complex embossing from west central Europe. These show the transfer of embossing skills *par excellence* to continental Europe (Needham 2000a, 46–8) and anticipate the vigorous uptake of embossing for fine gold vessels and the supreme status equipment represented by the crowns of west-central Europe (Schauer 1986 Springer 2003). In the design of these late metal cups a handle was usually not considered necessary and they were thus in some respects departing from the later British series. Nevertheless, there would appear to have been continuing connections at some level to account for certain shared features.

A chronological overlap is possible between the Later Metal Group and the four embossed vessels from Biha in Roumania, if we accept Mozsolics (1965–6, 10ff, 56–7, pls 4–10) dating of them to the Hajdúsámson period, *c.* 16th century BC. However, these are so utterly different in morphology and decoration that it is hard to see any connection to the north-west European series.

They are shallow bowls with squat necks, the neck formed of a single or double concave profile; the mouths on three turn out horizontally and the handle projects initially in line; the style and technology of the handles is totally distinct from our series and they may never have rejoined the body lower down (only one is complete); the main embossing on three of the Biha vessels is continuous vertical ribbing below the carination, each rib tapering towards the base. The base itself is in two cases plain, the third bears three concentric beaded ribs and the fourth a single annular rib, much as a foot-ring. This fourth vessel has curvilinear punched decoration in four zones and a row of simple hemispherical bosses along the centre line of the handle. The others have close set rows of smaller bosses at the carination, at the rim, or under the rim – the close setting of bosses creates the effect of beading.

A separate vessel, from a hoard at Biia, is different in being a deeper bowl with a contracting upper body before an out-turned mouth (Mozsolics 1965–6, 48–9, pl 12; Florescu 1971, 32–3 no. 110, pl.). Two opposed handles are long straps terminating in double spirals; again, these seem never to have rejoined the body. Decoration includes one register of a repeating inverted Y motif executed in dots and on the lower body three rows of hemispherical bosses amongst which are set symmetrically three *Kreisbuckel* motifs – a boss encircled by three rings. Bouzek (1985, 51–2) is doubtful that any of these Romanian vessels need be as early as Mozsolics argues. Her main argument rested on the spiral decoration on one of the Bihar examples, but Bouzek notes that such decoration continues later, while other features better place the vessels between Reinecke C and D (*c.* 14th–13th centuries BC.

A series of precious metal cups and vessels from the Aegean has often been called upon as the source of, or the stimulus for the north-western gold cups (eg Bouzek 1985, 51). There are now considerable chronological difficulties in deriving the north-western series from Mycenaean prototypes, and neither these nor earlier vessel styles represented in the Aegean and Anatolia (Segall 1938, 11–14 no. 1; Childe 1924; Hood 1956, 87–92; Catling 1964, among figs 17–21; Bouzek 1985, 50 fig. 19) have more than a superficial resemblance. Beyond sometimes being of precious metals, being vessels of small-ish capacity and having handles, no useful comparison can be made.

The fact that a bronze bowl, found at Dohnsen, north-west Germany, seems to be an import from the south does not alter the picture. Sprockhoff identified it as a Mycenaean vessel, datable at that time to about 1400 BC (Sprockhoff 1961). While that dating may now be revised backwards, this find yet again emphasises the morphological rift between north-western precious cups and those of the Aegean and south-east Europe. The Dohnsen bowl cannot be in any way responsible for the development of the north-western series, instead its presence in the far north strengthens the case that there was a growing interest in fine metal vessels in the north German area from the final Early Bronze Age onwards.

No good case then can be made for initial inspiration from the south-east; there is an enormous geographical and morphological gulf between Fritzdorf and the Romanian/Aegean cup zone, not to mention the chronological dislocation that now appears between the earliest cups in the two regions. If the south-east of Europe can no longer be understood to be the source of stimulus for the north-western precious cups, then we do need to explain how the technology involved emerged indigenously. Sheet metalwork forms that were both fully three-dimensional and expertly embossed had in fact been mastered in northern and central Britain by 2000 BC, as already noted; the main products at that time were broad armlets (Needham 2000a; 2000c). With such background skills available, adaptation to produce cups, and indeed embossed cups, would have been no great technical leap forward.

However, we are left with something of a conundrum with respect to the hypothesised earliest cups. At first sight one might assume that the plain-bodied cups from Fritzdorf and Armorica would have emerged first, being technically easier to produce than embossed versions. And yet there is no evidence at all for the prior development of hollow-sheet-working skills in those regions. So a big question is whether they could have been coincidentally developed independent of British metalworking traditions. Given that sheet-metal cups of similar style appear on both sides of the Channel at about the same time, it seems more realistic to accept that all depended on a common pool of experience and specialist skills. This would suggest that there was a transfer of the required expertise across the Channel to allow the production of the Continental cups. But in this case, does it mean that the 'precious cup' had already been invented on British shores and, if so, were the first ones already embossed following in the wake of the armlets?

The resolution of our dataset, with only a small number of vessels represented, makes it impossible to determine where the fusion of the unstable cup form with hollow-sheet-metalworking techniques first occurred. The important point is that the fusion represents a cross-over of style-*cum*-function from one direction and technical expertise from the opposite direction and, moreover, that it took place in lands flanking the Channel and lower Rhine. If, as we argue below (Chapter 8), communities in this zone were united by certain common objectives, it rather diminishes the importance of isolating one side of the Channel or the other as the originator of the precious cup.

Manufacture of the carved cups

The one-piece cups of shale or amber have given rise to much discussion as to whether they were lathe turned (see Shepherd 1985 and Sloper 1989 for recent discussions of techniques of production). In-ground distortion of some cups and the need to restore others from sherds have made it impossible to be sure of precise dimensions. Usually, therefore, it is not possible to make a judgement on the basis of rotational symmetry. In all examples however, the handle has been carved out of the same block of raw material and must have started as a lug on the side of the roughed out vessel. Consequently, the late stages of shaping the exterior of the body could not have been achieved by a continuously rotational action since the handle lug would prevent rotation through 360° (a problem appreciated by Phillips as long ago as 1856).

Supporting evidence for hand-turning comes from the apparently undistorted Hove cup (no. 11; **Fig. 50**). Subtle profile variations and a variation of up to 2mm in mouth diameter are not what would be expected of proficient mechanical turning. On the other hand, this reasonable degree of symmetry, pleasing enough to the eye, would be readily achieved by careful hand cutting by an experienced craftsman (Thurnam 1871, 524).

During the early roughing out of the body a large projecting

lug would have been left on one side to form the handle. As the body was nearing the desired shape, the lug could be refined. Most of the surviving handles seem to have been trimmed down so as to have a trapezoid shape in plan and a neat semi-circular or less protuberant C-shape in side view. The orthogonal intersection of these two profiles naturally gives rise to the attractive waisted shape that the handles all present in face view (as discussed above). In the case of the ?Wiltshire 1 vessel (no. 12; **Fig. 51**), the handle is of the same basic form, but the plan view is modified so that the sides of the trapeze are gently concave rather than straight.

After shaping the outer surface of the handle, its perforation could be tackled. Obviously the greater restriction on tool angles could lead to a cruder finish inside the handle, while the fact that it was less visible might also have encouraged a less fine finish being applied. Theoretically, the interior profile of the body itself could have been turned full circle on a pole lathe with a centering device, ie a pivot-hole, on the inside. Since there is no sign of any such hole in the bases of the cups, the last part of the interior would have to have been removed manually; evidence for toolmarks has been noted inside the Hove cup (no. 11). Whatever technique was used for hollowing out the interior of the vessel, this would have best been done secondarily, once the desired external profiles had been attained.

Relationships to local pottery

The point has already been made that one of the unifying characteristics of the precious cups is their inability to stand on a surface unaided. The peculiarity of this feature is highlighted by the fact that contemporary ceramic vessels from the regions concerned always have flat bases that allow them to stand freely. Nevertheless, some thought still needs to be given to potential relationships with indigenous pottery in the relevant regions.

Handles, although never standard attachments on British vessels of this age, occur repeatedly on a wide variety of forms (Manby 2004). They are certainly occasionally found as early as Beaker period 2 (*c.* 2250–1950 BC), that is preceding the appearance of the handled precious cups. The Dunnichen Beaker bowl, Angus (Coutts 1971, 46 no. 83, 49; Manby 2004, fig. 79.2) is associated with a flat riveted bronze dagger of this period; few other bowls are known with handles and their restricted distribution has led to the nomenclature *Dorset bowls* (Clarke 1970, nos 1028, 1033, 1035; Manby 2004, 216 fig. 72).

A complete form contrast is provided by the collared vessel from the secondary grave at Gravelly Guy, Oxfordshire (Cleal 2004), associated with a radiocarbon date calibrated to 2150–1920 BC (2-sigma). This is classified as a Beaker and joins some 15 other handled Beakers in having more or less pronounced 'collars' formed by wall thickening, under-rim cordon, or in-turned mouth (Clarke 1970, 412, 415–6). The decorative designs on at least some of these would place them in the same period, but others are probably a little later. This series merges into handled Beakers which are of tankard form (Clarke 1970, 413–4).

Food Vessels too can occasionally have loop handles, as distinct from the frequently perforated lugs on Yorkshire Vases (Manby 2004). The vessels in question vary in form and decorative design, although cord impression is the dominant technique, as found more generally in this potting tradition. Manby agrees with Clarke that the application of handles on Food Vessels probably copied handled Beakers and that these in turn were imitating wooden prototypes (Manby 2004, 231, 234).

One handled vessel, classified alternatively as a Beaker or a Food Vessel, must be singled out for detailed treatment – that from Balmuick, Perthshire (eg Clarke *et al.* 1985, 116–8 fig. 4.49, 282–3). Its profile of continuous horizontal grooves with intervening ribs has frequently been compared with the Rillaton cup in particular and other precious cups in general. The comparison does not stand up to scrutiny (Manby 2004, 236) especially now that it is established that Rillaton had no flat base whereas Balmuick has a broad flat one. In the absence of the corrugated gold cups, Balmuick would not have attracted undue attention and certainly would not have evoked metal prototypes. The handle is decorated throughout with horizontal impressed grooves quite unlike the designs on the precious cup handles. The body is otherwise unremarkable – a mid-carinated Beaker form with a typical under-rim cordon and All-Over ornamentation. The execution of the latter makes no attempt to simulate the undulating topography of the corrugated cups.

Strap, or ribbon handles are proportionately much better represented on the Trevisker Urns of the south-west than any other Early Bronze Age pottery (Patchett 1944; 1950). Again, some of these are more like perforated lugs. In addition to the three handled Beaker bowls from Dorset, the far south of Britain has also yielded at least three more individual vessels of relatively small size (**Fig. 31**). The first is a cup from Denzell Downs, Cornwall, associated with a cremation burial (**Fig. 31a**); it is about 94mm high with a simple flared profile rising from a rounded foot (Abercromby 1912, 92, pl. 22 no. 301; Patchett 1944, 27 fig. 5; 1950, fig. I). Patchett (1944, 26–7) likened its stabbed decoration within lozenge frames to that of Aldbourne cups; while there may indeed be a relationship, the cup is not of Aldbourne type and is currently unique.

The second is from an inhumation grave at Collingbourne Ducis G16, Wiltshire (**Fig. 31b**), and has a profile not dissimilar from the Denzell Down example, but is undecorated and has a more obvious flat base with a vestigial carination above mid-height (Annable and Simpson 1964, 63 no. 499, 117 fig. 499). It is also of similar size, 90mm high, but the handle is smaller, being confined to the upper body. Both of these cups are squat relative to most of the precious cups, but it is possible that they do represent a ceramic response to them, particularly the late Hove and Stoborough versions.

The third example is more distinctive still; it is from Gallibury Down, Isle of Wight (**Fig. 31c**), associated with two enlarged Food Vessels containing a cremation (Tomalin 1988, 219) and now three separate radiocarbon dates – one on charcoal and two on cremated bone (Needham forthcoming). The handled Gallibury vessel is a very globular jar 135mm tall. The handle was broken off in antiquity, but the vessel was kept in use (Tomalin 1988, 208–9). It is of a high-quality ware with a reddish slip and in some respects this too might be regarded as a 'precious cup'. The radiocarbon dating (2050–1900 BC) suggests it was deposited late in Beaker period 2 and thus precedes the group under discussion. The decoration is simple and of widely used motifs, so, given chronological antecedence, one should not press comparisons too far. This vessel comes, like all the British precious cups, from south coastal strip of England, but it differs from them in having a stable flat base.

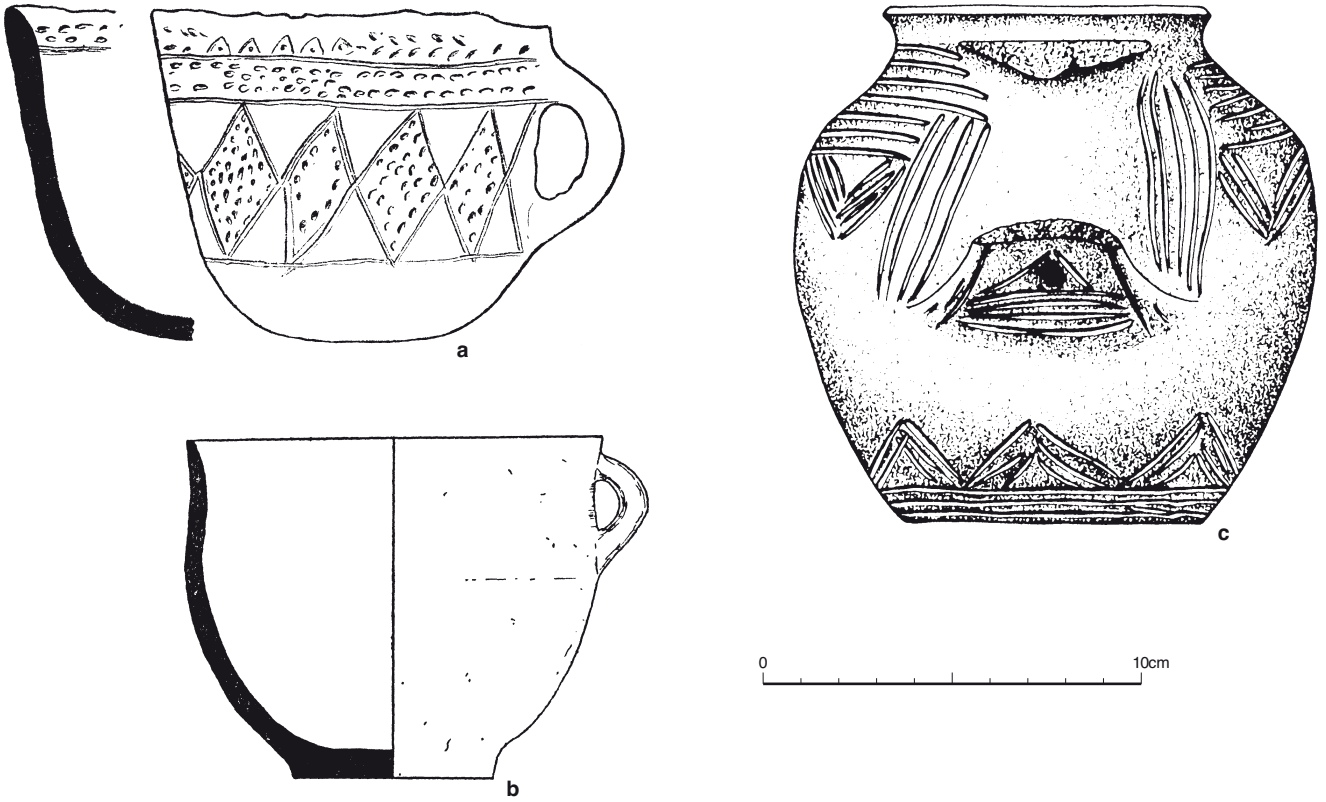


Figure 31 Small ceramic vessels with handles from Britain: a) Denzell Downs, Cornwall (after Patchett 1950); b) Collingbourne Ducis G16, Wiltshire (after Annable and Simpson 1964); c) Gallibury Down grave H, Isle of Wight (after Tomalin 1988). Scale 50%

Tomalin recognised that the Gallibury vessel reflects a ceramic tradition alien to the region, and found the best comparisons in the Armorican *Vases à Anse* series. But he also appreciated that it did not entirely conform to that series and concluded that it may have been manufactured in the Channel Islands, rather than on the Armorican peninsula. At the very least on current evidence we can say that the Gallibury vessel is individual and that it relates to a trans-Channel style, further points that may herald the ensuing precious cup series.

The high frequency of handled pottery in the Armorican Early Bronze Age is well known. Briard believed that the addition of handles was due to central European influence (1984, 118). This would give a more general background to the specific links between those two regions noted above and could offer a context for the parallel adoption of the handled biconical cup form. Unfortunately, there is little useful dating evidence for the origins of the *Vases à Anse* (Briard 1984, 113 ff, 192; Needham 2000b, 152, 165–7), but the Gallibury dates would point to an early evolution of the style, by the beginning of the 2nd millennium BC.

The profiles of the Armorican *Vases à Anse* are typically carinated, but unlike the precious cups, the carination tends to be placed high and is often strong, leading to a sharply contracted mouth. They do not therefore, even vaguely, look like enlarged versions of the cups. Conceivably more relevant are occasional pots with a single handle and moderate carination at around mid-height, as at Hellen à Cléder and Juno Bella à Berrien (Briard 1984, 117 fig. 67.1, 123 fig. 72.1) and again much further east at Etaples, Pas-de-Calais (Blanchet 1984, 131 fig. 56.1). Without chronological information it is hard to speculate on their precise relationship to the Armorican precious cups, let alone the wider group.

It remains to consider the handle-less small ceramic vessels which are broadly contemporary. These are the 'incense cups' or 'pygmy cups' frequently found as accessory vessels in British graves. There is much variation in form, not yet fully explored by any modern classification (Abercromby 1912). Such vessels are characterised above all by small capacities and relatively squat bodies. They frequently occur in a grave in association with a larger pot, most usually a cremation urn and this context suggests they could have played a regular part in the rituals attending the funeral. The accompanying pot is most often, but by no means universally, a Collared Urn. That they are not simply domestic drinking cups is clear from the fact that many have perforations or slits in their walls.

Incense cups probably appeared at about the same time as the cremation urns they accompany, towards the end of the 3rd millennium BC, and they then continue to the end of the Early Bronze Age making them broadly coeval with the precious cups. Incense cups are found the length and breadth of the country, a point which only goes to highlight the restricted distribution of the precious cups. They are not, however, exclusive of one another; indeed one type – the slotted incense cup – may be a complementary part of the cultural system employing the precious cups.

Slotted incense cups are sometimes thought of as a 'Wessex' type, but in geographical terms this is not the case (**Fig. 32**; Ashbee 1967, 31). Taking together Longworth's groups B and E (1983), characterised by rectangular to narrow linear slots, only two come from the Wessex heartland with another two from south Dorset (**Fig. 33**). In addition, a related cup with broad oval perforations comes from Great Shefford, Berkshire (**Fig. 33.13**); it has the cord decoration found on virtually all of the slotted group. This is a thin distribution given the over-representation of excavated graves in the region. In reality these cups show essentially a south coast distribution, with one in the Upper

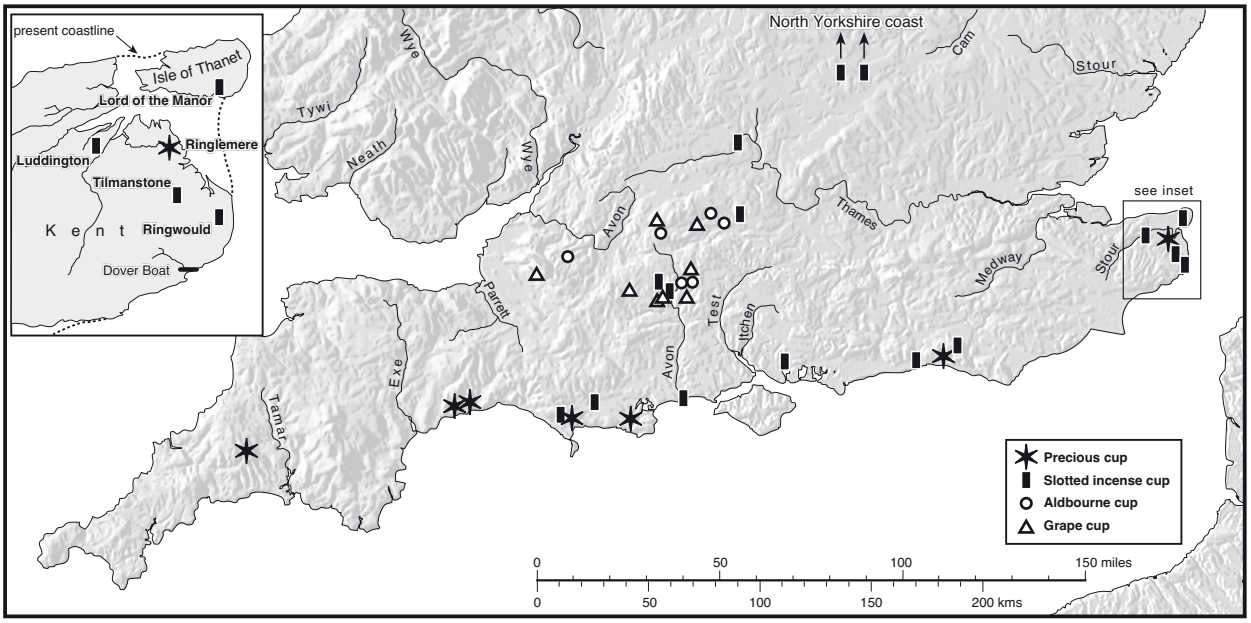


Figure 32 Map of recovery for precious cups in southern Britain in relation to incense cups of selected types – slotted, grape and Aldbourne

Thames valley and two near the coast of North Yorkshire, one of which is in any case a hybrid (**Fig. 33.14;** Longworth 1983, 67, 69 fig. 20).

As many as four slotted cups occur in east Kent (Parfitt and Champion 2004, 270), the strongest cluster anywhere; Ringlemere lies amidst them (**Figs 32 & 33.1–4**). Two examples come from central Sussex, close to Hove, and one is from Portsdown, overlooking Portsmouth Harbour and the Solent. The next following westward is from Hengistbury Head, a grave group that we shall see is pivotal in the passage of amber from the east into Wessex and, furthermore, has express links with one central Wessex grave group containing such a slotted cup – Wilsford G8. Finally along the south coast are examples from Burleston, east Dorset, lying between the Clandon and Stoborough precious cup finds, and one from the Clandon barrow itself (Cowie in Clarke *et al.* 1985, 274–5; Ann Woodward – pers. comm.). Precious cup and slotted incense cup were not, however, together at Clandon; while the incense cup was found deliberately broken and scattered under an internal flint cairn, the amber cup was one of the objects distributed on top of that cairn (**Fig. 34**); they clearly belonged to separate depositional events (Drew and Piggott 1936, 19, pl. I).

A cultural distinction between a south coast zone and inland Wessex is further emphasised by consideration of two highly specialised incense cup forms – grape cups and Aldbourne cups (**Fig. 32**). These have a distribution confined to Wiltshire and immediately adjoining areas (Abercromby 1912, 25–7, types 1 and 2), which includes the more recent find from Charnham Lane, Berkshire (Ford 1991).

In distributional terms, then, it can be seen that there are strong links between slotted cups and the precious cups. They may belong to different aspects of a single ritual system prevailing in the southern coastal areas. The Wessex heartland features instead the other specialised incense cup forms discussed and as yet there is no secure evidence that it took in precious cups and their attendant rituals. The function of the incense cups is far from settled (Gibson 2004), although Woodward concludes that 'the cups seem to have been designed specifically for the controlled burning of substances'(2000, 114; see also Parker Pearson 2003, 20). One thing is certain; unlike the precious cups, most incense cups are ill-suited to holding liquid.

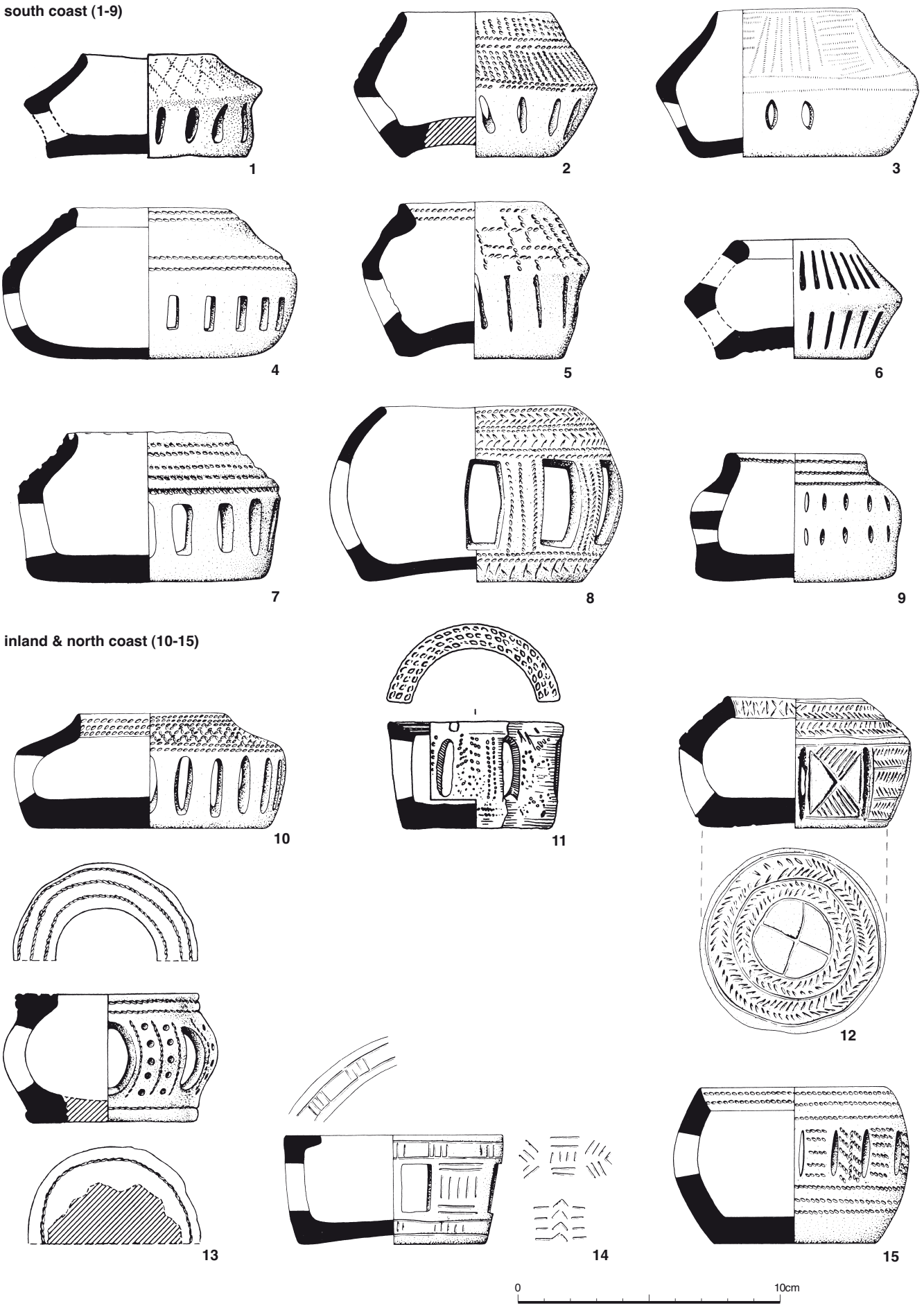


Figure 33 Slotted incense cups (after Longworth 1983; Perkins 1980, and Green and Rollo-Smith 1984): 1) Lord of the Manor, Kent; 2) Luddington Wood, Kent; 3) Ringwould, Kent; 4) Tilmanstone, Kent; 5) Clayton Hill, Sussex; 6) Lancing, Sussex; 7) Portsdown, Hampshire; 8) Hengistbury Head, Hampshire; 9) Burleston 3A, Dorset; 10) Wilsford G8, Wiltshire; 11) Shrewton 5c, Wiltshire; 12) Stanton Harcourt, Oxfordshire; 13) Great Shefford, Berkshire; 14) near West Ayton Moor, North Yorkshire; 15) Comboots, Scalby, North Yorkshire. Scale 50%

Chapter 7: Precious Cups: Concept, Context and Custodianship

Stuart Needham

Diversity as a diagnostic property

It should be clear from the inter-comparisons made above that there is no homogeneous class of precious cup in north-west Europe. Despite the recurrence of a number of features, no one feature is ubiquitous and they can occur in different combinations (**Table 5**). There may be a case for greater internal homogeneity among the shale cups, but only if we exclude the lost Stoborough vessel (no. 16). Otherwise, variability is certainly found within each material sub-group. The two silver cups are, insofar as their fragmentary condition allows to be known, of different form and different construction. The two amber vessels are also of very distinct forms and, while their respective proportions might have been strongly conditioned by the shape of the raw material block available (large blocks of amber would be hard to come by in southern England), this does not account for significant stylistic differences which could have been mitigated if so desired.

The same is true for the gold cups; despite the similarity of the handles and rivet-washers on three of them, body forms are all individual. Even the superficial similarity between the Ringlemere and Rillaton cups dissolves under more careful scrutiny in terms both of manufacture and the final form achieved. Ringlemere's accentuated shoulder and well-flared mouth contrast with the more graceful profile of Rillaton (no. 2); the corrugations are executed in a quite different manner, and they have different overall proportions, capacities and metal thickness. A further point of difference is extremely revealing in relation to craftsmanship. Whereas the Ringlemere and Fritzdorf (no. 3) handles have both tab ends tucked inwards, making the second stage of fixing rather tricky, on the Rillaton vessel an easier option was chosen for the upper, presumably second-attached handle tab. This technologically significant difference has only come to light with the discovery by Jane Marchand of the 1837 watercolour sketch of the Rillaton cup (cat. entry no. 2).

The eclecticism seen in detailed attributes could in part stem from the smallness of the sample recovered. Supposing on this hypothesis that precious cups were actually far more common in circulation than is currently apparent from the archaeological record, then any standardisation of sub-groups within the whole population may be yet to reveal itself. Even so, we cannot avoid the conclusion that the extant cups are not the products of regularised workmanship closely replicating an ideal pattern. Instead of slavish imitation, each seems to have its own individual qualities; indeed the range of properties can be extended by those intrinsic to the material, as yet not discussed (see for example Thurnam 1871, 517–24): warmth or coolness of feel, lustre, light reflection or transmission, electrostatics, feel of the rim to the lips – aspects which would affect the feel of the object and the ways it could be projected as something very different and special relative to contemporary material culture and, moreover, unique even among its peer group.

Lack of standardisation is important to our appreciation of both the dissemination process and the centralisation or dispersion of production. The general idea inherent in these precious cups, and perhaps also in their usage, appears to have been transmitted over a sizeable area, but not as a result of distribution from a restricted production zone, nor as the wholesale transmission of very particular technical skills and stylistic requirements. It would seem likely then that the really important attributes were not precise form and material, but instead a combination of the generic form, the fact that the material was exotic, the quality and individuality of the craftsmanship. In the social context of the Early Bronze Age it is rather unlikely that the convergence of these attributes in a single class of object occurred simply as a result of aesthetic whim, and much more probable that what bound them together was a widely accepted notion of what social role the cups performed.

The context of use

It will have become very apparent that even the flat-based cups, just five examples, were not well suited to standing on a flat surface unaided. This would be especially the case when full of liquid. Indeed on two of these five the 'flat' base is actually slightly convex. The round based varieties would have required a receptacle in order to remain upright. It is possible to invoke specially cut hollows in tables or alternatively, special stands in which to set the vessel. If such stands existed, they must have been of organic materials. They too would have been special equipment tied specifically to the precious cup, given that contemporary ceramics in north-west Europe were flat based. However, no annular wear traces were observed on lower bodies to support the idea of regular rubbing against a stand.

Rather than suppose that we are missing a vital component due to its non-survival archaeologically, it might be worth exploring an alternative proposition – that the cups were never intended to stand on a surface at the critical stage of use. For example, a pattern of use that involved periodic but brief service for the enactment of certain rites fits better with our understanding of the ritual nature of Early Bronze Age society than does the assumption that these were vessels for everyday use by high-status individuals.

The association of some cups with an individual of eminence in a grave could be ambiguous in this regard. The temptation may be to follow traditional interpretation which relates quality, quantity and rarity of grave goods as reflections of the relative 'wealth' and thus status of the interred. Subsequent interpretations have begun to weaken this dogma, by introducing debate on the role of the mourners, the need to effect appropriate transfer of authority after the death of a leader, and the need to reference ancestral claims, which was

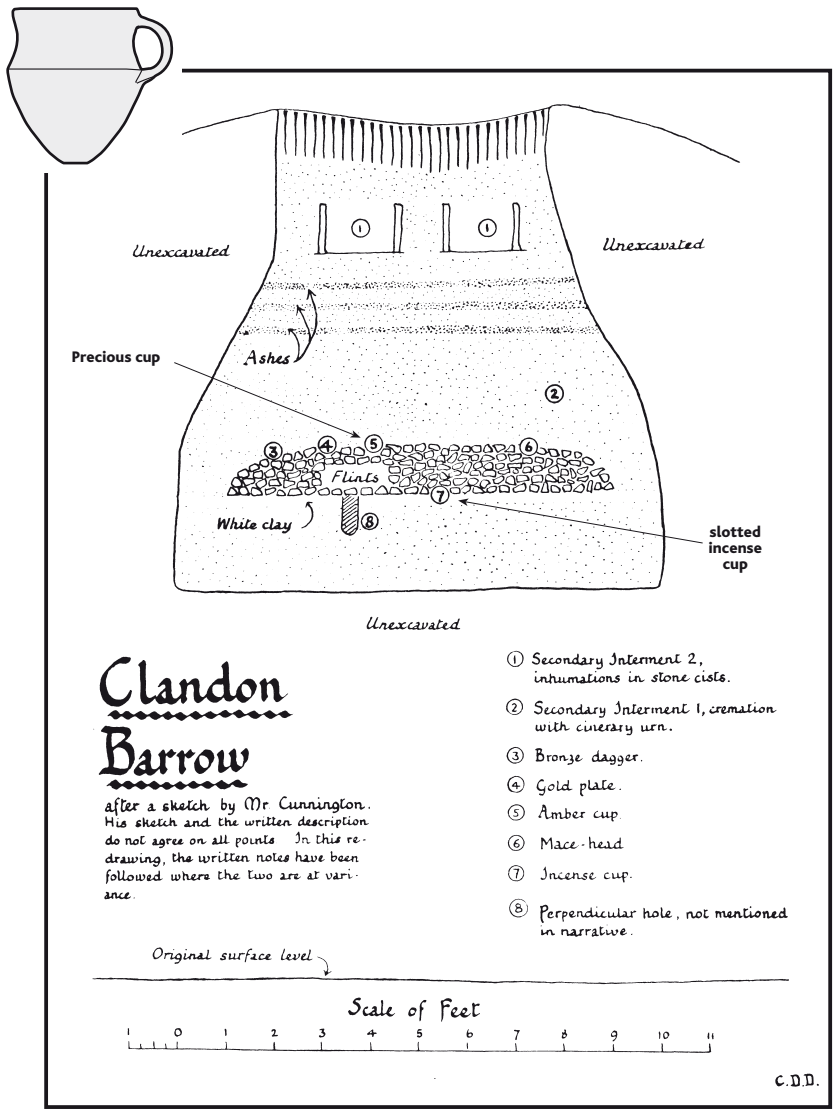


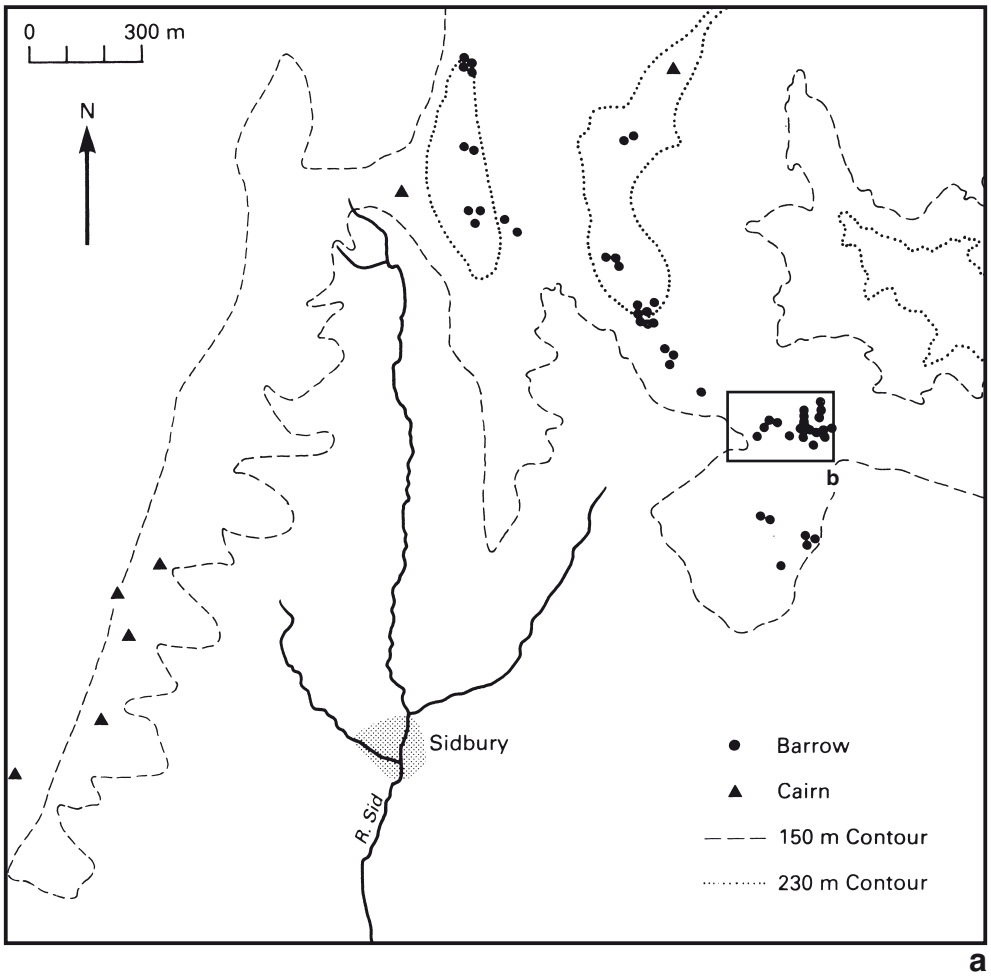
Figure 34 Section of the Clandon barrow, Dorset (after Drew and Piggott 1936)

achieved in various ways (eg Barrett 1988; Woodward 2000). The fact that important personages occasionally had a precious cup placed with them (at Saint-Fiacre (no. 9), Saint-Adrien (no. 8), Rillaton (no. 2), Farway 1 (no. 14), Stoborough (no. 16), Hove (no. 11) and perhaps originally others) could above all signify that these were the members of society that held the necessary spiritual authority to have custody of the vessels and put them to use. It is intriguing that in three cases the association with a deceased person is ambiguous or 'detached': the cup was a little removed from the interment at Farway 2 (no. 15); fine 'grave goods' were apparently scattered across the inner cairn at Clandon (no. 10) without obvious skeletal remains (**Fig. 34**); the Gölenkamp cup (no. 4) was in a mound but may not have accompanied a burial; and finally, it is not at all certain that there was a grave group as such at Ringlemere either. Indeed, if anything, the deposition of the amber pendant and, probably, the gold cup in the top of the turf mound recalls the stratigraphic position of the Clandon finery.

Whatever their final context of deposition, it seems that some of these cups at least had a prior use-life; they were not made especially for the grave. Wear traces can be very fickle, especially on materials that have deteriorated, but something was noted on four of the carefully inspected vessels (details in the catalogue). The Farway 1 (no. 14) and ?Wiltshire 1 (no. 12) shale cups show traces of wear under the top curve of the handle, these are suggestive of long-term suspension from a thong. A little wear has been deduced for Ringlemere – it would seem that repeated cleaning/polishing has led to the more exposed angles around rim and rivet washers becoming rounded. Some sets of striations on the body, although not obtrusive, also seem to result from coarser abrasion than the finishing. In the case of the Rillaton cup (no. 2), little certainty can be ventured because of treatment post-discovery; however, it does seem likely that the inner upper rivet emplacements had suffered wear before deposition and if this is a valid deduction it would imply wear of the interior and the rim more generally.

It seems likely that for most of their use-life the cups were simply in store or on display. Since it is not certain that the sheet metal handles would have been strong enough to support the vessel when full of liquid, the handle's main purpose may have been to suspend them by thong from a belt or from a beam or hook in a building. Alternatively, they could be stood on their rim, a clear signal that they were currently 'not in service'. Suspension about the person brings to mind somewhat parallel small vessels from Scandinavia. Just two bronze 'boxes' are known from this period (Scandinavian Late Neolithic B) and, distinct though they are in design and perhaps function (Vandkilde 1988), they do share with the north-western series several common characteristics: small capacity, instability, the use of a material exotic to the region, high craftsmanship and individuality in design (location shown in Fig. 28).

If the non-grave contexts of deposition at burial sites are



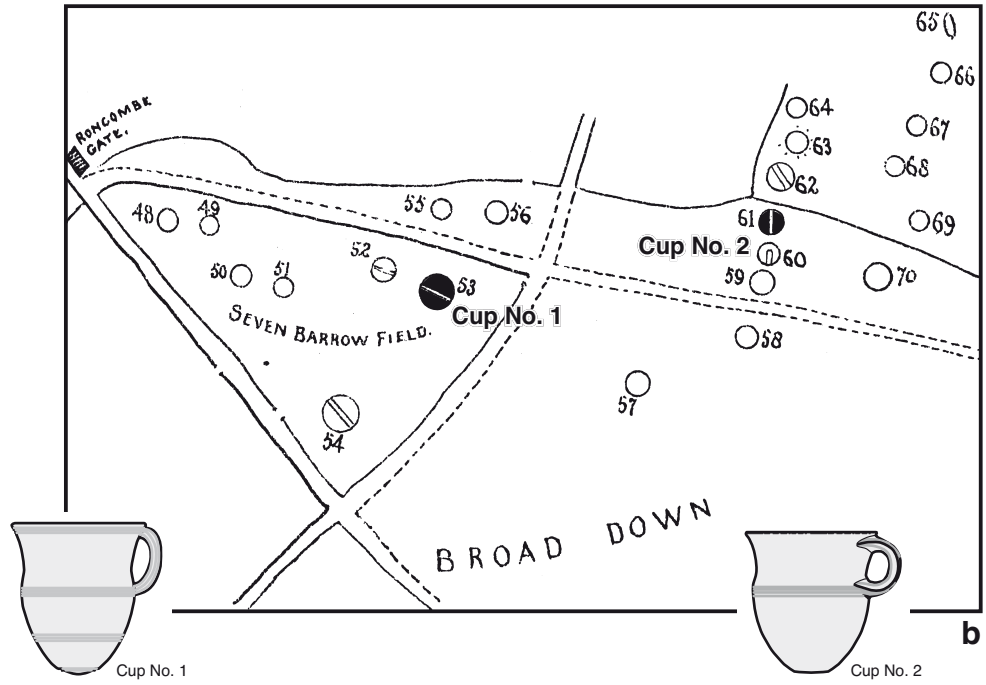


Figure 35 Barrows and cairns around the head of the Sid valley (after Todd 1987), and the nucleated group which yielded the two Farway shale cups, nos 14–15 (after Hutchinson 1880)

significant (see also Needham 1988a; Needham 2001), this could suggest that the cups had an active role at burial sites beyond simply their interment with a deceased person. It seems eminently plausible that one of their main uses involved funerary rites at the ritual complexes prior to the interment of the dead. We might also conjecture their use in ancestor rites where no specific act of burial was taking place. Ringlemere could well be pertinent here, the cup coming from within a sizable monument in which the scale of the enclosing ditch with its northerly entrance may have been as important as the height of the mound, or more so. Indeed, this monument seems to be the focal point of a fairly large monument complex (**Fig. 3**), one of the largest yet known from Kent, and which invites comparison with the familiar agglomerated 'cemeteries' of Wessex and some other regions.

Likewise at Farway Down, the two cups (nos 14 & 15) come from a large spread of barrows which includes some tighter clusters (**Fig. 35**; Hutchinson 1880, fig. opp. 124). Cup no. 1 was

from one of the largest mounds locally, almost 30m across and 2.5m high; several mounds spread away from it mainly westwards. The mound of cup no. 2 did not seem to stand out in terms of size, but it lies in the middle of a tight linear arrangement of seven barrows aligned roughly north-south; a similar row of six runs parallel to the east. Nevertheless, it is significant that these cups come from a remarkable concentration of barrows and cairns on the plateaux and ridges around the head of the small Sid valley at Sidbury. The mounds include a wide variety of structural forms and Fox found much to link the complex to Wessex (Fox 1948; Todd 1987, 144).

The Rillaton cairn, on the east side of Bodmin Moor, is more isolated with just a single second cairn adjacent to it. It may not be without coincidence, however, that it lies only 500m NNE of the three closely set stone circles of The Hurlers (**Fig. 36**; Johnson and Rose 1994, 45 fig.). A similar distance in the opposite direction (NNW) is the undated enclosure complex of Stowe's Pound, at the north end of which stand two large cairns. Two more lie to the south of The Hurlers. On Craddock Moor, a kilometre and more to the west of Rillaton, a much denser distribution of prehistoric remains has been identified dominated by many hut foundations, field systems, clearance and small cairns, as well as a few larger cairns. Ann Woodward has noted that the larger cairns in this landscape are preferentially distributed between the settlements and Stowe's Pound and tend to occupy prominent positions (2000, 60).

The Clandon barrow would appear to be even more isolated than Rillaton at first sight; there is no rich monument complex in evidence immediately around it (Grinsell 1959, 152 Winterborne St Martin 31). It is not situated on the highest ground locally, but nevertheless occupies a prominent knoll which gave it great inter-visibility with a number of key sites and landmarks in the region (Woodward and Woodward 1996, 278). Indeed, the substantial height of this mound, as well as that of the Lanceborough barrow not far to the east, significantly enhanced view-sheds and the two may have been connected together in a system deliberately exploiting explicit oversight of a domain (Woodward 2000, 142). Ann Woodward sees the ash layers recorded by Cunnington in the upper mound at Clandon (**Fig. 34**) as being the residues of bonfires lit to reinforce the position of dominance (ibid, 140).

If we are right to deduce that the cups were not used with a stand and, equally, to assume that they were for holding a liquid, then it intriguingly constrains their mode of use. The cup would need to remain in the hand while it still contained liquid. Two main alternatives present themselves, one based on the liquid being for consumption, the other that it was a libation.

If for consumption, the draught could have been 'downed in one', or if drunk more sedately over a period it was kept in hand by the master of ceremonies or passed from hand to hand among a select band of initiates. In either case, such a setting gives a strong presumption that the liquid concerned had very particular properties – narcotic or hallucinogenic (Sherratt 1991; 1995; see also Woodward 2000, 113). Just as plausible would be the use of this special vessel for libations at particular ceremonies, for example, the collecting and pouring of blood from an animal sacrifice. Or again, was the cup in fact a dipper for the dispensing of liquid, the act of which served to endow the dispensed liquid with special favour?

A relevant feature of the Ringlemere cup and, to a lesser extent the Fritzdorf one, is the pronounced shoulder which would tend to trap the last of the liquid as it was poured out. This would have inhibited steady draining for whatever purpose, but if designed with a functional aim it could have been to retain a small portion, perhaps dregs or a draught for the gods?

Experiment by Geoff Halliwell (Dover Archaeological Group) with a full-sized replica of the Ringlemere cup has demonstrated that it serves entirely adequately as a drinking vessel. A brew of tea was used to simulate a prehistoric beverage which could have contained unwanted dregs at the bottom. When drinking, the tea leaves were largely prevented from reaching the lips by the corrugations and, more importantly, the shoulder on the vessel. With a pure liquid, around 20ml is held back by the shoulder.

Custodians of the cups

The assumption that the cups were 'owned' by a powerful person also merits further examination. The grave associations would seem to demonstrate an attachment to an individual, but this may not constitute 'ownership' in the way we understand it in the modern world. Even a sacred communal object has to fall under the responsibility of one or more guardians, or custodians (Godelier 1999).

The practice of placing objects with the dead was endemic in the Early Bronze Age and the objects were very diverse, ranging from the most basic of flint or bone tools to the real finery of the time. Choice of objects was guided by rules which allowed expression of an individual identity, regardless of whether that identity was literally representative of the person or in part a construct. Given the prevailing preoccupations of the age, it should not seem surprising that some of the precious cups ultimately came to accompany their custodians to the grave. There are various reasons why even a precious cup with a central ritual role might have been committed to the grave. It may have been deemed to have served its time among mortals and be due for service in the Otherworld. Or maybe the cup was damaged to the point that it was felt necessary to replace it with another. Alternatively, the particular custodian may have had an unusually strong association with the cup – perhaps he or she arrived with it from another community.

If we are right in inferring that the cups served a central role in certain ritual rites, it places them among the shamanistic gear that Ann Woodward has argued to be present amongst Early Bronze Age grave goods (Woodward 2000; 2002). Such equipment is vital to facilitate communication with gods and spirits, but it is essentially held in trust for the benefit of the community. Our conclusion is that the precious cup is more likely to have been connected to an individual by virtue of its highly specialised role, which entailed highly specialised knowledge, than to have been the accoutrement of a person simply because of the status he or she held. On this basis the Early Bronze Age precious cup would be more analogous to the religious chalice than to the kingly goblet.

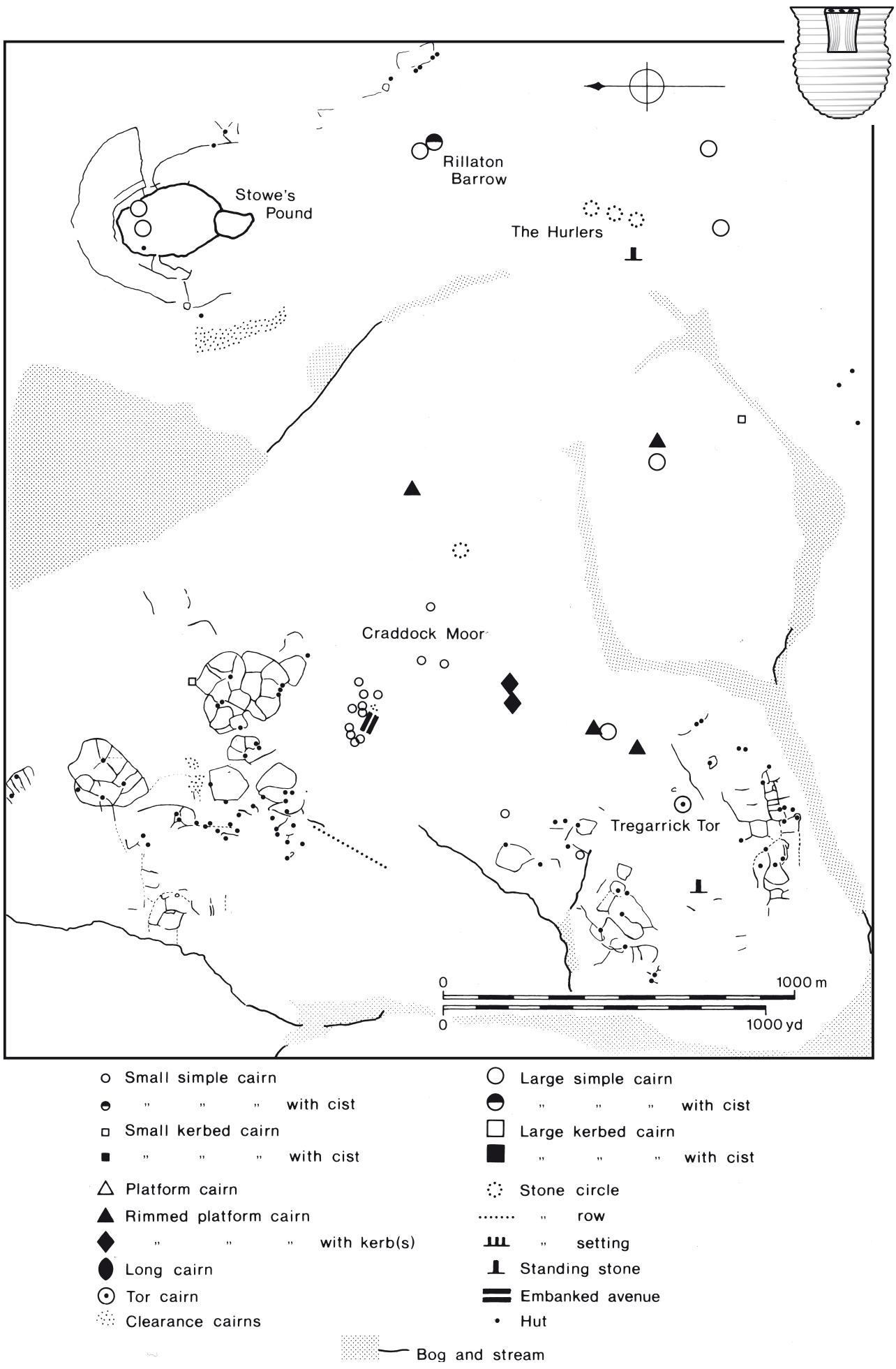


Figure 36 Monuments on Bodmin Moor in the area of the Rillaton barrow (after Johnson and Rose 1994)

Chapter 8: Networks of Contact, Exchange and Meaning; the Beginning of the Channel Bronze Age

Stuart Needham

In geographical terms alone, the Ringlemere cup is pivotal. Its location extends the string of finds along the coastal strip of southern England and, moreover, fills a 'gap' between these western finds and those across the North Sea, in or close to the Rhinelands (**Figs 28 & 32**). Such a pattern is often viewed literally, the respective finds seen to be marking out routes of trade or contact. But the end-points of the individual life histories of such treasured items as the cups are unlikely to represent straightforwardly a fall-out pattern from the primary communication routes. This is emphasised by the observations made above that the cups have individual qualities, sometimes even betraying individual craftsmanship. The cups themselves have not been exchanged over distance from limited production sites (although clearly some displacement during their use-lives is possible), instead it is the core idea associated with them that has been relatively mobile within a specific geographical sphere.

If the key unifying factor for the cups is their function, is it possible that function too was inherited from the putative ceramic prototypes? Possible, yes; but the fact that unstable handled cups were frequent in the cultures to the south and east (**Fig. 28**) makes it hard to envisage an identical function to that for our precious cups. The ceramic versions lacking flat bases (which in fact merge into those with flat bases) would be subject to similar constraints in use, and this may have been a key feature that commended the form to north-western communities: instability gave them an element of functional exclusivity. Beyond this, however, it seems more likely that in the process of transmission the specific role of the precious cups derived from specific regional needs.

What might that regional need be? It was far from ubiquitous in north-west Europe and yet recurrent in the Channel-Rhine-Frisian zone for three or more centuries. One striking feature is the close proximity of virtually all of the cups to their respective coast-lines or the Rhine and it would be easy to link them directly to exchange activity. However, I have already argued that the cups were not themselves the object of exchange, so what other link might there be? One possibility is that the specialised role envisaged above for the cups was intimately involved in servicing a specialised communication network focussing on the waterways of the Channel-Rhine-Frisian Coast axis. Propitiatory rites of some sort would almost inevitably accompany hazardous maritime travel and it may be that the cups and their particular mode of use were quickly adopted across the whole zone as a unified response to common dangers experienced by the Channel-bordering communities who were beginning to engage more in maritime contacts.

It has long been appreciated that the early part of the 2nd millennium BC was a time of growing inter-connections on a continental scale. Links between southern Britain and mainland regions such as Armorica, west central Europe and southern Scandinavia were on the increase, although not necessarily prolific in terms of exchanged goods. Recent re-evaluation of the oft-claimed close connections between southern Britain and Armorica in the early precious cups phase (Bush Barrow/Willerby) suggests that they may have been overstated; certainly whatever the nature of the contact it did not lead to any sort of cultural unity between the two regions (Needham 2000b). Small numbers of continentally made daggers and pins were brought across to Britain and several decorated British low-flanged axes were transported outwards, mainly in an easterly direction (most recently considered by O'Connor and Cowie 2001 and Jockenhövel 2004). But in most respects the cultures on either side of the Channel were still 'insular'. Much of the amber found in the west also belongs to this period, but even though the raw material must have been transported most if not all of the object production seems to have been local (Beck and Shennan 1991).

By the second phase of our cups (*c.* 1750–1500 BC), early Trevisker and early Deverel-Rimbury Wares, along with Arreton and early Acton metalwork, all have strong parallel traditions on the southern shores. Indeed, Trevisker Ware, although primarily a south-west English tradition, has also been found in Kent (Isle of Thanet), Pas-de-Calais and the island of Ile Tatihou off the Normandy coast (Gibson *et al.* 1997). Hilversum pottery in the Netherlands also has strong echoes of the more western ceramic traditions, particularly Biconical Urns. Of relevance in this context is the Biconical Urn from Wouldham, Kent, in a grave now radiocarbon dated to 3435 ± 40 BP and 3380 ± 50 BP on cremated bone giving a mean of 3414 ± 31 BP; 1750–1640 cal BC (1-sigma; Cruse and Harrison 1983; John Cruse pers. comm.). By this stage bronze of continental origin was coming into southern Britain on a more significant scale than hitherto (Northover 1982; Rohl and Needham 1998, 179). Precious cups and the network they reflect therefore catch the opening up of a newly constituted set of cultural relations which tied together communities in southern Britain, northern France and the Low Countries (but not further up the Rhine) to some degree for the rest of the Bronze Age.

The latter half of the Early Bronze Age is in this respect the beginning of what might be termed the *Channel Bronze Age*, populated by Clark's *people of La Manche* (Clark 2004b, 7). Parallelism in metalwork traditions on the two sides of the Channel throughout the Middle and Late Bronze Ages has been well appreciated since at least the 1960s (eg Briard 1965; Burgess 1968). Subsequently, this has found support in other material in the archaeological record, but the question as to what exactly in social and cultural terms these commonalities represent must await further discussion elsewhere.

One thing that will have become clear from the above discussion is that the Wessex core zone played relatively little part in these developments. Instead, we can suggest that it was southern areas outside the Wessex core that contrived or

monopolised the special Channel-Rhine-Frisian zone relationship. This relationship has been explored to explain why the 'Wessex culture' – in the narrow and more useful definition – became ever more isolated towards the end of the Early Bronze Age (Barrett and Bradley 1980, 59–64, 85–90). In this respect, it is unhelpful to think of the precious cups as being an integral part of a Wessex-inspired grave phenomenon; instead they represent different ritual processes emanating from another sphere and only marginally impinging on Wessex-specific rites (cf. Ashbee and Dunning 1960). This emphasises that we should be cautious of assuming that the two Salisbury Museum cups were found in the Wessex heartland, until such time as documentary evidence of their provenance comes to light.

This south coast/Wessex differentiation can be more fully characterised by looking at other contemporary material. One key material is amber, which is present as fine objects in both regions and, moreover, in most regions where precious cups occur. Something must be said first on whether the immediate source of the western amber objects was southern Scandinavia or the eastern coast of Britain. Not only has the latter region been recorded historically as yielding a regular supply of amber nodules washed up on the beaches, but on occasion these could be blocks of some size (Taylor 1980, 45; Shepherd 1985, 204; Beck and Shennan 1991, 17) – perhaps even large enough for the cups? Shepherd saw no reason why both the east coast and Baltic sources could not have been exploited (1985, 210), while Beck and Shennan make the point that any Baltic-type amber objects found inland in Britain would have been of a non-local material, even if from the east coast (1991, 27). The fact that an egg-sized lump of raw amber has been found at East Coulston on the northern edge of Salisbury Plain (Thomas 2005, 217), even if contemporary with Early Bronze Age usage, does not favour one conclusion over the other; instead, it would merely go to emphasise Beck and Shennan's conclusion (1991, 63) that raw material was imported for local manufacture. This point certainly applies to the few finds from Armorica as well.

In fact, having considered patterns of amber exploitation over a wider area of Europe, Beck and Shennan (1991) concluded that most of the British Early Bronze Age amber would have come from beyond the North Sea. The lack of any concentration of worked amber along the east coast is one factor arguing against this being the primary source; Shennan's proportional analysis shows that amber is much rarer in explored East Anglian graves than in those of Wessex (Beck and Shennan 1991, 77). It seems unlikely that the material was valued less along the east coast; it would still have been a scarce resource and the Little Cressingham find in particular illustrates association with a pre-eminent individual (Clarke *et al.* 1985, 275-6). One possibility is that initial acquaintance with amber from the east coast was merely the trigger to generate an appetite for this exotic substance, particularly once there was a desire in Wessex to imitate the complex northern jet necklaces with spacer plates. Against this background one can speculate that a desire grew to venture farther afield to procure the raw material.

Shennan's thorough evaluation of British prehistoric amber highlighted that all the more complex pieces belonged to the Early Bronze Age (*post* Bell Beaker) and deduced clearly that they were crafted in the west – Britain and Armorica – rather than close to the Jutish/Baltic sources (Beck and Shennan 1991, 63). He envisaged the high-level craftsmen being attached to, or circulating among, high-ranking individuals in the areas where the rich burials occur, such as Wessex or Brittany (ibid, 64). However, he was also clear that although Wessex, and especially Wiltshire, have yielded most of the amber-associated burials, the region is not pre-eminent in respect to quantities of amber per grave. Nor does it have a disproportionate representation of 'special types' – defined as spacer-plates, fancy pendants, pommels and cups (ibid, 80-1). Some graves rich in amber lie outside Wessex. A revised distribution of amber finds dating specifically to the first half of the 2nd millennium BC is shown in **Figure 37**.

There is no evident fall-off in the distribution of amber away from the south coast and yet neither is there a single prime centre for amber finds. Instead, Shennan observes that the distribution is patchy with a number of concentrations, some clearly relating to established ritual centres. In fact only three or four graves in Wessex contain enough beads along with a set of spacer plates to have formed a spacer-plate crescentic necklace (Woodward 2002, 1043–4); the usually smaller quantities of amber beads in grave groups may sometimes have been residual portions of necklaces which had circulated and suffered losses or been split up over a long period of time. In relation to the presumed zone of entry along the south coast, Shennan ventured that Hengistbury Head, whence comes a Wessex 1 grave group with, *inter alia*, a slotted incense cup, was 'a point where exotic items such as amber were introduced' (ibid, 84–5).

Most innovative, however, was Shennan's assessment of the raison d'être for the 'trade' in amber, drawing upon Helms' ideas on the potential cosmological references made by the material. Helms had previously pointed out that amber can easily be seen in the perspective of elite acquisition of esoteric knowledge – 'indeed the temptation to do so is virtually irresistible given the strange properties of the material and the unusual nature of its source in the sea' (Helms 1988, 129). This latter 'property' of amber may have seemed to the mariners of our maritime exchange network to be an especially pertinent connection.

Despite his extremely well-balanced evaluation for the most part, Shennan's conclusion placed too much emphasis on the Wessex-specific associations for Early Bronze Age amber. It is true that Wessex was able to procure a good share of amber due to its prominent spiritual legacy (**Fig. 37**; Beck and Shennan 1991, 72 fig. 6.1), but the control exercised by the southern coastal communities allowed them to monopolise at least some of the prize blocks of amber, especially those suitable for carving out a cup. Indeed, when larger blocks were available, careful working might create primary off-cuts of sufficient size to manufacture small objects, notably beads. The Hammeldon amber pommel and the two amber bracer-ornaments from Armorican tombs would also have each required a modest sized block. It is, moreover, the cups and pommels that Shepherd sees as requiring the 'most exacting and lengthy process' in their manufacture (1985, 212).

In considering relative densities of finds, we should never overlook the incontrovertible over-representation of Wessex distributions due to historical factors. The fact that amber has turned up at Ringlemere, just the second find of Early Bronze Age amber from Kent, may be telling in this regard. It is also of interest that northern France, a zone incredibly poor in excavated Early Bronze Age burials, has yielded a large domed

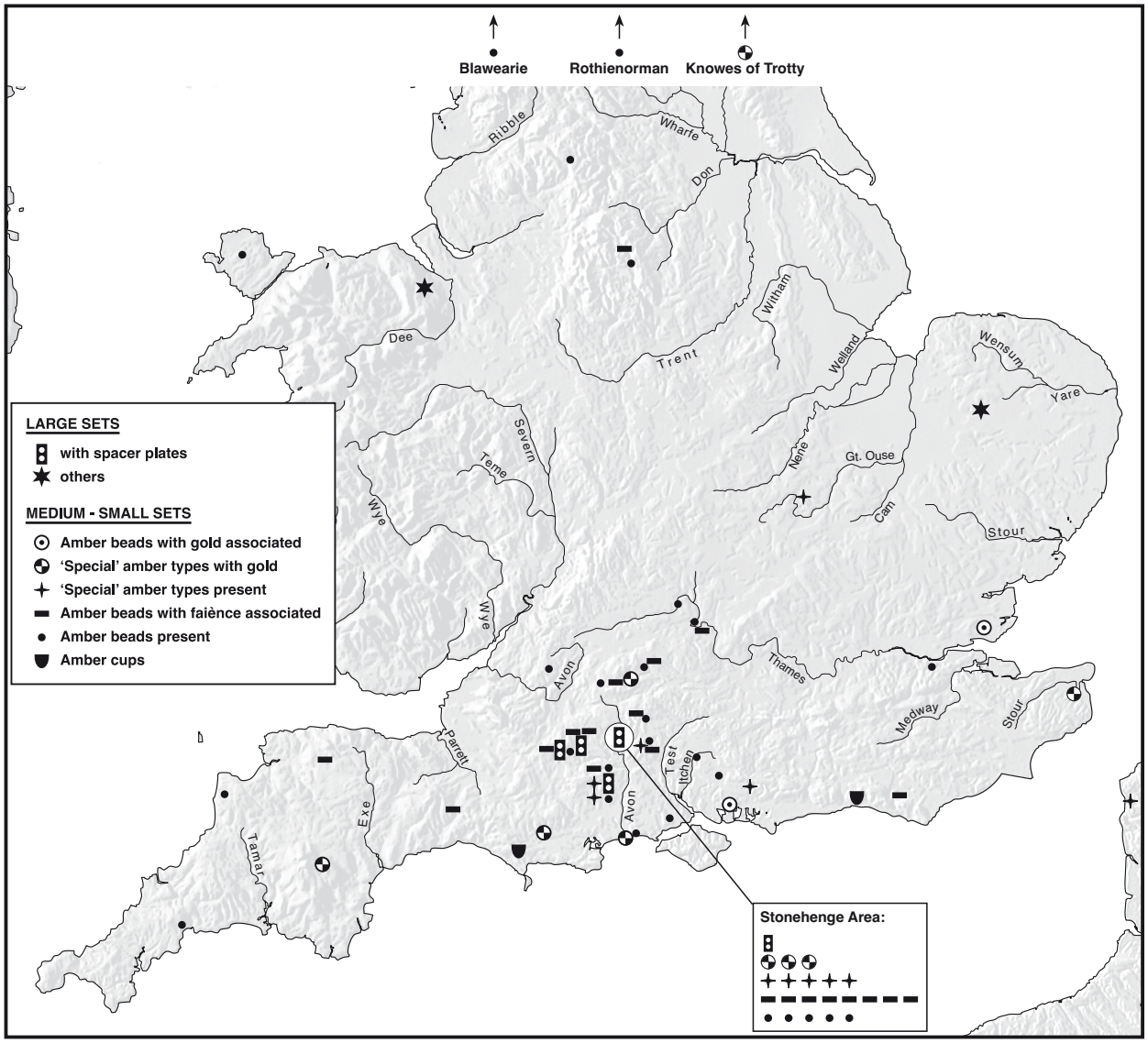


Figure 37 Map of recovery for amber finds dating to the mature Early Bronze Age, *c.* 1950–1500 BC (data from Beck and Shennan 1991, with additions and modifications).

button of amber, from Wimereux, Pas-de-Calais, just across the Straits of Dover (**Fig. 37**); Blanchet was unsure whether it was of Beaker date or full Early Bronze Age (Blanchet 1984, 95 fig. 42), but the latter seems more likely on the British parallels.

Looking eastwards along our maritime axis, it transpires that there is also a remarkable concentration of Bronze Age amber finds in the south-east of Drenthe province, Holland (around Emmen) – a combination of necklaces (including beads of other materials) found in graves and bog hoards (Butler 1990, 48). This cluster lies just 25km away from the Gölenkamp cup's findspot (no. 4) in the Spöllberg domain of Germany, which juts into Holland in this stretch of the border.

Although the possible date range suggested by Butler for these amber finds is broad, *c.* 19th–12th centuries BC, it spans the date of the cup. The find dated earliest in the sequence is the famous necklace from Exloërmond, which includes a mixture of amber, faience, tin and bronze beads and pendants. Two of the amber ornaments are trapezoid pendants with just rare parallels: eight in the Kernonen grave already discussed in relation to the Ringlemere pendant, one from Wilsford G7 and a surface find from Holland (Butler 1990, 54).

There are also two important contemporary finds to the south-west of Spöllberg, again just across the Dutch border. One is a grave group with amber beads, bronze wire ornaments and a bronze cone (?button cover), the other a probable warrior's grave of the Sögel/Wohlde phase (*c.* 1700–1500 BC; Butler 1990, 76–8 no. 13, 84–6 no. 15). The striking absence of relevant finds in the Spöllberg itself must surely have something to do with poor recovery rates on the German side of the border.

The implications of the Drenthe amber cluster is that the region was able to procure amber objects over a longish passage of time (though perhaps less than seven centuries) and, moreover, that there was continuity in given practices of necklace deposition. The source of the amber may not have been far distant, since it can be collected on the Frisian coast to the north and even inland in glacial moraine deposits (Butler 1990, 52; Brongers and Woltering 1978, 104–7). We should not therefore presuppose that amber would be regarded as exotic and valuable as it evidently was further west. Nevertheless, it is hard to resist the conclusion that amber consumption and use of precious cups were again connected in this small zone straddling the Dutch/German border and that this community shared some of the key values evident among the Channel coast communities even though it was not coastal.

Amongst other materials relevant to our Channel-Rhine-Frisian network are the decorated tin-bronze axes of British/

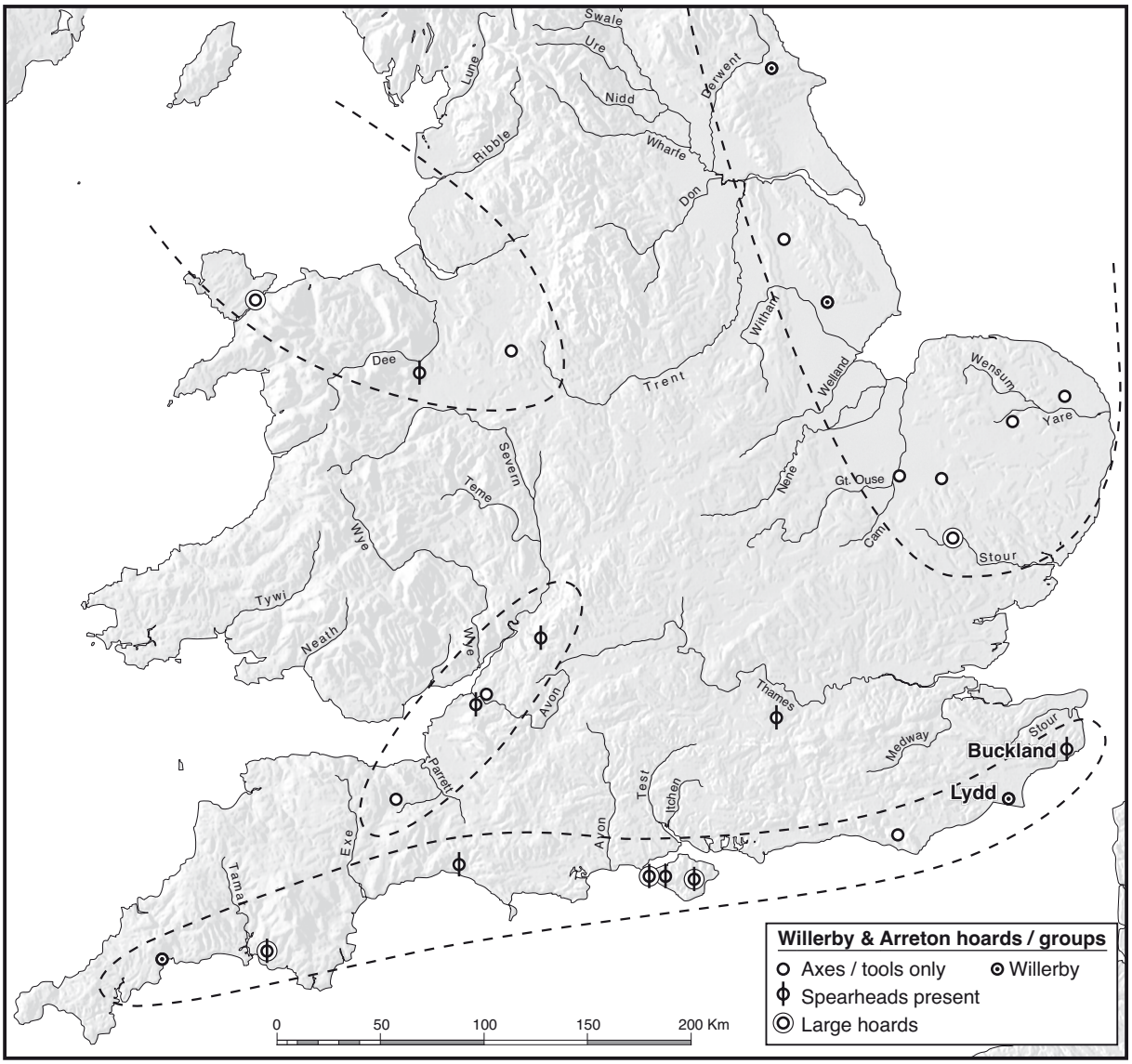


Figure 38 Map of recovery for hoards and other possible associations of Willerby and Arreton stage metalwork in southern Britain, *c.* 1950–1550 BC. Regional groups are suggested by the dashed outlines.

Irish origin so well known from southern Scandinavia and northern central Europe (Megaw and Hardy 1938; Butler 1963). The probable hoard of five from the coast at Lydd, Kent (**Fig. 38**), implies that sufficient were in circulation in the far south by the Willerby stage to allow the permanent deposition of 'surplus', a situation which would certainly lend itself to their distribution to the lands beyond the sea (Needham 1988b). The tin content and frequently also the patterns of decoration of British axes would have made them unusual if not mysterious and the deposition of one in the large Dieskau 2 hoard in Saxo-Thuringia (von Brunn 1959) perhaps testifies to the high regard in which it was held.

The occurrence of multiple-axe deposits of Willerby stage in near-coastal locations (Willerby, Trenovissick, Lydd) gives a foretaste of the distribution of the more numerous Arreton stage hoards (**Fig.38**). Of interest to us among three or four regional groups is that spread along the south coast; no fewer than seven hoards between Devon and Kent, that from Buckland, Dover, lying just 15km south of Ringlemere. Five more hoards occur south of the Thames-Severn line, four of them lying little inland from the Severn estuary. Looking at the types present in these hoards – now no longer simply axes – there proves to be another highly significant connection eastwards along our maritime network. Nine of 12 of these southern hoards contain one or more bronze spearheads, a totally new type in the British metalwork repertoire. By constrast, of nine hoards in north Wales and its Marches and in eastern England, only one contains a spearhead (Ebnal). The inclusion of spearheads in most of the southern deposits is not a reflection of the introduction of the type *per se*, for single finds also occur further north. The real significance of this pattern seen in the associations probably lies more in the regional adoption of a custom of hoard deposition which involved spearheads for the first time, perhaps following continental precedents. This would appear to be another direct outcome of the Channel-Rhine-Frisian sphere of interaction.

Unalloyed tin may well also have played a part of these exchanges, but we need to be careful not to overstate its role. Undoubtedly some tin passed east to the Continent; it was used purely ornamentally as studding on the Bargeroosterveld knife pommel and for the tubular segmented beads in the Exloërmond necklace (Clarke *et al.* 1985, 148 fig. 4.82, 313; Sheridan and Shortland 2004, 267, ill. 21.32). If some tin was also supplied for addition to central European copper, there is

no sign of a significant impact before Reinecke A2 (Pare 2000, 18–20) and at this stage it is most likely that the massive amount of tin required to convert the prodigious central European copper production into bronze was largely based on sources within the region. The true role of western tin and the alloyed bronze objects it made possible may thus have been to stimulate an interest in alloying further east.

Looking further at reverse flows, east to west, it is probable that early in the period concerned here, around the 19th century BC, faience was introduced to Britain from central Europe (Sheridan 2004, 265–6). While it is not yet clear if more than occasional British finds are actual imports, it is now established from typology and composition that the majority must be of indigenous production, so the key transfer was one of specialist technological knowledge rather than manufactured objects. Locally, it is significant that four faience beads accompanied a cremation burial under a barrow at Ringwould overlooking the Channel between Dover and Deal (Woodruff 1874, 24; Grinsell 1992, Ringwould-with-Kingsdown 1). The same burial contained an incense cup of the highly pertinent slotted type discussed above (**Fig. 33.3**).

Other influences seen in the west drew on the far east of the Channel-Rhine-Frisian axis. Although no Aunjetitz axes as such have been found in Britain, a number of Arreton flanged axes show distinct aspects of style which are best seen as derived from them (Needham 1979, 278–80). The best examples come from coastal areas or not far inland: Ramsgate, on the Isle of Thanet in Kent; Plymstock, Devon; Abbeville, Somme (**Fig. 39**). A second, squat style of axe within the Arreton repertoire has been linked to axes in north-west Germany (ibid, 275–6; see also Kibbert 1980, type Oldendorf). Without the privileged axis of connections under discussion the geographical distance between the Arreton and Aunjetitz-Baltic spheres would make explanation of these similarities difficult. But yet other, more specific links drive home the reality of a connection along this east-west axis.

One is the Aunjetitz-inspired ribbed armlet from a grave at Shorncote, Gloucestershire (Needham 2000c, 37; Barclay and Glass 1995), but more intriguing are the halberd pendants found in three southern English graves. These are miniaturised imitations of the magnificent metal-shafted halberds of the northern Aunjetitz zone (Piggott 1973; Needham 2000a, 51; Wüstemann 1995) and can have no practical significance other than proclaiming some distant link. They must again be locally manufactured, but represent an alien type and incorporate materials drawn from afar, including amber from the same direction. One of the halberd pendants is from a grave on the coast at Hengistbury Head, Hampshire; the other two from close to Stonehenge. These have been interpreted as prime examples of cosmologically-driven acquisition of materials and 'knowledge' (Needham 2000a, 51; 2000b, 187), but could they also have a more immediate significance? The graves contain a rich array of fine ornamental gear and are thought to be those of women. It may not be inconceivable that these were elite marriage partners drawn from the far east for whom the halberd pendants were a symbol of their homelands. One of the individuals (Wilsford G8) was also accompanied by a torc pendant, thought to be imitating the abundant copper ingot-torcs of central Europe.

These particular grave groups raise another highly significant connection in relation to Ringlemere. Among the finery in the Manton Preshute grave is also one of the two amber pommels which most closely parallel that from Ringlemere. Both this grave and that from Wilsford G8 contain the gold-bound amber discs that relate to the Ringlemere pendant fragment (Annable and Simpson 1964, 100-1 figs). These important cross-linking finds illustrate that although there are very significant differences between the communities of the Wessex heartland and the coastal zone, they were nevertheless engaged in a socio-economic relationship which was probably of a symbiotic nature.

There is no need to say much about the mechanics of our network here. With the very recent full publications relating to the Dover Bronze Age boat (Clark (ed) 2004a, 2004b), there is a wealth of detail about the practicalities of early sea-faring and the capabilities of the sewn-plank boats that continue to appear in the British Bronze and Early Iron Age. For our purposes, suffice it to say that much opinion is in favour of vessels such as those at Dover and Ferriby being fit for sea-going travel in the clement conditions that early mariners will always have sought (if not always found). It would also appear from finds to date, that this new way of constructing boats emerged during the first three centuries of the 2nd millennium (Wright 2004). We can therefore see them as a specialised artefact being developed, just as the cups, for the conduct of certain inter-regional relations which were becoming desirable for the acquisition of exotic materials and knowledge. As Clark says (2004a, 321) 'even today, the vessels that negotiate the dangerous and alien sea away from the security of land can still excite a relationship that transcends the rational'.

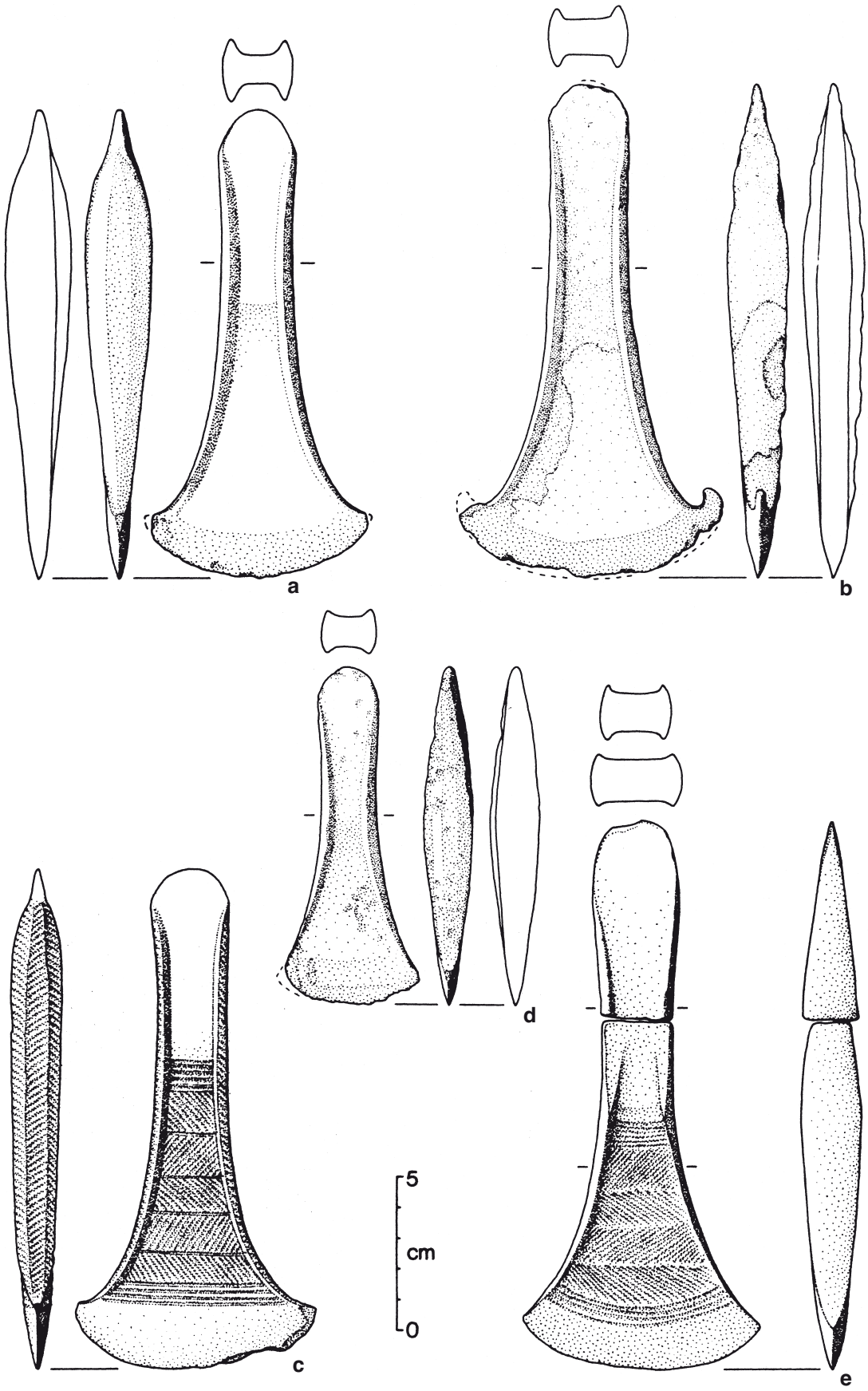


Figure 39 Aunjetitz-inspired flanged axes in the west and two eastern parallels: a) Plymstock hoard, Devon; b) Abbeville, Somme; c) Ramsgate, Kent (after Bronze Implements Index); d) Neuenheiligen hoard, Upper Saxony; e) Aebelnaes, Seeland, Denmark (after Aner and Kersten 1976, 189 no1318). Scale 50%

Conclusions

The precious cups, then, relate to a *specific* maritime contact network, not to maritime connections in general nor, indeed, to exchange in general. Although exchanges of materials, objects, skills, knowledge, artisans and marriage partners are likely to have been among the driving forces behind its creation, the network represented a sphere of more exclusive interaction which worked independently of other spheres which bound other sets of communities together. Inevitable and regular exchanges inland in Britain did not carry the precious cup concept with them. Similarly, the long eastern coasts of Britain reveal no equivalent artefact type (discounting the fragments from Northumberland – Chapter 6) and yet the Ferriby boats attest to water-borne contact there in the Early Bronze Age (Wright 2004; Wright *et al.* 2001). The cups belong therefore to one particular network operating with its own particular ideological and organisational framework. The east coast of Britain must have had one or more different networks with different preoccupations, objectives and sanctions. Prominent in that network, whether by land or sea, was the widespread distribution of Whitby jet (Shepherd 1982; Sheridan and Davis 2002). By contrast the distribution map for Early Bronze Age amber (**Fig. 37**) shows only a handful of finds north of the Wash.

The precious cups have therefore helped us to identify a specific mechanism within the otherwise generalised evidence for cross-Channel and cross-North Sea exchange. They mark out a set of sea-faring communities who shared a common understanding of how to engage in such ventures and what propitiatory precautions to take. Through that understanding they were able to maintain more exclusive rights to the network and thus ensure the acquisition of exotics for cosmological purposes (Needham 2000b). This was of multidirectional benefit. The amber so prized at this time in southern England and, to a lesser extent, Armorica was actively procured as raw material from the shores of the North Sea (or beyond in the Baltic) for working locally. This may suggest that, once the medium for transmission could be constructed, it was the western communities who were proactive in procurement, rather than simply receptive to available 'traded' goods.

Conversely, the decorated bronze axes of western origin, once they became known in the east, may have been actively sought for their special aesthetic and magical properties rather than any functional advantage. Tin was valued in the east, at least in part, as a novel and scarce decorative medium.

The hypothesis of the ritual servicing of a maritime exchange network seems to make sense of these extraordinarily unusual and highly crafted objects – the precious cups – which are both comparable to one another and yet individually 'singular' (*sensu* Kopytoff 1986, 73–7; see also Fontijn 2001). Their singular nature stems from the need to produce something which is highly special and community specific – the sacred object of the group (Godelier 1999). Their comparability stems from a common acceptance of the role these vessels needed to play in ensuring the success of a new venture in fostering inter-regional elite interactions. The communities participating in the network understood the need for some commonalities in order to assure their membership of the club, but this did not necessarily mean that all aspects of their respective cultures were similar or became so. Nevertheless, precious cups can be seen to stand at a turning point in the cultural constitution of cross-Channel relations.

What has emerged from the fieldwork around the gold cup's findspot at Ringlemere – a sizeable monument, a major monument complex surrounding that, and fine artefacts of another exotic material, amber – can on the surface appear to be in emulation of the comparable complexes in Wessex. It may be that the regionally large complexes here and at Broad Down, Devon, do reflect some influence from that direction; an active engagement between Wessex and the southern coastal zone is not in doubt. However, our analysis of artefacts contemporary with the precious cups shows that far from the coastal zone simply emulating a Wessex-led ideology, it was developing its own novel and distinctive character featuring, above all, regionally specific rituals connected to maritime exchange. Perhaps initially stimulated by a desire in Wessex to add amber to its ritual riches, the coastal communities began to look ever more to and across the sea to satisfy certain social needs. But this new outlook on the part of the coastal communities was to last and proved to have a profound effect on the longer-term development of Bronze Age culture in north-west Europe.

Chapter 9: Catalogue of Early Bronze Age Precious Cups in North-West Europe

Stuart Needham and Gill Varndell

GOLD CUPS

1. Ringlemere, Woodnesborough, Kent, England

British Museum 2003 5-1 1.

Figs 22 & 40, Pls. 3–12, Colour Pls 1–3

Described fully in Chapter 3

Dimensions

Body

Estimated original height	123mm
Estimated height of lower body to shoulder	78mm
Estimated diameter of rim	109mm
Estimated diameter of top rib (no 19)	84.5mm
Estimated diameter of shoulder (rib 11)	96mm
Estimated diameter of crest of bottom rib	64.5mm
Diameter at base of bottom rib	58.5–62.5mm (→60.5)
Diameter omphalos	12mm
Linear surface distance from rim to carination	58mm (excluding rib/cusp detail)
Horizontal breadth of shoulder	10mm
Depth omphalos	2.0mm
Thickness at rim	0.8–0.9mm
Weight	183.7g

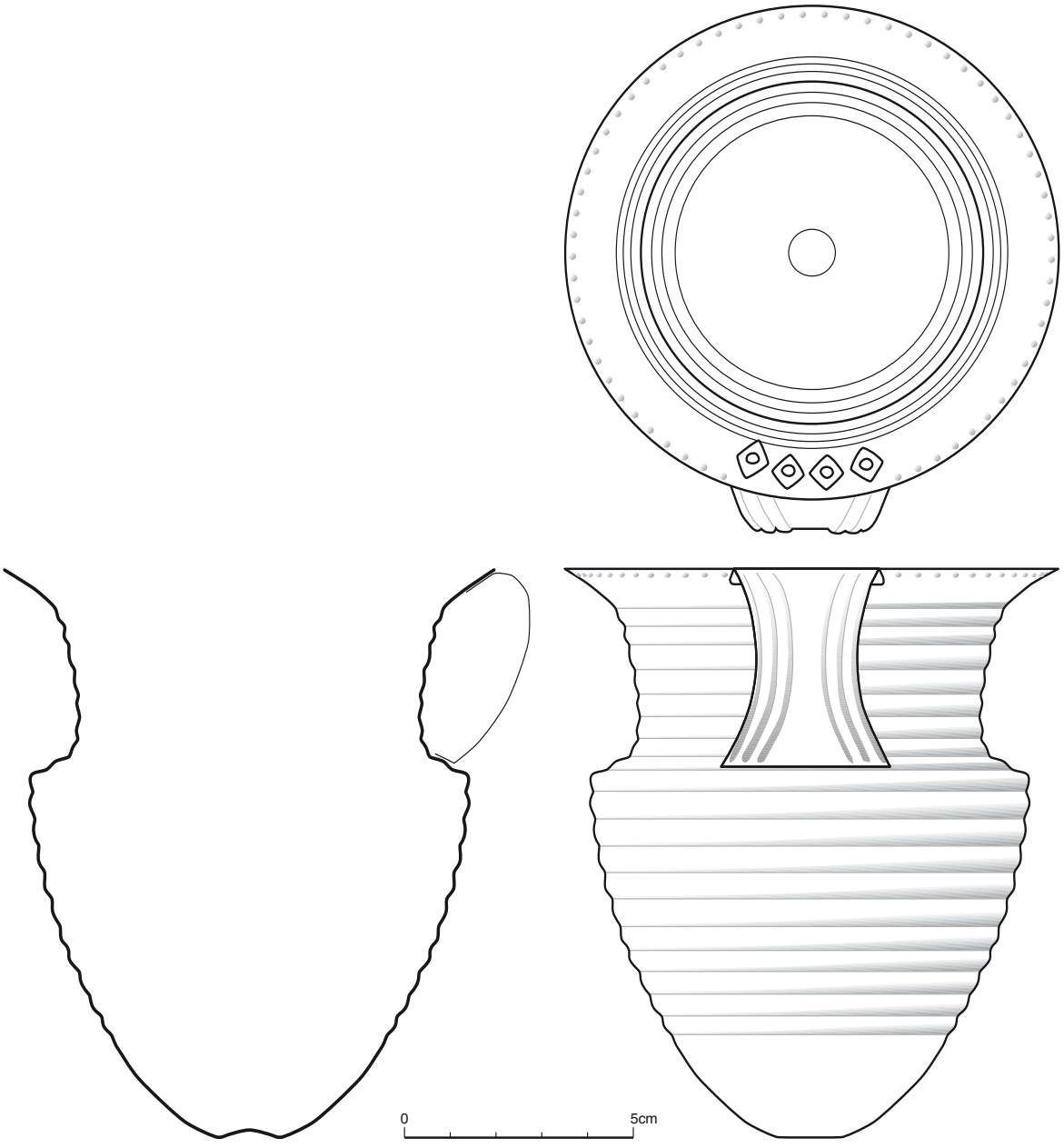


Figure 40 Ideal reconstruction of the Ringlemere gold cup. Scale 67%. [cat. no. 1]

Handle

Surface length (excluding tabs)	52mm
Minimum width	21.8mm
Maximum width (upper tab)	37.5mm
Thickness of handle edge	*c.* 0.3mm
Breadth of groove/rib bands	8–8.5mm
Length of top rivets	*c.* 3.3mm
Diameter of rivet heads	3.0–3.5mm
Length internal washers	9.5–10mm
Width internal washers	7–8mm
Length external washers	8–9.5mm
Width external washers	7mm
Distance between internal washers and rim	1.3–2.9mm
Gaps between internal washers	1.0–2.0mm

Punched dot decoration

62 dots	
Negative imprint diameter	*c.* 0.7mm
Positive boss diameter	1.0–1.2mm
Distance from rim	*c.* 1.5mm

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2. Rillaton, Cornwall, England

British Museum (on loan from the Crown).
Fig. 41, Colour Pls 5–7

Context and circumstances

The Rillaton gold cup was found in 1837 during stone-robbing by workmen of a cairn on Bodmin Moor, Liskeard, Cornwall. A cist at the edge of the mound and above the old ground surface contained decayed human bones (taken by Gerloff to be cremated), the cup, a bronze dagger, a pot, a 'rivet', pieces of 'ivory', and a few 'glass beads'. The last are usually presumed to be faience beads. All but the cup and broken dagger (Type Camerton; Gerloff 1975, 107) are lost. The primary published account is Smirke's (1867), 30 years after the event; in it he notes the probability that the cup was inside a larger pottery vessel with a covering stone; the pot was broken when being disengaged from the stone. All this information derives from the workmen's accounts.

Recently a letter has come to light in the West Devon Records Office in Plymouth from Phipps Hornby to Henry Woollacombe, a Plymouth antiquarian (papers 710/772 – Jane Marchand pers. comm.; Colour Pl. 7). It was written a few days after the discovery, noting that the cup had been found within a ceramic vessel, and lying with it 'a skeleton a sword and a spearhead'. An accompanying sketch of the cup clearly shows a rounded base (Colour Pl. 6). The cairn was on Duchy land and the contents were thus the property of William IV, who died in that year. Hawkes published an account of the subsequent history of the cup insofar as it can be reconstructed (Hawkes 1983). In summary, Queen Victoria and Prince Albert had the cup and dagger in their Swiss Cottage private museum in the grounds of Osborne House; after Victoria's death it was transferred to Marlborough House. George V had it taken to Buckingham Palace where it was kept in his private apartments. The dagger remained at Osborne, wrongly labelled, and was identified by 'the Matron' soon after the death of George V. Hawkes trawled the Swiss Cottage for the missing items in 1936 to no avail. The cup and dagger remain on permanent loan to the British Museum.

Condition

Because of its protection within a stone-lined cist, and apparently also within a pottery vessel, the Rillaton cup has not suffered the gross crushing or distortion seen in some others. Nevertheless, it has had a long history out of the ground and there is a fair amount of damage which could be a combination of both ancient and modern. Post-discovery polishing has left all the high zones of the corrugated topography very bright, while the recesses between retain reddish patina to a variable extent. Inside the mouth and neck polishing is similarly thorough and this has severely rounded the *in situ* rivet and its washer, but it diminishes downwards, as shown by increasing traces of the patina. Some zones, such as close to the rim, are associated with relatively coarse striations (under magnification) and look heavily worn by this polishing; the rim is rounded with tiny scrapes. If earlier use-wear contributed to the wear, which is possible, unfortunately this cannot now be demonstrated. Surface reduction would account for the sudden changes in dot diameter in the pointillé row at the top of the uppermost rib, if these have been truncated and were originally struck to varying depths.

There is a long tear descending from the rim almost to the carination and several shorter ones trapped within the body, all on an approximately vertical axis. Minor buckles and many fine stress cracks frequently border these splits. Elsewhere there are linear zones with similar stress fractures which have not split open. The body generally bears many small dents and buckles.

The handle is in similar condition with transverse instead of vertical cracks; one at least (at its base) ran all the way across. It has also been altered at the top and soldered at both upper and lower fixings as part of a 19th-century (pre-1867) restoration. It now appears, on the evidence of both the watercolour sketch contemporary with the discovery and renewed inspection of the cup, that the handle has been restored wrongly. The watercolour shows the upper handle approaching the vessel at the level of the uppermost rib, not at the rim as currently restored; the tab was then bent upwards to be riveted to the plain band between rim and rib. The upper handle had at some point, probably after discovery, been ripped away from the body; this had left one rivet still clasping a small fragment of the tab *in situ*. That fragment shows an extremely thin edge along the top which would have been the original position of the tab's terminal, running virtually level with the rim. The lower, broken edge of the in situ tab fragment takes a diagonal line which would in fact be joined by the line of the break on the major part of the tab remaining attached to the handle if this were to be turned back upwards, as originally orientated.

The major tab portion likewise has a fine end (now pointing downwards). Because of a tear, it is probably now barely joined to the handle, but the tear has been filled with solder. The two rivets and washers that grip this portion are indeed modern brass (XRF analyses), as implied by the incorrect orientation of the tab. We cannot now know how damaged the original fixings were, but whatever may have remained *in situ* was obviously removed in order to re-attach the upper handle. The bending of the tab through about 180° may have involved some working; this probably accounts for the slightly puckered nature of a 3–4mm band of the handle alongside the rim. Re-attachment also gave rise to several distinctive scratches and gougings on the body surface around the upper rivet line.

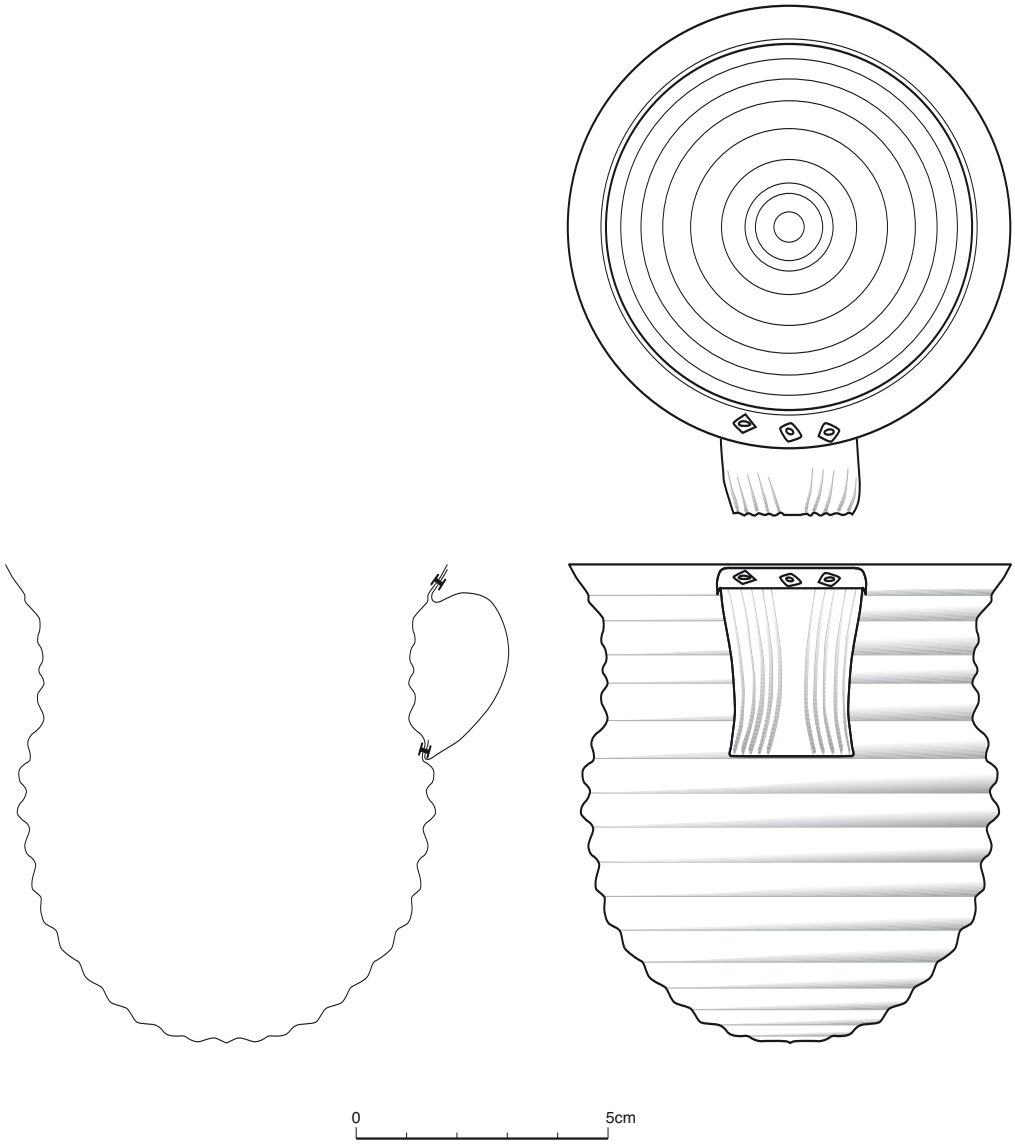

Figure 41 Ideal reconstruction of the Rillaton gold cup. Scale 67%. [cat. no. 2]

The handle had evidently at some stage torn totally away from its lower tab – the latter remains *in situ* with all three original rivets and their washers. Detachment could easily account for small distortions in the body close by and a tear alongside the right-hand end of the tab. A small corner is also missing from the handle side of the break. In order to re-attach it, the handle has been slightly overlapped with the upturned stump from the tab and the gap filled with solder. There are coarse grinding marks running alongside this join and cutting through reddish patina, probably preparing the surface for keying the solder.

The sides of the handle have mini-crimping, denting and burring at intervals and there is too much interference to assess ancient wear. There are, however, two tiny perforations pierced more or less symmetrically through the lower part of the handle which appear to be ancient, for there is no bright metal around them. As often with ancient piercings through sheet metal, the metal around has simply been allowed to split radially where it will, the intervening flaps being pushed inwards. Later the flaps were partially pressed back to close up the holes. They would have been up to 1mm in diameter when open. The handle furrows have been reamed out to varying degrees; on the right side the tool used tends to have left angular edges which interrupt a previously sinuous profile.

An equally important alteration can be shown in the form of the base. There has long been a suspicion that the roughly flattened base is the product of alteration for there are irregularities of various kinds (described below). This has recently found confirmation from the contemporary watercolour sketch. While not precise in every detail – in particular the overall proportions are wrong – this depiction shows the curve of the lower body continuing all the way from rib 11 at the carination to rib 1. It gives the appearance of a flat base inside rib 1, but this could be due to the slightly oblique angle of view. By the time Smirke published a woodcut in 1867 (Smirke 1867), the cup evidently had a flattish base beneath rib 4. This is more-or-less the case today, but in fact circumferential changes in the damaged profile mean that the rib currently acting as 'footring' varies between ribs 3 and 5; Smirke's illustrator may have schematised the situation to make the cup look neat and undamaged. Indeed, just as the earlier watercolour showed the cup a little too fat in the body, this woodcut portrayed it a little too narrow.

In reassessing the nature of distortion in the base zone, an open mind has been kept as to whether the contemporary artist had partly worked from memory and misrepresented the lower body. He had faithfully represented the number of ribs – 16 – and, although the body is shown too fat, he does recognise that there is something of an angle in the profile at rib 11, ie a carination. He also has the handle attached at the correct points

of the profile. It seems unlikely then that the draughtsman misrepresented the lower body to the point that a flattened base inside rib 4 was shown as continuing the rounded profile above. This is strongly supported by examination of the cup itself.

Today the area inside rib 4 is belled upwards – superficially as an omphalos. While a broad omphalos seems to be a feature of the Saint-Fiacre cup, at Rillaton it is associated with other features that suggest another explanation. Firstly, the average plane of the smaller ribs inside is tilted relative to the 'footring' formed by rib 4. Secondly, ribs 4, 5 and one side of 6 have pronounced lobate profiles which are not consistent all round and, indeed, the spatial relationship between these three ribs varies since they fluctuate from the horizontal plane. Thirdly, the character of ribs 1–3 and to some extent 4, is very different from the rest – they are sharply cuspate mouldings rather than the sinuous corrugations of the body. While this distinction could have been a deliberate design feature, this is unlikely because of the poor attention to regularity contrasting with the corrugations. Ribs 1–3 show irregularities in height and sharpness, while there are intermittent subtle angles around their otherwise circular circuits. All of these features can be explained as resulting from forces of tension created during compression of a previously cupped base into the rigid frame created by higher ribs. On this hypothesis the lowest ribs would originally also have been sinuous, but became compressed into ridges. Some of the tension created during compression was relieved by pushing the base right through to form the superficial omphalos.

Description

Working from the conclusions drawn above and the early watercolour, the original form can be reconstructed thus. All ribs were in fact part of a continuously corrugated profile, unlike the cusping ones on the Ringlemere vessel. Their amplitude decreased towards the base, as would be natural and easiest for the craftsman to achieve as the body diameter became progressively smaller. The small zone of 9mm diameter within rib 1 is not securely reconstructed; the current small boss (about 5mm diameter) is rather irregular in shape, but may be distorted by the forces exerted during compression. It is not impossible, however, that this boss is entirely secondary.

Despite the uninterrupted corrugations, the craftsman has been able to give the cup a gently carinated profile in aggregate very similar to many of the parallels; the median line of the profile has the break of angle falling at rib 11. The lower body exhibits a steady convex curve, the upper one a gentle concave curve narrowest at ribs 13 an 14 and expanding upwards to the rim more than downwards to the carination. Only the top 6mm of the wall beneath the rim is free of corrugations. The rim is currently rather rounded, but may once have been more flat-topped.

Aside from the corrugations, the only body decoration is a short stretch of faint and enigmatic pointillé in two rows just below the rim to the right of the handle (Kinnes 1994, A26; Needham 2000a, 41 fig. 13). A longer row of 31 dots extends for 25mm, sited at the crease between uppermost rib and rim band. Immediately below at the handle end is a very short second row of six dots. All are very fine, but under magnification they vary in diameter from 0.1–0.35mm and in detailed shape from oval to round to sub-triangular. It is possible that these have been somewhat truncated by heavy wear/polishing. While this process might account for the total removal of some dots, ie those originally most shallow, the fact that there is no trace of dots anywhere else around the circumference, makes it unlikely that the extant stretch was ever part of a continuous dot row such as seen on most other metal vessels.

The handle is gently waisted in face view, expanding marginally less towards the bottom than the top. The curved sides are outlined by sets of five grooves, between which only a narrow hourglass-shaped panel remains plain. The grooves were originally formed as sinuous corrugations; the cycle of oscillation was not quite complete for the outermost ones. The top of each groove ends in a neat arch apparently undamaged by the reworking just above; the bases are obscured by the reattachment to the lower fixng. Sharp turns at top and bottom of the handle create short tabs which are riveted to the body. Currently both tabs turn inwards, but, as described above, the upper junction is incorrectly restored and the tab originally turned upwards after the handle met the body at the top of the top rib. The early illustration shows the handle to bell up a little from the upper fixing, before curving round to the lower one. However, this could already have been pushed in towards the body wall and our ideal reconstruction (**Fig. 41**) offers a more bulbous profile with a more horizontal top.

The lower fixings are all *in situ*, three rivets in a line, as is one of the upper rivets. All have lozenge-shaped washers inside and out, the former aligned vertically, the latter horizontally because of the confined space given by the tabs.

Dimensions

Body

Present maximum height (rim to rib 4)	84mm
Estimated original height	95mm
Diameter of rim	84–87mm (→85.5mm)
Diameter of neck (rib 14)	68.5–73mm (→70.5mm)
Diameter rib 12	72.3–73mm (→72.5mm)
Diameter carination (rib 11)	76.5–79mm (→77.5mm)
Diameter rib 8	72.5–73.5mm (→73mm)
Diameter rib 6	56–63.5mm (→60mm)
Diameter rib 4	41.5–42.5mm (→42mm)
Diameter rib 3	31.5–32.5mm (→32mm)
Diameter rib 2	19.5–21mm (→20mm)
Diameter rib 1	9.5–11mm (→10mm)
Thickness rim	0.3–0.5mm
Thickness body (crack above carination)	0.1–0.15mm
Weight	76.6g

Handle

Maximum extant width of handle top	25.3mm
Maximum extant width handle bottom	24.5mm
Minimum width	21.1mm
Surface length (excluding tabs)	*c.* 48mm
Thickness	0.1–0.2mm
Internal rivet-head diameters	*c.* 2.0mm
External rivet-head diameters	*c.* 2.5mm
Rivet lengths	*c.* 2.2–2.5mm
Measurable rivet washers: lengths	4.9–5.5mm
widths	3.5–4.2mm

Composition

Body: silver *c.* 10 %, copper 0.7 %, tin 0.2 %, antimony trace
Handle: silver *c.* 25 %, copper 0.38 %, tin 0.082 %, nickel trace
(Hartmann 1982, 100 tables 6 & 7, Au 3113, 3114)

Manufacture, wear

The original handle arrangement, although not known on any of the parallels, would certainly have made the fixing of the upper tab easier. The lower one would be riveted in place first, then the handle bent round with its upper tab already bent upwards. The upper riveting could be done before the handle was manipulated into the desired profile, thereby giving more access to the outer rivet heads.

Of the original rivets, only the inner head of the upper one shows significant wear. A possible combination of modern and ancient wear has burnished the head almost seamlessly into the washer, and heavily rounded off the latter. If this has occurred entirely since discovery, it must have happened in the very early years before restoration, for otherwise one would expect to see more rounding of the modern rivets alongside. It seems more likely that at least part of the marked wear evident is indeed ancient and due to repeated cleaning of this very exposed location just inside the flaring mouth.

The external head of this upper rivet has fairly crisp edges and is proud of the washer which itself has crisp corners and angles. This contrasts sharply with its inner head. The external head therefore escaped significant denudation in both the 19th century and antiquity. This is not entirely surprising as it would have occupied an acute angle between rim and upper handle, even though not tucked beneath the handle. A further ancient feature here is the occurrence of striations in varied directions across the washer, for they must precede insertion of the rivet.

The three original rivet/washer emplacements in the lower row exhibit similar lack of appreciable rounding both internally and externally. These, however, occupy zones that may not have experienced cleaning (ancient or modern) as regularly or thoroughly as other areas.

3. Fritzdorf, Rhein-Sieg Kreis, Nordrhein-Westfalen, Germany

Rheinisches Landesmuseum, Bonn. Description based on von Uslar 1955 plus inspection through glass case.

Fig. 42, Colour Pl. 8

Context and circumstances

The cup from Fritzdorf was found in 1954 inside a pottery vessel. Gerloff (1975, 190) states that this was found under a stone but there is no mention of the stone in von Uslar's account (1955). The discovery was made during turnip-digging and the ceramic vessel was destroyed; only a few sherds remain. Investigation of the surrounding ground surface revealed no more material; the region had produced few prehistoric finds.

Condition

The vessel is complete and the only significant damage is a limited tear into the rim opposite the handle. Nearby, a stretch of rim is rather crinkly, while there are lots of minor dents and buckles across the surface of the body.

Description

The overall form is rather squat, a near hemispherical lower body being surmounted by a concave necked upper part of lesser depth. The roundedness of the lower body is interrupted only by a neat small central omphalos. The profile of the carination is a little variable around the vessel. Where least damaged by denting, to the right of the handle, it appears as a fairly well defined angle; elsewhere the angularity, if originally present, has been smoothed. The neck profile is not an even curve; instead there is a tighter curve low down which generally creates a sloping shoulder down to the carination. Locally (opposite the handle) this is more accentuated by the hint of a crease separating shoulder from neck. Similarly at the top of the neck the curvature becomes stronger as it flares to the rim. The mouth stands at an angle of about 45°.

The handle is a ribbon of sheet metal, symmetrically waisted in face view with gracefully curved sides. The latter are each outlined by bands of three grooves which are in fact neat corrugations of the metal such that they appear in opposite relief on the under side. The handle edges are thin. In profile the handle has a rather slack curvature keeping it relatively close to the body wall. The two end tabs are turned sharply inwards to align with the respective parts of the wall for attachment. These sharp turns give rise to a straight fold which does not match the curve of the rim and carination respectively; hence, while the handle's corners are set close to rim or carination, respectively, in the middle they are 2–3mm adrift. The handle tabs have a straight end with rounded corners.

Attachment to the body is by means of a row of four rivets top and bottom, each rivet clasping a washer both internally and externally. The washers are of a consistent rather rounded diamond shape, but while those under the handle are all horizontally set because of the limited space available, on the inside of the vessel the lower row is horizontal and the upper aligned vertically. Visible rivet heads show minor cracks and irregularities around their lips, undoubtedly formed during clenching.

Two rows of dots have been punched from the outside immediately below the rim. The rows are not entirely parallel to the rim, and the dot spacing is not especially regular. There are 105 dots in the upper row and 95 or 96 in the lower row, being variably aligned with or staggered from the former. The dots cease at the handle and the rows curl up a fraction indicating that this decoration was executed after the handle was fixed.

Dimensions

Body

Height	121mm
Diameter of rim	116mm
Diameter of carination	122mm
Diameter of omphalos	14mm
Rim thickness	0.6mm
Wall thickness	*c.* 0.3mm
Weight	221g

Handle

Width handle feet	37mm (upper), 36mm (lower)
Width handle waist	20mm
Rivet head diameters	2.5–4mm
Washer dimensions	9 x 7mm

Composition

Silver *c.* 12 %, copper 0.22 %, tin 0.006 %, nickel not detected (Hartmann 1970, 100 table 10, Au 1262)

Manufacture, wear

No evidence recorded.

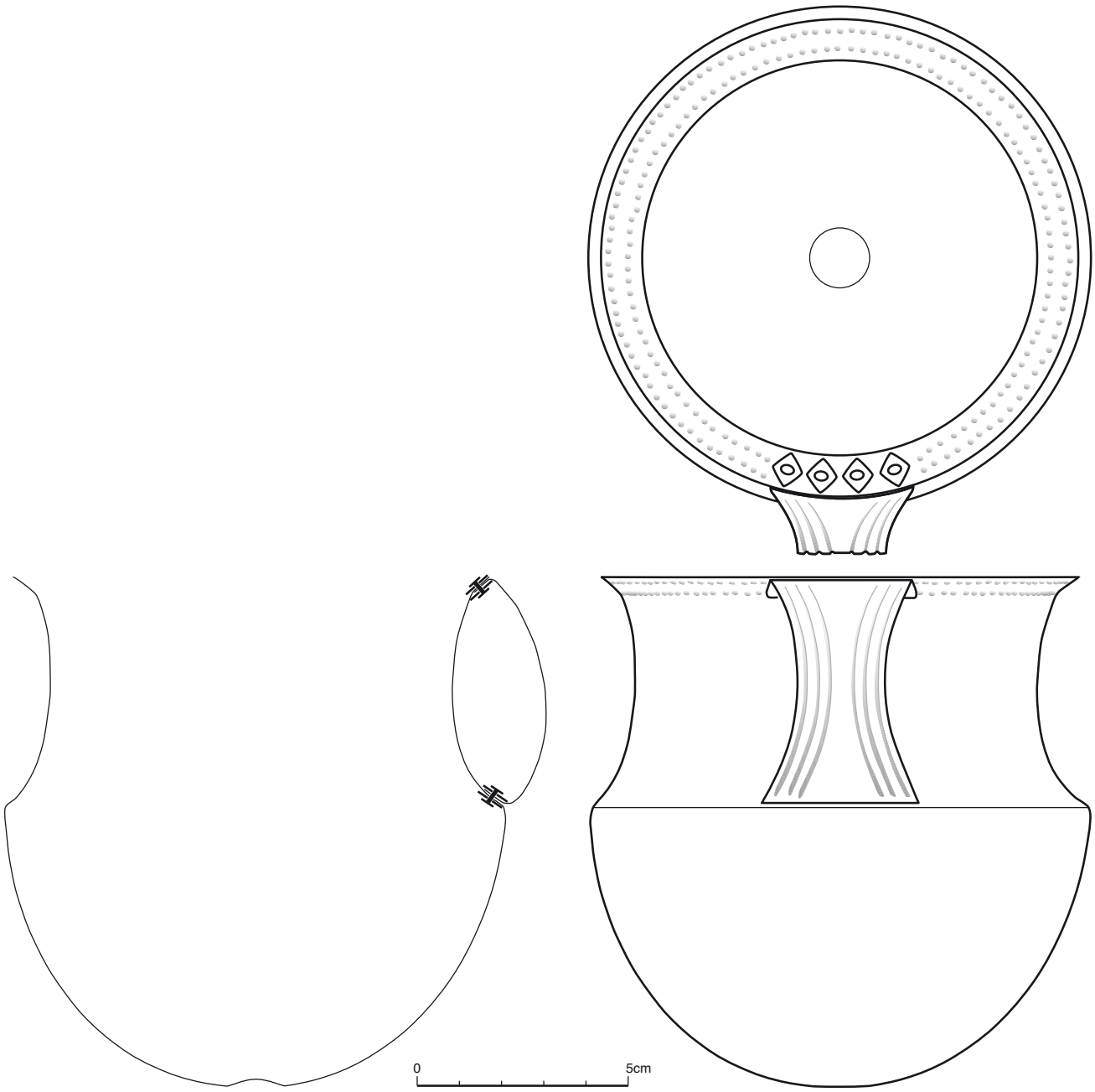

Figure 42 Ideal reconstruction of the Fritzdorf gold cup. Scale 67%. [cat. no. 3]

4. Gölenkamp, Kr. Grafschaft Bentheim, Niedersachsen, Germany

Private collection (Schloss Burgsteinfurt). Studied by kind permission of the owner whilst on loan to the Germanischen Nationalmuseum, Nürnberg.

Fig. 43, Colour Pl. 9

Context and circumstances

In 1840 a gold vessel was found during sand extraction on the Spöllberg at Gölenkamp. It had been placed as a cover on a ceramic vessel which does not survive (Fröhlich 1992). There had been eight burial mounds at Gölenkamp; mound 1 – considered to be the likely findspot for the cup – was dug into at some time before 1877 and about a third of it removed. A Dr. Müller completed the excavation in 1877, fully demolishing the mound. Mention was made of an urn beneath a large stone, charcoal and cremated bone.

Condition

Generally the vessel has retained its original shape with only minor disfigurements. However, while the ribbed parts have suffered limited denting due to their rigidity, the plain lower wall shows copious denting which becomes progressively worse lower down. The wall meets the flattish base in a rough and variable obtuse angle; immediately inside is a variably sharp groove before the neat concentric base ribs. It is considered that the 'base angle' and internal groove are largely the products of distortion, the body having been compressed a little at this point of the profile. However, since there is no evidence of gross distortion of the base itself (just minor dimpling of the central roundel), it would appear that its current very slightly convex form is original.

The rim exhibits minor crimping all round and there is a 35mm stretch with a more ragged indent.

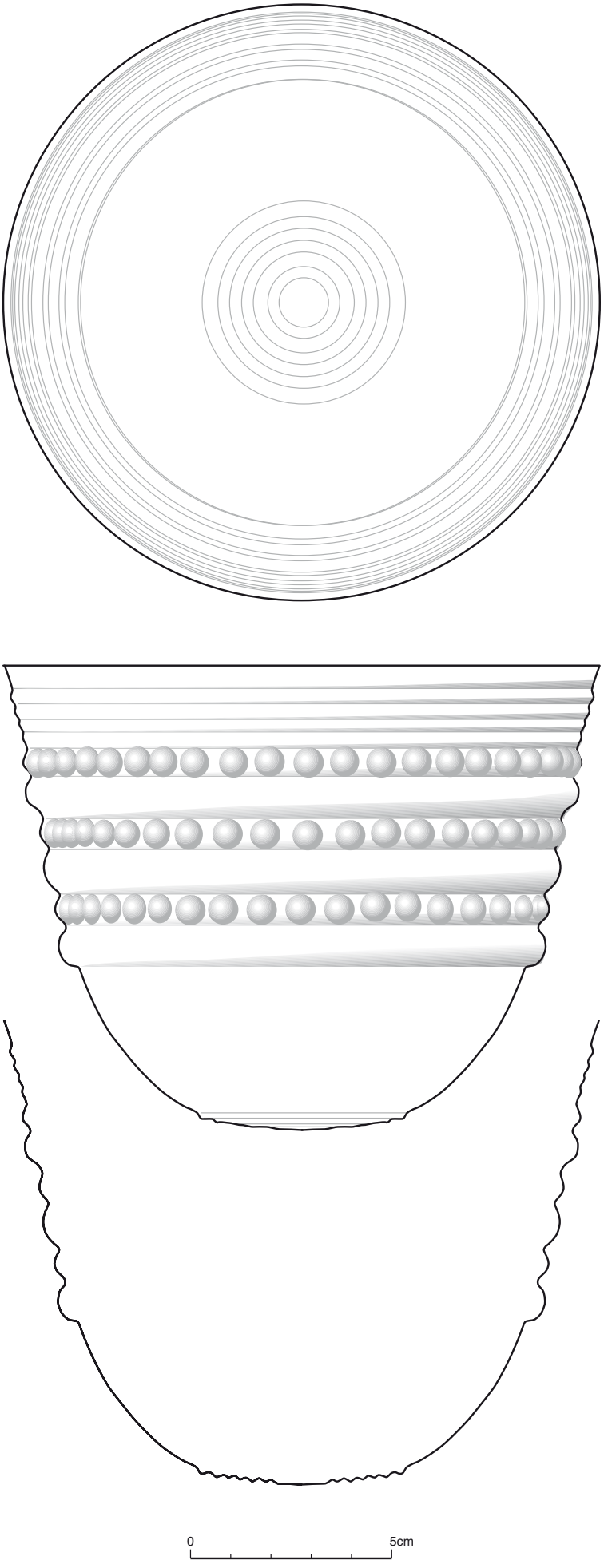

Figure 43 Ideal reconstruction of the Gölenkamp gold cup. Scale 67%. [cat. no. 4]

Description

A slightly convex base comprises a central roundel and six encircling ribs. The first five are of similar dimensions, up to 0.5mm in amplitude each, but the outermost one is larger, even when measured from the internal groove. The best reconstruction of the lower wall has it springing from outside the sixth rib initially at a wide angle, but rapidly and smoothly curving upwards. It meets the first rib in a crisp angle at about one-third of the height of the body. Three stout horizontal ribs alternate with boss rows and this is capped off with a band of four corrugations of similar amplitude to the basal ones. The stout ribs are all of neat hemispherical profile, but vary in detailed dimensions; average widths are between 9.5–10mm, while the height of the lowest rib, up to 3.8mm, contrasts with the other two, up to 2.5mm. The bosses are sub-conical and are also more consistent from row to row with typical diameters of 7mm in the uppermost and 8mm in the others. Because of the contracting circumference of the vessel the number of bosses accommodated falls from 54 at the top to 46 and then 41. They are mainly near-contiguous and one pair in the top row is particularly tightly set.

Dimensions

Present height	114.5mm
Estimated original height	116.5mm
Diameter of mouth	147.2 x 151.2 (→149mm)
Diameter beneath lowest wall rib	*c.* 112.5–114mm
Diameter outside outer base rib	53mm
Diameter of base roundel	15.5mm
Thickness at rim	0.4–0.5mm
Weight	255g

Composition

Silver *c.* 24 %, copper 0.46 %, tin 0.077 %, nickel *c.* 0.03 % (Hartmann 1970, 108 table 14, Au 1756)

Manufacture, wear

The angles flanking the stout body ribs have been given extra definition by punching from the outside – linear tool-marks can be seen. This appears to have been done at a late stage for the punching tends to impinge on the boss edges top and bottom.

The insides of the bosses have a 'double-action' profile with a deeper indent at the centre of the shallow cone. The deeper part is actually consistently off-centre downwards and this is very likely due to having been struck by an obliquely set narrower punch coming in from above the rim opposite. It is possible this was a secondary action to the initial basic formation of the conical bosses to give them better definition.

5. Eschenz, Kanton Thurgau, Switzerland

Museum des Kantons Thurgau, Frauenfeld. Studied with the permission of Jost Bürgi whilst on loan to the Germanisches Nationalmuseum, Nürnberg.

Fig. 44, Colour Pl. 10

Context and circumstances

The gold vessel from Eschenz was found in 1916 during railway construction; it entered a private collection where it went unnoticed until 1974, when it was given to the Museum of the Canton of Thurgau (Menghin and Schauer 1983, 71). Hardmeyer and Bürgi (1975) noted that no accompanying objects had been observed. The Eschenz region is at the outflow of the Untersee into the upper Rhine.

Condition

Generally the body is in good condition, but it is suggested that the currently flattened base zone, containing up to seven corrugations, is a result of subsequent pressure. The micro-topography of the corrugations in this zone is rather erratic and some of the amplitudes between crest and furrow have been exaggerated by the compression of an overall curved profile into a flattened plane. Inside the smallest definite rib, there is an area of complex topography about 18mm in diameter (Hardmeyer and Bürgi 1975, 112 abb. 6; Bürgi and Kinnes 1975, pl. IX lower). Although it includes some roughly concentric raised rings, they bifurcate and have lateral spurs; on balance it is thought more likely that these have arisen from the compression of a plain well-domed surface.

There has also been a tiny amount of compression in the neck causing the narrowing of greater or lesser parts of two adjacent furrows. Slight undulations in the line of the rim, as seen in profile, are associated with buckling. There are other localised elements of damage that have disfigured and occasionally obliterated embossed features.

Description

Since there is no evidence for a flat base, the lower body would have described a graceful parabolic curve interrupted just above the mid-point by a gentle, but distinct change of angle. This carination is in fact emphasised by a rib. Above, the neck has a gentle concave curve expanding towards a moderately out-turned mouth.

The convex basal roundel was enclosed by a zone of six small corrugations. These are now much distorted, but were probably fairly regular in their execution and spacing. Immediately above is a single row of 33 sub-conical bosses, each around 3.7mm in diameter and up to 0.8mm in relief. Their tops tend to be slightly flattened and one has been double-struck.

A single rib divides this lower boss row from a deep field comprising four panels of diagonal ribs. The latter are 2–3.5mm broad and form continuous corrugations within their near-rectangular frames. The vertical divisions between panels are broader ribs, 4–6.5mm wide and generally tapering downwards, and are further defined by small flanking furrows. The latter tend to have a shallow V-profile with a crease along the bottom.

Between these hatched panels and the carination a neatly cabled rib is underlined by three plain ribs and topped with a fourth. The individual 'twists' of the cable have a subtle S shape and are 3–3.5mm broad. Next, at the carination, there is a more pronounced rib with a row of bosses both above and below. The rib is rounded in profile where well preserved, 5.5mm broad and up to 2.3mm in relief. The flanking boss rows are different from one another: the lower one has 45 sub-conical bosses which are mostly contiguous, 5.5–6mm in diameter and up to 1.3mm high; the upper one has as many as 83 smaller hemispherical bosses, again contiguous, 4mm in diameter and at most 0.5mm in relief. The boss counts given include one and two respectively where damage has effectively erased bosses, as well as two unusually closely set in the lower row. There is also a double-struck boss there.

The neck is less complicated in design, the morphology being simply a continuous sequence of 12 corrugations.

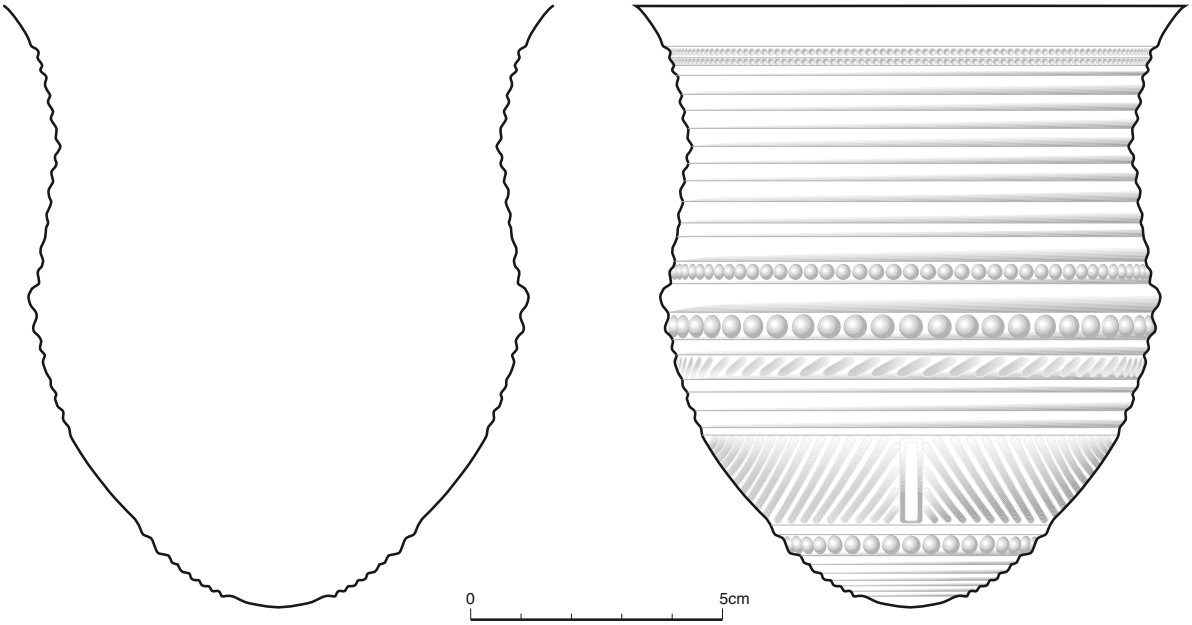

Figure 44 Ideal reconstruction of the Eschenz gold cup. Scale 67%. [cat. no. 5]

However, the top two grooves have rows of punched dots along them and are a little narrower than the others, perhaps as a result of the punching having deepened the groove. Although fairly evenly spaced, the dots appear to have been individually punched with a circular, slightly domed tool point. Under magnification spacing is not especially regular and they are not especially well aligned. Dot positions in one row are not in phase with those in the other; indeed, while spacing is mainly between 4–4.5 dots per centimetre in the upper row, it is between 5–5.5 in the lower.

Finally, at the mouth is the only plain band on the whole vessel, around 10mm deep. At its base, immediately above the dotted grooves, there is an inconsistent and extremely light crease. The rim is flat-topped with minor facets. The metal at the neck is seen (through small tears) to be much thinner than at the rim.

Dimensions

Present height	111mm
Estimated original height	118mm
Diameter of rim	110mm
Diameter of neck	*c.* 90mm
Diameter of carination	97–100mm (→98.5)
Present diameter of flattened base	43.5mm
Diameter of rib encircling original base roundel	22mm
Thickness of rim	0.8–0.9mm
Weight	136g

Composition

Silver 25 %, copper 0.45 %, tin 0.02 % (Hartmann 1982, 100 table 7, Au 4902)

Manufacture, wear

No evidence was noted.

6. Lan ar Croaz, Ploumilliau, Côtes d'Armor, France

Lost; description based on Anonymous 1886
Fig. 45

Context and circumstances

The gold vessel portion from Lan ar Croaz was found in the mid-19th century and melted down soon afterwards; only a drawing of the portion survives (Eluère 1982, 102 fig 122). A gold spoon was discovered at the same time and acquired by the Bibliothèque Nationale. The find circumstances and exact provenance are far from clear (Briard 1965, 76), though Briard (1984, 223) notes that the find was made in 1840 'near' the tumulus of Le Roudoulu, and admits the possibility that the objects might have come from a burial.

Condition

Apparently the upper half of a two-part vessel. The depiction shows no obvious damage to this portion.

Description

The upper body had a smooth concave profile, the curvature evidently increasing towards a well out-turned rim. A row of close-set fine dots is shown immediately beneath the rim, presumably representing pointillé ornament. This is interrupted on the far side by a row of seven larger features which can be interpreted as rivet heads for securing a handle, as seen on some of the other metal cups. It is possible that these represent both rivets and washers, but if so the latter are small and seemingly round.

The bottom edge is apparently neatly fashioned and is angled inward relative to the main profile. The flange thereby created is deep enough to accommodate a row of rivet holes, 13 of which are depicted. The lower body would therefore have been a separate piece of metal joined immediately below a carination by rivets, a construction otherwise only known on the Saint-Adrien silver cup. Briard recognised the strong similarity between these two examples (1984, 134–6). The handle could have been a third separate component, riveted to the body at both ends. However, the analogy with Saint-Adrien allows an

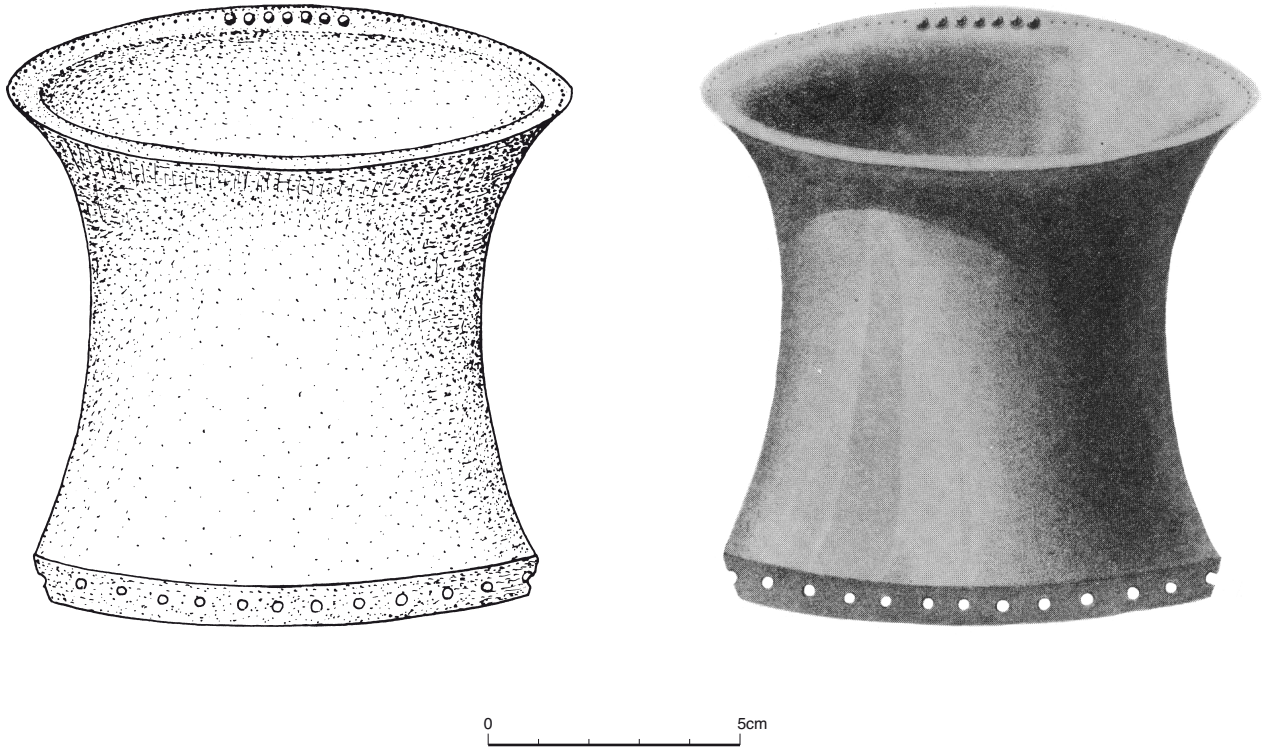

Figure 45 The Ploumilliau gold cup, upper body only (after Briard 1984, 134 fig. 83.4 and Eluère 1982, 102 fig. 122). Scale 67%. [cat. no. 6]

alternative possibility in which the handle would have been a linear extension drawn out from one side of the lower body, thus requiring fixing only at its top end, close to the rim. That such a lower component could be achieved is demonstrated not only by the Saint-Adrien parallel, but also by the associated spoon or ladle at Ploumilliau itself (Eluère 1982, 103 fig. 123). Other than the obvious fact that its bowl is elliptical rather than round, this object would have closely resembled the form of the cup's lower body plus handle prior to assembly.

Dimensions

Height of portion	*c.* 90mm
Maximum diameter (rim)	*c.* 110mm

Manufacture, wear

None known.

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7. No provenance ('South Germany')

Private collection (Switzerland). Description and drawing based on Wamser and Gebhard 2001.

Fig. 46

Context and circumstances

This cup came to attention relatively recently when it was displayed in the Museum für Vor- und Frühgeschichte, Munich in 2002 in the context of a special exhibition, *Gold: Magie Mythos Macht*. At the time of writing it is in a private collection; its provenance is unknown but said to be South German.

Condition

There appears to be no loss, but there is a significant amount of buckling around the rim and part is crushed downward a little. The lower body also shows denting and a small degree of distortion, but the major part of the body appears to have suffered little damage.

Description

The lower body is strongly convex, curving in to a rounded base. If the base is flattened at all, this must be confined to the small central roundel which is encircled by concentric rilling, or corrugations. Approximately half-way up the vessel the profile angles at a moderate carination emphasised by a double corrugation with a third corrugation immediately above. The wall contracts gently and steadily to the neck, this part being occupied first by a shallow plain zone then by three more corrugations. Above, the body evidently flared strongly towards the rim, even allowing for some exaggeration caused by later pressure. Currently the rim, which is thin and simple, fluctuates around the horizontal.

The concentric corrugations already described with the addition of a single one a little below the carination divide the wall into four registers, three of which contain more elaborate decoration. The deep basal register has four broad vertical bands of vertical rills. These leave blank triangular fields in between as the body expands; each triangle is topped by a single horizontal rill. The register above is shallow and occupies the girth of the vessel. Positioned directly above each of the rilled bands below is an elongate oval motif, defined by a groove into which dots have been punched. The intervening gaps are filled with vertical rills, these therefore being offset from the comparable panels below.

The uppermost decorative register, from neck to rim, employs yet different motifs, but again utilising pointillé rows. Immediately under the rim are two delicate rows punched from the outside. Suspended from this are perhaps 16 pendant triangles, the double dot rows here being set in double grooves.

There is no evidence for a former handle.

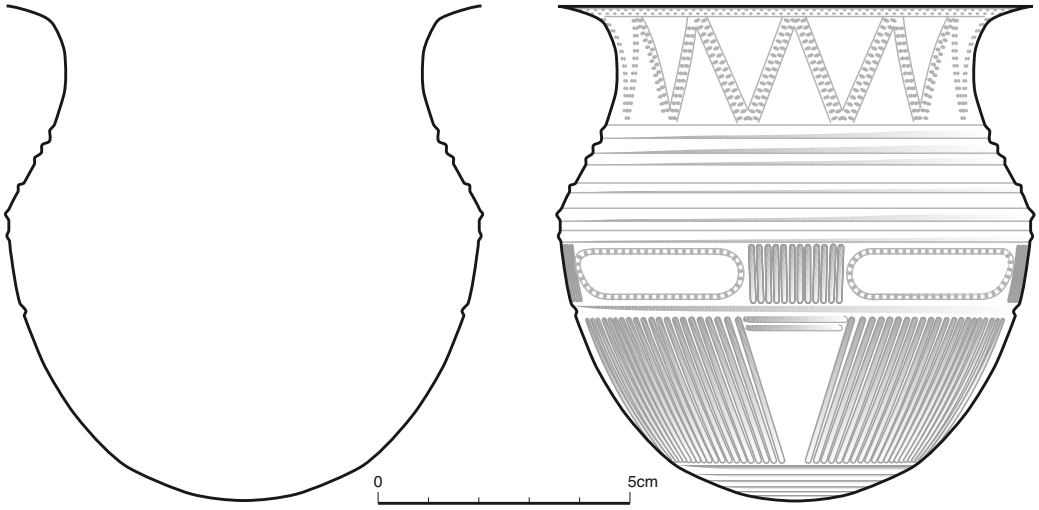

Figure 46 Ideal reconstruction of the unprovenanced, possibly German gold cup (based on Wamser and Gebhard 2001). Scale 67%. [cat. no. 7]

Dimensions

Present height	*c.* 98mm
Maximum diameter (carination)	*c.* 94mm
Weight	*c.* 90g

Manufacture, wear

Nothing known.

SILVER CUPS

8. Brun Bras, Saint-Adrien, Côtes d'Armor, France

Laboratoire d'Anthropologie, Université de Rennes. Description and drawing based on Briard 1978, Briard 1984 and Clarke *et al.* 1985.

Fig. 47, colour Pl. II

Context and circumstances

A number of fragments of a silver cup came from the tumulus of Brun-Bras, Saint-Adrien. The cup was restored sufficiently to obtain a profile (Briard 1984, 134 fig. 83 1–3, 225–6). The tumulus was excavated in 1974; it comprised a barrow with a central cairn over a wooden mortuary structure set in subsoil. Traces of a wooden box or coffin were found against the north wall; the cup is thought to have lain near the head of the corpse which had totally decayed. The grave assemblage included 20 flint arrowheads, a bronze flat axe and a dagger of which the hilt had been decorated with tiny gold nails; 5 small gold roundels (probably 6 originally) may have decorated the hilt or blade. A second dagger lay outside the coffin. A date of *c.* 2160–1920 cal. BC (at 2 sigma) was obtained from oak charcoal from the coffin or from the surviving lining of the mortuary structure; this may be a little early (Needham 2000b, 160).

Condition

Very corroded and fragmented vessel, now reconstructed; about 50% missing. More than half of the handle is also lacking; this is the upper part including the riveted fixing to the mouth.

Description

Enough survives to be confident of its shape and its construction from two portions. The lower body is hemispherical with no indication of any flattened area or omphalos, although this might conceivably be on a missing fragment. It terminates at a horizontal 'rim' which externally overlaps the upper body to allow riveting. At this junction the upper portion has an angled flange thus creating a moderate carination; the lower body projects just beyond the overlap.

The rivets are washer-less and are not entirely regular in spacing or alignment. They continue across the base of the

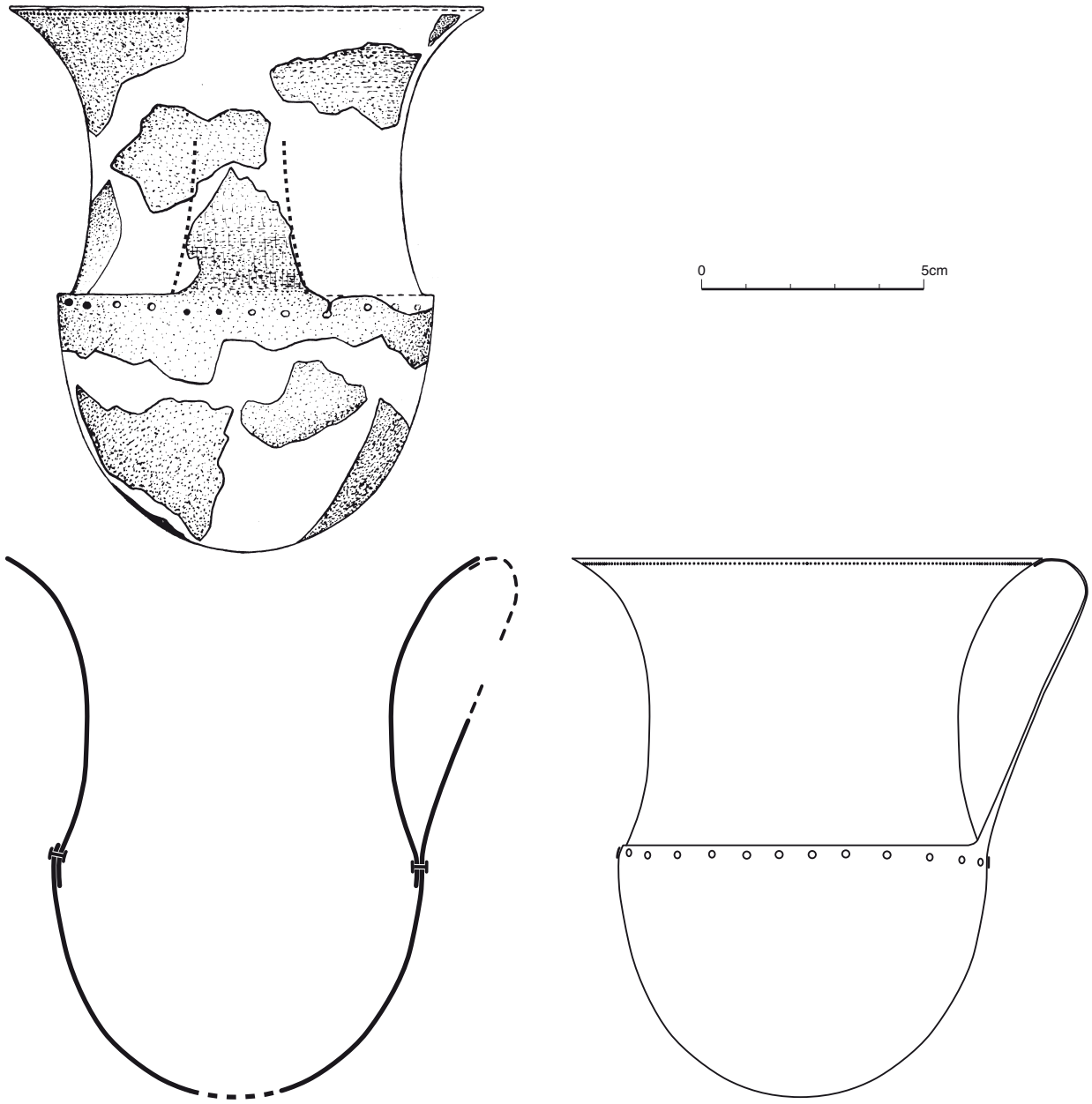

Figure 47 Ideal reconstruction of the Brun Bras, Saint-Adrien silver cup. Scale 67%. [cat. no. 8]

handle which is a strip drawn out from the metal of the lower body. In profile the handle diverges slightly from the line of the body below; its shape is otherwise uncertain due to poor condition. One rivet emplacement appears to survive on a rim fragment where the handle would originally have been fixed.

The upper body has a continuously curving profile, accentuating towards a well flared mouth. Immediately below the simple rim is a row of very fine pointillé. Briard also mentions that there are traces of such decoration on the handle (1984, 225; also Clarke *et al.* 1985, 310), but the lay-out is not shown.

Dimensions

Reconstructed height	122mm
Reconstructed rim diameter	106mm
Reconstructed neck diameter	70mm
Reconstructed carination diameter	86mm
Thickness	*c.* 1mm

Manufacture, wear

Nothing known.

9. Saint-Fiacre, Melrand, Morbihan, France

Ashmolean Museum, Oxford: 1926.147

Fig. 48

Context and circumstances

The tumulus at Saint-Fiacre-en-Melrand produced fragments of a silver vessel when excavated in 1897 (Aveneau de la Grancière 1898). The surviving plan is not very detailed (a schematic version is published by Needham 2000b, 173 fig 13). The tomb was a dry stone chamber covered by a granite slab; the wood-lined floor rested on a paved area laid on the old ground surface (Briard 1984, 292). Associated with the cup was a rich assemblage: a *Vollgriffdolch (*Rhône type*)*, the blades of some nine more daggers, two bronze axes, two bronze arrowheads and an amber bracer-ornament, as well as a number of small gold-wire nails undoubtedly from a dagger hilt. No skeletal remains survived, but it has recently been suggested that these may represent accumulation from a few successive burials rather than a single grave group (Needham 2000b, 168–76).

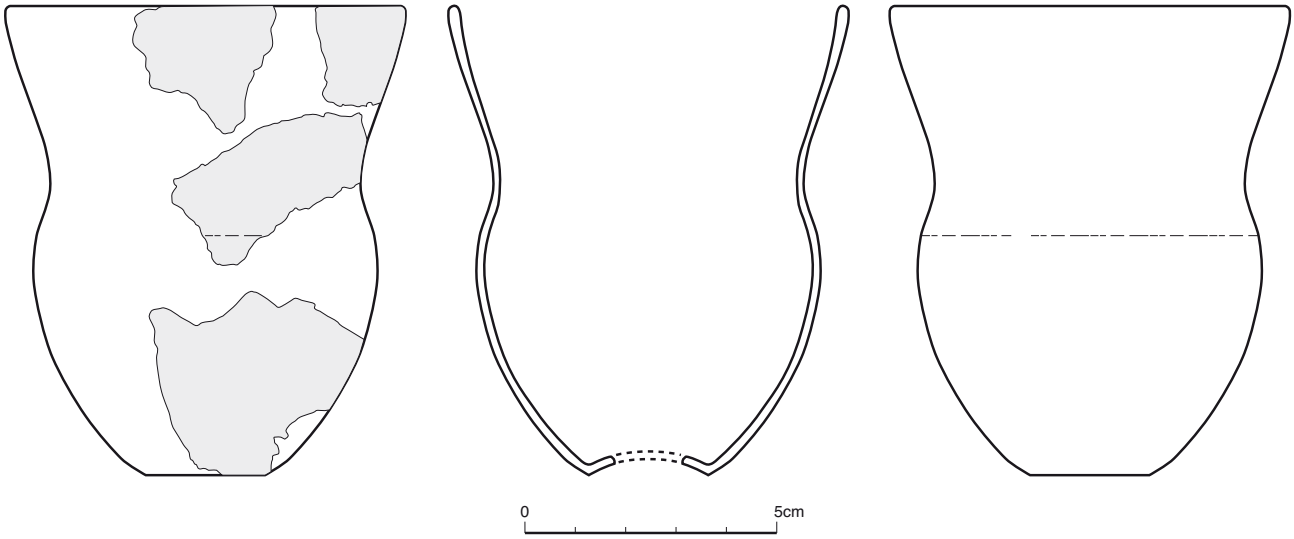

Figure 48 Ideal reconstruction of the Saint-Fiacre silver cup. Scale 67%. [cat. no. 9]

Condition

The vessel is represented by a number of small fragments of sheet silver, virtually none joining one another; six larger ones are useful for reconstruction. Some fragments are thin without significant corrosion, others are thickened locally by lamination and extrusions. At the time of excavation, Aveneau de la Grancière (1898, 88, 93) thought the fragments to be bronze which had totally lost its patina. He attributed this to the action of fire despite the fact that no associated objects had been burnt. He noted that the fragments disintegrated at the slightest touch and were too broken up for reconstruction. Historically, whilst in the care of the Ashmolean Museum, they have been attached to a wooden core shaped to the form the cup was thought to take. However, renewed study suggests an alternative shape.

Description

The former reconstruction has a sub-conical lower body with rounded base, a sloped shoulder above a rounded carination, and a moderately flared upper body from neck to rim. The strong shoulder depended on a fragment with one edge turned through about 70° (and actually quite angular). However, there is another fragment with a much more subtle bend in profile, *c.* 30°, and the stronger bend is associated with a curvature far too tight to easily be accommodated at the carination. Assuming neither of these is distorted significantly, they come from different parts of the vessel and are best accommodated at carination and base respectively.

The longer profile springing from the strong bend representing the foot is convex and must belong to a sub-conical lower body. The best angle for the latter suggests that the base itself was raised internally, creating an omphalos. The lower wall rises thence in a gentle convex curve to a weak carination perhaps half-way up the profile. Very little of the carination itself survives, but the adjoining wall above is clearly concave. Contraction to the neck would have been limited before curving outward to a modestly flared mouth. Three fragments are likely to be rim sherds; that in the best condition thickens gradually towards the rim, although there is some minor lamination associated at the top. The flared mouth appears to have had marginal convexity. Away from the rim, the wall is of constant thickness.

There is no sign of a handle, but that could be due to the high degree of loss.

Dimensions

Reconstructed height	*c.* 93mm
Reconstructed rim diameter	*c.* 80mm
Reconstructed neck diameter	*c.* 62mm
Reconstructed carination diameter	*c.* 68mm
Reconstructed foot diameter	*c.* 25mm
Rim thickness (?corrosion thickened)	2.5mm
Wall thickness	*c.* 1–1.5mm

Manufacture, wear

Nothing observed.

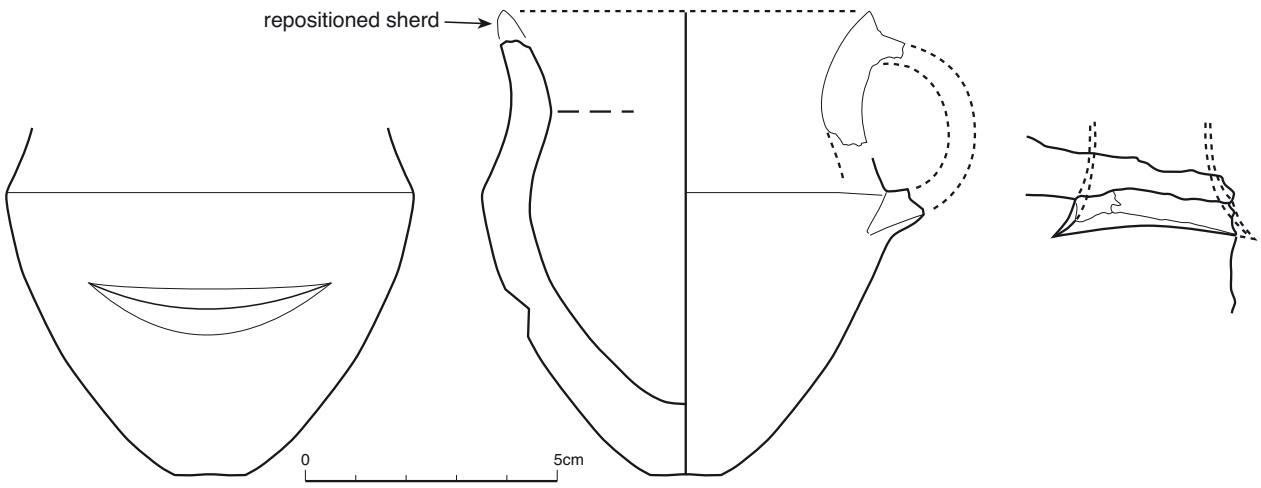

Figure 49 Ideal reconstruction of the Clandon amber cup. Scale 67%. [cat. no. 10]

AMBER CUPS

10. Clandon barrow, Martinstown, Dorset, England
Dorset County Museum, Dorchester.
Fig. 49

Context and circumstances
This amber vessel was found in 1882 in a barrow opened by Cunnington at Clandon (Winterborne St. Martin 31; Grinsell 1959). Drew and Piggott in their 1936 review of Cunnington's unpublished records note that his written account and his sketch do not always tally. The barrow stood 18½ feet (5.7m) high and Cunninton's trench struck a shallow flint 'cairn' at 7 feet (2.15m) down (**Fig. 34**). Scattered over this were a bronze dagger (of Gerloff's Armorico-British B, Cressingham type), a gold lozenge plaque, and a shale macehead with jet and gold stud fittings. The amber cup was in fragments, 'scattered amongst the flints and spread over a surface of two feet' (Cunnington's record, quoted in Drew and Piggott 1936, 19). An accessory cup was in scattered pieces beneath the cairn at a level still well above the old ground surface. A Collared Urn, crushed and resting on a 'thin stratum of ashes and small flints', was found 'at six feet from the centre surface and a foot from the flints' (ie a foot from the flint cairn). No human bone, cremated or otherwise, appears to have been recorded in any firm association with the amber cup and the other artifacts scattered over the cairn and this has invited comparison with other non-grave deposits of valuables at burial sites (Needham 1988a, 241; Woodward 2000, 105).

Condition
The surface is corroded to a very matt orangey-brown colour and appears lustreless under reflected light. Nevertheless, when light is shone through it from the inside the original amber is still semi-translucent. There are small pock-scars, but otherwise the surface is largely smooth polished despite much fine crazing.

The sherds recovered represent roughly 75% of the original vessel and they survive in an early restoration. A significant portion of the upper body and rim is lacking and only two limited parts are filled in order to attach or secure the projecting rim sherds. There are also three tiny areas of infill on the upper body and three more, larger ones where sherds are missing in the more complete lower body. Some of these areas of infill are shown as unshaded zones in a pencil sketch in the Cunnington archive. This sketch would have been done by Cunnington's daughter, Alice, not long after excavation, showing that the current restoration is equally early, except for an extension to one of the upper pieces of infill to give added support to a rim sherd.

The early sketch shows two sherds apparently reaching the rim; this is also the case in the photograph in Abercromby's great corpus (Abercromby 1912, pl.LXII, 3a) and the 1936-published drawing (Drew and Piggott 1936, pl. II,3). One rim fragment, that bearing the upper stump of the handle, has since become detached. The second has also suffered attrition since these early depictions, such that virtually the whole of its top edge has been chipped to expose fresh amber.

Description
Sherds are generally well aligned in the restoration and the restored diameter more-or-less correct. However, the attached rim sherd seems to be mis-positioned, being set both too high and tangentially skewed. Shallow flakes have been detached since excavation from either side of the join between the still mounted rim sherd and that below. Without dismantling, the relative position of the sherd can only be ascertained by reference to a diffuse internal bevel inside the neck. Other original sherds extend to 30mm above the carination before fracture and the best estimate regarding the near-rim sherd is that it would have extended a further 6mm. On this basis, with the lower body height unchanged at around 56mm, the overall height would be 92mm rather than the 100mm of the current restoration. The upper handle sherd, when attached to the restored vessel, was separated from the main profile by a piece of infill; it too possesses a thickening in profile which, when aligned with that on other neck sherds, confirms the lower overall height.

Original stretches of profile across the carination are all broadly similar, with convex curve beneath and concave above, but they vary in detail. This variation alone might suggest that the cup was not lathe turned. Indeed, just to the left of the handle, the carination turns down slightly from the horizontal. The small flat base is neatly circular and surrounded by a slightly rounded angle; its plane is not quite parallel to that through the carination.

The basal stump of the handle survives on one side

immediately beneath the carination, but projects at most 5mm before the fracture, which is 5mm thick. Virtually all of the handle/body junction is present (extant width 36mm), the underside being a graceful concave line terminating at an acute angle with the left-hand side. The opposite end is clipped by a fracture, the sherd beyond being missing. The upper handle stump is highly damaged and only a little of its upper surface is original. This projects from the body at an obtuse angle just 4mm below a strongly-tapered rim.

Opposite the handle and below the carination is a shallow crescentic notch which does not penetrate more than about half way through the wall (unlike a larger damage notch below). There is a fracture line running along this notch and part of the wall above is now a restored portion. At first sight the notch appeared to be the result of another misalignment of conjoining sherds. However, the original internal surfaces are flush and the notch would seem to be an integral feature of the cup, at least in its final phase.

The lower facet of the notch, where intact, has a very smooth surface with a crisp basal edge. Towards the left it has been progressively removed by a fracture showing resonance-shatter. The upper facet grades more smoothly into the profile above. The cup was obviously susceptible to breaking along this line because the wall was thinner. The notch may be a result of working out a flaw in the amber or a mistake during production. However, the fact that it is symmetrical and diametrically opposite the handle encourages the possibility that it is an intended part of the design. A tiny dimple, 4mm in diameter and half removed by cracking and spalling, lies 10mm below the carination to the left of the notch. It is neat and smooth, but rather insignificant.

Dimensions

Body

Height as currently restored	100mm
Estimated original height	92mm
Estimated diameter of rim	76mm
Estimated diameter of neck	69mm
Estimated diameter of carination	80mm
Diameter of flat base	13.5mm
Thickness close to rim	4.2mm
Thickness at internal bevel	7.2–8.3mm
Thickness at carination	9.0–9.8mm
Thickness of base (centre)	*c.* 13.5mm
Weight (incomplete; parts infilled)	120g

Handle

Maximum depth of lower handle attachment	8mm
Minimum thickness of handle stumps – lower: 5mm, upper: 5.5mm	
Width of handle base	≥36mm

Composition

Amber of Baltic origin (Beck and Shennan 1991, 38 GB 29).

Manufacture, wear

Striations are visible on the internal surfaces, especially at the neck. They are generally circumferential but can also be oblique.

There are some exposed fractures with interesting damage characteristics. The vertically aligned side of one neck sherd shows a clean smooth-sheared break, apparently ancient since it is weathered. Perpendicular from its base, running above the handle stump, is a hinge fracture, also ancient. There is another short vertically sheared stretch approaching the rim. One end of the handle fracture is unevenly shattered (?modern) but the long run is mostly smooth-sheared and weathered with resonance-shatter along its upper edge.

A similar resonance-shatter runs along a hinge fracture on the lower side of an intriguing crescent shaped (unrestored) gap in the lower body. Most of this fracture is smooth and not far off perpendicular to the wall's thickness, but the hinge scar has spalled a further 3–4mm from the exterior surface. The upper edge of this crescentic gap also features a narrow hinge scar, the two strongly suggestive of pressure exerted from above on one or two occasions. The two fractures converge into a single line which then runs vertically through the carination and upper body.

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11. Hove barrow, West Sussex, England

Brighton & Hove Museums R 5643.1

Fig. 50, Colour Pl. 12

Context and circumstances

Some years before 1856 an approach road to Hove railway station was cut through a mound, but nothing was recorded at that point. There was further removal of earth in 1856 to make a garden; at the centre of the remnant mound and about 9 feet (2.75m) down an oak coffin was struck, aligned approximately E–W (Phillips 1856). All but a knot crumbled away. Within the earth contained in the coffin were found some fragments of 'carious bone, apparently charred'; in the central area of the coffin were an amber cup, a stone battleaxe, a perforated whetstone and a dagger, 'as if … they had rested on the breast of the body' (according to one of the workmen). The coffin lay on natural yellow clay; the mound comprised 'surface earth and rubbish thrown up together'. The remains of the bones, coffin and mound were carted off to the garden. All the first-hand information came to Phillips via the workmen and the clerk of works of the estate where the tumulus stood. The finds were presented to Brighton Museum by Baron Goldsmid. A radiocarbon date was subsequently obtained from the remaining coffin fragment of 3190 ± 46 BP; 1610–1310 cal BC at 2 sigma (BM-682).

Condition

The cup is generally in very good condition. The handle was broken in three places, probably at the time of excavation, and the central part would seem to have become entirely detached. This has been refixed, but some adjoining chips are missing. The rim has six detached chips, two of which survive reattached to the body. Of the others, one has left a fresh surface, but the others are matt, weathered and probably ancient. A small spall has been detached from the base just off-centre. Two linear fissures at oblique angles in the wall (visible externally and internally) peter out into solid amber and must be flaws in the raw material, but have not obviously led to any perforation of the wall.

Description

Most of the body is close to hemispherical in form and of constant thickness. However, the short upper body has different profiles inside and out for the groove band, neck and rim. The neck is hollowed and just 9mm deep. It is recessed relative to the band carrying grooves immediately below as is the lower body.

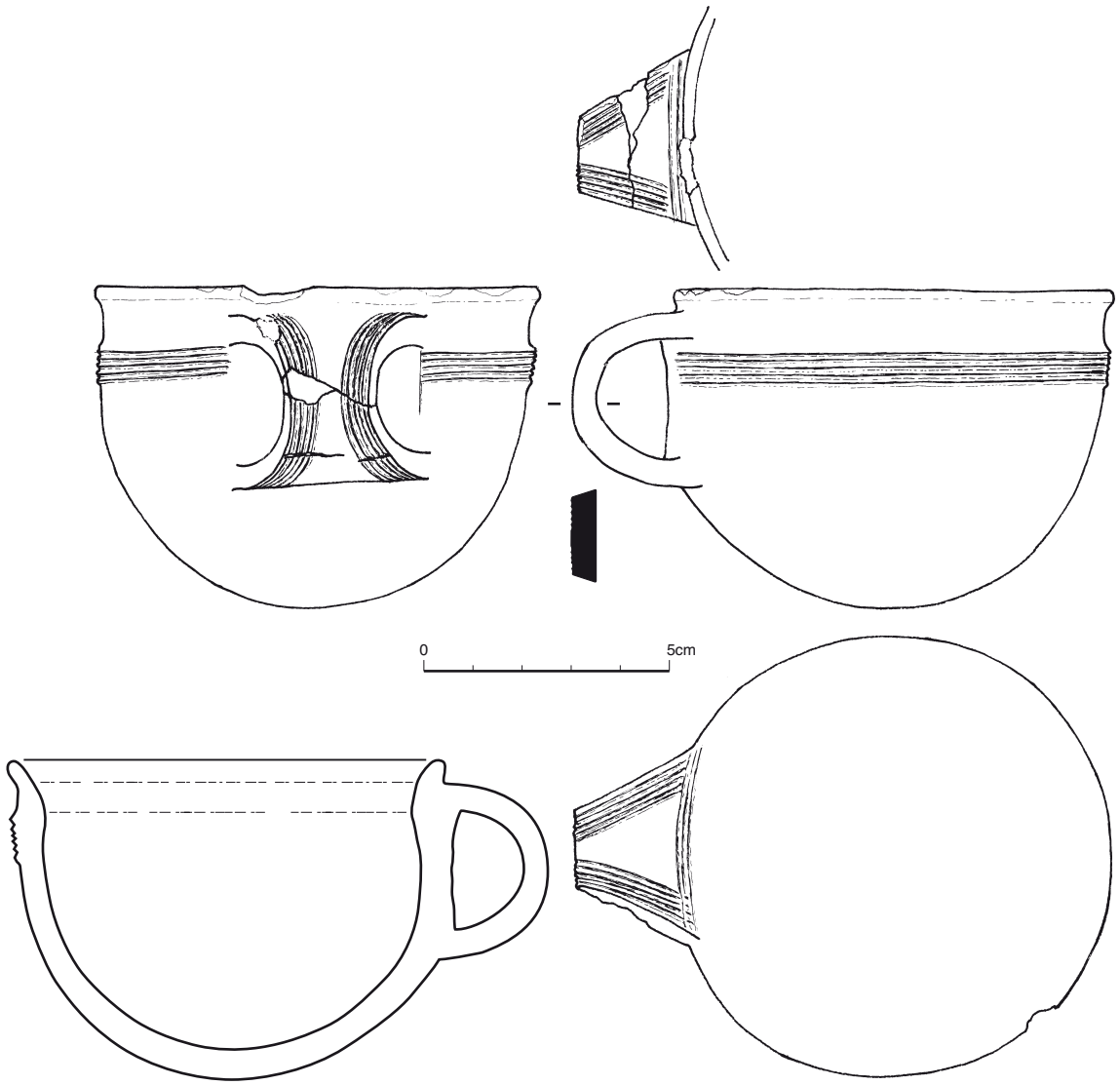

Figure 50 Drawing of the Hove amber cup. Scale 67%. [cat. no. 11]

The groove band is thus around 1mm proud of the flanking surfaces and is 9mm deep, but the five 'V'-section grooves have been inscribed close together so as to effectively create a corrugated profile on a miniature scale.

The rim is slightly out-turned, its lip having both a flat vertical exterior (3–3.5mm deep) and a flat narrow top (2–2.5mm wide). The wall thickens internally towards a pair of very diffuse horizontal bevels at the neck (approximately 8 and 13mm below rim), before belling out a little into the main vessel.

The handle contracts from the feet to the middle giving strongly curved sides, viewed face on. However, from the top view it can be seen that the sides are actually planar cut-lines, tapering from the body outwards. After the initial cut, the flat sides of the handle were further trimmed so as to angle them in slightly towards the internal edge; this lessened the trapezoidality of the cross-section. The interior is neatly hollowed and the handle of fairly constant thickness (5–6mm). The part of the body wall straddled by the handle is thicker than elsewhere being flush with the raised groove band. This under-handle zone is gently curved and meets the walls to either side in a diffuse bevel. The handle has groove decoration to match that around the girth, a set of five grooves outlining either side. At the feet, just before they join the vessel wall, the design is closed off by transverse double-grooves, scored rather more heavily. That on the underside splays into three grooves at one end, perhaps due to an error during the cutting. In places the end grooves overlap the side ones.

Dimensions

Body

Height	65mm
Diameter of rim	87.5–89.5mm (extremes at *c.* 45° to one another)
Thickness close to rim	*c.* 3mm
Thickness at internal bevel	*c.* 7mm
Thickness of base (centre)	*c.* 6.5mm

Handle

Depth of handle	35mm
Width of handle feet	40mm (both)

Manufacture, wear

The flattened rim top conforms well to a plane, suggesting final grinding on a large flat block. Virtually all the exterior is extremely smooth and even, but the under-handle zone has slight undulations. There are numerous more-or-less circumferential fine striations on the lip, neck and just under the groove band, and others on the handle sides, but they are less evident on the lower body. This could be due to a finer finish or additional use-wear. Parts of the lower body retain vestiges of

clawed tool-marks otherwise ground away; they are presumably relics from an earlier stage of coarse shaping. The inside of the vessel has diffuse but macroscopically visible scallop-like tool-marks on random alignments. Localised striations occur within the decorative grooves, being dependent on the detailed morphology of the pointed instrument used. The grooves do not follow a perfectly straight line and hence the space between any two varies from a sharp ridge to a narrow flat band. There is no obvious wear on the underside of the handle.

The body, although extremely well shaped, is not exactly circular; diameters vary between 87.5 and 89.5mm. Taken in conjunction with the absence of any centering feature at the base, this argues for production by hand-turning rather than lathe-turning. The projection for the handle, being part of the same block, would anyway be an obstacle to continuous rotational trimming or grinding of the exterior surface.

To the right of the handle a short sharp vertical incision descends from the upper handle foot and partially intersects the ends of the grooves on the body. Given its position and alignment, it is highly likely to be a slight overcut into the body during final trimming of the right-hand side of the handle lug.

SHALE CUPS

12. ?Wiltshire 1, England

Salisbury & South Wiltshire Museum 191.
Fig. 51

Context and circumstances

Newall's original publication of this pair of cups (nos 12 & 13; Newall 1927–29) made it clear that there was no record of their provenance. The assumption that they could have come from the Amesbury district relies entirely on that being the area of residence of the previous owner, Job Edwards. Without any documentation, the assumption that they were found near Amesbury, or indeed in the county, should be treated very circumspectly. No documented finds of precious cups come from so far inland in southern England.

It is intriguing that Edwards managed to obtain or excavate two unrecorded cups. It is extremely improbable that they would have come from two independent sites, in both cases being unreported finds. It might be inferred that these were either together in a single deposit, or that they were in two closely related contexts, recalling the two shale cups from two barrows on Broad Down, Farway (nos 14 & 15 below).

Condition

Restored, with missing portions filled; these include much of the upper body and a narrow strip running diagonally through lower body. Only about one-third of the rim is extant, but virtually the whole of the handle survives unbroken. In addition to the base of the handle, about one-sixth of the circumference of the carination remains (to its left). The main fractures and fissures on the body and base follow the bedding planes of the shale and it is probable that there has been some distortion of the vessel.

The internal surface is a little crazed but mainly in fair condition to show its original smooth-polished finish.

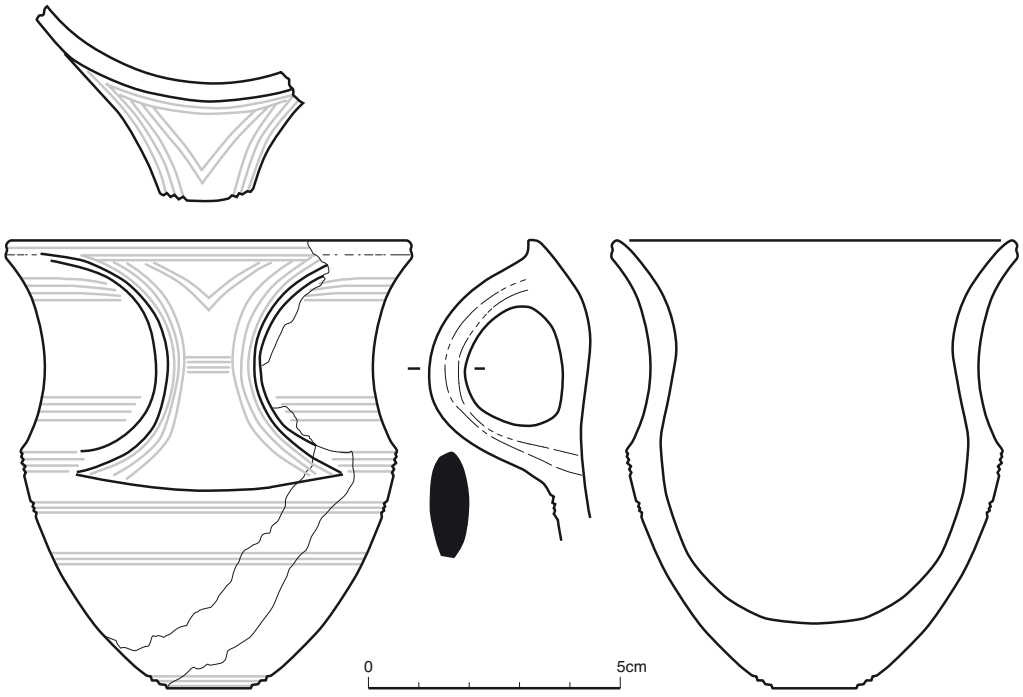

Figure 51 Ideal reconstruction of the ?Wiltshire 1 cup. Scale 67%. [cat. no. 12]

Description

The intact rim shows curvature varying between about 75 and 85mm diameter indicating an elliptic or asymmetric shape. The flatter side is alongside the stout handle, where there is no cracking from distortion. The loss of the greater part of the rim, however, makes it difficult to assess the degree to which non-circularity was original. Again, at the carination the wall immediately below the handle is less tightly curved than the segment alongside.

In profile the carination is moderate and crisp externally, sitting immediately above a groove band and running directly into the inner edges of the handle. However, this is not echoed in the inner profile which is instead a sinuous curve rising from a rounded bottom; this results in a thinner wall just above the carination than below. There is also a gentle thickening of the wall around the middle of the neck before it tapers to about 4mm at the rim. The rim itself is gently out-turned and is double-beaded externally due to an encircling groove in the middle. The top is rounded. The inner profile is not exactly concentric with the outer one, so the wall is thinner to one side of the lower body.

The base is flat inside the innermost groove at the foot of the wall. It is not co-planar with the rim, the planes diverging by around 3°.

The handle is a dominant feature on this cup, being large relative to the body. It also has some subtly curving lines. The sides, as seen from the top, are slightly concave rather than the more usual straight sides of a trapeze; moreover, they splay out to broad feet which run seamlessly into the curves of rim and carination respectively. The cross-section is markedly elliptical, modified by narrow flattened sides which are non-parallel. The outer surface becomes flat as it approaches and joins the rim, but retains its strong convexity at the lower body junction.

In addition to the single groove at the lip, the body carries six bands of horizontal grooves, the upper three comprising four grooves each, the lower three, three grooves each. The spacing of these bands is very deliberately unequal; in particular, the design leaves broader plain zones around the centre of the neck and on the lowest part of the body above the foot grooves.

Triple-groove bands outline the sides of the handle and at the top they join a transverse double-groove in acute angles. The latter suspends a double-groove 'V' motif which neatly occupies the upper part of the reserved central field. Below, four horizontal grooves traverse the narrowest point.

Dimensions

Body

Height	88.5mm
Depth of neck	41.5mm
Estimated diameter of rim	*c.* 80mm
Estimated diameter of carination	*c.* 73mm
Diameter, innermost groove at base	18.3mm
Thickness of wall (above base)	4–6mm
Thickness of base	12.5mm

Handle

Minimum width of handle	19.5mm
Width of handle feet (reconstructed)	*c.* 56mm (upper), *c.* 52mm (lower)
Handle thickness	7.5mm

Composition

Non-jet (Bussell *et al*. 1981, 31)

Manufacture, wear

There are no apparent wear traces on or above the base, but part of the surface is in extremely poor condition resulting in the disappearance of the basal grooves for half their circuit. The handle has possible wear in the form of a worn patch on the left side under-edge; opposite this on the right side is a slight notch which could have resulted from either differential wear or the working out of a flaw or mistake. Slight undulations in the bottom of the interior may be vestiges of original tool-marks rather than features of distortion, but generally it presents a well polished surface. The inside of the handle is also smooth-finished, but there are residual minor undulations. Groove profiles are neat but shallow V's with rounded bases.

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13. ?Wiltshire 2, England

Salisbury & South Wiltshire Museum 192.
Fig. 52

Context and circumstances

As above for no 12.

Condition

The whole of the lower body is present, but only about half of the upper body. Only a small part of the missing portion, which extends from under the handle well to the left, is restored. Fracture lines in the shale generally form an orthogonal pattern. The vessel is extremely distorted and, although the base itself retains circularity, even the lower body has become elliptical.

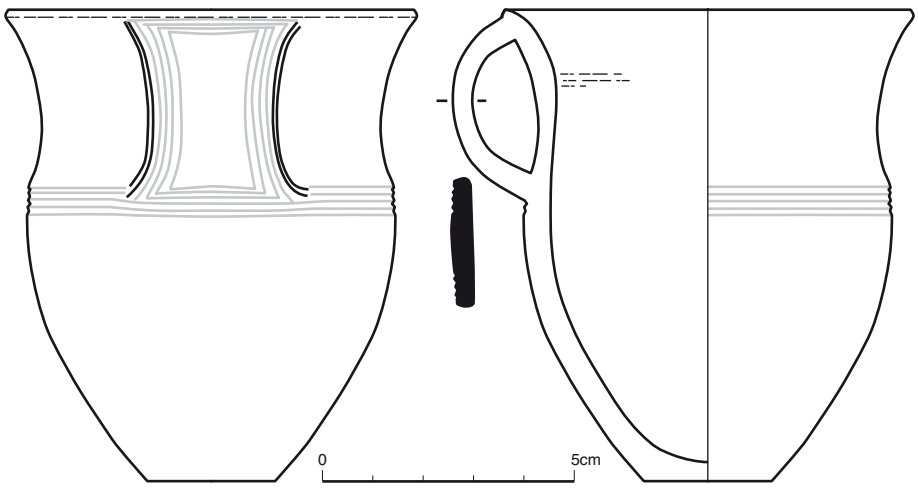

Figure 52 Ideal reconstruction of the ?Wiltshire 2 cup. Scale 67%. [cat. no. 13]

There are three fracture lines right across the handle, which is now restored. The base angle has spalled away around one third of its circumference.

Description

The base is neat and smooth, but (currently) not perfectly flat. There is a crisp angle to the lower wall which rises in a bowed profile of constant thickness to a weak carination externally. A gently concave neck then leads to a moderately flared mouth with a simple rounded rim. Internally the neck thickens to a neat but weak bevel (*c.* 13mm down), below which a steady curve runs all the way to the rounded bottom.

The handle is a fairly thin ribbon of near rectangular section with slight bowing of the external face. In profile it describes less than a semi-circle. From the top it exhibits a near trapezoid shape.

The body has a single band of four grooves placed immediately beneath the carination. While three of these grooves continue uninterrupted beneath the handle, the uppermost one butts up to its thin, ungrooved sides. The face of the handle is totally framed by groove bands just inside the edges. Four grooves outline the curved sides and three cross at top and bottom; the latter join the inner three of the sides to form an enclosure of waisted rectangular shape.

Dimensions

Body

Present height	90–96mm
Estimated original height	92–93mm
Rim diameter	*c.* 60 x 105mm(→82mm)
Neck diameter	*c.* 44 x 91mm (→67–68mm)
Carination diameter	52 x 91.5mm (→72mm)
Base diameter	25mm
Rim thickness	*c.* 2mm
Thickness at internal bevel	4–5mm
Minimum thickness of neck	3–3.5mm
Thickness of carination	4.5–5.5mm
Thickness of base	3.5mm

Handle

Width of handle feet	33 (upper), 34mm (lower)
Minimum handle width	25.7mm

Composition

Non-jet (Bussell *et al*. 1981, 13)

Manufacture, wear

Despite the extensive hairline cracking, much of the surface presents a polished sheen. No wear traces were noted on the body or the underside of the handle, which is in poor condition. The angles between the inner handle surface and the wall are for the most part very crisp, showing good attention to finishing the perforation.

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14. Broad Down barrow 53, Farway 1, Devon, England

Exeter Museum 290

Fig. 53, Colour Pl. 13

Context and circumstances

Two shale cups were found in barrows on Broad Down, Farway (barrows 53 and 61). The first was found in 1868 during excavations instigated by the Devonshire Association for the Advancement of Science, Literature and Art (Kirwan 1868). Kirwan's account describes a barrow thrown up over a pyre; the cup was found immediately above a central cremation deposit of burnt bone on a bed of charcoal, itself on top of an area of flint paving with signs of in situ burning; beneath was the old ground surface which appeared to have been dug away by a few inches to level the pyre site (Kirwan 1868, 307, fig. 1). There were no other finds.

Condition

The cup is complete, but highly distorted from lateral pressure in the ground. The basal boss is still perfectly circular due to its rigid structure, but the body becomes progressively more elliptical towards the rim. That this is not the original shape is indicated by the eccentric position of the handle, situated on neither of the axes of the ellipse. Unsurprisingly the vessel is extensively cracked, yet none of the fissures have opened up significantly. The dominant ones follow the bedding planes of the material, vertical or steeply diagonal on the vessel, but there is also a finer web of crazing in patches. One large portion extending from the rim to below the carination is entirely isolated by a major crack and has probably been detached in the past and restored.

Description

The base is domed with no flat area at all and the profile curves upwards towards the maximum girth which is gently rounded

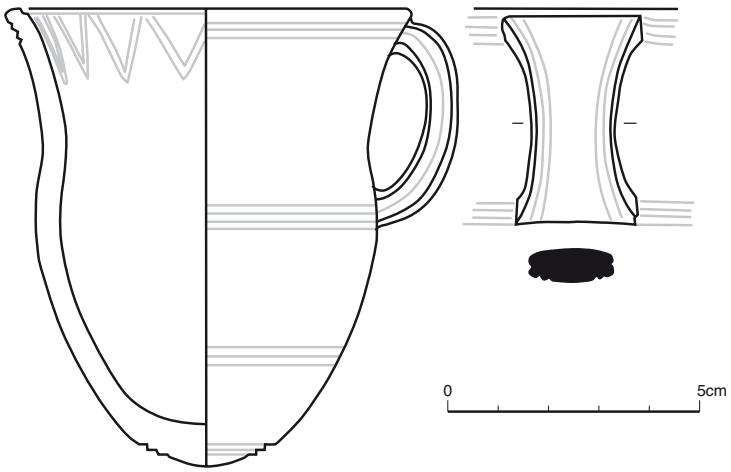

Figure 53 Ideal reconstruction of the Broad Down, Farway 1 shale cup. Scale 67%. [cat. no. 14]

rather than carinated. Above the belly, there is a small constriction emphasised by the slightest of creases, before the neck expands modestly outwards to the rim. The inner profile mirrors the outer one for virtually the whole depth and the wall only becomes thicker at the very base.

The rim undulates a little, although perhaps partly due to the distortion. It has a flattish top with rounded angles internally and externally. On the inside it is emphasised by a single horizontal groove, from which hang 16 pendant V-motifs, each comprising a double groove. Four sets of body grooves decorate the exterior and, although widely spaced, they are not evenly spaced. The band at the belly comprises four grooves, those above (at rim) and below (on the lower body) comprise three, while that encircling the base roundel has just two. The upper two bands butt up to the feet of the handle and one groove from each set continues onto the side of the handle as a single linking groove. Adjacent grooves at top and bottom respectively just run out onto the handle side, while the basal belly groove continues across thereby defining the handle base. The outer face of the handle has a simple double groove outlining the curved sides for their whole length.

The handle is strap like, but of swollen rectangular section and is relatively slack in profile. In face view it is gently waisted and broader at the top than the bottom.

Dimensions

Body

Height (maximum)	90mm
Rim diameter	71.2 x 88.3 (→80mm)
Neck diameter	57 x 70.5 (→64mm)
Belly diameter	62.4 x 70.8mm (→66.5mm)
Diameter of top basal groove	24.0 x 24.0mm
Thickness at rim	3.8mm
Thickness of walls	*c.* 4mm
Thickness of base	8.5mm

Handle

Handle depth	41mm
Width of handle feet	27mm (upper), 24mm (lower)
Minimum handle width	16.7mm
Minimum handle thickness	6.5mm

Manufacture, wear

Despite the extensive cracking, the intervening surfaces retain a beautiful high polish. Where striations are discernible, they tend to be very fine, although there are some coarser ones under the handle and elsewhere. Inside the lower body rotary grinding marks are clear, but these change to a vertical orientation inside the belly and up to the mouth. There is a whitish stain (rather than accretion) inside the base that has linear elements aligned with the grain – presumably reflecting differential absorption.

The decorative grooves generally have broad V profiles with rounded bases, but the internal ones seem crisper and also bear traces of whitish material (?soil or deliberate infill). There is the slight suggestion of greater rounding of the under edges of the handle on either side at the top which might reflect wear from, for example, thong suspension.

15. Broad Down barrow 61, Farway 2, Devon, England

Exeter Museum A344

Fig. 54

Context and circumstances

The second Farway cup, found by Kirwan in 1870, is from a barrow covering a cairn of stones over a collapsed cist, in which were 'burnt bones on the bark of a tree' and a dagger of Gerloff's Type Camerton in several pieces (Gerloff 1975, 106–7). The cup was found about 3 feet (0.92m) from the bones 'in a compact mass of stones' (Newall 1927–9, 116). Hutchinson's account (1880) of the excavation, at which he was not present, is sketchy. The burial may be interpreted as a cremation in a tree-trunk coffin, but it is intriguing that the cup seems not to have accompanied the main deposit.

Condition

Most of the vessel is present, but about 20% of the rim is lacking. Damage to the rim seems to have occurred between Kirwan's 1870 publication and that of Hutchinson (1880, 136–7). The whole surface is extremely laminated on a horizontal plane giving a fragile appearance. Very small patches of polished surface survive. Like Farway cup 1 the shape changes from circular in the lower body to elliptical at the mouth, but the degree of distortion is considerably less on this cup. This time the handle lines up with the long axis of the ellipse. The rim lies on a plane rather skewed to that of base and shoulder, this likely to be due to differential shrinkage. There is a crack across the handle high up; some chips have become detached and are missing at one end.

Description

Although the base is a small circle defined by a distinct if obtuse angle, it is very slightly convex rather than perfectly flat. This should not be due to alteration given that the lower body seems to have escaped distortion. It is possible that there was an encircling groove round the base, but condition precludes

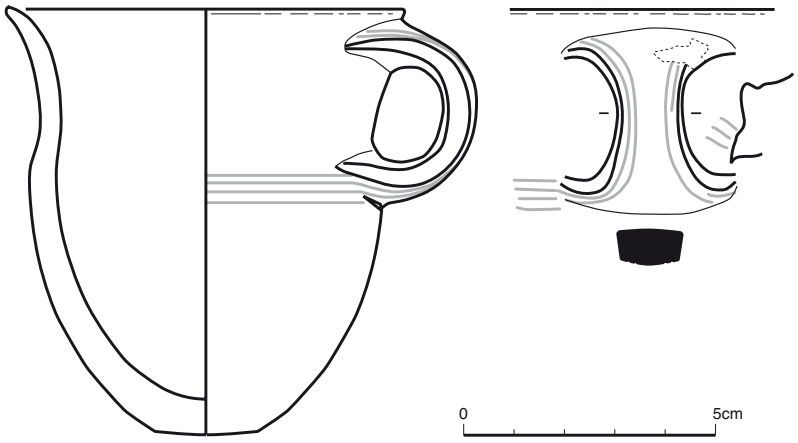

Figure 54 Ideal reconstruction of the Broad Down, Farway 2 shale cup. Scale 67%. [cat. no. 15]

certainty.

The wall rises in a graceful convex curve with the slightest inflection at the middle creating a weak carination; above is a small contraction into the gently hollowed neck. The mouth appears to have been moderately expanded and tapers to a thin rounded rim. Internally the profile is smoothly sinuous from the rounded base to the mouth, and this gives rise to some variation in wall thickness, slightly thicker towards the base and marginally thinner low in the neck.

Despite its poor surface condition, it would seem that the body was decorated with only one set of grooves, a band of four immediately beneath the carination. Because of the crescentic shape given to the handle feet, it was possible for the craftsman to continue the middle pair of grooves onto the external face of the handle; with a subtle change in direction they sweep round and upwards to outline the sides.

With the bowed feet and a pronounced waist, the handle has a strongly peltate shape in face view. In profile it is more-or-less semi-circular and in cross-section sub-rectangular with well bowed faces; the sides are fairly flat and taper out as they reach the feet.

Dimensions

Body

Average present height	*c.* 82mm
Estimated original height	*c.* 85mm
Rim diameter	73.5 x 81mm (→77.5mm)
Neck diameter	60 x 70mm (→65mm)
Carination diameter	67.5 x 72 (→69.5mm)
Lower body diameter (12mm from base)	45 x 45mm
Base diameter	20 x 20mm
Thickness at rim	2mm
Thickness of walls	4–7mm
Thickness of base	7mm

Handle

Handle depth	37mm
Width of handle feet	*c.* 35mm (both)
Minimum handle width	12.5mm
Minimum handle thickness	6.5mm

Manufacture, wear

Condition is too poor for fine evidence to survive. However, in the neck immediately to the right of the handle is a set of three short parallel strokes set diagonally which may be ancient tool marks.

SHALE or WOODEN CUP

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16. Stoborough 'King Barrow', Dorset, England

Lost (in Richard Gough's possession around 1787). Description and drawing based on Hutchins 1774 and Gough 1786 (account also fully given in Ashbee 1960, 86)
Fig. 55

Context and circumstances

The possible shale cup from King Barrow, Stoborough (formerly Stowborough), was found when a 100 ft wide (30.75m) and 12 ft high (3.7m) barrow was opened in 1767 during construction of a turnpike road. It entered the possession of R. Gough later in the 18th century and is now lost. The first published account was by Hutchins (1774) where the cup is figured as an imagined reconstruction. The drawing which appears in Gough (1786) shows the cup in its broken and distorted state. At the time the cup was described as being made of wood and Hutchins favoured oak. By the date of Hutchins' third edition (1861) it was '*formerly* in the possession of Mr Gough' (current authors' italics) and by the time Clift (1908) pronounces it to be 'a lathe-turned cup of Kimmeridge shale' its whereabouts was unknown. Its reassessment as shale (for example by a Dr. Wake Smart, mentioned in Kirwan's account of the first Farway vessel (1868, 299) when it had already vanished from view, is probably surmise, but may be correct.

The burial context of the cup is fairly well described for the time: central in the mound, it comprised an enormous oak trunk coffin about 10 ft long (3.1m) and 4 ft (1.25m) wide, resting on the old ground surface and covered by a turf mound, 'in some of which the heath was not perished'. The skeletal remains were

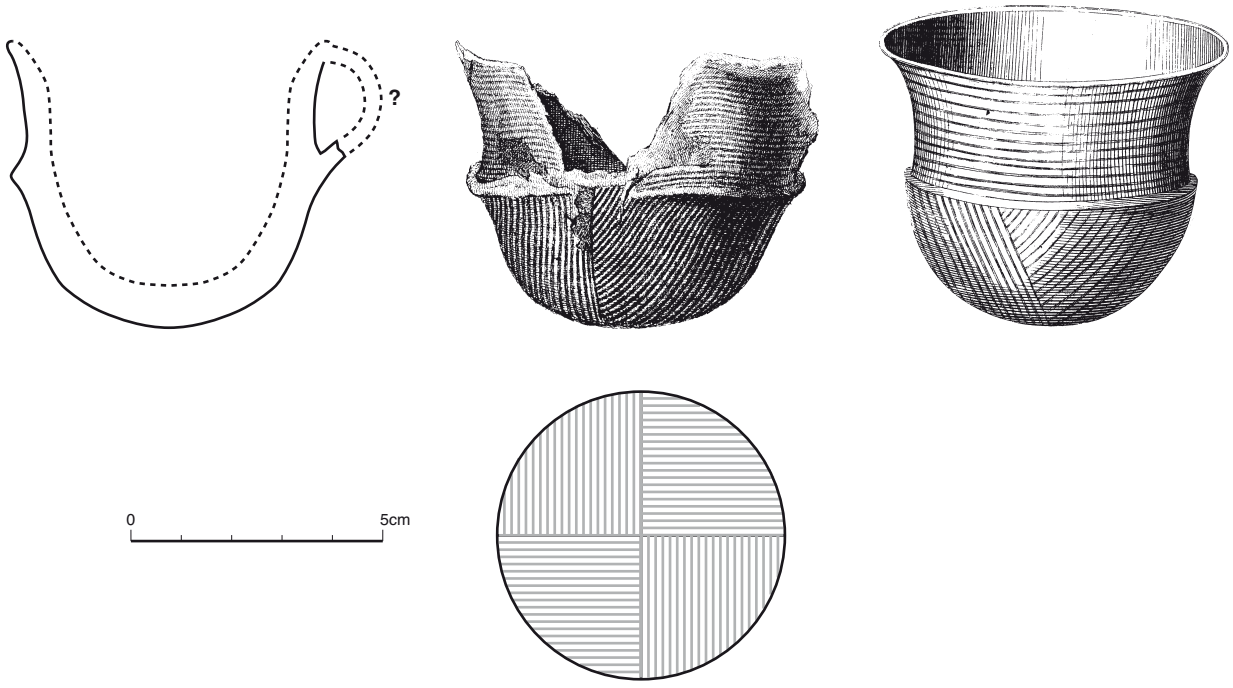

Figure 55 Ideal reconstruction of the Stoborough shale(?) cup with the two early depictions it is based upon (after Gough 1786 (middle) and Hutchins 1774 (right)). Scale 67%. [cat. no. 16]

partial, 'unburnt, black and soft … and all had been wrapped up in a large covering, composed of several skins, some as thin as parchments, others much thicker, especially where the hair remained, which shewed they were deer skins.' The material was well enough preserved for 'seams and stitches' to be visible and it was thought to have wrapped around the body 'several times'. Inside 'the bones were compressed flat in a lump, and cemented together by a glutinous matter, perhaps the moisture of the body. On unfolding the wrapper, a disagreeable smell was perceived, such as is usual at the first opening of a vault' (Hutchins 1774).

The vessel was found at the south-east end, perhaps near the head, but no skull was identified. The only other grave good was a small piece of 'gold lace' which remains a puzzle. This was published by Bury Palliser in her *History of Lace* (1911, 4, fig 1). It was accepted by her as gold lace 'of the old lozenge pattern, that most ancient and universal of all designs, again found depicted on the coats of ancient Danes, where the borders are edged with an open or net-work of the same pattern.' It was blackened when found but the original account is firm that 'bits of wire plainly appeared in it'. It is hard to find an Early Bronze Age gold type that matches the description given, but another possibility is that this was a highly eroded thin bronze object, so eaten in an acidic environment that it appeared as 'lacework'. Despite this difficulty, there can be little doubt that the burial described conforms to Early Bronze Age traditions.

Condition

One of two early drawings (Gough 1786) shows the vessel apparently realistically and incomplete in the upper body (**Fig. 55 centre)**; around 70% of the vessel is depicted. Even Hutchins had acknowledged that it was 'much broken' (1774, 25). There is also surface spalling in evidence which had clearly disrupted the decoration locally and there are hints of distortion; indeed, it was described as 'compressed' and the dimensions of the mouth given as 3 inches by 2.

Description

The following description and our own reconstruction drawing (**Fig. 55**) are based on Gough's 1786 engraving, rather than the earliest published drawing, in Hutchins 1774, which shows a complete and perfect looking vessel and may be taken to be a hypothetical restoration of its original form. The illustration given by Gerloff (1975, pl. 57P) is a more embellished rendering of the latter.

The lower body is near to hemispherical with no indication for any flattening of the base. About halfway up the vessel it expands into a protuberant carination, which is met above by a concave upper body. The dimensions given in the early accounts suggest that the rim and carination would have had similar diameters and the mouth was thus lightly flared.

The upper body is shown covered with twenty horizontal lines, described as "hatched" and made "with a graving tool" (Hutchins), while similar grooves on the lower body are separated into panels (?four quadrants) and instead aligned vertically to diagonally. At the vertical panel junction shown, the lines to the left are vertical and to the right, diagonal. This could actually be a natural consequence of starting the decoration at a panel boundary and keeping each line roughly parallel to the previous one. As they progressed round the quarter sphere, the lines would thus become more and more skewed to the vertical (see **Fig. 55**).

There is no suggestion in the early accounts that the cup had a handle, but Gough's depiction shows a curious discontinuity in the line of the carination immediately above the panel junction in the lower decoration ; the lower design actually projects a little higher here before being interrupted by a broad and thin break. This surface seems to overlap and be situated in front of the broken edges of the upper body and gives every impression of being the stump of a missing handle. That the handle is not otherwise in evidence would be explained by the trapezoid gap in the upper body at this point.

Dimensions

Reported height	'two inches'
Estimated original height	*c.* 55mm
Reported rim diameter	"three inches by two" (→*c.*65mm)
Wall thickness (? upper body, where broken)	'two tenths of an inch', *c.* 5 mm
Width of possible handle stump	?19mm

Composition

'A small wooden vessel, much broken and comprest' – Gough 1786, xlv. 'A small vessel of oak, of a black colour' – Hutchins 1774, 25. Conceivably in fact shale or a similar material (Kirwan 1867–8, 628).

Manufacture, wear

Nothing known.

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