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BETWEEN FORAGING AND FARMING

AN EXTENDED BROAD SPECTRUM OF PAPERS
PRESENTED TO LEENDERT LOUWE KOOIJMANS

EDITED BY
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22 Neolithic Alpine axeheads, from the Continent to Great Britain, the Isle of Man and Ireland

Pierre Pétrequin
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Serge Cassen
Michel Errera
Estelle Gauthier
Lutz Klassen
Nicolas Le Maux
Yvan Pailler

22.1 Introduction

Within the source area from which Alpine axeheads circulated around western Europe, two groups of quarries and of secondary exploitation sites close to the outcrops have recently been identified in Italy. One lies in the massif of Mont Beigua, to the north of Genoa; the other lies at the foot of Mont Viso between 1800 m and 2400 m in altitude (Pétrequin/Pétrequin *et al*. 2007a; 2007b). From the end of the sixth millennium BC, to the beginning of the third, this exploitation of mountain sources provided most of the axeheads made of eclogite, of omphacitite and of jadeitite that have been found in Neolithic Europe, together with those made of other Alpine rocks (such as certain retromorphic eclogites, amphibolites and serpentinites) whose provenance is harder to establish (see note 1 for the use of the term 'jadeitite', and for an explanation of the convention used to cite axehead findspot place names). From this central source zone, Alpine axeheads – which range from small examples just 3 cm long to massive examples, of which the most impressive (from Locmariaquer/Mané er Hroëck in Brittany) is 45.6 cm long (Herbaut 2000) – travelled to the outer fringes of Europe, to Sicily, Spain, Ireland, Scotland, Denmark and Bulgaria (Damour/Fischer 1878; Pétrequin *et al*. 1998). The furthest-flung example is some 1700 km as the crow flies from the source area.

We have discussed elsewhere the probable reasons for this remarkable diaspora, which extended throughout the whole of Europe, except for the east where, during the Chalcolithic period, copper and gold dominated (Pétrequin *et al*. 2002). The force with which these polished axeheads managed to 'penetrate' diverse Neolithic groups is striking. We choose to explain this in terms of their social function (which pertained not only to the large specimens, but to small axeheads as well), which has long been masked by the use of conventional, obsolete and ethnocentric terms to describe the axeheads as 'ceremonial' and 'prestige' objects. In fact, from our point of view as 21st century 'technicians', once the axeheads had passed beyond the geographical zone of their first users, located to the northwest and west of the Alps, they took on a socially-determined role over and above their primary function as forest-clearing tools. In fact, it seems likely that this deviation from the axeheads' original function and meaning probably began in the quarries themselves, where the importance of ritual during the process of extraction is suggested by the deliberate deposition of a pair of large unpolished roughouts on the ground surface at the rock shelter of Paesana/Madonna del Fo (Cuneo, Piedmont), just at the foot of Mont Viso (pers. comm. M. Venturino Gambari). One can thus think of the axeheads as symbolic artefacts, charged with myths and with their own life-histories, belonging to the realm of sacred objects, like the well-known ethnographic examples from New Guinea (Godelier 1996; Pétrequin/Pétrequin 1993; 2006). Such sacred objects could be deliberately planted in the ground in prominent positions, or at the edge of a river, or at the entrance to caves; or they could equally be deposited in marshy areas, as offerings to supernatural beings. Similarly, they might be hidden and only taken out on ritual occasions, when they would be unwrapped solely for the purpose of honouring them, before being re-wrapped and returned to their hiding place (see also Wentink (2006) in his discussion of hoards of Danish flint axeheads in the Netherlands). Finally, some of these axeheads were deposited, sometimes in a deliberately broken state, inside monumental tombs such as the giant tumuli of the Gulf of Morbihan in Brittany (Cassen 2000a), where they appear as inalienable insignia of high-ranking individuals.

It is therefore not surprising that the majority of Alpine axeheads have been discovered as stray finds, without any archaeological context. They are mostly single finds, but occasionally pairs or larger numbers have been found together, deposited in the ground sometimes in a leather container, and sometimes splayed out like rays of the sun.

The fact that such axeheads – rarely broken, and with a particularly careful polish – are almost always found as stray finds ought to have attracted the attention of researchers; instead, many of these exceptional objects have ended up relegated to cabinets of curiosities, to private collections, and to museum stores. They were ignored but for the attention of mineralogists who used them to prove, for the first time, that European jadeitite had been used in prehistory (Damour 1865), or to test out new analytical methods (Ricq-de Bouard 1996; Compagnoni *et al*. 1995; D'Amico *et al*. 2003). Axeheads found in settlements are rare, except for those dating to the initial and final stages of the phenomenon of diffusion, and for those in the zone of production in Italy, where they are most often found as broken roughouts. Similarly, axeheads found in funerary contexts are rare, except for a few inhumation graves in Italy, in southern France and in Catalonia. It is for this reason that one cannot overstate the exceptional nature of the presence of these axeheads in the Morbihan tumuli. This phenomenon occurred at a time, during the middle of the 5th millennium BC, when the social usage of Alpine axeheads was very intense: here, these sacred objects were effectively destroyed by being buried in the tombs of men whose status must have been associated with the possession of supernatural powers.

Thus we can view the axeheads as non-utilitarian objects and as rare and immensely valued items, and use this perspective to approach the question of Alpine axeheads in Great Britain, the Isle of Man and Ireland (fig. 22.1), and of their geographical and chronological relationships with the Continent (particularly with the Atlantic coast, the Channel and the North Sea).

22.2 Typology and problems of dating

22.2.1 Developing a typology

Following Giot's observation (1965) that there were formal differences between the examples found in the Morbihan region and those found on the Rhine and in Italy, little was done to create a typological classification of Alpine axeheads prior to our own 1998 contribution (Pétrequin *et al*. 1998). Campbell Smith (1963) had attempted to describe the British and Irish axeheads during his study of their mineralogical composition, but we have had to reconsider many of his attributions to types, because the types themselves overlapped too much in their definition. Regarding formal classification, the most pertinent contribution was made by Woolley *et al*. (1979), who focused on length/breadth ratios, and included some Continental examples in their survey. Their resulting diagram showing the range of formal variation was interesting, even if their insistence on the existence of a continuum of forms (ranging from short and squat to long and slender) was ineffectual in terms of defining specific types.

In 1996-1997, some of us returned to the task of typologically classifying axeheads made from Alpine rocks. We worked on a series of around 450 long specimens, and tried out various approaches; our work was informed by our prior experience with ceramic classification (Pétrequin *et al*. 1988), by a pilot investigation of the axeheads of the southern Vosges (Pétrequin/Jeunesse 1995), and by our observations of contemporary ground stone axeheads in New Guinea (Pétrequin/Pétrequin 2006).

Prior to our research we agreed to the following seven points.

First of all we would not accept preconceived ideas – entertained by some others working on Alpine axeheads (Ricq -de Bouard 1993; D'Amico *et al*. 1995) – that implied that all these axeheads, of whatever form, were contemporary and could thus be shown on overall, typology- and chronology-free, Europe-wide distribution maps. Second, we decided to abandon the hypothesis, which had principally emerged from stone axehead studies in Britain and Brittany (largely due to the high incidence of uncontexted, stray finds), that petrological groupings took precedence over typological and chronological classification. Third, we determined not to believe – unless proved otherwise – that symbolic or sacred objects were impervious to the kind of changes that occur with all human actions, and which are brought about by the social interpretation of innovations (Pétrequin/Pétrequin 2006). Fourth, we agreed not to accept, unconditionally, the hypothesis that these very precious objects constituted treasures that were systematically transmitted from one generation to another, thereby producing a mixture of types that would hinder the creation of typo-chronological classifications (Herbaut 2000). Fifth, we would adopt a broad, Europe-wide perspective, in order to avoid creating regional classifications that cannot be applied at a broader scale, as is the case in the Alps themselves (Thirault 2004). Sixth, we would not work with examples less than 14 cm in length, so as to avoid the problems relating to the reworking of old and broken polished axeheads (Buret 1983; Buret/Ricq-De Bouard 1982). Finally, we accepted that it might be necessary to create detailed typological entities, then to re-group them if it seemed that confusion might arise between several similar types which evolved in the same ways (Pétrequin *et al*. 1988).

22.2.2 Results: the typology

After adapting our approach to suit the growing Europe-wide inventory of Alpine axeheads, and to take into account new discoveries bringing fresh contextual and stratigraphic information – in particular our discoveries in the quarries of Mont Viso (Pétrequin/Errera *et al*. 2006) – we realized that the typological propositions we had made in 1999 seemed to be finding their own route. The best demonstration of this came from the discovery, at the pan-European scale, of oppositions, of complementarities and of logical successions between

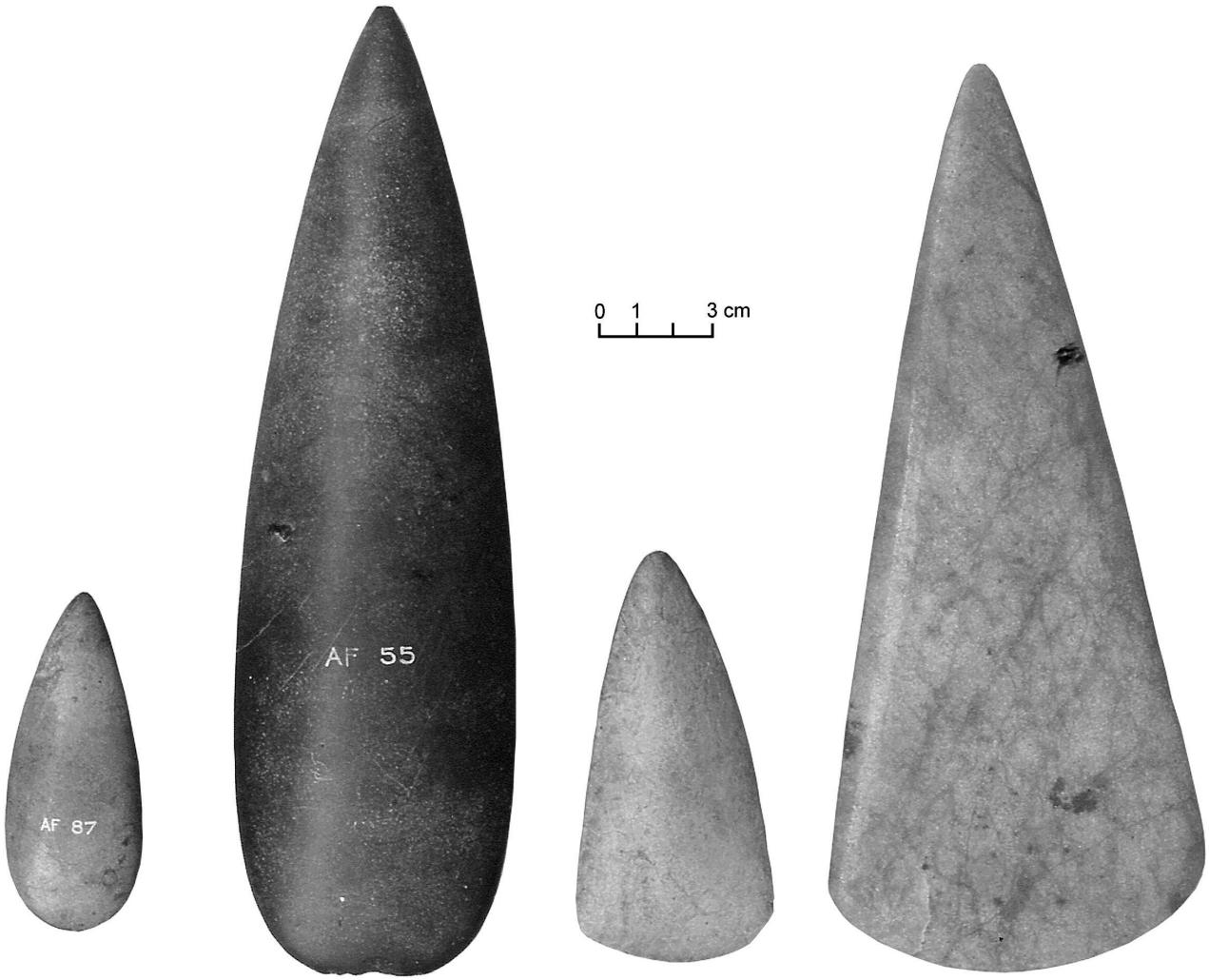

Figure 22.1 Four examples of polished Alpine axeheads from Scotland and the Isle of Man. From left to right: Caithness (Durrington type); Berwickshire (Durrington type); Glencrutchery (Chelles type); Greenlawdean (Greenlaw type). Spectroradiometric analysis has shown that these are all very probably from the extraction sites on Mont Viso. Photo: P. Pétrequin.

certain types. The most important of these are shown in fig. 22.2. We can detect the following logic among the various types (whose names derive from the find spots of representative specimens):

First, there is an opposition between 'southern' and 'northern' types, separated by a line running from Geneva to Caen. This suggests the existence of two modalities of exploitation and two networks over which the axeheads diffused. The 'southern' types can be readily distinguished from the northern types by their shape: narrow, sometimes plump, and with a blade that merges gently into the sides, in contrast to the broad, flat, triangular shape of the Altenstadt/Greenlaw axeheads, whose blade-side junction is markedly angular.

Second, there are distinctive types, unique to the Carnac area, whose epicentre lies in the Gulf of Morbihan on the southern coast of Brittany. These were produced by the deliberate reworking of imported Alpine axeheads: their shape was changed, they were thinned, and they were repolished. This was so that the elite of the area could differentiate themselves from their neighbours through a veritable re-creation of sacred objects. Third, there are some ubiquitous types, represented virtually throughout western Europe. Their ubiquity suggests that they cannot be contemporary with the aforementioned types.

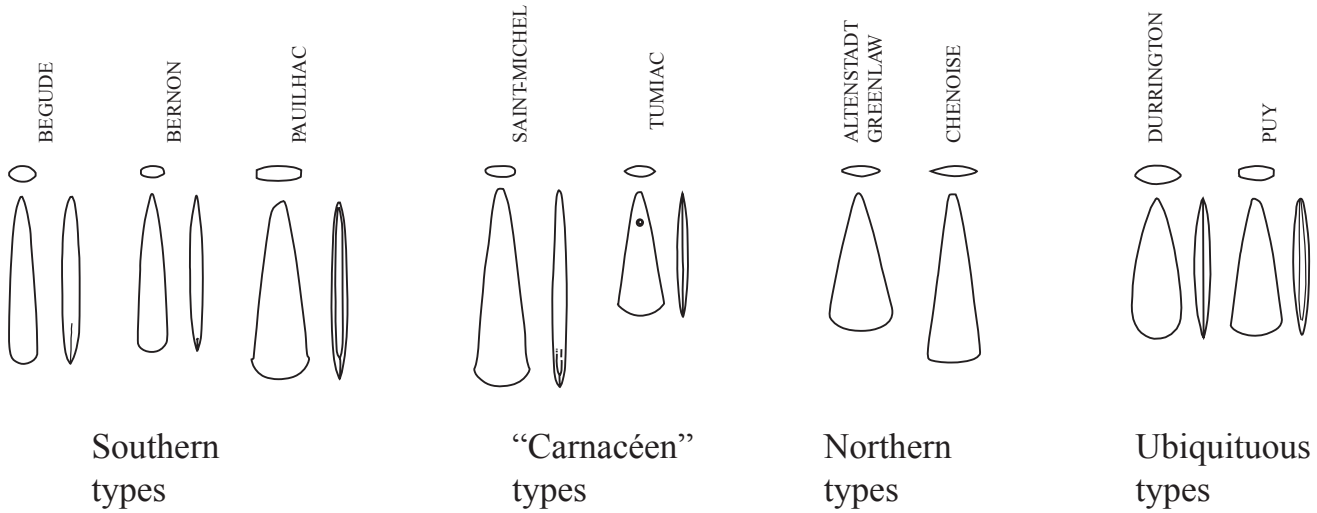

Figure 22.2 The typological classification of Alpine axeheads, and the distribution of the various types at a Europe-wide level, allows us to distinguish four groups. A geographical axis Geneva–Caen (see figs 22.4 and 22.5) marks the frontier between northern types and southern types. 'Carnacéen' types, centred in Brittany and in particular the Gulf of Morbihan, illustrate the classic forms of repolished Alpine axeheads. The fourth group comprises widespread types that are found virtually over the whole of Europe, from the Mediterranean to the Baltic. Drawing: P. Pétrequin.

This, then, is the basic typological classification, which is relatively uncomplicated. Still, the process of arriving at it was time-consuming, since it involved making a typological judgement on an axehead-by-axehead basis, then returning repeatedly to past attributions to check their consistency with the parameters for each type. To date, some 1600 Alpine axeheads from the whole of western Europe have been inventoried in this way.

22.2.3 Developing a relative chronology

Research on the chronology of the Alpine axeheads is strewn with past misapprehensions, such as the belief that the large examples with expanded blades were a copy of flat copper axeheads, and therefore datable to the Beaker period. We ourselves have been guilty of this error (Pétrequin *et al*. 2002).

The establishment of a relative chronology of Alpine axehead manufacture and use is hindered by the fact that the large axeheads have mostly been discovered as isolated, stray finds. We can say nothing about the relative chronology of these context-less items. We can only work with the following sources of information:

Absolutely-dated settlement sites

There are a dozen absolutely-dated settlements in Italy, a dozen in Switzerland and seven in France), where fragments of axeheads of recognizable types have been found. In nearly every case, these sites have been either early (5400-4800 cal BC) or very late (3800 BC and later), corresponding to the beginning and the end of the social 'cycle' in which Alpine axeheads were accorded special value close to their zone of production. The information from these dated settlements indicates that the Bégude type is among the earliest (if not the earliest) to have been produced, and the Puy type is the latest.

Extraction areas at the sources

Our latest excavations of September 2007 at Oncino/Bulé (Cuneo, Piedmont), at the southeast foot of Mont Viso, have revealed a sequence in which material relating to Bégude-type axeheads is mostly found at the bottom of stratigraphic sequences; material of Durrington and associated types is found mid-way up; and Puy-type material is mostly found at the top. This indicates a general sequence, in which Bégude-type roughouts were still being produced by the 'Durrington phase', and a few of them were even being made as late as the 'Puy phase'. The total absence of roughouts for northern-type axeheads from these extraction sites in the Bulé valley suggests that they were produced elsewhere, by other groups; an inference which is supported by their distribution pattern (fig. 22.6). The people who were exploiting the Bulé valley sources were supplying networks of contacts in Italy, and they continued to do so for over a millennium (Pétrequin *et al*. in press). (Incidentally, as regards the radiocarbon dates that have been obtained from charcoal from the production sites, we must bear in mind that the sediments in which the charcoal occurred had been subject to water-washing and other erosion.).

Well-dated tombs
Even though the Morbihan tumuli may not have been constructed in a single episode, the presence of axeheads buried with other extraordinary objects in closed chambers, within the mounds, is a particularly reliable source of information.

Hoards of two or more axeheads found together
Here, we have taken the risk of assuming that where, on different occasions in recent times, two or more large axeheads have been found at the same findspot, they originally belonged to a hoard.

These definite and presumptive examples of closed assemblages, from tombs and hoards, theoretically allow us to construct typochronological seriations.

22.2.4 Regional relative chronologies

Evidence from four areas of Europe has been used to create regional relative chronologies for Alpine axehead types. The overall patterns are as follows:

In North Italy the oldest axehead is a large version of the Durrington type, but one which is thin in cross-section, because it has been made using mediocre quality raw material. Bégude-type axeheads come next, followed by Durrington-type axeheads of teardrop shape, and with a thick cross-section. The latest type is Puy.

In France (except for Brittany), with the evidence coming principally from hoards, the Bégude-type (found in the south of France) comes first. Then come Altenstadt/Greenlaw-types (in the Paris Basin) and finally the Puy-type. There is only one example in France where a Puy-type axehead has been found in association with one of Altenstadt/Greenlaw type.

In Belgium and Germany the sequence starts with Altenstadt/Greenlaw/Chenoise, and then these three types associated with those of Puy-type (implying a later date for Altenstadt and Greenlaw axeheads here than in the Paris Basin). The Puy-type closes the sequence. Puy axeheads are sometimes found associated with those made of flint (as at Dave in Belgium), copper (as at Großheubach, Bavaria), or non-flint stone (other regional types). The association with flint axeheads shows that, for Belgium, the latest Puy axeheads appear at a time when the manufacture of flint axeheads had already begun.

In the Gulf of Morbihan the tombs and hoards constitute an extraordinary record which complements the sequences seen in the other areas (fig. 22.3). The earliest axeheads are of Bégude and Bernon type (with the latter often being reworked and thinned-down Bégude specimens); these have sometimes been associated with stone rings that are attributable to the Villeneuve-Saint-Germain (VSG) culture (and/or to the Early Neolithic of Italy: Herbaut/Pailler 2000; Pailler 2007). Following these came the Saint-Michel and Tumiac types, which are unique to the Morbihan (figs 22.4 and 22.5). Towards the middle of the fifth millennium BC, the Altenstadt/Greenlaw types appeared in the tumulus of Saint-Michel at Carnac. Thereafter, one finds an association between axeheads of types Tumiac, Altenstadt, Durrington and Puy at Plomeur/Kerham (Morbihan); and finally, and farther afield in Brittany, between a Puy-type axehead and those of imported flint, repolished to produce faceted edges, at Plomeur/Kerdrafic (Finistère).

Before using these regional chronologies to construct an overall relative chronology for Alpine axeheads, there are one or two points to consider. The axeheads were well-travelled and may well have been old by the time they were deposited far from their original source (900 km from Italy to the Morbihan, or the 700 km, on average, between Italy and Germany). Nevertheless, according to the known associations (at least in Italy, France and Germany), they were deposited in the same chronological sequence as that known for the source areas in the Alps. The idea that there was a long-lived transmission of axeheads across the generations, which would have led to the mixing of types that had not been made at the same time, does not seem to be borne out by our seriations. In these areas of Europe, at least, it seems that single or multiple axeheads were deliberately withdrawn from circulation. This is especially so when they are discovered in places where they must have been deposited without any hope of passing them down to successive generations, or intent to retrieve them: in special landscape settings, in 'sacrificial' hoards, and in monuments where they were buried hafted but deliberately broken, putting them beyond human use (Cassen 2000a; 2000b; Cassen/Pétrequin 1999; Herbaut 2000).

The depositional contexts for the Alpine axeheads, together with our chronological sequencing, lead us to conclude that these sacred objects were destined, in the short to medium term, to be presented to external partners, thereby implying a centrifugal movement from the source areas to peripheral areas (cf. Van de Velde's discussion, this volume, of similar movements of material culture in the context of Mesolithic-Neolithic contacts in the Netherlands). Alternatively, their destiny was to be sacrificed to those with special powers, be they human (as in the case of the tomb finds) or non-human (*i.e.* supernatural powers, a term that we prefer to use in order to avoid the baggage attaching to the terms 'god', 'divinity', or 'spirit' in the West).

Having argued for a short to medium-term use, we do not claim, however, that this was universally the case. From Denmark comes evidence that one particular axehead type had a very long currency indeed: a very late copy of a Bégude axehead was found there, made of copper from the Mondsee in Austria, and dating to around 3500 BC (Klassen/Pétrequin 2005).

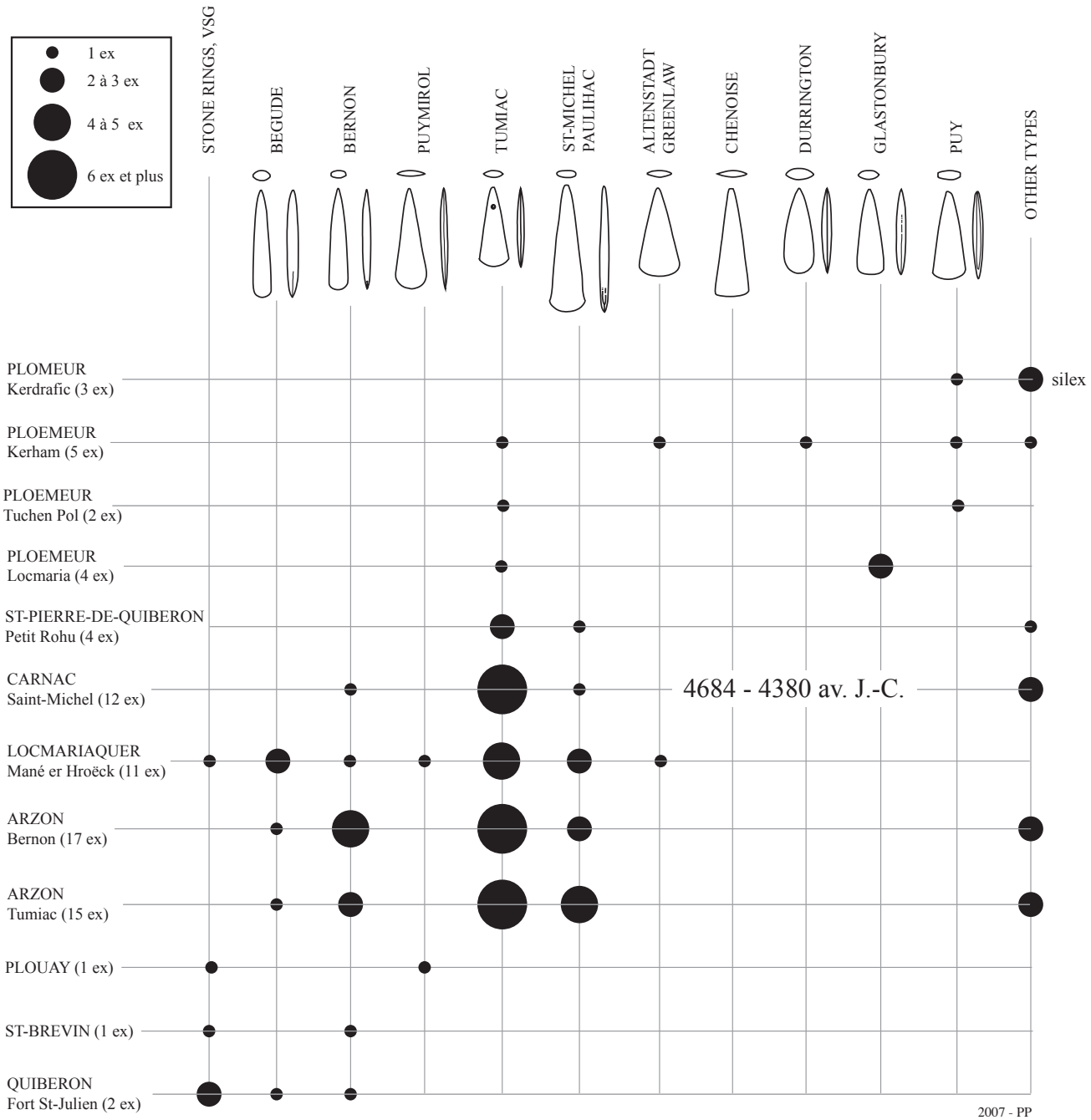

Figure 22.3 Chronological classification of hoards and other closed finds containing Alpine axeheads in Brittany, especially around the Gulf f Morbihan. The funerary assemblage from the Tumulus Saint-Michel, Carnac, has been dated to 5665 ± 54 BP (Tucson AA 42784, 4684–4380 cal BC at 2σ). Drawing: P. Pétrequin.

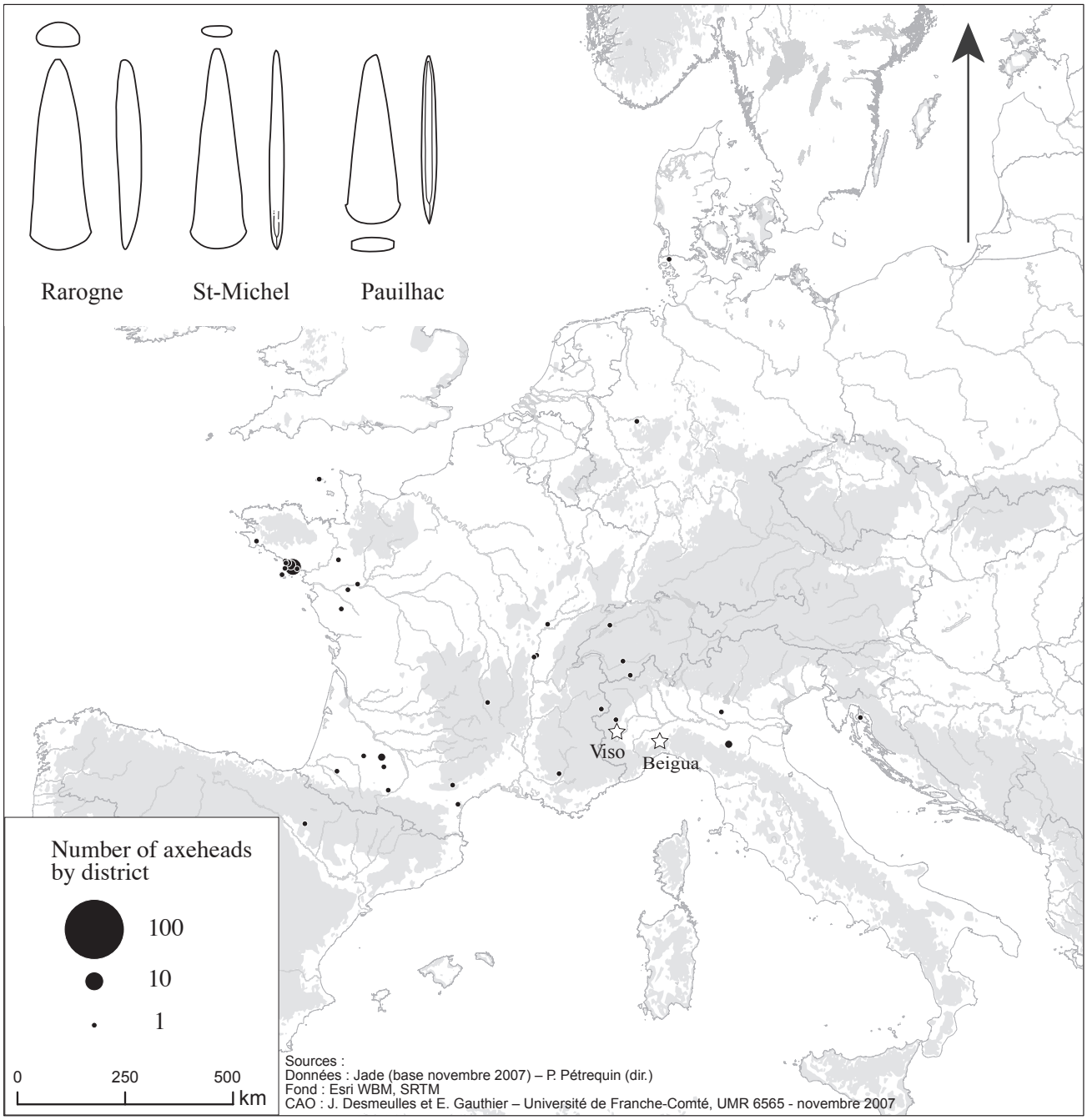

Figure 22.4 Distribution of polished axeheads of Rarogne, Saint-Michel and Pauilhac types. The Rarogne type represents massive axeheads that are close in shape and size to their Alpine roughout forms; the Saint-Michel type displays a type of repolishing that is peculiar to the Gulf of Morbihan; and the status of the Pauilhac type is as yet unclear; it is not impossible that it, too, represents a 'Carnacéen' variant of Alpine axeheads. These three types have a distribution that is almost exclusively southern, focusing in mid-fifth millennium Brittany.
Drawing: J. Desmeulles, E. Gauthier and P. Pétrequin (note: fig. 22.4-22.7 show only examples over 14 cm in lenght).

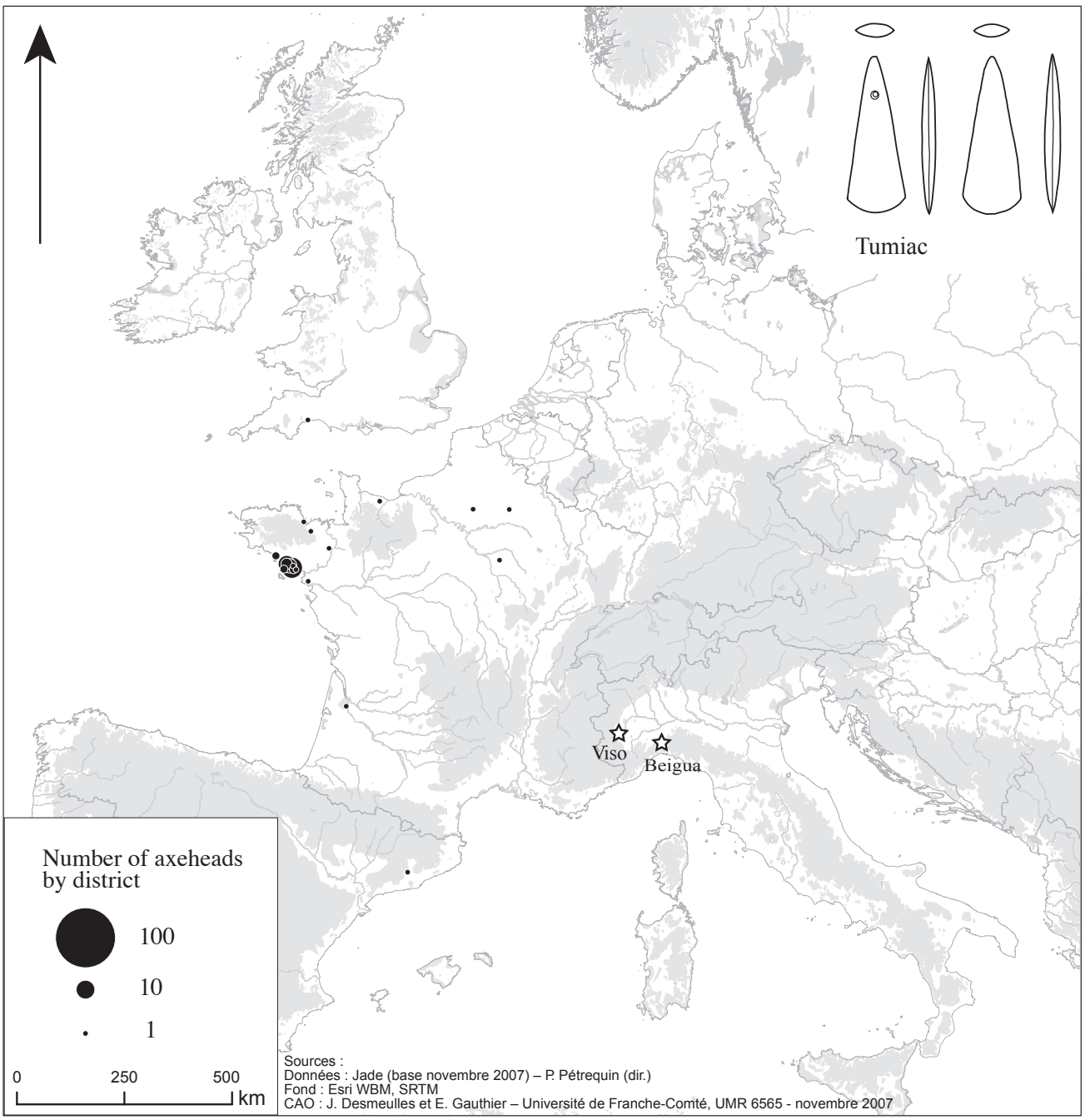

Figure 22.5 Distribution of an axehead type peculiar to the Gulf of Morbihan: the Tumiac type, corresponding to axeheads whose form has been altered by thinning and repolishing around the middle of the fifth millennium. After their transformation into 'Carnacéen' axeheads, some Tumiac specimens left Brittany to travel towards the Paris Basin and the Pyrenées. Drawing: J. Desmeulles/E. Gauthier/P. Pétrequin.

22.2.5 Absolute chronology and the movement of axeheads through Europe

Several factors militate against translating the relative chronology outlined here into an *absolute chronology*, valid for the whole of Europe, among which is an uncertainty regarding the currency of the various types. Let us take one example, which at first sight seems very well dated: that of the Glastonbury-type axehead found beside the Sweet Track in Somerset, southwest England (Coles *et al*. 1974). This wooden trackway is known, through dendrochronology, to have been constructed in 3807/3806 BC, and its excavators have argued that it had been abandoned by 3791 BC, around 15 years later (Coles/Coles 1996, 28). This gives us an impeccably tight chronology for the *deposition* of this axehead. However, it does not tell us when the axehead was originally made, or when it crossed the Channel. Regarding the former, the sequence of exploitation on Mont Viso suggests a manufacture date between 4500 and 4200 BC. For the latter, our only clue is the fact that pots of the Carinated Bowl tradition, and an axehead of mined flint, were also found beside the Sweet Track; the 'Carinated Bowl Neolithic' (and the practice of mining for flint) arrived in Britain and Ireland no earlier than 4000 cal BC, and probably within the first two centuries of the fourth millennium BC (Sheridan 2007). This case shows how complex the issue of constructing a chronology for Alpine axeheads can be. It also shows that it is unwise to extrapolate, arbitrarily, from the chronology for one region to the rest of Europe.

Furthermore, various routes of Alpine axehead movement can be traced from the quarries to the peripheries of Europe; these routes passed through varied cultures, and the axeheads themselves were probably subject to many different social interpretations on their journeys.

One approach is to examine the routes travelled by individual axeheads through various regions of Europe, and to try to understand the logic involved in the dynamic of their journeys. As the axeheads moved through various regions of Europe, they probably went through a complex series of transfers, physical modifications, and changes of meaning (Pétrequin/Cassen *et al*. 2006).

22.3 Alpine axeheads in Britain, the Isle of Man and Ireland

22.3.1 Crossing the sea

Turning to Britain, the Isle of Man and Ireland, the contexts are insular, separated from the Continent by at least 33 km of sea (at the Channel's narrowest point, the Strait of Dover/Pas de Calais). We should not be surprised that people were voyaging by sea: other evidence indicates that long-distance maritime journeys were being undertaken during the fifth and early fourth millennia, between Galicia and Brittany (Cassen/Vaquero 2000); from Brittany, up the Atlantic façade to as far as the west coast of Scotland and the northwest coast of Ireland (between *c*. 4400/4300 and 4000 BC: Sheridan 1986; 2003; 2004; 2005); and from northernmost France to places as distant as Caithness in northern Scotland and Sligo in northwest Ireland (around, or very shortly after, 4000 BC: Sheridan 2007).

In order to understand the Alpine axeheads found in these islands, we must evaluate them in detail and assess them against the background of the typo-chronology that we have proposed for the Continental fringe between Brittany and the Low Countries, from where the axeheads must have been brought.

22.3.2 Typology

Out of the 70 axeheads longer than 14 cm, the Altenstadt/Greenlaw types are by far the commonest. Next is the Durrington type then Puymirol, Puy and Glastonbury, Bernon, Chelles and Tumiac. Among the *c*. 70 further Alpine axeheads from Britain and Ireland that are shorter than 14 cm, a significant proportion are of the Durrington teardrop-shaped type. From first impressions, the range of types present in Britain, Ireland and the Isle of Man does not encompass the full chronological range of Alpine axehead types as seen on the Continent. The oldest type (Bégude) is missing, and the latest type (Puy) is only represented by a few examples.

There are a significant number of southern-type axeheads (23 – Durrington and Puymirol), readily distinguishable from the northern types. The discovery of two probable hoards in southern Scotland, each containing a mixture of southern and northern types, suggests that these types were indeed in contemporary use in Britain. At Oxnam/Cunzierton Farm (Scottish Borders), an Altenstadt axehead was found with one of Durrington type, while at Glenluce/Glenjorrie Farm (Dumfries and Galloway), an Altenstadt axehead was found with one of Puymirol type. This kind of association is very rare on the Continent, having been found only twice in France: once in Brittany (fig. 22.3) and once at Bennwihr (Haut-Rhin: Pétrequin/Jeunesse 1995). It seems to be unknown in Germany and Italy.

22.3.3 Confirming an Alpine origin

In order to double-check whether the axeheads from Britain, the Isle of Man and Ireland are indeed of Alpine rock, we undertook non-destructive mineralogical analysis using spectroradiometry (Errera 2002; 2003; 2004; Errera *et al*. 2006; 2007). The advantage of this technique over others that had previously been used (such as petrological thin-sectioning: Jones *et al*. 1977; Smith 1963; 1965; 1972; Sheridan 2003; Woolley *et al*. 1979) is that it allows direct comparison with a reference collection of over 2000 specimens gathered from the source areas themselves,

making it theoretically possible to pinpoint an axehead's geological origin. The results of our analyses of an initial batch of 20 axeheads from Britain (mostly from the collections of the National Museums Scotland) and from the Isle of Man have confirmed that all are of Alpine rock, with 13 likely to have come from Mont Viso (table 22.1) and 6 from Mont Beigua (and more specifically the high valley of the Erro; table 22.2). A further specimen, from Berwickshire (reference No. SCTL_050,_051) could have come from either of these massifs, although to the naked eye the material most closely resembles the omphacitite of Mont Viso.

These results reveal that the southern-type axeheads are mostly of eclogite, omphacitite or jadeitite from Bulé, at the southeast foot of Mont Viso, while the northern-type axeheads are mostly of the light green jadeitite from Porco in the Mont Viso massif or from Mont Beigua. The two principal strands of axehead production overlapped in time but were undertaken by different communities. Southern-type axeheads were made at Bulé by groups from Italy, for distribution southwards to Italy and the south of France; while northern-type axeheads were produced between Mont Viso and the Val de Susa, with the products travelling towards the French side of the Alps. It was in Great Britain and Ireland that the products of these two forms of technical and cultural expression were finally brought together: the crossing of the sea may have involved a 'sea change' in the interpretation of these sacred objects.

axehead findspot	spectra nos. (all prefixed by SCTL)
'Scotland' (I?)	_000,_001
Glenluce/Glenjorrie	_004,_005
Dunfermline	_012,_013
Fortingall	_014,_015
Cunzierton/Oxnam I	_016,_017
Glencrutchery	_022,_023
Breamore	_024,_025
near Douglas Castle	_032,_033
Caithness	_034,_035
Greenlaw	_038,_039
Rattray	_040,_041
Stirling	_044,_045
River Spean near Fort William	_111,_112

Table 22.1 List of analysed axeheads probably from Mont Viso.

axehead findspot	spectra nos. (all prefixed by SCTL)
Lochearnhead	_002,_003
Cunzierton/ Oxnam II	_006,_007
Monzievaird	_010,_011
Llangua	_020,_021
'Scotland' (II?)	_026,_027
Cornwall	_047,_049

Table 22.2 List of analysed axeheads probably from Mont Beigua.

22.3.4 Chrono-typology and routes from mainland Europe

Taking a chrono-cartographic approach, we can examine the British, Manx and Irish axeheads against the evidence from the Continental coastal zone between Brittany and Frisia, including the Channel Islands (of which Jersey was still attached to the Continent at the beginning of the fifth millennium BC: Renouf/Urry 1986). We shall follow the chronological order set out in figure 22.3.

As noted above, the oldest type of axehead, Bégude, is absent. However, there are two examples of Bernon type, which may represent Bégude axeheads that have been thinned and repolished. One is from the southern coast of England at Breamore (Hampshire); the other is from north-central England at Coddington (Nottinghamshire). Neither would be out of place in the giant Morbihan tumuli at *c*. 4500 BC. It could be argued that these are isolated pieces and thus of limited significance; but equally, the thinning and repolishing are well-known practices of the Carnac area in the Gulf of Morbihan (Pétrequin *et al*. 1998), and the presence of these Breton-style axeheads in England requires an explanation. A third, fragmentary axehead has recently been recognized as a Breton type, most probably of Tumiac type: this is the butt fragment, with abortive perforation, found at Sidmouth/High Peak (Devon), on the southwestern coast of England. Whether it was associated with the use of the High Peak Neolithic enclosure is unclear. With two out of the three Breton-style axeheads being found on the southern English coast, might this indicate direct contact from Brittany?

The absence of other Breton types of Alpine axehead (Saint-Michel and Pauilhac), and of VSG-culture stone rings from Insular contexts, suggests that the date of any such contact, and thus of the introduction of the earliest types of Alpine axehead from across the sea, cannot have been earlier than 4300-4200 BC.

The northern-style, Altenstadt/Greenlaw axeheads are, as noted above, very well represented (fig. 22.6). On the Continent, the earliest examples of these axeheads (at Locmariaquer/Mané er Hroëck: fig. 22.3) date to around the middle of the fifth millennium BC. In Britain, as noted

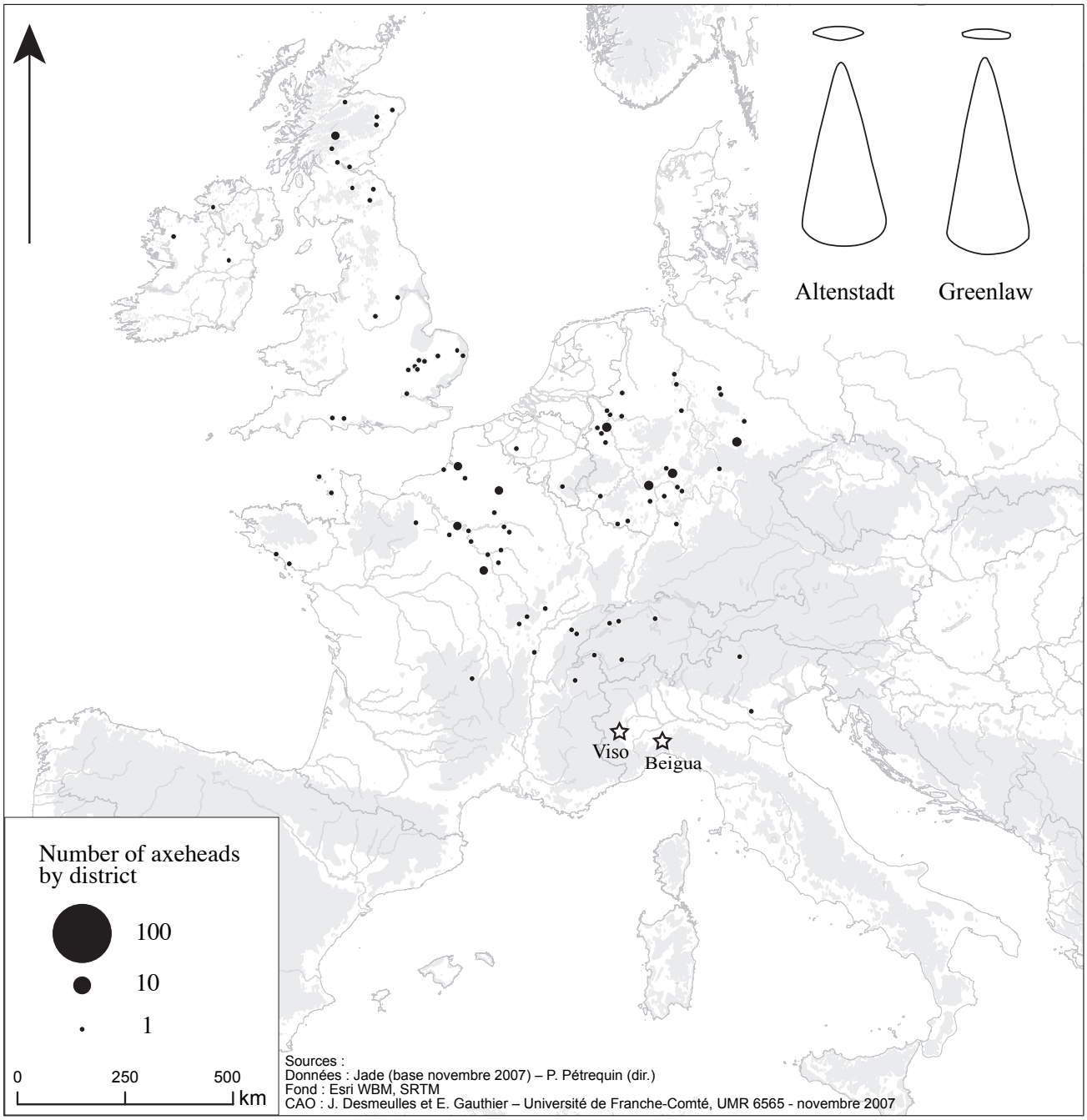

Figure 22.6 Distribution of northern axehead types. The Altenstadt and Greenlaw types are virtually confined to the northeast of a line running between Geneva and Caen. Note their quasi-absence from Italy, even though the jadeitites and eclogites from which they are made came from Mont Viso and Monte Beigua in Italy. The oldest Altenstadt axehead comes from the Gulf of Morbihan and dates to the mid-fifth millennium. In France, these northern types were replaced by Puy-type axeheads which arrived from the southeast from the 42nd century BC. Drawing: J. Desmeulles/E. Gauthier/P. Pétrequin.

by Murray (1994), two concentrations have been found, one in the north, the other in the south. No obvious explanation for the gap between these two concentrations suggests itself. Judging from the overall Continental distribution of Altenstadt/Greenlaw axeheads alone, the most likely area from which they were taken to Britain is the coast between Normandy and the Somme estuary. Two possible routeways suggest themselves from the distributional evidence: the Channel Islands and the Pas-de-Calais. It is unlikely that the axeheads arrived via the German route, because there are no examples close to the Rhine estuary region and because they were a late arrival along this overall route, appearing only shortly before the Puy type. In the centre of the Paris Basin and in Brittany, Altenstadt/Greenlaw axeheads are only once (at Le Pecq, Yvelines) associated with those of Puy type, which appeared in the Saône valley during the course of the 41st century.

While more than one possible route could theoretically have been taken by the Altenstadt/Greenlaw axeheads on their way to Britain and Ireland, the situation is less complicated when it comes to the teardrop-shaped Durrington type of Alpine axehead, one of the 'southern' types (fig. 22.7). Produced in the Italian Alps, where many roughouts have been found (especially at Mont Viso), Durrington-type axeheads followed different routes on their journey west- and northwestwards: via Languedoc and Velay, to the Vendée and Breton coasts; via the Saône valley to the Paris Basin and Normandy; and finally via the Moselle valley to Germany and Denmark. In Britain, the association between a Durrington axehead and an Altenstadt axehead at Glenluce/Glenjorrie Farm in southwest Scotland indicates that both types were circulating together there. For an area on the Continent from which both types could have been brought *together* to Britain and Ireland, the route Alps-Val de Suse-Saône valley-Paris Basin-Normandy offers the greatest chance of convergence before crossing the sea. This is in contrast to Germany, where the distribution of Durrington axeheads seems to 'avoid' the area with the highest concentration of Altenstadt/Greenlaw, as if in that part of Europe the circulation patterns for these two types were mutually exclusive.

22.3.5 The declining circulation of Alpine axeheads

The Puy type is the latest to cross the sea to Britain and Ireland, being represented by just three examples over 14 cm in length (fig. 22.8). The paucity of Puy specimens contrasts with the situation on the Continent, where they are well represented from Catalonia to Brittany to Denmark. The paucity of Insular specimens may signal a reduction in, or temporary cessation of, links with the Continent early in the fourth millennium cal BC.

Alternatively, it may be that, after 4000 BC, other kinds of special axehead were taking the place of Alpine examples, and perhaps even devaluing them. We do not know when the long, all-over-polished flint axeheads, with a surface finish comparable to that seen on the finest Alpine examples, started to be used in Britain (Pailler in press; Saville 1999; Sheridan 1992); nevertheless it is clear that, from as early as the beginning of the fourth millennium, flint was being mined, and stone was being extracted from several locations including Great Langdale in Cumbria and Tievebulliagh in Northern Ireland (as part of the 'Carinated Bowl Neolithic': Sheridan 2007).

On the Continent, there seems to have been a progressive replacement of Alpine axeheads with the production of other special artifacts, although this did not happen simultaneously across Europe. In the Netherlands, the special treatment accorded to large imported Danish flint axeheads (as described by Wentink, 2006) is probably the successor to the earlier ritual use of Alpine axeheads. Another example may be the cores and blades of heat-treated flint that are typical of Chasséen production in the Vaucluse, and which were travelling as far as Catalonia at the beginning of the fourth millennium (Léa 2005). Furthermore, there was increasing use of mined flint and quarried stone for axehead production in several areas: mined flint in Normandy and the Paris Basin; pelite-quartz and nodular schist in the Vosges; metadolerite at Plussulien (Côtes-du-Nord); cinerite at Réquista (Aveyron), *et cetera*.

All of this heralded the end of the exploitation of Alpine sources. The extraction sites at Mont Viso were now only being used to supply the needs of 'local' communities up to 200 km away as the crow flies, in the Savoie region of France, in western Switzerland and in the French Jura. During the Middle Neolithic II period at Clairvaux-les-lacs (Jura), Puy axeheads had ceased to be used by the end of the 39th century BC, even though at Concise (Vaud, Switzerland), they continued to be used, as workaday axeheads (and as just one type of axehead among many locally-manufactured specimens), during the 37th century and down to the dawn of the 36th century BC.

22.4 Discussion: proximal origins and chronology

By applying a purely typological approach to the study of large Alpine axeheads in Great Britain, the Isle of Man and Ireland, and comparing them with identical specimens found on the Continent, especially in Brittany and the Netherlands, we can recognize two possible proximal geographical origins for these sacred objects, and we can also establish some *termini post quos* and *ante quos* for the dates when the axeheads could have crossed the sea. Precisely when, and under what circumstances, they were imported remains debatable; indeed, the authors are actively engaged in such a debate and many questions still need to be resolved.

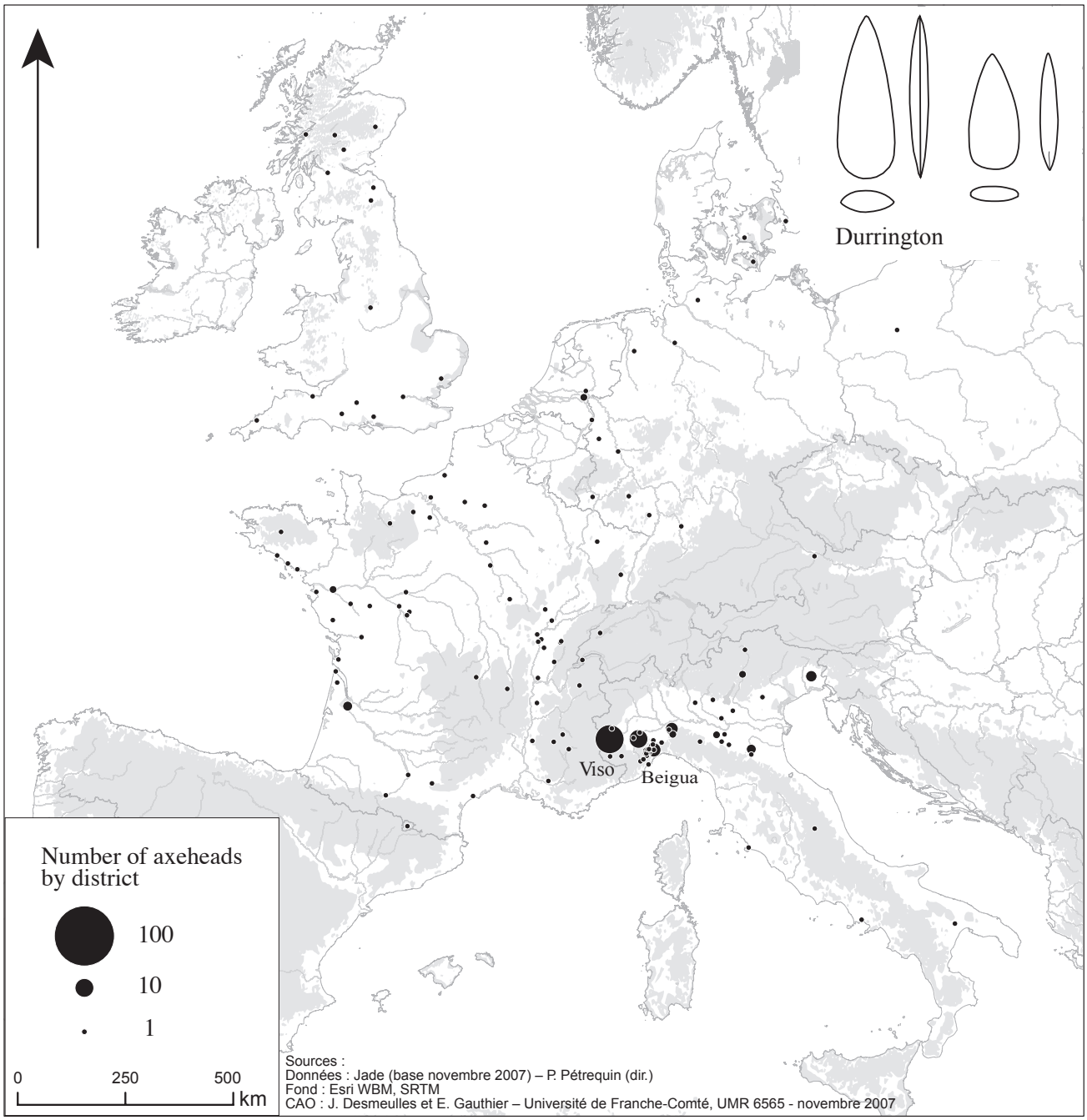

Figure 22.7 Distribution of Durrington type axeheads. This axehead type marks the broadest geographical distribution of Alpine axeheads in Europe, with examples found as far away from the source as Scotland and Denmark. Its chronological position within the quarries of Mont Viso is clearly anterior to that of Puy type axeheads. There are several cases where Durrington type axeheads have been found associated with northern axehead types (Altenstadt, Chenoise). This allows us to propose, for the axis Alps–Morbihan, a probable date range for their use within the second half of the fifth millennium. Drawing: J. Desmeulles/E. Gauthier/P. Pétrequin.

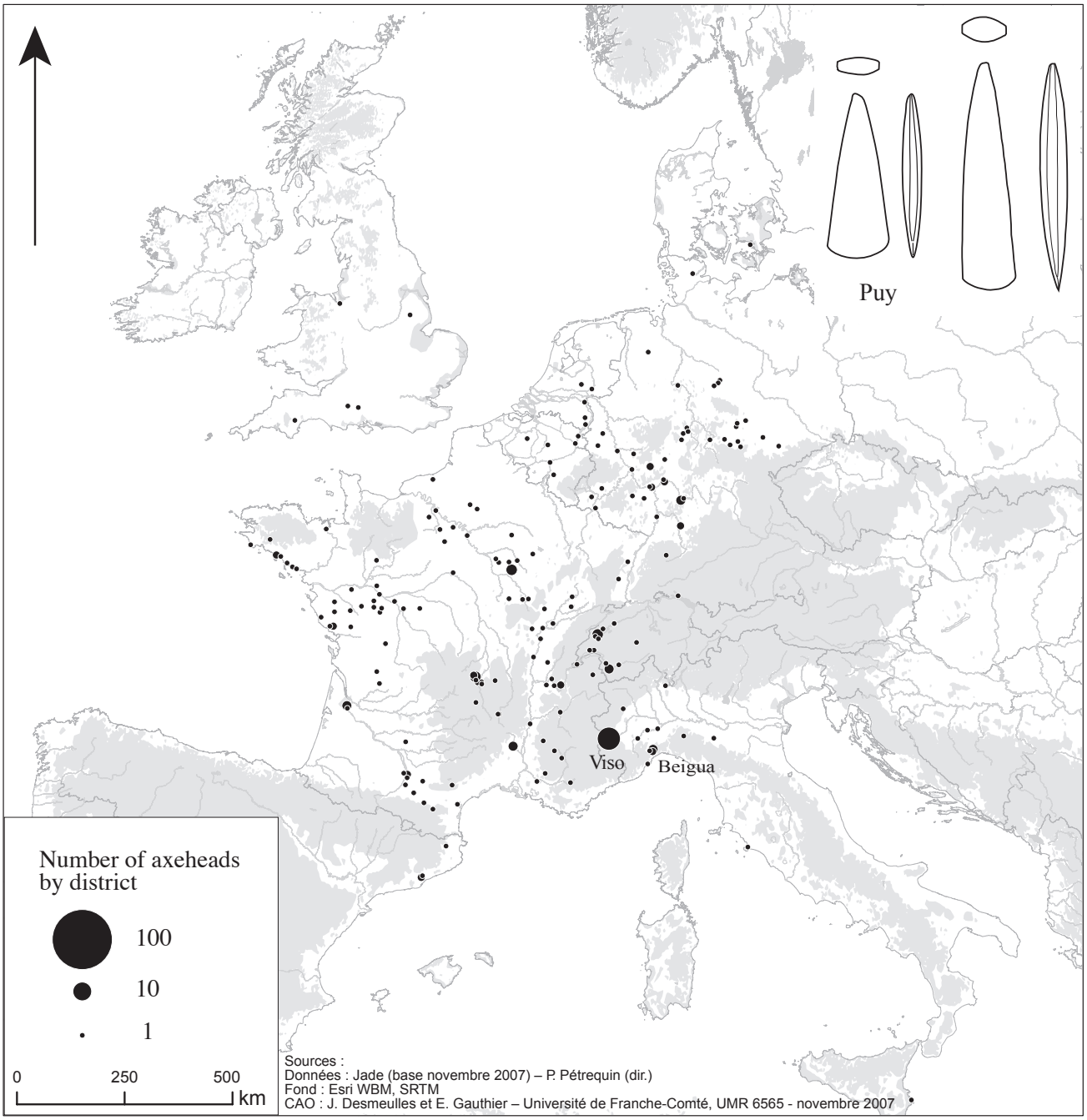

Figure 22.8 Distribution of Puy type axeheads. (Note: two British examples 13 cm long are included.) These are the latest type of axehead to have been made in the Alps. Their diffusion began around the 42nd century, in the Chassey Culture in Provence, and ended around 3650 BC in the Cortaillod Culture in western Switzerland. Note their marked rarity in Britain (and absence from the Isle of Man and Ireland) comparative to the relative abundance of the older types (Altenstadt and Durrington). This could indicate, for these insular milieux, an early interruption in the arrival of Alpine axeheads. Drawing: J. Desmeulles/E. Gauthier/P. Pétrequin.

22.4.1 Southern Brittany

The first area of proximal origin to consider, suggested by the two Bernon-type axeheads and by the fragment of a Tumiac-type axehead, is the Gulf of Morbihan. We know that there must have been some northward movement of people from this region between 4400/4300 and 4000 BC, because Breton-style funerary monuments have been found scattered along the Atlantic façade of Britain and Ireland, and distinctive Late Castellic pottery has been found at one such monument at Achnacreebeag, on the west coast of Scotland (Sheridan 1986; 2003; 2004; 2005). The time frame for this movement fits with the *terminus post quem* of 4300-4200 BC proposed above for the importation of the Breton-style Alpine axeheads into England.

However, the findspots of these axeheads are not at all close to the Breton-style tombs and pottery, and other possible routes need to be considered. It is known that Carnacéen Alpine axeheads – that is, axeheads originally made in the Alps but thinned-down, re-shaped and re-polished in the Carnac region – travelled outwards from the Morbihan: southwards across the Bay of Biscay to Galicia (Cassen/Vaquero 2000), and eastwards, in a 'reflux' movement, to the Paris Basin and Burgundy, on their way to the upper Rhine valley and to western Switzerland. The latter was probably part of a broader movement, over which the *idea* of carving stele and engraving motifs of Morbihannis type travelled as far as Morvan (Lagrost/Buvot 1998). The dates obtained for the menhirs of Saint-Aubin/Derrière-la-Croix (northeast Switzerland), of between 4300 and 4000 BC, show how early this expansion of Carnacéen rituals took place (Wüthrich 2003). It is not known whether the Breton-style axeheads found their way to England from this 'Paris Basin' axis.

A further alternative, albeit requiring that the axeheads were at least a century old when they crossed the Channel, is that they came over as part of a movement from Normandy to southwest England during the 39th or 38th century BC: the evidence for such a movement consists of drystone closed chambers and simple passage tombs, including one recently dated to the 39th century at Broadsands in Devon, not far from High Peak, and containing pottery comparable to Norman Middle Neolithic II pottery (Sheridan 2004; 2005; 2007). Yet another possibility – and one not favoured by the principal author, because there are so few of the late Puy-type axeheads in Great Britain – is that they were imported yet later, during subsequent contacts between Normandy and south-west England during the 38th or 37th century BC (Sheridan 2004; 2005). It must be admitted, however, that none of these explanations accounts for the Bernon-type axehead found at Coddington, in the northern English midlands.

22.4.1 Northern France

A second, and much more obvious proximal origin for Alpine axeheads, is northern France, and in particular the Bay of the Somme. It is from here that the axeheads of Altenstadt/Greenlaw and Durrington type could have arrived in Britain and Ireland, as the distribution maps clearly suggest (figs 22.6 and 22.7). These types constitute some 68% of all the large Insular Alpine axeheads, and if one adds Puymirol-type specimens (whose period of production overlapped with that of Durrington-type axeheads), this figure rises to 80%. Associations between Altenstadt/Greenlaw (*i.e.* northern types) and Durrington and Puymirol axeheads (southern types) are very rare on the Continent, with just three examples known from 34 recorded hoards. By contrast, in Britain the only two hoards (Oxnam/Cunzierton and Glenluce/Glenjorrie) both contain a combination of northern and southern types. As mentioned above, this phenomenon might correspond to a reinterpretation of these sacred objects once they had crossed the Channel.

When did these axeheads – Altenstadt, Durrington, Puy – circulate as far as Britain, the Isle of Man and Ireland? It is easier to propose *termini post* and *ante quos* rather than suggest more precise dates (although some of the authors are tempted to be more specific, in the light of what we already know about the neolithisation of these islands). The *termini post quos* are provided by the Breton evidence (fig. 22.3). The mid-fifth millennium closed assemblages from the giant tumuli of the Gulf of Morbihan provide a *terminus post quem* for the Altenstadt/Greenlaw types; we may note that these types continued in use through the rest of that millennium, as shown by their presence in the hoard from Ploemeur/Kerham in the Morbihan, which also includes a Puy-type, the latest Alpine axehead type in Europe. Teardrop-shaped Durrington axeheads probably appeared a little later than the mid-fifth millennium, since they are never represented in the giant tumuli of the Morbihan; for their arrival across the sea, a probable *terminus post quem* of 4300-4200 BC can be suggested.

The earliest example of an association between Durrington, Altenstadt/Greenlaw, Tumiac and Puy-type axeheads in Brittany is the hoard from Kerham (Ploemeur, Finistère). Discovered in 1861, it contained 11 axeheads, but only four of the Alpine examples are still available for study (Le Rouzic 1927; Harmois 1928). This hoard is vital for establishing the period of the appearance of Alpine axeheads in Britain, the Isle of Man and Ireland. Puy-type axeheads appeared in the Alps with the Chasséen culture, at Grotte de l'Eglise, Baudinard (Var) (Courtin 1974), probably around 4200 BC. By around 4100 BC, the form of the axeheads produced at the quarries of Plancher-les-Mines (Haute-Saône) was clearly being influenced by the Puy form (Pétrequin/Jeunesse 1995). Judging from the rate of this progression,

one could estimate that the Puy type would not have reached the Atlantic fringe of Europe before the end of the fifth millennium. However, until well-dated assemblages have been discovered, this remains only a suggestion.

Flint axeheads have been found in association with Puy-type axeheads in two hoards: at Plomeur/Kerdrafic (Finistère) and Dave/Rocher de Neviau (Belgium). The currency of Puy axeheads would thus seem to correlate (at least partly) with the period when flint mines for axehead production were being opened in the Paris Basin, Normandy and Belgium. At Spiennes (Belgium), the earliest date for a shaft (no. 79.3) associated with an early Michelsberg settlement is 5510 ± 55 BP (Lv 1566, 4459-4228 cal BC at 2σ, calibrated using OxCal v.4.0) (Collet *et al*. 1997). From Jablines/Le Haut Château (Seine-et-Marne) comes the slightly later date of 5220 ± 80 BP (Gd 4663, 4259-3914 cal BC at 2σ) (Bostyn/Lanchon 1992). On this evidence, the potential date for the association between a Puy-type axehead and a flint axehead is later than 4300-4200 BC. An association, in northwest and northern France, with the Michelsberg and Chassey cultures is thus plausible, even though this has not yet been demonstrated through the association of a Puy axehead and pottery of these types.

22.5 Conclusion

In seeking a proximate origin for the Alpine axeheads that crossed the sea to Britain, the Isle of Man and Ireland, the most likely area for the majority of them – if we set to one side the three examples of early, Breton-type axeheads (Bernon and Tumiac) found in Britain, which may well have arrived due to contacts with Armorica/Normandy – is the coast between Normandy and Pas-de-Calais. Alpine axeheads may have started to circulate in this area from the middle of the fifth millennium cal BC, and the contacts that brought them from the Alps to this part of France seem to have intensified from 4300-4200 BC. Indirect evidence, relating to the spread of Puy-type axeheads from the Alps to Burgundy, allows us to suggest that the transfer of Alpine axeheads across the sea was interrupted shortly after the Puy specimens reached the French coasts, at the end of the fifth or very beginning of the fourth millennium cal BC. Thus the most likely period within which the axeheads crossed the sea is between 4300/4200 and 4000/3900 BC.

In the opinion of one of us (Sheridan), this corresponds perfectly with the evidence relating to the neolithisation of Britain, the Isle of Man and Ireland, where the rapid appearance of the 'Carinated Bowl' strand of the Neolithic over a large part of these islands around 4000 BC seems to have represented a short-lived episode of contact with the Continent (Sheridan 2007). The most likely source for this 'Carinated Bowl Neolithic' is Nord-Pas de Calais (possibly extending into Picardie), although a precise area of origin has been hard to prove, not least because this part of France is one of the most poorly-documented regions for the period around 4000 BC.

Evidence that Alpine axeheads had indeed crossed the sea by the early fourth millennium is provided by two finds in particular. The dendrochronological date bracket of 3807/3806 BC to 3791 BC for the construction and use of the Sweet Track (Coles/Coles 1996, 28) provides us with a firm date for the deposition of one Alpine axehead in Britain. It has been argued elsewhere (Sheridan 2007; Sheridan *et al*. 2007) that the deliberately burnt, deliberately-broken fragment of another Alpine axehead, found in the megalithic funerary monument at Kirkmabreck/Cairnholy I (southwest Scotland), was probably deposited there around the same time. By this time, in France and Belgium, the use of Alpine axeheads had already ceased, although Alpine axeheads were still circulating elsewhere in northern Europe (Klassen/Pétrequin 2005). This apparent conservatism in use (from an Italian and French perspective) and reinterpretation of these sacred objects in their new, Insular context is a question that demands further study.

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Notes

1. The term 'jadeitite' is used here in preference to the more commonly-used term 'jadeite', as it more accurately describes the rock in question. Regarding citation of axehead findspot place names, the convention used here – as in *Projet JADE* – is as follows: 'commune (or equivalent)/local place name', followed (where appropriate) by country (or equivalent) and/or regional name.

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