

Mycenaean Greece and Europe. Interconnections and exchanges in the light of recent research

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ABSTRACT

The debate over possible connections between Bronze Age Greece and the rest of the European continent, to which Jan Bouzek made major contributions throughout his career, is reviewed in the light of new contributions and finds. Particularly important is recent work on the north Italian site of Frattesina. Other categories of evidence are considered in turn. In the light of these advances, it is possible to imagine a much more interconnected Bronze Age world than was possible 40 years ago.

KEYWORDS

Greece; Bronze Age; exchange; long-distance travel; amber; Frattesina.

INTRODUCTION

In 1966 Jan Bouzek published an article in *Památky Archeologické* entitled ‘The Aegean and Central Europe: an introduction to the study of cultural interrelations 1600–1300 BC’ (BOUZEK 1966). This was the first full study of a subject which had increasingly become a matter of debate over preceding decades.¹ Studies of particular aspects had been published over the years, for instance those by Gero von Merhart (1940), Vladimír Milojčić (1955), Rolf Hachmann (1957) or Nancy Sandars (1959) on amber spacer-plates; or H.C. Beck and J.F.S. Stone (1936), and Stone and L.C. Thomas (1956), on faience beads. Other studies dealt with individual objects or object classes, such as the Dohnsen cup (SPROCKHOFF 1961) or bronze double-axes (HAWKES 1936–1937). The only systematic study, which was published quite independently in the same year, was that by Stuart Piggott, in a brief article in a Festschrift for Jiří Neustupný (PIGGOTT 1966).

In contrast to the studies of individual objects, Bouzek’s study, like Piggott’s, covered a wide range of object classes, including all those listed above but incorporating many more into the discussion: pottery forms, Aegean Type A rapiers and Type C swords (after the Sandars classification), spiral decoration on bone objects in the Carpathian Basin, supposed imitations of Aegean vessels in central Europe, earrings (*Lockenringe*), helmets, cult equipment, symbolic designs such as horns, axes and bird motifs, summarised in a conclusion that saw the Aegean and European worlds connected by regular interactions and exchanges.

Bouzek developed and expanded his article for his first Habilitation dissertation, submitted in 1968 and entitled *Homérské Řecko a střední Evropa I: Egejská oblast a střední Evropa 1700–700 př. n. l.* It is a melancholy fact that this submission was not accepted for political reasons, but since it forms the basis for his 1985 book it is an interesting document, since it shows the development of Bouzek’s thinking during the two decades before.²

1 Bouzek had published brief discussions of the material previously: e.g. BOUZEK 1965.

2 A copy of the dissertation, which Bouzek gave me in 1970, has been lodged in the library of the Institute of Classical Archaeology.

In the following years, a number of studies appeared which covered some or all of this material, for instance Keith Branigan's on the Wessex-Mycenae connection (BRANIGAN 1970) or the Surbo metalwork (BRANIGAN 1972), Sabine Gerloff's study of the daggers of Early Bronze Age Britain, with a consideration of the Wessex Culture (including a study of Cypriot daggers) (GERLOFF 1975), Józef Vladár's account of supposed East Mediterranean influences on Slovakia (stemming largely from his excavation at Spišský Štvrtok) (VLADÁR 1973), or Hartmut Matthäus's article on the connections between Italy and Greece (MATTHÄUS 1980). All these studies added important information, even if some of them treated controversial matters as if they were straightforward. Meanwhile Helen Hughes-Brock and I published a detailed study of amber in the Aegean Bronze Age (HARDING - HUGHES-BROCK 1974), and I added a study of metalwork that connected Europe and the Aegean (HARDING 1975). Bernhard Hänsel also contributed on aspects of the debate, as shown in a number of articles (e.g. HÄNSEL 1982).³

The next step in the story is the publication of Bouzek's and my book-length studies on the whole question of the Aegean-European connection (HARDING 1984; BOUZEK 1985).⁴ These two books ostensibly covered exactly the same material, with some differences of geographical coverage (for instance, Bouzek included connections with Anatolia, which I largely ignored), and in the detail of the material discussed (Bouzek included lists of the objects he was considering, which for the most part I took as read). Bouzek also provided a rather more narrative account than I did. The major difference between the two accounts, however, is in their overall approach and the resulting conclusions. Bouzek's approach was to regard all, or almost all, the classes of evidence as indications of a high level of interaction between the Aegean area and central Europe; if they showed no interaction for the most part he did not include them. By contrast, my approach was to adopt a sceptical attitude to many of the claimed links, and only to accept those where there seemed to be strong reasons to believe that they were credible.

In the years following the publication of these books, a range of reactions was apparent. Most scholars followed Bouzek's approach, even if they were doubtful about some of the claimed links.⁵ By contrast, my views were appreciated by some but severely criticised by others, notably Kristian Kristiansen at a conference held in Mainz in 1985.⁶ It was therefore no surprise when he later wrote several articles and books espousing what I referred to as the 'maximalist' position, accepting every claimed link as genuine, even when the evidence was demonstrably weak or non-existent, and downplaying or arguing against my views. Chief among these assertions was Kristiansen's acceptance, in his 2005 book with Thomas Larsson,

3 Hänsel later excavated at Monkodonja in Istria, arguing that its conception owed much to Aegean models.

4 It should be made clear that although my book appeared a year before Bouzek's, this was entirely due to logistical reasons connected with Bouzek's health, workload and the travails of seeing the book through the press. He was characteristically gracious about the fact that I had published first on a topic which he had made his own. He did indeed point out in his Foreword that the book 'might have been more useful if it had been published fifteen years earlier', but was consoled by the fact that 'subsequent publications and studies have made it possible to improve many parts of it' (BOUZEK 1985, 11).

5 Reviews of Bouzek: Philip Betancourt, *AJA* 91, 1987, 146-147; Nancy Sandars, *JHS* 107, 1987, 241. Reviews of Harding: *Pro*: Colin Renfrew, *Man* 21, 1986, 143-144; *contra*: R. Ross Holloway, *AJA* 90, 1986, 357-358. Bouzek's review of my book (polite but for obvious reasons unfavourable): *Gnomon* 59/2, 1987, 181-182; mine of Bouzek's: *Proceedings of Prehistoric Society* 52, 1986, 368-369.

6 This conference, later published as SCHAUER 1990, brought some of these divergencies into sharp focus: while I presented a general overview based on my 1984 book, Kristian Kristiansen launched into a strong critique, calling my views as expressed in the book 'absurd'.

of the Bernstorf amber finds as genuine, when most people already at that time believed them to be forgeries (KRISTIANSEN – LARSSON 2005, 127, 235).⁷

Other contributors to the Mainz conference adopted a range of considered views, though Tiberiu Bader went along with the maximalist position. Peter Schauer wrote a couple of articles at this time reviewing the whole debate, and generally espousing this position (SCHAUER 1983; 1984; 1985).

In 1994 Bouzek published an article reviewing the situation, concentrating on new finds such as those of oxhide ingots in Bulgaria or the excavations at Malkoto Kale and Kastanas, as well as a better knowledge of pottery traditions in the Albanian-Macedonian area. He also introduced the question of climatic change, long an interest of his, as a possible explanatory factor in understanding ancient migrations. He concluded by pointing to what is known of historical migrations, and suggesting that the situation in Europe at the end of the Mycenaean period fitted such patterns. The main contribution of this article is to reinforce a broadly historical view of the whole Aegean-European debate; it concentrated on the literature that had appeared in the ten years since his book and mine had been published.

Bouzek made one last contribution to the debate shortly before his death (BOUZEK 2020). This brief article brings in consideration of weights and weighing, though the most recent work had escaped his notice (RAHMSTORF 2010; IALONGO 2018; IALONGO – RAHMSTORF 2019; RAHMSTORF 2019). Otherwise he concentrated on pottery similarities, clay altars, and gold discs from Bohemia, whose parallels in Italy and Greece suggested to him similar beliefs related to the sun. He was still tempted to accept the Bernstorf finds as genuine, pointing out that symbols on clay vessels and discs occur in several parts of Neolithic and Copper Age Europe; few scholars would see these as relevant to the debate, however, and the much-discussed Tărtăria finds do not materially change that situation.

NEW DEVELOPMENTS SINCE 1994

I have already alluded to Kristiansen's 2005 book, the main purpose of which was (apart from further trenchant criticism of my work, at that time already over 20 years old) to promote the idea of the importance of travellers in symbolic transmission and social transformation in Bronze Age Europe. This book has been much cited in spite of its many inadequacies,⁸ but in the present context its contribution need not be considered further. By contrast, many of Kristiansen's more recent articles have painted a somewhat different picture. I should also mention a book of 1998 (KRISTIANSEN 1998), which gave an account of Bronze and Iron Age Europe, with a chapter devoted to World Systems Theory, of which Kristiansen was an enthusiastic proponent, and which he used to support his arguments for extensive connections across Europe as part of a core-periphery model.

Several outline reviews of all or part of the material have appeared in the last 25 years, for instance that by Valeriu Sîrbu and Christian Schuster (SÎRBU – SCHUSTER 1997), which adds little to the picture and accepts all the artefacts already mentioned as genuine indicators of contact. Andrea Vianello has considered the question of exchange networks in the central and western Mediterranean, with particular reference to the role of imported Aegean products (VIANELLO 2005; 2008; 2009).

7 Kristiansen later retracted this view, in the light of the overwhelming evidence that the amber finds could not be genuine (pers. comm.), as shown by Kate Verkooijen (2017).

8 Compare, *contra* the many favourable reviews of the book, HARDING 2006; NORDQUIST – WHITTAKER 2007, along with the pugnacious response by Kristiansen and Larsson (2007).

New reviews of the situation regarding metalwork, particularly swords, by Sabina Pabst and Paulina Suchowska-Ducke have appeared (PABST 2013; KRISTIANSEN – SUCHOWSKA-DUCKE 2015; SUCHOWSKA-DUCKE 2015; 2016). The careful review by Pabst argues on the basis of Naue II sword forms in favour of the now well-accepted view that there were many common elements in weapon form between Greece and Italy, suggesting that ‘the phenomenon can be interpreted as part of extensive exchange and trade connections which took place between the Late Mycenaean society in the north-western Peloponnese and the communities of the western and eastern seaboard of the upper Adriatic during the 12th century BC’. Suchowska-Ducke sees the north-south relationship as being primarily based around trade, and discerns three phases of contact. In most respects she adopts the ‘maximalist’ position, and her debt to Kristiansen is clear in this revealing sentence: ‘The main danger [...] lies in over-interpreting the meaning of individual items and neglecting the bigger picture’ (SUCHOWSKA-DUCKE 2016, 64); this appears to mean that individual objects in themselves have much less importance than an overarching model with which to interpret the finds, much as Kristiansen and Larsson argued in 2005. Kristiansen and Suchowska-Ducke present a complex picture in their contribution, justice to which would require a longer discussion; the swords are taken to suggest the rise of a warrior aristocracy, and the existence of a globalised network of power and wealth. Among the processes that these authors identify are new forms of settlement and increasing population density; new forms of agrarian intensification; and the existence of a centre-periphery dynamic that links the Mediterranean with areas to the north and west. Core-periphery theory is thus not yet dead.

After these general discussions, I shall briefly list the main new findings and discoveries, before attempting an overall view of the situation. Some of these relate to artefact types, but one site deserves mention above all, because of its crucial importance for an understanding of trade and cross-cultural interaction in the period around 1000 BC: Frattesina in the lower Po valley, near its delta.

FRATTESINA (ROVIGO, LOWER PO VALLEY)

Of the many sites that contribute to the overall picture of interconnections in the Bronze Age, Frattesina holds an outstanding position. Although the excavations on the site had started in 1968, and finds were deposited in the Museo Civico in Rovigo (where I saw them in 1972), the account of the first systematic excavations only appeared in 1981 (BIETTI SESTIERI 1981), though short accounts had appeared before that (BIETTI SESTIERI 1980); excavations continued into the 1980s and were resumed in 2016, with remote sensing techniques also being used (**Fig. 1**). In recent years a sustained campaign has been launched to publish all the work done on the site, and to bring together all the analyses carried out. This work has appeared in many articles on individual topics (cf below) but above all in two collective volumes (BIETTI SESTIERI – BELLINTANI – GIARDINO eds. 2019; BELLINTANI 2020), with another one in preparation. As a consequence, we now know a great deal about this crucial site, as well as others in the same area. Frattesina had abundant finds of glass, metalwork, amber, ivory, and bone and antler, as well as ceramics, which included sherds of Mycenaean pottery and pieces of ostrich egg. Glass was worked on site, as were metals; and the range of finds, including stone weights, indicates extensive connections round the Adriatic and beyond. The site belongs predominantly to the period around 1000 BC, when many links connected the two sides of the Adriatic, and one may infer that extensive commerce was taking place through the length of that sea and beyond (CAVAZZUTI *et al.* 2019).



Fig. 1: Aerial photo, taken from a hang-glider, of the site of Frattesina. Above left (north-west) the present-day village of Fratta Polesine. The two roads running eastwards from the left roughly define the extent of the ancient branch of the 'Po di Adria', the main branch of the Po in the Bronze Age. Around 200 m to the south of the southern bank of the ancient river course, the traces of the settlement of Frattesina can be seen, about 1200 m long and 100–200 m wide. In the centre of the site can be seen the traces of the 'central canal' which crosses it from west to east. Investigations conducted so far (BALDO - BALISTA - BELLINTANI 2018) suggest the presence of a network of canals that can be traced running roughly west-east and north-south. Around the centre of the photo is a rectangular area, representing the excavations of Anna Maria Bietti Sestieri between 1974 and 1989 (BIETTI SESTIERI 1981; BIETTI SESTIERI - BELLINTANI - GIARDINO eds. 2019). Photo: Raffaele Peretto, personal archive (courtesy of Paolo Bellintani).

AMBER

Since Bouzek and I wrote about amber, much has been written about Bronze Age finds and catalogues in several countries, for instance in the Balkans (PALAVESTRA 1993; ZYGOURIS 2019; CWALIŃSKI 2020), the Czech Republic (ERNÉE 2012; CHVOJKA *et al.* 2017), Slovakia and the Carpathian Basin (MARKOVÁ 1993; 1999), Italy (SALZANI *et al.* 2006), especially in the area near Frattesina (see below), Hungary (JAEGER 2016), Romania (BOROFFKA 2003), Bulgaria (GERGOVA 2009; IVANOVA - KULEFF 2009), Albania (KURTI 2013; 2017), as well as new finds from Greece or new examinations of old ones (SGOURITSA POLYCHRONAKOU - NIKOLENTZOS 2016). In addition, Janusz Czebreszuk has published an updated account of amber in Mycenaean Greece (CZEBRESZUK 2011), along with several accounts of the part it played in north-south contact (e.g. CZEBRESZUK 2013); and Joseph Maran has made interesting contributions to the debate (MARAN 2004; 2013).

Particularly important has been a doctoral dissertation by Kate Verkooijen, unfortunately unpublished, which examined the whole question of amber spacer-plates and pinning down

the way they were produced and the ornaments they were part of; there are also important chronological implications in her conclusions (VERKOOIJEN 2014). It is to be hoped that this work will soon see the light of day.

Finds in the lower Po valley are also very important, and have centred on Frattesina and nearby sites, such as Campestrin di Grignano Polesine (BELLINTANI 2014; BELLINTANI *et al.* 2015). The amber has given rise to a number of articles, not surprising since Frattesina itself contained intriguing amber finds, and Campestrin produced fragments indicating that the site had been used for the manufacture of amber objects, notably beads.

Among the bead types found at Frattesina are two of particular importance: the Tiryns and Allumiere types (Figs. 2-3). Both of these are found widely in the Adriatic area in the later part of the Bronze Age, the Tiryns type also in Greece. This much has been known for many years, and was discussed in both Bouzek's and my books (HARDING 1984, 82-86; BOUZEK 1985, 172-173). Since then, many more finds have been mapped, and the information from the Frattesina excavations published (PALAVESTRA 1992; CULTRARO 2006; NEGRONI CATACCHIO 2014; BELLINTANI *et al.* 2015; NEGRONI CATACCHIO - GALLO 2018). But a remarkable find from Horodiivka in Ukraine (Fig. 4) came as a complete surprise to everyone (BEREZANSKAJA - KLOČKO 1998), and has changed the distribution map of these beads in a dramatic way. As well as these extraordinary finds, work by the Italian team has made major contributions to the study of the typology of the Tiryns-type beads, identifying several distinct forms of these strange beads.⁹



Fig. 2: Beads of Tiryns type from the hoard known as the Frattesina 'tesoretto' (BELLINTANI - PERETTO 1972; NEGRONI CATACCHIO 1972). Photo: Michele Baldo. Archivio della Direzione Regionale Musei del Veneto.



Fig. 3: Beads of Allumiere type from the Frattesina 'tesoretto'. Photo: Michele Baldo. Archivio della Direzione Regionale Musei del Veneto.

⁹ This work has been carried out above all by Ursula Thun Hohenstein, Paolo Bellintani, and Ivana Angelini, who presented it at the 2018 conference in Rovigo 'Frattesina cinquant'anni dopo. Il Delta del Po tra Europa e Mediterraneo nei secoli attorno al 1000 a.C.'. A publication is forthcoming.

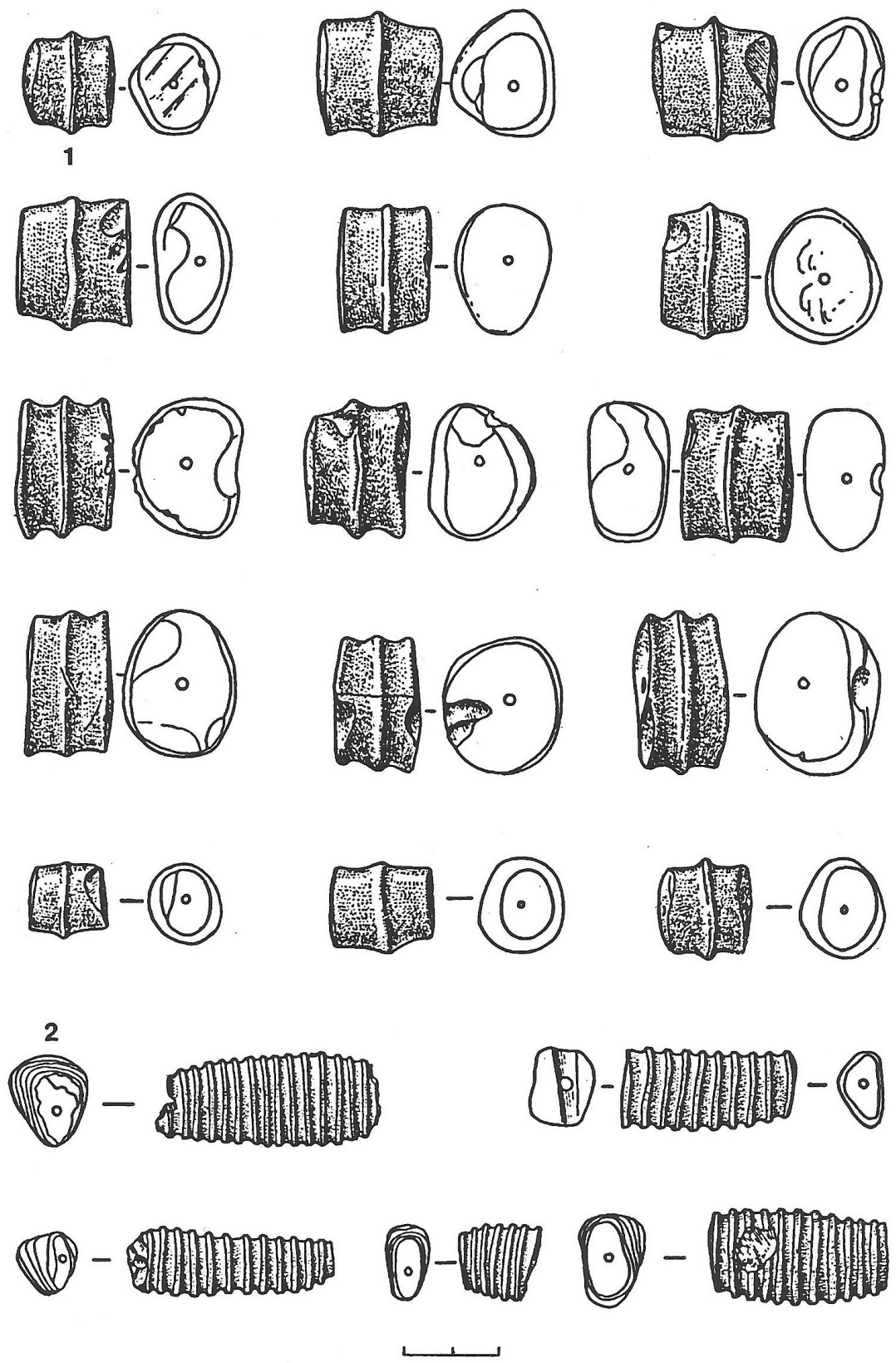


Fig. 4: Beads of Tiryns type from Hordiivka, Ukraine (source: BEREZANSKAJA - KLOČKO 1998).

FAIENCE AND GLASS

Analytical work has continued on faience and glass beads from various countries, for instance Ireland (MAGEE 1993), that by Alison Sheridan and Andrew Shortland on British and Irish beads (SHERIDAN – SHORTLAND 2004), Shortland and colleagues on the north Caucasus (SHORTLAND – SHISHLINA – YEGORKOV 2007), several groups looking at the nature and relationships of Mycenaean glass (NIKITA – HENDERSON 2006; WALTON *et al.* 2009; HENDERSON – EVANS – NIKITA 2010; SHORTLAND 2016; NIKITA – NIGHTINGALE – CHENERY 2017), the Uluburun ship (JACKSON – NICHOLSON 2010), the west Eurasian steppe (STOLYAROVA 2000), Mildner and colleagues on north German material (MILDNER *et al.* 2009), and perhaps most remarkable, Jeanette Varberg and colleagues working on Scandinavian glass beads (VARBERG – GRATUZE – KAUL 2015; VARBERG *et al.* 2016). The findings of this group seem to show that Mesopotamian beads found their way not only to Egypt, but also to several parts of Europe, including Denmark and north Germany.

Glass-making was a major industry at Frattesina also, and a series of analyses have demonstrated the glass types being produced there (TOWLE *et al.* 2001; ANGELINI *et al.* 2004; WALTON *et al.* 2009; HENDERSON *et al.* 2015; ANGELINI 2019).

All these discussions and presentations have enabled a much fuller knowledge of glass and faience compositions, and thus production places and potential trade routes.

SPIRAL ORNAMENT

The existence of many objects in the Carpathian Basin, typically in bone but also on ceramics, has long been held up as a close link between north and south, given that the motifs are very similar to those found on gold objects from the Shaft Graves. Bouzek accepted these links; I was sceptical. Silvia Penner provided more detail on the material that links the Shaft Graves with the European steppe region (PENNER 1998), though her views have been much criticized. But it is the work of Wolfgang David in the last 25 years that has changed the situation most markedly (DAVID 1997; 2001; 2002; 2007). It is now impossible to ignore the remarkable similarity between the decorative motifs in the two areas – even though the processes by which such connections could have come about are still difficult to specify.

A recent find of a decorated antler horse harness element ('cheekpiece') from Mitrou in central Greece (**Fig. 5**) has confirmed the presence of horse equipment in early Mycenaean Greece (already assumed from the Shaft Graves) and led to a discussion of a new ideology of power in Greece at that time, perhaps connected with northern elites (MARAN – VAN DE MOORTELT 2014). It also bears on the whole question of the arrival of the horse-drawn chariot in Greece, a topic which has exercised many scholars in recent times (MARAN 2020, with detailed critique of other contributions).

WEAPONS: RAPIERS AND CYPRIOT 'DAGGERS'

Many authors have accepted the rapiers found in Bulgaria and Romania as evidence of the export of Aegean weapons, though in fact they only resemble the Aegean pieces in being long and thin, not in the details of blade or hilt. This is a typical example of wishful thinking on the part of the 'maximalists'; it is possible that the idea of fighting with a rapier connected different parts of the Bronze Age world in the middle of the second millennium BC, but there

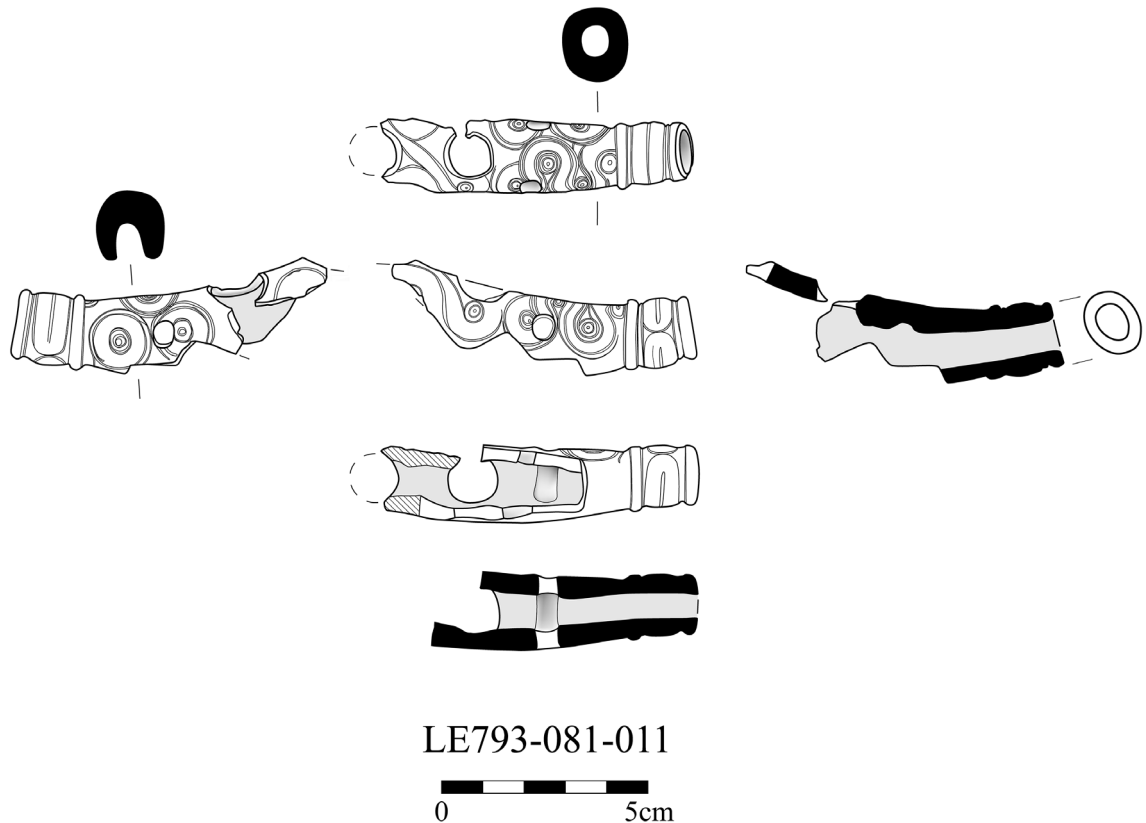


Fig. 5: Antler horse harness element from Mitrou, central Greece, decorated with spiral ornament. Drawing: Tina Ross (courtesy of Aleydis Van de Moortel). © Mitrou Archaeological Project.

can be no question of Minoan manufacture of these pieces, and since there is no new evidence on the matter, nothing further need be said about them.

One category of evidence has always seemed particularly baffling: the finds of hook-tang weapons of Cypriot origin ('Cypriot daggers' or 'spearheads') found across Europe (**Fig. 6**). While none of these has a truly secure provenance, there are so many of them, unlike, say, the Dohnsen cup, that an explanation based on collectors or modern importation has become increasingly unlikely. Sabine Gerloff listed them and believed them to be genuine (GERLOFF 1975); Trevor Watkins dismissed them (WATKINS 1976); in 1984 I was sceptical (HARDING 1984, 171); Bouzek made no definite statement about them but clearly thought they were a plausible part of the story (BOUZEK 1985, 37–39).

Dirk Brandherm has recently devoted attention to these finds again (BRANDHERM 2000; 2017), and my own thoughts on them have turned from scepticism to acceptance (HARDING 2021). There are simply too many of them for this to be a coincidence, or the result of stray finds from collections outside the East Mediterranean.



Fig. 6: 'Cyriot daggers' (hook-tang weapons) from Britain. Left: Egton Moor, North Yorkshire (Whitby Museum, photo courtesy of Roger Pickles); Centre: Rubha a' Bhodaich, Bute, Argyll (Kelvingrove Art Gallery and Museum, Glasgow, photo courtesy of Dirk Brandherm); Right: Torrington, Devon (Royal Albert Memorial Museum, Exeter; photo RAMM, by permission).

HAND-MADE BURNISHED POTTERY ('BARBARIAN WARE' OR HMBW)

This topic was a big matter of debate in the 1970s and 80s, as sherds of the hand-made wares turned up on various Greek sites. Different suggestions were advanced as to where it might have come from, or whether it indicated a new population in Greece at the time (Elizabeth French, who was the first to identify the pottery in the Mycenae excavations in the 1960s, suggested at the time (to me and others) that immigrants were responsible; subsequent publication: FRENCH 1989); the likeliest parallels were to be found in Italy. Since that time, major contributions to the topic have been made, including at least three doctoral dissertations (PILIDES 1994; STRACK 2007; ROMANOS 2011), and much more pottery has been published, for instance that from Tiryns (KILIAN – MÜHLENBRUCH 2007; STOCKHAMMER 2008) or Ayios Vasileios in Laconia (KARDAMAKI – VASILOGAMVROU 2021), the latter confirming that Italy is the most convincing origin for the ceramics, or at least the potters, that occur in Greece. The pottery has been identified in Cyprus and sites in the Near East (PILIDES 1994; BOILEAU *et al.* 2010) as well as on Crete in some quantity (D'AGATA – BOILEAU – DE ANGELIS 2012).

Among the authors who have made important contributions to the debate in recent years are Reinhard Jung, Philipp Stockhammer, Marco Bettelli, and Bartłomiej Lis (BETTELLI 2002, 117–137; JUNG 2006; BELARDELLI – BETTELLI 2007; STOCKHAMMER 2008; BETTELLI 2009; LIS 2009; BETTELLI 2017). The lengthy and detailed discussion by Jung serves as a baseline for all later discussions; his detailed comparison of pottery forms from Greece and other areas, his deep knowledge of both the Greek and the Italian material, and his wide experience of the forms and dates, make this work exceptionally important for an understanding of the problem. He was able to make clear the differences between different types of handmade ware, both in Greece and in other areas. Lis, too, has made important contributions; he distinguishes Handmade Burnished Ware (HBW) from West Anatolian Handmade Pottery and Handmade Domestic Pottery. He favours an initial introduction from Italy, followed by an incorporation into local ceramic traditions, where, however, it never occupied more than a minor place.

Of considerable interest, though perhaps not of surprise, is the fact that clay analysis of the pottery, where it has been carried out, indicate that local sources of material were used, for instance at Tell Kazel in Syria (BOILEAU *et al.* 2010), reinforcing earlier suggestions of the same thing.

Jeremy Rutter, who wrote about this pottery back in 1975, has continued to contribute to the debate (RUTTER 2020; RUTTER forthcoming 2022), and believes that the situation is now much clearer than it was 40 or even 25 years ago (*in litt.* 25 January 2022). There is so much more material available, from many more sites, the contexts are now much clearer, and the parallels – mostly in Italy – have been specified in such detail that the pottery is no longer as mysterious as it used to appear. Recent work at Tiryns, for example, has specified much more precisely the contexts in which the pottery appeared in relation to architectural and other developments in the late- and post-palace periods (MARAN – PAPADIMITRIOU 2016; 2021). On the other hand, discussion still continues about the extent to which the pots represent new immigrants into Greece, or the adoption of pottery styles by other means. These types of question are common to much of prehistoric archaeology; maybe only genetic work will be able to make progress in elucidating the problem (cf below).

A fascinating object, recently published, is a ceramic bucket from Tiryns which seems to be an imitation of a Kurd bronze bucket of central European and north Italian type (MARAN – STOCKHAMMER 2020). While this is somewhat different from the usual discussion of HMBW, it sheds interesting light on the whole Italian connection.

METALS AND THE ITALIAN CONNECTION

It has long been known that several metal types in late Mycenaean Greece are ‘European’ in nature, that is to say, they are the same as those in Europe more generally, and particularly in Italy. This applies above all to swords, where the so-called Naue II type appears in Greece as well as Italy, central Europe and the Balkans; it also applies to some other types, notably the violin-bow fibula, the ‘Peschiera dagger’ and some other forms (these types also form a large part of the discussion by Pabst and by Suchowska-Ducke and Kristiansen). There has been much debate about the means by which these European types came to be adopted in Greece (e.g. EDER – JUNG 2005). Of great importance has been the work done by Reinhard Jung and Mathias Mehofer in Vienna, considering the metal types of the swords in both Italy and Greece (JUNG – MOSCHOS – MEHOFER 2008; JUNG – MEHOFER – PERNICKA 2011; JUNG – MEHOFER 2013; MEHOFER – JUNG 2017; JUNG *et al.* 2020). These analyses have shown that North Italian metal was moved to central and southern Italy but not to Greece, where bronze objects were generally made of Cypriot copper; but there are individual exceptions, such as the Naue II sword from Tsountas Hoard I from Mycenae, and possibly also the Pertosa dagger from Teichos Dymaion (though the copper in this piece does not come from the Trentino sources). Regardless of the metal composition, it has long been clear that the Naue II swords found in Greece are more similar to those in Italy than those in other parts of Europe; and this is quite apart from other connections in metalwork which I and other authors have chronicled. This is quite apart from the abundant presence of Mycenaean pottery in Italy, which was increasingly made locally rather than imported, as analysis has shown (e.g. JONES *et al.* 2014). A study by Marco Bettelli has placed the whole pottery connection on a much more secure footing (BETTELLI 2002).¹⁰

Jung and Mehofer have charted what they see as a likely scenario for the Greece-Italy connection around and after 1200 BC, which saw an intensification of relations between the two. This was unlikely to be warlike, in their opinion, but rather a connection based on gift exchange between rather small socio-political units, with prestige goods such as swords crossing the sea to form relationships between local rulers. This is as good as any an explanation for the connection, and to my mind much more realistic than one based on mercenaries, such as was suggested by Hector Catling (1956; 1961). In fact it is difficult to imagine precisely in what manner the connection was created and maintained; analytical work in the coming years may suggest links based on population movement that are so far only speculative.

THE METALS TRADE

In terms of the East Mediterranean, where copper was moved about mostly in the form of the characteristic oxhide ingots, the most important new developments have occurred in Bulgaria, where it has now been possible to examine, and in some cases analyse, the ingots that have been found there (ATHANASSOV *et al.* 2020). This account supersedes all those previously published, where the information was incomplete or unreliable. In addition, a complete survey of oxhide ingots in the central and west Mediterranean has shown the extent of penetration of this East Mediterranean form, and analysis has shown that they were made of Cypriot copper (Lo SCHIAVO *et al.* 2009).

10 His work was influenced by that of Renato Peroni, who taught many of the most active Italian scholars of the last 30 years and foreshadowed many of the conclusions we now take for granted.

The situation with tin is more complex. The recent project funded by the European Research Council and led by Ernst Pernicka¹¹ has analysed samples from most of the tin deposits of Europe and parts of central Asia, but certain key questions – such as differentiating Cornish from Erzgebirge tin – remain unresolved. On the other hand, Daniel Berger and colleagues have shown that some finds of tin in the East Mediterranean have a composition that matches the Cornish pattern, which provides welcome confirmation that Cornish tin really did move across Europe, as has long been suspected (BERGER *et al.* 2019). Recent finds of ingots off the coast of Devon certainly suggest that the sources of south-west England were very important in the Bronze Age (WANG *et al.* 2016). Ingots from the Uluburun shipwreck, on the other hand, do not seem to fit this pattern (BERGER – BRÜGMANN – PERNICKA 2019). Clearly there is some way to go before these problems are definitively answered.

It has also been suggested, on the basis of analyses, that gold moved from Cornwall to central Europe and potentially elsewhere, possibly used for the inlays on the Nebra disc (HAUSTEIN – GILLIS – PERNICKA 2010; BORG – PERNICKA 2017).

MIGRATIONS

The last part of the story to consider is that relating to the movement of people. Most of what we assume happened in the Aegean-European connection relates to trade and exchange rather than migration, but there are some elements that could revolve around the movement of people as well as objects. Iron Age migrations, such as the supposed movement of Dorians, Aeolians, and Ionians, might be among them. The ‘Dorian invasion’ has been used in the past as a possible explanation for the new metal types and burial forms which characterised Greece in the late and post-Mycenaean period; Jan Bouzek considered it several times (e.g. BOUZEK 1969, 199–203; BOUZEK 2018, 90–92). A useful overall review is that by Jonathan Hall (HALL 1997). In general, however, modern scholarship is sceptical of such explanations (ROSE 2008 for a critical analysis of ‘Aiolian’ [sic] migrations), but some authors interpret the archaeological evidence as showing a change of population, for instance Bernhard Hänsel on the Kastanas finds (HÄNSEL 2002; 2016). So far there have been no genetic studies which might shed light on the problem, such as have been conducted for other periods, for instance the Beaker period of the Copper and Early Bronze Ages (OLALDE *et al.* 2018) and now a remarkable analysis of the whole of later prehistory in Britain (PATTERSON *et al.* 2022); and such studies as deal with Greece and the Balkans do not help with the problems under review here (LAZARIDIS *et al.* 2017; MATHIESON *et al.* 2018). An analysis of strontium isotope ratios on teeth from Shaft Grave crania identified both local and non-local individuals (NAFPLIOTI 2009), but without a much fuller knowledge of the geological conditions of the entire Balkan and East Mediterranean area, this is unlikely to help with Mycenaean origins or migrations.

An aspect of migrations which has recently become a matter of interest and analysis is that of the movement of animals (e.g. MEIRI *et al.* 2019; LIBRADO *et al.* 2021). These important advances may change the narrative concerning Aegean-European relations in the future, and had they been available earlier, Bouzek would no doubt have made use of them.

11 *Bronze Age tin – Tin isotopes and the sources of Bronze Age tin in the Old World*, ERC Advanced Grant, 2013–2018.

SUMMARY AND CONCLUSIONS

After this presentation of recent work bearing on the question of Aegean-European connections in the Bronze Age, it is necessary to consider how much has changed since 1966 when Bouzek first presented a major account of the matter. In this, I shall present what I see as the general consensus as well as my personal opinion about some of the matters under debate.

For individual artefacts that have been used as part of the argument in favour of the connection, there is little more to be said; with an object like the Dohnsen cup, indisputably a Mycenaean product but without a proper find context, it is impossible to do more than list it as an uncertain element in the debate. The same is true for the Cypriot hook-tang weapons, but there are so many of them that acceptance is now more reasonable than rejection. In several other cases the similarities are too vague for anything meaningful to be said, but the spiral ornament that is found in the Carpathian Basin has been shown to be so similar to that in the Shaft Graves of Mycenae that it is impossible now to doubt a connection of some kind. One may still ask, however, whether the connection stems from a common ancestor or a contemporaneous link.

In spite of these somewhat pessimistic notes, it is possible to discern a much more positive atmosphere in the debate. There are still writers who trot out the same material as Bouzek and I did nearly 40 years ago without any critical consideration of their context or true characteristics; unfortunately several of the papers listed above fall into this category.¹² It is interesting that Kristiansen's strictures¹³ about the fallibility of using individual artefacts as evidence of trade or the lack of it are taken to apply only to sceptics rather than 'believers'! In fact, Kristiansen and I have now largely come to agree on the general nature of the connection, even if he sees a larger, more regular and more influential process than I do. Recent years have forced sceptics like me to reconsider some (though not all) of the material that is used in the debate. The movement of metal, as shown both by the distribution of oxhide ingots and also by the finds of what are surely cargoes off the south coast of England – not to mention the Uluburun ship, to which I could only assign a brief note in 1984¹⁴ – is not only securely demonstrated but a highly significant factor in the whole debate concerning north-south interaction. Whether the metals of the Nordic Bronze Age, recently argued to be Cypriot (LING *et al.* 2013; 2014), really travelled so far across the European continent will have to await further work; meantime, the alleged detection of oxhide ingots represented on Swedish rock art (LING – STOS-GALE 2015) seems more likely an example of the 'Mycenaean fascination' that Henrik Thrane wrote about over 30 years ago (THRANE 1990) than a genuine depiction.

We can all agree that the world of Bronze Age Europe was a highly interconnected one. Whether it saw the travellers and social transformations for which some have argued is perhaps secondary to the need for an objective assessment of all the classes of evidence that are used in the debate. And it is this debate that Jan Bouzek began and continued to stimulate over his long career.

12 I find it strange that some authors seem to regard it as a viable form of research just to repeat what has been said in print many times before, often without even citing the most recent or fundamental sources. No doubt my academic predecessors felt the same about my work.

13 As expressed in the first chapter of *The Rise of Bronze Age Society*.

14 HARDING 1984, 62, n. 21a.

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