Anatolian Studies 68 (2018): supplementary material page 1 of 17 doi:10.1017/S0066154618000029

A possible new Bronze Age period at Troy: supplementary material

Donald Easton and Bernhard Weninger

Independent Scholar, UK, and Universität zu Köln, Germany
donaldfeaston@hotmail.com

Contents

The relative dating of Troy II–V

Here we propose in outline an alternative relative chronology for Troy II–V. It is of course provisional in that we are not yet able fully to take into account the pottery and small finds from the new excavations which for the most part remain to be published and which may prove to refine or invalidate some or all of the suggestions which follow. The parallels cited are intended to be indicative rather than exhaustive. We hope that the argument presented here will offer to our Tübingen colleagues, who have laboured hands-on with the material for many years, and to others, at least some stimulus to further discussion and perhaps some new lines of thought.

Troy II–III

Anatolian correlations. In the reorganised sequence of Troy II there is a distinctive horizon at Troy IIc. This is the phase in which two-handled tankards (A43) and depas cups (A45) first appear (Blegen et al. 1950: 263, 265, 268). It is preceded by the first appearance of wheelmade plates in Sinan Ünlüsoy's phase IIa2 (Ünlüsoy 2010: plan 7), although they only become plentiful in phases IIb3–4 (incorporating Blegen et al. 1950: 256, 258, 300). If we follow the implications of Machteld Mellink's criteria (1986: pl. 16), we may say that this – Troy IIc – is where the Early Bronze III period begins.

A similar horizon can be seen in Beycesultan XIIIa, where wheelmade plates, two-handled tankards and two-

handled, bell-shaped goblets are introduced (Lloyd, Mellaart 1962: 177–79, fig. P46, 1–6), and in Karataş-Semayük phases VI.1 to VI.2 (Eslick 2009: 222–23). At Tarsus wheelmade plates, one-handled tankards, bell-shaped goblets, two-handled tankards and depas cups all appear at once in the earliest of the Early Bronze III deposits (Goldman 1956: 131). This is unusual in that elsewhere the plates, one-handled tankards and bell-shaped goblets usually precede the other items. Possibly at Tarsus an intervening phase is missing. At Kültepe two-handled tankards comparable to the A43 type first appear in levels 13 and 12, the earliest Early Bronze III strata ('EB IIIc' and 'EB IIIb': Özgüç 1986b: 41, figs 3-31, 3-32).

On the Anatolian side we therefore have a clear baseline which places Troy IIc at the beginning of the Early Bronze III period, contemporary with Beycesultan XIIIa, Tarsus Early Bronze IIIa and Kültepe 13. The well-known historical synchronisms highlighted by Mellink (1963; 1965: 111), Peter Spanos (1977) and recently Vasıf Şahoğlu (2014), together with Akkadian jewellery found in Kültepe 12 (Özgüç 1986b), imply that the period had begun by a date within the first two generations of the Akkadian period, which itself began ca 2334 BC on a middle chronology (Walker 1995: 234).

To determine which point in the Trojan sequence corresponds with the end of the Early Bronze III period we may turn to the well-known 'Syrian' bottles. In a range of variants they were imported from northern Syria, were widely imitated in Anatolia and have been extensively discussed (for example Mellink 1965: 111; 1992: 215–16; Kühne 1976: 48–50, 63–67; Spanos 1977: 91; Rova 1991; Schachner, Schachner 1995; Pruss 2001; Zimmermann 2002; 2005; 2006: 47–49; Rahmstorf 2006: 55–56; Efe 2007; Jablonka 2014: 46–47; Sconzo 2014). The imported examples are considered to be recognisable by their distinctive northern Syrian 'Metallic Ware'. In Syria and northern Mesopotamia they date to the late Early Dynastic III and Akkadian periods (Mellink 1992: 215) with some extension into the Third Dynasty of Ur (Kühne 1976: 64–66). In Anatolia they first appear in the late Early Bronze II and become a hallmark of the Early Bronze III period, occurring throughout it, with a thin tail into the early Middle Bronze Age. At Kültepe they occur as genuine imports in levels 13, 12 and 11b (Özgüç 1986b: 34–38). At Tarsus they are found in Early Bronze IIIb and c; they also continue into the Middle Bronze layers where, however, they are rather different (Goldman 1956: 154, 180, nos 614–19, 913–17). At Troy they occur in Late Troy II and Troy III (Schliemann 1880: nos 407–10, 1124, 1129; Blegen et al. 1951: 27; Easton 2002: fig. 170:73-341) with, as we shall see, an extension into Proto-IV where, again, a slightly different, Middle Bronze Age, type appears. They do not continue into Troy IV. The Troy IV examples referred to by Hermann Parzinger (1993: 275) are presumably the bottles from Heinrich Schliemann's 'City IV', but these of course belong in Troy III or perhaps Proto-IV. This suggests that the end of Troy III brings us more or less to the end of the Early Bronze III period.

Toggle pins suggest the same conclusion. They are characteristic of the Anatolian Early Bronze II–III periods (Easton 2002: 329, n.288). At Troy they occur in periods I–III but no later (Schliemann 1884: nos 64–65; Schmidt 1902: nos 6405–12; Blegen et al. 1950: 136, fig. 215 no. 34.502; 1951: 11, 84, fig. 47 no. 34.506).

Comparison with the Beycesultan sequence suggests that, as expected, Troy II–V span phases XII–IV and not just XII–VI. Troy shapes B20 and C14 first appear in Troy II and in Beycesultan XII (table 6; Schliemann 1880: no. 426; Lloyd, Mellaart 1962: sheets 6, 7). Shapes B23 and B24 are introduced in Late Troy II and in Beycesultan X (table 7; Blegen et al. 1950: 225, table 12; Lloyd, Mellaart 1962: sheets 6, 7).

Plastic volutes on the lids, handles and feet of some pots, commented on by James Mellaart (Lloyd, Mellaart 1962: 255, 259–60) begin to appear in Late Troy II (Blegen et al. 1950: fig. 403 no. 37.113) but are especially characteristic of Troy III (Blegen et al. 1951: 30, 35, figs 78 no. III-20, 33.201, 80 no. 34.327; Easton 2002: figs 156:72-1146, 72-1214 [possibly III not IV], 162:72-1823). They continue into Troy IV and V (Blegen et al. 1951: figs 248 no. 22, 258 no. 11; Easton 2002: figs 141:At.168-3284, 160:72-1658). At Beycesultan they are a feature of phases VIII–VIa (Lloyd, Mellaart 1962: 255, figs P56:4, P61:1–7, P70:6–8, 11, 13). They also occur at Tarsus in Early Bronze IIIc (Goldman 1956: 139, 152, nos 445–47, 596).

Similarly, plastic W-shaped decoration (Lloyd, Mellaart 1962: 255–58), which at Troy is applied only to jars, begins in Troy II (Schliemann 1880: no. 157), becomes frequent in Late Troy II (Blegen et al. 1950: figs 389 nos 35.1160, 35.485, 35.561, 390 no. 35.490, 402 no. 35.482, 403 no. 35.640 – all from IIg; Frirdich 1977: Taf. 46:2; Easton 2002: figs 146:72-747, 167:72-1960, 174:73-410, 186:At.167-3266, 73-695, 187:73-696) and continues through to Troy V (Easton 2002: fig. 141:At.168-3275). At Beycesultan, where it is found only on bowls, it begins in phase VIII, becomes numerous in phase VI and continues into phases V and IVc–b (Lloyd, Mellaart 1962: figs P55:18, P61:11, P63:3, P65:18–21, P66:1, 2, 4; 1965: figs P1:14, P3:11, 18, P12:2–5, 7, 9, P13:1, 8, P24:3, 4).

Thus, overall the pottery does, as expected, show a general parallelism between Troy II–V and Beycesultan XII–IV. Within this, Beycesultan X sits alongside Late Troy II. Beycesultan VIII has comparisons with Late Troy II but also with Troy III. The Troy III synchronism is perhaps strengthened by the presence there, as in Beycesultan VIII, of a depas with narrowed base (Lloyd, Mellaart 1962: fig. P55:46; Easton 2002: fig. 166:72-1953).

Aegean correlations. On the Aegean side we have a clear base-line relating Late Troy I to Early Helladic II and Early Cycladic II. Carl Blegen noted imports of sauceboat fragments and of Urfirnis ware (Blegen et al. 1950: 186, 193). The link has been much debated in the past (see Easton 2002: 336, n.405) but is supported by other Early Helladic II finds in equivalent levels at Poliochni and Thermi (Warren, Hankey 1989: 24). It is also supported by a Late Troy I black-on-white sherd recorded by Schliemann (Easton 2002: fig. 136:72-235) which is probably a piece of Early Cycladic II black-on-buff ware (cf. Caskey 1972: 363, pl. 77; Evans, Renfrew 1984: 65, fig. 1b). Two other, similar sherds were found by Blegen, also in deposits of Late Troy I (Blegen et al. 1950: 184, fig. 52 nos 1–2).

As in Anatolia, the developments in Troy IIb and IIc provide a second clear horizon. In Troy IIb the production of wheelmade plates becomes prolific and in IIc two-handled tankards and depas cups begin to appear. The related 'Anatolianising' assemblages of Lefkandi I, Kastri, Mount Kynthos, Ayia Irini and elsewhere have been extensively discussed (Bossert 1967; French in Popham-Sackett 1968: 8–9; Podzuweit 1979a; MacGillivray 1980; Sampson 1985; Mellink 1986: 146–151; Manning 1995: 51–63, 81–86; 1997; Wilson 1999: 229 provides a list of sites where such assemblages occur). From an Anatolian perspective, the pottery groups found in Lefkandi I and at Mount Kynthos, which exhibit wheelmade plates but lack two-handled tankards and depas cups, look comparable with Troy IIb. The arrival of two-handled tankards and depas cups seems to place Kastri, Ayia Irini and Pefkakia into the period of Troy IIc or later. Some of the depas cups at these sites are quite tall: 22cm or more in height (Bossert 1967: fig. 4:3; Caskey 1972: 374, fig. 7:C48; Podzuweit 1979a: 150, Abb. 5:6, 6:4, 6). At Troy depas cups of this size occur in Late Troy II and Troy III, but never later.

Later phases of Troy II certainly fall within the Early Helladic III and Early Cycladic III periods. From an uncertain point later in Troy II comes an incised sherd which looks from the decoration as if it may be a piece of incised Early Cycladic III ware of the type found in what may have been the middle phase of Phylakopi I (Atkinson et al. 1904: pl. V:9, 11, 12b; Evans, Renfrew 1984: 67; Easton 2002: fig. 174:At.142-2793; Renfrew, Evans 2007: 175–76). Also, probably, from a late stratum of Troy II comes a jar with a thoroughly Trojan shape but with a decorative design unusual at Troy but matched in very early Early Helladic III (Rutter 1982: pls 99:28, 100:35, 37; Easton 2002: fig. 139:73-181). In Blegen's Troy IIg there is a pedestalled depas (Blegen et al. 1950: fig. 382 no. 35.841). Similar depas cups first appear in the earliest phase of Lerna IV (Rutter 1995: 347–48) and in Beycesultan IX (Lloyd, Mellaart 1962: fig. P52:21). In Greece the shape survived to the end of the Early Helladic III period (Walter, Felten 1981: Abb. 107).

Troy III can be linked with Early Cycladic IIIb. Troy III provides the best parallels for the jugs with pinched, trefoil-like mouths known from Phylakopi and considered to be an innovation of Early Cycladic IIIb (Atkinson et al. 1904: pl. IV:12; Barber 1984: 92; Easton 2002: fig. 136:73-108). Also probably from Troy III is a cylindrical pyxis with painted lid (Schliemann 1880: nos 264, 265; Easton 2002: fig. 157:72-1186, 72-1187). It has long been considered a possible Early Cycladic import (Bittel 1934: 96). R.L.N. Barber states that in the Cyclades cylindrical pyxides do not continue beyond early Early Cycladic IIIb (Barber 1984: 90).

It therefore appears that Troy IIc can be correlated with the Kastri phase and Late Troy II with the beginning of Early Helladic III. Troy III continues into Lerna IV and the developed Early Helladic III and Early Cycladic III periods. There is nothing in Troy III to indicate any awareness of Middle Helladic fashions. But it is worth noting that on Samos the Heraion IV phase has askoi similar to those in Beycesultan IX–VIII (Milojčić 1961: Taf. 38:16, 42:17; Lloyd, Mellaart 1962: figs P53:1, 2, P56:1). These should be roughly contemporary with Troy III, yet Vladimir Milojčić sees a connection between Heraion IV and Middle Minoan I (1961: 66), which suggests in turn that Troy III brings us close to the end of Early Helladic III.

Proto-IV

By comparison with other periods we have very little material from Proto-IV at present, and this makes correlation with other sites more difficult. There are the four principal groups which we have already defined: in E4–5, D7–8, A5–6 and the relevant Schliemann units from 1870–1873. In addition, there are some items from Schliemann's 'City IV' of *Ilios* (1880) which seem to be later than Troy III and which may belong to this period (see below, 'Possible Proto-IV items in Schliemann's "City IV"'). These groups are principally from the western half of the citadel mound (fig. 2). Appendix 5 (below) lists the occurrences in Proto-IV of the pottery shapes now to be discussed.

Although Troy III probably lasted until nearly the end of Early Helladic III, the Lerna jar suggests that Proto-IV began before the period ended completely. The jar was found in a late phase of Lerna IV (Caskey 1954: 23, pl. 11b; 1960: 297), and, as we have seen (main text: 'Evidence for Proto-IV from the new excavations – Ceramic wares'; 'New factors affecting the relative dating – The Troy IV to Early Helladic III link'), the straw-tempered ware of which it seems to have been made does not appear in quantity before the beginning of Proto-IV.

The distinctive pottery shapes of Proto-IV are not firmly attested before phase c (see table 3), but this may be due to the dearth of material that is clearly attributable to phases a and b. Of chronological interest are the bowls with in-set vertical rims (A20), the small, one-handled cups (A33) and the two-handled kantharoi, sometimes pedestalled (A37).

Although Blegen did not find A33 cups in earlier periods than Troy IV, there they were usually wheelmade (Blegen et al. 1951: 125). Those in Proto-IV appear to be antecedents, in that, according to Schliemann (1880: 538–39), who found them in large numbers, they were all handmade. The new excavations have also found one-handled cups, though not quite of the true A33 form, in strata of Troy III (Stephan Blum, personal communication August 2012), so they may have been present throughout Proto-IV. In Greece, one-handled cups are attested as early as Early Helladic II and Early Helladic III (Rutter 1995: 475). In western Anatolia they first appear in Kilise Tepe Vf and Beycesultan XII – both being Early Bronze III phases; but they become much more common later, in Kilise Tepe Ve and Beycesultan VII (Lloyd, Mellaart 1962: 201, 225; Symington 2007: 311–12, figs 226, 377 no. 400, 381 nos 463, 464). At Tarsus they become a notable feature only in the earliest Middle Bronze phase (Goldman 1956: 172–73, nos 833–44). Thus it seems that while the occurrence of one-handled cups in Troy III may be contemporary with that in Early Helladic III, their greater frequency in Proto-IV may be characteristic of a later horizon which includes the transitional Early Bronze/Middle Bronze phases of Kilise Tepe Ve and Beycesultan VII and the earliest Middle Bronze at Tarsus.

The cups illustrated by Schliemann (1880: nos 1095–1100) show a clear tendency to carination, a feature barely perceptible in earlier periods. It links Proto-IV with the Middle Helladic I period, as at Ayios Stephanos (Zerner 2008: 180) and at Aegina-Kolonna where carination on cups begins in phase H, dated to Middle Helladic IA (Gauss, Smetana 2007: 62). In Anatolia, carination on bowls and cups is attested at Beycesultan from level XIII but only becomes frequent from level VII onwards (Lloyd, Mellaart 1962: figs P57–59). At Kilise Tepe it occurs in the Early Bronze/Middle Bronze transitional phase Ve (Symington 2007: fig. 381, no. 464) and at Tarsus in the Middle Bronze A phase (Goldman 1956: 173, nos 837, 838, 843). This again points to the contemporaneity of Proto-IV with Beycesultan VII, Kilise Tepe Ve and the earliest Middle Bronze at Tarsus. At Küllüoba it is known from the transitional Early Bronze/Middle Bronze phase II (Efe, Türkteki 2005: 126).

The bowls with in-set vertical rims (A20) in Proto-IV do not quite attain the classic Troy IV shape, but they approach it. Similar bowls are known from Poliochni Brown (Cultraro 2007: 329, figs 2:5, 3:5). They also occur in the earliest Middle Helladic strata in Thessaly (Hanschmann, Milojčić 1976: Beilage 22:13) and in Pefkakia phases 3–5 (Maran 1992: Taf. 29:14, 36:1, 61:1, 7). At Beycesultan they first appear in level V (Lloyd, Mellaart 1965: fig. P2:9, 27).

Schliemann's 'City IV' kantharoi (A37) apparently occurred in very large numbers and were all handmade (Schliemann 1880: 537–39). These should be attributable to Proto-IV. In Troy IV, by contrast, Blegen found only two examples, again handmade (Blegen et al. 1951: 126): one in IVa and the other in IVc. We may compare this with the pattern at Beycesultan where they were introduced in level VIII, became 'very typical' in levels VII, VIb and V, yet seem to be completely absent from level IVc onwards (Lloyd, Mellaart 1962: 217, 225; 1965: 85) – all of which suggests a parallelism between Troy Proto-IV/Early IV, on the one hand, and Beycesultan VIII–V, on the other. In Greece, two-handled cups and bowls are a hallmark of the final phase of Lerna IV (Rutter 1995: 469, shapes XI.1, XI.2) and of Lefkandi 3 (Howell in Popham, Sackett 1968: 9; 'Early Minyan' in Oliver Dickinson's terminology: 1977: 20). Pedestalled kantharoi are attested in the Middle Helladic I period at Ayios Stephanos (Zerner 2008: fig. 5, 37, no. 1831). They may also have existed in Küllüoba II (Efe, Türkteki 2005: 126).

Two 'Syrian' bottles (B5) were found in Proto-IV deposits. One of these, in *SET* (Easton 2002) unit 87, is an Early Bronze III type imitating Hartmut Kühne's alabastron F1 variety but with a single, not double, rim (Kühne 1976: 37, Abb. 65; Easton 2002: fig. 170:73-341). Similar bottles are known from Early Bronze III layers at Tarsus and Kültepe 13–11b (Goldman 1956: figs 268, 361, nos 614, 615, 617; Özgüç 1986b: 35–36, fig. 3-3–3-8). The other bottle is from *SET* unit 54 (Easton 2002: fig. 151:72-1375). This unit is one of the two most likely to fall in the Troy III–IV gap. The bottle is of a later, derivative form best paralleled in the Early Bronze/Middle Bronze transitional phase at Tarsus (Goldman 1956: 180, fig. 294, nos 916, 917). Other bottles from Schliemann's 'City IV' (Schliemann 1880: nos 1122, 1129) need not be later than Troy III but are unlikely to be later than Proto-IV.

Proto-IV has produced a duck vase (D29). It does not have the leaf-shaped spout of the fully developed type (Rutter 1985: 19), but in other respects is most closely matched by the early Middle Helladic example from Eutresis (Goldman 1931: fig. 223).

Foreshadowing the fashions of the Anatolian Middle Bronze Age is an unusual conical goblet with fenestrated pedestal (A209). It can be compared with the pedestalled dishes known from Beycesultan IVb and Kültepe Karum II (Emre 1963: fig. 13:k/k142; Lloyd, Mellaart 1965: fig. P26:2).

Bifoil and trefoil mouths on jugs are another feature of the Proto-IV assemblage as known from the principal groups. Some additional examples among Schliemann's 'City IV' pottery may also belong (Schliemann 1880: nos 1154, 1157, 1158, 1170). They represent the development of a feature already found in Late Troy II and Troy III, moving towards the true, well-formed trefoil and bifoil mouths which first appear in Troy IV and V (Schliemann 1880: nos 1310, 1311; Blegen et al. 1951: figs 161 no. 36.709, 248 no. 18a–b, 258 no. 12; Easton 2002: figs 141:73-739, 156:72-1074, 169:73-255). This developed type belongs to the Middle Bronze Age. At Beycesultan it only begins in phases V and IV (Lloyd, Mellaart 1965: figs P7:8–13, P19, P20:1–6, P28:2–4, P35:6, 9, 12, 13) with a brief, earlier appearance in Beycesultan X (Lloyd, Mellaart 1962: 259). Trefoil mouths occur in phase II at Küllüoba (Efe, Türkteki 2005: 127).

In many respects the Proto-IV assemblage resembles that of the transitional Early Bronze/Middle Bronze phase in Küllüoba II (Efe, Türkteki 2005). As at Küllüoba there is a combination of bowls with incurving rims, 'incipient' bead rims, occasional carination, S-profiles and pedestals. Trojan plates, depas cups and trefoil-mouthed jugs also occur (Frirdich 1997: Taf. 1–4; Sazcı 2005: Abb. 39, 44, 47, Taf. 11–15; Blum 2012: 2.Taf. 257–330). Turan Efe and Murat Türkteki (2005) see this phase as contemporary with Beycesultan VIII–VIa and Kültepe Karum IV–III which agrees with our dating of Proto-IV.

From all of the above we can conclude that Proto-IV is best positioned, on the Anatolian side, against Beycesultan VIII–VI and perhaps part of V, Küllüoba II, Kilise Tepe Ve, Kültepe Karum IV–III and the Tarsus late Early Bronze III and Early Bronze/Middle Bronze transitional phase. On the Aegean side, it correlates with the final phase of Lerna IV and with the early Middle Helladic (MH I) in Thessaly, Pefkakia 3–5, Lefkandi 3, Aegina-Kolonna (phase H), Eutresis and Ayios Stephanos.

Possible Proto-IV items in Schliemann's 'City IV'

If we concede this as the correct, relative time-frame for Proto-IV, then we may search Schliemann's 'City IV' for other items which may belong to it. The following seem to be possible candidates.

Vessels with incised decoration (Schliemann 1880: nos 1014–29). Incised decoration certainly has a previous history at Troy, as do some of the individual motifs. But the increased interest in zigzags and double crosses seems to be a feature of 'City IV', and one which is visible also in the dark-grey incised ware at Tarsus (Goldman 1956: 181, fig. 300 nos 932–36). The Tarsus examples, where stratified, all come from the Early Bronze/Middle Bronze transitional strata or from the earliest Middle Bronze phase. Beycesultan VIA is also a phase in which there are many pieces with incised geometric ornamentation (Lloyd, Mellaart 1962: figs P69–71).

Six lustrous black vessels (Schliemann 1880: 545–46). Schliemann took these to be imports. One, *Ilios* no. 1134 (Schliemann 1880), is a jug with trefoil mouth and twisted handle. Twisted handles are not a normal part of the Trojan repertoire, but are more characteristic of southwestern Anatolia. At Beycesultan they are most common in level VIa where handmade black wares also reappear (Lloyd, Mellaart 1962: 229, figs P62:3, 4, P67:16, P68:4, P71:8, 10). At Kilise Tepe they occur in levels Vf (late Early Bronze III) and Ve (Early Bronze/Middle Bronze) (Symington 2007: fig. 379 nos 438, 442, 447, 449). Three large storage jars (including *Ilios* nos 1135, 1136: Schliemann 1880) had wide, flaring rims. Their body shape is paralleled in Heraion IV and Beycesultan VII (Milojčić 1961: Taf. 40:7, 41:30; Lloyd, Mellaart 1962: fig. P62:2), but the rims can be compared with those known from late Lerna IV, early Lerna V and the Middle Helladic bulbous jars, Robert J. Buck's shape C3 (Caskey 1955: pl. 14a; 1960: pl. 70j; Buck 1964: 295, pl. 41). Overall, they come closest to some of the storage jars known from the karum period at Kültepe (Özgüç 1950: pls LI, LII; 1959: pl. XLIII; 1986a: pl. 95:1–2; Özgüç, Özgüç 1953: pl. XXXIII). They may also be compared with those of the Middle Bronze I period in the Izmir region (Aykurt 2013: figs 3, 4). Brilliantly burnished black wares have been noted in Küllüoba II (Efe, Türkteki 2005: 126).

A jug with very crude barbotine decoration (Schliemann 1880: no. 1178). Barbotine decoration is infrequent, but there are other examples from Heraion IV, Beycesultan V and IVc, Aphrodisias BA4/MB and Miletos III (Milojčić 1961: Taf. 23:11; Lloyd, Mellaart 1965: figs P9:4, 7, P22:10, P23:1; Joukowsky 1986: fig. 444:18; Raymond 2009: 149, fig. 5).

The inclusion in Proto-IV of the 'gap' units from Schliemann's work of 1870–1873 and of some of his 'City IV' finds allows us to move out of Troy III most of the items which previously suggested a link between Troy III and the Middle Helladic period (Easton 2002: 338–39).

Troy IV–V

The ceramic repertoire of Troy IV and V appears at first sight little different from that of Troy II–III, and this has undoubtedly contributed to the belief that it too belongs within the Early Bronze Age. On closer inspection, however, we can see indications that it does not.

Troy IV. Table 9 shows seven ceramic innovations which appeared at the beginning of the Middle Bronze Age (level V) at Beycesultan. Two are paralleled by innovations in Proto-IV (Schliemann's 'City IV'). Five first appear in Troy IV, mostly from IVc onwards. In Beycesultan IV and V, as in central Anatolia at this period, it became common for beak-spouted jugs to have spouts terminating in a blunt tip (Lloyd, Mellaart 1965: figs P18:1–3, P27:2–4). The fashion did not on the whole affect Troy IV–V, but one example does seem to be attested in Blegen's Troy IVb (Blegen et al. 1951: fig. 161 no. F8-9.149).

In the Blegen sequence, and not so far contradicted by earlier or later excavations, there are three notable innovations in Troy IVc: the A8 saucer, the A36 large, carinated cup and the A44 two-handled tankard (Blegen et al. 1951: 123). All of these are Middle Bronze Age types.

Shallow bowls or saucers similar to A8 occur in Beycesultan V (Lloyd, Mellaart 1965: fig. P5:1–15), Aphrodisias MB (Joukowsky 1986: fig. 454 no.13), in the earliest Middle Bronze phases at Tarsus (Goldman 1956: 166, fig. 368 no. 753) and in the earliest Middle Bronze layer, IVa, at Kilise Tepe (Symington 2007: fig. 382 nos 488, 489).

The large, carinated A36 cup, peculiar to Troy IVc–d (Blegen et al. 1951: 126), is paralleled in Middle Bronze Tarsus (Goldman 1956: 173, fig. 369 no. 837). At Kültepe it is illustrated from the Adad-Sululi house in Karum II and is said to occur throughout the Karum period (Özgüç 1950: 183, no. 240; Özgüç, Özgüç 1953: 111, 168, nos 175–77, 184).

A44 tankards were found by Blegen in Troy IVc–e (Blegen et al. 1951: 127) and a similar tankard is illustrated by Schliemann from his 'City V', which includes Troy IV (Schliemann 1880: no. 1305; Easton 2002: fig. 169:73-209). A distinctive feature of the Trojan A44 tankard is the continuation of the handles in a low ridge down either side of the body. This seems not to be replicated elsewhere. But otherwise similar tankards are known from Beycesultan V (Lloyd, Mellaart 1965: figs P5:30, P6:1), Heraion IV (Milojčić 1961: Taf. 41:15) and Acemhöyük III, which is contemporary with Kültepe Karum Ib (Emre 1966: pl. XXXV:3). The shape does, however, have antecedents (Schliemann 1880: no. 325; Lloyd, Mellaart 1962: fig. P52:23), and should be seen as one variant within the wide range of two-handled tankards which came into use from the beginning of the Early Bronze III period. One example is known from Schliemann's 'City IV' (Schliemann 1880: no. 1085). It is unclear whether this really belongs in Proto-IV or is intrusive from IV.

A few items suggest contemporaneity with the Middle Helladic I and II periods. Grooved decoration on the shoulders of vessels begins to appear in Troy IV (Blegen et al. 1951: figs 170 no. 9, 171 no. 21, 181 no. 16), developing further in Troy V. Its greater frequency is said to be the most notable feature of Lefkandi 4 (Howell in Popham, Sackett 1968: 10).

In Troy IVc Blegen found a brown-slipped and burnished sherd with horizontal ridging which he thought might come from the neck of a jug (Blegen et al. 1951: 186, fig. 170 no. 12). Trojan jugs do not generally have such sharp ridges around the neck. The piece looks like a fragment from the ringed stem of a Middle Helladic goblet. Such goblets are an indicator of Dickinson's 'Mature Minyan' phase, corresponding to Lefkandi 5 and Middle Helladic II (Dickinson 1977: 21). In the Cyclades they are present from the beginning of Ayia Irini IVa (Overbeck 1989: pls 40:K15, 17, 41:M20, 21, N21).

Beycesultan MB shape no.	*Troy Shape no.*	Vessel type	*Troy Phases*	*Troy References*
4		Flattened rim on bowl	IVc–d	Blegen et al. 1951: figs 180 no. 1, 184 no. 5, 252 no. 10, 255 no. 7
10	A8	Saucer or small bowl	IVc–d	Blegen et al. 1951: 122, 124, 239; Easton 2002: fig. 138:73-159
15		Bi-conical jug	'Cities IV–V'	Schliemann 1880: nos 1040, 1134, 1310
21		Two-handled jar	'Cities IV–V'	Schliemann 1880: nos 1112, 1322 (handles differ)
22	cf. C33	Small two-handled jar	IV	Blegen et al. 1951: 134; Schliemann 1880: no. 1114
23	cf. C210	Globular jar with short neck	IV	Easton 2002: 136, fig. 127:At.167-3265
31		Cooking pot with grooved neck	IVd	cf. Blegen et al. 1951: figs 170 no. 9, 181 no. 6 (handles differ)

Table 9. Ceramic innovations of the Middle Bronze Age at Beycesultan and their Trojan equivalents.

A jar found by Schliemann, probably in Troy IV, seems completely non-Anatolian in shape, but is not unlike a Middle Helladic hydria (Buck 1964: shape C6; Easton 2002: fig. 189:At.190-3482).

Troy V. An important innovation of Troy V is the A23 carinated bead-rim bowl (Blegen et al. 1951: 242). Although at Beycesultan it first appears in phase VI (Lloyd, Mellaart 1962: fig. P63:2, 17–19), it is most common in phases V and IV (Lloyd, Mellaart 1965: figs P2:1, P12:1, 2, 4, P24:2, 15–24, 36–38, P31:1a–r, 5, 9–11). At Tarsus it first appears in Middle Bronze phase A, but continues into phases B and C (Goldman 1956: 167, fig. 286 nos 759-62, 764-65, 767). A roughly comparable example is known from Kilise Tepe IVb (Symington 2007: fig. 385:539). At Kültepe the shape is attested in Karum II, sometimes with a pedestal (Özgüç 1950: pl. XLVI:208–10, 212). With this shape we are clearly in a mature phase of the Anatolian Middle Bronze Age. In Greece the shape has parallels in Dickinson's 'Decorated' and 'Mature Minyan' phases at Argos and Lefkandi 5, and also in Pefkakia 6–7 (Dickinson 1977: 20, 21; Maran 1992: Taf. 82:19, 83:2, 89:2–4, 96:10, 107:16, 113:5, 6, 9, 117:10), bringing us into Middle Helladic II–III.

The trend towards carination on bowls and other vessels, begun in Proto-IV, is much clearer in Troy V (Blegen et al. 1951: figs 252–59; Blum 2012: 2.Taf. 264, 270–75, 277–85, 288, 290, 291). Similarly, it is much more apparent in Beycesultan V and especially IVc onwards (Lloyd, Mellaart 1965: figs P1–P36). A comparable development is reported in Aegina-Kolonna ceramic phases H and I (= Aegina VIII–IX: Gauss, Smetana 2007: 62, 66) and at Pefkakia from phase 5 onwards (Maran 1992: Taf. 51:8, 55:3).

The A33 cups which were so common in Troy IV are much less so in Troy V (cf. table 6; Blegen et al. 1951: 242). At Beycesultan, one-handled cups disappear from level IVc onwards (Lloyd, Mellaart 1965: 105).

Two other innovations of Troy V are the C20 storage jar and the D16 domed lid. The C20 jar is reminiscent of Buck's shape A3, a form belonging to the later Middle Helladic period (Buck 1964: 291, pl. 39). It has a loose parallel also in Boğazköy NW Hang 8a, where it is characteristic of the Karum Ib period (Orthmann 1963: Taf. 34 no. 356). Lids similar to the Trojan D16 are a feature of the first half of Ayia Irini IV (Caskey 1972: fig. 10, D59–60, pls 87 E10, 88 E19; Overbeck 1989: pls 93b, 96c).

Thus it appears that Troy IV–V can be related, on the Anatolian side, to Beycesultan V–IV, Kilise Tepe IVa–IVb, Kültepe Karum II–Ib and Tarsus Middle Bronze phases A–C. On the Aegean side, it aligns itself with Ayia Irini IV, Aegina VIII–IX, Lefkandi 4–5 and Pefkakia 6–7. The parallels with the Middle Bronze II–III periods of the Izmir region give us, indirectly, further confirmation that Troy IV–V are largely contemporary with Middle Helladic II. Sevinç Günel has drawn attention to the fact that at the important site of Liman Tepe levels IV–III have produced a matt-painted pottery comparable with that of Middle Helladic II (Aegina IX, Pefkakia 5–6) in a context suggesting contemporaneity with Troy IV–V (Günel 1999: 57, 63; 2004). This seems to offer some confirmation of the relative chronology proposed here.

Troy IV introduced some significant changes. Architectural plans, from being rectangular, tended to go rhomboid or off-rectangular. Red Coated Ware became prominent (table 1; Easton 2002: 314–17) and a range of new pottery shapes appeared (cf. Podzuweit 1979b: 17–23). Weninger has previously described the changes in this period as 'the largest pottery changes' in the entire Troy I–V sequence (Weninger 2002: 1049). We consider them to signal the beginning of the Middle Bronze Age at Troy.

Troy and the Izmir region

In a valuable synthesis Ayşegül Aykurt (2013) has drawn together the findings from a number of sites in the Izmir region, including Liman Tepe and Panaztepe, and has defined the characteristics of their development throughout what she terms the Middle Bronze I, II and III periods of the region. Middle Bronze I can be dated by imports of matt-painted pottery to Middle Helladic I–II, contemporary with Aegina VIII–VII and Lerna Va–b. Middle Bronze II introduces early forms of the ring-stemmed ('Lianokladhi') goblet and continues to have imported matt-painted ware, although in smaller quantities. This suggests a correlation with Middle Helladic II. Aykurt prefers Middle Helladic III because of a closed vessel from Çeşme Bağlararası (Aykurt 2013: fig. 17) which she sees as indicating a Middle Minoan III date, but one might compare it also with Trojan shape C33 which is known from Troy IV (Blegen et al. 1951: 134, fig. 168 no. 38.892). Middle Bronze III has a range of imported wares whose dates collectively span Middle Minoan IIB to Late Minoan IB. The presence of Polychrome Ware means that it must have extended at least into Middle Minoan III. Aykurt takes it to have lasted into Late Minoan IA (2013: 51–54).

Aykurt's correlations of her Izmir sequence with Troy are largely determined by her acceptance of the Troy IV–Early Helladic III synchronism. As a result, she places her Middle Bronze I alongside Troy V, Middle Bronze II and III thus falling in the Troy VI period. This all seems unnecessarily late, and it is equally possible to set the Izmir Middle Bronze I–III periods alongside Proto-IV to Early VI in the Troy sequence.

The Proto-IV assemblage may be compared with that of Aykurt's Izmir region Middle Bronze I (Aykurt 2013:

40–44, figs 1–6). There is the same preference for 'soft' rather than sharp carination (cf. Sazcı 2005: Taf. 12:1, 3; Blum 2012: 2.Taf. 269, 277, 289); there are also necked jars (Sazcı 2005: Abb. 48) and oval-bodied jugs with trefoil mouths (Sazcı 2005: Abb. 44:3; Blum 2012: 2.Taf. 308). The bead-rim bowls (Aykurt 2013: figs 1–2) are paralleled in Beycesultan VIb (Lloyd, Mellaart 1962: fig. P63:2, 5, 7, 17–19). The Izmir Middle Bronze I period is dated by imports of matt-painted ware to Middle Helladic I–II.

How Troy IV and V relate to the Middle Bronze sequence of the Izmir region is less clear, but it seems that the Izmir Middle Bronze II could begin as early as Troy IVc and that the Middle Bronze III should extend into Early Troy VI. If we seek Trojan parallels for the innovations of Aykurt's Middle Bronze II assemblage (Aykurt 2013: 44–50, figs 7–17), sharper carination on bowls is noticeable from Troy IVc onwards, continuing into V (Blegen et al. 1951: figs 179 nos 2, 3, 180 nos 13–17); fluting below the rim, although not attested on jars, occurs as early as Troy IVc–d (Blegen et al. 1951: figs 170 no. 9, 171 no. 21, 181 no. 16); bowls with concave rims, some having handles attached to the side of the rim, likewise begin in Troy IVc (Blegen et al. 1951: figs 158 no. 32.83, 180 no. 13); S-profile cups occur from Troy IVa (Blegen et al. 1951: fig. 159 nos 33.119, 37.876) and earlier, in Proto-IV; kantharoi, already seen in Proto-IV, continue into Troy IV (Blegen et al. 1951: fig. 160 nos 37.882, 37.1126); and even the ring-stemmed goblets have a possible parallel in Troy IVc (Blegen et al. 1951: fig. 170 no. 12). In Aykurt's Middle Bronze III (2013: 50–54, figs 18–28), the higher frequency of concave rims on bowls is perhaps echoed in Troy V (Blegen et al. 1951: figs 240 nos 33.527, 33.111, 241 no. 37.871, 244 nos 15–18, 246 no. 4b, 247 nos 18, 21, 22, 24, 25, 248 nos 1, 11, 14, 251 nos 3, 9, 18). And the best parallel for the Middle Bronze III conical cup is not Blegen's shapes A74 and A76, which, apart from a very doubtful example (Blegen at al. 1953: fig. 426 no. 21, of Early VI), are known only from Late VI and VIIa, but with shape A4 which is attested from Proto-IVc through to Early Troy V (see table 3). However, the imported wares in Izmir Middle Bronze III must mean that the period overlaps with at least Middle Minoan III and hence some part of Troy VI (Aykurt 2013: 52–53).

Conclusions

When we rearrange the internal stratification at Troy along the lines indicated, and include in our consideration the pottery from Schliemann's excavations, a possible relative chronology emerges which differs from the conventional one. Precision is difficult to attain because, as usual in inter-site studies, individual comparisons pull in numerous, slightly different, directions. But we may draw some broad conclusions.

The Early Bronze III period is covered by the sequence running from Troy IIc to Proto-IVb. This equates, in Anatolian terms, to the horizon which includes Beycesultan XIIIa–VIII, Tarsus Early Bronze IIIa–c, Kültepe 13–11b and Kilise Tepe Vf; in Aegean terms it equates to the period from Kastri to the end of Early Helladic III. It should fall within the period ca 2334 BC (accession of Sargon) to ca 2100 cal. BC (end of Early Helladic III).

Proto-IVc to Troy IVb corresponds to Beycesultan VII–VI and part of V, to Küllüoba II, Kilise Tepe Ve, Kültepe Karum IV–III and the Tarsus Early Bronze/Middle Bronze transitional phase. On the Aegean side it corresponds more or less to the Middle Helladic I period.

Troy IVc–V belong to the Middle Bronze Age (cf. Easton 1989: 709–11; 1990: 442; 2002: 339–40; and implicitly Raymond 2009: 153). The Anatolian parallels are with Beycesultan V–IV, Kilise Tepe IVa—IVb, Tarsus Middle Bronze phases A–C and Kültepe Karum II–Ib. The Aegean parallels are predominantly with strata of Middle Helladic II date. The period is likely to run from ca 1974 BC or later (beginning of Karum IV: Veenhof 2003) to ca 1750 BC.

The absolute dating

The ^{14}C samples from the oval house in K8

Hd-14440, Hd-18913 (both carbonised grain) and Hd-14488, Hd-14527 (both charcoal) all come from square K8 where they were found within an oval (or 'apsidal') building (Pavúk 2007: 474; 2014: 390–92 – Pavúk gives different laboratory numbers for these samples: Hd-14688, Hd-16751, Hd-14690, Hd-14689 respectively; they appear to be duplicates). The building itself belongs to Early Troy VI (Easton, Weninger 1993: 55; Jablonka 2001: 33) and the samples all come from above a deposit containing pottery of Troy VIa, but the dates from the samples are much too early. Peter Pavúk (2014: 390–92) correctly concludes that they must have been redeposited. The mechanism of this redeposition can perhaps be inferred.

Three features were exposed in the immediate vicinity: the oval building, a small rectangular mudbrick structure ('bin') within it and a mudbrick oven (Easton, Weninger 1993: 52–59). Their relative sequence, uncertain in 1992, was clarified by further excavation in 2001 (Jablonka 2001). The rectangular mudbrick structure is in origin the earliest of the three. It goes back to phase XII of 1992 (Easton, Weninger 1993: 52–55; Jablonka 2001: 8, 12, 13 – to Beh.882). Here the pottery is earlier than Troy VI. Next comes the oven which cut into the southwestern corner of the rectangular structure from a higher level (from Beh.872 or above: Jablonka 2001: 10) – as can be seen from the plans made in 1992 (Easton, Weninger 1993: figs 13, 15). Last is the oval building. Its floor covered the

remains of the mudbrick structure (Easton, Weninger 1993: fig. 12, pavement). It is also stratigraphically later than the oven (Jablonka 2001: 33), although it seems possible that the two were contemporaneously in use.

The two samples Hd-18913 and Hd-14400 came from a large deposit of carbonised grain in and around the mudbrick structure supposed in 1992, with some hesitation, to have been a grain bin belonging to the oval building. We must now see it, however, as an earlier, free-standing structure in an open area just outside the limits of the Troy IV–V citadel. Measuring only ca 1.40m × 1.60m, it may have served as a small hut or shed for some purpose connected with agriculture or stock-breeding. At some stage it underwent repair or rebuilding (Easton, Weninger 1993: 52, 55). Within it the earlier deposits are probably of Troy IV date. Only the topmost few centimetres contain sherds of Early Troy VI (Jablonka 2001: 6, 10 – Beh.872; cf. Pavúk 2014: 529–30). It is from the upper part of this deposit that the grain samples and the charcoal sample Hd-14527 came (Easton, Weninger 1993: fig. 11, stratum 25). We might explain the deposition of old (Troy IV or possibly V) grain in a deposit of very early VI if we suppose that from time to time grain was stored in an upper storey or shelf within the hut, and was left there until the hut finally burned down or was levelled in Early Troy VI. Thus these three samples may well derive from Troy IV and/or Troy V. In fact there is almost no Troy V material in the vicinity, so IV is the more likely origin. The calibrated dates of the samples are consistent with the date range of Troy IV as it has emerged from figure 6, and so perhaps offer some confirmation; but, given the uncertainties, they cannot be used as primary evidence for dating the period.

The charcoal sample Hd-14488 comes from a higher stratum (Easton, Weninger 1993: fig. 12, stratum 24) and must have been deposited during the first phase of the oval building's use.

The absolute dating of the related sites

The dating in table 8 is based on a combination of calibrated ^{14}C dates with historical dates using the middle chronology. The following brief remarks highlight some of the key factors which anchor the relative chronology to absolute dates so derived.

Historical dating. The sequence at Kültepe provides the most complete set of historical synchronisms. The Early Bronze III levels 13–11 are linked by imports of pottery and jewellery and by a reused cylinder seal (from level 11a) to a period spanning the end of the Early Dynastic III, the Akkadian and Post-Akkadian periods, ca 2350–2150 BC (Özgüç 1986a). The texts from the Karum period indicate that Karum II was founded at least during the reign of Erišum I (1974–1934 BC) and lasted until 1836 BC (Veenhof 2003). Karum Ib ran from 1833 to 1719 BC (Günbattı 2008).

With less precision, the Tarsus sequence can be related to those of both Kültepe and northern Syria. Tarsus Early Bronze III is reliably linked to Kültepe Early Bronze III (Mellink 1992: 215–16). Middle Bronze phases A and B are characterised by the appearance of Syro-Cilician painted ware (Goldman 1956: 62). This type of pottery has a wide distribution in northern Syria where precise inter-site correlations are a matter of debate. But a historical anchor is provided by its presence in Tell Mardikh phase IIIA (Ebla MB I), which, according to L. Nigro (2009), can be dated by synchronisms with Byblos and Egypt to ca 2000–1800 BC (the initial date of 2000 is a little uncertain, but must in any case precede 1900 BC: Nigro 2007). The ware also makes an appearance in Kültepe Karum IV (Mellink 1965: 119–20). At the younger end of the scale, Mellink (1965: 120) notes some parallels between Tarsus Late Bronze I and Kültepe Karum Ib which suggest an overlap of the two periods. It should be noted that at Tarsus the pottery is attributed to 'levels' (such as 7m, 7.50m) which correspond with architectural phases. The architectural phases are clear enough, except in the Early Bronze/Middle Bronze transitional phases which largely consist of pits and silos; but it is not clear whether pots are attributed to these 'levels' directly on the basis of observed stratigraphic associations or indirectly from the depths at which they were found. In any case, close stratigraphic contexts are lacking. A reappraisal of the Early Bronze sequence has been attempted by Mallegni and Vacca 2013.

Kilise Tepe IVa and IVb are clearly related to the Cilician Middle Bronze Age and also have links with Beycesultan V and IVc (Symington 2007: 319–26). The broad dating is therefore clear, although the evidence is insufficient for precision. A ^{14}C date from Kilise Tepe IVa has a 65.4% range of 2040–1800 cal. BC (Switsur 2007: H19/357: 3610±60 BP, 68% probability), which is consistent with the likely range of Tarsus Middle Bronze phases A and B.

Radiocarbon dating. At Beycesultan, only levels II and Ib are independently dated, by the recent ^{14}C determinations (Dedeoğlu, Abay 2014: 10–11, 39). These have been referred to in our main text. Earlier levels float chronologically. However, there are numerous parallels between levels XII–VIa and Aphrodisias BA3 to BA4 and between levels V–IVb and Aphrodisias Middle Bronze levels (Joukowsky 1986: 448, 466). These Aphrodisias periods have produced a number of ^{14}C dates. Taking the latest of the dates for each period, the Aphrodisias evidence is compatible with a date of ca 2000 BC for the end of Beycesultan VI and with placing the end of Beycesultan

IVb around 1750 BC (see especially P-1650: 3715±59 BP; P-1649: 3561±55 BP; P-1646: 3410±70 BP: Joukowsky 1986: 163; Mellink 1992: 178).

For mainland Greece and the Aegean we have reliable sequences from Ayia Irini, Lerna, Aegina, Lefkandi (not yet fully published) and Pefkakia. We have chosen, somewhat arbitrarily, to follow the synchronisms proposed by J. Maran (1992: 1.370). In the Cycladic sequence, the position of the Lefkandi I and Kastri phases and of Early Cycladic III generally is debated (for summaries and discussions, see Warren, Hankey 1989: 25–29; Manning 1995: 66–73). For absolute dating, the long series of ^{14}C dates from Aegina-Kolonna (Wild et al. 2010) provides a valuable backbone for the whole region. On the basis of these and of the ^{14}C dates from Lerna, Jung and Weninger 2015 places the Early Helladic III/Middle Helladic I transition close to 2100 cal. BC. The Aegina dates for the two transitions Middle Helladic I/Middle Helladic II and Middle Helladic II/Middle Helladic III have ranges of 103 years and 66 years respectively (68% probability), so there is some fluidity in the Middle Bronze Age dates. The Middle Bronze boundaries in our table 8 are placed at points suggested by correlations with the Troy sequence and fall within the Aegina ranges. They are intended to convey the perceived correlations, not to express certainty over exact dates.

Appendix 2: Correspondence Analysis database from Blegen's Troy III

These units replace the Troy III element of the database in Weninger 2002: Appendix I. *Troy* II = Blegen et al. 1951.

Unit no.	*Location*	*Reference*	*Stratum*
Unit 312	E6 Street 309 2 pots: A2 × 2	*Troy* II pp.40–45	IIIa
Unit 313	E6 Street 308 1 pot: D15	*Troy* II pp.49–54	IIIa
Unit 314	E6 House 304 1 pot: A16	*Troy* II p.55	IIIa
Unit 315	E6 House 303 1 pot: B5	*Troy* II pp.58–59	IIIa
Unit 316	E6 Room 302 2 pots: A45, B24	*Troy* II pp.62–64	IIIa
Unit 317	E6 House 300 44 pots: A2 × 9, A16 × 6, A18, A22, A39 × 5, B17, B17 or 18, B22, B24, C5 × 2, C10 × 9, C19, C35 × 3, D14, D15, D24	*Troy* II pp.74–82	IIIa
Unit 318	E6 House 301 15 pots: A2 × 5, A16, A22, A30, A39 × 4, B3, B18, C14, C21, C30, C35	*Troy* II pp.86–88	IIIa
Unit 319	E6 Room 306 2 pots: A16, C32	*Troy* II p.89	IIIa
Unit 320	F4–5 7 pots: A2 × 4, A16, A39, A45	*Troy* II pp. 91–93	Early III (= IIIa–b)
Unit 321	F7–8 1 pot: C28	*Troy* II pp. 93–97	Early III (= IIIa–b)
Unit 322	E6 Street 309 13 pots: A16, A39 × 3, B18 × 2, C7, C10, C19, C29, D14, D21, D22	*Troy* II pp.40–45	IIIb
Unit 323	E6 Street 308 7 pots: A2, A39, B3, D7, D13 × 2, D14	*Troy* II pp. 49–54	IIIb
Unit 324	E6 House 304 2 pots: B17, D15	*Troy* II p. 55	IIIb
Unit 325	E6 House 303 2 pots: C30, C35	*Troy* II pp.58–59	IIIb

Unit 326	E6 Room 302 1 pot: A2	*Troy* II pp.62–64	IIIb
Unit 327	E6 House 300 25 pots: A2 × 8, A16 × 3, A39 × 2, B3, B3/18, B17/18, B18, B22 × 2, B24, C10 × 2, C13, C19, D33	*Troy* II pp.74–82	IIIb
Unit 328	F4–5 3 pots: A18, B18, C35	*Troy* II pp.91–93	Middle III (= IIIb–c)
Unit 329	E6 Street 309 6 pots: A2 × 3, A16, A39, B22	*Troy* II pp.40–45	IIIc
Unit 330	E6 Street 308 16 pots: A2 × 2, A16 × 2, A39, A45, C10 × 7, D34 × 3	*Troy* II pp.49–54	IIIc
Unit 331	E6 House 304 2 pots: A2, A45	*Troy* II p.55	IIIc
Unit 332	E6 Room 302 10 pots: A2 × 7, A16 × 3	*Troy* II pp.62–64	IIIc
Unit 333	E6 House 300 13 pots: A2 × 5, A39, B3, B17, B18, B22 × 3, D13	*Troy* II pp.74–82	IIIc
Unit 334	F4–5 2 pots: A2, A18	*Troy* II pp.91–93	Late III (= IIIc–d)
Unit 335	F7–8 1 pot: A16	*Troy* II pp.93–97	Late III (= IIIc–d)
Unit 336	E6 Street 309 1 pot: B20	*Troy* II pp.40–45	IIId
Unit 337	E6 Street 308 12 pots: A2, A16, A39 × 6, A45, B17, B24, C19	*Troy* II pp.49–54	IIId
Unit 338	E6 House 303 2 pots: B18 × 2	*Troy* II pp.58–59	IIId
Unit 339	E6 Room 302 11 pots: A2 × 5, A39, A43, B20 × 2, C5, D26	*Troy* II pp.62–64	IIId
Unit 340	E6 House 300 21 pots: A2 × 4, A16 × 2, A18, A39 × 2, B22 × 3, B24, C5 × 2, C10 × 2, C21 × 4	*Troy* II pp.74–82	IIId
Unit 341	E6 Street 309 A1 many, A2 many, A6 × 1, A12 × 1, A10 several, A16 many, A18 many, A21/22 many, A39 many, A30 × 1, A39 many, A45 many, B3 many, B5 × 1, B17 many, B22 several, B24 many, C10 several, C19 many, C21 many, C35 several, C39 many, D7 × 1, D12 × 1, D13 many, D14 × 1, D23 several, D24 several	*Troy* II pp.40–45	III phases undetermined
Unit 342	E6 Street 308 A2 many, A6 × 1, A10 × 1, A12 × 1, A16 many, A18 several, A21/22 many, A39 many, A45 × 12, B3 many, B5 × 1, B9 × 1, B17 several, B18 several, B20 × 1, C10 × 3, C19 many, C21 many, C29 many, C35 × 2, C39 many, D23 × 1, D24 × 1, D26 × 1	*Troy* II pp.49–54	III phases undetermined
Unit 343	E6 House 304 A2 several, A11 × 1, A12 several, A16 common, A21/22 × 1, A39 × 1, A45 several, B3 × 2, C19 many, C21 many, C28 × 1, C39 many, D23 several	*Troy* II p.55	III phases undetermined
Unit 344	E6 House 303 A2 many, A11/18 × 1, A12 × 1, A16 many, A30 × 1, A39 × 6, A45 several, B3 several, C5 × 1, C10 × 1, C19 many, C21 many, C39 several, D1 × 1, D3 × 1, D23 × 1, D34 × 1	*Troy* II pp.58–59	III phases undetermined

Unit 345	E6 Room 302	*Troy* II pp.62–64	III phases undetermined
	A2 many, A6 × 1, A11 several, A12 × 1, A16 many, A18 × 1, A21/22 × 1, A39 × 10, A45 several, B3 × 1, B17 × 2, B20 × 1, B24 several, C10 many, C19 many, C20 many, C28 × 1, C35 × 1, D14 x 1, D23 several		
Unit 346	E6 House 300	*Troy* II pp.74–82	III phases undetermined
	A1 several, A2 very many, A6 many, A11 × 1, A12 many, A16 very many, A17 × 1, A21/22 many, A39 many, A45 many, B3 many, B9 × 1, B17 several, B18 several, B24 several, C5 × 3, C7 × 1, C10 many, C13/14 many, C19 many, C21 many, C28 × 1, C35 many, C39 × 1, D13 many, D23 many, D24 several, D33 × 1		
Unit 347	E6 House 301	*Troy* II pp.86–88	III phases undetermined
	A2 many, A12 many, A16 many, A39 × 1, A45 × 1, B3 several, B20 × 1, B22 × 1, B24 × 1, C5 × 1, C10 several, C14 many, C19 many, C21 many, C39 several, D13 × 1, D23 many, D24 × 1		
Unit 348	E6 Room 305	*Troy* II p.88	III phases undetermined
	A2 common, A16 several, A39 common, A45 × 1, C19 common, C21 common		
Unit 349	E6 Room 306	*Troy* II p.89	III phases undetermined
	A2 many, A16 many, A21/22 × 1, A39 × 1, B3 × 1, C19 many, C21 many, C39 × 1, D3 × 1, D23 × 1		
Unit 350	F4–5	*Troy* II pp.91–93	III phases undetermined
	A2 many, A10 × 1, A16 many, A18 several, A21/22 × 1, A39 many, A45 many, B3 many, B18 × 1, B20 × 1, C10 several, C13 × 1, C14 several, C19 many, C21 many, C35 × 1, C39 several, D3 × 1, D7 × 2, D23 many		
Unit 351	F7–8	*Troy* II pp.93–97	III phases undetermined
	A1 several, A2 many, A39 several, B3/17 × 1, C10 many, C13/14 many, C19 many, C21 many, D7/13 × 1, D13/14 × 1, D24 several		

Appendix 3: List of references for table 6

Ilios = Schliemann 1880; *SET* = Easton 2002.

A4? II: *SET* fig. 140:72-362; III: *SET* fig. 138:73-142

A33 II: *SET* fig. 152:72-1237; III: *SET* fig. 145:72-563; III–IV: *Ilios* 538 (‘City IV’); IV: *SET* figs 151:72-1235, 156:72-1097, 72-1144, 72-1205, 72-1216, 72-1219, 160:72-1662, 72-1470; V: *SET* figs 135:72-197, 156:72-1087, 159:72-1663, 72-1668

A37 II: *SET* fig. 174:73-464; III–IV: *Ilios* 537 (‘City IV’)

A41 II: *SET* fig. 135:72-195; IV: *Ilios* no. 1316; out of context: *SET* fig. 155:72-1190, 72-973

A43 II: *SET* figs 152:72-1379, 172:73-375; III: *SET* fig. 145:72-879; III–IV: *Ilios* nos 1090, 1091 (‘City IV’); IV: *SET* fig. 151:72-1285; IV–V: *SET* fig. 169:73-169

B5 II: *Ilios* nos 407, 408, 409 (‘City III’); III: *SET* figs 170:73-341, 150:72-1375; III–IV: *Ilios* nos 1124, 1129 (‘City IV’)

B7 II: *Ilios* no. 169?; III–IV: *Ilios* nos 1141, 1146 (‘City IV’); IV: *SET* fig. 185:73-718

B13 I: *Ilios* nos 56, 57, 58; II: *SET* figs 139:73-188, 186:73-743; II–III: *Ilios* nos 386, 390 (‘City III’); IV: *SET* figs 141:At.167-3272, 145:2-601

B15 II–III: *Ilios* no. 357 (‘City III’); III: *SET* figs 135:72-166, 189:At.189-3451, 161:72-1776; V: *SET* fig. 156:72-1143

B17 II: *SET* figs 135:72-190, 146:72-653, 148:72-655, 152:72-1378, 163:72-1825; II–III: *Ilios* nos 396, 398, 399, 400 (‘City III’); III: *SET* fig. 145:72-550?; III–IV: *Ilios* nos 1079, 1137 (‘City IV’)

B20 I?: *SET* fig. 136:72-147; II: *SET* fig. 149:At.104-2298; II–III: *Ilios* nos 361, 362, 363, 371; III: *SET* figs 142:175-3390, 170:73-339; III–IV: *Ilios* nos 1149–58, 1160; IV: *SET* fig. 181:73-673, 73-554; IV–V: *Ilios* nos 1306–08 (‘City V’); V: *SET* figs 154:72-263, 168:At.124-2490, 169:73-260

C6 II: *SET* fig. 163:72-1810; III: *SET* fig. 185:73-738; III–IV: *Ilios* nos 1142, 1147

C7 II: *SET* fig. 187:At.167-3262; III: *SET* fig. 150:72-1020; III–IV: *Ilios* nos 991–93 (‘City IV’); IV: *SET* fig. 136:72-123?; V: *SET* figs 156:72-1071, 159:72-1835?

C27 II: *SET* figs 148:72-562, 167:72-1947, 182:73-547; III: *SET* fig. 182:73-580; III–IV: *Ilios* nos 1021, 1023

D29 III: *SET* fig. 162:72-1562
D30 II: *SET* figs 153:73-889, 139:73-184; III: *SET* fig. 150:72-1019; IV: *SET* fig. 136:73-79
D31 II: *SET* figs 137:73-124, 149:At.104-2298, 172:73-345; II–III: *Ilios* no. 356 ('City III'); III: *SET* fig. 189:At.187-3424; IV–V: *Ilios* nos 1331, 1332 ('City V'); V: *SET* fig. 159:72-1843
D33 I?: *SET* 110; II: *SET* figs 140:72-405, 174:73-423; II–III: *Ilios* 410 ('numerous'), no. 476 ('City III'); *SET* figs 145:72-640, 162:72-1430; III–IV: *Ilios* 410 ('numerous'; 'City IV'); IV: *SET* fig. 166:72-1899; IV–V: *Ilios* 410 ('numerous'; 'City V'), nos 1338, 1339
D34 II: *SET* figs 140:72-363?, 174:73-408, 182:73-631; III: *SET* fig. 140:72-361; III–IV: *Ilios* nos 1197–99 ('City IV')

Appendix 4: List of references for table 7

Ilios = Schliemann 1880; *Troja* = Schliemann 1884; *SET* = Easton 2002; Blegen's attestations are easily found in the indices to Blegen et al. 1950; 1951.

A20 III: *Ilios* no. 1128; IV–V: *SET* fig. 180:73-327
A36 IV: *Ilios* no. 1328
A44 II: *Ilios* no. 325; III: *Ilios* no. 1085; IV: *Ilios* no. 1305; *SET* fig. 169:73-209
B20 I?: *SET* fig. 136:72-147; II: *SET* fig. 149:At.104-2298; II–III: *Ilios* nos 361, 362, 363, 371; III: *SET* figs 142:175-3390, 170:73-339; III–IV: *Ilios* nos 1149–58, 1160; IV: *SET* fig. 181:73-673, 73-554; IV–V: *Ilios* nos 1306–08 ('City V'); *SET* figs 154:72-263, 168:At.124-2490, 169:73-260
B23 II: *SET* figs 137:73-52, 138:73-28, 167:72-1900, 186:73-736, 192:At.188-3450; *Ilios* no. 368; III: *Ilios* nos 1161, 1162; IV: *SET* fig. 151:72-1279; V: *SET* fig. 156:72-1143
C29 II: *Ilios* nos 256, 261, 307; III: *Ilios* nos 1007, 1009, 1025, 1044, 1049; IV: *SET* fig. 156:72-1146, 72-1214
C30 II: *SET* figs 163:72-1443, 165:72-1611, 172:73-406, 187:At.191-3443, 192:At.189-3455, 189-3456; *Ilios* nos 229, 233; III: *SET* figs 162:72-1777, 182:73-601, 189:At. 188-3439; *Ilios* no. 990; *Troja* no. 97; IV: *SET* figs 138:73-147, 185:73-742; *Troja* no. 100
D13 II: *Ilios* no. 237; IV: *SET* fig. 157:72-1218; V: *SET* fig. 156:72-1069
D29 II: *SET* figs 135:72-191, 146:72-582, 165:72-1609, 72-1802, 167:72-1945, 192:At.188-3450b; *Ilios* no. 337; *Troja* nos 68, 69; III: *SET* fig. 162:72-1562

Appendix 5: Chronologically significant pottery shapes in Proto-IV deposits

A20 *Bowl with inset vertical rim*. Attestations:

E4–5, level 9	Frirdich 1997: Taf. 2.18
D7–8, level unspecified	Sazcı 2005: Taf. 12.1
A5–6, levels 'IV.2', 'V.1', 'V.2'	Blum 2012: 2.Taf. 273, 276(?)
SET unit 100	Easton 2002: 272

A33 *One-handled cups*, generally with the handle attached to the rim. Attestations:

D7–8, level 'IV.5'	Sazcı 2005: Abb. 47.3
SET unit 9	Easton 2002: 115
SET unit 54	Easton 2002: 169
Schliemann 'City IV'	Schliemann 1880: nos 1095–1100

A37 *Kantharoi*, sometimes pedestalled. Attestations:

E4–5, level 9(?)	Frirdich 1997: Taf. 2.13
D7–8, level 'IV.5'	Sazcı 2005: Abb. 47.4, Taf. 12.3
SET unit 69	Easton 2002: 199, A222
Schliemann 'City IV'	Schliemann 1880: nos 1094, 1101, 1102

A209 *Conical goblet* with fenestrated pedestal. Attestation:

SET unit 31	Easton 2002: 135–36

B5 *'Syrian' bottles*. Attestations:

SET unit 54	Easton 2002: 169
SET unit 87	Easton 2002: 233

D29 *Duck vase*. Attestation:

SET unit 69	Schmidt 1902: no. 1481; Easton 2002: 199

Bifoil and trefoil mouths on jugs. Attestations:

D7–8, level unspecified	Sazcı 2005: 65, Taf. 14.2
D7–8, levels 'IV.3', 'IV.4'	Sazcı 2005: Abb. 39.2, 44.3
A5–6, levels 'IV.2', 'V.1', 'V.2'	Blum 2012: 2.Taf. 308
SET unit 31	Easton 2002: 136, 73-739, Atlas 167-3267
SET unit 87	Easton 2002: 233, B20

Red-cross decoration on bowls and other vessels. Attestations:

E4–5, level 8(?)	Frirdich 1997: Taf. 2.27
D7–8, level unspecified	Sazcı 2005: 63, 96, n.76
A5–6, levels 'V.1', 'V.2'	Blum 2012: 2.Taf. 331
Schliemann 'City IV'	Schliemann 1880: 225, 544, no. 1128

Supplementary bibliography

Atkinson, T.D., Bosanquet, R.C., Evans, A.J., Hogarth, D.G, Mackenzie, D., Smith, C., Welch, F.B 1904: *Excavations at Phylakopi in Melos.* London, British School at Athens

Aykurt, A. 2013: 'An updated assessment on western Anatolian Middle Bronze Age chronology in light of excavations of the Izmir region' *Colloquium Anatolicum (Anadolu Sohbetleri)* 12: 33–77

Barber, R.L.N. 1984: 'The pottery of Phylakopi, First City, phase ii (I-ii)' in J.A. MacGillivray, R.L.N Barber (eds), *The Prehistoric Cyclades: Contributions to a Workshop on Cycladic Chronology.* Edinburgh, Edinburgh University Department of Classical Archaeology: 88–94

Bittel, K. 1934: *Prähistorische Forschungen in Kleinasien* (Istanbuler Forschungen 6). Istanbul, Abteilung Istanbul des Archäologischen Instituts des Deutschen Reiches

Blegen, C.W., Caskey, J.L., Rawson, M. 1951: *Troy: The Third, Fourth and Fifth Settlements.* Princeton, Princeton University Press

— 1953: *Troy: The Sixth Settlement.* Princeton, Princeton University Press

Blegen, C.W., Caskey, J.L., Rawson, M., Sperling, J. 1950: *Troy: General Introduction. The First and Second Settlements.* Princeton, Princeton University Press

Blum, S.W.E. 2012: *Die Ausgehende Frühe und die Beginnende Mittlere Bronzezeit in Troia* (Studia Troica Monograph 4) (2 vols). Darmstadt, von Zabern

Bossert, E.M. 1967: 'Kastri auf Syros' *Archaiologikon Deltion* 22a: 53–76

Buck, R.J. 1964: 'Middle Helladic matt-painted pottery' *Hesperia* 33: 231–313. https://doi.org/10.2307/147085

Caskey, J.L. 1954: 'Excavations at Lerna, 1952–1953' *Hesperia* 23: 3–30. https://doi.org/10.2307/146722

— 1955: 'Excavations at Lerna, 1954' *Hesperia* 24: 25–49. https://doi.org/10.2307/147061

— 1960: 'The Early Helladic period in the Argolid' *Hesperia* 29: 285–303. https://doi.org/10.2307/147199

— 1972: 'Investigations in Keos, part II' *Hesperia* 41: 357–401. https://doi.org/10.2307/147439

Cultraro, M. 2007: 'The Middle Bronze Age pottery sequence in the northern Aegean islands: the evidence of Poliochni, Lemnos' in F. Felten, W. Gauss, R. Smetana (eds), *Middle Helladic Pottery and Synchronisms.* Vienna, Österreichische Akademie der Wissenschaften: 323–32

Dedeoğlu, F., Abay, E. 2014: 'Beycesultan excavation project: new archaeological evidence from Late Bronze layers' *Arkeoloji Dergisi* 19: 1–39

Dickinson, O.T.P.K. 1977: *The Origins of Mycenaean Civilisation.* Gothenburg, Åström

Easton, D.F. 1989: *Schliemann's Excavations at Troy, 1870–1873.* PhD thesis, University of London (copies in the Universities of London, Cincinnati and Tübingen)

— 1990: 'Reconstructing Schliemann's Troy' in W.M. Calder III, J. Cobet (eds), *Heinrich Schliemann nach hundert Jahren.* Frankfurt, Klostermann: 431–47

— 2002: *Schliemann's Excavations at Troia, 1870–1873* (Studia Troica Monograph 2). Mainz, von Zabern

Easton, D.F., Weninger, B. 1993: 'Troy VI lower town – Quadrats I8 and K8: a test case for dating by pottery seriation' *Studia Troica* 3: 45–96

Efe, T. 2007: 'The theories of the "Great Caravan Route" between Cilicia and Troy: the Early Bronze Age III period in inland western Anatolia' *Anatolian Studies* 57: 47–64. https://doi.org/10.1017/S0066154600008498

Efe, T., Türkteki, M. 2005: 'The stratigraphy and pottery of the period transitional into the Middle Bronze Age at Küllüoba (Seyitgazi, Eskişehir)' *Anatolia Antiqua* 13: 119–44. https://doi.org/10.3406/anata.2005.1041

Emre, K. 1963: 'The pottery of the Assyrian colony period according to the building levels of the Kaniš karum' *Anadolu* 7: 87–99. https://doi.org/10.1501/Andl_0000000080

— 1966: 'The pottery from Acemhöyük' *Anadolu* 10: 99–153. https://doi.org/10.1501/Andl_0000000094

Eslick, C. 2009: *Elmalı-Karataş* 5: *The Early Bronze Age Pottery of Karataş: Habitation Deposits.* Bryn Mawr, Bryn Mawr College

Evans, R.K., Renfrew, C. 1984: 'The earlier Bronze Age at Phylakopi' in J.A. MacGillivray, R.L.N Barber (eds), *The Prehistoric Cyclades: Contributions to a Workshop on Cycladic Chronology.* Edinburgh, Edinburgh University Department of Classical Archaeology: 63–69

Frirdich, C. 1997: 'Pinnacle E4/5: die Keramik der Periode II im Vergleich' *Studia Troica* 7: 111–258

Gauss, W., Smetana, R. 2007: 'Aegina Kolonna, the ceramic sequence of the SCIEM 2000 Project' in F. Felten, W. Gauss, R. Smetana (eds), *Middle Helladic Pottery and Synchronisms.* Vienna: Österreichische Akademie der Wissenschaften: 57–80

Goldman, H. 1931: *Excavations at Eutresis in Boeotia.* Cambridge MA, Harvard University Press

— 1956: *Excavations at Gözlü Kule, Tarsus* 2. Princeton, Princeton University Press

Günbattı, C. 2008: 'An eponym list (KELG) from Kültepe' *Altorientalische Forschungen* 35.1: 103–32

Günel, S. 1999: 'Vorbericht über die mittel- und spätbronzezeitliche Keramik vom Liman Tepe' *Istanbuler Mitteilungen* 49: 41–82

— 2004: 'Middle Helladic painted pottery and the importance of matt painted wares from Liman Tepe in the cultural development of the Aegean region' *TUBA-AR* 7: 197–214. https://doi.org/10.22520/tubaar.2004.0016

Hanschmann, E., Milojčić, V. 1976: *Die deutschen Ausgrabungen auf der Argissa-Magula in Thessalien* 3: *Die frühe und beginnende mittlere Bronzezeit* (2 vols). Bonn, Habelt

Jablonka, P. 2001: *Troia Tagebuch K8, 2001.* Excavation notebook in the archive of the Troia Projekt, University of Tübingen

— 2014: 'Globalisierung im 3. Jahrtausend v. und n. Chr.: Interpretationen archäologisch sichtbarer Kontakte von der Ägäis bis zum Indus von der nordwestlichen Peripherie aus betrachtet' *Altorientalische Forschungen* 41.1: 41–62

Joukowsky, M.S. 1986: *Prehistoric Aphrodisias* (2 vols). Providence/Louvain la Neuve, Brown University/Université Catholique de Louvain

Jung, R., Weninger, B. 2015: 'Archaeological and environmental impact of the 4.2 ka cal. BP event in the central and eastern Mediterranean' in H. Meller, H.W. Arz, R. Jung, R. Risch (eds), *2200 BC: Ein Klimasturz als Ursache für den Zerfall der Alten Welt?/2200 BC: A Climatic Breakdown as a Cause for the Collapse of the Old World?* Halle, Landesamt für Denkmalpflege und Archäologie Sachsen-Anhalt, Landesmuseum für Vorgeschichte: 205–34

Kühne, H. 1976: *Die Keramik vom Tell Chuera und ihre Beziehungen zu Funden aus Syria-Palästina, der Türkei und dem Iraq*. Berlin, Gebrüder Mann

Lloyd, S., Mellaart, J. 1962: *Beycesultan* 1. London, British Institute of Archaeology at Ankara

— 1965: *Beycesultan* 2. London, British Institute of Archaeology at Ankara

MacGillivray, J.A. 1980: 'Mount Kynthos in Delos: the Early Cycladic settlement' *Bulletin de Correspondance Héllenique* 104: 3–45

Mallegni, C., Vacca, A. 2013: 'Connections between Syria and Anatolia in the second half of the 3rd millennium BC: the Tarsus sequence' in L. Bombardieri, A. D'Agostino, G. Guarducci, V. Orsi, S. Valentini (eds), *Identity and Creativity: Proceedings of the 16th Symposium on Mediterranean Archaeology, Florence, Italy, 1–3 March 2012.* Oxford, Archaeopress: 209–17

Manning, S.W. 1995: *The Absolute Chronology of the Aegean Early Bronze Age.* Sheffield, Sheffield University Press

— 1997: 'Troy, radiocarbon and the chronology of the northeast Aegean in the Early Bronze Age' in C.G. Doumas, V. la Rosa (eds), *Poliochni e l'Antica Eta del Bronzo nell'Egeo Settentrionale*. Athens, Scuola Archeologica Italiana di Atene: 498–521

Maran, J. 1992: *Die deutschen Ausgrabungen auf der Pevkakia-Magula in Thessalien* 3: *Die Mittlere Bronzezeit.* Bonn, Habelt

Mellink, M.J. 1963: 'An Akkadian illustration of a campaign in Cilicia?' *Anatolia* 7: 101–15

— 1965: 'Anatolian chronology' in R.W. Ehrich (ed.), *Chronologies in Old World Archaeology.* Chicago/London, University of Chicago Press: 101–31

— 1986: 'The Early Bronze Age in west Anatolia' in G. Cadogan (ed.), *The End of the Early Bronze Age in the Aegean.* Leiden, Brill: 139–52
— 1992: 'Anatolian chronology' in R.W. Ehrich (ed.), *Chronologies in Old World Archaeology* (3rd edition). Chicago/London, University of Chicago Press: 1.207–20, 2.171–84
Milojčić, V. 1961: *Samos* 1: *Die Prähistorische Siedlung unter dem Heraion. Ausgrabungen 1953 und 1955.* Bonn, Habelt
Nigro, L. 2007: 'Towards a unified chronology of Syria and Palestine: the beginning of the Middle Bronze Age' in P. Matthiae, F. Pinnock, L. Nigro, L. Peyronel (eds), *From Relative Chronology to Absolute Chronology: The Second Millennium BC in Syria-Palestine.* Rome, Bardi: 365–91
— 2009: 'The eighteen century BC princes of Byblos and Ebla and the chronology of the Middle Bronze Age' *Bulletin d'Archéologie et d'Architecture Libanaises* special edition 6: 159–75
Orthmann, W. 1963: *Frühe Keramik von Boğazköy.* Berlin, Gebrüder Mann
Overbeck, J.C. 1989: *Ayia Irini: Period IV.* Mainz, von Zabern
Özgüç, T. 1950: *Ausgrabungen in Kültepe 1948.* Ankara, Türk Tarih Kurumu
— 1959: *Kültepe-Kaniš: New Researches at the Center of the Assyrian Trade Colonies.* Ankara, Türk Tarih Kurumu
— 1986a: 'New observations on the relationship of Kültepe with southeast Anatolia and north Syria during the third millennium BC' in J.V. Canby, E. Porada, B.S. Ridgway, T. Stech (eds), *Ancient Anatolia: Aspects of Change and Cultural Development. Essays in Honor of Machteld J. Mellink.* Wisconsin, University of Wisconsin: 31–47
— 1986b: *Kültepe-Kaniš* 2: *New Researches at the Trading Center of the Near East.* Ankara, Türk Tarih Kurumu
Özgüç, T., Özgüç, N. 1953: *Ausgrabungen in Kültepe 1949.* Ankara, Türk Tarih Kurumu
Parzinger, H. 1993: *Studien zur Chronologie und Kulturgeschichte der Jungstein-, Kupfer- und Frühbronzezeit zwischen Karpaten und mittlerem Taurus* (2 vols). Mainz, von Zabern
Pavúk, P. 2007: 'New perspectives on Troia VI chronology' in M. Bietak, E. Czerny (eds), *The Synchronisation of Civilisations in the Eastern Mediterranean in the Second Millennium BC* 3. Vienna, Österreichische Akademie der Wissenschaften: 473–78
— 2014: *Troia VI Früh und Mitte: Keramik, Stratigraphie und Chronologie* (Studia Troica Monograph 3). Bonn, Habelt
Podzuweit, C. 1979a: 'Neuere frühtrojanische Funde in Nordwestanatolien und Griechenland' *Jahrbuch des Römisch-Germanischen Zentralmuseums, Mainz* 26: 131–53
— 1979b: *Trojanische Gefässformen der Frühbronzezeit in Anatolien, der Ägäis und angrenzenden Gebieten.* Mainz, von Zabern
Popham, M.R., Sackett, L.H. 1968: *Excavations at Lefkandi, Euboea 1964–66.* London, British School at Athens
Pruss, A. 2001: 'Die Graue Gezira-Ware' in J. Waalke-Meyer, M. Novak, A. Pruss, *Beiträge zur Vorderasiatischen Archäologie: Winfried Orthmann gewidmet.* Frankfurt, Johann Wolfgang Goethe-Universität, Archäologisches Institut: 412–29
Rahmstorf, L. 2006: 'Zur Ausbreitung vorderasiatischer Innovationen in die frühbronzezeitliche Ägäis' *Prähistorische Zeitschrift* 81: 49–96. https://doi.org/10.1515/PZ.2006.002
Raymond, A.E. 2009: 'Miletus in the Middle Bronze Age: an overview of the characteristic features and ceramics' in C.F. Macdonald, E. Hallager, W.-D. Niemeier (eds), *The Minoans in the Central, Eastern and Northern Aegean: New Evidence.* Athens, Danish Institute at Athens: 143–56
Renfrew, C., Evans, R.K. 2007: 'The Early Bronze Age pottery' in C. Renfrew, *Excavations at Phylakopi in Melos 1974–77.* London, British School at Athens: 129–80
Rova, E. 1991: 'Die Keramik aus dem Gräberfeld' in W. Orthmann, E. Rova (eds), *Gräber des 3. Jahrtausends v. Chr. im syrischen Euphrattal* 2: *Ausgrabungen in Wreide.* Saarbrücken, Saarbrücker Druckerei und Verlag: 71–171
Rutter, J.B. 1982: 'A group of distinctive pattern-decorated Early Helladic III pottery from Lerna and its implications' *Hesperia* 51: 459–88. https://doi.org/10.2307/147758
— 1985: 'An exercise in form v. function: the significance of the duck vase' *Temple University Aegean Symposium* 10: 16–41
— 1995: *The Pottery of Lerna IV. Lerna: A Pre-Classical Site in the Argolid* 3. Princeton, American School of Classical Studies at Athens
Şahoğlu, V. 2014: 'The *depas* and tankard vessels' in M. Lebeau (ed.), *ARCANE Interregional* 1: *Ceramics.* Turnhout, Brepols: 289–311
Sampson, A. 1985: *Manika* 1: *An Early Helladic Town in Chalkis.* Athens, Etaireia Euboikon Spondon
Sazcı, G. 2005: 'Troia I–III, die Maritime und Troia IV–V, die Anatolische Troia Kultur: eine Untersuchung der Funde und Befunde im mittleren Schliemanngraben (D07, D08)' *Studia Troica* 15: 35–98

Schachner, S., Schachner, A. 1995: 'Eine "syrische" Flasche aus Fara' *Mitteilungen der Deutschen Orientgesellschaft* 127: 83–96

Schliemann, H. 1880: *Ilios: The City and Country of the Trojans.* London, Murray (republished New York, Blom 1968)

— 1884: *Troja: Results of the Latest Researches and Discoveries on the Site of Homer's Troy, 1882.* London, Murray (republished New York, Blom 1967)

Schmidt, H. 1902: *Heinrich Schliemann's Sammlung Trojanischer Altertümer.* Berlin, Reimer

Sconzo, P. 2014: 'Syrian bottles' in M. Lebeau (ed.), *ARCANE Interregional* 1: *Ceramics.* Turnhout, Brepols: 215–35

Spanos, P.Z. 1977: 'Zur absoluten Chronologie der zweiten Siedlung in Troja' *Zeitschrift für Assyriologie* 67: 85–107. https://doi.org/10.1515/zava.1977.67.1.85

Switsur, R. 2007: 'Radiocarbon dating' in J.N. Postgate, D. Thomas (eds), *Excavations at Kilise Tepe 1994–98: From Bronze Age to Byzantine in Western Cilicia* 1. London/Cambridge: British Institute at Ankara/McDonald Institute for Archaeological Research: 622–23

Symington, D. 2007: 'The Middle Bronze Age pottery' in J.N. Postgate, D. Thomas (eds), *Excavations at Kilise Tepe 1994–98: From Bronze Age to Byzantine in Western Cilicia* 1. London/Cambridge: British Institute at Ankara/McDonald Institute for Archaeological Research: 319–28

Ünlüsoy, S. 2010: *Die Stratigraphie der Burg von Troia II.* PhD thesis, University of Tübingen. http://tobias-lib.uni-tuebingen.de/volltexte/2010/4509

Veenhof, K.R. 2003: *The Old Assyrian List of Year Eponyms from Karum Kanish and its Chronological Implications.* Ankara, Türk Tarih Kurumu

Walker, C.B.F. 1995: 'Mesopotamian chronology' in D. Collon, *Ancient Near Eastern Art.* London, British Museum: 230–38

Walter, H., Felten, F. 1981: *Alt-Ägina* 3.1: *Die Vorgeschichtliche Stadt – Befestigung, Häuser, Funde.* Mainz, von Zabern

Warren, P., Hankey, V. 1989: *Aegean Bronze Age Chronology*. Bristol, Bristol Classical Press

Weninger, B. 2002: 'Pottery seriation dating at Troy in the Early Bronze Age, based on the Cincinnati classification system' in R. Aslan, S. Blum, G. Kastl, F. Schweizer, D. Thumm, *Mauerschau: Festschrift für Manfred Korfmann* 2. Remshalden-Grunbach, Greiner: 1035–62

Wild, E.M., Gauss, W., Forstenpointer, G., Lindblom, M., Smetana, R., Steier, P., Thanheiser, U., Weninger, F. 2010: '^{14}C dating of the Early to Late Bronze Age stratigraphic sequence of Aegina Kolonna, Greece' *Nuclear Instruments and Methods in Physics Research* Section B, 268: 1013–21. https://doi.org/10.1016/j.nimb.2009.10.086

Wilson, D.E. 1999: *Keos* 9: *Ayia Irini Periods I–III. The Neolithic and Early Bronze Age Settlements.* Mainz, von Zabern

Zerner, C. 2008: 'The Middle Helladic pottery, with the Middle Helladic wares from Late Helladic deposits and the potters' marks' in W.D. Taylour, R. Janko (eds), *Ayios Stephanos: Excavations at a Bronze Age and Medieval Settlement in Southern Laconia.* London, British School at Athens: 177–298

Zimmermann, T. 2002: 'Eine "Syrische" Flasche der Troiasammlung des Römisch-Germanischen Zentralmuseums' *Archäologisches Korrespondenzblatt* 32: 51–57

— 2005: 'Perfumes and policies: a "Syrian" bottle from Kinet Höyük and Anatolian trade patterns in the advanced third millennium BC' *Anatolica* 31: 161–69. https://doi.org/10.2143/ANA.31.0.2011755

— 2006: *Die bronze- und früheisenzeitlichen Troiafunde der Sammlung Heinrich Schliemann im Römisch-Germanischen Zentralmuseum*. Mainz, Römisch-Germanisches Zentralmuseum