

## Imports and their Methodological Implications for Dating Hittite Material Culture

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### Abstract

One of the major problems in Hittite archaeology is the absolute dating of Hittite material culture. The historical dates established through various synchronisms in Hittite and other Near Eastern texts provide a general chronological framework for the development of the Hittite civilization. However, absolute dates for the development of the material culture in Central Anatolia are still generally lacking, as no clear correlation between historical dates and archaeological layers and assemblages can be established for Boğazköy-Hattuša and many other Hittite sites. Besides the absolute dates provided by the natural sciences, imports are a potential source for dating archaeological assemblages as well.

A detailed study of the imports from Boğazköy-Hattuša reveals, however, that in most cases the nature of the imported objects, their find contexts and especially their limited quantity definitely inhibit their use to establish absolute dates for Hittite archaeology.

### Introduction

The Hittites as one of the major powers in the Late Bronze Age Near East had various contacts with neighbouring regions. This is mostly known from the extensive written records found on cuneiform tablets, mainly in the Hittite capital of Boğazköy-Hattuša, but also in various other sites within Anatolia and abroad.<sup>1</sup> These documents shed extensive light on the political relations of the Hittites with their neighbours, ranging from friendly diplomatic contacts with the exchange of gifts and even marriages being arranged between the different royal courts, to open warfare.

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<sup>1</sup> For convenient summaries of the Hittite foreign relations according to historical sources see Bryce 1998 and Klengel 1999.

The contacts reported in these historical records generally allow synchronisms between Hittite and various other Late Bronze Age rulers to be established, and thus firmly tie Hittite history into the general framework of Ancient Near Eastern history (Beckmann 2000; Genz/Mielke forthcoming). However, one problem remains crucial for reconstructing the Hittite civilization: so far there are still major problems in tying together the historical and the archaeological records in Hittite Anatolia. Only on rare occasions Hittite kings or other officials commemorated building activities by leaving building inscriptions behind. The majority of the buildings unearthed at Boğazköy and other Hittite sites cannot be attributed to the reign of certain Hittite kings.<sup>2</sup> Portable artefacts with inscriptions such as clay tablets or bullae are of little help in dating the buildings, as these objects often seem to have been stored for quite a long time and even may have been transferred to new locations.<sup>3</sup> Thus numerous problems result when trying to link the historical and the archaeological chronologies in Hittite Anatolia. This is best exemplified by the recent controversies on the date of the Upper City in Boğazköy-Hattuša. While traditionally the entire Upper City was attributed to a very late phase of the Hittite Empire, with Tudḫaliya IV mainly being held responsible for this ambitious building program (Bittel 1984, 15; Neve 1992, 16; Neve 1999, 7 and 12 p.), recently much earlier dates for the beginning of the construction of the Upper City have been proposed (Müller-Karpe 2003, 388 pp; Seeher this volume).

There are several ways to solve these problems. One way is to establish an absolute chronology of archaeological contexts by applying methods from the natural sciences. Promising approaches have been made in the past years by radiocarbon dating and dendrochronology (Kuniholm et al. 2005). However, here another possible path to a solution will be explored, namely whether imports from regions with a more secure absolute chronology can help to establish absolute dates for an archaeological chronology of Hittite Central Anatolia. This paper will focus on the evidence from Boğazköy, as this site has been extensively excavated and thus also contributed a considerably large number of imports from various regions of the Ancient Near East.

## The principles of cross dating

The principle of cross dating, i.e. transferring absolute dates with the help of datable imports and exports from one region with a secure chronology to other regions whose chronological position is less well established was already introduced to archaeology by W. M. F. Petrie in 1890 due to the discovery of Mycenaean pottery in graves at Kahun and Gurob in Egypt (Petrie 1890, 273 pp; 1891, 199 pp). Petrie even recognized that some objects were local

<sup>2</sup> One of the few exceptions is the Südburg-Complex in Boğazköy, which according to a lengthy hieroglyphic inscription certainly was constructed under the reign of Suppiluliuma II (Hawkins 1995). One other case is provided by the Yalburt dam, which bears an inscription of Tudḫaliya IV (Poetto 1993). The inscriptions of Tudḫaliya IV found in the Upper City as well as on Büyükkale in Boğazköy cannot be regarded with certainty as building inscriptions (Seeher, this volume).

<sup>3</sup> An example for long-term storage is provided by the numerous bullae unearthed in the so-called Westbau, which include seal impressions from almost all Hittite kings of the Empire period, together with some earlier finds (Neve 1992, 52 pp; for the first part of the final publication dealing with the non-royal seals see Herbordt 2005).

copies of foreign imports and discussed the chronological problems resulting from such cases. In the following decades a large number of studies were devoted to the investigation of cultural interrelations between various regions of the Near East and the Eastern Mediterranean during the Bronze Age, culminating in H. Kantor's fundamental work of 1947.<sup>4</sup> The wide distribution of classes of objects such as Mycenaean pottery, Mesopotamian cylinder seals and Egyptian scarabs as well as other objects helped to establish a generally accepted archaeological correlation between different regions throughout the Eastern Mediterranean and the Near East in the Late Bronze Age (Cline 1994, 5 pp).

For imports to be used to establish an absolute chronology for any given region, some methodological points have to be taken into consideration. Although these methodological prerequisites have often been discussed, they cannot be repeated often enough, as sometimes archaeologists in the wake of exciting discoveries draw hasty and premature conclusions concerning the importance of these finds.

First of all, the objects have to be real imports. Vague analogies of isolated motifs or general resemblances to foreign artefacts cannot be used to construct a valuable chronological synchronisation.<sup>5</sup> Secondly, the imports need to have secure find contexts. An imported object can only be used for dating an assemblage of local objects if they are found in a primary context,<sup>6</sup> or, even better, have been deposited in a closed find.<sup>7</sup> Next, the imported objects used for dating need to have a reasonably short lifespan, i.e. the period in which objects of this specific type were manufactured should not be too long, otherwise their value for dating the find context is diminished. Also the social and functional aspects of the imported object need to be taken into consideration. Objects of daily use such as transport vessels will have a shorter life span than objects of a high social value, which additionally may consist of valuable and exotic materials. The latter may have been kept and used for a long period of time, thus limiting their value for establishing synchronisms. It has to be noted that certain objects may continue to be used in a totally different functional context, such as seals, which may end up as pieces of jewellery in periods considerably later than their time of manufacture and original use.<sup>8</sup> Also the material of which the imported artefact is made is of importance in this respect. A clay vessel certainly has a considerable shorter life span than an object made of durable stone. Lastly, the dates established with the help of imports should be based on a statistically significant assemblage. A single object for reasons totally unknown to modern researchers can always occur out of its original context. The more imports support the suggested synchronism, the more secure it will get.

<sup>4</sup> See Cline 1994, 3–4 for a short overview on the history of research concerning this topic.

<sup>5</sup> See Hennessy 1967, xix: "... and the most difficult problem, in a search for foreign contacts, is where to draw the line, as certain evidence and its evaluation becomes so subjective as to be valueless or misleading." For the problem of Egyptian versus Egyptianizing objects see De Vos 2002, 46.

<sup>6</sup> For definitions of primary context see Schiffer 1972, 161; Sommer 1991, 105.

<sup>7</sup> For the definition of a 'closed find' see Eggert 2001, 54 pp.

<sup>8</sup> See for instance the comments of Seeher 1998, 231 pp concerning a Hittite biconvex seal from Early Iron Age contexts on Büyükkaya in Boğazköy. For the same problem relating to Egyptian scarab seals see Ward/Dever 1994, 1 pp.; De Vos 2002, 54.

## Imports at Boğazköy-Hattuša

As Boğazköy-Hattuša is the most extensively excavated Hittite site in Central Anatolia, it will be used here as a case study to review the potential of using imported objects for developing a more precise chronology for Hittite archaeology. One would suspect that the intensive contacts between the Hittites and their neighbours mentioned above should also be reflected in the archaeological record. However, the contrary seems to be the case. Compared with the wealth of imports found at Late Bronze Age sites in the Aegean, Cyprus, the Levant and even Egypt, the Hittite cities of Central Anatolia provided a remarkably low number of imported objects.<sup>9</sup>

### Egyptian artefacts

A fragment of an obsidian vessel bearing the name of the Hyksos king Chian was found near the House on the Slope in square L/18, in an alluvial layer above layer NWH 5 (Stock 1963, 73; Boehmer 1972, 211). This alluvial layer postdates the end of the Hittite Empire (Boehmer/ Güterbock 1987, Beilage 1). It is agreed that Chian was one of the more important kings of the 15<sup>th</sup> Dynasty. A more precise absolute dating of Chian himself is not possible for the time being (von Beckerath 1997, 137), and even the dating of the 15<sup>th</sup> dynasty itself is subject to some controversy (Redford 1992, 106 pp). While Ward and Dever (1994, 3) opt for a high dating between ca. 1660 and 1552 BC, von Beckerath (1997, 137) and Bietak (2002, 29 pp) propose a rather lower date between 1648/1645/1640 and 1539/1536/1530 BC. The find context of the object alone precludes its use for establishing chronological relations between the Hittites and Egypt. Furthermore, one has to ask whether the object can be used to prove the existence of direct contacts between the Old Hittite Kingdom and the Hyksos at all. Already Stock (1963, 76 pp) had suspected that there are reasons to believe that the vessel may have been sent from Egypt to some place in North Syria as a diplomatic gift.<sup>10</sup> It may have come to Boğazköy only later as booty of war during the Hittite campaigns in Northern Syria, either during the Old Hittite Kingdom or at the beginning of the Empire Period. Stock's proposal has generally been accepted.<sup>11</sup> As the duration of the objects suspected stay in Syria is not known, it cannot be used for synchronizing the Hittite and the Egyptian chronologies.

The capital Hattuša produced a few Egyptian objects that might reflect the relations to Egypt as reported in the textual sources during the second half of the Late Bronze Age. A fragment of an Egyptian stela, dated to the 19<sup>th</sup> Dynasty was found on Büyükkale.<sup>12</sup> Unfortunately its find context in the debris outside of the Hittite fortifications of Büyükkale (Boehmer 1972, 208) is very poor. Furthermore, it cannot be assigned to the reign of a

<sup>9</sup> See Genz, forthcoming for a recent summary.

<sup>10</sup> For Egyptian objects dating to the Middle Kingdom and the Second Intermediate period in Syria see Redford 1992, 81 and 120 p.; Matthiae 1997; Bietak 1998; Ahrens 2003.

<sup>11</sup> Redford 1992, 120; Klengel 2002, 30 p.; De Vos 2002, 50 p.

<sup>12</sup> Boehmer 1972, 208 and Taf. LXXX:2159; Bittel 1983, 164; De Vos 2002, 46.

specific Pharaoh. An Egyptian alabaster vase on the other hand can be assigned to level III of Büyükkale, which can be dated to the 13<sup>th</sup> century BC.<sup>13</sup> The find context thus supports a Ramesside date of the object. Temple 26 in the Upper City produced an Egyptian axe (Neve 1992, 29 and fig. 70; De Vos 2002, 46), which can be assigned to type G-VIII (Kühnert-Eggebrecht 1969, 38 p). Axes of this type seem to be confined to the early 18<sup>th</sup> Dynasty (Kühnert-Eggebrecht 1969, 38 p). In the northern Lower City an Egyptian scarab was found near the surface in area J/23 (Mellink 1962, 74). The find context as well as the lack of a more detailed publication of the object precludes any further evaluation. A small sphinx of blue frit from Büyükkale, level IVa might be of Egyptian or Syro-Palestinian origin.<sup>14</sup> While according to the find context the object can be assigned to the earlier period of the Hittite Empire, the object itself cannot be dated precisely.

### Imports from the South (Cyprus, the Levant and North Syria)

Red Lustrous Wheelmade Ware is the only group of imported objects that appears in considerable quantity in Boğazköy. The shapes of the vessels, mainly spindle bottles and arm-shaped vessels, as well as their distinctive treatment of the surface clearly demonstrate that these vessels do not belong to the local repertoire of Hittite pottery. This has further been corroborated by scientific analysis of the clays (Knappett 2000). This ware has been studied by different scientists, also under chronological aspects.<sup>15</sup> According to the traditional view this pottery is restricted to the period of the Hittite Empire in Boğazköy and other Hittite sites (Eriksson 1993, 129 pp). Recent discoveries, however, have cast severe doubts on this assumption and have in fact proven that this ware started to appear in Central Anatolia much earlier, from the 15<sup>th</sup> century BC onwards, while it remains doubtful whether it actually continues into the 13<sup>th</sup> century BC.<sup>16</sup> The Red Lustrous Wheelmade Ware thus covers a period of at least 200 years, if not more. For a fine-grained chronological synchronisation of the Hittite material culture with other assemblages in the Eastern Mediterranean it thus is of limited value.

A fragment of an ox-hide ingot found at Boğazköy represents a type that is widespread in the Eastern Mediterranean in the Late Bronze Age (Müller-Karpe 1980, 303 p). Previously ingots of comparable shape with rather straight long sides were dated to the 13<sup>th</sup> and 12<sup>th</sup> centuries BC (Buchholz 1959, 1 pp.; 1988, 187 pp). However, as the Ulu Burun shipwreck contained ingots of comparable shapes (Pulak 2000, fig. 4), the dating obviously has to be extended backwards to include at least the 14<sup>th</sup> century (Pulak 2000, 138). Furthermore, ingots of this type are already illustrated on Egyptian wall paintings dating to the Amarna period (Bass 1967, 66 and figs. 81–82). This demonstrates that the shape of oxhide ingots alone does not provide a valid criterion for establishing precise dates.

<sup>13</sup> Boehmer 1972, 211 and Taf. LXXXII:2179; De Vos 2002, 46.

<sup>14</sup> Boehmer 1972, 179–180 and Pl. LXV:1860; Cline 1991, 134.

<sup>15</sup> Eriksson 1993; Kozal 2003, 65 pp.; Müller-Karpe 2003; Mielke forthcoming.

<sup>16</sup> Seeher 2002, 69; Müller-Karpe 2003, 391 p.; Mielke forthcoming.

Even more difficult is the case of a sword hilt discovered in the Upper City of Boğazköy (Geiger 1993, 213 pp). Comparable swords show a wide geographical distribution, ranging from Miletus on the western coast of Asia Minor (Niemeier 2002, 297 p) down to the Levantine Coast (Shalev 2004, 62 p). While a dating of this type of sword to the 13<sup>th</sup> century BC seems certain (Niemeier 2002, 297; Shalev 2004, 62), its precise place of origin remains controversial. While Niemeier (2002, 297 p) speaks of a Hittite type, most other scholars rather opt for a Levantine origin (Geiger 1993, 213 pp; Shalev 2004, 62 p).

A cylinder seal from Büyükkale has been tentatively identified as being of Cypriot origin (Boehmer/Güterbock 1987, 108–109). Seals of similar style indeed are attested in Cyprus and have been assigned to the 14<sup>th</sup> to 13<sup>th</sup> centuries BC.<sup>17</sup> Unfortunately the specimen from Boğazköy is unstratified (Boehmer/Güterbock 1987, 110).

Reports concerning finds of Cypriote White Slip, Base Ring or Monochrome ware from Boğazköy have never really been confirmed, and any detailed information on these finds is lacking (Todd 2001, 210; Kozal 2003, 69).

### Imports from Mesopotamia

Two cylinder seals belonging to the Mitannian Kerkuk style<sup>18</sup> were found at Boğazköy (Boehmer/Güterbock 1987, 108). Unfortunately both derive from very poor contexts, one from the debris in the Southern Area of Temple 1, the other from an upper debris layer in square J/20 in the Lower City (Boehmer/Güterbock 1987, 110), thus precluding any attempts for dating their find contexts. The impression of another Mitannian seal from a clay tablet found in the archive building A on Büyükkale, level III, can be dated to the first half of the 13<sup>th</sup> century BC (Boehmer/Güterbock 1987, 110). Several bronze daggers from Boğazköy have been compared to daggers from Kassite Babylonia (Boehmer 1972, 41 pp; Seeher 2004, 65 p). Daggers of this type have a much wider distribution. Besides in Kassite Babylonia, where they have been dated to the late 13<sup>th</sup> century BC (Boehmer 1983, 101 pp), they also occur in the Levant, where they date much earlier, to the 16<sup>th</sup> century BC (Shalev 2004, 44 p.) and on the Ulu Burun shipwreck, dated to the 14<sup>th</sup> century BC (Pulak 1988, 23 and fig. 23). The wide geographical and chronological distribution of these daggers severely limits their value for establishing synchronisms.

### Imports from the West

The Bronze Age chronology of the Aegean is dependant on absolute dates from Egypt and the Levant (Cline 1994, 5 pp). However, due the vast amounts of Mycenaean pottery found in well-dated contexts in these regions, this pottery has acquired a status as a chronological marker in itself. Unfortunately very few Mycenaean vessels and sherds have been discovered in Hittite sites so far.<sup>19</sup> Boğazköy has only produced one Mycenaean sherd (Genz

<sup>17</sup> Kenna 1971, 9 pp, no. 8, 11, 17 and 27; Mazzoni 1986, 174 pp.; Porada 1986, 290 pp.

<sup>18</sup> For the dating of the Kerkuk style see Boehmer/Güterbock 1987, 108. For Mitannian glyptic in general see Salje 1990.

<sup>19</sup> For an overview see Genz 2004, 78 pp.

2004, 77 pp): the stem of a kylix from the Lower City, found in square J/19 in 1970. The find context of this piece is very poor, as it originates from a fill layer that contained material ranging in date from the Old Kingdom to the Early Empire period. Moreover, the piece itself can only be attributed to a quite broad time span, ranging from Late Helladic IIIA2 to IIIB, i.e. ca. 1360–1200 BC (Cline 1994, 7; Dickinson 1994, fig. 1.3).

A sword of Aegean or West Anatolian provenience was found in 1991 outside of the Lion Gate in Boğazköy.<sup>20</sup> According to its inscription it has to be dated around 1420 BC, to the campaigns of Tudḫaliya I/II against Aššuwa.<sup>21</sup> As the sword was not found in connection with any other Hittite material, again for dating Hittite material culture it remains worthless.

Even more problematic for dating is the depiction of an Aegean style warrior on a Hittite bowl from the Lower City (Bittel 1976). The piece has been assigned to Level 2, which corresponds to the early Empire Period. While here a secure stratigraphic context is given, the depiction itself cannot be used for synchronizing the Mycenaean and Hittite cultures, as too little is known about the exact chronological development of arms and armour in Mycenaean Greece. Furthermore, while the incision itself is quite clear and detailed, the fact that it represents the work of a local Hittite artist should lead to some caution, as it cannot be taken for granted that it represents a faithful depiction of a Mycenaean warrior of a specific period.

A belt made of bronze with silver and gold inlays, showing a spiral pattern reminiscent of Aegean motifs (Boehmer 1972, 70 pp), was found on Büyükkale in square Bk v/10 directly under the floor of building A, which has been assigned to Büyükkale III, i.e. the late Empire Period. The spirals on the belt only resemble Aegean motifs, but the object in question cannot be claimed as an actual Mycenaean import (Cline 1994, 68), thus again it does not help to correlate Aegean and Hittite chronologies.

### Discussion and implications

The discussion above has demonstrated that imports from various regions are attested in the Hittite capital, although they are not really abundant. Some of these imports can be placed in a historical context with reasonable certainty. The Aegean/West Anatolian sword according to its inscription has to be placed in the time of Tudḫaliya I/II, of whom indeed military campaigns to the region in question are attested (Bryce 1998, 134 pp; Klengel 1999, 111). Equally some of the Egyptian objects found at Ḫattuša can be seen in connection with the intensive diplomatic contacts that were established between Hattušili III and Ramesses II during the 13<sup>th</sup> century.<sup>22</sup> The reign of Ramesses II is now unanimously accepted as falling between 1279 and 1213 BC (von Beckerath 1997, 104; Klengel 2002, 11), and

<sup>20</sup> Neve 1993, 648 pp.; Müller-Karpe 1994, 434 pp; Cline 1996.

<sup>21</sup> Müller-Karpe 1994, 435 p, Cline 1996, 138; Klengel 1999, 111.

<sup>22</sup> Edel 1994; Edel 1997; Bryce 1998, 304 pp; Klengel 1999, 266 pp; Klengel 2002.

the peace treaty between Ramesses II and Hattušili III can be dated to the 21<sup>st</sup> year of Ramesses' reign, i.e. 1259 BC (Klengel 2002, 75 pp). Certainly the fragment of the Egyptian stela from Büyükkale as well as some other Aegyptiaca have to be interpreted as the material reflection of the intensive relations that developed between Hatti and Egypt during the years following the peace treaty. However, these synchronisms do not go beyond the ones already established through the Hittite texts, and they certainly do not help to reconstruct a more precise absolute chronology for Hittite material culture. None of the Egyptian objects found at Hattuša so far can be dated to the reign of Ramesses II with any certainty.

The majority of the imported artifacts listed above unfortunately cannot be used for establishing precise dates for archaeological assemblages from the Hittite capital, as in most cases the find contexts of the objects are regrettably poor. In fact, the majority of the objects comes from secondary or even tertiary contexts, thus the association of the imported objects with local Hittite objects is meaningless in chronological terms. Some of the objects, for instance the Egyptian alabaster vase from Büyükkale, clearly have to be seen in the context of a gift exchange between royal courts (Cochavi-Rainey/Lilyquist 1999), thus here one can suspect that the precious nature led to a rather extended use of the objects, again limiting their value for establishing chronological synchronisations.

Only in very rare cases imported objects can contribute to the discussion of chronological problems in Boğazköy-Hattuša. The Egyptian axe from temple 26 in the Upper City belongs to a type that seems to be restricted to the early 18<sup>th</sup> Dynasty. This rather early dating lends support to the growing body of evidence that the Upper City was established earlier than the traditional dating into the second half of the 13<sup>th</sup> century (Müller-Karpe 2003, 388 pp; Seeher this volume). Most important of all, the isolated occurrence of imports in Hattuša clearly diminishes their value as chronological markers. The only group of imported objects that appears in a reasonably large quantity – vessels of Red Lustrous Wheelmade ware – cannot itself be dated more precisely.

In conclusion it has to be stated that with the evidence currently available, a more precise absolute dating of Hittite material culture is not possible for Boğazköy-Hattuša. As the situation concerning imports is not markedly different in other sites in the Hittite heartland (Genz forthcoming), a precise archaeological synchronisation of Hittite material culture with the neighbouring regions cannot be established for the time being.

Archaeologists working in historical periods are often reluctant to employ dating methods provided by the natural sciences, not only because these are quite expensive. The case study provided above has shown that historical dates cannot always be reliably correlated with archaeological contexts. For the time being, the most reliable methods for dating Hittite contexts in Central Anatolia are the ones provided by the natural sciences, namely radio-carbon dating and dendrochronology.<sup>23</sup> It is here that research in the future should be intensified.

<sup>23</sup> Kuniholm et al. 2005; Mielke, this volume; Schoop/Seeher, this volume; Seeher 2002, 77 p; Seeher 2003, 12 p; Seeher 2004, 66 p.

### İthal Buluntuların Hitit Kültürünün Tarihlenmesindeki Yöntembilimsel Yeri

Hitit arkeolojisinin başlıca sorunlarından biri de, Hitit maddi kültürünün mutlak tarihlerinin saptanmasıdır. Hitit ve Yakındoğu metinleri arasındaki çeşitli zamanlardaki paralelliklerden yola çıkarak saptanan tarihler, Hitit uygarlığının gelişimi açısından genel bir kronolojik çerçeve sağlar. Bununla birlikte, Boğazköy-Hattuša ve diğer birçok Hitit yerleşmesi için, metinlerden elde edilen tarihler ile, arkeolojik katmanlar ve buluntu toplulukları arasında açık bir bağıntı kurulamadığından, Orta Anadolu'daki maddi kültürün gelişimini gösteren mutlak tarihler genel olarak eksiktir. Doğa bilimleri yardımıyla sağlanan mutlak tarihler yanında, ithal edilmiş malzemeler de arkeolojik buluntu topluluklarının tarihlenmesinde olası bir kaynaktır.

Boğazköy-Hattuša'daki ithal malzeme üzerinde yapılan ayrıntılı bir çalışma, genellikle ithal nesnelerin nitelikleri, bulundukları kontekst ve özellikle sınırlı sayıları nedeniyle Hitit arkeolojisi için mutlak tarihlemeye kullanılmaya elverişli olmadıklarını göstermektedir.

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