

Studien zu den Boğazköy-Texten

Herausgegeben von der Kommission für den Alten Orient
der Akademie der Wissenschaften und der Literatur, Mainz

Band 57

Willemijn J.I. Waal

Hittite Diplomatics

Studies in Ancient Document Format
and Record Management

2015

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To the memory of my parents Cees and Iris

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Amsterdam, May 2014

Abbreviations and Editorial Symbols

Bibliographical abbreviations

AAAS	Les annales archéologiques arabes syriennes
ABoT	<i>Ankara Arkeoloji Müzesinde Boğazköy Tabletleri</i> , Istanbul
AfO	Archiv für Orientforschung
AHw	W. von Soden, <i>Akkadisches Handwörterbuch</i> , Wiesbaden 1965-81
AOAT	Alter Orient und Altes Testament: Veröffentlichungen zur Kultur und Geschichte des Alten Orients und des Alten Testaments, [Kevelaer – Neukirchen-Vluyn] – Münster
AoF	Altorientalische Forschungen
ArOr	Archiv Orientalní
BaM	Baghdader Mitteilungen
BiOr	Bibliotheca Orientalis
CAD	The Assyrian Dictionary of the Oriental Institute of the University of Chicago, Chicago 1956-2010
CANE	J.M. Sasson et al. (eds.), <i>Civilizations of the Ancient Near East</i> , 4 volumes, New York 1995
CHANE	Culture and History of the Ancient Near East, Leiden – Boston – Köln
CHD	The Hittite Dictionary of the Oriental Institute of the University of Chicago, Chicago 1980-
ChS	Corpus der hurritischen Sprachdenkmäler, Roma
CM	Cuneiform Monographs, Leiden – Boston
CMS	Chicago Manual of Style, 15th edition, Chicago – London 2003
CTH	E. Laroche, <i>Catalogue des textes hittites</i> , Paris 1971, with supplements in <i>RHA</i> 30 (1972): 94-133 and <i>RHA</i> 33 (1973): 68-71
DBH	Dresdner Beiträge zur Hethitologie, Dresden
DMOA	Documenta et monumenta Orientis Antiqui, Leiden
Eothen	Eothen, studi sulle civiltà dell'Oriente antico, Firenze
FHG	E. Laroche, <i>Fragments hittites de Genève</i> , <i>RA</i> 45 (1951): 131-138, 184-194 and <i>RA</i> 46 (1952): 42-50.
FHL	J.-M. Durand & E. Laroche, <i>Fragments hittites du Louvre</i> , in: <i>Mémorial Atatürk: Études d'archéologie et de philologie anatoliennes</i> , Institut Français d'études anatoliennes: Éditions Recherche sur les civilisations (Synthèse 10), Paris 1982: 73-107
HdO	Handbuch der Orientalistik, Leiden
HED	J. Puhvel, <i>Hittite Etymological Dictionary</i> , Berlin – New York 1984-
HEG	J. Tischler, <i>Hethitisches Etymologisches Glossar</i> , Innsbruck 1983-
HFAC	G. Beckman & H.A. Hoffner Jr., <i>Hittite Fragments in American Collections</i> , <i>JCS</i> 37 (1985): 1-60
HH	J. Tischler, <i>Hethitisches Handwörterbuch. Mit dem Wortschatz der Nachbarsprachen</i> , Innsbruck 2008

HT	<i>Hittite Texts in the Cuneiform Character from the Tablets in the British Museum</i> , London 1920
HW	J. Friedrich, <i>Hethitisches Wörterbuch. Kurzgefaßte kritische Sammlung der Deutungen hethitischer Wörter</i> , Heidelberg 1959 with supplement 1 (1957), 2 (1961), 3 (1966)
HW ²	J. Friedrich & A. Kammenhuber, <i>Hethitisches Wörterbuch, 2. völlig neu bearbeitete Auflage</i> , Heidelberg 1975-
HZL	Ch. Rüster & E. Neu, <i>Hethitisches Zeichenlexikon: Inventar und Interpretation der Keilschriftzeichen aus den Boğazköy-Texten</i> (StBoT Beiheft 2), Wiesbaden 1989
IBoT	<i>İstanbul Arkeoloji Müzelerinde bulunan Boğazköy tabletleri</i> (nden seçme metinler), Istanbul 1944, 1947, 1954, Ankara 1988
IM	Istanbuler Mitteilungen
JCS	Journal of Cuneiform Studies
JEOL	Jaarbericht van het Vooraziatisch-Egyptisch Genootschap “Ex Oriente Lux”
KBo	Keilschrifttexte aus Boghazköi – Leipzig 1916-1923, Berlin 1954-
Katalog 2002	<i>Die Hethiter und ihr Reich. Das Volk der 1000 Götter</i> , Bonn
KNAW-VAL	Koninklijke Nederlandse Akademie van Wetenschappen, Verhandelingen, Afdeling Letterkunde, Amsterdam
Konkordanz	S. Košak, <i>Konkordanz der hethitischen Keilschrifttafeln</i> , Online Datenbank, www.hethport.uni-wuerzburg.de/hetkonk/
KUB	Keilschrifturkunden aus Boghazköi, Berlin 1921-1990
KuSa	G. Wilhelm, <i>Keilschrifttexte aus Gebäude A</i> (Kuşaklı - Sarissa. Band 1: Keilschrifttexte, Faszikel 1) - Rahden 1997
MDOG	Mitteilungen der Deutschen Orient-Gesellschaft zu Berlin
MIO	Mitteilungen des Instituts für Orientforschung
MSL	B. Landsberger et al., <i>Materialien zum sumerischen Lexikon</i> , Roma.
MVAeG	Mitteilungen der Vorderasiatisch-Ägyptischen Gesellschaft
NABU	Nouvelles assyriologiques brèves et utilitaires
NdH	E. Laroche, <i>Les noms des Hittites</i> (Études linguistiques 4), Paris 1966. Supplement: <i>Hethitica</i> 4, 1981: 3-58
OECT	Oxford Editions of Cuneiform Texts, Oxford
OLZ	Orientalistische Literaturzeitung
OrNS	Orientalia Nova Series
PIHANS	Publication de l'Institut historique et archéologique néerlandais de Stamboul
RA	Revue d'assyriologie et d'archéologie orientale, Leiden – Istanbul
RGTC 6	G. F. del Monte & J. Tischler, <i>Die Orts- und Gewässernamen der hethitischen Texte</i> (Répertoire géographique des textes cunéiformes 6)
RHA	Revue hittite et asianique
RIA	Reallexikon der Assyriologie (und Vorderasiatischen Archäologie), Berlin 1928-
RS	Ras-Shamra. Excavation numbers of tablets found at Ras Shamra/Ugarit
SBL	Society of Biblical Literature
SEL	Studi epigrafici e linguistici sul Vicino Oriente antico

SMEA	Studi micenei ed egeo-anatolici
StBoT	Studien zu den Boğazköy-Texten, Wiesbaden
THeth	Texte der Hethiter, Heidelberg
TMHNF	Texte und Materialien der Frau Professor Hilprecht Collection of Babylonian Antiquities (/ -Sammlung vorderasiatischer Altertümer) im Eigentum der Friedrich-Schiller-Universität Jena, Neue Folge, Leipzig (1937), Berlin (1961-1976), Wiesbaden 2003-
TUAT	Texte aus der Umwelt des Alten Testaments, Gütersloh
UF	Ugarit-Forschungen. Internationales Jahrbuch für die Altertumskunde Syrien-Palästinas
VAT	Inventory number of texts of the Vorderasiatische Abteilung der Staatlichen Museen in Berlin
VBoT	A. Götze, <i>Verstreute Boghazköi-Texte</i> , Marburg 1930
VSNF 12	L. Jakob-Rost, <i>Keilschrifttexte aus Boghazköy im Vorderasiatisch Museum</i> (Vorderasiatische Schriftdenkmäler der Staatlichen Museen zu Berlin, Neue Folge 12 (Heft 28), Mainz 1997
WdO	Welt des Orients: wissenschaftliche Beiträge zur Kunde des Morgenlandes
WZKM	Wiener Zeitschrift für die Kunde des Morganlandes
WVDOG	Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, Leipzig – Berlin
ZA	Zeitschrift für Assyriologie und vorderasiatische Archäologie

General abbreviations

/a, /b, etc.	Boğazköy inventory numbers
A	Akkadian
abl.	ablative
acc.	accusative
app.	appendix
Ass.-Mitt.	Assyro-Mitannian
BCE	Before Common Era
Bo	Boğazköy inventory numbers
ca.	circa
cf.	confer
cm.	centimeter
col.	column
dat.	dative
e.g.	exempli gratia
eras.	erasure
et al.	et alii
fig., figs.	figure(s)
forthc.	forthcoming
gen.	genitive
GN	geographical name

H	Hittite
ibid.	ibidem
i.e.	id est
l.	line
l.col.	left column
l.e.	left edge
LNS	Late New Script
(L)NS	New Script including Late New Script
low.e.	lower edge
MA	Middle Assyrian
MH	Middle Hittite
MS	Middle Script
NB	Neo-Babylonian
NH	New Hittite
n.	note
no.	numero
nom.	nominative
NS	New Script
OA	Old Assyrian
OB	Old Babylonian
obv.	obverse
OH	Old Hittite
OS	Old Script
pl.	plural
PN	personal name
pret.	preterite
r.col.	right column
rev.	reverse
sg.	singular
s.v.	sub voce
up.e.	upper edge

Editorial symbols used in transliterations and translations

x	illegible sign or sign traces
[...]	broken passage
“...”	partially broken sign(s)
(...)	in transliteration: encloses signs restored from duplicate(s) in translation: encloses elements necessary for a sound English translation, which are not expressed by the source language
...	sign(s) written over erasure
:	<i>Glossenkeil</i>
< >	scribal omission, enclosed sign(s) to be inserted
<< >>	errant scribal insertion, enclosed sign(s) to be ignored

?	reading or restoration of sign uncertain
!	non-standard or errant sign form
//	duplicate manuscript
=	particle boundary
(find spot)*	findspot of the tablet determined by join(s).
+	direct join between tablet fragments

1 Introduction

1.1 Aim and scope of this study

“Clay is practically indestructible.” With this important observation Edward Chiera opens the second chapter of his renowned book *They Wrote on Clay*.¹ It is thanks to the durability of clay that we can today read thousands of records from archives all over the ancient Near East. Needless to say, not all tablets have stood the long test of time unscathed: over the centuries many tablets have been broken, eroded or damaged. Nevertheless, we have the unique ability to consult original documents, which may date back some 5.000 years. This direct access to the sources means, for one, that we are not confronted with the intricate problems of indirect transmission that the classical languages face, but also has another important advantage: the original documents themselves are a source of information.

When an ancient cuneiform scribe set out to write down a composition on clay, there were hardly any physical restrictions imposed by the material: the clay could basically be formed into any shape or size. He was also free to select the layout of the tablet. The variations in the physical appearances we find among the clay tablets are thus the results of a deliberate choice of the scribes. This realization immediately raises several questions: On what grounds did a scribe choose a certain tablet format? Was this choice related to the type of composition the tablet was meant for? Did any fixed rules regarding the layout of tablets exist? Are some tablet forms typical for a certain time period?

The questions posed above fall into the research scope of diplomatics, a science that originated in the 17th century AD from the need to be able to distinguish false from genuine documents.²

1.1.1 *Diplomatics: a brief introduction*

The term *diplomatics* – in the words of the medieval historian Christopher Brooke “that barbarous name given to the science of documents”³ – is derived from the Greek word *diploma* (‘doubled’ or ‘folded’), referring to documents written on dyptichs (two writing boards attached to each other with a hinge). The Benedictine monk Jean Mabillon, who published a six-book treatise *De re diplomatica* in 1681 may be seen as the founder of this discipline. Mabillon began to study old documents with the goal to establish their authenticity as a reaction to doubts that had been raised regarding the genuineness of certain Merovingian charters. Over the centuries, the scope of diplomatics has broadened considerably and the

1 See Chiera 1938: 17.

2 See Duranti 1998: 35f.

3 Quoted by Williams 2005: 4.

discipline has reinvented itself in the twentieth century.⁴ Its history has thus been summarized by Heather MacNeil:

Diplomatics was born in the seventeenth century as an analytical technique for determining the authenticity of records issued by sovereign authorities in previous centuries. Its primary purpose was to ascertain “the reality of the rights or truthfulness of the facts” contained in such documents. In the nineteenth century historians adopted diplomatics as a tool of documentary criticism for assessing the authority of medieval records as historical sources. At the end of the twentieth century, archivists have discovered new uses for this old science based on its potential as a standard for ensuring the trustworthiness of modern records generally and electronic records specifically.⁵

Nowadays, diplomatics is no longer applied to medieval legal acts only, but includes analyses of all types of documents from all ages, including the present, in a range of disciplines. The authenticity of the documents is no longer the sole focus, but it encompasses all aspects of written documents. In the definition of Luciana Duranti:

Diplomatics is the discipline which studies the genesis, forms, and transmission of archival documents, and their relationship with the facts represented in them and with their creator, in order to identify, evaluate, and communicate their true nature.⁶

Within this broader framework, diplomatics is still used by historians as a tool for a retrospective understanding of historical sources, but at the same time, archivists have begun to use it as an aid to understand current records and records-creation processes.⁷

Modern diplomatics is not only concerned with the document itself, but also with its wider context, taking into consideration the organizations and systems producing the documents, as well as the interrelationship between documents. Following Francis Blouin we may consider that diplomatics has two sub-fields: one that emphasizes the character and content of individual documents and one that explores the organizational context from which the document was produced.⁸

With respect to the study of individual documents, a distinction may be made between extrinsic elements, relating to the document’s physical form (medium, format, script, seals, etc.) and intrinsic elements, such as the title, date, originator, etc. The second subfield, the organizational context, deals with the nature and function of the office, what types of documents are produced, how they relate to one another and how they can be retrieved.

Though not primarily designed for the study of clay tablets, the research methods of diplomatics have a lot to offer to cuneiform studies and can contribute to a better

4 On the development of diplomatics, see also Blouin 1996, Guyotjeannin 1996, Duranti 1998, MacNeil 2000: 86-112 and Williams 2005.

5 See MacNeil 2000: 86.

6 See Duranti 1998: 45.

7 See MacNeil 2000: 86.

8 See Blouin 1996: 468.

understanding of the ancient cuneiform archives. It is not without reason that Veenhof in his significant introduction to the volume *Cuneiform Archives and Libraries* has argued for the introduction of an *Urkundenlehre* in Assyriology.⁹

In recent years incidental studies have dealt with the physical features of clay tablets from Mesopotamia and Syria and interest in this subject is growing, but no systematic study on a larger scale has yet been undertaken.¹⁰ In the field of Hittitology, the physical characteristics of tablets have received virtually no attention, although metadata such as the physical shape and format can provide us with valuable extra information. The present study will take up the gauntlet cast by Veenhof by taking the Hittite clay tablet *per se* as a starting point in order to shed a new light on the record management and organization of the tablet collections found in Hattuša.

The first chapters (1-6) of this book deal with the extrinsic elements of documentary form, consisting of a detailed analysis of the various physical characteristics of the Hittite clay tablet, such as its size, shape and layout. The tablets have been assessed and analyzed both diachronically and synchronically. As will be shown, certain conventions regarding their physical appearance certainly existed. For a part, these conventions were dependent on the text type that was written on the clay tablet. Further, some scribal habits changed over time. This latter aspect is all the more significant, for it provides us with an additional tool in the problematic matter of the dating of Hittite texts. In chapter 7, Hittite terminology for writing materials is discussed.

Central to chapter 8 is an intrinsic element of documentary form, the colophon. As it turns out, the distribution of Hittite colophons is very consistent: some text types practically always have a colophon whereas it is absent in others. Within the colophons themselves, we can further detect chronological developments. Since no edition of the colophons is available, transliterations and translations of this corpus have been included in the appendices.¹¹

The last chapter of the book is an attempt to reconstruct the record management and organization of the Hittite tablet collections. Before embarking on the actual research, a short introduction to the material under discussion is given below.

9 See Veenhof 1986: 15. See also Brosius 2003a: 3, Charpin 2010: 68f.

10 See, for example, Jursa 2005: 4-6 (Neo-Babylonian tablets) Archi 2003: 22f. (Ebla tablets), Brosius 2003b: 267f. (Persepolis tablets), Eidem 2002 (Old Babylonian letters), Postgate 1986, 1997, 2003 (Middle/Neo-Assyrian tablets), Radner 1995, (Neo-Assyrian tablets), Sassmannshausen 1997 (Middle-Babylonian), Cancik-Kirschbaum 2012 (Middle-Assyrian). Recently, two articles discussing the clay tablet as artefact have appeared, see Taylor 2011 and Taylor & Cartwright 2011.

11 The Hittite colophons have been discussed in the unpublished dissertation of professor Cem Karasu, which I have not been able to consult. Currently, Jürgen Lorenz is working on the Hittite colophons as well. A comprehensive study of the Babylonian and Assyrian colophons was undertaken in Hunger 1968.

1.2 Hittite tablet collections

For a long time, the capital Ḫattuša was virtually the only source for Hittite tablets. This changed in the 1970's when the excavations in Maşat Höyük (ancient Ta-pigga?) provided a small tablet archive. Later excavations in the area around Ḫattuša have further produced a small tablet collection in Kuşaklı (ancient Šarišša) as well as a larger collection in Ortaköy (ancient Šapinuwa). In addition, there have been incidental Hittite tablet finds in e.g. Kayalıpınar (ancient Šamuḫa?), Amarna, Ugarit, Tarsus, Alalah, Emar and Alaca Höyük. Recent surveys at Oymağaç Höyük have also produced some Hittite tablet fragments.

1.2.1 Boğazköy/Ḫattuša

1.2.1.1 *Excavations* – In 1906, the German Assyriologist Hugo Winckler, together with the Turkish archaeologist Theodor Makridi, started the first substantial excavations near the village of Boğazköy. The site would soon prove to be the capital of the Hittite Empire, Ḫattuša. Excavations were continued in 1907, 1911 and 1912. In this period, approximately 10.000 clay tablets and fragments were found. Regrettably, no archaeological records of these excavations have come down to us. We do know that Winckler and his associates mainly excavated in three parts of the Lower City, namely the House on the Slope (*Haus am Hang*), Temple I and Building E on Büyükkale (see fig. 1). During later – better documented – campaigns some additional tablets have been found in these areas, which can sometimes be linked to earlier finds. Furthermore, the diaries and letters of Winckler and other excavators occasionally provide information, which make a limited reconstruction of the provenance of certain tablets from the early diggings possible.¹²

The excavations were taken up again in 1931 by the German archaeologist Kurt Bittel until the outbreak of WWII. He resumed the diggings in 1952. From then onwards, German excavations of Ḫattuša have continued without interruption till the present day. After Bittel, the excavations have been led by Peter Neve (1978-1993), Jürgen Seeher (1994-2005) and Andreas Schachner (2006-present). Altogether, the excavations have yielded some 30.000 clay tablets and fragments, the latter of which constitute the larger component of the total.

1.2.1.2 *Find spots* – The tablet collections have been found at various locations in Ḫattuša. The main find spots are all in the oldest part of the city, the Lower City. These include the storerooms of Temple I, the *Haus am Hang* and several locations on the citadel Büyükkale. Further, some smaller collections have been found in the

12 See, for example, Alaura 1998. Note that the *Konkordanz* 1.84 still lists 10478 (fragments of) tablets of which the provenance is unknown.

Upper City. Below, a brief description of the most important tablet collections is given:¹³

Storerooms of Temple I – Temple I is the largest temple of the capital and was in all likelihood dedicated to the Stormgod of Ḫatti and the Sungoddess of Arinna, the most important deities of the Hittite pantheon (see fig. 1, no. 5). Within the temple itself, no tablets have been discovered. The texts inform us that original (metal) treaties and other important documents were deposited ‘before the gods’, which undoubtedly meant that they were placed in the temple. For the fact that no such documents have been found in any of the temples of Ḫattuša several explanations are possible. The Hittites themselves may have taken them along with them when they abandoned the city, or the metal may have been melted down in later times.¹⁴

In the storerooms surrounding Temple I a large amount of clay tablets have been unearthed in rooms 10, 11 and 12 on the eastern side. Regrettably, they were mostly found during the poorly documented excavations of Winckler, so our information is limited. Possibly, there was a tablet collection stored on the second floor above room 11, but the data from the excavations are contradictory.¹⁵ During later diggings, additional fragments have been discovered in this area as well as in the dump of the earlier excavations. Some of these fragments can be joined to earlier finds. Based on these joins and on information from the diary of Winckler, we can reconstruct – with reservation – approximately 4500 published fragments that originally belonged to the tablet collection of the storerooms of Temple I.¹⁶ In addition, there are some further 1891 fragments (the so-called ‘E-Texte’) that are to be published in KBo 65-69.¹⁷

The storerooms seem to have been the centre of economic administration: most of the (limited) economic records that have come down to us have been found here (Van den Hout 2006b: 218; 2011b: 75). The storerooms were a logical choice for this end; they were located in the vicinity of two city gates and thus formed an ideal location to receive and register incoming and outgoing goods. This function is confirmed by the fact that the storerooms also housed a large number of *piṭhoi* for storage.

Apart from the economic administration, virtually all other text genres known from Ḫattuša are represented in the storerooms: religious compositions such as ritual

13 For a more elaborate overview of the Hittite tablet collections, see Pedersén 1998: 42-80 with references.

14 For the idea that Ḫattuša was deliberately abandoned before its destruction, see Seeher 2001: 623-634.

15 See Pedersén 1998: 51.

16 The online *Konkordanz* 1.87 lists 4549 tablets (5788 fragments) stemming from the storerooms of Temple I. Note that recently a research project has started to reconstruct the tablet collections around Temple I under the supervision of Jared Miller at the Ludwig Maximilians University in Munich.

17 These are the fragments from the excavations in the 1960’s which were brought in as uninventorised material and have now been documented by Gernot Wilhelm.

and festival texts, myths, prayers, incantations, omen- and oracle texts, cult inventories, liver models and vows, as well as treaties, edicts, law texts, historical texts, lexical lists, literary texts, instructions and letters.

Several Old Hittite and Middle Hittite fragments left aside, the texts from the storerooms date from the Late Hittite period.

Haus am Hang – The so-called *Haus am Hang* (House on the Slope) is situated near the eastern storerooms of Temple I, at the beginning of the slope leading upward to Büyükkale (see fig. 1, no. 6). Here again, most tablets were found during the early excavations for which there are hardly any archaeological records. In later excavations, further fragments have been unearthed in this area, some of which can be joined to tablets from the earlier finds. Altogether, approximately 1500 fragments originated from this building.¹⁸ The exact function of the house has not yet been established, but it seems to have been closely linked to the nearby temple complex.¹⁹ Judging from the fact that most cult inventories were found here, the religious administration may have been concentrated in the *Haus am Hang*, slightly overlapping with the storerooms of Temple I.²⁰

In addition, all types of religious, legal and literary compositions that are present in the storerooms of Temple I have also been found in the *Haus am Hang*. Like in Temple I, apart from some incidental Old and Middle Hittite fragments, almost all the texts are from the Late Hittite period.

Interestingly, most royal edicts that can be attributed to the last Hittite king Šuppiluliuma II are found in the *Haus am Hang*, whereas the same kind of documents from the previous king Tudḫaliya IV are found in the storerooms of Temple I. Possibly, the *Haus am Hang* served as a depot for the current political documents, whereas less current records were being moved to the storerooms.²¹

Büyükkale – On the citadel Büyükkale ('big fortress') several tablet collections have been unearthed in the royal palace (see fig. 1, no. 33).

Building A – The largest tablet collection in the royal palace has been excavated in Building A, on the southwest side of the middle courtyard. In rooms 1-6, approximately 4700 tablets and fragments have been found, which by means of joins have been reduced to 2500-3000.²² Most tablets stem from room 5. Almost two thirds of the tablets are of a religious nature, such as ritual and festival texts, omen texts and oracle reports, myths, hymns and prayers. In addition several historical texts, trea-

18 The online *Konkordanz* 1.84 lists 1468 tablets (1658 fragments) stemming from the *Haus am Hang*.

19 For the idea that the *Haus am Hang* may have partly served as a school, see Torri 2008: esp. p. 780-781.

20 Van den Hout 2008: 218; 2011: 75.

21 Van den Hout 2008: 217-218; 2011: 75.

22 See Košak 1995: 174 and the online *Konkordanz* version 1.87, which lists 2953 tablets, 4716 fragments originating from Building A.

ties, instructions, laws, hippological texts, medical texts, literary compositions and tablet inventories have been discovered. Economic texts are virtually absent. Relatively many texts date from the Old and Middle Hittite period. Texts from the very late period, on the other hand, are hardly represented.²³ It seems that this building was used as a record center or depository of tablets that were no longer of daily relevance but were considered important enough to be kept.²⁴

Building E – Building E is located on the northwest side of the citadel. Originally, it consisted of two floors. Similar to the storerooms of Temple I and the *Haus am Hang*, Building E was unearthed during the first Winckler excavations. The situation here is, however, somewhat more fortunate: in the year 1906 Winckler and Makridi only excavated in this area. We know that these diggings lasted approximately one month and delivered twenty complete tablets along with some 2500 fragments. Based on information from letters and the diary of Winckler a fairly reliable reconstruction of a number of tablet fragments that almost certainly stem from Building E is possible.²⁵ These tablets include among others festival and ritual texts, oracle reports, cult inventories, treaties and letters. Most compositions date from the Late Hittite period.²⁶

In comparison to Building A, the text genres found in building E are represented in a reversed proportional manner: text genres that are represented in one building are almost totally lacking in the other. It is well possible that some texts from building E that were deemed important enough to be kept were moved to building A. Other tablets, that no longer had any value, were presumably discarded.²⁷

Building K – A small tablet collection was present in Building K. The building has two floors, both consisting of three rooms. In room 3 of the lower floor, some 400 tablets and fragments have been found.²⁸ Among these fragments, basically all text genres are represented. Like in the other tablet collections, the religious texts, notably ritual and festival compositions, form the majority. Except for a few Middle Hittite fragments, the compositions date from the Late Hittite period.

Building D – Building D, the largest building of the citadel, is located on the northwest slope of the citadel. Here, a small collection with tablets of various natures has been found, including several land deeds from the Middle Hittite period.²⁹ In addi-

23 See Košak 1995: 175-178 and Van den Hout 2008: 215-219.

24 See Alaura 2001: 26 and Van den Hout 2008: 219.

25 See Alaura 1998: 201-214 and the online *Konkordanz*.

26 Note that some of the tablets that have been found were used as wall filling and were probably already discarded by the Hittite administration. On this see Güterbock in the preface of KBo 18: III and Alaura 2001: 22.

27 See Alaura 2001: 25f. and Van den Hout 2008: 218.

28 See the online *Konkordanz* 1.87, which lists 400 tablets (496 fragments) originating from Building K.

29 The online *Konkordanz* 1.87 lists 689 tablets (806 fragments) stemming from Building D.

tion, in room 1 of the lower floor sealed clay *bullae* have been unearthed. Possibly, these *bullae* were attached to wooden writing boards, but this is far from certain. They may just as well have (also) belonged to other objects, such as bags or containers of (luxury) goods.³⁰ Just outside Building D, fragments of tablets have been found in the middle courtyard. The tablets may have originally belonged to an archive kept in one of the buildings of the citadel.³¹

Temple District of the Upper City – In the Upper City over 30 buildings that are identified as temples have been unearthed. In five of them, temples 8, 12, 15, 16 and 26, several clay tablets and fragments have been found (see fig. 1.1, no. 19). All fragments date to either the Middle or Old Hittite period. They include historical texts, festival and ritual compositions, literary texts, myths, oracle reports, letters and a few land deeds.

Westbuilding of Nişantepe – The rock formation Nişantepe ('carved hill') is located in the centre of the city (see fig. 1, no. 31). In the building on the west side of the rock a collection of 3268 sealed clay *bullae* was found along with several royal land deeds in rooms 1, 2 and 3. The land deeds all stem from the period from Hantili II to Muwatalli I (1500-1400 BCE). The *bullae*, on the other hand, date from Šuppiluliuma I to Šuppiluliuma II (1344-1180 BCE). They bear seals of the kings, queens or officials. Similar to the *bullae* found in Building D, they may have been attached to wooden writing boards, or to other (perishable) goods (see above).

1.2.2 Maşat Höyük/Tapigga

Altogether, a total of 117 tablets and fragments have been found in Maşat Höyük, commonly identified as Hittite Tapigga.³² The site, which is located some 116 kilometers east of Hattuša, was excavated by Tahsin Özgüç from 1973 to 1984. Almost all the tablets (116) stem from or are attributed to Level III, which has been dated to the early 14th century BCE. This level was destroyed by fire. Most tablets have been found in or around Rooms 8 and 9 in the east wing of a Level III building complex. Only one tablet (HKM 116) was discovered in the later Level I, which dates to the 13th century.

Most of the archive consists of letters (96) and in addition it includes some inventories, one small oracle report and one religious text. Half of the letter corpus consists of letters sent from the king (presumably residing in Hattuša) to high officials in Tapigga. The archive spans only a very limited amount of time, probably no

30 See Mora 2007; 2010: 95-97.

31 See Pedersén 1998: 50.

32 The archaeological material was published in Özgüç 1978, 1982, see also Pedersén 1998: 57-58 and Mielke 2011: 1045-1047 (with references). The text corpus from Maşat Höyük was edited in Alp 1991.

more than a decade and the texts may even stem only from the last one or two years of Level III, probably to be dated around 1375-1370 BC.³³

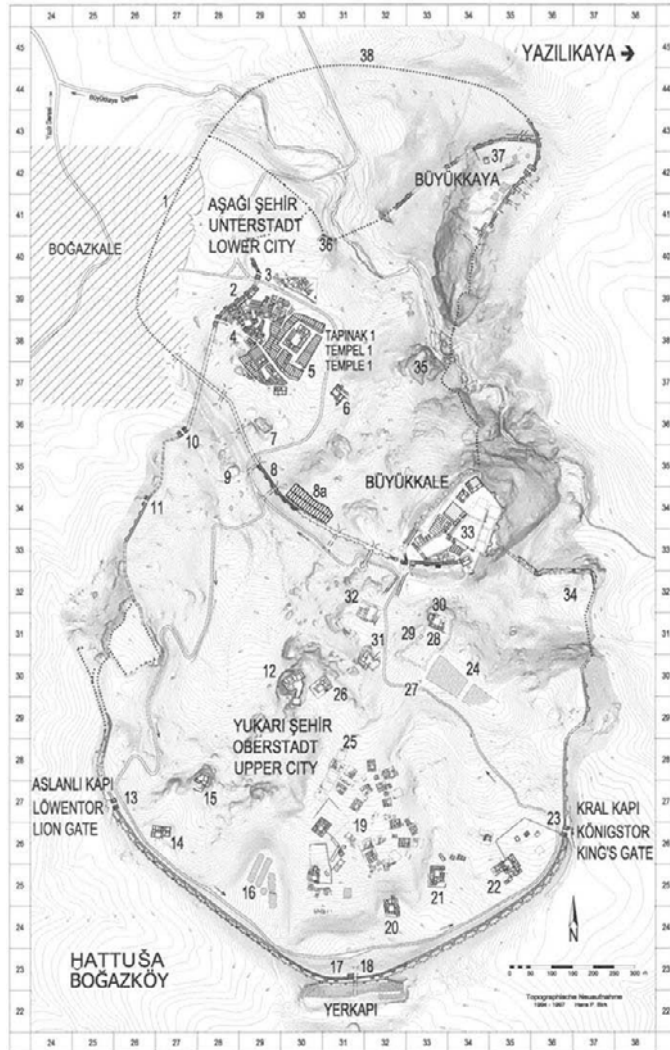


Fig. 1.1: Plan of the city Hattuşa. Source: <http://www.hattuscha.de>.

³³ See Van den Hout 2007b.

1.2.3 *Kuşaklı/Şarišša*

The site Šarišša (modern Kuşaklı) is situated about 210 kilometers south east of Ḫattuša. Excavations started in 1992 under supervision of Andreas Müller Karpe. In the southern corner of building A on the western edge of the acropolis some 42 fragmentary clay tablets have been found, dating to the second half of the 13th century. More tablets, among them tablets from the Middle Hittite period, were found in Temple C and in the center of the acropolis. The fragments include rituals, oracles, and cult inventories.³⁴

1.2.4 *Ortaköy/Şapinuwa*

The Hittite town Şapinuwa is located some 60 kilometers northeast of Ḫattuša, near modern Ortaköy. The site has been excavated since 1990 by Aygöl Süel. The largest building, which is probably a palace, housed a large tablet collection; over 3.000 tablets and fragments have reportedly been found there, which have so far only incidentally been published. From the preliminary reports we may derive that their contents are very similar to the tablets found in Ḫattuša and include ritual and festival texts, letters and cult inventories.³⁵

1.3 Text corpus

1.3.1 *Dating*

Hittite texts span the whole period of the Hittite Kingdom (ca. 1650-1180 BCE), although the great majority stems from the later period.³⁶ The texts themselves are never dated. Based on paleography, three chronological periods are generally distinguished:

Old Script (OS)	1650-1500 BCE
Middle Script (MS)	1500-1350 BCE
New Script (NS)	1350-1180 BCE ³⁷

Likewise, the linguistic development of the texts can also be divided into three stages Old Hittite (OH), Middle Hittite (MH) and New Hittite (NH). Older compositions could be copied in later times, which means that one may find an Old Hittite composition, which is written in New Hittite script. It should be noted that the above dating

34 The texts have been published by Wilhelm 1997. For archaeological reports, see the annual contributions by Müller-Karpe in MDOG (1995-2009) and Pedersén 1998: 59-60.

35 See Pedersén 1998: 56-57, Süel 1992, 2002, 2009. For a recent general outline of the excavation Mielke 2011: 1037-42 (with references).

36 This research holds on to the conventional dating according to the Middle Chronology.

37 This category is sometimes further subdivided between New Script and Late New Script, see below 1.4.

scheme is currently under discussion and the dating criteria used to distinguish between Old and Middle Hittite have been challenged, so some texts may have to be re-dated. Further, Theo van den Hout has made a strong case for a later date of the earliest Hittite texts.³⁸ This means that the absolute dating of OS and MS tablets will probably also have to be reconsidered and the above time periods may in fact have been more compressed.

1.3.2 *Text genres*

All tablets and fragments found in Ḫattuša belonged to the state administration, no certain private archives have thus far been unearthed. Most of the compositions are written in Hittite, but we also find texts (partly) composed in Akkadian, Hattian, Hurrian, Luwian, Palaic and Sumerian. The majority of the texts are of a religious nature, but a wide range of other genres are also represented in the state collections. These texts were categorized by Emmanuel Laroche in his *Catalogue des textes hittites* (CTH). For ease of use, this research follows the conventional division of Laroche, although this is at times in conflict with the way the Hittites themselves seem to have regarded their texts. In addition, the following subdivisions have been applied:

<i>CTH-categories</i>	<i>Subdivisions</i>
Historical texts (CTH 1-219)	Annals Various historical texts Treaties and edicts Letters
Administrative texts (CTH 220- 290)	Land deeds Administrative lists Itinearies Economic records Instruction texts Tablet inventories or shelf lists Labels
Legal texts (CTH 291-298)	Hippological texts Law texts Court depositions
Scholarly texts (CTH 299-320)	Lexical lists Literary texts
Mythological texts (CTH 321-370)	Mythological tales Mythological invocations Mythological songs Mythological rituals
Hymns and prayers (CTH 371-389)	

38 Van den Hout 2009a; 2009b.

Ritual texts (CTH 390-500)	
Cult Inventories (CTH 501-530)	
Divinatory texts (CTH 531-590)	Omen texts
	Oracle reports
	Vows
Festival texts (CTH 591-724)	
Texts in foreign languages (CTH 725-791)	Hattian texts
	Luwian texts
	Hurrian texts
Sumerian/Akkadian literature (CTH 792- 819)	Sumerian-Akkadian religious texts
	Magical texts
	Varia Akkadian/Sumerian
Varia (CTH 820-832)	

In addition, on some occasions a distinction between ‘non-narrative’ and narrative compositions is made. The ‘non-narrative’ texts include all texts that are clearly not of a narrative nature such as lexical lists, summaries, enumerations, inventories or shelf lists.

In the Hittite corpus, an important dichotomy may be made between text genres that exist in multiple copies and text genres without any duplicates: on the one hand we have compositions that were regularly copied and that were kept for a longer period of time (group A).³⁹ These are the text genres that may be represented in manuscripts from the Old and/or Middle Hittite period as well as from the Late Hittite period. This category includes historical compositions, treaties, edicts, laws, instructions, hymns and prayers, ritual and festival texts, myths, literary texts, omen texts and lexical lists. On the other hand, we find text genres of which no (later) copies were made and that were discarded or recycled after they no longer had direct use (group B). As a consequence, they all stem from the late period. In this group, we find most economic administration and correspondence, court depositions, vows, cult inventories and oracle reports. Following Van den Hout 2002, the following division may be made:

39 See Van den Hout 2002: 864f. Note that this dichotomy already goes back to Oppenheim, who remarks with respect to the Mesopotamian corpus: “First, there is the large number of tablets that belong to what I will call the stream of the tradition – that is, what can loosely be termed the corpus of literary texts maintained, controlled and carefully kept alive by a tradition served by successive generations of learned and well-trained scribes. Second, there is the mass of texts of all descriptions, united by the fact that they were used to record the day-to-day activities of the Babylonians and Assyrians. Both streams, of course, run side by side; each has only limited contact with the other”. An exceptional category is formed by the land deeds, for which see 9.1.4.

A. Texts with duplicates

historiography, treaties, edicts
(CTH 1-147, 211-216)
instructions (CTH 251-275)
laws (CTH 291-292)
celestial oracle theory (CTH 531-535)

hymns and prayers (CTH 371-389)
festivals (CTH 591-721)
rituals (CTH 390-500)
mythology, Anatolian (CTH 321-338)
and non-Anatolian (CTH 341-369)
Hattian, Palaic, Luwian, Hurrian texts
(CTH 725-791)
lexical lists (CTH 299-309)
Sumerian and Akkadian compositions
(CTH 310-316, 792-819)

B. unica

letters (CTH 151-210)
title deeds (CTH 221-225)
hippological texts (CTH 284-287)
court depositions (CTH 293-297)
non-celestial oracle theory (CTH 536-560)
oracle practice (CTH 561-582)
vows (CTH 583-590)
administrative texts:
- palace and temple administration
(CTH 231-250)
- cult inventories (CTH 501-530)
- tablet inventories
(CTH 276-282)
- labels (CTH 283)

In this research, this dichotomy will be further developed, proposing that we may in fact have to subdivide the Hittite corpus into four categories rather than two (see 9.1).

Conspicuously absent is basically any every-day administration. Texts regarding grain distribution, deliveries, running accounts of offerings, rations, agricultural dues, issues and receipts of silver and gold, registers of slaves, workmen etc., which we find so abundantly in most archives of the ancient Near East, are lacking or have only been found in small numbers in Hittite Anatolia.⁴⁰ With the ongoing excavations the chances that any such archives will be found are diminishing; it seems more likely that these documents were written down on wood, which have all perished. The fact that wooden documents existed is confirmed by the attestations of a DUB.SAR.GIŠ (scribe on wood) and numerous references to wooden tablets in Hittite texts (see also 7.4). Textual references on clay tablets seem to imply that these wooden writing boards could be used for various ends and included economic, commercial, juridical and religious documents.⁴¹ It is likely that wood was the ma-

40 Note that we do find these types of administrative documents in Hittite-ruled Emar and Ugarit.

41 The above-mentioned *bullae* found in Nişantepe and building D are often seen as traces of the missing wooden writing boards (see most recently Singer 2013). As mentioned above, however, this is far from certain; the *bullae* may just as likely have been attached to other (perishable) goods or have served other purposes (see Mora 2007, Van den Hout 2012a). In fact, the missing wooden writing boards may not, as is generally assumed, have been sealed dyptichs, but they may have had a different appearance and have been sealed in a different manner, which left no traces at all. This matter is closely

terial used for the daily administration, which is now irretrievably lost. The absence of private archives may be explained similarly.⁴²

Apart from wood and clay, the Hittites also made use of metal as a writing material. The texts inform us that important documents, such as treaties, were made in metal. They could be executed in gold, silver, bronze and iron. Only one example has survived, the bronze treaty of king Tudḫaliya with Kuruntiya of Tarhuntašša (see also below 7.3 and Appendix II.3.1).

It is thus important to bear in mind that the clay tablets at our disposal, though an impressive quantity at first sight, represent only a part of the state administration and our picture is far from complete.

1.4 Method and material

The present investigation is based on tablets found in Ḫattuša that have been published in hand copy.⁴³ A selection of this corpus has been investigated according to layout (number of columns, paragraph division, presence of *Randleisten* etc.), size, shape and other distinctive physical features. These data have been entered into an electronic database, consisting of some 35 fields describing the various characteristics. Apart from the find spot, date, genre and language of the tablet, these include: absence/presence of colophon, absence/presence of (double) paragraph lines, number of columns, absence/presence of end line (double or single), absence/presence of vertical margin lines left and right, absence/presence of *Randleisten*, number of lines per column, presence of seal and/or other impressions, the width of the inter-columnium, presence of script on the edges (upper, lower and left) and information about shape of the tablet.

linked to the question which script and language was written on these writing boards – Hittite cuneiform or Luwian hieroglyphs. This question will not be addressed here, but the fact alone that the Hittites made a clear distinction between a scribe and a scribe on wood may be seen as an indication that the scribes on wood employed a different script. For more arguments for a wide-spread hieroglyphic scribal tradition, see Waal 2011.

42 Two possible examples of private documents are the fragments Bo 2006/9 and Bo 2009/2, found in a building at Sarikale, which has been identified as ‘the house of the Chief of the Guards’ (see now Wilhelm 2013). Considering the fact that it concerns a high palace official and at least one of the heavily damaged texts deals with palatial affairs, it is doubtful if these fragments can be considered to belong to a proper private archive.

43 These include the tablets published in ABoT, FHG, FHL, HFAC, HT, IBoT, KBo, KUB, VBoT and VSNF. With respect to the KBo series, volumes 1-48 and 53 were published when this database was completed. Tablets from the volumes that have appeared since, have been included incidentally. The same applies to the tablets published in ABoT 2.

The database includes some 2700 entries, each entry representing a single document. Information regarding the date, find spot and type of composition (CTH number) of the tablet is based on the online *Konkordanz*, unless indicated otherwise.⁴⁴

Tablets have been selected on the basis of their usability: very small fragments have been excluded. Needless to say, only in very few cases, the whole tablet has been preserved. This means that not all features could be established for all 2700 tablets or fragments; if, for instance, the end of the reverse of a tablet is lost, it is impossible to determine whether or not it had a colophon or an end line. The find spots may also be unknown. These circumstances imply that the total number of available tablets may vary depending on the type of features discussed.

The database has served as the starting point for the research presented here. With the aid of this tool, it has been possible to categorize tablets with features in common and to unravel chronological and genre-related patterns and to detect anomalies.

Working with hand copies of course involves a certain risk: one is dependent on the accuracy of the copyist in rendering the tablet's physical features. This problem has been largely overcome by consulting the photographs of tablets available in the collections of the CHD in Chicago and the files in Mainz as well as those at the time available on the online *Hethitologie Portal Mainz*. It should be noted, however, that the amount of on line available photographs at the time of research was considerably more limited than nowadays, so corrections and additions are inevitable. In addition, a selection of tablets has been investigated in the museum of Anatolian Civilizations in Ankara and the *Vorderasiatisches Museum* in Berlin.⁴⁵ The verifications have shown that the hand copies are overall quite reliable; only some of the early hand copies sometimes lack relevant information regarding the physical aspects of the clay tablets. The presented sample is large enough to smooth out any such discrepancies. With respect to tablets with certain unusual features, such as tablets with script starting on the upper edge or tablets with a distinctive profile, I have striven for completeness, but nevertheless certainly make no claim to be exhaustive.

All datings are based on the online *Konkordanz*, unless indicated otherwise. As mentioned above in 1.3.1, we can differentiate three stages: Old Script (ca. 1650-1500 BCE), Middle Script (ca. 1500-1350 BCE) and New Script (ca. 1350-1180 BCE). The *Konkordanz* further subdivides the last category, labeling some texts that stem from the very last period of the empire as Late New Script (*spätjung-hethitisch*). Overall, the LNS tablets have been included within the category New Script.⁴⁶ The internal chronological distribution of the tablets in our database com-

44 See www.hethport.uni-wuerzburg.de/hetkonk/.

45 All photographs in this book are made in the museum of Ankara by the author, unless indicated otherwise.

46 These two categories have been taken together here because the subdivision of the later period into NS and LNS is not yet always consistently applied: tablets dated as NS could – when dated more precisely – in fact be LNS. Moreover, the two phases are not

pared to the distribution within the *Konkordanz* is very similar, the database holding only slightly more older tablets:⁴⁷

<i>Date</i>	<i>Konkordanz</i>	<i>Database</i>
Old Script (ah)	1.6%	3.3%
Middle Script (mh)	12.5%	16.5%
(Late)New-Script (jh + sjh)	84.9%	80.2%
Total	100%	100%

Table 1.1: Chronological distribution of the datable Hittite corpus of the online Konkordanz 1.7 and the database used in this research

As the above table reveals, the NS corpus is by far larger than the OS and MS corpus. Naturally, this disparity has been taken into account when determining diachronic developments: all averages and percentages are based on the internal relations per period.⁴⁸ However, due to the fact that the OS corpus is so restricted, the conclusions for this period are inevitably more tentative than for the later periods.

The primary aim of this book is to present a general overview of the most important intrinsic and extrinsic metadata that the Hittite tablets have to offer. It is, however, by no means exhaustive and further research and more detailed studies will undoubtedly yield additional, further insights. The present study aims to serve as starting point and incentive for future research into Hittite diplomatics.

chronologically exclusive: the New Script continued to co-exist with the Late New Script until the end of the empire. As far as could be established, no differences existed between LNS and NS tablets with respect to the characteristics investigated for this research.

47 Since the old corpus is so limited, a relatively larger percentage is desirable for this research in order to have a more reliable sample.

48 The chi-square test has been applied to establish whether or not certain distributions are significant. To determine the π -value, the online calculators on the following websites have been used: <http://graphpad.com> and <http://schnoodles.com> (no longer existing).

2 Hittite tablets: physical features

2.1 Making a clay tablet

Not much is known about the process of making of a clay tablet.⁴⁹ This practice may to some extent be compared to the making of pottery, if one considers a clay tablet to be a type of specialized ceramic commodity. In contrast to ceramic production, however, the art of making clay tablets is extinct and our knowledge can thus not be supported by any kind of ethnographic study. The only reference from the cuneiform sources to tablet making is the scholastic Sumerian-Akkadian text (BM 54746) that seems to give a description of the preparation of a tablet; it is stated that the clay should be kneaded, flattened, rolled and made thick.⁵⁰ As for archaeological evidence, a workstation for preparing clay tablets may have been found in Tell Hamman al-Turkman in the Balikh valley. It concerns a basin in the ground of about 50 cm. deep, connected to a water conduit system fed with water from a well, next to a rectangular area where purified lumps of clay with clear kneading marks and finger prints were discovered.⁵¹

In all likelihood, the clay came from the sediments in rivers and canals as well as from inland clay pits.⁵² By definition, any ceramic artifact is composed of a plastic component ('clay') and a non-plastic component ('temper'), which may consist of any solid, gritty materials such as sand, shells, crushed bone, straw or hair. This temper is added to the clay among other reasons to reduce its shrinkage in drying and to increase the strength of the product. This temper or 'inclusions' can occur naturally within the clay or may be added intentionally. The clay for the surface of a clay tablet could not be too coarse, for this would impede proper inscribing of the tablet. It is assumed that the raw clay was levigated to remove any particles that could hinder the writing process.⁵³ Goren et al. describe the clay requirements as follows:

The obvious requirements from clay used for cuneiform tablets are that it does not contain too many grits that would hamper the execution of clear incisions, and that it will dry without fracturing, crumbling or shrinking markedly. The colour of the clay should be bright enough to highlight the script, be it stained or incised (and thus highlighted by the shading of the slits). Therefore, the preferred clay for tablets should be bright in colour (such as marl), with a low shrinkage rate (thus poor in minerals such as smectite or montmorillonite), and include some fine temper (to enable drying without cracking)

49 For a recent elaborate discussion of this topic, see Taylor 2011, Taylor & Cartwright 2011.

50 Civil 1998: 2-3, see also Charpin 2010: 69.

51 See Meijer 2004, Charpin 2010: 70.

52 See Taylor & Cartwright 2011: 291-92.

53 *Ibid.*

but smooth with no large grits or fibres. Since these requirements are not necessarily requisite for pottery vessels, one might expect a difference between production modes of pottery and cuneiform tablets even within the same site.⁵⁴

Modern science enables the minerological and chemical analysis of ceramic artefacts, including clay tablets. This kind of study has been conducted for the clay tablets from el Amarna.⁵⁵ It has been shown that sometimes clay tablets were not produced of the same clay types as pottery of the same locality and that the clay selection for the production of cuneiform tablets was not always consistent and sometimes different clay sources were employed.⁵⁶ Recently, a provenance study of a group of tablets from Ḫattuša (and el Amarna) using portable X-ray fluorescence (pXRF) has been conducted.⁵⁷ This non-destructive method of analyzing clay tablets has yielded promising results and may in the future contribute to the proper grouping of clay tablets according to their provenance.

Hittite tablets appear to have been made from a single piece of clay.⁵⁸ Most (larger) tablets are likely to have been made by rolling or kneading against a hard surface, which corresponds to the description in the scholastic tablet BM 54746 mentioned above. Some (smaller) tablets, may have been hand moulded, see e.g. the awkwardly shaped tablet KBo 26.57 (see fig. 2.23).⁵⁹

After the tablet was shaped into the desired form, the surface was smoothened in order to create a flat and even writing surface. If we again turn to pottery, Rice informs us that the surface of pottery may be smoothened either with a soft yielding tool, such as cloth, leather, a bunch of grass or the hand, or with a hard tool such as sticks, corncobs or wooden spoons.⁶⁰ The clay is usually smoothened before it is dry and may be re-wetted before the smoothing. On Hittite tablets, one can often see traces of this process: numerous tablets show traces of light horizontal lines on their surfaces. Judging from these marks, the tablets were brushed with some kind of textured material (see fig. 2.1 below). It is hard to determine exactly what type of material was used; it may have been some organic material like leather, grass or straw.

54 Goren *et al.* 2004: 4-5.

55 Goren *et al.* 2004.

56 *Ibid.*: 316-318.

57 See Goren *et al.* 2011.

58 In Ḫattuša, we do not find the so-called 'sausage-roll' tablets known from Sumer, consisting of a core of clay around which a different layer of clay is wrapped, Taylor 2011: 11, Taylor & Cartwright 2011: 293-294. A *caveat* is in order here; a well made tablet will appear to be a solid lump of clay, but this does not necessarily mean that layers are absent (Taylor & Cartwright 2011: 293). For the possible application of a script layer of finer clay, see below 2.3.

59 For examples of hand-moulded tablets in Mesopotamia, see Taylor & Cartwright 2011: 293.

60 Rice 1987: 138.

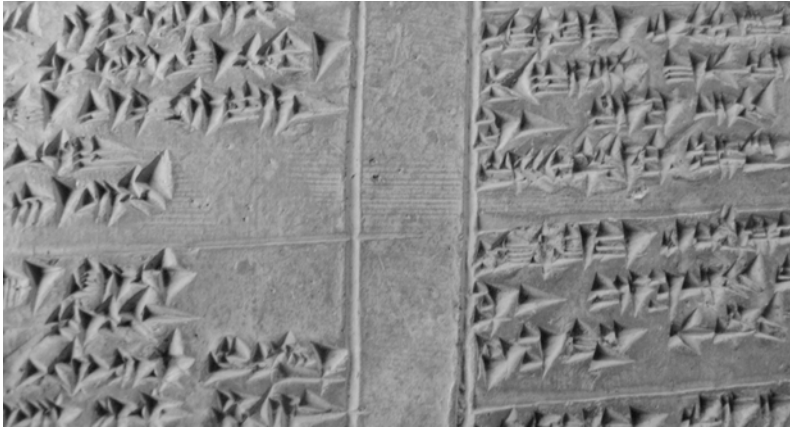


Fig 2.1: KBo 15.37 – traces of smoothing the surface?

Jonathan Taylor mentions evidence of slips being applied to the tablet surfaces of Middle Assyrian and Neo-Babylonian tablets to increase their aesthetic appeal.⁶¹ There are some Hittite tablets that seem to have an ivory-colored coating, but it is uncertain whether this is a layer that was deliberately applied by the Hittites. The coating is unevenly distributed and the different coloring may also have been the result of salt and other mineral secretions (see below 2.3).

The question who made the tablets can not be satisfactorily answered. School tablets found in Nippur seem to imply that at least in the Old Babylonian school system it was the scribes themselves who shaped the clay into a tablet and this was one of the first skills the scribes were trained in. In a composition consisting of an argument between two school rivals one student at a certain point reproaches his colleague that he cannot even make a simple clay tablet.⁶² With respect to the education of the Hittite scribes, we are mostly in the dark. The excavations in Ḫattuša did not produce any of the typical lentil-shaped school tablets, which have been found in Syria and Mesopotamia.⁶³ It has been assumed that the Hittites adopted the education model from Mesopotamia along with the script and that the scribes in Ḫattuša were trained according to the Old Babylonian school system.⁶⁴ This is, however, not confirmed by any clear textual evidence and the possibility that over time the Hit-

61 Taylor & Cartwright 2011: 294.

62 “eine Tafel kannst du nicht formen, eine einkolumnige Tafel kannst du nicht kneten und formen”, TMHNF 3, 42: 63. See Römer 1988: 241.

63 There are, however, a number of tablets that may be regarded as school tablets, see also below 8.3.5.

64 See, e.g., Bryce 2002: 58-59 and Beckman 2001:86.

tites developed and used their own education system should therefore certainly not be excluded.⁶⁵

Apart from the question what type of training the Hittite scribes may have enjoyed, they may indeed be the most logical candidates for the making of the clay tablets. The scribes knew what kind of composition they planned to make, and could therefore best decide which size and shape the tablet was supposed to take. As said above, the Nippur school text leads one to believe that the making of a tablet was considered a basic scribal skill. One can therefore also imagine that it was mainly the lower scribes who prepared the tablets: a more senior scribe could simply order a specific tablet type from one of his inferiors. From Mesopotamia, a few examples of blank tablets are known, which opens the possibility that someone other than the scribe made the tablets.⁶⁶

2.2 A typology of Hittite clay tablets

The size of Hittite tablets varies greatly; some tablets are only a few centimeters, whereas larger ones can measure up to 40 cm. in height, and over 25 cm. in width.⁶⁷ Unfortunately, most of the (early) hand copies do not mention the actual size of the tablets, although the numbers of lines per column do of course give some indication as to their dimensions.

The overview given below is based on a sample of original tablets examined in the Ankara Museum of Anatolian Civilizations and the *Vorderasiatisches Museum* in Berlin as well as photographs available on the online *Hethitologie Portal Mainz*, in the Boğazköy files of the *Akademie der Wissenschaften und der Literatur* in Mainz and the files of the Chicago Hittite Dictionary at the Chicago Oriental Institute. On the basis of this material, a rough dichotomy between tablets of a more or less permanent character (type A) and ephemeral tablets (type B) can be made.⁶⁸ For a large part, this dichotomy coincides with the division made by Theo van den Hout based on the text genres of tablets (see 1.3.2). Overall, the latter category includes small tablets, whereas those of type A are more sizeable. There are, however, more differences between these two categories than mere size.

65 For a recent discussion of Hittite scribal education see Weeden 2011: 81-91. As rightly pointed out by him, the status of the school exercises describing school life found in Boğazköy, which are duplicates to late OB school texts, is very unclear (Weeden 2011: 82).

66 Taylor & Cartwright 2011: 292 mention examples of what may be loaves of tablet clay from which scribes could tear off tablet-sized lumps.

67 A very small, if not the smallest, tablet is the label KBo 48.277, which measures just over 1.5 cm.

68 In this overview, only the main types of tablets are discussed; it cannot be excluded that future research will bring to light additional subcategories.

2.2.1 Type A: 'permanent' tablets

This category includes tablets that were carefully composed and edited, containing compositions that were meant to be kept and/or copied for a longer period of time. They usually contain quite voluminous compositions such as ritual and festival texts, annals, instruction texts, prayers and treaties, as well as the more substantial compositions of oracle reports, court depositions and cult inventories. As a consequence, these tablets are generally quite large. There are several different tablet shapes among the larger tablets of type A, which can be divided into the following main categories:⁶⁹

2.2.1.1 Type A I: Rectangular plano-convex tablets with straight, angular edges⁷⁰ –

This seems to be the most common type of Hittite clay tablet, found in all time periods. The surface of the obverse is completely flat, whereas the reverse is strongly convex, both in the horizontal and vertical plane. The tablet is thickest in the centre, tapering off towards the edges. The depth of the middle of the tablet can be quite considerable and measure over 5 cm. The middle of the left and right edges is usually some 3-3.5 cm.; the endings are about 1-1.5 cm. The edges are straight and angular. The tablets are generally quite symmetrical and it is obvious that these tablets were created with care (see figs. 2.2a-c).

This particular profile in all likelihood enhanced the tablets' solidity: tablets – especially larger ones – would be prone to break if they were overall as thin as the edges. They would, on the other hand, become impractically thick and heavy if the whole tablet were as thick as the core. An additional advantage of this profile may have been that it facilitated the storage of the tablets.⁷¹ This tablet type was not restricted to a certain text genre and was used for single-, double-, and three-columned tablets.

2.2.1.2 Type A II: Rectangular plano-convex tablets with rounded edges – Some rectangular tablets do not have such straight and angular edges and corners as type A I, but they are more rounded off. The curving of the reverse is also less pronounced; the edges do not taper off as strongly as in type A I. Furthermore, the obverse is slightly curved and not as flat as type A I (see figs. 2.3a-c). Tablets with this shape

69 This typology is based solely on the tablets found in Hattuša and is independent of other typologies of (school) tablets, such as Civil 1995: 2308. See also Waal 2012b.

70 The term plano-convex indicates a tablet with a flat obverse and a convex reverse, the term convexo-plane a tablet with a convex obverse and a flat reverse. See Civil 1995: 2308.

71 It has been proposed that the tablets were shelved next to each other lying on their right side with the obverse facing forward. If this were indeed the case, there would be some space between the tablets in the front, enabling one to read the colophons at the end of the compositions. However, by lack of any archaeological evidence this has to remain a suggestion. As kindly pointed out to me by Jorrit Kelder, the plano-convex profile would also have been practical in light of the ventilation of sun-dried tablets.

are usually, though certainly not always, single-columned. Like type A I this format is not restricted to a specific genre or time period.

2.2.1.3 *Type A III: Rectangular plano-convex tablets with a Dachfirstartiges Randprofil* – A small number of tablets have a distinctive profile, which is generally described as a *Dachfirstartiges Randprofil*, since the profile of the tablet resembles the ridge of a house (see figs. 2.4-6). They are similar to type A I with respect to the strong convex reverse and angular edges. The following tablets are identified as *Dachfirstartig* by their hand copies, but there may in fact be more.⁷²

CTH	Publication number	Date	Number of columns	Preserved edge(s)
389	KBo 31.82	MS	1	upper edge
480	KBo 34.72	MS?	1	upper edge
	KUB 29.7 + KBo 21.41	MS	1	all edges
578	KUB 18.64 (+)	NS	2	left edge
625	KBo 39.61	NS		upper edge
628	KBo 39.43	NS	2?	upper edge
670	KUB 43.33	OS/MS	?	upper edge
704	KBo 35.136 + KBo 15.40+	MS	2	lower edge,
	KBo 38.265 + KBo 40.91++			left edge
832	KBo 43.257	NS	?	left edge

Table 2.1: Tablets with a *Dachfirstartiges Randprofil*

Only one of these tablets has all the edges preserved: KUB 29.7. The lower and upper edges, as well as the side edges, show the same typical profile. The exact shape of the profile may vary and the tablets seem to have been formed by hand and not by some kind of mould.⁷³

Although the corpus is admittedly very small and likely to be incomplete, one may tentatively conclude that the so-called *Dachfirstartiges Randprofil* was used more frequently in the Old and Middle Hittite period than in the later period. Six out of nine tablets stem from the early period, which is all the more significant if one takes into account how much smaller the corpus of OS and MS tablets is than that of NS tablets.⁷⁴ Nonetheless, it was already a rare phenomenon for OS and MS tablets.

72 This characteristic is not always indicated in the hand copy. An example hereof is KBo 39.61. A remark that this tablet also has a roof-like profile was found in the files of Mainz and confirmed by examination of the original tablet in the museum of Ankara. This feature was however, not indicated in the hand copy.

73 The edges of KUB 43.33 are, e.g. much rounder than the other tablets in this group and the tablet therefore somewhat resembles tablets of type IV.

74 According to the chi square test, this chronological distribution is significant. Note that in case of the three OS and MS tablets, KBo 31.82, KUB 29.7+ and KUB 43.33, the script already starts on the upper edge, which is also an archaic feature (see below 3.2).

This particular shape is used for both single- and two-columned tablets and does not seem to be confined to a specific genre, nor can it be connected to (a) certain scribe(s).⁷⁵

2.2.1.4 *Type A IV: Rectangular plano-convex tablets* – A small group of tablets is slightly similar to type A II; the edges are quite round and the obverse is also fairly spherical. At the top and the bottom of the tablet, however, there is a flattened circular segment on both sides and the corners of the tablets are very lightly squeezed together. Their appearance has been described as ‘cushion-shaped’ (see figs. 2.7-9). The tablets are of a much smaller size than the above described types A I and II. The above-described features are usually not indicated in the hand copies which makes it hard to get a grip on this type of tablets. To my knowledge, this tablet type is only attested for single-columned tablets from the early Hittite period. Interestingly, our sample of these tablets includes some of the tablets that are regarded to be among the oldest Hittite compositions, such as the Anitta text (KBo 3.22), the instruction text KBo 22.1 (CTH 272) as well as the Zalpa text (KBo 22.2).⁷⁶ Judging from the photographs, the Tuniya letter from the Old Hittite period has a similar shape.⁷⁷ Some tablets, such as the Uršu text (KBo 1.11, CTH 7) are shaped somewhat similarly, but here the flattened rounded part is absent or less pronounced.⁷⁸ Further, some of the land deeds have a similar shape (see below type V). One may very cautiously label tablet type IV as one of the oldest – if not the oldest – Hittite tablet type, which was no longer in use after the Middle Hittite period. Note that outside of Anatolia, this tablet type is found in Hittite-dominated Ugarit.⁷⁹

2.2.1.5 *Type A V: Rectangular convexo-plane (cushion-shaped) sealed tablets (land deeds)* – The land deeds (donations of land by the Hittite king to certain individuals) form a special group within the Hittite tablet collections; they are practically the

75 The observation that all tablets belong to the religious sphere is probably not significant: especially in the Old and Middle Hittite period the great majority of texts are of a religious nature. Similarly, the fact that five (KBo 31.82, KBo 34.72, KUB 29.7+ KBo 21.41, KBo 39.43 and KBo 35.136+) of the nine tablets were found in Building A is hardly noteworthy, since Building A is the most common find spot for OS and MS tablets and four of these five tablets are from the MH period. With respect to the scribes, we do not know which scribes were responsible for the above-mentioned tablets.

76 This tablet is currently dated as MS by the *Konkordanz*, but considering its close resemblance to KBo 22.1 it has to be regarded as contemporaneous with this tablet. We may further add the OS tablet KBo 17.21+ and possibly the MS tablet KBo 17.60.

77 See Salvini 1996: 111-112.

78 Note that clay analysis shows that this tablet was probably not made in Ḫattuša but in the region of the Upper Euphrates, see Goren *et al.* 2011: 694. For a recent discussion on the paleography of this tablet, see Weeden 2011: 70-76. Note that KBo 18.151 (CTH 827) seems to have a similar shape.

79 See, e.g., RS 34.126, RS 34.134, RS 34.147 and RS 15.34 (landscape tablet). Rüter & Wilhelm 2012: 33 remark that three Nuzi tablets from ca. 1450 BCE have a similar cushion shape as the *Landschenkungsurkunden*.

only sealed documents that have come down to us.⁸⁰ The obverse of the tablets is strongly convex, which is undoubtedly connected to the large seal impression of the Hittite king that was impressed in the middle of the obverse (see fig. 2.10a). This seal impression is set off from the rest of the text by means of horizontal and vertical lines. In the core of almost all these tablets, several strings were included, which protruded from a single hole in the lower edge of the tablet (see fig. 2.11).⁸¹ Similar to the seal impression, this opening on the lower edge may be defined by means of lines. To the strings, most likely the *bullae* impressed with the seals of the witnesses were attached.⁸²

The question whether the tablets were first sealed and then inscribed or the other way around is open to debate.⁸³ Suzanne Herbordt suggests the following stages in the process of making these tablets, noting that step 7 and 8 may be interchangeable: (1) the basis is a semi-shaped tablet; (2) the clay for the seal impression on the obverse is placed on this tablet together with the cords; (3) the surface of the tablet is evened and smoothened; (4) the tablet is sealed in the middle with the king's seal; (5) the seal impression is set off by means of lines, which are drawn around it; (6) the opening in the lower edge out of which the cords are protruding is set off similarly; (7) the *bullae* of the witnesses are attached to the cords and sealed; (8) the tablet is inscribed.⁸⁴

In addition to the land deeds, there is one tablet fragment from the Late Hittite period that seems to have a similar appearance: KBo 44.7 (CTH 215), which is a small, strongly curved fragment with strings in its core.⁸⁵ Unfortunately, the fragment is too small to determine its precise nature and content. Another example of a tablet with strings in its core is the atypical Middle Hittite fragment Bo 2006/9, which is sealed with a cylinder seal (see below 2.6.1.2). This tablet is, however, flat and not curved.

As mentioned above, some of the land deeds, e.g. Bo 90/750 or Bo 90/729, are quite similar to type A IV, apart from the sealing and the curving of the obverse. One of the few NS land deeds, KBo 5.7, is shaped more like type A I. This would confirm the suspicion that the cushion-shaped tablet was an archaic tablet type, although the above-mentioned fragment KBo 44.7 shows that there were certainly exceptions to this rule.

2.2.1.6 Type A VI: Liver models – The term ‘liver model’ refers to tablets shaped in the form of a (sheep) liver, which were used for divination. In Ḫattuša, several of

80 For a recent edition of the land deeds, see Rüster & Wilhelm 2012. For other sealed Hittite tablets, see below 2.6.1.

81 For an X-ray photograph of the land deed VAT 7436, which clearly shows the traces of the cords inside the tablet, see Güterbock 1997a: 29.

82 See Herbordt 2005: 27.

83 See most recently Rüster & Wilhelm 2012: 34.

84 Herbordt 2005: 27.

85 Rüster & Wilhelm 2012: 34.

these clay models have been found (see fig. 2.12).⁸⁶ Sometimes, different parts of the liver are identified in relief: extra clay was placed on top of the tablet (see fig. 2.13). The practice of haruspicy including the usage of liver models was in all likelihood adopted by the Hittites from Syria and Babylonia. Some of the liver models found in Ḫattuša are even to be considered direct import from Babylonia, based on their orthography and the type of clay.⁸⁷ The liver models generally have the same appearance everywhere in the ancient Near East, although small regional differences do occur. Some of the models from Ḫattuša are, for example, somewhat larger than the models found elsewhere.⁸⁸

2.2.1.7 Type A VII: Prisms – Some 12 fragments of clay prisms have been found in Ḫattuša.⁸⁹ These prisms were either four- or six-sided. In the middle, a wooden stick or the like was placed in vertical orientation so that the prism could be turned around. The fragment KBo 19.98 shows traces of petrified wood in the core of prism (see fig. 2.14a-b). Most of the prisms contain Babylonian traditional literature. Thus far, no prisms with Hittite compositions or compositions written in the Hittite language have been found, but some, such as KBo 19.98, show a Boğazköy ductus.⁹⁰ The prisms are to be seen as influence – or even import – from Mesopotamia, where prisms were a more common phenomenon. The form of the prisms would primarily have served to display the text that was written on it, as it could be viewed from all sides. As Mark Weeden observes the precise function of the few prisms found in Ḫattuša remains obscure: they may have been used for prestige and/or educational ends.⁹¹ He remarks that the prism KBo 26.5+ appears to have been re-used, which is a typical feature of school tablets.⁹²

2.2.1.8 Size – The majority of the permanent tablets are two-columned, but single-columned tablets and tablets with three columns or more also existed (see below 4.1). The table below gives an overview of the average height and width of single-, double- and three-columned tablets in the Old, Middle and New Hittite period. This table merely serves to give a general overall impression of the tablets' sizes; the results given here are based on a selection of original tablets that were examined in the museums in Ankara and Berlin. One has to bear in mind here that the corpus of OS and MS tablets is considerably smaller and the results presented for these periods are thus more tentative:

86 Just recently an edition of the Hittite liver models has appeared, see De Vos 2013.

87 See Meyer 1987: 44 and 268.

88 See Meyer 1987: 21, who explains these small variations among the liver models as regional differences.

89 KBo 1.18, KBo 19.98, KBo 19.99, KBo 26.2, KBo 26.4, KBo 26.5(+), KBo 26.56, KBo 27.1, KBo 36.72, KUB 4.39, KUB 4.40 and KUB 4.41.

90 See Klinger 2005: 111 and Weeden 2011: 83.

91 For the use of prisms in education see, for example Veldhuis 1997: 29f. For the prisms found in Ḫattuša, see also Scheucher 2012: 150f.

92 Weeden 2011: 113, 130. See also below 2.5.

	<i>Average width in cm</i>	<i>Average height in cm</i>
Single-columned tablets		
OS	8.25	17
MS	11.8	20.5
(L)NS	15.5	25.9
Two-columned tablets		
OS	19.9	27.5
MS	19	25.8
(L)NS	18.7	26.9
Three-columned tablets		
OS	19.5	24
MS	-	-
(L)NS	21.4	26.5

Table 2.2: *Average width and height of Hittite clay tablets of type A*⁹³

Single-columned tablets – Single-columned tablets are largest in the late period, both in width and height. The OS tablets are considerably smaller. In the Middle Hittite period two types of single-columned tablets can be distinguished: they can be of the same size as the NS tablets, but they can also be much smaller, like the OS tablets.

Two-columned tablets – The two-columned tablets are more or less the same size in all time periods, but – in contrast to the single-columned tablets – they tend to be somewhat larger and wider in the Old Hittite period.

Three-columned tablets – For obvious reasons, these tablets are somewhat wider than the two-columned tablets; their height is about the same.

The general size of the large tablets of type A is roughly comparable to the A4 paper size. It should be noted here that tablets shrink during the drying process of the clay. In case of smaller tablets, this difference is only marginal, but larger tablets may shrink up to a couple of centimeters.⁹⁴

Although the exact measurements may vary per tablet, they are more or less the same per time period, especially the two-columned tablets. There clearly existed some general consensus of how large a tablet should be. No relations between the width or the height of the tablets and their text genres could be established.

93 See also Waal 2012b: 218. The numbers marked in *italics* represent estimations (partly) on the basis of not entirely preserved tablets.

94 A small experiment conducted at the Oriental Institute of Chicago, for which see below 3.1 n.178, revealed that a clay tablet with a height of 33 cm. would shrink up to 2 cm. in the drying process, thus some 6%. See also the remarks of Chiera 1938: 18-21 and, for the shrinkage of clay in general, Rice 1987: 63-71.

2.2.1.9 *Summary* – With respect to the above-described tablet types the following observations may be made: Type A I and type A II are the most common tablet types which are found in all time periods. In the OH and MH period, we also find other shapes (A III, A IV and A V) that are no longer (or hardly) in use in the late Hittite period. The tablet types thus seem to have been more pluriform in the older period and more standardized in the late period. The cushion-shaped tablets (type A IV and A V) may tentatively be seen as the oldest Hittite tablet form.

No clear relations between the tablet types and the text genre could be established for tablet types A I-IV. Type A V seems to have been (almost) exclusively used for land deeds. In case of type A VI (liver models) and possibly type A VII (prisms) there is a relation between the tablets' form and function. It must be emphasized that in the above only a schematic overview of the most important tablet types is given. There are, however, also tablets that fall 'in between' categories and further more detailed studies may reveal additional (sub)categories.

Type I A

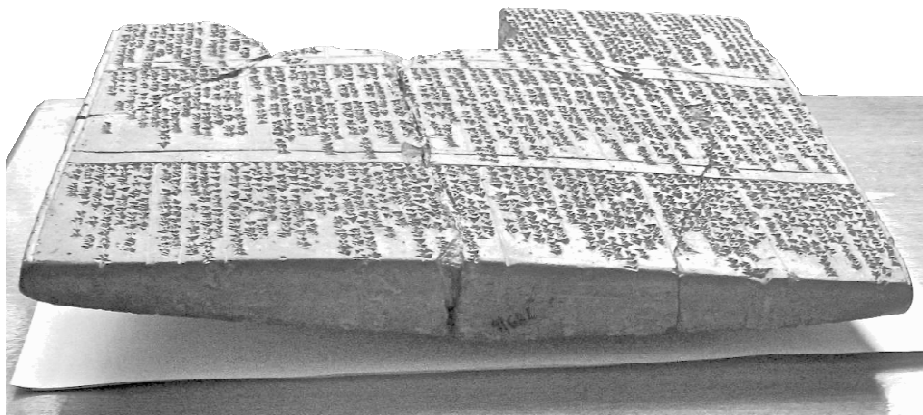


Fig. 2.2a: KBo 15.37 (NS) – obverse and right edge



Fig. 2.2b – KBo 15.37: reverse



Fig 2.2c: KBo 15.37 – left corner

Type A II

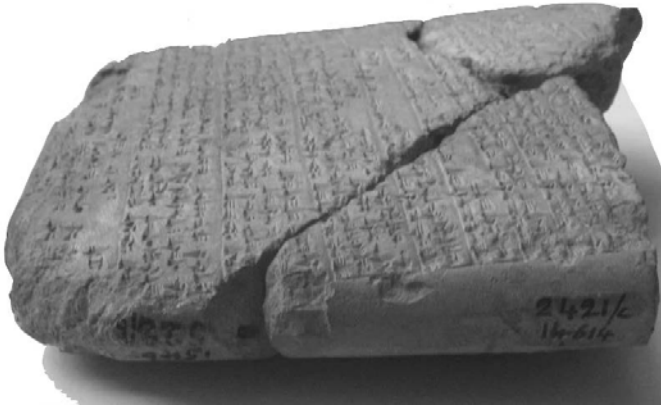


Fig. 2.3a: KBo 23.80 + KUB 30.39+ (NS) – left edge and obverse



< Fig. 2.3b: KBo 23.80+ – left edge



Fig 2.3c: KBo 23.80+ – obverse

Type A III

*Fig. 2.4a: KUB 29.7 (MS): left edge**Fig. 2.4.b: KUB 29.7: upper edge**Fig. 2.4c: KUB 29.7**Fig. 2.5: KUB 43.33
(OS/MS?)**Fig. 2.6: KBo 34.72 (MS?)*

Type A IV



Fig. 2.7a: KBo 22.2 (OS) – reverse and upper edge



Fig 2.7b: KBo 22.2 (OS) – reverse and upper edge and reverse



Fig. 2.8: KBo 20.33 – reverse and upper edge



Fig. 2.9: KBo 22.1 reverse and upper edge

Type A V



Fig. 2.10a: Bo 90/750: obverse – Hittite land deed (MS). Source: Katalog 2002: 88 (cat. no. 91)

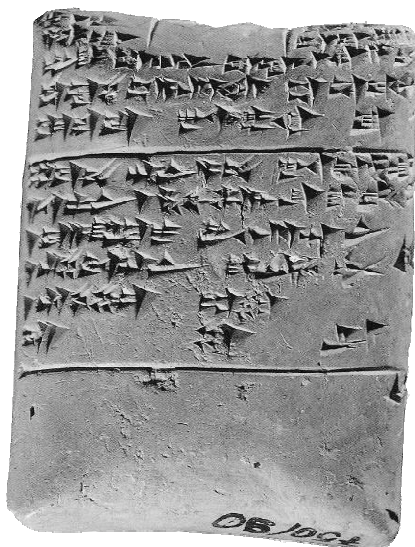


Fig 2.10b: Bo 90/750 – reverse

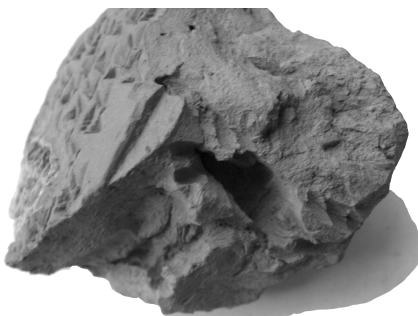


Fig. 2.11: KBo 8.28 (MS) – string impressions in the core of the tablet.

Type A VI



Fig. 2.12: KBo 7.7. Photograph courtesy of G. Wilhelm.



Fig 2.13: KUB 37.227 – fragment of liver model with clay relief

Type VII



Fig. 2.14a: KBo 19.98 (MS) – fragment of 2 sides of 4-sided prism



Fig. 2.14b: KBo 19.98 (MS) – traces of petrified wood in the core

2.2.2 Type B: ephemeral tablets

Three tablet formats may roughly be distinguished within type B:

2.2.2.1 *Type B I: Biconvex rectangular tablets with rounded edges* – These tablets have round edges, as well as a spherical obverse and reverse (see figs. 2.15-16). This format is mostly used for letters, but also for oracle reports, depositions and economic records. They are mostly written in portrait orientation. The script usually continues over the lower edge from the obverse to the reverse.

2.2.2.2 *Type B II: Flat rectangular or square tablets with angular edges* – These tablets are not convex like type B I, but quite flat and the edges are not rounded off but rather pointy. Usually, they are written in landscape orientation (see figs. 2.17-18). This category includes economic inventories, oracle reports, labels, letters, court depositions, as well as incidental tablets from other text genres.⁹⁵

2.2.2.3 *Type B III: Oval-shaped or round tablets* – A number of small tablets have an oval, lenticular form. On this format, we find labels (e.g., KBo 31.34), oracle reports (e.g., KBo 18.144, fig. 2.20) and economic inventories such as KUB 42.49 and KBo 18.189 (see fig. 2.19). These tablets are always landscape orientated. Very few tablets are completely round, such as the label KBo 32.134.⁹⁶

2.2.2.4 *Size* – The tablets of type B are generally quite small and have no subdivision; they are mainly single-columned. Among these tablets one mainly finds letters, oracle reports, economic texts, labels and court depositions. They include documents that were written down on the spot, during the oracle inquiries, transactions, interrogations or dictations etc. These tablets were not copied in later times, but discarded or incorporated in larger compositions. The height and width of the tablets of type B varies depending on the amount of the text that was written on them. Generally speaking, they may measure anything between 2 and 12 cm.

95 See, for example, the incantations KBo 8.66 (CTH 826, see also below 3.5) and KBo 23.80 (CTH 458).

96 A few other round-shaped ‘tablets’ have been found, which are in fact amulets that were secondarily made from Hittite tablets in the first millennium BCE. See Rüster 1983: 455-457.

Type B I

*Fig 2.15a: KBo 18.15 (NS)**Fig. 2.15b: KBo 18.15**Fig. 2.16a: KBo 18.4 (NS)**Fig. 2.16b: KBo 18.4*

Type B II



Fig. 2.17: KBo 8.66 (NS)



Fig. 2.18a: KBo 23.8 (MS)



Fig. 2.18b: KBo 23.8 (MS) – lower edge

Type B III



Fig. 2.19: KBo 18.189 (NS)



Fig. 2.20: KBo 18.144 (NS)

2.2.2.5 *Summary* – If we look at the distribution of the genres of Group B over the above-mentioned categories, we arrive at the following picture:

	<i>B I</i>	<i>B II</i>	<i>B III</i>
Letters	+	+	(+) ⁹⁷
Oracle reports	+	+	+
Depositions	+	+	-
Economic records	+	+	+
Labels	-	+	+

Table 2.3: tablets of type B: distribution of text genres

- *Letters* from Ḫattuša are practically always of type B I, and sometimes of type B II.⁹⁸ Their size may vary in accordance with the length of the letter. Although letters were usually not kept for a longer period of time, they were ‘final products’, which is why some form of standardization is not surprising. Note that the single-columned oblong format is the most common format used for letters overall in the ancient Near East.

With respect to the letters found in Maşat Höyük, the majority is of type B I, but we also find type B II (e.g. HKM nos. 21, 22, 46) and B III (no. 51). The overview of Hoffner of some of the shapes and sizes of the Maşat letters shows that they range from between 4.25-11.5 cm. in height and 5-8 cm. in width.⁹⁹ The choice for portrait or land-scape orientation here seems to have been depended on personal preference of the scribe: some scribes prefer oblong, whereas others opt for portrait orientation.

97 The only example known to me hereof is HKM 51.

98 Not included here is KUB 14.3, the so-called Tawagalawa letter, since this document is in all likelihood not a letter and was not written in Ḫattuša, see Appendix II.4.1 (no. 1).

99 Hoffner 2009: 46.

-*Oracle reports and economic records* occur in practically all formats. These tablets mostly served as notes that were written down quickly and to be reworked in later tablets, which may account for their pluriform appearance.

- *Court depositions* are found on types B I and B II and are mostly written in landscape orientation.

- *Labels* are inconsistently shaped and may be of type B II or B III.¹⁰⁰ They are written in landscape orientation.

With respect to the tablets of categorie B, we can say that, except may be in the case of letters, there are no clear relations between the tablet form and text genre.¹⁰¹ In accordance with their temporary nature, these tablets practically all stem from the Late Hittite period, so no chronological developments could be established. Similar to the tablets of type A, it should be stressed that the above typology is a general one; the shapes of the tablets of type B are fluent and that there may also be 'in-between' categories, such as semi-round or semi-square tablets.

2.2.3 Envelopes

The excavations at Hattuša have so far not produced any Hittite envelopes.¹⁰² This is in line with the rest of the ancient Near East, where the evidence for the use of envelopes in this period is also scarce. There is one reference to the opening of a letter in a Hittite text, which would indicate that the letter was placed in an envelope or the like.¹⁰³ For the lack of Hittite envelopes, three explanations are offered by Hagenbuchner: (1) they were rarely used, (2) they were recycled after the opening of the letter, or (3) the envelopes were not made of clay but of other materials such as cloth, leather or wood.¹⁰⁴ The second option seems least attractive; although envelopes were certainly likely to be discarded and/or recycled, one would have expected to find at least some traces of envelopes or an occasional exemplar to have survived, like in Mesopotamia and Syria. Since we do have at least one reference to the opening of tablets, the third option may be most likely; in most – if not all – cases another material was used to encase Hittite letters.¹⁰⁵

100 Note that the archival labels found in Ugarit are shaped quite differently: they are half-cylindrical or cone-shaped tablets to which strings may be attached. See Van Soldt 1989: 375.

101 There are examples in the ancient Near East where there is a clear relationship between the shape and formal features of ephemeral tablets, e.g. the account texts from Persepolis, see Brosius 2003b.

102 The only possible example, HKM 86, is in fact not a tablet with envelope, but rather a tablet that has been recycled, see also below 2.5 and Van den Hout & Karasu 2010.

103 KBo 18.48 obv. 17: *nu TUP-PU he-e-eš*. See also Hagenbuchner 1989a: 32 and Hoffner 2009: 332.

104 See Hagenbuchner 1989a: 32-33.

105 See also Van den Hout & Karasu 2010: 372.

2.3 Clay types and color

When discussing the color of a clay tablet, caution is warranted: The color of the clay depends for the most part on the circumstances under which the clay tablets survived, possible chemical reactions with the soil and whether or not they were heavily burnt. Christopher Walker notes the following regarding the coloring of clay:

Where tablets have been baked their colour depends on the temperature to which they have been fired – mostly dark grey or black for tablets destroyed by fire, whitish for tablets baked to an excessive temperature, and a dark orange-brown for tablets baked in modern times under laboratory conditions for their better preservation.¹⁰⁶

Most tablets found in Ḫattuša were burnt secondarily by fire. The question whether or not they were also baked intentionally in antiquity will be addressed below in 2.4. Fragments of one single tablet may vary in color, depending on their circumstances of survival.¹⁰⁷ Although the color depends to a large degree on its preservation, we may distinguish at least two types of clay: a fine, brown-reddish clay and a yellowish light brown or grayish kind of clay, which is less refined. This is admittedly a very rough division, which does not do justice to all the different shades and colors we find among the Hittite tablets. However, since a lot of these varieties are due to secondary factors, they are best left out of consideration. It is tempting to think that the fine reddish brown clay seems to have been reserved for tablets that were stored for a longer period of time (type A), whereas the smaller, ephemeral tablets of type B on the other hand, are generally made of a yellow-brownish or grayish kind of clay. However, although this may be correct in some cases, there are certainly examples that do not support this claim.

Several of the brown reddish tablets have an ivory colored coating (e.g. KUB 29.7). From the overall uneven distribution and general appearance of this coating it may be concluded that it does not concern a layer that was deliberately applied by the Hittites, but that this is rather the result of salt and other mineral secretions. Some tablets, such as KBo 30.56 appear to have a script layer of lighter clay, but this may be due to a chemical reaction in the burning process of the clay.¹⁰⁸ Possibly, the clay was not baked all the way through. Although the color is clearly different, the clay structure feels the same and there is no clear division between the two layers detectable. It is therefore doubtful whether this is an example of a coating applied in ancient times.¹⁰⁹

¹⁰⁶ Walker 1987: 23.

¹⁰⁷ On the varieties in color due to difference in burning, see also Richter 2003: 169.

¹⁰⁸ This probably also applies to KBo 53.160, which appears to have a darker script layer.

¹⁰⁹ Note that Faivre 1995: 58 remarks that some tablets in Mari appear to have a finer layer of clay to write over a less refined core. See also Taylor & Cartwright 2011: 294.

2.4 Baking of tablets

Information regarding the baking of Hittite tablets is very scarce. As mentioned above, most tablets found in Hattuša have presumably been baked secondarily in fire, which makes it hard to determine whether they were already baked deliberately in ancient times or not. The cracks in some of the tablets' surfaces, however, suggest that they were sun-dried rather than baked (see, for example, KBo 11.1, fig. 5.2).¹¹⁰ Information from outside of Hattuša is also limited. From Kuşaklı stem several unbaked fragments¹¹¹ and there are indications that more sun-dried tablets were kept there.¹¹²

If we broaden our scope to the rest of the ancient Near East, it seems that in Mesopotamia and Syria the majority of the tablets were not baked.¹¹³ Letters found in Nineveh were apparently sun-dried,¹¹⁴ as well as tablets found in Ugarit and Persepolis.¹¹⁵

The famous oven in Ugarit in which unbaked clay tablets were found that were about to be baked had not the city been destroyed, turned out to be no oven at all.¹¹⁶ Indirect evidence that at least some of the tablets were sun-dried is provided by the wish in several colophons that the tablet's content should not be blotted out; this would not be possible had the tablets been baked.¹¹⁷

The sun-drying of tablets certainly had its advantages: sun-drying takes less effort and a well-dried clay tablet is also durable and resistant. Another plus of unbaked tablets is that they could be re-used (see below 2.5).

110 Kindly pointed out to me by Brian Zimerle. Compare also the small thin fragment of the surface of KBo 52.35 is pierced by several wormholes, which must have occurred when the clay was soft and moist. This implies that the tablet was not baked at the time it was broken to pieces, which allowed the clay to become spongy in the moist ground where it lay for centuries, see also below n. 167. Note that Bittel 1950: 168-69 remarks regarding some of the *bullae* from Büyükkale that accidental baking seems more likely than intentional baking.

111 See Wilhelm 2002: 351: "Hinsichtlich der Frage, in welchem Umfang in Anatolien mit ungebrannten Tontafeln zu rechnen ist und gegebenenfalls wie deren Erhaltungsbedingungen einzuschätzen sind, ist ein grösseres Stück einer Tafel (KuT 60) bemerkenswert, da es teilweise gut gebrannt ist, teilweise aber ungebrannte Fragmente angefügt werden konnten, so dass geschlossen werden darf, dass die Tafel ursprünglich ungebrannt war und erst nach der Fragmentierung teilweise in einem Schadenfeuer gebrannt wurde".

112 See Müller-Karpe 1997: 6.

113 See Taylor 2011: 16.

114 See Reade 1986: 213.

115 For Nineveh, see Reade 1986: 213, for Ugarit, see Dalix 2000: 197. Information about the Persepolis tablets was kindly provided to me by Wouter Henkelman.

116 See Caubet 2000: 35-51.

117 See Hunger 1968: 13.

Some tablets, however, were baked in ancient times; three Neo-Babylonian colophons explicitly mention that their *Vorlage* was a baked tablet.¹¹⁸ This explicit statement that these tablets were baked can of course also be seen as an indication that this was apparently not the normal practice. No similar remarks have been found in Hittite colophons. An additional clue for the baking of tablets in the Neo-Assyrian period is given by a text from this period, which mentions that a tablet is placed in a kiln.¹¹⁹ Further, there are indications that some Ur III tablets as well as Neo-Babylonian Uruk tablets were baked.¹²⁰

For a long time, the small holes found on tablets from the Middle Babylonian and Middle Assyrian period onwards were explained as firing holes and thus seen as evidence for the baking of tablets, but this idea has to be abandoned. Since clay is an overall porous material, such ‘firing holes’ are not helpful in preventing the bursting of a tablet. As Christopher Walker remarks, there are large Ur III tablets that were successfully baked in antiquity without the use of firing holes.¹²¹

According to him, the function of these holes rather seems to have been ornamental and they later became a matter of tradition: on tablets from the Nineveh libraries one frequently finds these ‘firing holes’ on the exact same position on different copies of the same text. Alternatively, they may have served to prevent alteration of the text by filling blank spaces on the tablet.¹²² As for Hittite tablets, there are a few examples of tablets with this kind of ‘firing holes’, see below 2.6.3.¹²³

The chemical analysis of the Amarna tablets has shown that most of the Babylonian, Mittanian, and Hittite letters were fired in kilns at about 700-800 degrees C, whereas Egyptian and Canaanite tablets were systematically unfired.¹²⁴ In the opinion of Goren et al. the tablets were fired to both ensure longevity and to prevent any forgery of the text of the letter. The act of firing must have been perceived as a certificate for its authenticity.¹²⁵ Goren et al. therefore hold the assumption that tablets circulated and were re-used as untenable. The authors attribute the lack of firing of

118 See Hunger 1968: 7. See also CAD S:113 s.v. *šarpu* 3' (with IM.GÍD.DA). Note however that the adjective *šarpu* has several meanings: apart from ‘fired’ it may also mean ‘refined’, ‘colored’, ‘red’, ‘dyed’ or ‘silver’. We can thus not entirely exclude the possibility that the adjective in the colophons refers to a ‘refined’ or ‘colored’ rather than a ‘baked’ tablet. See also AHW 1086: ‘geläutert, gebrannt, gerötet’.

119 This text has been edited by Joannès 1990: 25. See also Baker 2003: 243.

120 For the Ur III tablets, see Walker 1987: 24, for the Neo-Babylonian Uruk tablets, see Hunger 1970: 197.

121 See Walker 1987: 24.

122 See Jeyes 2000: 371.

123 See Walker 1987: 24-25.

124 See Goren et al. 2004: 319. As the authors claim in their introduction (p.16), the museum records of the British Museum and the Vorderasiatisches Museum in Berlin, which hold the largest collection of Amarna tablets, show no evidence that any of the Amarna tablets were fired as part of their preservation procedure, which concurs with the fact that many of the tablets do not show any evidence of a firing process at all.

125 See Goren et al. 2004: 319.