

Too Much Writing, Too Few Scribes



Too Much Writing, Too Few Scribes

Extra-Scribal Writing in the Late Bronze
Age Mediterranean (1650–1100 BCE)

Edited by
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ARCHAEOPRESS PUBLISHING LTD

13–14 Market Square

Bicester

Oxfordshire

OX26 6AD

United Kingdom

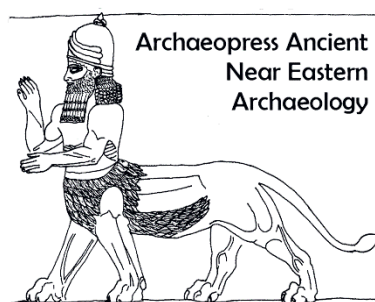
www.archaeopress.com

ISBN 978-1-80327-995-4

ISBN 978-1-80327-996-1 (e-Pdf)

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Cover: (above) composite drawings of CHLI MARAŞ 9, Maraş C/5, Maraş C/7 (see Cammarosano, this volume);
(below) drawing of the inscription on Amun Rock 9 (see Lazaridis this volume).



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Too much writing, too few scribes: Extra-scribal writing in the Late Bronze Age Mediterranean (1650-1100 BCE)¹

Cassandra M. Donnelly

The present volume focuses on writing practices which fall outside of the scribal paradigm that dominates scholarship on ancient writing. In the scribal paradigm, writing is a guarded technology, transmitted through scribal schools. Scribal education comprises small group instruction in how to write and create texts from canon. The resulting education produces texts with high levels of paleographical uniformity, even as regionalisms can be observed in other aspects of text construction.² Today, it is widely recognized that the scribal paradigm does not explain many aspects of writing in the ancient world.³ Take, for instance, the mercantile literacy of Old Assyrian Kaneš.⁴ Nevertheless, the scribal model and its terminology still dominates scholarly discourse on Late Bronze Age writing practices. The present volume explores writing and marking practices not covered in the scribal model and provides alternative terminologies for discussing extra-scribal phenomenon. Inspired by the material turn in the study of writing, the present volume explores the interface between writing, marking, and materiality.⁵

‘Extra-scribal writing,’ as interpreted by the contributors to this volume, encompasses a wide range of activities. It includes writing not produced by scribes, marking practices, and types of writing

produced by scribes, but which have been marginalized in traditional studies of ancient writing, such as writing on ostraca and wax tablets. Uniting the papers is a strong emphasis on the material dimensions of writing. Contributors to the volume include both epigraphers and archaeologists and those of us whose training falls somewhere in between. Other focal points are the construction of meaning, the definitions of and interfaces between writing, marking and literacy.

Geographic areas range from Egypt to the Aegean and to Anatolia and the Levant, the so-called “Western Periphery” of cuneiform culture. Missing are contributions from the “center” of cuneiform culture in Assyria and Babylonia. The *Call for Papers* (CfP) invited zero expressions of interest for papers on material from the cuneiform cultural center. It is the editor’s belief that the absence of contributions from the heart of cuneiform culture is incidental and not because extra-scribal writing practices were not common in the center. It will be interesting to see if extra-scribal paradigms will feature more prominently in cuneiform studies in future years.

Regional Contexts of Writing

Writing practices vary considerably from the Aegean to Egypt. As such, what constitutes ‘extra-scribal’ also varies, as reflected in the different topics covered by contributions rooted in different geographic regions. Contributions to the volume have not been organized geographically, though they could have been. A synthesis of writing practices from each broad region brings to the fore some common themes that arise due to the distinctive contexts of writing in each region.

Eastern Mediterranean (Egypt)

Contributions on Egyptian writing practices focus, by and large, on writing media not traditionally covered in Egyptological study but which are nevertheless often the products of scribal officials. In New Kingdom Egypt (c. 1570-1070), many officials with different levels of literacy and scribal education produced texts, resulting in an embarrassment of riches in terms of numbers and types of texts. Scribes worked in religious and administrative spheres, in temples, centers of commerce, and oases; they wrote on ostraca, papyrus,

¹ This project was completed over the course of several years, the last of which under the auspices of CompAS Project (“Commercial Patterns Across the Sea”), European Research Council Starting Grant 947749.

² For an overview and critique of the traditional narrative, see Eleanor Robson, “The Production and Dissemination of Scholarly Knowledge,” in *The Oxford Handbook of Cuneiform Culture*, ed. Eleanor Robson and Karen Radner (Oxford: Oxford University Press, 2011), 557–76.

³ Niek Veldhuis, “Levels of Literacy,” in *The Oxford Handbook of Cuneiform Culture*, 2011, 73.

⁴ For instance, Mogens Trolle Larsen *Ancient Kaneš: A Merchant Colony in Bronze Age Anatolia* (Cambridge, UK: Cambridge University Press, 2015), 54ff.

⁵ A selection of relevant titles with bibliographies as pertains to writing in the Late Bronze Age Mediterranean, Francisca A. J. Hoogendijk and Steffie van Gompel, eds., *The Materiality of Texts from Ancient Egypt: New Approaches to the Study of Textual Material from the Early Pharaonic to the Late Antique Period* (Leiden; Boston: Brill, 2018); Kathryn E. Piquette and Ruth D. Whitehouse, eds., *Writing as Material Practice: Substance, Surface, and Medium* (London: ubiquity press, 2013); Anna Margherita Jasink, Judith Weingarten, and Silvia Ferrara, eds., *Non-Scribal Communication Media in the Bronze Age Aegean and Surrounding Areas: The Semantics of a-Literate and Proto-Literate Media*, (Firenze: Firenze University Press, 2018); Philip J. Boyes, *Script and Society: The Social Context and Writing Practices in Late Bronze Age Ugarit*, (Oxford and Philadelphia: Oxbow Books, 2021).

wooden boards, stone walls, monuments, and on everyday objects. The contributors likewise cover a range of writing media and practices.

Two contributions focus on ostraca (Chapters 5 and 9), which scholarship has seldom treated as scribal products of equal value to texts on papyrus but rather as ephemeral documents of only administrative importance. The contributions here show otherwise. Bandy's contribution (Chapter 9) investigates the materiality of the ostraca, focusing on types and sizes of vessels chosen as writing media and the writing practices of the administrative scribes who made them. Bandy shows that some ostraca were not ephemera but used for medium- and long-term storage. Van der Moezel (Chapter 5) studies ostraca that were not produced by scribal administrators but record workers' rolls using a graphic system comprised of script and non-script signs, the famous Deir el-Medina ostraca. Van der Moezel's contribution explores the cognitive processes through which non-script signs were encoded with meaning, their creation and evolution over time.

Another two contributions (Chapters 2 and 8) look at writing on stone, a common writing medium in ancient Egypt but one usually studied in its monumental capacity. Lazaridis's paper (Chapter 2) studies graffiti made by travelers passing through the Kharga Oasis and the ways that graffiti texts diverge from 'mainstream' texts on papyrus. He also reflects on the ways our own 'scribal training' as scholars leads us to classify certain types of writing as divergent and not others. Algarvio's paper (Chapter 8) similarly engages with the ways that scholarly bias can sometimes obscure rather than illuminate the nature of the texts we study. Writing as a Book Historian Algarvio argues that Book History should begin with rather than exclude Egyptian texts on stone, which, after all, are often blithely called "Books" (cf. Book of the Dead, etc.) but nevertheless excluded from book history.

A final contribution on Egypt by Hertel (Chapter 10), in contrast to the above contributions, focuses on the paradigmatic Egyptian writing medium, the papyrus, typologizing practices of text erasure. Noting the relative absence of references to text erasure in the Egyptian literary canon, Hertel explores the abundant record of text erasures, widening the scope of the study of writing to include its absence.

The Eastern Mediterranean (Anatolia, Cyprus, the Levant)

Writing practices from the 'northern' Eastern Mediterranean vary greatly from region to region. Both the Levant and Anatolia are considered the Western Periphery of cuneiform culture, while Cyprus

is often not counted in the Western periphery, though it could be. Although no cuneiform inscriptions have been found in Cyprus outside of the occasional seal, petrographic analysis of the Amarna letters and letters found at Ugarit indicate that cuneiform writing, however limited, was produced on Cyprus.⁶ In addition to producing cuneiform texts, each area in question produced its own local script(s) and employed still others. Anatolia had Luwian Hieroglyphs; Cyprus, the Cypro-Minoan script; and the Northern Levant had a smattering of scripts including the Ugaritic and Byblos scripts. Each had a different context of writing, which means that 'extra-scribal' writing can look quite different in each region.

The amount of writing produced in Late Bronze Age Anatolia, most of it clay tablets inscribed in syllabic cuneiform, must have been significant given the over 25,000 cuneiform clay tablets found at Hattuša. Advertisements for Luwian Hieroglyphic scribal services carved into stones facing the streets of Hattuša indicate that script was a visible part of daily life in the capital, even if literacy might not have been.⁷ Broadly speaking, in Anatolia, logosyllabic cuneiform was used to record historical, ritual, and diplomatic texts in mainly the Hittite language on clay tablets and sealings, and the script was transmitted in cuneiform cultural scribal settings. In contrast, Luwian Hieroglyphs predominate on monumental inscriptions on stone and certain types of seals and sealings in stone and clay. The script of daily administration is much debated but was likely recorded on wax-coated wooden tablets.⁸ The mechanisms of script transmission and its attendant institutional settings for Luwian Hieroglyphs are not known, but cuneiform writing was learned in scribal schools modeled on the Near Eastern prototype but with some regional variation.⁹

⁶ Yuval Goren, Israel Finkelstein, and Nadav Na'aman, *Inscribed in Clay: Provenance Study of the Amarna Tablets and Other Ancient Near Eastern Texts*, (Tel Aviv: Emery and Claire Yass Publications in Archaeology, 2004), 49-73; Philip J. Boyes and Philippa M. Steele, "A Comparative Approach to Methods of Inscribing Clay Tablets: Interaction and Innovation in Cyprus and Ugarit," in *New Approaches to the Materiality of Text in the Ancient Mediterranean: From Monuments and Buildings to Small Portable Objects*, eds. Erica Angliker and Ilaria Bultrighini, (Turnhout, Belgium: Brepols Publishers, 2023), 35-52.

⁷ Most recently, Massimiliano Marazzi, "Die sogenannten 'eingepuntzten' Hieroglypheninschriften von Boğazköy," in *Audias Fabulas Veteres. Anatolian Studies in Honor of Jana Součková-Siegelová*, ed. Šarka Velhartická, (Leiden; Boston: Brill, 2016), 194-209. For a minimalist interpretation of literacy at Hattuša, see Theo van den Hout, *A History of Hittite Literacy: Writing and Reading in Late Bronze Age Anatolia (1650-1200 BC)*, (Cambridge, UK: Cambridge University Press, 2020).

⁸ For a brief summary of the debates, along with bibliography, see Cammarosano (this volume).

⁹ Shai Gordin, "Scriptoria in Late Empire Period Hattusa: The Case of the É GiŠ.KIN.TI," in *Pax Hethitica: Studies on the Hittites and Their Neighbors in Honour of Itamar Singer*, eds. Yoram Cohen, Amir Gilan, and Jared L. Miller, (Wiesbaden: Harrassowitz Verlag, 2010), 158-77.

Less is known about the volume of script production in Cyprus and even less about Lebanon. The dominant script used on Cyprus was Cypro-Minoan (c. 1650-1050 BCE). Though its corpus consists of a meagre 250+ inscriptions, the paleographic variety and idiosyncratic nature of its writing media, combined with the extensive potmarking tradition which includes the use of script signs, would seem to indicate that writing on Cyprus was more prevalent than the small number of surviving inscriptions indicate.¹⁰ Writing seems to have been transmitted outside of scribal schools, though scribal education may be in evidence in a small number of texts from Enkomi (E. Masson's "CM 2").¹¹ Petrographic analysis shows that a small number of cuneiform texts were produced on Cyprus but none have been recovered from Cyprus itself, which would suggest only limited use of the script on Cyprus.

Even less is known about the production of writing in Lebanon, an area which attests a multiplicity of scripts but from which little writing survives. The Byblos script, with its small archaeological imprint, was a local script used to record an unknown language and was in use for a limited time period.¹² Less than 100 cuneiform tablets or textual references to letters sent from the region of modern-day Lebanon indicate that knowledge of cuneiform writing was present in the region.¹³ Proto-Canaanite or early alphabet inscriptions are notably lacking, though linear alphabetic inscriptions from the Late Bronze Age are found to the north in modern-day Syria and to the south in modern-day Israel. Less than ten alphabetic cuneiform inscriptions including ones in the so-called "short" or "reduced" cuneiform alphabet are found scattered throughout Lebanon, and small but uncertain numbers of Hieroglyphic Egyptian inscriptions have also been found mostly on small, elite portable objects.¹⁴ Overall, the picture of writing practices in Lebanon is far from clear.

Two contributions (Chapters 1 and 7) explore a similar phenomenon on Cyprus and Lebanon, the interface between potmarking practices and script traditions. Peršin's paper (Chapter 7) takes the subject head on, first providing an overview of potmarking practices in Lebanon before proceeding to a discussion of possible

continuities in the potmark and Byblos script sign repertoires. Teresa Bürge's contribution (Chapter 1) on the potmark practices of Hala Sultan Tekke, an urban center on the southern coast of Cyprus where she is co-director of excavations, provides a contextual analysis of potmarking practices from the site and offers new observations concerning the functions and types of marked vessels. Bürge's paper also interrogates the interface between script and marks and raises substantial questions for further study.

Turning to Anatolia, Cammarosano's paper (Chapter 11) reconstructs the usage of wax-coated writing boards in Anatolia, reimagining an abundance of writing from a dearth of surviving material evidence. The use of writing boards in Anatolia is assured through textual references, but the interpretation of their significance for the prevalence of literacy and Luwian hieroglyphic script use remains ours to realize. Cammarosano engages with these questions through a contextual and typological analysis of Hittite styluses and presents a strong argument for how to identify styluses in the archaeological record that is broadly applicable to other sites in the region where wax-coated wooden writing boards might have been used.

The Aegean

Evidence for writing in the Aegean is relatively meagre compared to the cuneiform world and, at least in the case of Linear B, much more restricted in use. Most writing in the Bronze Age Aegean is administrative, and such writing is likewise the focus of concern in scholarship. Administrative clay tablets in the Cretan Hieroglyphic, Linear A, and Linear B scripts record the transactions of regional 'palatial' administrative centers. The number of writers at any given time in the Aegean is believed to be low, as few as 50 at Knossos and 20 at Pylos.¹⁵ Scholars of Aegean scripts often use scribal language to describe their writers, though the consensus is that they were administrators first and foremost and writers second and that the term 'scribe' is not strictly suitable.¹⁶

The three Aegean contributions to the volume (Chapters 3, 4, and 6) concentrate on non-administrative dimensions of Aegean writing and sealing practices and

¹⁰ Martina Polig and Cassandra M. Donnelly, "Between Frustration and Progress: An Integrated Cypro-Minoan Signary and Its Paleographic Diversity," *Studi Micenei Ed Egeo-Anatolici Nuova Serie* 8 (2022): 41–62.

¹¹ Cassandra M. Donnelly, "The Cypro-Minoan Script." In *Cambridge Companion to Aegean Bronze Age Writing*, ed. Jörg Weilhartner, (Cambridge, UK: Cambridge University Press, forthcoming).

¹² Juan-Pablo Vita and José-Ángel Zamora, "The Byblos Script," In *Paths into Script Formation in the Ancient Mediterranean*, (Rome: Edizioni Quasar, 2018), 75–102.

¹³ For a summary of texts with relevant bibliography, Juan-Pablo Vita, "Akkadian in Syria and Canaan." In *History of the Akkadian Language. Vol. 2: The Second and First Millennia BCE. Afterlife.*, ed. Juan-Pablo Vita, (Leiden–Chicago: Brill, 2021), 1213–1265.

¹⁴ Boyes, *Script and Society*, 53–55 and 57–59.

¹⁵ Kevin Michael Pluta, "Aegean Bronze Age Literacy and Its Consequences," Dissertation, University of Texas at Austin, 2011, 259, table 6.4.

¹⁶ For example, the titles of the classic texts as follows, Jean-Pierre Olivier, *Les Scribes de Cnossos. Essai de Classement Des Archives d'un palais Mycénien*, (Rome: Edizioni dell'Ateneo, 1967); Thomas G. Palaima, *The Scribes of Pylos*, (Roma: Edizioni dell'Ateneo, 1988); Thomas G. Palaima, "Scribes, Scribal Hands and Palaeography," in *A Companion to Linear B. Mycenaean Texts and Their World* 2, eds. Yves Duhoux and Anna Morpurgo Davies (Louvain-La-Neuve, Belgium: Peeters, 2011), 33–136. Concerning the administrative role of Aegean scribes and the inadequacy of scribal terminology, Pluta, "Aegean Bronze Age Literacy," 254–262.

engage with the question of Aegean literacy and the construction of meaning. Finlayson's paper (Chapter 6) is a meditation on seals and the multitudes of potential meaning they contain both for their wearers and viewers. Finlayson shows how a seal's various features, such as shape, size, and color, could imbue it with a myriad of meanings extending beyond its administrative function. Salgarella's paper (Chapter 4) turns to other types of seals, clay roundels, noduli and sealings, through a close paleographical and material study, which sheds light on literacy at the edges of centralized administration. The theme of literacy is also explored in Rice's paper (Chapter 3) using stone libation tables as a case study. Rice investigates and describes the production processes involved in writing on stone and the various relationships with writing the craftspeople responsible for their production might have had.

Editorial Seminars

The contributions in the present volume have been organized according to themes explored in the "Editorial Seminars" that formed its basis, the brainchild of Shane M. Thompson and Eric M. Trink. In response to COVID-19-related travel restrictions, Thompson and Trink developed the concept of a quarantine-friendly version of a small conference or workshop, the so-called "Editorial Seminar." Instead of gathering in-person for presentations and discussion and then producing a conference volume, the contributors to an Editorial Seminar would take advantage of video conferencing's ability to put scholars from around the world in sustained conversation; and instead of presenting lectures, contributors would meet periodically over video conference to discuss their papers as works-in-progress and then exchange papers with one another for review. The result would be a collaborative, non-blind peer-reviewed publication.

Because of the volume's experimental nature and the current peer-review crisis facing many academic disciplines, I discuss and assess the editorial seminar process in some detail. The non-blind, collaborative peer review process we implemented provides an alternative model to a double-blind peer review process and to in-person conferences, with the benefit of being inclusive and accessible for scholars unable to travel. In what follows, I present a brief overview of the editorial seminars in their original conception, what actually happened in practice, and reflections on their successes and failures.

In their original conception, the editorial seminars were intended to consist of three online sessions corresponding to three stages of paper preparation: outline, rough draft, and final draft, during which

participants would present their papers and receive critiques. After the session, participants would submit their drafts to the same two colleagues and receive editorial feedback. In this way, participants would become generally familiar with each contribution to the volume and careful readers of two contributions. The intended result would be a volume that, while not necessarily thematically coherent, would have the invisible thread of mutual influence and seminar feedback running through it. In actuality, only two editorial seminars were held after a *communis opinio* was reached that discussing paper drafts was not particularly interesting. In their place, participants suggested that we hold subject-matter seminars, two of which were held over the course of a year and a half.

Two subject-matter seminars were organized, one "thematic" and the other "topical". Several different impetuses lay behind the decision to organize topical and thematic seminar: 1. To provide participants with supplemental readings and stimulate discussion on relatively under-studied aspects of ancient writing, 2. To foster cross-disciplinarity, and, 3. To provide common practical and theoretical frameworks that might lend the volume coherence despite its geographically and culturally far flung contributions. In the meantime, contributors were placed in peer-review triads that were responsible for editing one another's papers at scheduled intervals.

The first "topical" seminars were held in late winter 2022, at a time when many countries were experiencing some version of lockdown or quarantine. The seminar topics were "Writing on Stone and Ostraca," "Linear Scripts," "Potmarks," and "Cuneiform Culture." Each seminar group consisted of 4-5 contributors. In this first round of seminars, the topics grouped contributors according to the writing practices they studied, with the effect that the groups were less interdisciplinary than originally intended. The "Ostraca and Stone" group consisted exclusively of Egyptologists, for instance, while "Cuneiform Culture" grouped together scholars of the Ancient Near East. More cross-disciplinary were the potmark and Linear script groups where Aegeanists, Cypriot and Levantine archaeologists were together in the same groups.

The participants of each group were responsible for the organization and content of the sessions. They provided one another with readings related to their own contributions and worked through methodological and theoretical problems they were confronting. One of the most constructive groupings was the "potmark" seminar. Since potmarks are understudied and often underpublished, it was a unique opportunity to compare regional practices within the relatively narrow timeframe. One of the most interesting outcomes of

the seminar, reflected in numerous contributions to present volume, was the common observation that signs from potmark repertoires are often drawn from and appear on other media.

The “thematic” seminars were held on zoom in early summer 2022, once travel and communal gatherings had become more commonplace, covering “craft literacy,” “meaning making,” “non-scribal writing,” and “materiality and object history.” The thematic seminars were by and large more successful than the topical seminars and left more of a lasting imprint on the book you have in front of you, as reflected in the grouping of chapters (with slight modification). I attribute the vitality of the thematic seminars to their cross-disciplinarity, the growing familiarity among participants, and the low-stakes nature of the forum.

Particularly influential were seminars on “meaning making” and “non-scribal writing.” The meaning-making seminar explored the inadequacy of Peircean models of meaning construction, taking as examples the multivalence and contextually contingent meanings of Deir el-Medina marks, Aegean seals, and Lebanese potmarks, and considering how these examples collapse the hierarchy between writing and mark. The nonscribal group took as their point of departure an article by Michael C. A. Macdonald, “On the use of writing in ancient Arabia and the role of paleography in studying them,” and discussed spectrums of literacy and the distinctions between informal education, formal education, and scribal education in writing.¹⁷ The themes developed in these seminars run through the contributions even when they are not explicitly addressed.

The value of the editorial seminar approach was in the low-stakes platform for cross-disciplinary discussion on topics outside of the scholarly mainstream. The rather narrow chronological scope facilitated and enhanced the value of the cross-disciplinary conversations. The quality of the seminars was in direct proportion to the effort participants put into them, which varied from topic to topic and theme to theme. Some groups had an immediate chemistry and clarity of purpose that resulted in seminar sessions that I thought about for weeks afterward. Other seminars made me feel like a teacher who had given out too much homework. The effects of the Covid-19 pandemic on the seminars were substantial, including illnesses to seminar participants and their loved ones, the mental health toll caused by isolation and the varying levels of support provided by different universities. All in all, the thematic and topical

seminars were more successful than the two “Editorial Seminars” proper where papers were discussed.

A main failure of the volume lay in a poor scheduling decision which was compounded by the precarity of the academic discipline for young scholars. The decision to schedule the seminars over the course of 1.5 years meant that five of the original 16 participants dropped out of the volume and that there were intermittent lags in momentum. A narrower timeline of a single year would have likely retained more contributors and maintained momentum. Between taxing job applications for too few jobs and tenure packet applications, some young scholars pulled their contributions to the volume or dropped out of academia completely.

The non-blind peer review process was largely successful, especially in terms of engaging with a writer’s ideas, their organization and presentation. Less successful was editing for style and grammar. Contributors worked in groups of three, which were matched as best as possible for subject matter expertise. Every member of the peer-review triad submitted for review a rough draft and final draft of their paper and reviewed the rough and final drafts of the other two members in the triad. Reviews were recorded in word documents, though some groups supplemented their written reviews with video conferences.

As editor, I followed the peer review processes, read the drafts and reviews at every stage, but did not impose editorial interventions until the final drafts. I found that the final drafts showed marked improvements in content and concept from the rough draft stages, as one would hope would be the outcome of any peer review process, blind or not. I saw only minimal evidence that contributors were reluctant to engage critically with one another. The high level of critical engagement suggested to me that ‘blindness’ is not a necessary pre-condition for criticism. Perhaps unexpectedly, contributors seemed most reluctant to criticize elements of one another’s grammar and style, which thankfully are correctible at the later stages of editorial intervention. Through the collaborative peer-review process, I became convinced that collaborative, non-blind peer-review is a valid and effective method of scholarly criticism.

Conclusion

Extra-scribal writing is a promising avenue of study because of the ways it critically engages with the concept of literacy, how it combines philological and archaeological approaches, and focuses on ‘non-elite’ practices. As the volume demonstrates, what scholars consider “extra-scribal” varies from discipline to discipline in the same way that extra-scribal practices

¹⁷ Michael C. A. Macdonald, “On the Uses of Writing in Ancient Arabia and the Role of Paleography in Studying Them,” *Arabian Epigraphic Notes* 1 (2015): 1–50.

varied considerably in the ancient world. The variety of writing materials, scripts, and marking practices used in the different regions addressed show that writing and other forms of graphic expression were not, as a rule, carefully guarded or restricted. Writing and marking were made visible to people from various walks in the Late Bronze Age. Recent scholarship, this book included, is beginning to integrate extra-scribal practices into our narratives about ancient writing practices and to reshape them.

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Hittite and Neo-Hittite Writing Styli with Pointed Tips: Catalog, Technology, Significance

Michele Cammarosano

Abstract

The paper examines a group of 35 bronze implements recovered from several Anatolian sites and dated to the Hittite period. These objects, ranging in length from 8.5 to 23.6 cm, have one pointed and one flattened, spatula-like end and in some cases show some decoration on different parts of the shaft. The interpretation as writing styli for wax tablets proposed by Kurt Bittel in 1973 has been recurrently met with caution and sometimes skepticism by Hittitologists, and alternative interpretations have recently been proposed. While the acceptance or rejection of Bittel's interpretation has profound implications for the assessment of fundamental aspects of Hittite literacy and administration, a systematic and comprehensive study of the available material has never been attempted. This desideratum has become even more urgent with the publication of several new examples from the Upper City of Hattuša. The present paper aims to fill this gap. Based on a thorough examination of all known examples, as well as other relevant archaeological and iconographic evidence, the study aims to present conclusive arguments for the interpretation of these tools as styli designed for writing Anatolian Hieroglyphs on wax tablets, and to sketch a possible scenario of their role and far-reaching significance for Hittite scribal habits.

Introduction: Writing in Hittite Anatolia and in the Neo-Hittite kingdoms

The Hittite civilization of Late Bronze Age Anatolia (17th to 12th cent. BCE) is well known for its mixture of different languages and cultural milieus.¹ An extraordinary feature of this polity is also the concurrence of two scripts, in many respects very different from each other, both used for official purposes by the ruling elite. The first is the cuneiform script imported from northern Syria at the onset of the Old Kingdom. Cuneiform represents by far the main script used on clay tablets, the main script carrier for state business throughout the entirety of Hittite history. The second are the so-called Anatolian Hieroglyphs, a linear script which, by the beginning of the 14th

century, was developed into a logosyllabic system capable of expressing not only elementary numerical and logographical concepts but also the full complexity of syntactic relations.² While the motivation and details of the process by which the hieroglyphic set of signs evolved into a full-fledged script are still debated, it is clear that the system arose from a set of ornamental and pictorial symbols that were already circulating in the Old Hittite period, and ultimately had their precursors in the preceding centuries as documented by the glyptic of the Old Assyrian period.³ A general consensus exists that the Anatolian hieroglyphic script was an invention most likely independent from Egyptian inspiration. Importantly, as far as it is possible to determine the language of the inscriptions, this script was only used to write Luwian (and no other language; contrast the use of cuneiform for no less than eight different languages in the Boğazköy tablets). The syntactically most complex inscriptions date from the Iron Age, when Anatolian Hieroglyphs outlived cuneiform in Anatolia and represented the only script used for official inscriptions in the so-called Neo-Hittite kingdoms.⁴

The Anatolian hieroglyphic script is attested on clay (mostly on seals, in exceptional cases also on tablets), stone (seals, statues, rock inscriptions), and lead and leather strips. In addition, it can be argued that it was also used on another medium, namely wax tablets. No Hittite wooden tablets, waxed or otherwise, have yet been found, but the existence of wax tablets can be inferred from references in texts preserved on cuneiform clay tablets. The relevant terms are the Akkadogram ^{GI}ŠLE'U (with the pseudo-Sumerogram ^{GI}ŠLE. U₅), which undoubtedly refers to waxed boards, as well as the Sumerogram ^{GI}Š.HUR (which in Mesopotamia means “drawing, plan, regulations”) and the terms for which this is attested as a determinative (*gulzattar*,

¹ See Ilya Yakubovich, “Peoples and Languages,” in *Handbook Hittite Empire: Power Structures*, edited by Stefano de Martino, 3–44 (Berlin; Boston: de Gruyter, 2022). All dates are BCE. The customary subdivision into Old Kingdom (seventeenth–sixteenth century), Early New Kingdom (fifteenth century) and Empire Period (fourteenth–thirteenth century) is used when referring to Hittite historical phases (for a complete chart of the Hittite kings and synchronisms with Egypt and Assyria, see ‘The Hittite Royal House’ at <<https://osf.io/j7b3x>>). As is customary in Hittitological literature, Sumerograms in Hittite contexts are transcribed in capital letters.

² Theo van den Hout, *A History of Hittite Literacy: Writing and Reading in Late Bronze-Age Anatolia (1650–1200 BC)* (Cambridge: CUP, 2020), 120–138 with literature.

³ See most recently H. Craig Melchert, “Luwian,” in *A Companion to Ancient Near Eastern Languages*, edited by Rebecca Hasselbach-Andee (Hoboken: Wiley, 2020), 240–241 and Ilya Yakubovich, “Once again on the evolution of the Anatolian hieroglyphic script,” *Kadmos* 61 (2022), 37–60 with literature.

⁴ J. David Hawkins, “Scripts and Texts,” in *The Luwians*, edited by H. Craig Melchert, 128–169 (HdO I/68. Leiden; Boston: Brill, 2003); the entire corpus has been masterfully edited in J. David Hawkins, *Corpus of hieroglyphic Luwian inscriptions 1.1–1.3: Inscriptions of the iron age* (Berlin: de Gruyter, 2000).



Figure 1. The geographical setting (cf. <<https://osf.io/cbyv8/>>). Modern names are in cursive.

ḫatiwi, *kaštarḫaida*, *parzaki*, and *kurta*), all of which can be argued to refer to wooden (and possibly waxed) writing boards.⁵

In Late Bronze Age Anatolia, wax tablets were inscribed in both cuneiform and hieroglyphic script. While the use of cuneiform can be postulated whenever the text was of a syntactic complexity that we currently assume was impossible for the contemporary hieroglyphic system to convey, syntactically simple texts such as numeric-logographic lists could also have been written in hieroglyphic script. Of the two verbs denoting writing in Hittite, *hazziye/a-* and *gulš-*, the former refers etymologically to writing in cuneiform, while the latter refers etymologically to writing in a linear script, then to writing in hieroglyphic script. Although many of the actual instances referred to in the texts are likely to correspond to this division, the two verbs could also be used in a more generic way, divorced from the etymological connection to either script, and therefore no certainty can be achieved as to which script was

involved in specific instances on the basis of the verb used alone.⁶

This paper focuses on a single issue within the broad topic of Anatolian Hieroglyphs and writing media, namely the characteristics and interpretation of Hittite and Neo-Hittite tools with one pointed and one flattened, spatula-like end.⁷ Through a thorough and systematic examination of the available evidence, it hopes to shed more light on a controversial issue of crucial importance for the assessment of literacy and writing practices in Late Bronze Age Anatolia.

Archaeological evidence

Styli with spatula

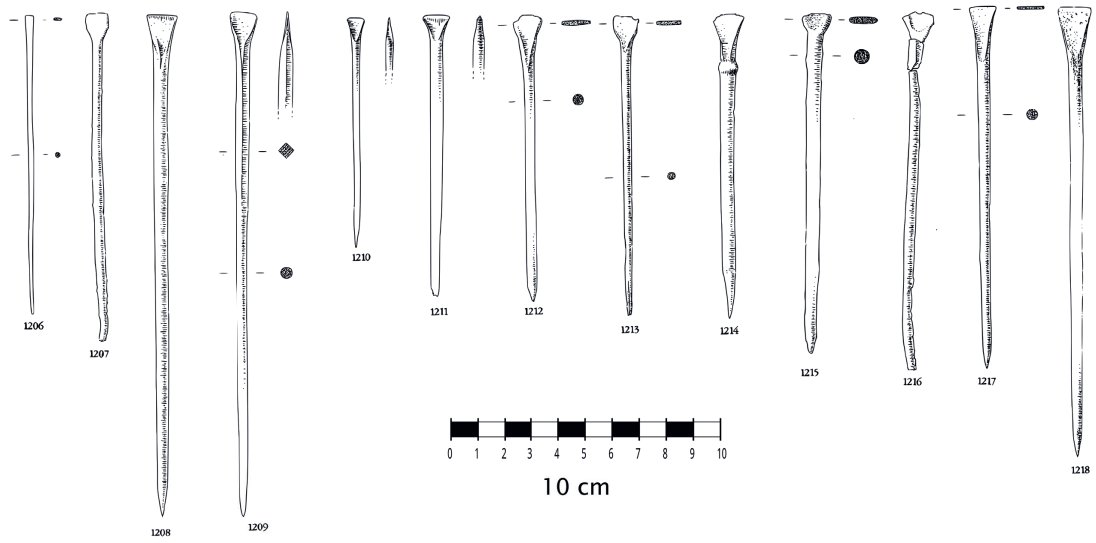
The objects we are dealing with consist of a mostly round, sometimes decorated shaft with a pointed tip at

⁵ For evidence, contexts, and discussion, see Willemijn Waal, "They Wrote on Wood. The Case for a Hieroglyphic Scribal Tradition on Wooden Writing Boards in Hittite Anatolia," *Anatolian Studies* 61 (2011), 21–34, van den Hout, *A History of Hittite Literacy*, 188–211, and Michele Cammarosano, "Writing on Wood in Hittite Anatolia," in *The Ancient World Revisited: Material Dimensions of Written Artefacts*, edited by Marilina Betrò, Michael Friedrich and Cécile Michel. *Studies for Manuscript Cultures* 37 (Berlin: De Gruyter, 2024), 165–206, each with a different viewpoint.

⁶ Michele Cammarosano, Katja Weirauch, Feline Maruhn, Gert Jendritzki, Patrick Kohl, "They Wrote on Wax. Wax Boards in the Ancient Near East," *Mesopotamia* LIV (2019), 144; Cammarosano, "Writing on Wood in Hittite Anatolia", 171–172 fn. 22; differently Waal, "They Wrote on Wood," ead., "Relations between Script, Writing Material and Layout: The Case of the Anatolian Hieroglyphs," in *Writing Around the Ancient Mediterranean. Practices and Adaptations*, edited by Philippa M. Steele and Philip J. Boyes (Oxford: Oxbow Books, 2022), 144.

⁷ As it will be argued below (see below, section "Function"), the spatula at the back end would have been used for localized erasures, allowing for swift correction of previously written text like in Greek, Roman, and Medieval examples of analogous styli for wax tablets.

Cat. 1-13 (Bo-Ḫa 7)



Cat. 14-19 (Bo-Ḫa 10)

Cat. 20
(Bo 12-0-07)

Cat. 21-29 (Bo-Ḫa 29)

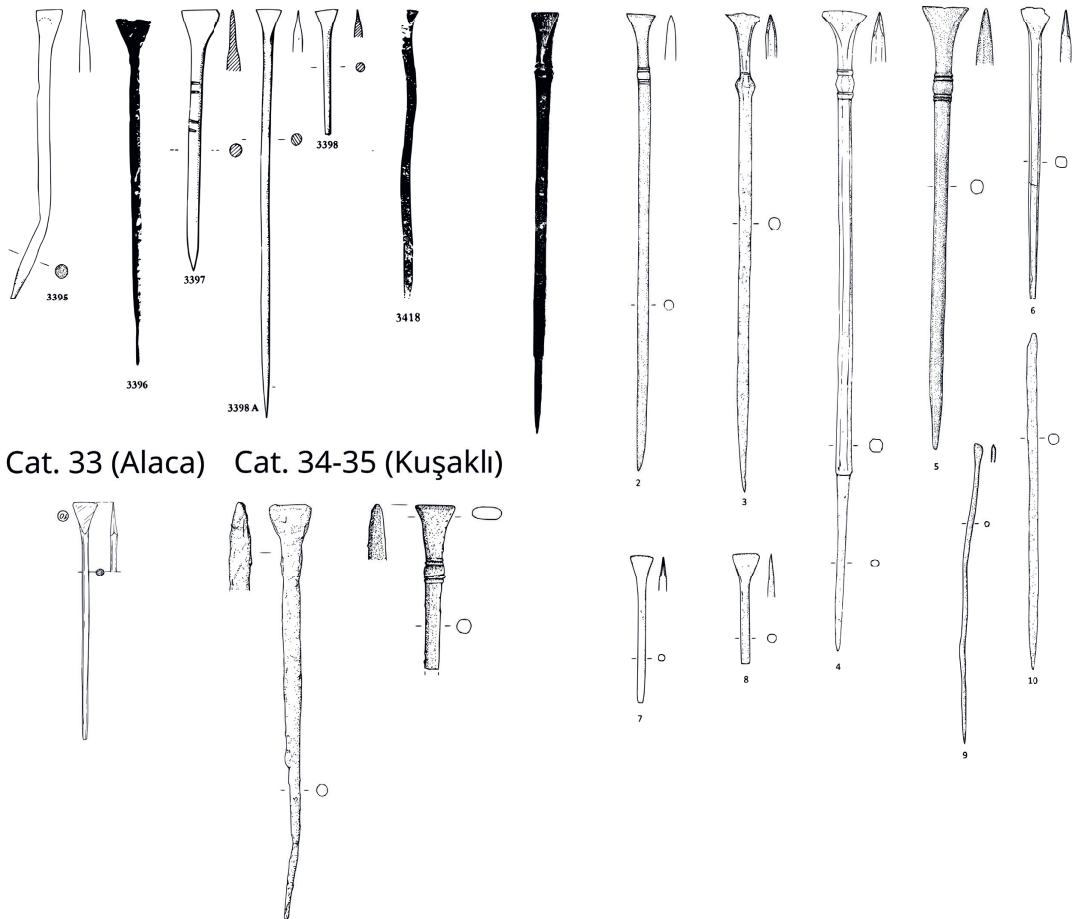


Figure 2. Overview of the preserved Hittite ‘styli’ (cf. Table 1 for correspondences with catalog numbers and literature, from which the drawings are reproduced).

one end and a triangular spatula at the other. For the sake of simplicity, they will be referred to as ‘styli’ in the following discussion, without prejudice to their functional interpretation, which will be examined below.

It seems useful to begin our investigation with a complete catalog of the archaeological evidence (Figure 2). All known styli examples are made of bronze and all of those that can be reliably dated can be assigned to the Hittite period, more precisely to a period between the Early New Kingdom (beginning c. 1500 BCE) and the Late Empire (ending c. 1200 BCE). Of the 35 published examples, 32 come from the site of Boğazköy (ancient Hattuşa), the Hittite capital; two from Kuşaklı (ancient Şarišša); one from Alaca Höyük (most likely corresponding to ancient Arinna). Previously unpublished drawings and data on the two styli from Kuşaklı/Şarišša are included here for the first time, thanks to information kindly provided by Andreas Müller-Karpe. Other examples have been found at Örtaköy (ancient Şapinuwa), some of which are on display at the Archaeological Museum of Çorum, but they remain unpublished and no information could be obtained by contacting the excavator. Following a discussion of the surviving examples by site, the data are presented in tabular form in Tables 1–2.

Boğazköy

Boğazköy, the ancient Hittite capital (Hattuşa), is the site from which most of the surviving examples have been recovered. They come from three areas within the site, namely the Great Temple and its surroundings in the Lower City, the so-called Temple District in the Upper City, and the Royal Citadel (Büyükkale).⁸ Only one example has been found in the citadel of Büyükkale, where the royal palace and several tablet collections were located.⁹ It comes from sector p-q/10-11 North (east of building D) and was found under a Hittite clay infill above level IVb, thus being assigned to Büyükkale level III (roughly corresponding to the Late Empire period). The object is undecorated and almost completely preserved, the pointed end is broken.

The majority of the attested examples come from the Lower City: 17 to 19 examples, depending on whether Bo 68/333 and Bo 76/335 are included or not. Most of them were found in the so-called South Area (Südareal), i.e. the complex south of the Great Temple, which seems to have been a centre of economic and probably also scribal activity in the Late Empire.¹⁰ Bo-Ḫa 7 134

and Pl. 41, Nos. 1206, 1208–1214, 1216–1218.¹¹ Three of them (Nos. 1206, 1208, 1209) come from the level corresponding to Büyükkale III (Late Empire period). Nos. 1210–1218 cannot be assigned to a specific level but can be confidently dated to the Hittite period.¹² Whether No. 1206 should be included in the sample is not entirely certain, as only one end, the pointed one, has survived. Of these, No. 1214 has an ornamental ‘swelling’ just below the spatula, the others are completely undecorated.

Two further examples have been found within the perimeter of the Great Temple but cannot be assigned to a specific level: Bo-Ḫa 7, 134 and Pl. 41, No. 1215 (from Phrygian debris; the spatula partly broken); Bo-Ḫa 10,¹³ 31 and Pl. 19, No. 3396. In the latter example, the part of the shaft closest to the pointed end is considerably thinner than the rest, a feature observed in two other examples (see below). The remaining six examples come from the immediate vicinity of the Great Temple, in particular from the building west of the western temple terrace (within the J/19 quadrant according to the earlier topographic grid) and the area north and north-west of the temple: Bo-Ḫa 10, 31 and Pl. 19, Nos. 3395, 3397–3398, 3398A; *ibid.* 32 and Pl. 20, No. 3418; Bo 12-0-07.¹⁴

The stratigraphic context of three of these pieces allows to securely date them to the Hittite period: these are Bo-Ḫa 10 No. 3395 (“J/19, Steinschutt über Haus 6” → level of Unterstadt I or older), Bo-Ḫa 10 No. 3418 (“J/20, Einfüllung gegen Stadtmauermagazin” → level of Unterstadt I or older), and Bo 12-0-07 (“Schutt hinter einer teilweise eingestürzten hethitischen Terrassierungsmauer” west of the Great Temple). Bo-Ḫa 10 No. 3418 is peculiar in that it has a rectangular rather than a round cross-section (1.5 × 2.6 mm). One end is pointed, while the shaft ‘widens’ towards the other end. As the latter is broken, it is unclear whether this example was originally equipped with a spatula and whether it should be included in the sample. The part of Bo-Ḫa 10 No. 3395 closest to the tip is bent; Bo-

⁸ For a map of Hattuşa, see e.g. <https://commons.wikimedia.org/wiki/File:Karte_Hattusa.svg#/media/Datei:Karte_Hattusa.svg>.

⁹ Rainer Michael Boehmer, *Die Kleinfunde von Boğazköy aus den Grabungskampagnen 1931–1939 und 1952–1969*. Boğazköy-Hattuşa 7 (Berlin: Mann, 1972) (henceforth: Bo-Ḫa 7), 134 and Pl. 41, No. 1207.

¹⁰ Shai Gordin, “Scriptoria in Late Empire Period Hattuşa: The Case of

the É GIŠ.KIN.TI,” in: *Pax Hethitica. Studies on the Hittites and their Neighbours in Honour of Itamar Singer*, edited by Yoram Cohen et al., 158–177. Studien zu den Bogazköy-Texten 51 (Wiesbaden: Harrassowitz, 2010); Mark Weeden, “Hittite Scribal Schools Outside of Hattuşa?,” *Altorientalische Forschungen* 38, no. 1 (2011), 85–89, expanding on the work of Boehmer and Güterbock; for the archaeological dating of the complex, see Andreas Schachner, “Die Ausgrabungen in Boğazköy-Hattuşa 2021,” *Archäologischer Anzeiger* 2022/1, 14–23.

¹¹ For photographs of Nos. 1209 and 1214, see Kurt Bittel; Güterbock, Hans G.; Harald Hauptmann; Hartmut Kühne; Peter Neve; Wulf Schirmer. *Funde aus den Grabungen 1967 und 1968*. Boğazköy 4 (Berlin: Mann, 1969), 12 Fig. 7.

¹² Boehmer, Bo-Ḫa 7, 133.

¹³ Rainer Michael Boehmer, *Die Kleinfunde aus der Unterstadt von Boğazköy. Grabungskampagnen 1970–1978*. Boğazköy-Hattuşa 10 (Berlin: Mann, 1979) (henceforth: Bo-Ḫa 10).

¹⁴ For the last piece, see Andreas Schachner, “Die Arbeiten in Boğazköy-Hattuşa 2012,” *Archäologischer Anzeiger* 2013/1, 147–149 with Fig. 4.

Ha 10 No. 3397 seems to have two ornamental bands carved on the shaft; Bo 12-0-07 has three ornamental rings under the spatula and the part of the tool closest to the pointed end – ca. 3 cm out of a total of 15.5 cm – is considerably thinner than the rest.

The third and last group of examples, totalling twelve objects, comes from the houses and temples in the so-called Temple District of the Upper City: Bo-Ha 29,¹⁵ 223–224 and Pl. 78 Nos. 2–10,¹⁶ to which should be added three Etüdlük pieces for which there are no drawings, photographs or measurements, namely Bo E86/368, Bo E86/433, and Bo E86/736.¹⁷ These newly published examples are also documented in the iDAI online catalog at <<https://arachne.dainst.org/catalog/872/604920>>. This group of examples is excellently documented, thanks to the careful excavation and the masterful final publication of the small finds from the Upper City by Suzanne Herboldt and Alwo von Wickede. All examples are from the levels O.St. 3 (Pl. 78 Nos. 2–3) and O.St. 2 (Pl. 78 Nos. 4, 6–10; Etüdlük pieces). The beginning of level O.St. 3 is now dated to the early 15th century BCE, and that of level O.St. 2 to ca. 1275 BCE,¹⁸ so that our tools can be dated to the Early New Kingdom/Empire period and the Late Empire respectively.

Of the eleven examples that can be assigned to the context of specific buildings, six come from ‘houses’, i.e., buildings that have been convincingly interpreted as Late Empire workshops,¹⁹ namely Pl. 78 Nos. 7–9, Bo E86/368, Bo E86/433, Bo E86/736 (all of them datable to the Late Empire); five instead come from ‘temples’, namely the earlier pieces Pl. 78 Nos. 2–3 and the Late Empire pieces Pl. 78 Nos. 4, 6, and 10. According to Suzanne Herboldt, writing implements are included in the classes of objects found predominantly in ‘household’ contexts.²⁰ While the statement is formally correct, the observed distribution of the spatulated styli (6 vs 5) does not seem to highlight a particular

association of the bronze styli with either type of context, unlike in the case of other classes of objects.²¹ Given the virtual absence of cuneiform tablets from ‘household’ contexts,²² Suzanne Herboldt and Alwo von Wickede find it striking that the majority of our bronze pointed tools, which they take to be writing styli, are found in these contexts: “Es überrascht, dass Styli in der Mehrzahl aus Haus- und nicht aus Tempelkontexten stammen, wo doch alle Tontafeln in Tempeln und Priestergebäuden gefunden wurden. Keine der 16 Tonbullen und gesiegelten Objekte aus diesem Häuserviertel, davon zehn aus verlässlichen Kontexten, war vergesellschaftet mit den Styli.”²³ As we shall see below, however, it is precisely the possible specific function of these tools that may explain this seemingly surprising circumstance.

Although the number of recovered objects hardly justifies any statistical reasoning, it is worth noting that, with the exception of No. 6, all examples from temples have an ornament under the spatula (Nos. 2, 4, 5: ‘swelling’ flanked by molded bands; No. 3: biconical, polygonally modeled ‘swelling’; for No. 10, the presence or absence of this feature cannot be determined since the upper end is broken), while all examples coming from the workshops are undecorated (Nos. 7–9; nothing can be said apropos the Etüdlük-pieces). No. 5, from the Byzantine debris, also has a ‘swelling’ flanked by molded bands. No. 4 (Bo 78/113) is peculiar both for its exceptional length of 23.6 cm (see below) and for its elaborate shaft: the main part has an octagonal section, while the part closest to the tip (65 mm) has a round section and is thinner than the rest, as in the other two examples mentioned above. Nos. 6 & 8 (Bo 83/425, Bo 86/528) are also peculiar in the section of their shafts, which are square and octagonal respectively; the shaft of No. 6 narrows towards the tip, which is broken off.

Alaca Höyük

One example is known from the site of Alaca Höyük, which probably corresponds to the Hittite town of Arinna.²⁴ The stylus is undecorated and is broken towards the pointed end. The estimated length of 87 mm is derived from the published drawing.

¹⁵ Suzanne Herboldt and Alwo von Wickede, *Kleinfunde aus der Oberstadt von Hattusa: Das zentrale Tempelviertel und die Tempelviertel am Königs- und Löwentor*. Boğazköy-Hattuša 29 (Wiesbaden: Harrassowitz, 2021) (henceforth: Bo-Ha 29).

¹⁶ For a photo of the particularly elaborate stylus No. 4 see Pl. XII 3, and cf. already Hethiter 2002, 353 Cat. 146.

¹⁷ See Herboldt & von Wickede, Bo-Ha 29, 503–504, 514.

¹⁸ Jürgen Seher, “Kommentar zur Problematik der Datierungen,” in *Die Oberstadt von Hattuša: Die Bauwerke. III, Die Bebauung im südlichen Vorfeld von Büyükkale. Nişantepe – Südburg – Ostplateau (Grabungen 1988–1993)*, edited by Peter Neve, Boğazköy-Hattuša 20 (Berlin: De Gruyter, 2018), 85.

¹⁹ Suzanne Herboldt, “Die Tempelinventare aus der Oberstadt von Boğazköy-Hattusa: hethitische Tempelanlagen als Kultstätten und Wirtschaftseinheiten,” in *Ancient Near Eastern Temple Inventories in the Third and Second Millennia BCE: Integrating Archaeological, Textual, and Visual Sources. Proceedings of a conference held at the LMU Centre for Advanced Studies, November 14–15, 2016*, edited by Jean M. Evans and Elisa Roßberger, 175–187. Münchener Abhandlungen zum Alten Orient 4 (Gladbeck: PeWe, 2019); Herboldt & von Wickede, Bo-Ha 29, 400–411.

²⁰ Herboldt, “Die Tempelinventare aus der Oberstadt von Boğazköy-Hattusa,” 186 and Herboldt & von Wickede, Bo-Ha 29, 411.

²¹ Note that the bone tool Bo 86/487 = Bo-Ha 29 Pl. 78.1, which Herboldt and von Wickede interpret as a possible stylus for cuneiform script, also comes from a ‘domestic’ context.

²² Herboldt & von Wickede, Bo-Ha 29, 411 with fn. 683.

²³ Herboldt & von Wickede, Bo-Ha 29, 419. “It is surprising that the majority of the styli come from domestic and not temple contexts, whereas all of the clay tablets are found in temple and priestly buildings. None of the 16 clay bullae and sealings found in the domestic quarter, ten of which are from reliable contexts, is associated with the styli.”

²⁴ Hâmit Zübeyr Koşay, *Alaca Höyük Kazısı: Türk Tarih Kurumu Tarafından Yapılan; 1940–1948 Deki çalışmalara Ve Keşiflere Ait İlk Rapor* (Ankara: Türk Tarih Kurumu Basımevi, 1966), Pl. 132 No. 10.

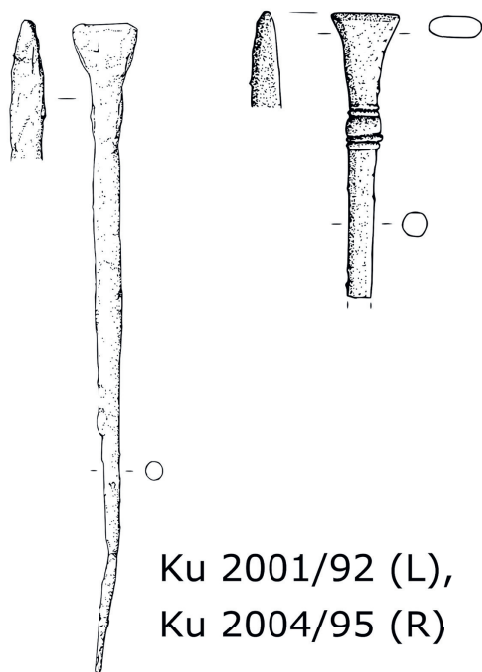


Figure 3. Ku 2001/92 and Ku 2004/95, drawings courtesy Andreas Müller-Karpe.

Kuşaklı

The two examples found at Kuşaklı, the ancient Šarišša, are presented here thanks to the information kindly provided by Andreas Müller-Karpe. They bear the inventory numbers Ku 2001/92²⁵ and Ku 2004/95, see Figure 3.

According to the excavation inventory card, Ku 2001/92 was found within a room of Building D, “[im] Fußbodenbereich [...] unter Fundamentierungsniveau der oberen Bauschicht zwischen zwei wohl auf dem Boden gestürzten Steinen in braun-grauer Erde.”²⁶ Based on the stratigraphic context, it can be dated to the Empire period.²⁷ The stylus is undecorated and completely preserved (length 153 mm, width of the spatula 19 mm, diameter 6 mm, weight 20 g).

According to the excavation inventory card, Ku 2004/95 was found in the debris in front of the window of the south tower of the north-west gate. It belongs to the *Zerstörungshorizont* of the gate, so that a dating to the

middle of the 14th cent. BCE is likely.²⁸ In this case only the part of the stylus closest to the spatula is preserved (length 58 mm, width of the spatula 14 mm, diameter 6 mm, weight 10 g). The stylus has a decorative ‘swelling’ flanked by molded bands below the spatula, just as in some examples from Boğazköy (Bo-Ḫa 29 Pl. 78 Nos. 2, 5; cf. also Bo-Ḫa 29 Pl. 78 No. 4 and Bo 12-0-07).

General observations

Twenty-three examples (henceforth: ‘styli’, without prejudice for the interpretation) are completely or almost completely preserved, which allows some considerations about the size of these tools. Among them, Bo-Ḫa 7 No. 1210 (Bo 68/457) is the shortest piece (8.5 cm), Bo-Ḫa 29 Pl. 78.4 (Bo 78/113) the longest one (23.6 cm, its spatula is 1.7 cm large; note that its weight corresponds to that of the considerably shorter stylus Ku 2001/92: 20 g, cf. also Bo 85/390: length 16.8 cm, weight 19 g). Importantly, the distribution of the length of the remaining examples between these two extremes is not uniform (Figure 4): rather, Bo 78/113 stands out as an absolute outlier, being the only specimen longer than 19 cm; the bulk of the sample is between 10.5 and 16.5 cm in length. The mean length is 13.6 cm and the median 12.6 cm (or 13.2 cm and 12.6 cm respectively if Bo 78/113 is excluded). In view of the proposed interpretation of these tools as writing styli for linear script, it is interesting to compare these measurements with the average length of modern pens: the legendary Bic Crystal ballpoint pen measures 14.9 cm, while the average length of modern commercially available pens seems to be between 13 and 14 cm, i.e., exactly the average length of our Hittite styli (<<https://penvibe.com/how-long-is-a-pen/>>). A quantitative analysis of 348 completely preserved Roman metal styli from Augusta Raurica by Verena Schaltenbrand Obrecht revealed some diachronic trends with regard to their length (the Middle Imperial styli are longer than those of the Early Imperial period, and the Late Imperial styli are significantly shorter than those of the two preceding periods),²⁹ while the overall length range – between 71 and 169 mm – is similar to that observed above for the Hittite styli.

Another point of interest is the ratio of decorated to undecorated styli: 8 to 21. The ‘decoration’ consists of an ornamental ‘swelling’ under the spatula, often flanked by molded bands; in one case there appear to be ornamental bands carved across the shaft.

²⁵ Andreas Müller-Karpe, *Sarissa. Die Wiederentdeckung einer hethitischen Königsstadt* (Darmstadt: Philipp von Zabern, 2017), 53 Fig. 48g.

²⁶ “On the floor...under the foundation level of the upper building layer between two stones, which had likely fallen down, in the brown-grey earth.”

²⁷ Andreas Müller-Karpe, “Untersuchungen in Kuşaklı 2001,” *Mitteilungen der Deutschen Orient Gesellschaft* 134 (2002), 342ff.

²⁸ I.e. at the time of the so-called ‘concentric invasion,’ see Boaz Stavi, *The Reign of Tudhaliya II and Suppiluliuma I: The Contribution of the Hittite Documentation to a Reconstruction of the Amarna Age*. Texte der Hethiter 31 (Heidelberg: Winter, 2015), 28–65.

²⁹ Verena Schaltenbrand Obrecht, *Stylus. Kulturhistorische, typologisch-chronologische und technologische Untersuchungen an römischen Schreibgriffeln von Augusta Raurica und weiteren Fundorten* (August: Selbstverlag Augusta Raurica, 2012), 192 with Fig. 195.

Table 1: The published Hittite bronze 'styli'. Abbreviations used: Boğ. = Boğazköy, Al. = Alaca Höyük, Ku. = Kuşaklı; Y = yes.

Cat. no.	Site	Area	Selected findspot info	Archaeological level	Inventory no.	Publication	Completeness	Length (mm)
1	Boğ.	Büyükkale	p-q/10-11 Nord, unter hethitischer Lehmauffüllung oberhalb der Schicht IVb, Schicht III	Büyükkale III	Bo 615/w	Bo-Ḫa 7, 134 & Pl. 41 No. 1207	almost	121
2	Boğ.	Lower Town, Südareal	7/68 Süd	Büyükkale III	Bo 68/333	Bo-Ḫa 7, 134 & Pl. 41 No. 1206	unclear	111
3	Boğ.	Lower Town, Südareal	4/68 Süd	Büyükkale III	Bo 68/172	Bo-Ḫa 7, 134 & Pl. 41 No. 1208	Y	186
4	Boğ.	Lower Town, Südareal	6/68 Süd	Büyükkale III	Bo 68/328	Bo-Ḫa 7, 134 & Pl. 41 No. 1209	Y	187
5	Boğ.	Lower Town, Südareal	7/68	nicht schichtbestimmt	Bo 68/457	Bo-Ḫa 7, 134 & Pl. 41 No. 1210	Y	85
6	Boğ.	Lower Town, Südareal	7/68, Nord	nicht schichtbestimmt	Bo 68/270	Bo-Ḫa 7, 134 & Pl. 41 No. 1211		104
7	Boğ.	Lower Town, Südareal	Schnitt III Süd	nicht schichtbestimmt	Bo 1349/z	Bo-Ḫa 7, 134 & Pl. 41 No. 1212	Y	106
8	Boğ.	Lower Town, Südareal	4/68 Nord	nicht schichtbestimmt	Bo 68/190	Bo-Ḫa 7, 134 & Pl. 41 No. 1213	almost	111
9	Boğ.	Lower Town, Südareal	1/68 Süd	nicht schichtbestimmt	Bo 68/135	Bo-Ḫa 7, 134 & Pl. 41 No. 1214	Y	113
10	Boğ.	Lower Town, Great Temple	Süd, Suchschnitt V Nord, aus phrygischem Schutt	nicht schichtbestimmt	Bo 1483/z	Bo-Ḫa 7, 134 & Pl. 41 No. 1215	Y	126
11	Boğ.	Lower Town, Südareal	2/68 Nord	nicht schichtbestimmt	Bo 68/282	Bo-Ḫa 7, 134 & Pl. 41 No. 1216		130
12	Boğ.	Lower Town, Südareal	5/68 Nord	nicht schichtbestimmt	Bo 68/189	Bo-Ḫa 7, 134 & Pl. 41 No. 1217	Y	134
13	Boğ.	Lower Town, Südareal	4/68 Süd	nicht schichtbestimmt	Bo 68/171	Bo-Ḫa 7, 134 & Pl. 41 No. 1218	Y	166
14	Boğ.	Lower Town, W of the Great Temple	J/19, Steinschutt über Haus 6	Unterstadt I oder älter	Bo 73/23	Bo-Ḫa 10, 31 & Pl. 19 No. 3395	Y	109
15	Boğ.	Lower Town, Great Temple	J/19, Tempel I, Steinschutt	nicht schichtbestimmt	Bo 70/85	Bo-Ḫa 10, 31 & Pl. 19 No. 3396	Y	106
16	Boğ.	Lower Town, NW of the Great Temple	J/20, Schutt	nicht schichtbestimmt	Bo 75/49	Bo-Ḫa 10, 31 & Pl. 19 No. 3397	Y	96
17	Boğ.	Lower Town, NW of the Great Temple	J/20, Schutt	nicht schichtbestimmt	Bo 75/51	Bo-Ḫa 10, 31 & Pl. 19 No. 3398		46
18	Boğ.	Lower Town, N of the Great Temple	K/20, aus gestörtem Lehmschutt nordwestlich Haus 45	nicht schichtbestimmt	Bo 77/288	Bo-Ḫa 10, 31 & Pl. 19 No. 3398A	Y	150
19	Boğ.	Lower Town, NW of the Great Temple	J/20, Einfüllung gegen Stadtmauermagazin	Unterstadt I oder älter	Bo 76/335	Bo-Ḫa 10, 32 & Pl. 20 No. 3418	almost	90
20	Boğ.	Lower Town, W of the Great Temple	Schutt hinter einer teilweise eingestürzten hethitischen Terrassierungsmauer westlich des Großen Tempels		Bo 12-0-07	Schachner 2013, 147-149 with Fig. 4	Y	155
21	Boğ.	Upper Town	M/7-d/6-N; Tempel 26-Temenos, über älterer Mauer	O. St. 3	Bo 85/390	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 2	Y	168
22	Boğ.	Upper Town	L/7-a/5-Mitte; Tempel 4-Temenos/ N-Mauer	O. St. 3	Bo 79/69	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 3	Y	178.2
23	Boğ.	Upper Town	L/7-a/1; Tempel 6, R. 30a/W-Ecke	O. St. 2	Bo 78/113	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 4; XII, 3	Y	236.2

Cat. no.	Site	Area	Selected findspot info	Archaeological level	Inventory no.	Publication	Completeness	Length (mm)
24	Boğ.	Upper Town	M/9-h-i/7, byz. Komplex 6, R. 22		Bo 84/531	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 5	Y	164.5
25	Boğ.	Upper Town	L/8-k/7; Tempel 9, R. 27 (jüngere Phase)	O. St. 3	Bo 83/425	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 6		109
26	Boğ.	Upper Town	L/5-c/2; Haus 37, R. 3	O. St. 2	Bo 86/639	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 7		54.3
27	Boğ.	Upper Town	L/6-d/7; Haus 35	O. St. 2	Bo 86/528	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 8		40.5
28	Boğ.	Upper Town	M/7-d/10; Haus 29, R. 29/1	O. St. 2	Bo 86/31	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 9	Y	111.2
29	Boğ.	Upper Town	M/7-d/9; Tempel 26, S-Ecke	O. St. 2	Bo 85/523	Bo-Ḫa 29, 223-224 & Pl. 78 Pl. 78, 10		123
30	Boğ.	Upper Town	M/7-h/10; Bereich Haus 24, 2. Bauschicht	O. St. 2b	Bo E86/368	Bo-Ḫa 29, 503		
31	Boğ.	Upper Town	M/6-g/1; Haus 24, auf FB der 1. Bauschicht	O. St. 2a	Bo E86/433	Bo-Ḫa 29, 504		
32	Boğ.	Upper Town	L/5-b/1; Haus 36, Gebäudeschutt	O. St. 2	Bo E86/736	Bo-Ḫa 29, 514		
33	Al.					Koşay 1966, Pl. 132 No. 10	almost	87
34	Ku.	Building D	Planquadrat 34/34 Bereich O	Großreichszeit	Ku 2001/92	Müller-Karpe 2017, 53 Fig. 48g	Y	153
35	Ku.	NW gate		Zerstörungsschicht des Nordwesttores	Ku 2004/95	unpublished		58

Table 2: Additional measurements for selected examples.

Catalog no.	Width of the spatula (mm)	Diameter (mm)	Weight (g)	Other measurements
19		1.5 x 2.6		
21	10.4	4.4	19	
22	14	4.1/6.7		
23	17.5	4.5 x 4.6 ("am Griff")	20	writing tip: 65 mm long length of the spatula: 24 mm; length of the shaft: 132 mm
24	17.1	7.7		
25	11	4.6 x 4.8	11	
26	10	3	3	
27	10.7	3.3	4	
28	3.8			
29		3.8	8	
34	19	6	20	
35	14	6	10	

All preserved ‘spatulae’ are triangular; the widest preserved ones measure 17.5 and 17.1 mm (Bo-Ḫa 29 Pl. 78.4–5). The opposite ends of the tools are pointed, and in some examples the part of the stylus closest to the tip is thinner than the rest, with a precise demarcation. It was not possible within the framework of this study to make detailed measurements of the shape and angle of the writing point and the sharpness of the spatulae, which would require examination of the original objects. Herbordt and von Wickede note that the edges of the spatulae of Bo-Ḫa 29 Pl. 78 Nos. 2, 6, and 8 do not show any impact marks, and that the spatula of No. 7 shows traces of smoothing.³⁰

‘Spatulae’

In addition to the actual ‘styli’, a number of bronze ‘spatulae’ have to be considered here. As previously mentioned, following a suggestion by Andreas Müller-Karpe,³¹ I submit that some of these objects (see Figure 5) may have originally been attached to bone and/or wooden styli analogous to those examined in the previous section. A collection of relevant examples, both from stratigraphically certain Hittite contexts and contexts plausibly related to Hittite levels, has been presented and discussed by Andreas Müller-Karpe.³²

³⁰ Herbordt & von Wickede, Bo-Ḫa 29, 223–224.

³¹ Cammarosano et al., “They Wrote on Wax,” 142 fn. 202.

³² Andreas Müller-Karpe, *Altanatolisches Metallhandwerk* (Neumünster: Wachholtz, 1994), 225–226 with Pl. 63, Nos. 1–14.

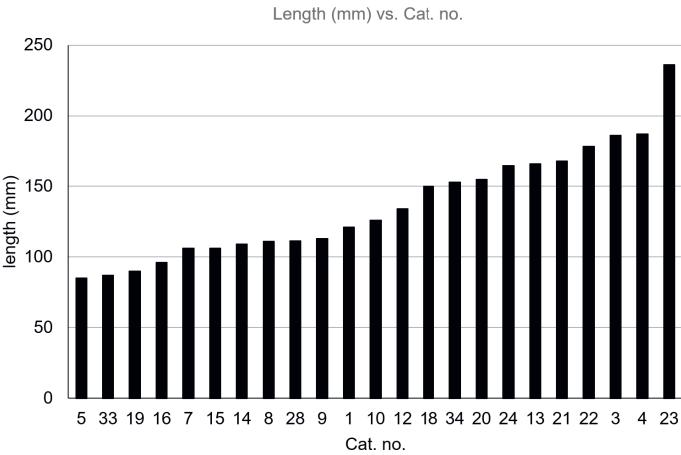


Figure 4. Diagram of the length of the completely preserved examples (mm).

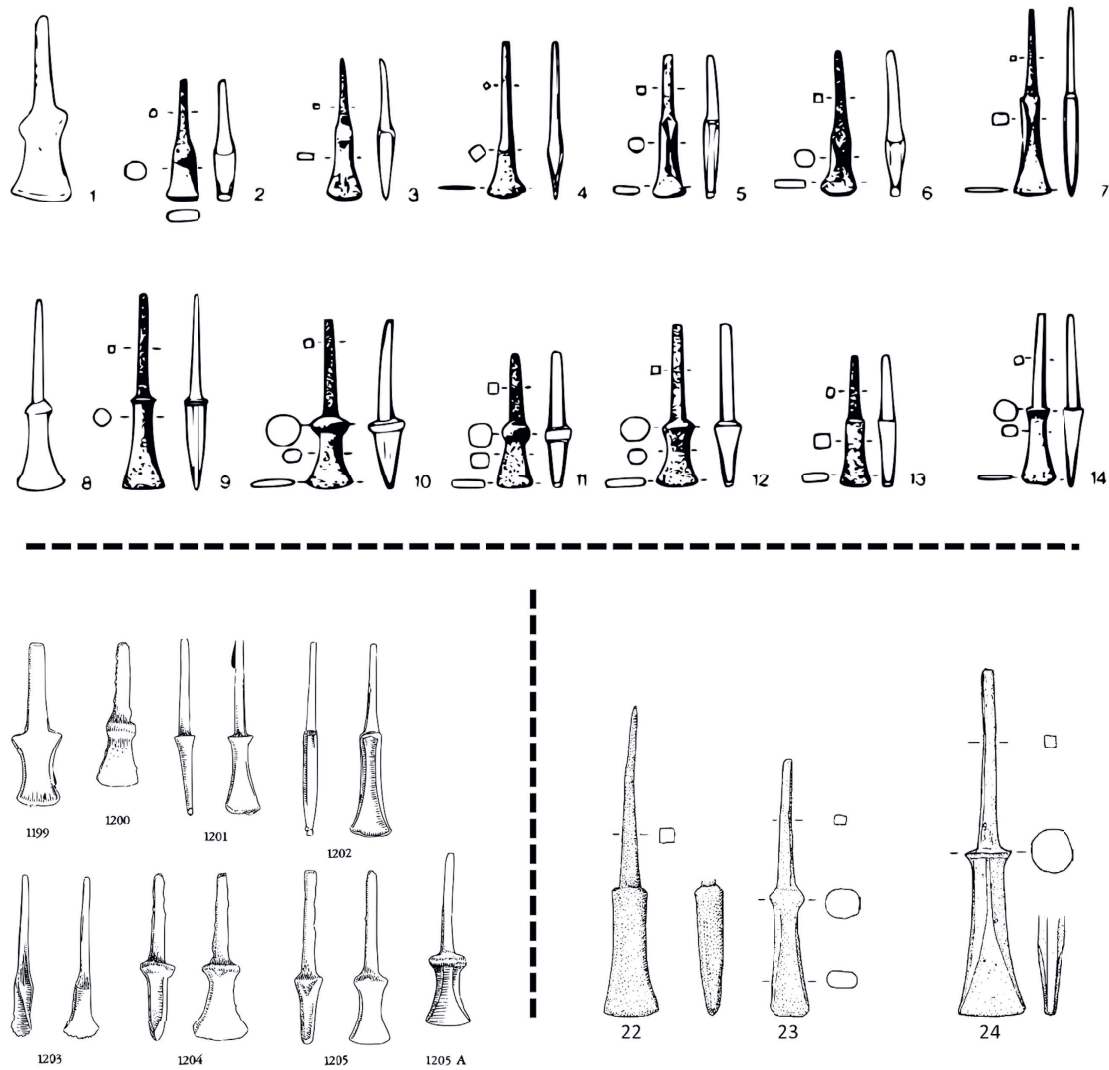


Figure 5. Overview of Hittite bronze 'spatulae' (not in scale; note that some examples are reproduced twice). Top group: from Müller-Karpe, *Altanatolisches Metallhandwerk*, Pl. 63 Nos. 1–14; bottom left: from Bo-Ḫa 7, Pl. 41 Nos. 1199–1205A; bottom right: Bo-Ḫa 29, Pl. 36 Nos. 22–24.

They come from Korucutepe (Nos. 1, 3 in his catalog), Tell Açana (No. 2), Boğazköy (Nos. 4–7, 9–14)³³ and Mersin (No. 8). Further examples from the Upper City of Boğazköy have now been published in Bo-Ḫa 29, 84 and Pl. 36 Nos. 22–24 (note that No. 24 corresponds to Müller-Karpe's No. 9; all three Upper City pieces are stray finds).

This type of tool was described by Müller-Karpe as “kleine hammerartige Einsätze ... mit einem beilförmig ausschwingendem Blatt,”³⁴ and corresponds to Type 3 in the classification of punches (“Treibhämmer und Punzierkolben”) by Herbordt and von Wickede.³⁵ Boehmer considers this type of object to be a chisel-like tool for woodworking (“meißelähnliches Werkzeug für die Holzbearbeitung”),³⁶ Müller-Karpe tentatively considers at least some of them to be small hammers “Hämmerchen(?)” Herbordt and von Wickede follow Müller-Karpe's definition and rightly note that the bluntness of their cutting edges, which often show signs of wear – and this on one side only – speaks against the assumption that they were used on wood, and rather points to their use in metalworking. With specific reference to Bo-Ḫa 29 Pl. 36 Nos. 22–24, they note (p. 84) that the cutting edge of No. 23 is blunt and shows signs of wear only on one side, No. 24 on both sides. Writing about the same piece (No. 24), Müller-Karpe had previously described its cutting edge as a “gerade, stumpf gearbeitete Schneide bzw. Finne (*nicht durch Gebrauch, keine Ausbördelung*),” emphasis added,³⁷ thus considering that this piece, if ever intended for metalworking (“Hämmerchen(?)”), was never actively used for hammering or punching on metal.³⁸ In contrast, he observed in other pieces that the blunt cutting edges had clearly been deformed by use, presumably in metalworking;³⁹ for other pieces he notes that the cutting edge is blunt, but no deformation is explicitly observed (Nos. 1, 8, 10–12, 14); No. 3 shows light traces of wear in the longitudinal direction.

The conclusion that these are tools for metalworking is therefore certainly the most likely for some of the examples but unwarranted for others. The cases where the cutting edge is blunt but show no deformation or wear are perfectly comparable to the spatulae of the bronze tools presented above, and the hypothesis that such pieces were originally mounted on a bone or wooden shaft with a pointed tip cannot be ruled

out. It is interesting to note that the findspots of the Type 3 examples of punches in Boğazköy show the same distribution of the pointed styli with spatulae, i.e., Upper City, Lower City, and Büyükkale, while at the same time this differs from the distribution of all other sub-types of these tools, none of them being attested at Büyükkale.⁴⁰ Finally, it may be noted that the carefully worked profile of Bo 79/56⁴¹ is entirely analogous to that of the finest examples of styli with spatula (e.g., Bo-Ḫa 29, Pl. 78 No. 4). Although the above observations by no means prove their use as spatulae of (now lost) bone or wooden styli (the examples showing no signs of wear may have been used on soft surfaces, e.g., for carving wood), this possibility deserves serious consideration and can hardly be dismissed. In view of the interpretation of the styli as writing implements (see below), it seems appropriate to note here that a metal spatula heats up quickly in the sun, making it easier to erase marks than if it were made of wood or bone (kindly pointed out by Andreas Müller-Karpe).

‘Nails’

In view of the interpretation of the styli as writing implements for linear script (see below), it seems appropriate to briefly consider the hypothesis that some awl- or nail-like objects made from metal or bone may be ‘styli without spatula’. Indeed, inscriptions in linear script obtained by incising or punching on leather or lead could not be erased with a spatula as they would have been on wax, so writing styli designed for this purpose would not need a spatula at the back. This opens up the possibility that, at least in principle, awl- and nail-like objects can also be interpreted as writing implements for linear scripts. Rainer Michael Boehmer suggested this possibility for some bone finds.⁴² Herbordt and von Wickede caution against interpreting massive bone awls (“kräftige beinerne Ahlen,” Pl. 53–54) as writing styli,⁴³ and indeed there are no arguments for this interpretation for any of the extant examples. On the other hand, this interpretation cannot be ruled out either, since in principle any pointed object could be used to write a linear script. Therefore, even a detailed discussion of these objects can hardly clarify the issue.

³³ Cf. Boehmer, Bo-Ḫa 7, id., Bo-Ḫa 10, Herbordt and von Wickede 2021, 84 and Pl. 36 no. 23.

³⁴ Müller-Karpe, *Altanatolisches Metallhandwerk*, 157 – “Small, hammer-like inserts ... with an axe-shaped protrusion.”

³⁵ Herbordt & von Wickede, Bo-Ḫa 29, 74–76.

³⁶ Boehmer, Bo-Ḫa 7, 132.

³⁷ “Straight and blunt worked cutting edge/peen (not through use; no flaring).”

³⁸ Müller-Karpe, *Altanatolisches Metallhandwerk*, 225 No. 9.

³⁹ See, in his catalog, 225–226 Pl. 63 Nos. 5–7, 13; for the difficulty of establishing with certainty the function of this type of tool, see p. 157.

⁴⁰ Herbordt & von Wickede, Bo-Ḫa 29, 76–77; see also Müller-Karpe, *Altanatolisches Metallhandwerk*, 157, who emphasizes the conspicuous prevalence of “kleine hammer- oder beilartige Geräte mit Schäftungsstirn” (“small hammer- or axe-shaped implements with shaft inserts”) in the Lower Town of Boğazköy especially in the area of the Great Temple and South Area, in contrast to other classes of metalworking tools: a further element corroborating their affinity with styli rather than metalworking tools.

⁴¹ Bo-Ḫa 29, Pl. 36 No. 24 = Müller-Karpe, *Altanatolisches Metallhandwerk*, Pl. 63 No. 9.

⁴² Bo-Ḫa 7, 196–197 & Pl. 73, Nos. 2046–2050 (on Nos. 2044–2045, with square section, see Michele Cammarosano, “The Cuneiform Stylus,” *Mesopotamia* XLIX (2014), 53–90, 65); Bo-Ḫa 10, 50–51 & Pl. 30, Nos. 3668–3673; cf. also, e.g., Bo-Ḫa 7, Pl. 38 No. 1148.

⁴³ Herbordt & von Wickede, Bo-Ḫa 29, 223.



Figure 6. Wax boards and styli on three stelae from Maraş (the arrows mark the writing tip). From left to right: CHLI MARAŞ 9, Maraş C/5, Maraş C/7.

Iconographic evidence

As the iconographic evidence has already been discussed elsewhere,⁴⁴ a summary of the main facts will suffice here. The distribution of iconographic evidence versus archaeological finds is complementary with respect to the divide between the Hittite (Bronze Age) and Neo-Hittite (Iron Age) periods: while only archaeological finds are available for the Hittite period, the opposite is true for the Neo-Hittite period. The existing iconographic evidence consists of three representations of scribes holding a (probably waxed) tablet and a stylus, found on three Neo-Hittite stelae from Maraş (Turkey) (Figure 6): the so-called stela of Tarḫuپیya,⁴⁵ and two stelae now in the Adana Museum.⁴⁶ In all these depictions, a man is holding in his right hand a stylus with a pointed writing tip; in the first two cases, the stylus has a triangular spatula at the back end, while in the third (of inferior quality overall), the rear part of the shaft is wider than the rest. The presence of a board book (stela from Tarḫuپیya) and tablets (Maraş C/5 & C/7) confirms that these tools can only be interpreted as writing styli, more specifically for writing linear scripts (most likely Luwian and/or Aramaic, based on the historical context) on wax tablets (in the first two cases, this assumption is supported by the presence of a spatula, which is closely associated with this type of medium).⁴⁷

The three stelae therefore testify to the use of linear script(s) on wax tablets in the Neo-Hittite kingdom of Maraş, and to the use – for this purpose – of a stylus in the shape of the Bronze Age tools from Hittite sites discussed above.

Analogous conclusions are drawn for another area and at around the same period of the Maraş stelae, namely for the kingdom of Suḫu on the middle Euphrates. A stone panel (or stela) found at the site of ‘Ana Island in the 1980s, and presently displayed at the Iraq Museum in Baghdad (Museum No. IM 132177), dating back to the reign of Ninurta-kudurri-uṣur (8th cent. BCE) or possibly his father Šamaš-rēša-uṣur, shows a battle scene and a scribe standing in profile to the right, apparently observing the scene and taking notes.⁴⁸ He holds a tablet or board in his left hand and a stylus in his right hand, the shape of which is the same as that of the Neo-Hittite stelae just examined, i.e. with a pointed tip and a spatula at the end. Therefore, the scene shows a scribe, probably writing in Aramaic on a wax tablet, while recording the battle taking place in front of him (although in principle, he could also be drawing). The shape of the stylus, with its long, thin shaft and a triangular spatula, the contours of which are clearly separated from the shaft, clearly indicates a naturalistic representation of the writing implement, and at the same time the shape of the stylus is entirely

⁴⁴ Cammarosano et al., “They Wrote on Wax,” 133–134.

⁴⁵ C. 8th cent. BCE; Louvre AO 19222, CHLI MARAŞ 9, Hawkins, *Corpus of hieroglyphic Luwian inscriptions*, 274–275, Pl. 125.

⁴⁶ Winfried Orthmann, *Untersuchungen zur Späthethitischen Kunst* (Bonn: Habelt, 1971), 86–87 (context), 528 (catalog): Maraş C/5, inv. 1756, and C/7, inv. 1757.

⁴⁷ Annick Payne, *Schrift und Schriftlichkeit: Die Anatolische Hieroglyphenschrift* (Wiesbaden: Harrassowitz, 2015), 110–111 with Fig. 27 rejects the interpretation of the objects depicted on the stela

Maraş C/7 as a wax board and stylus, but her conclusions are based on a bad photograph, see Cammarosano et al., “They Wrote on Wax,” 134 fn. 127.

⁴⁸ Antoine Cavigneaux and Bahija Khalil Ismail, “Die Statthalter von Suḫu und Mari im 8. Jh. v. Chr. anhand neuer Texte aus den irakischen Grabungen im Staugebiet des Qadissiya-Damms,” *Baghdader Mitteilungen* 21 (1990), 397, 447, and Pl. 37 no. 27, RIMB 2 1007. For a photo, see also Cammarosano et al., “They Wrote on Wax,” 135 Fig. 5.

analogous to that of the Neo-Hittite styli and the Hittite tools discussed above.

That Luwian and Aramaic were written in the 8th-century kingdoms of Maraş and Suğu, and that wax tablets were in use, is of course not at all surprising. On the contrary, it is perfectly natural given the historical context, and is also amply documented by direct and indirect evidence. The importance of the iconographic evidence examined here is that it provides detailed information about the shape and, to some extent, the handling of this particular type of stylus.

Function

Having reviewed the available evidence, it is now time to get back to the Hittite bronze implements presented above and discuss their function. The reader will have already guessed what my favored interpretation is: namely, that they must have been styli used for writing Anatolian Hieroglyphs on wax tablets (and possibly also drawing), as argued in detail by Kurt Bittel, Rainer Michael Boehmer, and others following them.⁴⁹ Indeed,

This is ... the most plausible explanation for the combination of pointed end and spatula: the former was used for writing, the latter to erase signs when a correction was needed. Since this interpretation is independent from other arguments for the existence of wax boards and is impeccable from a technical and historical-comparative view, there seems to be no need to leave these objects out of the discussion because of the risk of circular reasoning as claimed by van den Hout 2010, 258.⁵⁰

In particular, the assumption of Anatolian Hieroglyphs is required by the pointed tip, which cannot be used to write cuneiform,⁵¹ while the assumption that they were used on wax tablets is based on the presence of the spatula at the back end, which would have been used for localized erasures (like in Greek, Roman, and Medieval examples of analogous styli for wax tablets).⁵² The use of wax tablets in Hittite context is demonstrated by the reference to this medium in textual sources, although

there is disagreement on the extent to which it was employed.⁵³

As obvious as this interpretation may appear, it is sometimes regarded as tentative, a caution which in my view is unwarranted.⁵⁴ Furthermore, others have proposed different interpretations. It seems therefore appropriate to discuss in detail counterarguments and alternative options.

Willemijn Waal suggested that these styli may have been designed for materials other than wax, such as lead strips.⁵⁵ However, on relatively hard materials such as lead or wood, it is not possible to erase the incised marks by passing a 'spatula' over them, so the flattened (back) end of our tools would remain unexplained. An interpretation as chisels or gouges is not convincing either, since the characteristic shape of these tools differs in essential details from that of our tools.⁵⁶ The presence of refined and decorated parts in several examples also argues against this possibility. It is important to stress that what is being discussed here is the *primary* intended function of the tools: obviously, and like many other objects in all cultures, ancient and modern, they may well have been used in multiple ways on an occasional or even regular basis. In particular, styli for wax tablets were occasionally used for other purposes in antiquity, such as serving as hair slides, just as we do with pencils, as modeling tools, as weapons, and more.⁵⁷ Accordingly, it cannot be ruled out (and there is no reason to do so) that our tools were occasionally used, for example, to carve or write on wood or lead: the crucial point is their primary intended function as styli for wax tablets.

In a recent article, Willemijn Waal compares our tools with styli used for writing on palm leaves in India and Sri Lanka, and suggests that the Hittite ones may have been used to carve the characters directly into the wood, with the 'spatula' used for cutting or trimming: "It is, however, possible that the flattened end served another purpose; some styli used for palm leaf writing, for example, have a comparable flattened end (the *chatra*), which served as a cutting or trimming tool."⁵⁸

⁴⁹ Kurt Bittel, "Anatolica," in *Festschrift Heinrich Otten*. 27. Dezember 1973, edited by Erich Neu and Christel Rüster (Wiesbaden: Harrassowitz, 1973), 25–30; Boehmer, *Bo-Ha* 7, 133–134.

⁵⁰ Cammarosano et al., "They Wrote on Wax," 142 fn. 205. An alleged danger of circular reasoning is again mentioned in van den Hout, *A History of Hittite Literacy*, 211.

⁵¹ Michele Cammarosano, "The Cuneiform Stylus," *Mesopotamia* XLIX (2014), 53–90.

⁵² For the technique of writing on wax, see Cammarosano et al., "They Wrote on Wax," especially pp. 121–125, 156–157; Katja Weirauch and Michele Cammarosano, "WoW! Writing on Wax in Ancient Mesopotamia and Today: Questions and Results from an Interdisciplinary Project," in *Traces of Ink: Experiences of Philology and Replication*, edited by Lucia Raggetti (Leiden: Brill, 2021), 6–25.

⁵³ See lastly Cammarosano, "Writing on Wood in Hittite Anatolia," with extensive discussion; for a minimalistic interpretation, see van den Hout, *A History of Hittite Literacy*, 184–217.

⁵⁴ E.g., Gordin, "Scriptoria in Late Empire Period Hattusa," 162; most recently Waal, "Relations between Script, Writing Material and Layout," 138: "this identification seems plausible, though other functions cannot be excluded," a reference to van den Hout's hypothesis that they may be surgical instruments follows, about which see below.

⁵⁵ Waal, "They Wrote on Wood," 29.

⁵⁶ Müller-Karpe, *Altanatolisches Metallhandwerk*, 159–173; Herbordt & von Wickede, *Bo-Ha* 29, 74–103, also 104–198 on other potentially relevant classes of worktools.

⁵⁷ See Schaltenbrand Obrecht, *Stilus*, 58–62, 75–92; also recently Anna Willi and Alessia Colombo, "Thoughts about erasing writing on Roman wax tablets," *Instrumentum* 54 (2021), 43.

⁵⁸ Waal, "Relations between Script, Writing Material and Layout,"

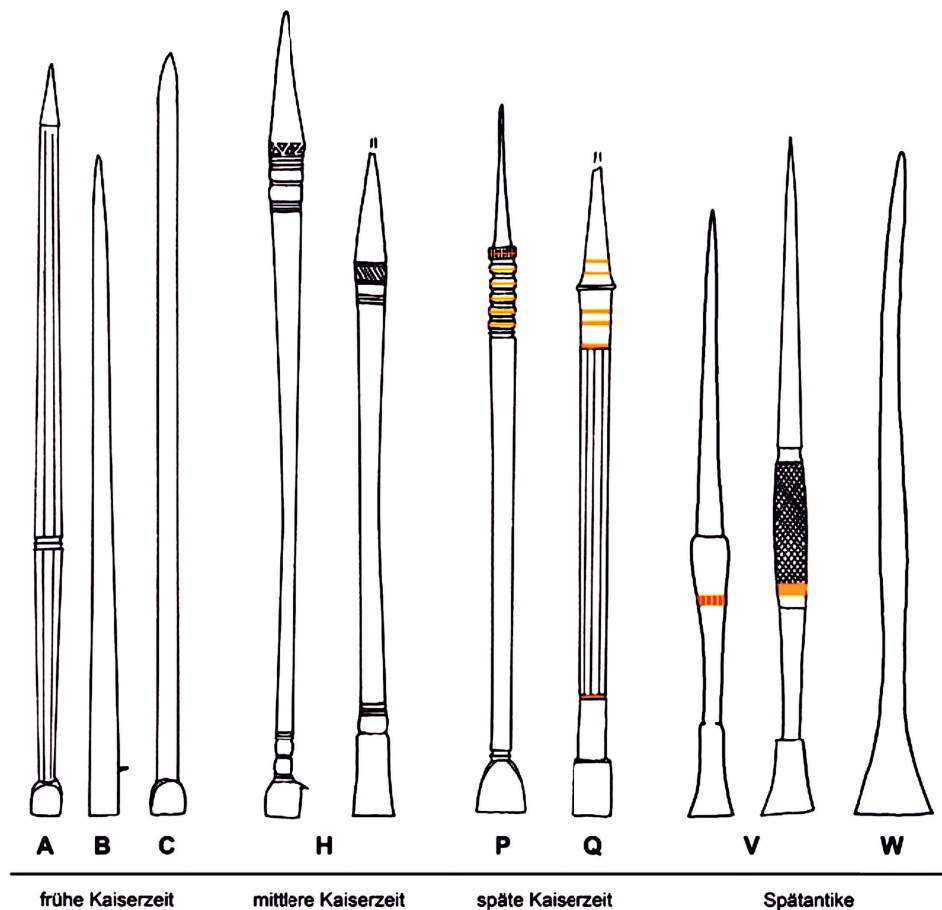


Figure 7. Typology of the Roman metal styli from Augusta Raurica (from Schaltenbrand Obrecht, *Stilus*, 102 Fig. 92).

Waal also recalls that the name of a class of wooden writing tablets, *kurta-*, probably derives from the verb *kuer-/kur-* “to cut.” Again, this suggestion seems unconvincing to me. The types of palm leaf styli to which she refers are very different in appearance: the “cutting or trimming tool,” when integrated into the stylus, is a curved knife blade, not a spatula.⁵⁹

An altogether different interpretation has recently been proposed by Theo van den Hout. He considers their interpretation as writing styli “certainly possible and *perhaps even attractive*, although the same objects have been known to be used as surgical instruments elsewhere” (emphasis added).⁶⁰ Indeed, Latin authors

occasionally hint at the use of styli in medicine.⁶¹ But the point is precisely that these are *writing styli* which find an occasional use as medical tools. In other words, their use as surgical instruments is secondary to their primary purpose, just as, if someone used a stylus to stab someone a stylus’s function as a weapon would be secondary to its primary purpose as a writing implement. There are other major problems with this theory. Firstly, no other alleged medical tool has been found with them. Secondly, they have been found in considerable numbers and in several locations, even within the same site. While these locations are perfectly compatible with the interpretation as writing implements, it seems implausible that in Hattuša several surgeons worked in multiple locations, and that of all their instruments only one type of tool is extant, which is formally identical to those known from Neo-Hittite, Neo-Assyrian and later sources as writing styli for wax tablets.

138.

⁵⁹ Kindly pointed out by Giovanni Ciotti, email 6.2.2022; cf., e.g., at minute 1.13 at <<https://youtube.com/watch?v=vvxGbSsYDx8>>. Recall also that the Hittite spatulae are all blunt.

⁶⁰ Van den Hout, *A History of Hittite Literacy*, 211, emphasis added; with a reference to Ofra Rimon, *Medical Instruments from the Roman Period* (Haifa, 1997), 66 (*non vidi*); for the extant finds of surgical instruments from Mesopotamia see Katja Sternitzke, “Spatel, Sonde und Skalpell. Medizinische Instrumente im Archäologischen Befund,” in *Stories of Long Ago. Festschrift für Michael D. Roaf*, edited by Heather D. Baker, Kai Kaniuth, Adelheid Otto, 649–666. AOAT 397 (Münster: Ugarit-Verlag, 2012), with no mention of the use of styli or similar tools.

⁶¹ Schaltenbrand Obrecht, *Stilus*, 80 with Fig. 76 and fn. 348–349; Lawrence J. Bliquez, “Greco-Roman Surgical Instruments: The Tools of the Trade,” in *Oxford Handbook of Science and Medicine in the Classical World*, edited by Paul T. Keyser and John Scarborough (Oxford; New York: Oxford University Press, 2018), 562.

In my opinion, there can be no reasonable doubt that our implements are styli for writing Anatolian Hieroglyphs (and in principle also for drawing, and/or writing other linear scripts) on wax tablets. As for the ‘detached spatulae’ (section 2.2), only those examples where the spatula does not show signs of wear are to be taken as possible ‘back ends’ of styli that would originally have had a bone or wooden shaft. Such styli for linear scripts on wax tablets were arguably referred to in Hittite by means of the word *šepikkušta* “pin,” also written with the pseudo-Sumerogram ^{NA4}ZI.KIN.BAR.⁶²

The similarity with the wax tablet styli known from the classical world and later periods is obvious and has long been emphasized (Figure 7).⁶³ Although comparisons between distant cultures can often be misleading, it must be emphasized that the technology of writing on wax was transferred from the Near East to the ancient Mediterranean, so that Greek, Roman and Medieval styli are in the same tradition as Hittite and Assyrian ones. It should also be stressed that the interpretation of the Hittite tools as writing styli is completely independent of the comparison with Greek and Roman examples. The latter is useful through analogy, to shed light on certain aspects of Bronze Age styli and to stimulate speculation, but by no means necessary for determining their function.

Significance

The previous sections have attempted to examine in detail the 35 surviving examples of Hittite bronze ‘styli’ and related objects, concluding that they are to be interpreted as writing implements that were primarily intended for writing Anatolian Hieroglyphs on wax tablets. The question then arises as to their significance and implications for the reconstruction of writing habits and literacy. While it is beyond the scope of this paper to discuss this question, it will suffice here to point out paths for future research.

The first concerns the extent to which wax boards and hieroglyphic script were used as against other media and scripts. The sheer number of extant examples of ‘hieroglyphic’ styli and especially the fact that they come from several sites and different locations within each site (particularly in Boğazköy) represents a strong hint that hieroglyphic writing on wax tablets cannot be dismissed as a marginal episode but rather represented

a substantial component within the ‘literacy’ of the Hittite state.

Corroboration for this thesis can be found in the many references to wax tablets present in Hittite texts. Although some of such wax tablets were surely written in cuneiform, at least some occurrences hint at tablets written in hieroglyphic script,⁶⁴ and also in several objects that carry short hieroglyphic inscriptions made in various techniques (incision, stamping, paint). These objects include pottery, masonry, clay bricks, jewelry, working tools, and the well-known scribal ‘advertisements’ on Boğazköy rocks, not to mention, of course, the occasional presence of hieroglyphic ‘scribbles’ on clay tablets and extensive use of hieroglyphic script in seals.⁶⁵ A new spectacular confirmation that the hieroglyphic script was more widely present than is apparent from the extant finds comes from the quite sensational discovery of hundreds of painted short hieroglyphic inscriptions at the Yerkapı rampart in Boğazköy.⁶⁶

While the scattered examples of the aforementioned objects can provide an insight into the areas where hieroglyphic writing was used, the more than 30 examples of bronze styli also raise a specific question: what genres of texts were they used for? Certainly, they could have been used for a wide variety of texts, as is suggested by many references in Hittite clay tablets. However, given the considerable number of surviving examples and their distribution, and the notorious absence of economic records of an ephemeral nature in the surviving record, it is tempting to suggest that they may also have been widely used for accounting purposes. This hypothesis has been much discussed recently: Theo van den Hout, who argues for a minimalist assessment of the role of wooden tablets within Hittite literacy, highlights the risks of arguing

⁶² See Waal, “They Wrote on Wood;” Cammarosano, “Writing on Wood in Hittite Anatolia.”

⁶³ Pottery and potmarks: see Claudia Glatz, “Bearing the Marks of Control? Reassessing Pot Marks in Late Bronze Age Anatolia,” *American Journal of Archaeology* 116, no. 1 (2012), 5–38 and Dirk Paul Mielke, “Produktion und Distribution von Keramik im Rahmen der hethitischen Wirtschaftsorganisation,” in *Wirtschaft als Machtbasis. Beiträge zur Rekonstruktion vormoderner Wirtschaftssysteme in Anatolien*, edited by Katja Piesker, BYZAS 22, 155–185 (Istanbul: Ege Yayınları, 2016); masonry: see Andreas Müller-Karpe, “Untersuchungen in Kayalıpınar 2015,” *Mitteilungen der Deutschen Orient Gesellschaft* 149 (2017), 73–77 for an example of painted hieroglyphic signs that can be interpreted as masonry marks; clay bricks: only in Temple 7 in Boğazköy, see Herbordt & von Wickede, Bo-Ḫa 29, 358; jewelry: e.g. pendants, see Herbordt & von Wickede, Bo-Ḫa 29, 351, Pl. 112.17; working tools: e.g. a punch, see Herbordt & von Wickede, Bo-Ḫa 29, 92, Pl. 37.17, 6; scribal ‘advertisements’ on Boğazköy rocks: see Bittel, “Anatolica,” Massimiliano Marazzi, “Die sogenannten ‘eingepunzten’ Hieroglypheninschriften von Boğazköy,” in *Audias fabulas veteres. Anatolian Studies in Honor of Jana Součková-Siegelová*, edited by Šárka Velhartická, 194–209 (Leiden; Boston: Brill, 2016).

⁶⁶ Andreas Schachner, “Die Ausgrabungen in Boğazköy-Hattuša 2022,” *Archäologischer Anzeiger* 2023/1, 64–85 (Beitrag L. Repola – M. Marazzi – N. Bolatti Guzzo – M. Alparslan – A. Schachner – B. Genç).

⁶² See Cammarosano et al., “They Wrote on Wax,” 142 with fn. 206 for details and literature.

⁶³ See already Bittel, “Anatolica.” For a thorough analysis of Roman wax tablet styli see the monumental study by Schaltenbrand Obrecht, *Stilus*, for Medieval styli see Kristina Krüger, “Schreibgriffel und Wachstafeln als Zeugnisse von Schriftlichkeit im Mittelalter,” in *Text als Realie*, edited by Karl Brunner and Gerhard Jaritz, 229–261 (Wien: Verlag Österreichische Akademie der Wissenschaften, 2003).

from a lack of evidence, points to the existence of complex stately administrations that do well without resorting to writing, and proposes an alternative model according to which the Hittite staple economy would have functioned without the need to produce written records.⁶⁷

Future discussions of this issue will take advantage of recent advances in our understanding of Hittite economy and administration.⁶⁸ Two points of particular interest in this regard are the intertwining of wooden tablets and sealing practices, and the possibility that written accounting records may have consisted of ‘texts’ of elementary syntactic and glottographic complexity, which could be produced and managed with an elementary level of literacy and a limited set of signs.⁶⁹ Inventories and lists from daily administration in cuneiform are typically highly logographic in character, with case marking regularly indicated by Akkadographic phonetic complements or even omitted altogether.⁷⁰ Occasionally, we even witness the use of incomplete logographic and phonetic writing, where words (composite logograms or phonetically written words) are abbreviated in ways that apparently do not affect the reader’s ability to decode the message.⁷¹ Precisely this mechanism is also observed in Late Bronze Age (as opposed to Iron Age) hieroglyphic inscriptions: as observed by Mark Weeden,

The Bronze Age inscriptions also frequently show a peculiar use of incomplete phonetic writing: *tu-pi* for *tupita* or *tupiha*, “he” or “I struck” (YALBURT Block 2, EMIRGAZI A, 3); *i-zi/a* for *iziha*, “I did” (SÜDBURG 6). The practice is not attested in the Iron Age. It is almost as though the semantic message has been sufficiently

conveyed by the beginning of the word, which in fact corresponds to the stem, and it is then no longer necessary to write the endings, which serve only to make the word’s position and function in the sentence clear. This can lead to ambiguity in interpretation for us. For the original readers the context would presumably have been clear, possibly because they knew either the exact text or the type of text found in such an inscription. Such a reading-writing praxis would be an example of writing as an aid to memory.⁷²

As is well known, in addition to the “scribes” (𐎶.𐎶𐎵.𐎶𐎵), Hittites texts mention a separate class of personnel called 𐎶.𐎶𐎵.𐎶𐎵.𐎶𐎵 or “wood-scribes.” Unlike “normal” scribes, wood-scribes seem to have been only involved in administrative activities, mostly of a bookkeeping or recording nature, and are never said to sing or recite during religious rites. Van den Hout rightly concludes that they were craftsmen who “probably did not belong to the higher echelons of Hittite society,” and are best seen as “administrators in the narrower sense or ‘clerks.’”⁷³ If we stick to the traditional view that these wood-scribes specialized in writing on (waxed, possibly also non-waxed) wooden tablets,⁷⁴ it seems possible to imagine a scenario in which, in addition to the two levels of cuneiform scribes argued by van den Hout (“scholar scribes” and “clerk-scribes”),⁷⁵ further circles of scribes, namely the wood-scribes, were entrusted with the written “output” of economic administration. Overall, and unlike cuneiform scribes (especially the “scholar” scribes), no advanced literacy skills would have been required to produce such texts. Thus, the wood-scribes would have represented a class of low-literate scribes, of lower-ranking ‘clerks’ employed in day-to-day economic administration. If we add the bronze styli as the last piece of the (fictional) jigsaw, we can imagine our wood-scribes mainly engaged in keeping accounts on wax tablets in hieroglyphic script, using numerals and a limited set of signs for simple logosyllabic strings. This scenario may also provide a possible explanation for the peculiar distribution of the Boğazköy finds (see above, section “Styli with spatula”): as mentioned above, these are concentrated in the area of the Great Temple and its environs, which is known to have been an important centre of staple management, as well as in

⁶⁷ Van den Hout, *A History of Hittite Literacy*, 13–17, 19–20, 97–98, 165–169, 181–183.

⁶⁸ See in particular James Burgin, *Studies in Hittite Economic Administration. A New Edition of the Hittite Palace-Temple Administrative Corpus and Research on Allied Texts Found at Hattuša. Volume I: Background, Corpus Overview, Case Studies, Lexical Commentary, and Glossary*. Studien zu den Bogazköy-Texten 70 (Wiesbaden: Harrassowitz, 2022).

⁶⁹ For the distinction between glottographic and non-glottographic writing, see Malcolm D. Hyman, “Of glyphs and glottography,” *Language & Communication* 26/3–4 (2006), 231–249, including a critique of the use of ‘semasiography’ as an umbrella term.

⁷⁰ Michele Cammarosano and Elisabeth Rieken, “Linguistic text types in 13th c. Hittite: A research program,” in: *Anatolia between the 13th and the 12th Century BCE*, edited by Stefano de Martino and Elena Devecchi, 45–67. Eothen 23 (Firenze: Logisma, 2020); Elisabeth Rieken and Ilya Yakubovich, “Encounters between Scripts in Bronze Age Asia Minor,” in *Seen Not Heard: Composition, Iconicity, and the Classifier Systems of Logosyllabic Scripts*, edited by Ilona Zsolnay, 205–236 (Chicago: Institute for the Study of Ancient Cultures of the University of Chicago, 2023), also e.g. van den Hout, *A History of Hittite Literacy*, 182.

⁷¹ E.g. the ubiquitous use of the spelling *pé-an* for *peran* in oracle protocols, or the use of stem instead of inflected forms for terms such as *šepit*, *marnuan* and *huppar* in festival protocols; for examples of abbreviated composite logograms in the corpus of cult inventories, see Michele Cammarosano, *At the Interface of Religion and Administration: The Hittite Cult Inventories*. Studien zu den Bogazköy-Texten 68 (Wiesbaden: Harrassowitz, 2021), 20.

⁷² Mark Weeden, “Anatolian Hieroglyphs: Logogram vs. Ideogram,” in *Visualizing Knowledge and Creating Meaning in Ancient Writing Systems*, edited by Shai Gordin. Berliner Beiträge zum Vorderen Orient 23 (Gladbeck: PeWe, 2014), 85–86.

⁷³ Theo van den Hout, “𐎶.𐎶𐎵.𐎶𐎵 = ‘Clerk’?,” *Orientalia* NS 79 (2010), 255–267.

⁷⁴ Waal, “They Wrote on Wood,” Cammarosano et al. 2019, “They Wrote on Wax,” 145; for a different view, see Theo van den Hout, “𐎶.𐎶𐎵.𐎶𐎵 = ‘Clerk’?,” id., *A History of Hittite Literacy*, 294–296.

⁷⁵ Theo van den Hout, “In Royal Circles: The Nature of Hittite Scholarship,” *Journal of Ancient Near Eastern History* 2 (2015), 203–227.

the workshops ('houses') and temples of the Upper City. It has been recalled above that the distribution in the latter area is particularly striking: whereas clay tablets come only from temples and 'priestly houses', styli have been found in both temples and workshops, with most examples coming from the latter context. In the tentative scenario sketched out here, this distribution would be due to the fact that the styli may have been used in the bookkeeping activity associated with the workshops. Too much fiction? It is up to future research to expand, correct, or refute this picture.

Acknowledgements

I'm very grateful to Cassandra Donnelly for inviting me to participate in this volume, and for taking care with patience and competence of every aspect of the book production. I'm also thankful to Teresa Bürge and Metoda Peršin for their precious review of a draft of this paper, and to the other participants of the working groups for the insightful talks and exchanges of ideas and information along our common journey. A special word of thank goes to Andreas Müller-Karpe, for so many inspiring conversations on the Hittite bronze styli and for the kind permission to publish drawings and data concerning unpublished examples from Kuşaklı, as well as to Suzanne Herbordt, Theo van den Hout, Andreas Schachner and Willemijn Waal for providing information, exchanging ideas, and saving me from many errors along several years of work on Hittite writing habits, always with incredible generosity and kindness. Research work for this paper has been partially conducted in the frame of the project "Schreiben auf Wachs im Alten Rom. Interdisziplinäre Rekonstruktion der Herstellung und Verwendung römischer Wachstafeln," conducted together with Robert Fuchs and funded by the Gerda Henkel Stiftung (AZ 54/V/19).

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