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# The Wider World of Writing. Networks of People, Practice and Culture Underpinning Writing in Late Bronze Age Ugarit

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*Writing is a social practice, and as such is fundamentally entwined with a wide array of other forms of human activity, professional categories and aspects of cultural life. However, this is often not fully reflected in scholarly approaches to writing practices, which tend to focus almost exclusively on the act of inscription itself, and on the practices of literates alone. Taking as its case study the Late Bronze Age Syrian polity of Ugarit and focusing on the social and cultural aspects of the procurement of raw materials for writing, this article aims to explore some of the ways in which groups of people beyond the urban, literate elite facilitated, contributed to and shaped the nature of writing practices.*

Writing, as well as being a system for communication, is a social practice—a thing that people do—and as such it is enmeshed within the wider network of behaviour, belief, culture and ideology that constitutes human society. It functions, and acquires meaning, not just according to the internal logic of its own system, but in relation to this wider, ever-changing social context. In this respect it is no different from any other human practice—art, literature, religion, work and so on (Boyes 2021a; Boyes *et al.* 2021).

Writing is also material—it concerns the making of marks on, and using, actual physical objects such as paper, clay, stone, vellum, reed styli, pens, quills and so forth. The materiality of writing has been a topic of increasing discussion in recent years (Balke & Tsouparopoulou 2016; Ellison 2002; Pearce 2010; Piquette & Whitehouse 2013a,b; Taylor 2011; Whitley 2017), but often these discussions are relatively self-contained, focusing on the act of making the marks itself. Much less attention is generally paid to the wider material relationships of inscribed objects—how they relate to and derive meaning from other, un-inscribed things which have traditionally been the province of archaeologists rather than epigraphists; or to inscribed objects' longer-term

material context: how the use and meaning of these artefacts changes over time in different physical and cultural environments. Understanding the materiality of an inscribed stone lintel, for example, is not just a matter of exploring how the act of chiselling the signs into a specific kind of stone affected the form of those signs and the content of the inscription, but thinking about the history of quarrying, the lives of stonemasons and carvers, the structure into which the stone was incorporated and the changing meanings of that structure and its architecture over time and for different people. It is thinking about how the building decayed, how its materials were pilfered and reincorporated into new structures. How does the meaning of that writing change if the lintel is now ancient and eroded, incorporated into a garden wall? To understand these kinds of meanings requires not just epigraphy but, as I have argued before (Boyes 2021a,b), a much further-reaching archaeology of writing practices, which is fundamentally integrated with archaeology more broadly, as well as with other disciplines such as anthropology and cultural history.

This paper attempts to explore these wider material and social entanglements of writing

practices by thinking about the raw materials necessary for writing practices to take place. Its focus, however, is not on the materials themselves or on the direct materiality of document-production, but on the people, practices and subcultures involved in producing, processing and distributing them. In this way, it aims to get at some of the wider ramifications of the existence of writing within a cultural setting and to explore how people—often sub-elite and probably not literate themselves—could have played active roles in facilitating and shaping writing practices, without writing ever necessarily being at the forefronts of their minds. This is an important point, given the importance we tend to place on writing, as members of a highly literate culture and as scholars eager for the preserved knowledge of the past. This discussion will show how writing practices were shaped and enabled by other industries and exchange networks, but rarely, if ever, does it seem that writing was the *point* of these things. Rather, writing was one practice of many that drew upon and transformed the results of these people's labours, and not necessarily any more significant than any other—though of course that significance is likely to have varied depending on whom one asked.

This work is centred on the case study of the Late Bronze Age city and kingdom of Ugarit in coastal Syria, which has produced extensive collections of inscribed objects—mostly but by no means exclusively purpose-made clay writing-tablets—from the fourteenth to early twelfth centuries BCE.<sup>1</sup> These are divided roughly evenly between the local Ugaritic language, inscribed in a form of alphabetic cuneiform strongly associated with the city (although a handful of examples have been found elsewhere in the Levant, on Cyprus and in Greece), and Akkadian, inscribed in the familiar logosyllabic cuneiform that originated in Mesopotamia and was used across much of the Near East at this time. In addition, a smaller—but not insignificant—assortment of material written in other languages and/or scripts also exists from the site, including Hurrian-language and Egyptian hieroglyphic texts.

Although the written record from Ugarit is large, it is also rather limited in its subject matter, dealing largely with the lives, beliefs and rituals of the elite, save for a copious but extremely laconic corpus of administrative tablets concerned with the wider population—often these texts constitute little more than lists of names. This textual landscape is mirrored by a history of archaeological investigation which has primarily been interested in furnishing and contextualising these elite tablets. The long-running excavations at the site have focused mainly

on high-status structures, almost exclusively on the Late Bronze Age, and overwhelmingly on the capital. We know almost nothing about the archaeology of Ugarit's hinterland or the lives of its rural population (Boyes 2021a). If not exactly narrow, this focus of investigation has certainly been text-led and consequently elite-centred. Consequently, as we will see, discussion can get increasingly speculative as we try to broaden our attention beyond what is discussed in the tablets themselves. In this paper I have drawn on comparative material—where possible from places and times as close to Ugarit as possible, but in some cases from further afield—to try and inform this speculation. Such comparative and ethnographically guided speculation is, I believe, a valid way of prompting questions and opening avenues for further research, but it is clearly not the same as interpretation based mainly on surviving written or archaeological evidence from the site itself, and I have tried to be very clear where the boundaries lie between what is attested at Ugarit and what is, I hope, a plausible reconstruction.

Despite these challenges, Ugarit remains a valuable subject for this kind of study. It has a large corpus of surviving documents and has been extensively excavated and studied for many decades. We understand its social life and culture during the Late Bronze Age, as well as its extensive trading networks. We have a good understanding of the culture or cultures of writing at the site. To be sure, much of this evidence relates to elites rather than the ordinary people this paper is concerned with, but the same is true of almost all ancient sites, and the availability of data from Ugarit is better than many other sites. For all its limitations, Ugarit is arguably as good a case study for these kinds of questions as we are likely to find, and in trying to work around the shortcomings in the available data we can hope to develop ways of pursuing these kinds of questions for other sites.

### Sourcing clay

The vast majority of writing from Ugarit is found on clay—mostly clay tablets more or less identical in style to those found in Mesopotamia and other parts of the Near East at this time. How this clay made it from the ground to writers' workspaces is therefore a central question for understanding the wider networks of practice connected to writing at Ugarit. Our principal category of comparison here is with clay extraction for pottery: unlike elsewhere in the ancient Near East, clay seems to have been little used in architectural construction. In the most

thorough case study on Ugaritian architecture to date, Callot (1994, 116) notes that mud brick is almost entirely absent from Ugarit's South Trench and seen only rarely elsewhere on the site, mainly for alterations and repairs. Instead, Ugarit's buildings seem to have been overwhelmingly constructed from stone and wood.<sup>2</sup>

There has been relatively little scientific analysis of clay fabrics at Ugarit, and indeed for tablet fabrics elsewhere in the Levant,<sup>3</sup> but Goren, Finkelstein and Na'aman's petrographic study of the Amarna letters concluded that the clays used for the tablets sent to Egypt from Ugarit were petrographically identical to samples from other classes of ceramic from Ugarit (Goren *et al.* 2004, 89).

If the same clay sources were used for pottery and tablet clays at Ugarit, then we are justified in thinking about these as part of the same extraction process. The largest nearby sources of the clay type identified by Goren, Finkelstein and Na'aman are at Qasmin, about 8 km east of Ugarit and Nahr el-Qandil (also known as Wadi Qandil), a coastal site around 15 km northwest and now a tourist resort. For the reasons outlined above, we have no direct information on how or where clays would have been extracted. Neither of these sites has been archaeologically investigated and documents from Ugarit have very little to say on the subject of clay, whether for pottery or writing. The fullest reference comes in KTU 1.16, the last tablet of the legend of Kirta, in a passage where the supreme god El tears off a piece of clay and uses it to create Šataqat, the remover of illness; however, the section is broken shortly after it starts and no details are preserved. A few potters are mentioned in the administrative lists.<sup>4</sup> The best we can say about these is that they all seem to be men, since the names either occur with *bn* + patronymic [son of X] or as patronymics themselves. However, administration at Ugarit is predominantly concerned with recording the work of men, so the fact that only male potters are mentioned does not necessarily mean that all potters were men.<sup>5</sup>

We are reliant, then, on comparative evidence to reconstruct the possible extraction practices for clays and the lives of the people involved. Three important aspects emerge: the integration of clay extraction with agriculture; the importance of personal relationships; and the frequently gendered division of tasks involved.

Let us deal first with the last, since we have already touched on the matter of gender in pottery production. Division of gender roles is very often found in pottery production, as in other kinds of

craft activities. We find it, for instance, in examples as widely separated as the traditional Cypriot pottery workshops described by London (2000) and among the Paradijon potters of the Philippines described by Neupert (cited in Costin 2000, 381). In both these accounts, women worked as the potters, with men undertaking ancillary tasks.<sup>6</sup> In Cyprus, the only man involved served as secretary to the potters' co-operative, with responsibility for the administrative aspects of clay extraction such as obtaining permissions or procuring a truck to carry the clay, as well as dealing with sales and distribution for the finished pottery. In Pardijon, men had responsibility for gathering the clay itself. Clearly, we cannot map the organisation or culture of twentieth-century Cypriot pottery co-operatives or Filipino pottery production directly on to Late Bronze Age Ugarit. What we can take away, however, is that clay extraction is not simply a matter of digging a hole and filling a bucket. There are logistical elements to consider—especially if Ugarit's main clay sources were 8–15 km distant from the capital. Exactly how those logistics would be arranged and how different tasks were allocated would depend on the specifics of extraction at Ugarit in ways we cannot presently determine, but it would not be surprising if different tasks were quite strongly aligned with gender.<sup>7</sup>

The connection between clay extraction and agriculture is clear in texts from elsewhere in the region, such as Hittite Anatolia (Torri 2020, 436–8), as well as in numerous examples from around the world.<sup>8</sup> Clay is often obtained from agricultural fields (Costin 2000, 381–2), especially those by river banks or other water sources,<sup>9</sup> probably because the ground was likely to be softer and clay sources more likely to be exposed by erosion. Extraction was frequently a seasonal activity predominantly carried out in the rainy season, while pottery production itself is more likely to be a summer activity. This schedule is in large part due to the agricultural calendar and the material properties involved, so it is likely to be fairly universal: clay is easier to extract when soft than when baked hard (though as any archaeologist who has undertaken fieldwork in an English winter could tell you, *easier* is by no means the same as *easy*), and would interfere less with crops growing over the spring and summer and with work necessary to care for them. Shorter drying times for completed vessels make summer a more promising prospect for pottery manufacture when the ability to control things like temperature and humidity is limited. This seasonal nature has a few knock-on implications for the use of space. It means that clay probably did not progress swiftly

from extraction to use, but may well have sat around for months in dumps or ditches to settle and be levigated prior to utilization. As London (2000, 106–8) observes, kilns may be put to alternative uses over the winter—as store-rooms, for instance.

The relationship between agriculture and access to clay is not just a matter of season and schedule, however. It also plays significantly into the area of personal relationships. Land ownership is an important factor in determining who can exploit which clay sources, especially if they fall within cultivated land. We know that land ownership at Ugarit was complex and shifting. Some fields were in private hands, others belonged to the king. People had to comply with—or seek exemption from—complicated obligations of *corvée* labour. The exact organization of land holding at Ugarit is a much-debated topic bound up with wider questions of political economy and is largely beyond the scope of this paper.<sup>10</sup> But it is very likely that clay extraction in the kingdom was fundamentally bound up in these social and economic structures.

Beyond who had access to what land, personal interrelationships play an important role in distributing information about clay sources and how to go about extracting the clay. Writing about the Faro area of Cameroon, Livingstone Smith (2000, 23–4) vividly describes the importance of both guidance from teachers and word of mouth in finding good clay sources:

As in other parts of the world, clay sources are always situated near locations frequented for other purposes (tracks, roads, fields, riverbanks or residential areas). The distance separating the source from the workshop, mostly less than 3 km, is in accordance with previous studies showing that, in a large majority of cases, potters tend to minimize the time allotted to raw materials procurement. Asked about how they came to use a particular clay source, most potters say that it was shown to them either by their instructor or by local artisans when they married into the village. The clay is generally found near the ground surface, where it was exposed by erosion or revealed by termite heaps, but it may be extracted from depths of up to 1.5 m. The extraction generally starts with a shallow pit, sometimes turning into trench pits, small galleries or frontal quarries when potters follow the clay into a hillside or a riverbank. The scale and, to a certain degree, the ‘architectural’ characteristics of the source depend on the number of potters using it. Isolated artisans tend to use small pits, while groups of potters may turn a hill or riverbank into a Swiss cheese. All the artisans agree on the fact that to know if a clay is good for potting ‘you have to try it’.

The best evidence currently available, then, suggests that clay for writing at Ugarit is likely to have piggy-

backed off the pottery industry, or at least used the same sources. That in turn was closely integrated with agriculture and so bound up in the kingdom’s complex system of land holdings and labour obligations. Clay gathering for pottery is likely to have been seasonal, possibly gendered, and subject to a web of personal relationships, competition and tip-offs that determined which people involved knew about the best clay sources and how much access they had to them. There are implications of this reconstruction for the practice of writing itself: if clay gathering was seasonal and pottery manufacture largely a summer activity, what did this mean for the presumably year-round need for writing-clay? Were small amounts of clay gathered ‘out-of-season’ to keep the writers in tablets, or did they borrow from the levigating clay stored over the winter? Would this result in differences in tablet fabric depending on when in the year they were produced? These are not questions we can currently answer, but would be an interesting area for future research.

### Writing-boards

Writing-boards, made of wood and covered in a wax writing surface, are not directly attested at Ugarit, but there is every reason to believe they were in use there, as they are likely to have been across much of the region (Cammarosano *et al.* 2019). Famous examples are known from Neo-Assyrian Nineveh and Nimrud (Symington 1991), but probably more relevant are the board found in the Uluburun shipwreck alongside a largely Levantine cargo (Payton 1991) and the numerous references in Hittite texts to writing on wood (Waal 2011). A letter sent to Ugarit from the Middle Euphrates region mentions a ‘tablet of wax’ (RS 19.53: Cammarosano *et al.* 2019, 131; Symington 1991, 121) and a pictorial stele found on Ugarit’s acropolis has been interpreted as showing a treaty-signing ceremony, with two folded writing-boards on a table (Cammarosano *et al.* 2019, 131; Postgate 2013, 401–2). It seems to me extremely probable that writing on these kinds of objects was practised at Ugarit, although for the details of what Ugarit’s writing-boards looked like and how they were obtained, we are entirely reliant on evidence from elsewhere.

Perhaps the first thing to make clear is that despite their technical status as perishable materials, in contrast to the survivability of clay tablets, wooden writing-boards may have been considered the more long-term recording option, and were certainly more expensive and prestigious items in their own rights. The long-term storage of writing-boards is

attested at Hattuša, for example, where tablets refer to texts being copied from ancient wooden tablets or a ritual carried out according to instructions ‘inscribed on an old writing-board’ (KUB XXXVIII 19+, Kbo IV 2 IV 42f. Symington 1991, 116–17). The woods used for writing-boards are generally high-quality and expensive—Assyrian texts mention boards made of cypress, cedar and tamarisk. The Nimrud writing-boards are walnut and the Uluburun example is boxwood (Warnock & Pendleton 1991). Construction of the boards would have been the work of skilled carpenters, and some show signs of repair, further cementing their status as prestigious objects that were kept and used over extended periods (Wiseman 1955, 4).

We can identify three main components that went into the manufacture of wooden writing-boards, each entailing its own supply chain, personnel and work culture: wood; wax; and additives. In some cases, writing-boards were made of ivory, but these are a minority of cases and since nothing associates them with Ugarit, it seems sensible to concentrate our attention on the more usual wooden examples for now. While wood and wax are self-explanatory, what I have termed additives may be less so. By this I mean a substance (or substances) mixed into the wax for the sake of improving its consistency or colour. Analysis of surviving wax adhering to the Nimrud writing-boards shows that it contains roughly 25 per cent orpiment (arsenic sulphide), a toxic substance commonly used as a yellow pigment in the ancient and medieval world—hence its Latin name, *auripigmentum*. The use of orpiment in Mesopotamia is confirmed by two Neo-Babylonian tablets which contain recipes for writing-board wax. Other documents point to the use of yellow ochre, which Cammarosano *et al.* believe is likely to have been the usual additive for Near Eastern wax tablets not intended for use at the highest levels of prestige (Cammarosano *et al.* 2019, 153 & n. 287; Weirauch & Cammarosano 2021, 20–21; Wiseman 1955, 6. On ancient Near Eastern pigments, see also Becker 2021). We do not know that orpiment or yellow ochre were used in Levantine or Anatolian writing-boards, but it seems likely—or else the use of a similar additive. Wiseman (1955, 5) mentions that verdigris or carbon were sometimes used in Roman writing tablets, while medieval ones could include pitch or resin. In all cases, the advantages seem to have been twofold: firstly, improving the consistency of the wax, slowing its hardening and reducing its tackiness; and secondly, providing a more attractive and legible surface colour (demonstrated experimentally by Weirauch & Cammarosano 2021). For this discussion,

I will assume that Ugaritian tablets used orpiment or ochre like their Mesopotamian counterparts, though this is by no means certain, and some other substance could be substituted.

#### *Obtaining and working wood*

Providing the wood for writing-boards involves two principal professions: woodcutting and carpentry, although we should not overlook those involved in the considerable logistical challenge of transporting timber from mountain to settlement. Perhaps surprisingly, given the widespread fame of the central and northern Levantine coast for its timber in antiquity and the fact that the most famous person from the ancient southern Levant was a carpenter, there is relatively little literature available on this subject for the region—doubtless due to the difficulty of studying a highly perishable material little discussed in textual sources (see Dalix & Chaaya 2007; Semaan 2015).

Certainly, Ugarit was better situated for the production of writing-boards than was Mesopotamia, since the heavily forested slopes of the kingdom’s uplands were prime sources of many of the woods involved. Cedar and cypress were abundant and the Amanus mountains were also the main source of boxwood at the time. The raw materials for writing tablets would have been ready at hand, then, and texts from all over the Near East leave little doubt that the timber industry was well established in Levantine coastal cities. Unfortunately, however, we have almost no information about the actual business of forestry, woodcutting or carpentry at Ugarit or in Lebanon. There are two iconographic depictions—one among the reliefs of Seti I adorning the exterior of the Hypostyle Hall at Karnak (1294–1279 BCE), and a relief from the palace of Sargon II at Khorsabad showing the transportation of logs by water (eighth century BCE: Dalix & Chaaya 2007, 235–40). The documents that deal with Levantine forestry almost exclusively come from neighbouring regions, and as such concern the obtaining of timber for export, which, as usual in Near Eastern texts, means it is presented in terms of diplomatic exchange, tribute or conquest. From Gilgamesh onwards, they almost universally present the timber industry as one controlled by the highest levels of the ruling elites: wood was cut at the order of kings, to supply kings. The role of the state is certainly unsurprising in procuring large-scale timber supplies for export, given the labour requirement for felling, preparing and transporting often very large trees from rough, mountainous terrain. The Sargon reliefs show the use of boats in this transport, entailing further resources and personnel beyond woodcutters

themselves. Dalix and Chaaya (2007, 49) compare the undertaking to a military campaign.

However, it seems unlikely that this was the only kind of exploitation of timber resources. We might justifiably wonder whether high-profile state-controlled forestry co-existed with smaller-scale, perhaps less formal woodcutting to supply everyday local needs. By their nature, the sources we are reliant on cannot be expected to tell us much, if anything, about this.

Local documents from Ugarit are little help here. They refer to numerous professions which work with wood—woodcutters, boat-builders, builders and chariot-makers—but they do not tell us anything about their organization or lives. We do not know whether they were independent businesspeople, palace dependents or a mixture of both, or whether they were gathered in collectives or royal estates (Chanut 2000, 104–8). There is no reference at all to carpenters producing small, fine work such as writing-boards.

#### *Beeswax*

The wax used on Near Eastern writing-boards seems in all cases to have been beeswax. In contrast to the paucity of information available on wood, there is a surprising amount of useful information available to help reconstruct ancient beekeeping and wax production in the Levant, owing to the apparent continuity of traditional practices into the modern era.

Obtaining beeswax does not necessarily require apiculture: wild hives were exploited in the ancient Near East and indeed seem to have been the main source of honey and wax in at least parts of Mesopotamia until relatively late: in the eighth century BCE, Šamaš-reš-ušur, governor of Suḫi and Mari, celebrated his domestication of bees and the beginning of cultivated honey and wax production in the area with a stele (Levey 1957, 159; Ransome [1937] 2012, 40).<sup>11</sup> In the coastal Levant and Anatolia, however, apiculture seems to go back much further. There are Hittite laws, for example, covering the stealing of beehives (Akkaya & Alkan 2007, 121; Kritsky 2017, 251),<sup>12</sup> and Anatolian apiculture may go back as far as the Neolithic (Cammarosano *et al.* 2019, 125). The earliest archaeologically attested beehives are horizontal cylindrical hives from ninth-century BCE Tel Reḥov in Israel's Jordan Valley (Bloch *et al.* 2010; Mazar 2018; Mazar & Panitz-Cohen 2007); however, these closely resemble hives which appear in tomb paintings from the tomb of the 18th Dynasty priest Rekhmire in Egypt (c. 1400 BCE). Extremely similar hives continue to exist in traditional villages around the

Mediterranean and Middle East to the present day, including in Israel/Palestine, although they are increasingly being supplanted by rectilinear hives. This suggests an extremely long-lasting tradition widespread across the region, which is likely to have been applicable to Ugarit.

Among the most striking features of this kind of apiculture is its urban nature. At Tel Reḥov, 30 surviving hives were found, banked together in a number of partially preserved walls. The excavators estimate that the whole installation is likely to have consisted of 100–200 hives. A hundred hives could be expected to have produced around 50–70 kg beeswax per year, and 300–500 kg honey. This clearly places it well above what could be required for household consumption and firmly into the category of industrial apiculture.<sup>13</sup> The excavators believe it could only have been established and run by a strong central authority (Mazar & Panitz-Cohen 2007, 211). This industrial installation existed in the middle of the town, in a densely occupied area consisting of residential and public buildings (Mazar & Panitz-Cohen 2007, 210). This location seems to have come as something of a surprise to the excavators, because of the potential nuisance posed by aggressive bees, especially while honey and wax were being harvested; however, as they note, it is very much the pattern that continues to exist with traditional beehives of this type in modern villages (Mazar & Panitz-Cohen 2007, 210).

Another notable aspect of the Tel Reḥov apiary is that from analysis of preserved insect remains, it seems to have contained not local Syrian bees (*Apis mellifera syriaca*) but Anatolian ones (*A. mellifera anatoliaca*). Bloch *et al.* (2010, 11243) note that these seem less aggressive and produce better honey yields. What is significant is not so much the initial importation of Anatolian hives—though this is noteworthy enough—but the fact that the purity of the bee strain would have to be maintained over time by the continual importation of queens or whole hives. If correct, this would point to the existence of an on-going international trade in live bees, apparently including their transportation by sea. Although the transport of hives by river is known from Egypt, the international shipping of swarms is not otherwise attested, and Cammarosano *et al.* (2019, 128–9) judge it to be 'historically most unlikely'. They question the scientific identification of *A. mellifera anatoliaca* at Tel Reḥov and consider the supposed aggressiveness of the native species 'exaggerated and largely anecdotal'. The existence or not of an international bee trade is evidently something that will require further evidence to

demonstrate convincingly, even for ninth-century Tel Rehov. For fourteenth- to twelfth-century Ugarit, it is at best an interesting possibility, especially given the city's close contacts with Anatolia and the well-developed international trade networks of the time, but it should not be regarded as anything more than conjecture for now.

Larger-scale beekeeping, whether we want to call it 'industrial' or not, would have found numerous applications for its products. The use of honey as one of the main sweeteners in ancient food-preparation is obvious. Beeswax has much more numerous uses. As well as its use in writing-boards, it was used in lost-wax casting, medicine, cosmetics, and in Egypt in boat building, paint production, as glue, fuel for lighting and as a styling product for hair and wigs. It also had supernatural uses, being an important ingredient in some Egyptian magic. This included burning wax figures of enemies to cause them harm and as a material for creating *shabtis*, other figurines and amulets (Kritsky 2015, 105–14). This versatility made beeswax an expensive commodity—Egyptian sources place it at half the price of an equivalent weight of copper (Kritsky 2015, 105), while in Mesopotamia, where apiculture was less common, prices seem to have been higher (Cammarosano *et al.* 2019, 126–7). The excavators at Tel Rehov have even suggested that wax rather than honey may have been the primary purpose of that town's industrial apiary. They suggest the foremost use may have been in lost-wax casting in Israel's burgeoning ninth-century copper industry (Mazar 2018, 46–7).

Finally, it seems likely that there were rituals associated with beekeeping—or at least that the products of beekeeping were used for ritual purposes. A small, ad hoc cult installation was found associated with the Tel Rehov apiary, including a clay altar. Mazar and Panitz-Cohen (2007, 212) suggest that 'some ritual related to the production of honey, intended to secure the successful productivity of the apiary, was conducted in this venue'. They compare it with other industrial cult installations from elsewhere in the region, including cult practice associated with copper production at Timna and on Cyprus, and altars associated with olive-oil production at Ekron. They also note the likely use of honey as a burnt offering in Israel, based on the Bible's prohibition against the practice. Here we can finally get a solid connection to Ugarit again, since the ritual sacrifice of honey is mentioned in literary texts there (Mazar & Panitz-Cohen 2007, 212–13, 216).<sup>14</sup> In Egypt, beekeepers were often associated with temples, to provide honey for ritual purposes (Kritsky 2015, 77).

### *Additives*

It is likely that writing-boards produced at Ugarit would have used some sort of additive mixed into the beeswax, although what exactly this would have been is a matter of guesswork. Ochre or orpiment—arsenic sulphide—are the most likely candidates because of their use for this purpose in Mesopotamia. A lump of orpiment was found at Qatna, pointing to its use in the Levant too, but we do not know for what purpose this example was intended (Wiseman 1955, 6). The Qatna piece was probably mined in the hills of Kurdistan, around Julamerk; however, sources may have been available closer to home. During the first century AD, Pliny (*Natural History* 33.22) wrote of orpiment being imported from Syria for use in painting, and ancient sources also seem to have been known in Cappadocia and the Black Sea, among others (Schafer 1955, 73).

Information on what orpiment extraction consisted of in the ancient world is hard to come by. Pliny says *foditur ... in summa tellure*—'it is dug on the surface of the earth', while the first-century CE Greek physician Dioskourides (*De Materia Medica* 5, 121–3) notes that it is found in the same mines as sandaracha, a confusing statement since sandaracha is usually understood to be the gum of the sandarach tree (Osbaldeston 2000, 804).

Ochre was a ubiquitous pigment in the ancient world and had been used in the Levant since at least the Mesolithic (Hodgskiss 2020). As a form of clay, small-scale extraction may have been similar to other forms of clay discussed above. Of course, not all clay sources contain ochre. Certainly, some ochre sources were considered better than others: during the Classical period, Pliny (*Natural History* 35.50) specifically mentions the yellow ochre of Attica, for example (Mastrotheodoros & Beltsios 2022, 3). Ochre mines or other extraction sites are rarely detected archaeologically and it is unlikely we could locate probable sources that could have been exploited by people from Ugarit with any precision, even if the evidence for wax tablets and the use of ochre in their production were more concrete for the site than is currently the case. We can, however, make some general remarks about the social position and culture of mining in the ancient Near East.

Our best understanding of mining in the ancient Near East comes from Egypt. There, mining was not generally a profession in its own right, but an occasional activity for which people were recruited. Shaw (1998) compares Egyptian mining to military expeditions, both in character and goals. Mining

expeditions were led by a small number of officials and state-employed experts, often accompanied by soldiers, but generally staffed by large numbers of locally recruited young men. As well as obtaining raw materials, mining was an important way to project the power of the central authority at the fringes of the kingdom and to satisfy a religious obligation to bring order to the wild world outside the core of Egyptian civilization.

Some of these aspects are certainly particular to Egyptian culture and world-views and unlikely to transfer straightforwardly to the Levant. Other aspects, however, are probably more applicable across the ancient Near East, such as mining's status as an activity people occasionally engaged in rather than a long-term way of life. As Knapp (1998, 4–5) has argued, this was probably the case in most places before the Industrial Revolution, with most miners being peasants and mining work taking place seasonally around the agricultural calendar. Much of what we said about clay extraction, then, is likely to apply just as well to the mining or quarrying of other substances such as orpiment, at least at smaller scales. However, we should not overlook the existence of a significant continuum in the size and intensity of ancient mining operations, as can be seen, for example, on Cyprus. There, tiny seasonal mining camps such as that at Almyras co-exist with large industrial copper extraction that kept the East Mediterranean in bronze (Kassianidou 1998, 229).

On the demographic make-up of mining and quarrying encampments in antiquity, we should beware of assuming they consisted entirely of men—although *corvée* labour practices would most likely have focused mainly on conscripting men. Numerous examples of mining communities in more recent history demonstrate the important roles played by women, even when the actual business of mining itself was considered a strongly male activity. In all but the most basic and temporary of mining camps, women and children were present and fulfilled important roles in their communities. Obviously, in the complete absence of evidence for if and how mining was practised in the kingdom of Ugarit, it would be premature to speculate as to exactly what the social and demographic make-up of mining camps might have been; however, male-only environments should not be our starting assumption.

### **Networks of people and practice and the materiality of writing at Ugarit**

This paper has drawn to a large extent on evidence from the surrounding regions and, where necessary,

from further afield, to explore the wider worlds of practice and the accompanying cultures that we can reasonably expect to have facilitated writing practices at Ugarit. Given the nature of the evidence I have presented, this is obviously not an attempt to say 'this is how things certainly were at Ugarit', but to offer a plausible reconstruction that highlights how writing practices among the most rarefied and elite levels of society would have been fundamentally interconnected with—and reliant on—the activities of a diverse range of people who probably were not literate themselves. As in historically documented examples of such activities, these practices may well have entailed their own subcultures and traditions, in which writing had little role, if any. Thus, while modern scholarship tends to privilege the written word and centre our understanding of Ugarit around it, even writing practices themselves are fundamentally imbricated with, and inseparable from, a much richer and broader ancient culture.

So what can we plausibly say about these networks in which Ugarit's writing practices were entangled? Even just focusing on questions of raw-materials production, as we have done here, several important recurring themes emerge.

We have talked repeatedly about the integration of materials-extraction practices with agriculture and the importance of seasonality. We should think more about how these seasonal patterns might have affected the availability and nature of raw materials available for writing. This discussion also offers a new perspective on the place of writing in the ongoing conversation surrounding Ugarit's socio-economic organization. To date, writing has been largely treated as a source—essentially *the* source—for these discussions. Our understanding of Ugarit's hinterland and economy has been almost totally shaped by the administrative texts written by the elite; there has been very little consideration of how those writing practices themselves might have been shaped, enabled and constrained by the agricultural life and off-season working practices of Ugarit's rural population. Considering the agency and culture of these people, and the effects their activities had on the literate culture which—at least in the short term—is likely to remain the main pillar of Ugaritic studies, is an important first step to refocusing our study away from the urban elite to encompass a more holistic view of the population and its culture(s).

Secondly, it is noteworthy how the long-distance trading networks that characterize Late Bronze Age globalism may have been implicated in even something as outwardly simple as covering a



wooden writing-board in beeswax. We cannot just imagine a simple, locally focused production process where wax was obtained from a domestic beehive, but must contend with the possibility of bees imported from one corner of the Near Eastern world, mineral additives from another. Certainly, the existence of such connections is speculative at present and whether either of these actually was the case in thirteenth- and twelfth-century Ugarit is an open question. We might counter that if these connections had not been available, they could have managed just fine with unmixed, local beeswax, or orpiment or ochre from the local area. But these connections *did* exist: Ugarit was a celebrated trade hub. The possibility that such trading links found expression in the production and consumption of expensive writing materials is far from implausible.

Evidently much—most, perhaps—of what we have discussed here will need to be subject to further research and probably the uncovering of new sources of evidence. But what I hope will be clear from this discussion is that writing at sites like Ugarit cannot be approached in isolation. Its cultural context is not simply the world of literate elites and its materiality is not just a question of how a given writing surface or implement shapes the character of the signs. Rather, writing is part of a web of objects, practice and culture that stretches far beyond the palaces and elite residences. Writing culture must include the subcultures, traditions and practices of the clay-gatherers, the beekeepers, the woodcutters, the orpiment miners, the long-distance traders, and more; for without these people, writing practices as we see them would not exist, and in turn the ability of writing to facilitate administration and shape its form would have had a profound effect on how this wider sphere operated.

## Notes

1. Writing probably has a much longer history at Ugarit, but this is the only period for which tablets survive. For discussion, see Boyes (2019, 4–5; 2021a, 280).
2. This absence of mud brick is certainly unusual, given its ubiquity elsewhere in the region. For discussion of the production of mud bricks in the ancient Near East, see Emery & Morgenstein (2007); Homsher (2012); and Love (2017), with further references.
3. This paper was written under lockdown during the coronavirus pandemic of 2020–21, so it has not been possible for me to undertake any first-hand study of the objects involved. Indeed, even access to libraries has been curtailed, so I ask the reader's forbearance for any omissions in the bibliography.
4. The word for potter, *yšr*, also occurs in Hebrew and Punic, and as Akkadian *ēširu*. At Ugarit it can be found in KTU 4.46:11, 12; 4.339:24; 4.609:37; 4.382:26, 27; 4.87:3; 4.99:11; 4.126:28; 4.358:10; 4.367:8 (Del Olmo Lete & Sanmartín 2015).
5. Some women at least were certainly economically active at Ugarit, but our records mostly concern the business dealings of the highest levels of the elites rather than the everyday labour of ordinary women. For a discussion of the presence of women in Ugaritian economic tablets, see McGeough (2016).
6. Of course, what constitutes an 'ancillary' task and what the main one is a subjective matter and may differ according to culture and personal opinion. For example, I once worked on an excavation where an inexperienced but very self-assured student attempted to reorganise everyone else's excavation practices to serve his task sifting through the spoil heaps.
7. On gender roles at Ugarit, see Marsman (2003); Amico Wilson (2013); and McGeough (2016).
8. In addition to the ethnographic examples already highlighted, see Hankey (1968, 27) on twentieth-century Lebanon and Arnold (2011, 65–6) on Quinoa, Peru.
9. As was apparently often the case in Hittite Anatolia, as we can see in CTH 400, although it is worth noting the relevant words are partially restored: see Torri (2020, 437–8).
10. Older discussions tend to approach this from a Marxist-inspired 'two-sector' model, with a dichotomy between the palace-dependent, largely urban-centred sector and a 'free' rural peasantry, e.g. Liverani (1987; 1989), Heltzer (1982; 1999). More recent studies have largely departed from this view, replacing it with a broader range of ideas about land holding and its relation to socio-economic structure, e.g. Márquez Rowe (1999; 2002; 2006); McGeough (2007); Monroe (2009); Schloen (2001).
11. Cammarosano *et al.* (2019, 125) suggest that the lack of apiculture in Mesopotamia was mainly due to environmental conditions, with only peripheral areas being suitable for bees.
12. The dating of these laws is subject to some confusion. The former sources give c. 1500 BC, while Bloch *et al.* (2010, 11243) offer the probably more plausible date of 'the 14th–13th centuries BCE'.
13. However, Cammarosano *et al.* (2019, 127 & n. 60) argue that not all the hives at the site were likely to have been occupied simultaneously due to the need to keep some empty for new swarms. They consequently judge the suggestion of the site's industrial nature to be exaggerated. Certainly we should take on board their caution about the uncertainty surrounding the actual number of hives at Tel Rehov and it would therefore be wise to look more towards the lower end of the excavators' estimated range for the yield of the installation, rather than the upper.

14. Leviticus 2:11; KTU 1.14 IV 2. This is the first column of the Kirta legend, and involves Kirta performing a sacrifice to El and Ba'lu.

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