CHAPTER 4

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LEVELS OF LITERACY

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Cuneiform writing is a flexible and versatile system that offered both an efficient tool for mundane communication and recording purposes and an intricate symbolic system that invited ancient scholars to explore and research its representational potential. The complex cuneiform system with many signs, each associated with various different meanings and readings, may seem awkward and cumbersome to the modern observer. The historical facts, however, speak for themselves. Cuneiform was used for three millennia; it survived fundamental historical, linguistic, and administrative changes, as well as changes in the uses of writing and it was slow to die centuries after the introduction of alphabetic systems such as Aramaic and Greek.

The cuneiform writing system allowed for many sub-systems—some extremely complicated, others straightforward and easy to learn. This versatility meant that the writing system could be different things to different actors and that its longevity may be explained by the fact that it could fulfil very different needs.

As a prelude, it may be useful to define a few concepts in cuneiform writing. Most cuneiform signs are *polyvalent*, which means that they have more than one *reading*. A *reading* represents either a syllable (*syllabogram*) or a word (*logogram*). When a word is written entirely in syllabograms, that may look like this: *il-la-ak* 'he goes'.

Syllabograms, much like alphabetic characters, represent the sound shape of a word—with the difference that each character corresponds to a syllable, rather than to a single phoneme. Usually a single syllable may be written by various signs, a principle called *homophony*. In transliteration homophones are distinguished by subscript numbers (as in u, u_2, u_3, u_4, etc.). Such numbers are conventional artefacts of modern scholarship and have no meaning as such. They allow the cuneiform scholar to map a transliteration back to a series of cuneiform signs.

Logograms write entire words; they may be complemented by a syllable sign (a so-called phonetic complement) to indicate the proper form. The same word for 'he went' may also be written: DU-*ak* 'he goes'.

The capitals in transliterating DU indicate that this is a logogram, which in theory may stand for any form of the verb *alākum*, to go. Logograms and syllabograms are

not formally distinguished in the writing system. The sign DU may be used as the logogram for 'to go'—it may also be used as a syllabogram as in *i-du-uk* 'he killed.' Similarly, the sign AK, used as a syllabogram above, may also be used to write any form of the verb *epēšum*, 'to do'. Some signs have many different syllabographic and logographic readings. The sign DU may also be used for the syllables *ṭu₃, gub, gup, kup, kub, qup, qub*, or *kin₇* as well as for the words *izuzzum* (to stand) and *wabālum* (to bring). In addition there are several rare or specialized syllabographic and logographic readings of this sign, as well as a number of sign combinations with particular readings and meanings. The sign combination UD.DU may stand for the verb 'to exit' (*aṣû*) and the combination A.DU may stand for 'way', or, in mathematical context, for 'times'. The only secure way to determine the correct reading is by context. If a sign combination seems to make no sense, then one or more of the sign readings is likely to be incorrect. Some readings are only to be expected in certain periods and/or in certain well-described contexts. The reading *kin₇* of the sign DU, listed above, appears frequently in Neo-Babylonian and Late Babylonian legal contexts after the list of witnesses in the word *mu-kin₇-nu* (witnesses), but is otherwise extremely rare.

The examples above are all drawn from Akkadian writing. The basic principle of mixed syllabographic and logographic writing is the same for Sumerian, but the system works slightly differently. Sumerian words are usually written logographically by a single sign or a sign complex, preceded and followed by affixes that indicate morphology, written syllabically. Thus the core of the Sumerian verb 'to build' is du₃ with any number of affixes to indicate mood, voice, and aspect as well as other grammatical elements. The form mu-un-na-an-du₃ thus means 'he built for him', in the active voice (mu-) with a dative infix (-na-). Orthography leaves a scribe fewer options in Sumerian than in Akkadian. The polyvalency principle, however, is more widely used in Sumerian. The sign MU that begins the verbal form in the example above, may be used for the words mu = year, mu = name, -ĝu₁₀ (possessive suffix) = my, or muhaldim = cook—none of these uses is particularly rare or unusual.

Modern sign lists recognize some 1000 individual signs. The number of cuneiform signs fluctuates over time—some signs were abandoned and new signs were introduced. It is not always easy to define (and thus to count) signs because a combination of two or more signs may represent a new sign. Thus, the combination of SI followed by A constitutes the sign DIRI and writes the word for 'to be bigger than' (dirig in Sumerian, or *watārum* in Akkadian). In other instances one sign is written inside a container sign (KA×GAR = GU₇ 'to eat'). In some cases such combinations are counted as a new sign, in other cases they are treated as combinations of multiple signs. The number of signs available in cuneiform, therefore, cannot be established with any accuracy. In comparison to other writing systems, such as Chinese, the number of 'about 600' is rather low.

The cuneiform system, described above in its bare outlines, has indeed aspects of extreme complexity. Students of Sumerian dread the appearance of the sign DU, because it may represent so many different verbs (gub = to stand; ša₄ = to make noise; du = to

go—imperfect aspect; ĝen = to go—perfect aspect; tum$_2$ = to bring—imperfect aspect; de$_6$ = to bring—perfect aspect) or still assume other readings in nouns of various kinds, as in a-ra$_2$(DU) = way (or 'times'). One needs a pretty good understanding of context and syntax to identify the right meaning and reading. Some of the complexity in the system comes from its long history. Signs accumulated various readings over the centuries. Some of these were dropped and entirely forgotten—occasionally an ancient reading is preserved in the traditional writing of one specific word.

The complexity of the system may lead one to the conclusion that literacy was hard and required many years of study and was therefore available only to an elite who could afford to spend the time on learning that skill. Recently scholars have rejected that intuition, arguing that writing was used for many mundane purposes, that it was widely available—far from restricted to a small elite (Wilcke 2000; Charpin 2004).

In order to address this paradox it will be useful to distinguish between different types of literacy. In an alphabetic system one may argue that one either knows or does not know the thirty-odd signs used in writing: there is little in between. Even so, social scientists distinguish between various types of literacy, not only involving knowledge of the letters of the alphabet, but also knowledge of proper orthography, skills in using tables of contents and indexes, and other aspects of the conventions and customs that surround the textual universe of the day. The cuneiform writing system allowed for many fine distinctions between types and levels of literacy. In the present contribution I will distinguish between three such types: functional literacy, technical literacy, and scholarly literacy. After describing in brief the evidence for these three types, I will discuss in somewhat more detail the importance of scholarly literacy and finally address the issue of the acquisition of literacy through education.

THREE TYPES OF CUNEIFORM LITERACY

Functional literacy

Two authors, in particular, have argued that cuneiform writing was not a matter for specialists, but was widely available in the households of common people (Wilcke 2000; Charpin 2004). Wilcke collected archaeological, stylistic, and orthographic data to argue that private citizens were commonly literate. The archaeological information consists of the relative frequency of text finds in domestic quarters. The information is not as rich as one would wish, because excavations have often focused on palaces and temples, rather than on residential areas. Moreover, textual finds have not always been recorded with such precision that they can be attributed to one specific house. Finally, even when such information is available, clay tablets discarded by their ancient owners have sometimes been used as building material, so that their archaeological findspot does not say much about the original archival context. Even with all these restrictions

the results are striking. In the Old Babylonian period (for which the best evidence is available) the majority of houses in Nippur and Isin yielded texts, including school texts. Several other sites seem to confirm that picture. Stylistic and lexical data collected by Wilcke indicate that sender and recipient of letters usually wrote and read themselves, rather than through a professional scribe. Again, most of the evidence comes from the Old Babylonian period. Finally, Wilcke surveyed a group of legal documents from the Ur III period, written in Sumerian, which exhibit frequent deviations from the orthographic norm. These documents record private transactions of merchants and demonstrate the availability of cuneiform literacy among people not directly involved with the state bureaucracy.

Charpin (2004) lends further support to the thesis of widespread cuneiform literacy by introducing evidence from Old Babylonian Mari (in present-day Syria) and by discussing the difficulty level of cuneiform writing. According to Charpin's estimate, an Old Babylonian scribe did not need more than 112 syllabograms and 57 logograms to reach full literacy in Akkadian. That is a modest number; however, for minimal literacy one could even do with fewer. Old Assyrian merchants in the 19th century, who had set up trading posts in present-day Anatolia (see Veenhof 2008), used an even smaller syllabary for their administration and correspondence (Charpin 2004: 501). The difficulty of cuneiform as perceived by modern students comes from studying both Sumerian and Akkadian in different periods and across different genres. A private citizen in ancient Mesopotamia who wanted to write (or read) a letter, however, needed to know only the conventions and sign usages of contemporary letter writing. In addition Charpin noted that the complexity of a writing system is not related to literacy rates, as one may observe in modern China and Japan (Charpin 2004: 503; Cooper 1992).

The discussions by Wilcke and Charpin address the spread and availability of literacy and thus aim at the lowest possible level of the knowledge of cuneiform. The concept of functional literacy, as employed here, describes the knowledge of cuneiform that is extensive enough to write or read a letter or an ordinary business document. The search for functional literacy is a search for literacy that is not professionalized, that takes place outside of the great institutions, and that is not aimed at aggrandizing the king, or thinking about the universe, but rather at the mundane issues of accounting and communication.

That most (although by no means all) of this discussion focuses on the Old Babylonian period, is certainly not an accident. In the history of cuneiform writing and literacy the Old Babylonian period introduced many novelties and there is good reason to suggest that in this period the role of writing and literacy changed fundamentally. In the present context we may discuss three such changes: new genres; new formats; and a new writing style. The documentary evidence from the Old Babylonian period differs significantly from the preceding Ur III period by the availability of an astonishing number of genres and text types, many of them entirely new. Among these new genres are personal letters (earlier letters are bureaucratic missives), omen compendia, and mathematical problem texts (Robson 2008: 85–124), to name just a few (see Kraus 1973; in particular 16–18). Among the new formats introduced in the Old Babylonian period one may mention bilingual (Sumerian–Akkadian) texts as well as administrative texts in tabular format (Robson

2003; 2004). The introduction of the tabular accounts is particularly striking, because the format would have been eminently useful in the preceding Ur III period, providing a much more efficient layout than the ubiquitous linear accounts. Robson (2008: 163) has suggested that the one or two tabular accounts from the Ur III period that do exist represent rough work, rather than a final product. Such rough work may normally have been done on wax tablets (which do not survive), while the final product was presented in the traditional linear format that was acceptable to the bureaucracy for archival purposes. If that is correct, then the Old Babylonian tabular format by itself was not new: what was new was its acceptability for archival purposes. Finally, the new writing style introduced in the Old Babylonian period is the cursive. Again, the most striking aspect of this novelty is the fact that it did not happen much earlier. Ur III scribes produced tens of thousands of administrative notes and one would expect them to develop an efficient handwriting. Instead, Ur III administrative texts are written in a semi-monumental script that is hardly distinguished from the writing style of royal inscriptions.

The transition from the third to the second millennium is thus marked by widespread experimentation in writing and the uses of writing. One may add that this same period saw a revolution in scribal education (Veldhuis 2004) as well as a variety of orthographic innovations (Powell 1974). Robson has argued that the development of tabular accounts (or rather, their absence in previous periods) may be explained by the greater freedom that scribes experienced in the Old Babylonian period. In the preceding Ur III period scribal activity was largely in service of central authorities, which may not have inspired experimentation and renewal. The end of the Ur III period brought political fragmentation and weakness, finally allowing writing to escape from the confines of service to the king and the administration. The close connection between writing and power was not restricted to the Ur III period, but seems true for most (if not all) of the third millennium (see also Visicato 2000). The use of a very precise and detailed writing style, even for ordinary accounts, indicates the role of writing as a tool of power and prestige in the hands of the main institutions—the same institutions that order monumental inscriptions. This opposition between third-millennium writing and Old Babylonian writing is not an absolute one. There was, of course, writing for private or non-institutional purposes in the third millennium, but such uses were derivative. The *raison d'être* of writing was its role as an instrument of institutional power.

The new situation in the Old Babylonian period is one in which writing is unleashed from its institutional reins and put to use in a much wider fashion. The introduction of a cursive script, with abbreviated signs, crowded writing, and unclear sign boundaries, is one of these innovations—an innovation that may have benefited those who had to write large volumes of text. Cursive hands are developed for the ease of writing—at the expense of reading. The development of a cursive indicates a more utilitarian approach (one that puts less emphasis on writing as a symbol of power) but at the same time requires a more intimate familiarity with written texts, a type of literacy that can do away with the kind of tiny details that used to clearly distinguish one sign from another in earlier phases of writing. The introduction of a cursive in the Old Babylonian period may be understood as indicative of a wider availability of functional literacy in the Old Babylonian period.

Literacy moved out of the institutional settings in which it had been at home for so long and moved into the familial sphere where it was subject to all kinds of experimentation. As a corollary, the availability of private (or familial) writing called for the introduction of a special writing style, suitable for royal writing. The introduction of palaeographic (monumental) writing, as exemplified in the Code of Hammurabi, is thus intimately connected to the introduction of the cursive style. Where writing in the third millennium was more or less by definition royal and/or institutional, in the Old Babylonian period it started to make sense to differentiate between writing styles for different purposes.

Literacy remained in the hands of citizens for most of the rest of cuneiform history. The only period in which one may suspect a near monopoly on cuneiform literacy on the side of the state is the Neo-Assyrian period. In the Neo-Assyrian period the difference between monumental and documentary hands all but disappears again. At the same time, this is the first period in which alphabetic (Aramaic) literacy gained widespread currency. Unfortunately, Aramaic was written on leather and other surfaces that do not survive in the archaeological record, so that we cannot adequately compare the uses of Aramaic versus cuneiform writing.

Technical literacy

Different genres of cuneiform texts tend to have their own orthographic peculiarities. A good example of this tendency is the corpus of omen texts in Akkadian, that begins in the Old Babylonian period and extends to the late first millennium. Omen compendia are stylized as collections of 'if…then' expressions, in which the 'if' sentence (or protasis) represents an observation interpreted as a sign and the 'then' sentence (or apodosis) the associated prediction, or the meaning of the sign.

Scholarly texts in Akkadian, such as omen compendia, tend to have a much higher percentage of logograms than letters or administrative documents (or even literary texts). This renders them more difficult to read for the untrained, but not for the specialist. One may compare such usage to technical jargon that can be utterly opaque to an outsider, but provides precision in a succinct and well-defined way to those who work in the field.

One may consider the following example from an Old Babylonian omen compendium (Jeyes 1989: 144):

> BE *i-na bi-ri-it* KI.GUB *ù* GÍR GIŠ.TUKUL GAR-*ma pu-šu-uq* ZAG *iṭ-ṭul la be-e*[*l* GIŠ.GU.ZA GIŠ.GU.ZA *i-ṣa-bat*]
>
>   If a Weapon is placed between the Presence and the Path and it points to the Narrowing to the right; one who is not the ow[ner of the throne will seize the throne].

This is an extispicy omen, describing particular features that a diviner may observe on the liver of a sacrificial lamb. Extispicy had its own technical terminology for describing zones of the liver and the various anomalies, discolorations, or protrusions that were deemed meaningful (Jeyes 1989: 51–92; Koch-Westenholz 2000: 43–70). Many of the

technical terms in these texts are written logographically: *manzāzum*, written KI.GUB 'the presence'; *padānum*, written GÍR 'the path'; and *kakkum*, written GIŠ.TUKUL 'the weapon'. The Akkadian words *manzāzum, padānum*, and *kakkum* all belong to the regular vocabulary, used here in the technical divinatory sense and represented by a specialized technical orthography.

Technical terms and orthographies are found in many text genres. Divination reports, which describe the actual findings of an extispicy procedure, use the same orthographic jargon as the omen compendia. Mathematical texts commonly use logograms for mathematical operators ('times', 'to square') and geometrical figures ('circle', 'rectangular'); ritual texts tend to use logograms for types of altars and incense burners, as well as for the aromatics and other materials offered; medical texts use special logograms for body parts, symptoms (fever, skin marks, etc.), and medical ingredients. Each of these text groups employs special logograms for words that are particularly relevant in their respective corpora.

The technical jargon of these disciplines uses specialized subsets of the available lexicon, or specialized meanings of common words. Similarly, technical orthography does not employ a new writing system, but rather utilizes little used readings, extending the system to accommodate the needs of the specialist. Technical literacy illustrates the flexibility of the cuneiform writing system.

Scholarly literacy

Scholarly literacy involves knowledge of all the ins and outs of the cuneiform writing system and its history. Functional literacy and technical literacy are skills in reading and writing different types of texts. Scholarly literacy refers primarily to the knowledge of the writing system for its own sake, collecting all possible and impossible readings of each sign and sign combination and studying the history of its use and palaeography. Scholarly literacy exhibits the pride of the scribes in their craft, emphasizing and even increasing complexity and demonstrating the joy of discovering rare and unusual features of the system.

Scholarly literacy is found, first of all, in lexical lists. Lexical lists are lists of words or lists of signs, either monolingual (Sumerian only) or multilingual (usually bilingual Sumerian–Akkadian). In what follows I will discuss the evidence from three examples. The list of professions Lu A has a history that extends from the late fourth millennium to the early second millennium and demonstrates an interest in palaeo-orthography. The second example comes from the sign list Ea, which is a systematic collection of all possible readings of cuneiform signs—from very common to otherwise unattested. Finally, palaeographic sign lists, first attested in the late second millennium, demonstrate an interest in earlier sign forms as an aspect of scholarly literacy.

The list of professions Lu A originated in the late fourth millennium and was composed around the same time as the invention of writing. A few Uruk IV level exemplars demonstrate the earliest history of the list; in the subsequent Uruk III period the text

was largely standardized (Englund 1998). Together with other such lists (lists of birds, fish, trees, foodstuffs, etc.) Lu A standardized and documented the newly invented writing system and provided an inventory of the words and signs to be used (Veldhuis 2006). It is likely that early in the third millennium most of the entries in the list of professions were already obscure and outdated. Rather than modernizing the list, it was transmitted as a scribal heirloom for at least 1500 years.

The long transmission history of Lu A allows us a few glimpses of the interest in scribal circles in historical linguistics and palaeo-orthography, and it allows us to investigate the use and function of such study in Mesopotamian scribal circles.

Among the archaic lexical lists, the list of professions Lu A was by far the most frequently used. The following example represents the first seven lines of one of these exemplars (W 17942, Englund and Nissen 1993: pl. 1). The subscript letter/number combinations in the transliteration (as in GAL_a) indicate sign variants which may either be simple graphic variants or distinct signs—in many cases we do not know enough to decide between those two possibilities. Each line begins with a bullet or item sign (a single impression of the stylus), here represented by ¶.

1. ¶ NAM_2-ŠITA+GIŠ   ruler
2. ¶ NAM_2-KAB   ?
3. ¶ NAM_2-DI   chief justice
4. ¶ NAM_2-NAM_2 advisor
5. ¶ NAM_2-URU_{a1} mayor
6. ¶ NAM_2-ERIN   ?
7. ¶ GAL_a-ŠUBUR   swine butcher?

Our knowledge of this early phase of the writing system and the language it represents is, in fact, not nearly enough to support the suggested translation (for an overview see Englund 1998). There are good indications that the list is organized according to hierarchy, and thus it makes sense that it should begin with the word for king or ruler. Other translations are guesses, based upon much later readings of these signs (see Wilcke 2005).

With the progressive publication of more and more archaic administrative texts it becomes clear that many of the titles in archaic Lu A appear in contemporary administrative texts and thus reflect the reality of the social organization of the time (Englund 1998: 105, 108–109).

Lu A was transmitted all through the third millennium—the most recent exemplars date to the Old Babylonian period, some 1500 years after its inception. The same seven lines of an exemplar from Early Dynastic Šuruppak (Fara) reads as follows (Deimel 1923: no. 75):

1. ¶ ŠITA+GIŠ+NAM_2
2. ¶ NAM_2-TUKU
3. ¶ NAM_2-DI
4. ¶ NAM_2-NAM_2
5. ¶ NAM_2-URU

6. ¶ NAM$_2$-ŠEŠ$_2$
7. ¶ GAL-DUN

The differences between this version and the archaic exemplar above are more apparent than real. Thus KAB vs TUKU in line 2, ERIN vs. ŠEŠ$_2$ in line 6, and ŠUBUR vs DUN in 7 represent closely related signs and the assignment of readings is more conventional than anything else. In other words, the Fara text, more than half a millennium later, has *exactly* the same text, sign by sign. The Fara tablet is a beautiful exemplar that contains the entire text of Lu A in seven columns on the obverse; it is often used as an illustration in exhibition catalogues, not least because its reverse is used for an intricate pattern of snake figures (Nissen et al. 1990: 154–155).

Some of the entries in the list are well known from later lexical, literary, and administrative texts. According to later lexical tradition the entry NUN-ME (15) is to be read abgal, meaning 'sage'; similarly, GAL-TE (17) represents the word tirum, which means 'courtier'—both appear in Sumerian literary compositions known in Old Babylonian copies. Entry 12, read GAL-BAD×DIŠ, is attested with some frequency in archaic records but then entirely disappears, so that both reading and meaning of the entry remain unclear. In fact, after the archaic period even the *sign* BAD×DIŠ is known exclusively in copies of the list Lu A. The entry and the sign were transmitted and kept alive only because they appear in this traditional list; the sign is not used in any other type of context. Interestingly, entry 12 is also one of the items that is updated or reinterpreted in Old Babylonian copies, where it reads GAL-LAGAR-BAD (or GAL-BAD-LAGAR), which might be understood as 'dead chief lagar-priest.' Dead lagar-priests appear (together with other deceased clergy) in literary texts that deal with funerary rites (see Cavigneaux and Al-Rawi 2000: 47). Whether this is an acceptable interpretation of the archaic entry seems doubtful, but it is possible that it was understood this way in the Old Babylonian period.

Lu A was not only read and studied in the Babylonian heartland; it was exported to all those areas where cuneiform was used in the third millennium. Several copies of Lu A have been found among the tablets from Ebla and the initial section of the Ebla Sign List (known in two exemplars) follows, in an abbreviated fashion, the entries of the list of professions (see Archi 1987). The following passage illustrates the relationship between the Ebla Sign List and the list of professions Lu A in a relatively well-understood passage of the text.

Ebla Sign List B	Lu A	
40. nagar	102. gal-nagar	chief carpenter
na-ga-lum		
41. aga$_3$	103. gal-aga$_x$(DUN$_3$)	chief wood dresser(?)
a-ga-um		
42. ašgab	104. gal-ašgab	chief leatherworker
aš$_2$-ga-bu$_3$		
43. zadim	105. gal-zadim	chief stone cutter
za-ti-num$_2$		

The Ebla Sign List adds a pronunciation gloss to the most important sign in the entry. Lu A, 104 (gal-ašgab) is found as ašgab // *áš-ga-bù*; the element gal (chief) is ignored. The passage may suggest that each line is thus subject to comment, but such is not the case; out of a total of 129 lines in Lu A only 39 are commented upon. The glosses often differ from the transliteration conventions used in modern Assyriology, partly because this text is several centuries older than the ancient sign lists that modern conventions are based upon and partly because the Ebla scribes had to use phonemic distinctions valid in their own language. Thus, the gloss *na-ga-lum* for nagar ('carpenter'; line 40) exhibits the well-known interchange of /l/ and /r/ at Ebla.

More importantly in the present context, the Ebla Sign List indicates that Lu A was studied very seriously and that the reading of unknown or rare words was transmitted with the text itself—even to an outpost like Ebla. When in the Old Akkadian period writing spread to Susa and Northern Syria, Lu A was copied there, too, and we may assume that, as in Ebla, scribes studied the text and learned the unusual words and readings.

The Old Babylonian period saw the development of many new lexical compositions which were meant to teach Sumerian in the scribal school. In this context, Lu A (together with several other early lexical texts) was more then ever an anachronism, a remainder of a time past. Several Old Babylonian copies include glosses, indicating readings otherwise unknown (see Taylor 2008; Civil 1983; see Figure 4.1).

Around the middle of the second millennium the literary tradition went through a selection process in which the lexical corpus, Akkadian literature, and Akkadian scholarly texts (divination, medicine, etc.) survived and flourished, but Sumerian literature (with a few notable exceptions) was largely forgotten. Lu A and a number of other early lexical texts fell into the category of texts that was no longer deemed useful. However, various entries in Lu A left their traces in the lexical corpus. These entries were no doubt created in the Old Babylonian period, when Lu A was still copied and studied; they travelled with the lexical corpus and some made it all the way to the first millennium.

One example is the entry ME-EN-MU (Lu A, 61). This entry appears with the gloss en-di-ib in the first millennium sign list Diri in the following context (Civil 2004, 152):

en-gi-iz	EN.ME.GI	*engiṣu*	
		nuhatimmu	cook
en-di-ib	EN.ME.MU	*endibbu*	
		nuhatimmu	cook
en-ku-um	EN.PAP.SIG$_7$.NUN. ME.EZEN×KASKAL	*enkummu*	a priest
ne$_2$-en-ku-um	NIN.PAP.SIG$_7$.NUN. ME.EZEN×KASKAL	*ninkummu*	a priestess

EN.ME.GI (engiz) and EN.ME.MU (endib) are found adjacently in Lu A 60–61; enkum and ninkum correspond to Lu A 63–64. All four entries thus appear in Lu A, but whereas engiz, enkum, and ninkum were at least occasionally used in literary compositions and comparable texts (see Charpin 1986: 379–395), the word endib appears only in a handful
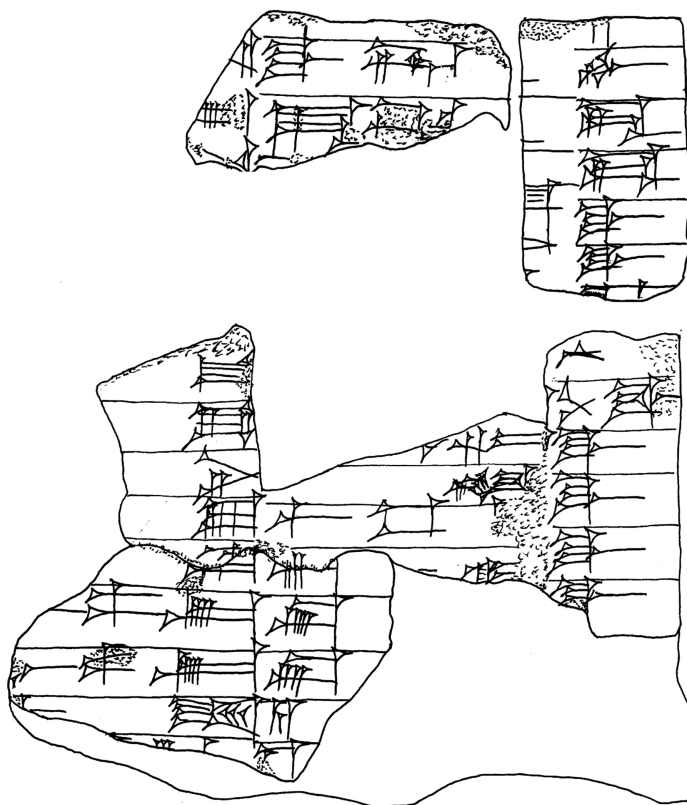
FIGURE 4.1 Fragments of an Old Babylonian copy of the archaic list of professions Lu A. The tablet was excavated at Nippur and is kept in the Babylonian Collection of the University of Pennsylvania Museum (N 5566 + N 5583 + N 5651 + N 7441 + N 7454 reverse). (Drawing by N. Veldhuis)

of archaic records and had already lost all relevance early in the third millennium. Somehow, obviously, the knowledge of the word was preserved: it was listed a millennium after Lu A was last copied and more than two millennia after the word had lost its relevance for functional literacy.

This brief history of the list of professions Lu A provides just one example of what was involved in scholarly literacy. Almost all types of lexical compilations provide evidence for the scholarly engagement with the writing system. A second example is the beginning of the sign list Ea from Middle Assyrian Assur (Civil 1979). Ea is a very lengthy list that consists of eight tablets with a total line count of about 2400 entries. It has the format gloss–sign–Akkadian translation. Each sign is taken as the writing for a Sumerian word (represented by the gloss) as well as for an Akkadian word (represented by the translation column). In the transliteration of the sign column (the middle column) the multiplication sign is used to indicate that the second sign is written inside the first sign. In some case the inscribed sign is repeated for clarity (as in line 13).

1. ¶ e-a	A	*nâqu*	to cry
2. ¶ e-a	A	*rihûtu*	sperm
3. ¶ du-ru	A	*raṭbu*	moist
4. ¶ e	A	KA-KA SIG-GA	(syllable /e/)
5. ¶ eš	A	*mû*	water
6. ¶ a	A	*mû*	water
7. ¶ še-eš	A×IGI	*bakû*	to shed tears
8. ¶ ir	A×IGI	*dimtu*	tear
9. ¶ i-siš	A×IGI	*ṣihtu*	laughter
10. ¶ a-ga-am	A×BAD	*agammu*	marsh
11. ¶ še-du	A×LAGAR*gunû*	*duššû ša mê*	abundant, said of water
12. ¶ e-du-ru	A×A	*aplu*	heir
13. ¶ e-saĝ	A×SAĜ:SAĜ	*aplu*	heir

Signs such as A×IGI (7–9), A×BAD (10), A×LAGAR*gunû* (11), A×A (12), and A×SAĜ (13) never appear outside the lexical corpus. Several of the entries here represent commonplace sign values, such as A (Akkadian *mû*) for water (line 6). The sign A×IGI, however, is an artificial creation from the sign combination A.IGI (A followed by IGI), which has the Sumerian reading ir$_2$, translated *dimtu* (tear) in Akkadian (compare line 8). The other two items in the A×IGI section represent existing words for 'to weep' and 'laughter' in Sumerian and Akkadian, but these words were never written this way—they are attracted by association. Thus, common entries are mixed with obscure ones that may represent variant readings, old readings, or artificial readings.

The two examples above (Lu A and Ea) exemplify scholarly literacy in terms of collecting and preserving rare words and unusual or ancient sign usages. In addition, scholars were also interested in palaeography. Cuneiform was used over a period of some three millennia and in that long period sign forms changed very considerably.

Lists of palaeographic sign forms start to appear in the second half of the second millennium. They follow the order of the ubiquitous elementary exercises Syllabary A (or S[a]) and Syllabary B (or S[b]) and usually pair several palaeographic variants with a contemporary sign form. The syllabaries provided a convenient and widely-known paradigm for organizing such knowledge (comparable to alphabetical organization in our times); their use does not imply at all that palaeographic lists have anything to do with primary education. Late second-millennium palaeographic S[a] is known from Babylon and Assur and from the Western periphery at Emar, and Ugarit (Gantzert 2006; the Babylon exemplars are to be published by Alexa Bartelmus). First-millennium examples of palaeographic S[a] and S[b] are attested in Neo-Assyrian and Neo-Babylonian collections of scholarly tablets. Late second-millennium examples usually list fairly realistic Old Babylonian forms. Some of the Neo-Assyrian exemplars include attempts to identify archaic sign forms from the late fourth millennium (Finkel 1997; see Figure 4.2). Such attempts are rarely successful, but they do demonstrate that scribes of the period encountered very early texts and were curious about them.

FIGURE 4.2 Neo-Assyrian list of archaic sign forms, accompanied by contemporary signs. The tablet was excavated at Nineveh and belongs to the so-called library of Assurbanipal (British Museum 81-7-27, 49+50; King 1898: no. 7). (Photo © The Trustees of the British Museum)

The lexical tradition largely consists of the technical handbooks supporting scholarly literacy, much in the way that divination compendia are the technical handbooks of diviners. This large corpus of lists of various kinds and formats has only a tangential relationship with functional literacy. These are the encyclopaedias that document and demonstrate the width and depth of the cuneiform writing system. Scholarly literacy does not refer primarily to the ability to write scholarly texts, but rather to the knowledge of the history and possibilities of the cuneiform system in the widest sense of the term. Scholarly literacy made the writing system into an object of scholarly knowledge and research.

The uses of scholarly literacy

The preceding section illustrated the multiplicity of literacies in cuneiform. A literate person was not necessarily able to read (or write) each and every text; much of the knowledge of the writing system in scholarly circles had nothing to do with reading and writing as it established a field of knowledge all by itself. The place and function of scholarly literacy is a topic that goes far beyond the confines of the present paper. I will briefly indicate a few areas.

Scholarly literacy, including the knowledge of palaeographic sign forms, was used primarily in colophons, in royal inscriptions, and in speculative genres, such as commentaries and related texts, that sought to find or insert a deeper meaning in a traditional cuneiform text.

Colophons appear in copies of traditional texts and may include information on the scribe, his sources (the origin of the tablet that he copied), and the composition (title, tablet number, and/or number of lines; see Hunger 1968). Middle Babylonian and later colophons tend to use rare logograms and other complicated writings. Šaggar-abu, the copyist of a number of scholarly tablets at Emar, wrote most of his colophons in palaeographic signs (Rutz 2006). The scholarly texts themselves are written in the regular sign forms of the time. The colophon is the place where the scribe identified himself and established the link between the scribal tradition and his person as a scribe. The use of palaeography in these colophons emphasizes the link to the past that is embodied in the scribal tradition.

The use of palaeography in (monumental) royal inscriptions is a common phenomenon in the second and first millennia (indeed, in most writing traditions) and is not in need of much discussion. A single example, therefore, will suffice. The statue inscription of Kurigalzu I in Sumerian (Veldhuis 2008) from the first half of the 14th century BC uses sign forms that are more or less comparable to Old Akkadian palaeography—about a millennium earlier. The sign forms used in the Kurigalzu inscription not only differ significantly from contemporary administrative writing, they also have little in common with the palaeography of the land grants written on stone monuments from approximately the same period (see Slanski 2003). Kurigalzu's inscription is interesting because it demonstrates on various levels the connection between royal legitimation, scholarship, and the past. Composing a long and non-standard inscription in Sumerian was certainly a scholarly tour de force for Kurigalzu's scribes. They used the lexical tradition for finding the Sumerian words that they needed and they clearly did their best to find rare and unusual words. The statue and its inscription remind the observer of the great kings of the past (Sargon, Hammurabi) who left their own inscribed monuments, some of them still standing tall in the 14th century, providing a frame of reference for Kurigalzu's statue as well as for his kingship. Language, writing style, and the monumentality of the object itself converge in a message of royal legitimation. The inscription talks about the traditional Sumerian gods for whom the king reinstalled the proper rites. The scribe or scribes who produced this inscription used their scholarly knowledge of Sumerian (religious) traditions and cuneiform palaeography in order to create a line of continuity from time immemorial to king Kurigalzu, upon whose image their text was inscribed. A special feature of the Kurigalzu statue inscription is the occasional use of very unusual archaizing spellings, reinforcing this scribal sense of antiquity and continuity.

First-millennium scribes, Assyrian and Babylonian, were interested in writings of the past. They copied earlier inscriptions, faithfully preserving the ancient writing style, frequently adding a colophon in contemporary cuneiform (see Hallo 2006). An unusual case of the use of palaeography is found in a Neo-Babylonian ritual text from Sippar (Maul 1999), which is written in a regular neo-Babylonian hand, with the exception of just three signs (LI, MU, and NA). The palaeographic forms are used only in the titles of Sumerian prayers, or in the name of the cultic drum (*li-li-is-su*). A fragment of a historical text in archaic palaeography from Neo-Assyrian Kalhu has only partly been deciphered (Finkel 1997), owing to the aberrant sign forms utilized.

The use of palaeographic sign forms is related to authority, power, and scholarship and represents the authority of the past. By studying and employing earlier sign forms the scribes not only maintained the accessibility of ancient texts, in particular publicly accessible monumental texts, they also added a layer of complexity to the writing system, which could be used to set a text apart from ordinary writing.

Much more complex is the use of scholarly literacy in commentary texts and related genres. Such texts use the polyvalency of cuneiform signs as well as the inherent (Sumerian–Akkadian) bilingualism in order to interpret or reinterpret a traditional text. A well-known example concerns the sign GI in an omen text; the example derives from a commentary to the astronomical series *Enūma Anu Enlil* entitled 'When the moon at its appearance' (Koch-Westenholz 1999: I 68–71):

> If the moon's horns at its appearance are very dark:
> disbanding of the fortified outposts, retiring of the guards;
> there will be reconciliation and peace in the land.
> (…)
> GI means 'to be stable' or 'to be dark', GI means 'to be well'.

The commentary, which is quoted in various reports by astronomers to the Assyrian king, basically explains why darkness of the moon's horns (the two ends of the moon sickle) can be interpreted as 'Its horns are stable' and why this relates to peace or well-being in the prediction. The connection between the words 'to be dark', 'to be stable', and 'to be well' is that all can be equated with a logogram that has a value GI. The equation GI = *kânu* = 'to be stable' is indeed common throughout the cuneiform tradition. 'To be dark' may be written GI_6. And finally *šalāmu* 'to be well' is related to *šullumu*, 'to repay' or 'to compensate', which equals the Sumerian expression šu ('hand')…gi_4 ('to return'). The commentary thus uses complex associations between signs and words in which homographs (GI, GI_4, and GI_6) may substitute for each other in order to demonstrate the connection between Akkadian equivalents.

This type of speculative analysis may have been quite common in first-millennium scholarly circles (see Frahm 2004) and has been described as an early precursor to rabbinic exegetical methods (Cavigneaux 1987; Lieberman 1987). It allowed scribes to explain away difficulties in traditional texts and enabled them to see connections where no connections were readily available. Such reading of cuneiform texts required an extensive scholarly knowledge of the writing system. The passage listing the fifty names of Marduk, at the end of the so-called Babylonian epic of creation (*Enūma Eliš*) provides explanations for each of those fifty names, borrowed from learned god lists, in much the same fashion (Seri 2006).

LITERACY, EDUCATION, AND SCRIBAL IDENTITY

Most of what we know about scribal education in Mesopotamia clearly aims at scholarly literacy, involving the knowledge of an ancient language (Sumerian), including obsolete words and rare orthographies. This scholarly literacy was part of what one may call an

elite cultural literacy that included knowledge of the literary heritage of the time. Functional and technical literacy, on the other hand, were probably mainly acquired through apprenticeships. Formal scribal education was not primarily focused on the practical skills of reading and writing, but rather on the formation of a scribal identity that transcended boundaries of time and place.

The most abundant and coherent evidence for scribal education comes from the Old Babylonian period from the city of Nippur, where thousands of exercise tablets have been unearthed. One type of school tablet, particularly common at Nippur, contains two separate exercises, one on the obverse and one on the reverse. The obverse extract is the new assignment, the reverse repeats material that the pupil already knew by heart. This arrangement allows researchers to establish the curricular order of the Nippur exercises, which were largely standardized and are sometimes known in hundreds of duplicates. One may summarize the Nippur curriculum as in Table 4.1 (and see Figure 4.3).

The reconstruction of the Nippur curriculum is schematic and varied in detail from one teacher to another (Robson 2001). This elementary curriculum was followed

Table 4.1 The Nippur curriculum

Sign exercises

Sign elements	Tablets filled with horizontal, vertical, and oblique wedges
Syllable Alphabet B	Standardized sign exercise, introducing the most important cuneiform signs with lots of repetition
Tu-Ta-Ti	Sign list; triads of signs with alternating vowels (u-a-i); used by some Nippur teachers

Thematic lists

Lists of names	Various lists of Sumerian and Akkadian names
Sumerian nouns and nominal phrases	Trees and wooden objects, reeds and reed objects, ceramics, hides and leather objects, metals and metal objects, animals, meat cuts, stones, plants, etc. (in six chapters)

Advanced lists

Acrographic lists	Lists of Sumerian words ordered by first sign (compare alphabetic listing)
Advanced sign lists	Lists of signs with all possible readings (even very rare ones); list of special sign combinations (compound signs)

Numerical exercises

Metrological lists and tables	Weights, lengths, volume, etc, in standardized format
Mathematical tables	Multiplication tables and reciprocal tables

Phrases and sentences

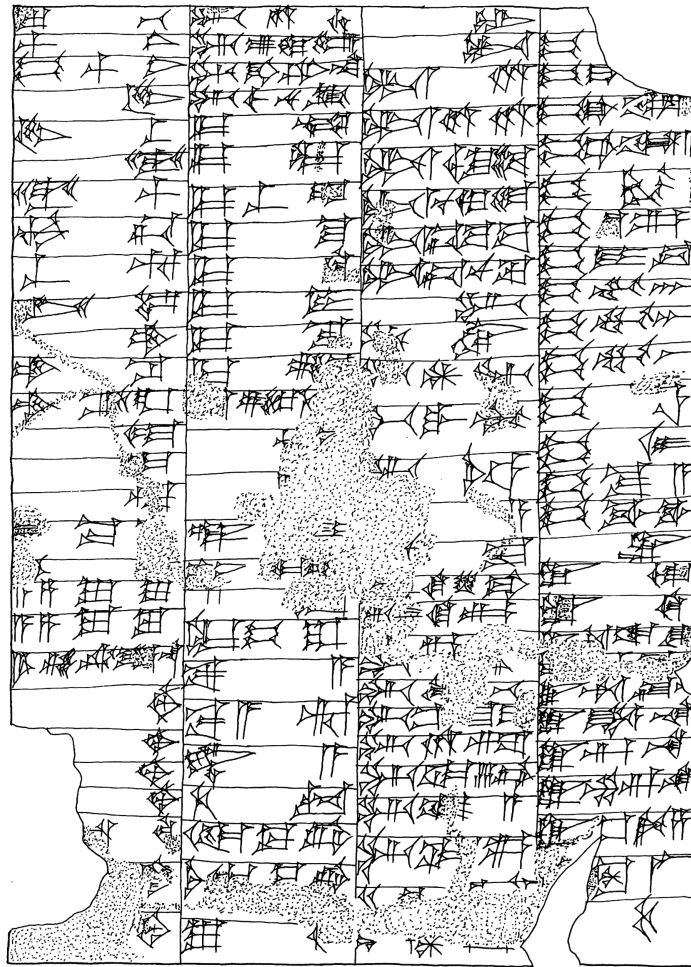|	
Sumerian proverbs	Multiple collections, using rare words and sign values acquired in earlier exercises.
Model contracts	Realistic contracts, without witnesses or date

FIGURE 4.3 Old Babylonian school text: list of animals. The tablet was excavated at Nippur and is in the Babylonian Collection of the University of Pennsylvania Museum (UM 29-16-31 reverse). (Drawing by N. Veldhuis)

by the study of Sumerian literature, a vast array of hymns to gods and kings, narrative texts (heroic as well as mythological), and light-hearted compositions such as *The Debate between Hoe and Plough* (ETCSL 5.3.1).

The curriculum included a number of things that were valuable or necessary for functional literacy. The sign exercises were as important for learning literary Sumerian as they were for any scribal purpose. The lists of names were very important for functional literacy because names are frequent in letters and administrative texts (much less so in literary texts) and they often use irregular orthographies. The numerical exercises were of prime importance for administrative purposes; in particular for dealing with the various systems of metrology and their relationships. The model contracts have not been studied in detail and their relevance for scribal practice cannot be established as yet. Old

Babylonian cities each had their own local formulary and it seems likely that model contracts would follow local practices.

Although individual exercises may thus be relevant to various kinds of literacy, the structure of the curriculum aims at the last and most complex level: Sumerian literature. All these exercises prepare a pupil for reading and understanding a literature in a dead language, a heritage in Sumerian.

A more detailed examination of the lexical exercises drives this point further home. The lexical texts are not simply a concordance of the literary corpus. In fact, they contain much that is never found in Sumerian literature—or anywhere else. An analysis of the list of birds (a subsection of the thematic word list) shows that virtually all bird names that are found in the literary corpus also appear in the lexical list (Veldhuis 2004). Of the more than 120 entries in the list, however, fewer than half are ever attested anywhere else. This means that the Sumerian vocabulary and orthography itself were considered important enough to be taught and transmitted. The literary corpus represented a Sumerian heritage, referring to a largely imagined golden era when all of Babylonia was governed by one king. The Sumerian language and its orthography were equally important symbols of that glorious past in their own right—worthy to be saved from oblivion.

This analysis of Old Babylonian curriculum applies to Nippur, but may be extended to other scribal centres of the period. Other sites have yielded far fewer school tablets, but the exercises that we encounter more or less fit the Nippur pattern. The general structure of scribal education appears to be approximately the same in all Babylonian cities.

It is likely that functional literacy and technical literacy were not taught in a formal classroom setting, but rather through apprenticeships (see Robson 2008: 52–53). In general, scribal apprenticeship pieces are difficult to distinguish from common scribal output. Some Old Babylonian letters have been identified as school letters because they are found in duplicates or near duplicates (Kraus 1959). Similarly, some Ur III administrative texts have been classified as exercises, rather than real administrative records, because of their suspiciously round numbers, because they exist in multiple duplicates, or for other reasons (see, for instance, Englund 2004: 39 and n.22). There are various reasons why such exercise documents and letters are not very numerous. First, they use the same formulary, the same conventions, and the same format as real documents because that is exactly their point: to train the student how to do it properly. Our chances of distinguishing between real documents and the products of a trainee are therefore relatively low. Second, whereas real letters and documents may have been filed and kept safely for at least some period of time, there was no reason to do that for exercise documents. Finally, apprentices may have started relatively early in drawing up real documents under the supervision of their master, so that the whole distinction between school texts and archival texts collapses.

The acquisition of the practical skills needed to write a proper letter or to compose an administrative account may, therefore, be largely invisible to us. The rich school tradition that we encounter in the cuneiform record is not primarily concerned with such issues, but rather with the creation of a scribal identity. The scribes became the

guardians of a Sumerian heritage, which included the knowledge of a literary canon as well as a scholarly knowledge of the writing system in all its manifestations.

Conclusions

Cuneiform writing started around 3200 BC and finally died out in the 1st century AD (see Brown 2008; Cooper 2008). The longevity of the cuneiform writing system, even long after alphabetic scripts had been introduced to Mesopotamia, may be perceived as a problem in the history of writing. Cuneiform, however, had a number of distinct advantages over other writing systems. The versatility of cuneiform allowed for various levels and types of literacy to exist side by side within a single system. The historical depth and the potential complexity of cuneiform could be exploited in a variety of ways to distinguish between ordinary writing and special writing or between ordinary scribes and scholarly scribes.

If writing were about efficiency and simplicity, the cuneiform system could have developed into an efficient and simple syllabographic system—as it did in Old Assyrian times. The Old Assyrian experience, however, remains an isolated case and the history of cuneiform shows that complexity was an asset that was valued.

Enmerkar and the Lord of Aratta, an Old Babylonian Sumerian epic poem about the legendary ruler of Uruk, relates how Enmerkar invented writing (Vanstiphout 2003; ETCSL 1.8.2.3). The story describes a conflict between Uruk and Aratta, an El Dorado somewhere in the East, across seven mountain ranges. The narrative serves to describe Sumer's (Uruk's) superiority, not so much in terms of military power but in terms of technology. In the course of this very long poem messengers are sent from Uruk to Aratta and back; each time the lord of Aratta promises that he will submit to Uruk, if only Enmerkar fulfils an impossible task. As it turns out, Enmerkar, because of Sumer's superior technology, is able to fulfil these tasks. In the third and last exchange Enmerkar decides to take a piece of clay and write down his message, rather than dictating it to his messenger, thus inventing the art of writing. The poor lord of Aratta has no idea what to do with the tablet and its markings, thus confirming his inferiority. Whether this story accurately reflects Old Babylonian beliefs about the origins of writing is immaterial. The passage eloquently conveys the pride that Old Babylonian scribes took in their profession. This pride in their scribal knowledge, which they shared with generations of scribes from time immemorial, is what cuneiform literacy is about.

Further reading

Charpin (2008) is an excellent recent overview of literacy in Mesopotamia, while Vanstiphout (1995) discusses the relationsip between literacy and memory in cuneiform culture. Civil (1995) is an introduction to the principles and contents of Mesopotamian lexical lists.

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