

Sumerian

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1. HISTORICAL AND CULTURAL CONTEXTS

1.1 Introduction

Of all the extinct languages of the ancient world, Sumerian has the longest literary tradition, extending over roughly three thousand years. The time span and geographical spread of the spoken language is not known and is the subject of much speculation. Presumably it was once the major vernacular in the southern part of Mesopotamia, but it is impossible to establish if it was ever spoken outside of this enclave. In modern terms this would be the area of Iraq south of Baghdad. Estimates on the time of the demise of spoken Sumerian range from the third to the middle of the second millennium BC (see Michalowski, forthcoming). It seems that even in early times Sumerian speakers came into contact with Semitic languages, as evidenced by numerous loanwords from early Semitic. Some have hypothesized additional Mesopotamian substrate languages, but the evidence for this is lacking (Rubio 1999b).

The native designations for the “land of Sumer” are *kiĝir* (written *ki-en-gi*) in Sumerian and *māt šumerim* in Akkadian. Related to this are the respective language labels *eme-gir*₁₅ and *šumeru*, which have been the subjects of much etymological speculation. If *gir*₁₅ means “native,” then the Sumerian terms would mean “native land” (*ki.ĝir*) and “native language” (Steinkeller 1993:112–113). The origins and meaning of the Akkadian *šumeru* – the source of modern renditions such as *Sumer* – remain unknown. Equally opaque are the native geographical concepts. We know that beginning in the middle of the third millennium BC, southern Mesopotamia was thought of as divided between the “Land of Sumer” in the south and the “Land of Akkad” to the north, but it is difficult to establish any native border between the two. A broken passage in a hymn to the main temple of the city of Nippur seems to place that city at the dividing point, but the implications of the line are unclear.

1.2 Textual evidence

The oldest Sumerian texts – perhaps even the oldest written texts known to us – are the approximately five thousand clay tablets found discarded in debris in the ceremonial center of the city of Uruk, written in an early form of the *cuneiform* script (see §2). These tablets, which are dated around 3200 BC, have been seriated, on the basis of script, format, and content, into two general groups corresponding, in theory, to archeological levels from the site: Uruk IV and III, although they were not actually found in those levels.

Close to 90 percent of these early tablets are administrative records, but there are also word lists that were used in the teaching of the writing system (about 670 of the total known

5,820 archaic texts). One composition among these has been considered by some to be a narrative literary composition; others think it is a word list. In light of later usage of such compositions in the educational system, the difference between the two categories may be less than it appears to be. While the general transactions can be understood, the texts cannot all be precisely read; even the actual number of discrete signs is disputed, with estimates ranging from just over 700 to almost 2,000. Some have argued that the system was not linked to any language or was meant to represent an unknown, pre-Sumerian tongue. The existence of phonetic glosses within certain signs, however, strongly suggests that the administrative language was indeed Sumerian. Thus the sign AMA, which is used later for Sumerian *ama*, “mother,” contains within it the phonetic indicator, or gloss, *am*₆, to help distinguish it from similar signs and to prompt the proper identification. The latter phase of archaic cuneiform, Uruk III, is attested not only in Uruk and possibly at Larsa in the south, but also farther north at Jemdet Nasr, Uqair, and Tell Asmar, demonstrating the relatively rapid spread of the new invention.

We do not know how long this particular phase of cuneiform lasted, nor do we have any evidence for the changes that must have taken place early in the third millennium. We have to wait for about four hundred years for our next archaic texts from Ur, dated approximately 2800 BC (Wright 1969). The 375 tablets from this city are primarily administrative documents; additionally, as at Uruk, one also finds pedagogic word lists, and one possible literary mythological fragment. Although these laconic tablets are difficult to translate, the notation of a few morphological elements and phonetic glosses provides convincing evidence that the language of the texts is indeed Sumerian.

The next larger groups of texts from Sumer are the Early Dynastic III texts from Fara (ancient Shuruppak), Abu Salabikh, Nippur, and Adab from around 2500 BC. The majority of tablets found at the first two of these sites are literary, and now for the first time we have evidence for an extensive written poetic tradition. This literature was widely distributed wherever cuneiform was taught; some of the same compositions have been discovered, in slightly later copies, far to the west, during excavations of the Syrian city of Ebla. Syrian scribes used cuneiform to write a Semitic language that we call Eblaite (see Ch. 8), but they also copied Sumerian and Akkadian literary texts, including word lists, that they inherited from Sumer and from northern Babylonia. Many cities in northern Babylonia and in Syria used writing, as is documented by the roughly contemporary tablets from Ebla, Mari, Tell Beydar and Tell Brak. There are small differences in the manner in which cuneiform was used in these places, but these are only variations within a common tradition. Moreover, sometime before the middle of the third millennium, cuneiform had already been fully adapted to write Semitic languages, including Eblaite and Akkadian.

One of the characteristic peculiarities of Early Dynastic literature is the existence of a separate manner of writing that has been termed UD.GAL.NUN (UGN), from a sequence of graphemes commonly found in these texts. With a few exceptions, the signs used are the same as in “normal” Sumerian, but the values (or “readings”) of these signs are clearly different. Only a small number of these have been deciphered, among them the sequence that originally gave this system its name: UD corresponds to the classifier (see §2) *dingir* “god, divine name,” GAL to *en*, and NUN to *lil*₂. These three signs therefore spell out the name of the chief god of Sumer, Enlil, or Ellil, normally written as ⁴*en-lil*₂. This was not a local tradition, since texts of this type have been found at Nippur and Abu Salabikh as well as at Fara; its purpose and origins are simply unknown to us. This manner of writing disappears forever after this period, and remains but a reminder of the complex route that writing took from its origins, with many experiments and dead ends that have not been documented to date.

1.3 Akkadian and Sumerian

With the rise of Akkad around the year 2350 BC, the Semitic Akkadian (see Ch. 8) becomes one of the official languages of Sumer and joins the older language as a vehicle of administration and communication. Semitic had been written in the north, but was only sporadically attested in Sumer. Now certain communities limited themselves exclusively to Akkadian for written communication; others retained Sumerian for local accounts but used the other language to communicate with the central government. Very little literature has survived from this period, leaving us in the dark concerning schooling and scribal education.

Soon after the collapse of the Akkadian state, Sumer and Akkad were once again dominated by one royal house, this time centered at the old city of Ur. The Third Dynasty of Ur (c. 2112–2004 BC) ruled for almost exactly a century and left behind an unprecedented number of bureaucratic records. There are approximately forty thousand published administrative texts from this time, and countless more remain in museums and private collections. This documentation is almost exclusively Sumerian, but small numbers of Akkadian texts from northern sites suggest that our large sample is skewed by chance of discovery and that Sumerian was not the sole official language of the time. The documents from Puzrish-Dagan, Ur, Umma, Girsu, Eshnunna, and Nippur do indicate that the central bureaucracy preferred Sumerian as a written language, but small archives from northern places such as Ishan Miziya indicate that Akkadian was used as well. The Ur III kings oversaw writing reforms and a drastic change in the school tradition. Most of the Early Dynastic literary legacy was discarded and new texts, many of them honoring contemporary rulers, were composed. Most of these are known only in later copies, but a sizable group of Ur III Sumerian literary tablets from Nippur awaits publication.

After the collapse of the Ur III state, Sumerian retained its status as an official language in the south, while in the north, Akkadian dialects began to take over in writing. The last Sumerian archival letter dates from the time of Lipit-Eshtar of Isin (c. 1873–1865 BC), and by the middle of the nineteenth century BC Sumerian was no longer used for administrative and accounting purposes. Letters, wills, and other everyday texts were written in Akkadian; Sumerian stock phrases were often employed in legal and administrative documents, but they were undoubtedly read aloud in the Semitic vernacular. Schooling, however, remained primarily in the old tongue. Indeed, this is the period that has left us the largest quantity of Sumerian literary compositions. We have a good knowledge of educational practices in southern cities such as Nippur, Isin, Uruk, and Ur. The curriculum consisted of the study of lexical lists, proverbs, and a few easy royal hymns in the early stages, after which the student graduated to the copying of a broad range of compositions, including royal and divine hymns, epics, laments, epistolary texts, as well as idealized debates, and a small number of legal, historical, and historiographic texts. Liturgical and magical texts are more common in northern and peripheral cities.

1.4 The status of Sumerian in antiquity

For inestimable years Sumerian was a living language in southern Mesopotamia. It was the first language in Western Asia that was committed to writing and this, if nothing else, assured its prestigious status for millennia to come. By the Old Babylonian period it was limited to schools and temples, and until the end of the use of cuneiform it remained a high prestige liturgical language that was studied, with various levels of success, throughout the Near East.

1.5 External affiliation

Sumerian is an isolate, like Ainu, Etruscan, Basque, or Burushaski. Over the years various unsuccessful attempts have been made to link it with a variety of languages or language families, among them Chinese, Tibetan, Hungarian, Turkish, and Indo-European. These attempts have sometimes been flavored with nationalist fervor. More recently some scholars have tried to include Sumerian within the hypothetical Nostratic proto-language of Eurasia, while others have excluded it from such reconstructions.

1.6 General characteristics

The isolate Sumerian is an agglutinating language. The word order of simple declarative sentences is strongly SOV, although this impression may be skewed by the highly formal nature and limited rhetorical scope of much of the sample. Heads and dependents are marked, nominal cases are marked with postpositions, genitives succeed the nouns they modify, adjectives follow nouns, and subordinate clauses usually, but not always, precede main ones.

Sumerian is generally characterized as an ergative language because the main participants of an action are marked according to a system that formally recognizes agents of transitive clauses as different from transitive patients and intransitive subjects. The former are marked by the ergative case, the latter by the absolutive. Few languages are fully ergative. Sumerian, like many other languages, shows various splits: while nominal marking is fully ergative, independent personal pronouns, verbal imperatives and cohortatives, as well as certain participial constructions, are nominative-accusative. Verbal concord works on a split determined by aspect: the perfective is ergative, and the imperfective is nominative-accusative. Sumerian is not alone in this respect and aspectual splits of this type are found in various unrelated Asian languages, including Georgian, Burushaski (Tibet), the Iranian Pashto, as well as in certain Indo-European languages of India. This has led some (Nichols 1993, also implied in Anderson 1985:182) to suggest that this may be an areal phenomenon.

It is usually remarked that ergativity is a strictly morphological phenomenon in Sumerian and there is no evidence that it triggers any syntactic operations (Michalowski 1980, Zólyomi 1996a), but this is a matter that requires further investigation.

1.7 The later use of Sumerian

Little is known at present about the use of Sumerian in the centuries immediately following the fall of the Old Babylonian state around 1595 BC. Akkadian was now widely used for written communication throughout the Near East, from Iran to Anatolia, the Levant, and even Egypt. Some selected Sumerian texts were transmitted to these areas and were used in the study of cuneiform, but most of the Old Babylonian compositions were discarded, and were never read again until modern times. The same holds true for subsequent Babylonian and Assyrian periods: Akkadian was the major language, and Sumerian was studied in school and used in liturgical contexts, although the old language was sometimes used in Babylonian building inscriptions in the late second and early first millennia. Sumerian prayers, laments, and incantations remained in use in rituals, indeed they were studied, edited, and reedited and new texts continued to be composed even after the conquest of Babylonia by Alexander of Macedon in 331 BC. Even as late as the third century numerous Sumerian liturgical texts were redacted and written anew in cities such as Uruk and Babylon, including large numbers of prayers and

incantations. There are even a handful of tablets with Sumerian or Akkadian exercises on one side and Greek transcriptions on the other. It is difficult to date these texts, but some would claim that they might be as late as the second century AD (Geller 1997).

1.8 Sumerian dialects

Because of the official nature of written Sumerian, the study of possible dialectal distinctions is somewhat problematic. There are synchronic and diachronic variations and these have sometimes been ascribed to dialectal differences. For example, in particular places during the third millennium, a verbal prefix *i-* is written *e-* in certain contexts; in other places there is a prefix *a-* that rarely occurs elsewhere. Are such isolated isoglosses sufficient to speak of dialects? Only recently Krispijn (forthcoming) has attempted to define a specific Lagash-area dialect on the basis of a number of phonological and morphological features. In a literary depiction of an idealized and perhaps satirized school examination, a teacher asks a student if he knows the languages of priests, metalworkers, shepherds, and so forth (Sjöberg 1975:166). This document has been interpreted as providing information on “dialects” or, better, sociolects, but most probably it only refers to knowledge of technical terms connected with these professions that were included in word lists that were memorized and copied as part of scribal training.

1.8.1 The “main dialect” and the “women’s tongue”

The main dialect distinction in Sumerian, as reflected in native terminology, is between *eme-ĝir*₁₇ (EG) and *eme-sal* (ES). The former seems to be the native term for what we could call Standard Literary Sumerian. The latter is restricted to ritual texts – primarily those used by lamentation priests (*gala*) – and to the direct speech of certain goddesses and their messengers in literary texts, although these same goddesses speak fluent “Standard Sumerian” in other compositions. On the basis of false etymology, and misunderstandings of the distribution of Emesal, it has been often called a “woman’s tongue,” leading some to invoke unnecessary ethnographic analogies. Likewise, it has been claimed that the *gala* priest and the divine messengers were eunuchs (e.g., Boisson 1992:434), although there is no evidence for castration, human or divine, in ancient Sumer.

The sign SAL has three basic readings, *mi*₂, *munus*, and *sal*. The first represents only the phonological sequence /mi/ (with very limited distribution), the second means “woman,” and the third means “thin.” Thus the term *eme-sal* – and the reading is assured because of the Akkadian loan *emešallu* – refers to some sort of pronunciation, but its origins and use in living speech cannot be determined. Emesal is not attested before the Old Babylonian period. At that time Emesal texts are primarily, although not exclusively, attested in northern Babylonian cities such as Kish and Sippar, but are much less common in the school texts from Nippur, Ur, and other cities in the south. This may be attributed to differences in school curricula. It is also possible that cult texts were transmitted mainly orally in southern Babylonia, but written down in the northern area. This may have been one of the consequences of massive social and political upheavals during the last quarter of the eighteenth century BC that led to the abandonment of many southern settlements and the emigration of much of the population northwards. By the first millennium BC, the majority of Sumerian texts were liturgical Emesal compositions, aside from incantations, which continued to be copied and recited in the main dialect. Thus, most literate priests used Emesal more than the old Standard Sumerian.

Various attempts have been made to explain the origins and “dialectal” status of Emesal. Alster (1982) thought that it might be related to the UD.GAL.NUN texts of the Early Dynastic period. Others have sought its origins in regional dialects. Bobrova (1989) suggested that it was the dialect of a cultic center of the goddess Inanna, since this goddess speaks in ES in literary texts. There is no evidence at present to support this claim. Bauer (1998:436) has noted that some of the sound changes that are characteristic of ES can be sometimes found in third-millennium texts from the Lagash area; this led him to propose that Emesal was related to, if not based on, the local version of Sumerian, which was hidden from our view by the scribes who wrote in the standard version of the language.

The main distinctions between the two forms of Sumerian are phonological. Thus, EG \tilde{g} corresponds to ES *m* (EG *ġar* ~ ES *mar* “to place”), or EG *d* corresponds to ES *z* (EG *udu* ~ ES *eze* “sheep”). A small number of basic terms have unexplainable lexical alternates: EG *ereš* ~ ES *gašan* “queen, mistress,” or EG *nitadam* ~ ES *mudna* “betrothed man.” A full list of correspondences as well as a listing of the known ES words can be found in Schretter 1990.

1.9 The study of Sumerian

Because of a lack of known cognate tongues, and because Sumerian died out thousands of years ago, it is extremely difficult to establish a reliable grammar or lexicon of the language. Despite much progress over the years, there is still much disagreement about basic grammatical facts, and it is impossible to do justice to all the debates on the matter in a short survey. Many complex issues have had to be simplified or presented in an abbreviated fashion; because of a lack of any proper study, issues of syntax have suffered disproportionately. The following remarks represent an attempt to present the author's present opinions, tempered by a selective representation of other points of view. One should also note that despite the large number of surviving cuneiform tablets, there are severe limitations on what can be recovered. Not only was Sumerian written for thousands of years after it was no longer the vernacular, but what was written has preserved only a part of the language. The surviving texts consist primarily of highly conventionalized administrative documents, academic word lists, and poetic compositions; there is very little literary prose. As a result, one must always keep in mind that we are dealing with highly formalized forms of verbal art far removed from any putative language of the streets, constrained by certain conventions with restricted rhetorical scope.

2. WRITING SYSTEM

2.1 Cuneiform writing

Sumerian is written with a script known as *cuneiform* – impressed onto moist clay tablets, although there are also monumental texts inscribed on stone and other hard surfaces. Once dry, clay is extremely durable and therefore tens of thousands of such tablets have survived to the present day. It is impossible to quantify the available Sumerian language remains or to estimate what lies buried in museums and in the unexcavated mounds of the Near East.

Although some popular theories propose evolutionary precursors to this writing system, it seems much more probable that it was invented as a system, with all of its characteristic features intentionally bound into a comprehensive notational structure. The signs on the earliest tablets were drawn with a reed stylus (see Ch. 8, Fig. 8.2). Very soon the technique

changed, and the end of the stylus was used to impress wedges to make up a grapheme, and this manner of writing persisted from that time on. The wedge-like look of the script gave us the modern name cuneiform, from Latin *cuneus* “wedge.” In one Sumerian poem the signs are described as *gag*, “nail(s).” The earliest writing system, which has been variously designated as *archaic cuneiform* or *proto-cuneiform*, was designed for recording transactions, and thus the texts consist almost entirely of word and number signs.

The early history of cuneiform might be characterized as one of an uneasy adaptation of an autonomous communication system to accommodate natural language. By the middle of the third millennium the new system was capable of representing full utterances, but it was still something of a mnemonic device to the extent that no attempt was made to represent with precision all aspects of language. Only kernel elements were noted, and these were not inscribed in the order in which they were read. Thus a verb, which in later writing might have numerous affixes, would only carry one or two prefixes. The reader was expected to provide the missing elements and to unscramble the signs into their proper sequence. The graphic elements needed for fairly accurate phonological representation of Sumerian language were all in place, as was the case in contemporary Egyptian, but that was not the goal of the recording system.

2.2 Signs and conventions

The sign repertoire consists of three different types of signs: (i) *semantic classifiers* – Assyriologists refer to them as *determinatives*; (ii) *syllabograms* (also called *phonograms*) or phonetic signs; and (iii) *logograms*, or word signs. Signs have multiple values, and some can even function in all three capacities. Thus, the wedge sequence 𒀭 can be read, depending on the context, (i) as the classifier for a divine name; (ii) as the syllabogram *an*; and (iii) as the noun *an* “heavens” or as *diĝir* “god.”

Certain conventions are used in the transliteration of sign sequences into the Roman alphabet. Sequences of cuneiform signs that represent roots and affixes are linked in transliteration by dashes, while morphemes are separated by periods. Similar or homophonous readings have been numbered, and modern scholars represent these indices with accents and/or with subscripted numbers. For example, the Sumerian word for “house, temple” can be transliterated either as *é* or as *e₂* (the actual phonological shape was closer to /ha/). The unpronounced classifiers (determinatives) are transliterated with raised letters; for example the classifier for a divinity (*diĝir*) is abbreviated to ^d: for example, ^d*en-lil₂* “(god)Enlil”; ^{giš}*tukul*, “(wooden)weapon”; *ur₅^{ki}* “Ur^(city).” Sign names and signs with uncertain readings are represented in capital letters. The transliteration conventions are modern, but historic, and do not represent the current state of our knowledge about semiotics, morphology, or phonology. They are relicts of the decipherment of cuneiform, which has a long history going back almost two hundred years (Bottéro 1992).

2.3 Logographic writing

The early writing system is primarily logographic. Syllabograms were originally used to represent minimal grammatical information, and to assist in reading word signs by providing pronunciation glosses. Later sign usage and modern conventions of transliteration sometimes obscure this principle. For example, the Sumerian word for “ear” or “wisdom” is written with three signs and is commonly transliterated as *ĝeštug₂*. Originally, the middle sign alone had the value *ĝeštug* and the first and third signs, *ĝeš* and *tug₂* respectively, were phonetic complements. A more accurate transliteration would thus be ^{ĝeš}*ĝeštug^{tug₂}*. One

could argue that this rendered the middle sign redundant, but such instances only demonstrate the consistent use of word signs and the avoidance of syllabic spellings for roots. In principle the syllabic writing of roots was reserved, from the middle of the third millennium on, for loanwords. For example, the Sumerian word for “road,” *kaskal*, was written logographically with a single sign, but its synonym, borrowed from Akkadian, was written syllabically as *har-ra-an*.

The elementary indications of grammatical morphemes in Early Dynastic writing were in a sense also logographic, that is they did not always accurately represent phonological shapes but only a conventional form of a morpheme. Thus, to cite a classic example, the modal prefix *he-* (or *hV-*) is written as follows (see Civil and Biggs 1966:14):

(1)	2500 BC	2400–2000 BC	1800 BC
	he ₂ - (/_/e,i,a,u/)	he ₂ - (/_/e,i/)	he ₂ - (/_/e,i/)
		ha- (/_/a,u/)	ha- (/_/a/)
			hu- (/_/u/)

Around 2400 BC the signs began to be written in the order in which they were to be read, and by 2000 BC most, if not all, grammatical elements were represented in writing. The general nature of the signs remained the same, but the structure of the system changed. Logograms and syllabograms were combined according to certain principles, but this does not mean that cuneiform writing moved towards a precise phonological representation of Sumerian.

2.4 The evolution of syllabic spelling

The complex move towards the implementation of a full syllabic repertoire was probably driven by multiple motivations. The application of cuneiform to represent Semitic languages such as Akkadian and Eblaite required the development of such a syllabary, as did the need to represent Semitic personal names in Sumerian texts. Such a full syllabary is known for Eblaite as early as 2500 BC, but the first adaptation of cuneiform to Semitic must have taken place somewhat earlier. Because of the word structure of Semitic, which requires the representation of changes that take place within roots, one could not simply use the same combinatorial principles that one used to write Sumerian. The distinct structure of discontinuous Afro-Asiatic roots favored a full syllabary rather than a logographic writing system, and therefore someone applied cuneiform to these languages by exploiting the CV and VC signs of the Sumerian script.

Certain conventions helped in interpreting the written segments, such as the use of the sequence CV–VC to express the sequence CVC. Although in Syrian Semitic writings the signs were written in the proper linguistic order, the texts from Sumer still exhibit a fairly free order of signs within a case of writing.

Eventually, these syllabic practices were partially applied back to Sumerian, and in the Early Dynastic texts we find an incipient use of syllabograms for loanwords, and for limited marking of bound morphemes. Loans and other syllabically spelled words are subject to certain conventions, such as the use of CV signs for the sequence CVC, as in *li₂-ga* for *lidga* (a measure of capacity). Nominal case endings and possessive pronouns are sometimes written, sometimes omitted. Only one or two verbal affixes are provided to the reader.

The full syllabary would eventually be applied to Sumerian as well, but not in the same manner as in Semitic. Because Sumerian roots are often monosyllabic and do not take infixes, roots continued to be written with logograms. Syllabograms are used for morphological elements, but because of the nature of a syllabary, sign usage follows certain conventions and

does not render linguistic units precisely. A series of graphemes that we would transliterate as *he₂-en-ĝar* could be transcribed as *he.i.n.ĝar* or as *he.n.ĝar.Ø*, depending on one's view of grammar, but not as *he.en.ĝar*.

2.5 Comparison of earlier and later systems

The differences between the nuclear early system and the fully developed second-millennium version of cuneiform can be illustrated by examples from a passage that is preserved in both versions. Here is a line from a third-millennium literary composition, followed by the manner in which the clichéd formula was written in Standard second-millennium Sumerian, a glossed version of the latter, and a translation (see Civil and Biggs 1966:12):

(2)	<i>Third millennium</i>	^d en-ki	isimud	gu ₃	de ₂
	<i>Second millennium</i>	^d en-ki-ke ₄	isimud-ra	gu ₃	mu-un-na-de ₂ -e
	<i>Transcription</i>	Enkik.e	isimud.ra	gu.Ø	mu.na.de.e
		Enkik-ERG.	Isimud-DAT.	voice-ABS.	PREF.-DAT.-POUR-NOM.
		“The god Enkik says to [his vizier] Isimud”			

An unusual writing in one such early text reveals that prefixes usually not expressed in writing could occasionally surface (Civil and Biggs 1966:3):

(3)	<i>Third millennium</i>	dur ₃	gu ₃ -di	nab-sa ₁₀ -sa ₁₀
	<i>Second millennium</i>	dur ₃	gu ₃ -di	na-ab-ta-sa ₁₀ -sa ₁₀
	<i>Transcription</i>	dur	gudi.Ø	na.b.ta.sa.sa
		ass	braying-ABS.	PREF.-PRO.-ABL.-buy
		“You should not buy a braying ass”		

By the beginning of the second millennium BC, the Standard Sumerian orthography had been established that would be used, with only minor adjustments, down to the very end of cuneiform writing.

In addition to the word- and morpheme-centered manner of writing, there exists a less stable and less formalized way of writing the language syllabically. Texts of this type, which first appear in northern Babylonia and peripheral areas in Old Babylonian times, write out free morphemes by means of syllabograms rather than by means of logograms. Thus for example, the Standard Sumerian sequence *sipa* ^dur-^damma-ke₄ mu-na-an-šum₂ “he gave to the shepherd [king] Ur-Namma” is rendered as *si-pa ur-an-na-ma-ke mu-na-an-šu* in the so-called syllabic orthography. The five hundred or so texts of this type are mainly, but not exclusively, ritualistic.

3. PHONOLOGY

The phonology of the language is not well understood, and it is fair to say that it will never be fully recovered. There are many reasons for this; chief among them are the manner in which the language was encoded in writing, as well as modern misconceptions as to the nature of the script. Cuneiform was deciphered backwards, that is, it was first read in its latest incarnation, thousands of years after its origins. The Semitic Akkadian language was recovered first, and when Sumerian was discovered, it was read by means of sign values established for Akkadian. As a result, certain Sumerian phonemes that were not used in Akkadian were not initially identified. The repertoire of Sumerian phonemes currently

recognized still looks suspiciously close to the Akkadian repertoire; this may be due to chance, to our inability to recognize certain sounds, or to convergence of the two systems.

3.1 Consonants

The following chart presents the conservative current view of the Sumerian consonantal inventory.

(4) Sumerian consonantal phonemes

b	d	g	
p	t	k	
	s	š	
	z		
			h
m	n	ḡ	
	l	r	ṛ

3.1.1 Stops

Ambiguities in the use of the cuneiform script to write Sumerian and Akkadian have led to many debates about the nature of Sumerian stops. Observing the behavior of certain loans from Sumerian into Akkadian, Gelb (1961:33) argued against voiced stops in Sumerian and suggested that the distinction was between voiceless aspirated stops ($/p^h/$, $/t^h/$, and $/k^h/$) and voiceless unaspirated stops ($/p/$, $/t/$, and $/k/$). Some have followed his hypothesis; Jacobsen (1957:92, n. 1) proposed that the opposition was between rounded and unrounded stops. There are serious flaws in these reconstructions, as noted by Rubio (1999a:141). For the present it seems most sensible to follow the traditional view and to argue for a voiced versus voiceless distinction. Civil (1973a:34) has observed that voiceless stops become voiced when they occur before an ending that begins with a vowel (*kalak/kalaga* “mighty”), although he also notes that the rule may have to be reversed.

The occurrence of a phonemic glottal stop $/ʔ/$ is uncertain. Spellings such as *sa-a* “cat” are commonly transcribed as *sa’a* (as if $/saʔa/$), but this is presently best seen as a Sumerological convention rather than a phonological claim.

3.1.2 Sonorants

Sumerian has both nasal and liquid phonemes. The evidence for phonemic glides is less straightforward.

3.1.2.1 Nasals

The writing system makes a clear distinction between $/m/$ and $/n/$. There is some uncertainty about their behavior in word-final position. Certain words ending in a nasal have a different consonant when followed by vocalic ending; thus *ezen* “festival” but *ezem-ma*. This variation may be interpreted as a change either of $/n/$ to $/m/$ before a vowel, or of $/m/$ to $/n/$ in word-final position.

The nasal $/n/$ also regularly becomes $/l/$ before $/b/$. This is commonly encountered in the verbal prefix chain when the prefix *nu-* is followed by *ba/i-* (written *la-ba-* or *li-bi₂-*), but also within words as in the ES *la-bar* (EG *nağar*) “carpenter.” An unusual change of $/l/$ to $/n/$ before $/g/$ is found in early syllabic writings for the word *lugal* “king” (*nu-gal*). This,

however, may have to be interpreted as hypercorrection based on analogy with composites formed with *nu-* such as *nu-kiri₆* “gardener” and so forth.

The identity of the phoneme commonly written \tilde{g} is somewhat problematic (see Krecher 1978). As Civil (1973a:61) has noted, it is regularly only found before the vowels /a/, /i/, and /e/; it has variously been described as a velar nasal, a labiovelar nasal or as a nasalised labiovelar, and has been represented phonetically by notations such as /ŋ/, /ŋm/, or /ŋg/ (Black 1990:107–108). One should not exclude the possibility that Sumerian at one point had more than one such nasal–retroflex, palatal, as well as labial – as is the case, for example, in certain Dravidian languages.

3.1.2.2 Liquids

Because of certain writing conventions, Diakonoff (1967:49) proposed a phonemic distinction between the lateral liquids /l/ and velar /ʎ/. This has not gained wide acceptance. The phonological status of /l/ and /r/ is difficult to determine, and there are examples of an interchange of these phonemes in final and medial position (Civil 1973c: 174).

3.1.2.3 Glides

Standard transliterations of Sumerian do not recognize the existence of glides. Third-millennium texts from Syria, however, provide spellings that suggest the existence of a labial /w/, a palatal /y/ (and possibly one or two other sonorants; see Civil 1984:80).

3.1.3 Other consonants

Because of certain writing conventions, alterations, loans, and syllabic spellings, other phonemes have been suggested over the years. Civil (1973a) has drawn attention to the alternation of [g] and [b] in certain words, concluding that these spellings represent a distinct phoneme, either the labiovelar /g^w/ or /gb/. The most widely debated extra phoneme of Sumerian has been variously notated as /dr/, /d^r/, /ḫ/, and, most recently as [ts^h] (Jagersma, forthcoming). If the last-named is correct, it was an affricate that had disappeared early on from the language, but which in certain cases was reflected in historical spellings.

3.1.4 Apocope

It is generally assumed that word-final consonants are dropped, but it is unclear if this applies in all situations. Hence most CVC signs also have a CV transliteration: for example, the sign read as *šag₄* “heart” by some, is read as *ša₃* by others.

3.2 Vowels

The vowels of Sumerian correspond to those found in Akkadian:

(5) Sumerian vowel phonemes

/i/	/u/
/e/	
	/a/

In Sumerian, however, unlike Akkadian, vowel length is not phonemic. Some have argued for the existence of a mid-back vowel /o/ (Lieberman 1979), but this has not found wide support. There is no evidence for the existence of diphthongs. In third-millennium texts

from the Syrian city of Ebla, certain words are unexpectedly written with final *-n*; this may be Semiticization or an indication of nasalization of final vowels in early Sumerian (Civil 1984:79).

3.2.1 Vowel harmony

Sumerian words show a very strong tendency towards vowel harmony, both within roots and morphophonologically, but the issue has never been analyzed in detail. Thus, many bisyllabic native words in the language repeat the same vowel: *kalam* “land,” *pirig* “lion,” or *murub₄* “center.” Loans sometimes do conform to this tendency (e.g., *ugula* “captain, foreman” from Akkadian *waklu*), and sometimes do not (e.g., *akkil* “cry” from Akkadian *ikkilu*). Diakonoff (1983:87) thought that Sumerian had total vowel harmony, but as Boisson (1997:41) notes, no other language shows such a degree of harmony. It is probably safer to state that the language has a strong tendency towards harmony, but that the degree of the phenomenon may be masked by our transliteration system. There are many bisyllabic words with two different vowels, especially /a/ and /i/: for example, *agrig* “provider,” *gisal* “oar,” or *apin* “plow.” There are also bisyllabic words with other vowel sequences: for example, *dedal* “ashes,” *bugin* “bucket,” or *gizbun* “banquet.” Vowel harmony seems to operate strongly, but not totally, within the verbal prefix chain, but does not affect the stems, nor does it operate on nominal prefixes. Individual elements in compounds also retain their original vowels, as in *a₂-tuku* “benefit, profit.”

3.3 Accent and intonation

Over the years there have been suggestions that Sumerian was a tonal language. The underlying assumption was that because the language had so many homophones, some additional distinctions were necessary, hence the tonal hypothesis. Many, but not all, Sumerian homophones are an illusion based on the system of transliteration (Parpola 1975). The only clearly identifiable prosodic feature is typologically predictable: rising phrase intonation to mark questions is sometimes expressed through the writing of additional vowels at the end of a clause.

4. MORPHOLOGY

4.1 Word formation

Sumerian distinguishes between nominal and verbal bases. The controversial category of adjectives will be discussed below; here it is assumed that most adjectives are verbs. The only recent discussions of Sumerian word formation are those of Diakonoff (1967:51–54), Kienast (1975), Schretter (1993), and Attinger (1993:155–158). This is a modified version of their analysis. One should bear in mind that the form of Sumerian words is sometimes obscured by inconsistent transliteration (on the CVC ~ CV transliteration variation, see §3.1.4).

4.1.1 Basic Word Structure

Basic words were built on the following phonotactic patterns: (i) V (e.g., a “water”). There are few such roots. Most words transliterated as simple vowels are actually CV, such as *e₂*

“house, temple, estate”, (/hal) or a, “father”, /aya/ or /yaya/); (ii) CV (e.g., *ki*, “earth”); (iii) VC (e.g., *ud* “day”); (iv) VCV (e.g., *ama* “mother”); (v) VCVC (e.g., *amar* “calf”); (vi) VC₁C₁VC (e.g., *addir* “river crossing, wage”); (vii) CVC (e.g., *dub* “tablet”); CVCV (e.g., *gaba* “breast”); (ix) CVCVC (*munus* “woman”).

While the syllabic cuneiform script does not represent consonant clusters directly, heterogeneous clusters undoubtedly existed. In medial position one can recognize the following patterns: (i) CV₁C₁C₂V₁C (e.g., *kiskil*, “young woman,” written ki-sikil); (ii) (C)V₁C₁C₂V₂C (e.g., *ḡeštug* “ear, wisdom”); (iii) V₁C₁CV₂C (e.g., *irkab*, “bat,” *adkin* “salted meat”). Initial and final clusters cannot be directly spelled out in cuneiform, but there are patterns of the type (i) C₁C₂VC (e.g., *lgud* “thick”) or (ii) CV₁CV₁C₁C₂ (e.g., *kurušt* (*kurušda*) “ox fattener”).

4.1.2 Compound forms

In addition to primary nouns and verbs, Sumerian has a rich repertoire of composite forms. For compound verbs see below §4.6. The least productive is a concatenation of two nouns. A form N₂ N₁ replaces the normal order of N₁ N₂+gen. These are found only in poetry and are archaic or archaizing; for example. *an-ša(g)* “heavens + center” for “center-of-the-heavens.” Two nouns may also occur in normal order without genitive marker, as in *ereš-dingir*, “lady + god” for “priestess.”

Compound nouns are also formed from a noun a verbal/adjectival root such as *dub-sar*, “tablet + write” for “scribe.” In addition, nouns may be created from compound verbs without any affixes: *sa₂-dug₄*, “delivery.” Finally, nouns may be formed from frozen verbal forms: *u₃-na-(a)-dug₄* “letter,” literally “when you speak to him/her”; *ga-an-tuš* “tenant,” literally “I want to sit”; *ba-an-ḡi₄* “answer,” literally “he/she answered.”

4.1.3 Apophony

Apophony (or ablaut) may have played a limited role in word formation, but requires further study. At present it can be recognized in a small number of basic adjectives: for example, *gal/gul* “large/larger” (Civil 1982:12).

4.1.4 Reduplication

Reduplication plays a highly restricted role in word formation. It appears that basic color terms share reduplicated stems: for example, *babbar* < *bar₆-bar₆* “white”; *kukku* < *ku₁₀-ku₁₀* “black”; and possibly *sig₁₇-sig₁₇* “blue/green” (Civil 1987:155). There is also a small class of echo words, nouns created by duplication with a vowel alternation (CV₁C-CV₂V), all restricted to the semantic class of noise: for example, *dum-dam...za* “to clamor”; *suh₃-sah₄...za* and so forth (Civil 1966). There are also isolated examples such as *nunuz* (<**nuz-nuz*) “eggs” or of onomatopoetic words such as *zi...pa-an-pa-an* “to breathe.” The morpheme *-didli*, which means “one by one,” was originally *dil-dil* “one-one.” Reduplicated nouns and adjectives mark plurality (see §4.2.3), while reduplicated verb-stems can mark imperfect aspect and plurality of absolutes (see §4.6.3).

4.2 Nominal morphology

Sumerian nominal forms consist of a base and a series of affixes, primarily suffixes. The one prefix position is occupied by derivational morphemes; all other affixes come after the stem. Nouns are marked for gender (animate and inanimate), number, and case.

Although these affixes are ordered in a strict sequence when there is only a single noun, the matter is more complex when more than one is involved. In possessive constructions only the dependent noun takes a genitive marker: for example,

- (6) dumu lugal.ak
 son king-GEN.
 “The king’s son”

When two genitives are involved, the suffixes are added cumulatively (i.e., displaced) after the last noun. For example,

- (7) sa-a dumu lugal-la-ka
 sa’a dumu lugal.ak.ak
 cat son king-GEN.-GEN.
 “The cat of the son of the king”

In more complex sequences the affixes come at the end of a noun phrase; as a result, nouns that are within the phrase receive no marking at all. Sumerian is therefore a language with case displacement and globally final NP-marking, to use Aristar’s terminology (1995: 432, 445).

In schematic positional terms, the *noun chain* could be represented as follows (where PRO represents “possessive pronouns”):

(8) Sumerian noun chain

1	2	3	4	5	6	7
DERIVATIONAL	N ₁	N ₂	GEN.	PRO.	PL.	CASE
MORPHEMES						

4.2.1 Derivational morphemes (position 1)

There are two derivational prefixes. The first, *nam-*, forms abstracts (e.g., *lugal* “king,” *nam-lugal* “kingship”); the second, *niĝ₂-*, forms nouns out of verbs (e.g., *ba* “to bestow,” *niĝ₂-ba* “gift”). The former presents few problems; the latter is more complicated.

Originally *niĝ₂* was the inanimate relative pronoun. Many Sumerologists write that *niĝ₂* is a noun meaning “thing,” but there is little to substantiate this claim. The prefix is used in ways that are not always clear to us and may have been lexicalized to some extent. It can be prefixed to certain adjectives such as *daĝal* “broad, wide,” but the difference between *daĝal* and *niĝ₂-daĝal(a)* eludes us at present. One possibility is that this forms a superlative; if this is indeed the case, it was not generalized for all adjectives. More probable is that the forms with *niĝ₂-* are no longer adjectives but are nouns, and therefore stand in possessive relationship with other nouns. Thus, the royal epithet *sipa gin.a* (*sipa gi-na*) means “just/true shepherd,” but *sipa niĝ.gin.ak.e* (*sipa niĝ₂-gi-na-ke₄*) means “shepherd of justice.” One should also note that there are a large number of *niĝ₂-*compounds in Sumerian in which the element has no apparent semantic role.

Attinger (1993:155) does not consider the preceding to be derivational morphemes, arguing that only the prefix *nu-* serves this role. He follows the standard opinion, based primarily on etymological grounds, that *nam-* is a substantive derived from *me* “to be” and that *niĝ₂* is a noun meaning “thing” that forms “concrete nouns.”

It is not clear if *nu-* should be viewed as a derivational morpheme or simply as a nominal formant. It is found in a small group of nouns denoting professions such as *nu-banda₃* “captain” or *nu-kiri₆* “gardener” (Edzard 1967). It is possible that the formant is related

to *lu*₂ “person, man.” The pronunciation with /n/ is indicated by loans into Akkadian such as *nukaribbu* and *laputtu* (with change of *n* > *l* / __ *b*; see §3.1.2.1). Early texts, however, indicate that *lu*₂ may have been pronounced as /nu/, as evidenced by such syllabic spellings as *nu-gal* for *lugal* “king” (etymologically, or folk etymologically, from *lu*₂ *gal* “great man”).

The formant *nam-* is also found in compound verbs (e.g., *nam...tar* “to decide fate”). Difficult to analyze are words such as *til* “life, to live, give health” which can function as verbs as well as nouns. These also create forms with the abstract prefix and it is difficult to distinguish the differences between *nam-til* and *til*.

4.2.2 Possession (position 4)

A noun can be followed by an adjective (*lugal gal* “great king”), or by another noun in possessive relationship (Zólyomi 1996b). In that instance the second, possessed, noun, is marked by the suffix *-ak*. Thus, *lugal kalam.ak* “king of the land.” This is written as *lugal kalam-ma* in obedience to two rules: that in order to add a vocalic ending to consonant-final root one use a CV sign, and the loss of final consonants. In rare instances there can be two or even three genitives, but no more than that. Note that the genitive *-ak* occupies a different position than the other case affixes.

There is another possessive construction in Sumerian that topicalizes the possessed noun. In the Sumerological literature this is called an *anticipatory genitive*; it is limited to literary texts and often results in tortured modern translations such as “the land – its king was.” The possessed noun is fronted and carries the genitive suffix; the possessor follows and is marked with a third-person possessive pronoun. Thus, with *lugal kalam.ak* “king of the land,” compare *kalam.ak lugal.bi* “the land’s king.”

4.2.3 Number (position 6)

Singular is unmarked, but plurality can be expressed in a number of ways. Animate plural nouns take a suffix *-ene*, but there is no equivalent plural morpheme for inanimates. Hence an unmarked inanimate noun may be plural and the number is only marked by means of plural verbal agreement. The same holds true for collective nouns, such as *eren*₂ “troops” which take no plural marker but can trigger plural verbal agreement.

If an animate or inanimate plural noun is followed by an adjective, the latter is reduplicated (e.g., *lugal / na*₄ *gal gal* “great kings/stones”); this can, in some animate cases, be combined with the plural suffix as in *lugal gal gal.ene* “great kings.” Plurality can also be expressed by reduplication of the stem, as in *lugal lugal* “kings.” It is commonly accepted that this signifies totality (i.e., “all kings”), but this remains to be fully documented. In addition, one encounters reduplicated nominals with the ending *-ene*, as in *lugal lugal.ene* “kings,” but the nuances of this formation elude us at present.

Two additional markers of plurality are usually cited: *-meš* and *-hi-a*. The ending *-meš* is the third-person plural copula, that is a form of the verb “to be”; *hi-a*, however, is not a plural marker at all, but an adjective meaning “mixed, of various sorts.” Thus, *udu hi-a* means not “sheep” (pl.) but rather “various types of smaller cattle.” Both have limited distribution, although the exact limits have not been studied. Since there is no formal morphological marker for inanimate plurals, the marker *-meš* may have developed from the copula to supplement the paradigm (as a sort of pseudo-morphological marker for paradigm leveling) and minimize ambiguity. It is commonly found in administrative lists and as a marker of plurality of Sumerograms in Akkadian texts, but is much less common in Sumerian narratives.

Since Akkadian used only morphological means of marking plurality, paradigm leveling may also account for the new composite plural morpheme *-bi.ene* that begins to appear in Old Babylonian literary texts. Thus, *iri.bi.ene* does not mean that the city was considered somehow metaphysically personified; it is simply a new way of expressing “cities.”

4.2.4 Case (position 7)

Sumerian has two direct and five oblique cases. With the exception of the equative, all of these are also marked on the verb, albeit the direct cases occupy different ranks from the obliques.

(9)	<i>Ergative</i>	-e	
	<i>Absolutive</i>	-Ø	
	<i>Dative</i>	-ra	<-ar/-ir/-ur>
	<i>Comitative</i>	-da	<-ta/-da ₅ >
	<i>Ablative/Instrumental</i>	-ta	<-da>
	<i>Allative</i>	-(e)še	<-še ₃ /-e ₃ /-aš/-eš/-eš ₂ /uš>
	<i>Equative</i>	-gin	<-gin ₇ >
	<i>Locative 1</i>	-a	
	<i>Locative 2 (terminative)</i>	-e	

The ergative case marks the most agent-like argument of transitive clauses (corresponding to the transitive subject in English).

The absolutive case marks the patient of transitives (corresponding to English direct objects), as well as the single core argument of intransitives (corresponding to English intransitive subjects). The absolutive is also the citation form for nouns:

- (10) A. *lugal.e* *iri.Ø* *mu.n.hul.Ø*
king-ERG. city-ABS. PREF.-erg-destroy-ABS.
“The king destroyed the city”
- B. *Lugal.Ø* *i.gin.Ø*
king-ABS. PREF.-GO-ABS.
“The king went”

The dative marks the beneficiary of an action (*lugal.ra* “for the king”) but also functions as a locative with animates (“upon the king”), in concert with the observations of Kuryowicz (1964) and Aristar (1996) about the typological associations of datives with animates and locatives with inanimates. It also marks the secondary agent of causative constructions.

The comitative (or proprietary) indicates accompaniment (*lugal.da* “with the king”).

The ablative case is also used in an instrumental manner (*tukul.ta* “by means of a weapon”) and with numbers it is used in a distributive sense (*min.ta* “two each”). The allative (usually called terminative in the literature) and the ablative denote movement towards (*iri.(e)še* “to/towards the city”) and away from a goal (*iri.ta* “from the city”), respectively.

The equative denotes comparison (*tukul.gin* “like a weapon”).

The locative 1 marks the inanimate place where an action takes place (*iri.a* “in the city”); while the locative 2, called locative-terminative by Sumerologists, marks propinquity (*iri.e* “next to the city”). The locative cases also mark the syntactic object of compound verbs (see §4.6.1); together with the allative they can also be used to mark the goal or object of certain verbs of affection and cognition.

There are some examples of idiomatic or verb-specific uses of certain cases with idiosyncratic meanings. In later Sumerian one sometimes encounters a redistribution of case functions under the influence of Akkadian. For example, the Akkadian preposition *ina* is both locative and instrumental, and under its influence Sumerian *-ta*, originally ablative and instrumental, acquires a locative meaning.

As is to be expected, low animacy nouns do not take ergative or dative; and high animacy nouns cannot take ablative/instrumental, allative, or locative suffixes.

In addition, Sumerian contains a set of discontinuous morphemes built by means of an initial word – often a body part – an optional bridging genitive morpheme, and a locative or directional case ending (*-a*, *-e*, *(e)še*, *-ta*). These can bracket nouns or nominalized clauses. Thus, for example, *bar e-ba-ka* means “because of that ditch”:

- (11) *bar* *e.bi.ak.a*
 because of ditch-PRO.-GEN.-LOC.

Body parts are *bar* “exterior” (“because of”); *da* “side” (“next to”); *igi* “eye” (“before”); *eĝer* “back” (“behind”); *murub₄* “waist, middle” (“in the midst”); *šag₄* “heart” (“inside”); *ugu* “forehead” (“before”); and *zag* “side” (“outside of”). A few other morphemes may also play this role, including *en-na*, of unknown origin (“until”); *ki* “earth” (“in, from”); *mu* “name” (“for”); and the abstract prefix *nam-* (“for the sake of”). These discontinuous morphemes allow for the spatial determination of animates, which as a rule cannot take the simple locative and allative case suffixes.

Diakonoff (1967: 56) lists *-ak.eš* as a case (he calls it causative); no other grammar does so. It is built by adding the allative to a bridging morpheme, which is the genitive. This properly belongs with the complex morphemes discussed above, as it is an abbreviation of *mu...-ak.(e)še* “because.”

4.2.5 Gender

Sumerian had two genders, animate and inanimate. The animate class covers humans and divinities, everything else is inanimate; perhaps one should use the terms “personal” and “impersonal.” Gender is not marked directly on the noun, but only surfaces in cross-reference, in pronouns, which are dominated by animates, and verbal concord.

4.3 Pronouns

As is to be expected in a head-marking language, the principal participants in an action are marked by affixes on Sumerian verbs, and therefore personal pronouns do not normally appear in sentences (Rhodes 1997). They are only used for emphasis, topicalization, and topic shift. Given the limited rhetorical range of Sumerian poetry, and the predominance of third-person narrative, it is not surprising that independent pronouns are relatively rare in the preserved texts, especially first- and second-person plural forms.

4.3.1 Personal pronouns

Unlike nouns, which show ergative case marking, independent personal pronouns can only be used as transitive and intransitive subjects, and thus have to be interpreted as nominative, albeit without any corresponding accusative form. The nominative marker is *-e*; it is possible that this is a deictic element (see Woods 1999). In addition to nominative forms, personal pronouns have dative, terminative, comitative, and equative forms; as animates they do

not take local cases. Nothing is known about the inanimate third person, although it is possible that this function was fulfilled by *ur₅* (or *ur₅-bi*). As already noted, not all forms are attested. In addition to the normal forms encountered in texts, lexical texts (see §6) list compounds of singular and plural forms such as *za-e-me-en-ze₂-en* for the second person. Such forms may simply be speculative grammatical constructions, or they may indicate that Sumerian originally had an inclusive/exclusive distinction that was incomprehensible to speakers of Akkadian. The personal pronouns are presented in (12) (OB = Old Babylonian):

(12)		<i>Singular</i>	<i>Plural</i>
	<i>Nominative</i>		
	1st	ġa ₂ -e	me-(en)-de ₃ -(en)
	2nd	za-e	me-en-ze ₂ -en
	3rd	e-ne (pre-OB a-ne)	e-ne-ne
	<i>Dative</i>		
	1st	ġa ₂ -a-ra/ar	
	2nd	za-a-ra/ar	
	3rd	e-ne-ra	e-ne-ne-ra
	<i>Comitative</i>		
	1st	(a/e)-da	
	2nd	za-(a/e)-da	
	3rd	e-ne-da	e-ne-ne-da
	<i>Terminative</i>		
	1st	a ₂ -(a/e)-še ₃	
	2nd	za-(a/e)-še ₃	
	3rd	e-ne-še ₃	e-ne-ne-še ₃
	<i>Equative</i>		
	1st	ġa ₂ -(a/e)-gin ₇	
	2nd	za-(a/e)-gin ₇	
	3rd	e-ne-gin ₇	e-ne-ne-gin ₇

4.3.2 Possessive pronouns

Possessive pronouns affixed to nouns are etymologically related to the independent pronouns.

(13)		<i>Singular</i>	<i>Plural</i>
	<i>First</i>	-ġu ₁₀	-me
	<i>Second</i>	-zu	-zu-(e)-ne-(ne)
	<i>Third animate</i>	-a-ni	-a-ne-ne
	<i>Third inanimate</i>	-bi	-bi-(e-ne)

4.3.3 Reflexive pronouns

Reflexive pronouns are not well attested. There is no ergative form. The base is *ni₂-*, to which can be added possessive pronouns and case endings such as the locative. The absolutive paradigm is as follows:

(14)		<i>Singular</i>	<i>Plural</i>
	<i>First</i>	ni ₂ -ġu ₁₀	
	<i>Second</i>	ni ₂ -zu	
	<i>Third animate</i>	ni ₂ -(te-a-ni)	ni ₂ -te-a-ne-ne
	<i>Third inanimate</i>	ni ₂ -bi	ni ₂ -ba/bi-a

4.3.4 Interrogative pronouns

Unlike personal pronouns, interrogatives work on the ergative pattern (for a different view see Huber 1996:186). In these pronouns the normal marking of animate with *n* and inanimate with *b* is reversed:

- (15) *Ergative* a-ba-(a) “who?”
Absolute a-ba “who?” a-na “what?”

Both pronouns can occur with suffixes. The animate form takes only the enclitic copula and personal pronouns. The inanimate form can be combined with certain postpositions, the copula, as well as possessive pronouns.

4.3.5 Relative pronouns

Sumerian uses two substantives in the function of relative pronouns. Both are related to the derivational morphemes discussed in §4.2.1. The animate pronoun is *lu*₂, literally “man, human,” as in *lu*₂ *e*₂ *du*₃-*a* “who built the temple.” The inanimate equivalent is *niġ*₂, which is often translated as “thing,” although the etymology may be questioned: *niġ*₂, *du*₁₁-*ga-ni* (*dug.ani*) “what he/she said.”

4.4 Adjectives

No proper study of adjectives exists; recent grammars contain limited information on this category (Thomsen 1984:53–65; Attinger 1993:167–168). The only preliminary study is Black (forthcoming). It is generally agreed that Sumerian had only a limited number of “true” adjectives and that most are uninflected verbs with the nominalizer *-a* (there is a complex debate on this issue; see, most recently, Krecher 1993, Schretter 1996). There are only a handful of adjectives that are not attested as verbal roots, and, for lack of a better analysis, one should maintain that all Sumerian adjectives are in fact verbs (Gragg 1968). In form, adjectives are bare uninflected verbal roots followed by \emptyset or by *-a*. This suggests that at a certain level they are simply reduced predicates. The distribution of these two forms is not clear. Most adjectives appear in one or the other, but some are attested in both forms.

Certain adjectival constructions are unclear at present. A small group of adjectives carries the derivational prefixes *niġ*₂- and *nam*- (see §4.2.1). We do not know what the difference is between *daġal(a)* “wide, teeming” and *niġ*₂-*daġal(a)*, or between *kas dug*₃ “sweet beer” and *kas niġ*₂-*dug*₃. Since *niġ*₂- usually makes nouns out of verbs, this may be construed as a nominal construction. It is also conceivable that *niġ*₂- is here the inanimate relative pronoun and that this is a calque from Akkadian.

4.5 Adverbs

Sumerian adverbs are formed from nominal and verbal bases. Most commonly they are formed with a suffix *-bi* (originally probably an inanimate deictic) which can only be added to verbal (“adjectival”) roots, either directly or following the nominalizing suffix *-a*: for example, *gal-bi* “greatly,” *dug*₃-*bi* “tenderly,” *gibil-bi* “anew,” or *ul*₄-*la-bi* “rapidly.” A different suffix *-(e)še*, homonymous with the allative case, created manner adverbs from nouns as well as adjectives: thus, *u*₄-*de-eš*₍₂₎ “as the day,” *gal-le-eš* “grandly.” In Old Babylonian

texts one begins to encounter the cumulative use of both suffixes as in *gibil-bi-eš₃* “anew.” In some cases, adjectives can be used as adverbs without any suffix, such as *gal* “great” but also “greatly” (Krecher 1987:74). A postulated class of adverbs in *-a* has been questioned (Attinger 1993:170).

4.5.1 Modal and temporal adverbs

The most common modal adverbs are the following: *i₃-gi₄-in-zu* “moreover, what’s more”; *i₃-ge₄-en* “truly, in fact”; *a-na-aš-am₃*, *a₂-še₃* “how is it (that).” Temporal adverbs are as follows: *a-da-lam* (*a-da-al*, *i-da-al*) “(but) now”; and *i₃-ne-eš₂* “now.”

4.5.2 Interrogative adverbs

These consist of a stem *me(n)*, complemented by directional suffixes or the enclitic copula. The most common forms are these: *me-a* “where?” *me-še₃* “where to?” and *me-na-am₃* “when?”

4.6 Verbal morphology

The analysis of verbal structure is the most controversial part of modern Sumerian grammatical study. It was also of concern to Akkadian-speaking ancients, who compiled comparative paradigms of Sumerian and Akkadian verbal forms and attempted to isolate morphological elements that they considered equivalent to ones found in their own language (Black 1984). It would be impossible to give an adequate accounting of all competing visions of the Sumerian verb in the present context; what follows is my own relatively simple analysis with selective references to competing theories. For fuller bibliographical information see Thomsen (1984), Attinger (1993), and Römer (1999).

Sumerian verbs consist of a verbal root and morphological affixes that mark certain verbal categories. The affixes mark categories such as mood, concord, and aspect. Verbs are either simple or compound. In certain verbs the base may be reduplicated to mark the imperfective, iterative action, or plurality of patient.

Compound verbs are construed with an unmarked noun and an inflected verbal base (Karahashi 2000). The noun is inanimate, indefinite, and generic; it is the semantic patient of the verb but it does not constitute a core argument of a clause, hence it is not marked by a case ending. The direct object of the clause is marked as oblique, usually with the locative 2 *-e*, less often with locative 1 *-a*, and with dative *-ra* on a small group of verbs, most of them verbs of emotion, and with still other cases. A good example is the verb *in-(še₃) . . . dub₂* “to insult” which takes the dative, although the verb takes the locative rather than the dative prefix:

- (16) *ud-bi-a* *gi* *gīš-ra* *in-še₃* *mu-ni-in-dub₂*
 ud.bi.a *gi.(e)* *gīš.ra* *in.še* *mu.ni.n.dub*
 day-PRO.-LOC. reed-(ERG.) tree-DAT. N.-ALL. PREF.-LOC2-ERG.-insult
 “Then (lit. ‘on that day’) Reed insulted Tree”

Many compound verbs have transparent etymologies, such as *ki* “earth” + *tag* “strike, touch” = “to lay a foundation, to spread.” The incorporated noun is sometimes a body part, *š_u* “hand” or *ka* “mouth.” Others consist of a noun and an auxiliary verbal root such as *dug₄* “to speak” or *ak* “to make,” verbs which otherwise appear independently. Some verbs of this type may be doubly compounded with an auxiliary and it is unclear if this has any semantic

consequences; thus *šu . . . bal* and *šu bal . . . ak* both mean “to overturn.” A substantial group of compound verbs has no apparent etymological transparency, such as *ki . . . aġ₂* “to love” (lit. “place” + “to measure out”). Small subsets allow for expansion of the noun by an adjective (e.g., *šu zi . . . ġar* “hand” + “true” . . . “place” = “to bestow, grant”). One has the impression that by the time we actually observe the language, noun–verb compounding was no longer productive. A frozen set had entered the lexicon, but new verbs were not being created.

Attinger (1993) has suggested that compound verbs are an example of noun incorporation, a phenomenon attested in many languages of the Americas, Southeast Asia, and elsewhere (Mithun 1984, 1985). Some have denied this, arguing that in Sumerian this is a syntactic and not a morphological issue (Zólyomi 1996a), but this is a theoretical question that covers all of noun incorporation. Huber (1996) likewise comes out against incorporation in this language, but once again it is a definitional question. The Sumerian data suggest either what has been termed loose incorporation (Mithun 2000) or, more probably, what Miner (1986) calls “noun stripping.” In such constructions the nouns are “stripped” of their affixes but remain as separate phonological entities; the nouns are backgrounded but remain as independent words.

4.6.1 Transitivity

Most Sumerian verbs are strictly transitive or intransitive. There exists a small class of labile, or ambitransitive, verbs that can be either transitive or intransitive. Examples are *gu₇* “to eat ~ to feed”; *naġ* “to drink, give to drink, water”; *uš₂* “to kill ~ to die”; *tuš* “to sit ~ to seat”; *kud* “to enter, bring in”; *us₂* “to follow, reach, let reach.” Two such verbs are semantically similar, but differ in the animacy of the subject/patient: *til* “to live, dwell, be healthy ~ to settle, give life/health” used when people are involved; and *lug* “to pasture, settle” which is used for animals. One should note, however, that *til* can be used of inanimates with the meaning “to be/make healthy.”

4.6.2 Valence

Matters of valence in Sumerian have been disputed, but no consensus has been reached. It is clear that simply deleting the agent can form impersonal passives; as a consequence, this often results in a change of verbal prefixes, but there is no specific passive marker as such. The existence of other forms of valence change mechanisms, be it antipassive or causative, is difficult to ascertain at present (see, most recently, Attinger 1993:195–199, though most of his examples are actually labile verbs).

4.6.3 Aspect/Tense

Opinion is divided on whether the two forms of the Sumerian verb differ in tense or in aspect, although in recent years most scholars have come to speak of the latter rather than the former. Certain verbs utilize stem reduplication to create one of the forms, and therefore typologically it is unlikely that tense is involved (see Anderson 1985:170). For the sake of the present discussion we shall use the terms *perfective* and *imperfective* to designate these two forms; one could also designate them as *completive* and *incompletive* since the only thing that most scholars agree on is that one denotes a complete and the second an incomplete action.

Ancient lexical and grammatical texts provide us with the Akkadian names of the two basic verbal forms: *hamtu* and *maru*. There has been much discussion of the exact meaning of these words as well as of whether these technical terms describe the Sumerian verbal forms

or their Akkadian translations. Uncertainties aside, the terms have often been used in the modern literature in order to avoid labeling the specific aspectual or temporal qualities of the Sumerian verb. It now appears fairly certain that these Akkadian grammatical terms means simply “short” and “long” (Civil 2002: 69–100) and that the perfective (i.e., “short”) form was considered the unmarked citation category. At the present time the full significance of the two forms is open to debate and the use of “perfective” and “imperfective” here is purely conventional.

4.6.3.1 Marking of aspect

Verbs mark these distinctions in three separate ways: through (i) agreement, (ii) stem reduplication, and (iii) suppletion. The perfective is the unmarked aspect and the perfective stem is the citation form. Reduplication and suppletion also serve to mark the plural of absolutes, that is, plural intransitive subjects and transitive objects; Sumerologists refer to this as *free reduplication*. Most verbs achieve this by means of stem reduplication, but a small class of verbs has suppletive plural forms. On rare occasions imperfective verbal roots can be tripled or even quadrupled to mark plurality of absolutes; with perfects this marks both intense action and plurality of absolutes.

There has been some disagreement concerning the marking of the two aspects. Yoshikawa (1968) in a pioneering study proposed three classes of verbs: those that formed the imperfective by affixation (-e); by reduplication; and by alternation of roots. It seems fairly certain, however, that there is no affixation group, and that the suffix -e belongs to the agreement-markers (Thomsen 1984:116).

More than half of Sumerian verbs have no overt aspectual morphology; the distinctions are expressed by means of different agreement patterns for the two aspects (e.g., *šum* “to give,” *dal* “to fly”). A much smaller group of verbs utilizes partial or full stem reduplication to form the imperfective. The writing system makes it difficult to discern when a root is fully or partially reduplicated, but as a rule CV and VC roots are fully copied (e.g., *si* ~ *si-si* “to fill,” *ur* ~ *ur.ur* “to drag”), while CVC roots are reduced to CV (*ġar* ~ *ġa.ġa* “to place”), although the final consonant may resurface before a vocalic ending. Often this is not written, but forms such as *ġa₂-ġar-am₃* illustrate the principle well. A very small class of verbs displays root suppletion for aspect as well as number (Steinkeller 1979). As a result, one can say that there were two “regular” ways of distinguishing aspect in Sumerian: through agreement and by stem reduplication.

4.6.3.2 Regular verbs

Regular verbs may be represented as follows, utilizing the *šum* (written <šum₂>) “to give,” *ġi* (written <ġi₄>) “to return,” and *ġar* “to place”:

(17)	<i>Perfective</i>		<i>Imperfective</i>
	šum	<šum ₂ >	šum
	ġi	<ġi ₄ >	ġi.ġi
			<ġi ₄ -ġi ₄ >

Superficially, it would seem that there was also a reduced reduplication group:

(18)	<i>Perfective</i>		<i>Imperfective</i>
	ġar	<ġar>	ġa.ġa
			<ġa ₂ -ġa ₂ >

Although it remains to be fully demonstrated, it is most probable that all CVC verbs copied only CV in reduplication, although this is often obscured by the writing system. Thus, the reduplication of *ġar* is written as <ġa₂-ġa₂>, but the reduplication of *kin* “to seek” is written as <kin-kin>, which must be read as *ki₃-ki₃*.

4.6.3.3 *Suppletive verbs*

The suppletive verbs are similar in meaning to such verbs found in unrelated languages, including many North American tongues. Most of them are intransitive or labile. The complex paradigms of these verbs began to conform to the regular verbs already at the end of the third millennium, when singular roots began to replace the plural forms. For comparative purposes it is necessary to list these Sumerian verbs in full.

(19) Verb	[Perfective]		[Imperfective]	
	Singular	Plural	Singular	Plural
“to bring”	<i>de</i> ₆	<i>lah</i> ₄	<i>tum</i> _{2/3}	<i>lah</i> ₄
“to go”	<i>gin</i>	<i>er</i>	<i>du</i>	<i>su</i> ₈ -(<i>b</i>)
“to stand”	<i>gub</i>	<i>su</i> ₈ -(<i>g</i>)	<i>gub</i>	<i>su</i> ₈ -(<i>g</i>)
“to sit”	<i>tuš</i>	<i>durun</i>	<i>dur</i> ₂	<i>durun</i>
“to speak”	<i>dug</i> ₄	<i>e</i>	<i>e</i>	<i>e</i>
“to kill/die”	<i>uš</i> ₂	<i>ug</i> _{5/7}	<i>ug</i> _{5/7}	<i>ug</i> _{5/7}
“to live, be healthy, dwell” (animate)	<i>til</i>	<i>še</i> _x (SIG ₇)	<i>til</i>	<i>še</i> _x (SIG ₇)
“to live, dwell, pasture” (inanimate)	<i>lug</i>	<i>še</i> _x (SIG ₇)	<i>lug</i>	<i>še</i> _x (SIG ₇)
“to enter, bring in”	<i>ku</i> ₄	<i>sun</i> ₅	<i>ku</i> ₄ - <i>ku</i> ₄	<i>sun</i> ₅

Three other verbs have a limited form of suppletion that consists of adding a final consonant in the imperfect: *e*₃ ~ *e*₃ [*d*] “to go out”; *ri* ~ *rig* “to pour out”; *ti/e* ~ *teḡ* “to approach.” This set of three is commonly referred to as an *alternating class*, but the limited number of verbs obviates the creation of a separate fundamental category.

In the simplest terms, the Sumerian verb may be represented in the following manner:

(20) Sumerian verbal chain

1	2	3	4	5
MOOD	CONJUNCTION	DIMENSIONAL PREFIXES	FOCUS	INDIRECT OBJECT
6	7	8	9	10
AGREEMENT	ROOT	ED	AGREEMENT	NOMINALIZATION

4.6.4 **Mood (position 1)**

The traditional description of modes distinguishes between pairs of homophonous prefixes that differ in meaning depending on the mood. Thus *he-* is “precative” with the imperfective, but “assertative” with the perfective. As a result, translations of texts are replete with “let him/her” and “verily he/she . . .” There are reasons to reject this interpretation; certain modal prefixes are indeed usually associated with one aspect or the other, but this results from the semantics of the mode and not from any formal constraints. The following reinterpretation of the modes results in part from the author’s own observations, but mainly from the work of Civil (forthcoming) which obviates much earlier research on the subject.

Unlike previous writers, Civil makes reference to *deontic* and *epistemic* notions of modality (Palmer 1986). To cite Chung and Timberlake (1985:246): “The epistemic mode deals with alternative worlds with respect to a given world at a given time point; the alternative worlds are those that could exist instead of a given world. The deontic mode also deals with a given world and with alternative worlds, but the alternative worlds are those that could develop out of the given worlds.” In Sumerian, deontic functions are distributed over four

forms, the deontic subjunctive-optative, both negative and positive, the cohortative, as well as the imperative. A variety of epistemic functions are encoded by the positive and negative epistemic subjunctive-optative markers.

4.6.4.1 Indicative

The normal indicative has no prefix in this position; the negative carries the prefix *nu-*. Thus, *lugal-e iri mu-un-gul* “the king destroyed the city” but *lugal-e iri nu-mu-un-gul* “the king did not destroy the city.” There are also rare cases of *nu* as a predicate, as in *lu₂-še₃ lugal-ġu₁₀ in-nu* “that man yonder is not my king.”

4.6.4.2 Deontic subjunctive-optative

This prefix is used to make commands, give advice, or exhort someone to do the speaker's bidding, or to express the desires and wishes of the speaker. This results in phrases with counterparts to English “should,” “please,” or “may.” The positive prefix is *he-*, written with the sign *he₂*, although from Old Babylonian times on the writing shows vowel harmony with what follows (written *ha* or *hu*), and the negative is *na-*.

4.6.4.3 Epistemic subjunctive-optative

This function expresses conditions dependent on actions from another clause or phrase, often resulting in dependent clauses or conditionals. The positive prefix is *he-*; the negative is *bara-* (written as *ba-ra-*).

The subjunctive-optative modals are treated somewhat differently in traditional grammars, which correlate four different prefixes with the two aspects of the Sumerian verb, here marked as p(erfective) and i(mperfective). Thomsen (1984:193–199) is representative. In this system *he-* is affirmative (p) or precative (i); the negative counterpart is *bara-*, which is negative affirmative (p), or vetitive (i) for first person, otherwise it is prohibitive *na-*, also with the imperfect. The prefix *na-* (see §4.6.4.6) with perfect aspect is affirmative.

4.6.4.4 Cohortative

The prefix *ga-* renders the intent or willful pronouncement of the speaker: for example, *ga-na-ab-dug₄* (*ga.na.b.dug.Ø*) “I have decided to tell it (=b) to him myself.” Such forms almost always use the perfect aspect, but agreement (see §4.6.10) is nominative-accusative, rather than ergative (Michalowski 1980:97). The prefix marks the accusative rather than the ergative, as is usual in the perfect. During the Old Babylonian period a first-person plural form appears, with imperfect aspect and the first-person plural ending *-enden* marking the nominative: *ga-mu-na-dur₂-ru-ne-en-de₃-en* (*ga.mu.na.durun.enden*) “We want to prostrate ourselves before him!”

4.6.4.5 Prefix of anteriority

The prefix *u-*, often written with the sign *u₃*, marks an action that precedes another action in a sequence. Such forms are usually translated as temporal clauses “when . . .”; in bilingual texts they are often rendered by imperatives. Traditionally such constructions are labeled prospective.

4.6.4.6 Other modal prefixes

Civil calls the prefix *na-* a marker of reported speech. In earlier treatments it is regarded as an affirmative (volitive) marker. Although it seems to be a homonym of the negative

subjunctive-optative (see §4.6.4.2), it may in fact have originally had a different phonological shape. Unlike the negative prefix, this *na-* is usually combined with the perfect aspect. It is often found in contexts where traditional or mythological lore is reported, or in formulaic introductions to narratives and speeches. It is best illustrated by the standard opening formula of Sumerian letters of the late third millennium: *PN₁-ra u₃-na-(a)-dug₄ PN₂ na-(ab)-be₂-a* “When you address PN₁, this is what PN₂ says to him.”

There is some evidence, however, that this prefix had other functions before the Ur III period. In third-millennium literary texts *na-* is one of the few prefixes that are regularly written before the verbal root, often with the sign *nam₂*, and it is used much more commonly than in later periods. This grapheme goes out of use in the second millennium, when it is merged, together with some other similar signs, into *še₃*. One could speculate that originally *na-* had a narrative foregrounding function that was lost in later Sumerian. The fact that it is apparently homophonous with the negative subjunctive-optative raises additional questions. It may be that this is a historical accident, but it is also possible that the consonants of the two prefixes were different.

Another uncertain modal prefix is *ša-* (Jacobsen 1965:73 called it “contrapunctive”). It is documented only in literary texts. As Civil notes, the distribution of this prefix is somewhat puzzling, as a third of occurrences in the middle second-millennium school curriculum are limited to four compositions. It is not perhaps accidental that one of these, *The Instructions of Shuruppak*, is attested already in Early Dynastic copies, and the second, *The Collection of Temple Hymns*, is ascribed to a princess who lived c. 2300 BC. It is possible that two different processes resulted in two different written forms of the same grammatical element, or even in the split of one into two: a change in meaning of *na-* and the misreading of the sign *nam₂* as *še₃*.

A rare modal prefix, found only in literary texts, is *nu-uš-*, charmingly named “frustrative” by Jacobsen (1965:82), and apparently means “if only, would that.” Civil considers it a rhetorical interrogative particle, meaning “why not?”

4.6.4.7 Imperative

The morphology of the imperative in Sumerian is completely different from that of other moods, and is not marked by any characteristic affix. Copying the root to the front of the verbal form, which is always the perfect singular root, creates imperatives: thus *mu lugal mu-ni-in-pad₃ (mu.ni.n.pad)* “He/she wore by the name of the king”; but *mu lugal pad₃-mu-ni-ib₂ (pad.mu.ni.b)* “take the oath by the name of the king!” The agreement prefix *b-*, now moved after the root, in the imperative always marks the accusative, that is, the transitive object; in the corresponding indicative sentence *n-* marked the agent.

The unmarked singular second-person referent of the imperative is always nominative, that is, either transitive or intransitive subject. In early texts, this is always deleted; in the Old Babylonian times an overt plural form was created by analogy with the cohortative, resulting in forms such as *du₁₁-ga-na-ab-ze₂-en (dug.a.ba.b.enzen)* “you all say it!”

The nominative/accusative agreement pattern of the imperative is not surprising; this is a pragmatic universal (Michalowski 1980:97; Payne 1982:90). Note that the last form cited above has the vowel *a* after the root. This can be interpreted either as an insertion to avoid a cluster or confusion with infinitives, or as an allomorph of the conjugation prefix *i-*. The latter otherwise never occurs in imperatives. The few attested forms of the type *gar-i₃* are probably to be interpreted as *gar.(a)ni* “when he/she placed” and are not imperatives at all (Attinger 1993:299). Other examples of imperatives are *dug₄-ga-na-ab* “say it to him/her!”, and *tuš-a* “sit!”

4.6.5 Conjunction (position 2)

The second rank is occupied by the conjunction prefix *inga-*, which means “as well, also, too.” The rank of the prefix has been the subject of some debate; it comes after the modals, but is rarely followed by conjugation prefixes. Writings such as *nam-ga-* are probably to be analyzed as *na.(i)nga*.

4.6.6 Conjugation prefixes (position 3)

The prefixes that fall in this position constitute the most controversial part of Sumerian grammar. No two Sumerologists appear to agree fully on their form, meaning, etymology, and identity; the number of ranks that they occupy is equally disputed. It would be impossible to do justice in this short survey to the various opinions that have been expressed. I have therefore chosen to present my own working hypotheses on the subject and only mention selected previous opinions on the matter. For the numerous interpretations of these prefixes see the references offered by Thomsen (1984:182–185), with important newer discussions by Black (1986:77), Wilcke (1988), Attinger (1993:261–288), Jagersma (1993), as well as a study by Vanstiphout (1985) on foregrounding and backgrounding strategies in Sumerian.

Rather than split these prefixes into three, four, or even five separate ranks, I prefer a minimalist position according to which there are only four distinct “conjugation” prefixes: *mu-*, *ba-*, *i-* (or *V-*), and *imma-*. Gragg (1973a:93) and Civil (in Karahashi, forthcoming) apparently take similar positions. I do not break these down into smaller components, as do many others. Most Sumerologists consider this position obligatory, and restore a hypothetical *i-* even in cases when it is not written. In my opinion the neutral *i-* is not marked after a modal prefix. Rather than consider the position obligatory, one should simply state that a finite verbal form cannot begin with any of the final three positions before the root.

The prefix *imma-* is most commonly considered as a compound, often etymologized as containing both *i-* and *b(a)-* as well as a locative element *a*. According to the analysis followed here, the first two are mutually exclusive and the third element does not exist. Rather than view *imma-* as a “compound” I would suggest that it represents a form of reduplication of *mu-*, in which the initial consonant is copied and the cluster is reinforced by an initial vowel.

The meanings of these prefixes are as contested as their ranking. The prefix *mu-* appears to mark focus on control over an action that is within the control and propinquity of the agent. When such control is loosened, absent – and this includes the absence of an agent in a clause – the prefix *ba-* is used. When the focus is intensified, as with verbs denoting movement towards the agent, or the agent manipulates an object, such as a tool, the prefix *imma-* is often used. When focus is not specified, the prefix is *i-*. There is a rare prefix *a-*; in Old Babylonian literary texts it is probably an allomorph of *i-*, but in earlier texts it seems to be used, in Nippur at least, to mark verbs without agents. Yoshikawa (1992) considers *ba-* to mark reduced valency, which may fit well into this scheme.

I must reiterate the contested nature of these issues. The reader should be aware that there are many graphemic and morphophonological matters that remain unresolved. For example, a sequence such as *im-ROOT* or *i₃-im-ROOT* has been interpreted as *i* followed by a “ventive” prefix that signifies “hither.” I much prefer to view the *m* as a reflex of *n* (the animate third-person pronoun); it is also possible that there are other morphophonemic or even prosodic processes at play here that are represented by the extra vowel, but this is a complex issue that cannot be debated in the present work. One should also note that

the writing conventions as well as the forms of these prefixes show much synchronic and diachronic variation.

4.6.7 The prefix *al-*

There exists another verbal prefix of undetermined rank, namely *al-*. The rank cannot be specified because, with rare exceptions, this morpheme cannot coexist with any other verbal affix, although such forms can be nominalized. The forms with *al-* are intransitive, and appear to correspond to Akkadian inflected verbal adjectives (“statives”).

4.6.8 Indirect object (position 4)

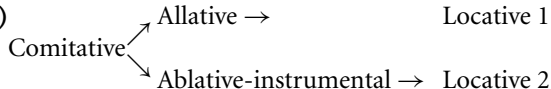
The dative prefixes are normally classed together with the dimensional elements of the next position. For structural reasons they are set apart here in their own rank. The dimensional prefixes, when they do refer to arguments of a clause, mark adjuncts; this position, however, cross-references the beneficiary, that is, a core or core extension argument. Unlike the markers that correspond to the oblique cases of nouns (dimensional prefixes), datives have different forms for different persons:

- (21) *First* a me
 Second ra ?
 Third na ne

The first person always follows the prefix *mu-* and together they are realized in writing as *ma-*, as in *ma-an-šum₂* (*mu.a.n.šum.Ø*) “he/she gave [it] to me”; or *ma-an-dug₄* (*mu.a.n.dug.Ø*) “he/she said [it] to me.” The second person is also found after *mu-*; in early texts this sequence is subject to vowel harmony, and is usually, but not always, written as *ma-ra*.

4.6.9 Dimensional prefixes (position 5)

The forms and meanings of the prefixes that occupy this rank are fairly well established, due to a great extent to the work of Gragg (1973a). These prefixes are coreferential with the oblique case marking of the noun: dative, comitative, ablative-instrumental, allative, and the two locative cases. Most of them are phonologically similar or identical to those of the noun, and are presumably of the same etymological origin. As Gragg has shown, these prefixes are often connected to certain roots and are lexicalized to a degree. The dative and locatives differ in certain respects from the other prefixes and may have a different common origin. The dimensional prefixes follow one another in a set order:

- (22) 

4.6.9.1 Comitative

The comitative prefix is usually written as *da* (Old Sumerian *da₅*); sometimes as *di*, *de₃*, and *de₄* when followed by the locative 2 (terminative). The affix can be preceded by a pronominal element: first person is either \emptyset or *e*, second is *e*, and third person is *n* or *b*, for animates and inanimates respectively. In the plural, only the third person is attested; this element, written as PI, with unknown reading, is only found in Old Sumerian documents.

Although homophonous with the equivalent nominal suffix, in most instances the verbal prefix does not copy a corresponding marker appearing on a noun. Sometimes, especially after the prefix *ba-*, *da-* must be interpreted as a writing for the ablative *ta-* (see §4.6.9.3). The comitative occurs with verbs that include the semantic notion of accompaniment, such as “to speak with” (*dug*₄) “to compare with” (*sa*₂), or “to counsel with” (*ad* . . . *ḡi*₄), as well as with verbs of emotion. Still other verbs take this prefix, including those meaning to “flee,” “to escape” (*zah*₃). An important function of this prefix is the marking of potential – referred to as abilitative in the literature.

4.6.9.2 Allative (terminative, directive)

The allative prefix was originally written as *še*₃, but beginning with the Ur III period it was expressed by means of the sign *ši*. Unlike the comitative, it is closely related semantically to the nominal suffix, and denotes movement towards a goal. It is therefore frequently found on verbs of motion and often marks nuances of meaning that are connected with its basic function. It is also often found with compound verbs that denote attention; these all include body parts as the “stripped” noun (see §4.7.1). Examples are *igi* . . . *ḡar/du*₃/*kar*₂, which all denote different ways of seeing and include the noun *igi* “eye”; and *ḡeštug*₂ . . . *gub/ḡar* “to pay attention to/listen” incorporating *ḡeštug*₂ “ear.”

4.6.9.3 Ablative-instrumental

The primary meaning of this prefix, *ta-*, is ablative, although there are rare cases of instrumental usage. There is another prefix *ra-* that obviously also has ablative meaning and has been the subject of some debate. In Ur III documents one finds the expression *ud-ta ud x ba-zal* ~ *ba-ra-zal* ~ *ba-ta-zal* ~ *ba-ra-ta-zal*, which means “at the end of the xth day,” literally “from the month the xth day having passed.” This has created much confusion about the possible existence of two such prefixes, but Civil (1973b:27) ingeniously suggested that these writings all express the realization of /ta/ as /dʰ/ in intervocalic position.

4.6.9.4 Locative 1

The locative prefix *ni-* corresponds to the nominal locative case ending *-a*. Unlike the already discussed dimensional prefixes, it primarily resumes locatives in the clause. This includes true locative adverbials as well as the logical direct objects of compound verbs and third participants of causative constructions. It is sometimes written as *in-* immediately before the root, and is thus confused with the third-person ergative marker (see §4.6.10; Attinger 1993:234).

4.6.9.5 Locative 2 (locative-terminative)

The second locative, which corresponds to the nominal suffix *-e*, is somewhat more difficult to isolate, and its identity as well as morphophonemic shape are disputed. Civil (1976:90) has proposed that it is a vocalic element or glide; his theory has been fully investigated, with reference to the many other theories on the subject, by Karahashi (forthcoming). The morphophonemic realizations in writing, following other morphemes, obscure its prototypical shape. After conjugation prefixes the main writings are *bi*₂- (*ba.i*), *imma-* (*imma.i*), *mu-NI-* (*mu.i*); after indirect object prefixes, *mu-e* (*mu.i*), *ri-* (*ra.i*), *ni* (*na.i*); after the comitative, *di* or *de*₃ (*da.i*); after “ablative” *ra-* it is *ri-*.

The function of this prefix is similar to that of locative 1: concord with locatives, and with logical direct objects of compound verbs.

4.6.10 Agreement prefixes and suffixes (positions 6 and 9)

The final position before the root is occupied by agreement prefixes (position 6), although in the plural these prefixes work cumulatively with the second suffix position (position 9). These affixes cross-reference the core arguments of the clause – ergative, absolutive, nominative, and accusative. As already noted, *perfective* verbs have *ergative* agreement, and *imperfective* verbs have *nominative-accusative* agreement. The reconstruction of the forms is somewhat complicated by morphophonemic changes. The prototypical paradigms presented here do not apply in all cases, as the agreement markers may be used for different functions with different verbs (see Yoshikawa 1977). Ergative agreement is marked by prefixes in combination with suffixes, absolutive by suffixes:

(23) Agreement affixes – perfective aspect

	<u>Ergative agreement affixes</u>	
	<i>Singular</i>	<i>Plural</i>
<i>First</i>	Ø/e-	(-enden)
<i>Second</i>	e-	(-enzen)
<i>Third animate</i>	n-	(-eš)
<i>Third inanimate</i>	b-	

	<u>Absolutive agreement suffixes</u>	
	<i>Singular</i>	<i>Plural</i>
<i>First</i>	-en	-enden
<i>Second</i>	-en	-enzen
<i>Third</i>	-Ø	-eš

In the imperfective aspect, the suffixes mark the nominative subject (i.e., both transitive and intransitive subjects) in the first and second person; the use of these suffixes is not obligatory with transitive verbs. However, there is a three-way split in the third person, with separate suffixed-marking of transitive and intransitive subjects, as well as distinct prefixed-marking of transitive objects (see Woods 1999).

(24) Agreement affixes – imperfective aspect

	<u>Nominative agreement suffixes</u>	
	<i>Singular</i>	<i>Plural</i>
<i>First</i>	-en	-enden
<i>Second</i>	-en	-enzen
<i>Third (transitive subject)</i>	-e	-ene
<i>Third (intransitive subject)</i>	-e	-eš

	<u>Accusative agreement prefixes</u>	
	<i>Singular</i>	<i>Plural</i>
<i>First</i>	(e-)	?
<i>Second</i>	(e-)	?
<i>Third animate</i>	(n-)	?
<i>Third inanimate</i>	(b-)	?

4.6.11 The morpheme *-ed* (position 8)

The first rank after the root is occupied by the suffix *-ed* (Edzard 1967, Steiner 1981). The form and function of this element have been much debated. Certain theories recognized a marker of the imperfective *-e*, and as a result it was unclear if the suffix was defined as *-ed*, *-d*, or *-de*. With the elimination of this imperfective marker it seems relatively certain that the form of this suffix is *-ed*, although in cuneiform writing, the consonant is dropped in final position. The meaning is less clear. This morpheme seems to refer to the future and to purpose, especially used in subordinate clauses with nonfinite verbal forms such as *iri daḡal-e-de₃* (*daḡal.ed*) “in order to widen the city”; or *iri daḡal-la-da* (*daḡal.ed.a*) “the city that is/has to be widened” (Civil 1999–2000). In finite forms – which are less frequently attested – it seems to have a future function combined with a prospective obligatory modal nuance. The latter results in the incompatibility of *-ed* with modal prefixes with the exception of the indicative, although a few late literary examples of usage are attested.

More commonly this suffix is added to the bare verbal root and is followed by a vowel /e/ in final position to preserve its final consonant. This vowel is not subject to harmony; thus we have *nam tar-e-de₃* “in order to/able to determine destinies”; but *šum₂-mu-de₃* “in order to/to be able to give.” The verb is always imperfect; this is only overtly apparent in those that have a distinct imperfect form, such as *ḡa₂-ḡa₂-de₃* “to place.”

4.6.12 Nominalization (position 10)

The final position of the verbal chain, after *-ed* and the pronominal suffixes, is occupied by *-a*, which creates nouns out of verbs and turns main clauses into dependent ones (Krecher 1993). Once this happens, the nominalized entity can take suffixes as if it were a noun: pronouns, as well as simple and compound and discontinuous case morphemes.

The nominalizer *-a* can be attached to both finite and nonfinite verbal forms – that is to verbs with a full set of prefixes, or to the bare root alone. With finite verbs this creates subordinate clauses dependent on another verb, on a noun, or on a relative pronoun, as in *lu₂ e₂ in-du₃-a* “the one who built the temple.” The morpheme can also be attached to verbs in indirect speech clauses dependent on a limited set of verbs of speaking. Because of the restricted rhetorical range of written Sumerian, this usage is relatively rare in the preserved corpus.

With nonfinite verbal forms the suffix *-a* creates participles that are usually equivalent to English active and past participles: *kur a-ta il₂-la* “mountain rising from the waters”; *ḡeštug šum₂-ma* “given wisdom.” For other uses of the nominalizer see §5.4.

4.6.13 Other suffixes

There are two other morphemes that have traditionally been assigned the same final rank as the nominalizer *-a*. Both are rarely used and both are unattested before the Old Babylonian period. Although it is difficult to prove, one might question if these are really bound morphemes or if they are independent particles. The first of these is the marker of direct speech, *-eše* and the second, *-ḡišen*, marks irrealis and seems to be equivalent to “if only” or “were it that.” As Civil (forthcoming) has observed, *eše* is not an affix but a frozen verbal form meaning “they said.”

4.6.14 The enclitic copula

The Sumerian verb *me* “to be” can be used independently, but is most commonly attested as a copula (Gragg 1968). It is intransitive, occurs only in the perfective, and takes only the pronominal endings:

(25)		<i>Singular</i>	<i>Plural</i>
	<i>First</i>	-me-en	-me-en-de ₃ -en
	<i>Second</i>	-me-en	-me-en-ze ₂ -en
	<i>Third</i>	-me	-me-eš

In its use as a copula it is morphologically identical to the forms of (24) except that the third-person singular is *-am*, originally written *-am₆*, but later as *-am₃*. The final consonant of the copula is dropped in early texts; from Ur III on, this happens regularly only in the third-person singular. The copula can even be added to the conjugated form of “to be” as in the following: *pi-lu₅-da u₄-bi-ta e-me-a* (*e.me.am*) “these were the conventions of earlier times.”

The functions of the copula are multifold. With nouns it often takes the place of an independent pronoun as a predicate: *sipa-me-en e₂ mu-du₃* “I (lit. I am) [the king,] the shepherd, have built the temple.” It can function as a simple predicate, sometimes following a bridging genitive morpheme: *an-ta-sur-ra ġa₂-a-kam* (*ġa.ak.am*) “the Antasura [shrine] is mine!” It is often used pausally or emphatically after a complete sentence, appended to a finite verbal form.

The copula is also used in comparisons, much like the nominal equative ending *-gin₇*: thus, *e₂ kur gal-am₃* “the temple is akin to a large mountain.”

4.7 Numerals

4.7.1 Cardinals

As a rule, Sumerian number words are written with number signs and are not spelled out syllabically; hence there is some uncertainty about the forms of the words, and not all numbers are attested. The following tentative list is based on word lists, as reconstructed by Diakonoff (1984) and Civil (1982:6–7). According to this analysis, there are five primary words that were originally compounded to create the numbers six through nine. Small numbers were counted decimally, large numbers in multiples of sixty.

(26)	1	diš, dili, aš	9	(y)ilimmu (ya + limmu)
	2	min	10	hu(wu)
	3	eš (written eš ₅)	20	niš
	4	limmu	30	ušu
	5	ya (written ia ₂)	40	nimin
	6	aš (written aš ₃ ; ya + aš)	50	ninnu
	7	imin (ya + min)	60	ġi/eš
	8	ussu (ya + eš)	360	šar

4.7.2 Ordinals

Ordinal numbers are formed with the cardinal number word, followed by the bridging genitive morpheme and the enclitic copula *-am*: thus, *min-(a)-kam* (*min.ak.am*) “second.”

5. SYNTAX

The syntax of Sumerian is perhaps the most neglected part of the grammar, and its complexities can only be hinted at in the limited space available here. The language is head-final; subordinate and relative clauses appear to the left of the main clause. Although Sumerian morphology is primarily ergative, it seems that ergativity plays little or no role in interclausal syntax; indeed it may very well be that the language is one of those that have no syntactic pivot (Zólyomi 1996a:106), although this is a matter that requires full investigation. Sentences are either simple or complex. The rich verbal morphology of Sumerian encodes much syntactic information, but the morphological and syntactic relationships between clauses and sentences have not been extensively studied.

5.1 Simple sentence word order

Simple sentences as a rule follow SOV order, although the object can be moved right and complements moved left for pragmatic purposes. Sentences with all three components in proper order are primarily third person:

- (27) lugal-e e₂ mu-un-du₃
 lugal.e e.Ø mu.n.du.Ø
 king-ERG. temple-ABS. PREF.-ERG.-build-ABS.
 “The king built the temple”

Unmarked first-person agents are only expressed by verbal agreement markers; pronouns are used only for emphasis or topicalization:

- (28) ḡa₂-e uri^{ki}₅-ma ga-na-aḡ₂
 ḡa.e urim.a ga.na.aḡ
 PRO.-ERG. Urim-LOC. PREF.-DAT.-pay
 “I want to pay him back in [the city of] Ur myself”

Agents are not obligatory; clauses without overt agents correspond to Akkadian or English impersonal passives:

- (29) e₂ ba-du₃
 e.Ø ba.du
 temple-ABS. PREF.-build
 “The temple was built”

Because Sumerian has such a complex verbal morphology, a finite verbal form can by itself constitute a well-formed sentence:

- (30) bi₂-in-dug₄
 ba.i.n.dug.Ø
 PREF.-LOC2-ERG.-speak-ABS.
 “He/she said it”

The copula can function as the predicate:

- (31) dumu uri^{ki}₅-ma me-en
 dumu urim.ak me.en
 son Urim-GEN. COP.
 “I am a citizen of [the city of] Ur”

A nominalized verb can be turned into a full predicate by addition of the copula:

- (32) bi_2 -in-dug₄-ga-gin₇-nam
 ba.i.n.dug.a.gin.am
 PREF.-LOC.-ERG.-speak-NOMINALIZER-EQUATIVE-COP.
 “It was just as he had said”

5.2 Coordination

Two nouns can be seriated together to express conjunction as in *an ki* “heavens and the earth.” The compound morpheme *-bi.da* (possessive pronoun and comitative case-marker) is also used to conjoin two nouns, as in *an ki-bi-da* “heavens and the earth.” From the latter half of the third millennium one encounters the sporadic use of loanword u_3 , presumably borrowed from Semitic *u* (originally **wa*), which is attested in both Eblaite and Old Akkadian. Simple sentences can be seriated with conjunctive, resultative, or disjunctive meaning. Again, beginning in the latter half of the third millennium, one finds the occasional use of the conjunction u_3 .

- (33) A. ni_2 ba-da-te su ba-da-zi
 ni .Ø ba.da.te su.Ø ba.da.zi
 N.-ABS. PREF.-COMT.-fear N.-ABS. PREF.-COMT.-be terrified
 “I was afraid, I was terrified”
- B. $giš$ ba-gur₄ kuš-bi nu-da-dar
 $giš$.Ø ba.gur kuš.bi nu.da.dar
 tree-ABS. PREF.-grow thick bark-PRO. NEG.-COMT.-split
 “The tree grew thick, [but] its bark did not split”
- C. dub-sar me-en na-ru₂-a ab-sar-re-en
 dubsar me.en narua.Ø a.b.sar.en
 scribe COP. stela-ABS. PREF.-ACC.-write-NOM.
 “I am a scribe, [therefore] I can write stele”

Seriated clauses can even have temporal or implicational relationships that are not marked by any particle or morphological marker:

- (34) a_2 -a g_2 - ga_2 lugal- ga_2 -ke₄ i_3 -gub-be₂-en nu-dur₂- u_3 -de₃-en bi_2 -dug₄
 a'a ga lugal. ga .ak.e i.gub.en nu.dur.ed.en bi.dug
 orders king-PRO.-GEN.-LOC2. PREF.-stand-NOM. NEG.-sit-SUFF.-NOM. PREF.-speak
 “I said: ‘When acting on His Majesty’s (lit. “my king’s”) orders, I stand, I do not sit!’”

5.3 Subordination

Other complex sentences consist of a main clause preceded by a relative or other subordinate clause. The predicate of the subordinate clause is always nominalized; it may be a full verbal form (S) or, as is most often the case, a nominal form of the verb, with nominalization, but without the normal affixes (S'). Once nominalized, nominal markers such as pronouns and case endings may follow the verbs.

Full verbal forms, once nominalized, can be treated as nouns and can be bracketed by various discontinuous morphemes to create relative clauses. The first elements in these sequences include nouns (*ud* “day,” *eđer* “back”) as well as particles such as *en-na* (“until”) and *mu* (“because”), which do not carry meaning by themselves, but only as part of specific

constructions. The nominalized verb is then followed by a locative or directional case ending, sometimes combined with the bridging genitive morpheme.

Subordinate clauses can also be introduced by conjunctions such as *tukum-bi* ‘if, in the event that,’ or by nouns such as *ud* ‘day.’ Thus *ud-da* (*ud.a* ‘on the day’) means ‘when’ and *ud-ba* (*ud.bi.a* ‘on that day’) means ‘then.’

Subordination can also be marked on the predicate with the modal prefix *he-* in its epistemic function (see §4.6.4.3). As explained by Civil (forthcoming), when the subordinate clause comes first, it is conditional:

- (35) u_2 -gu he_2 -ni-ib-de₂ ki-bi ga-mu-na-ab- $\bar{g}i_4$
 ugu.Ø he.ni.b.de ki.bi ga.mu.na.b. $\bar{g}i$
 N.-ABS. PREF.-LOC.-ERG.-lose place-PRO. PREF.-PREF.-DAT.-ACC.-return
 ‘Should it be lost, I will replace it for him’

If the *he-* clause is in final position, it marks a situation that is made possible by the main clause:

- (36) A. u_2 -lal-e mu -un-du₃ amar-e ha-ma-an-gu₇-e
 ulal.e mu.ni.du amar.e ha.ma.ni.gu.e
 sweet-plant-LOC2 PREF.-LOC.-plant calf-LOC2 PREF.-DAT.-LOC2-eat-NOM.
 ‘He planted the sweet-plant, so that the calf(calves) could eat them’
 B. uri_5^{ki} -ma gi zi-bi lal_3 -am₃ ku_6 ha-ma-gu₇-e
 urim.ak gi zi.bi lal.am ku.Ø ha.ma.gu.e
 UR-GEN. reed zi-PRO. sweet-COP. fish-ABS. PREF.-DAT.-eat-NOM.
 ‘The *zi* reeds of the [the city of] Ur are sweet, and so the fish eat them’

Commonly a nominalized full verbal predicate can be followed by the ablative suffix *-ta* to create temporal clauses that mark both temporal sequence and a form of contemporaneity:

- (37) ba-tu-ud-en-na-ta nitah kala-ga me-en
 ba.tud.en.a.ta nitah kalaga.Ø men
 PREF.-BOIN-PRO.-NOMINALIZER-ABL. male mighty-ABS. COP.
 ‘Ever since my birth I have been a mighty male’

More complex and varied are subordinate clauses that are construed with reduced verbal forms (*S'*) (see Gragg 1973b:90–91; 1973c; Michalowski 1978:117; Civil 1999–2000). The simplest such predicates consist of (i) the root and the nominalizer *-a*; (ii) the root followed by the morpheme *-ed* (always written *-de₃* and possibly to be analyzed as *-ed.e*; completive); or (iii) the root and *-ed* + copula (obligation). The first creates simple relative clauses:

- (38) e_2 (lugal-e) du_3 -a
 e.Ø (lugal.e) du.a
 temple-ABS. (king-ERG.) build-NOMINALIZER
 ‘The temple that the king built’

The second and third constructions differ in meaning:

- (39) A. e_2 -a-ni du_3 -de₃ ma-an-dug₄
 e.ani du.ed ma.n.dug
 temple-PRO. build-SUFF. PREF.-ERG.-speak
 “He told me to build his temple”
- B. e_2 -a-ni du_3 -da ma-an-dug₄
 e.ani du.ed.am ma.n.dug
 temple-PRO. build-SUFF.-COP. PREF.-ERG.-speak
 “He told me that I had to build his temple”

Temporal clauses are often created on the patterns based on S'-a (i.e., the type of [38]), followed by pronouns and other endings. These create a complex paradigm with nominative/accusative rather than ergative agreement. One exception aside, only singular forms are encountered in texts. Once again the third person distinguishes between animate and inanimate forms:

(40)		<i>Singular</i>	<i>Plural</i>
	<i>First</i>	S'-a-ġu-ed	
	<i>Second</i>	S'-a-zu-ed	S'-ed-a-enzen
	<i>Third animate perfect</i>	S'-(a)-ani	
	<i>Third animate imperfect</i>	S'-ed-ani	
	<i>Third inanimate</i>	S'-a-bi	

Examples of temporal clauses follow:

- (41) A. ka_2 e_2 -gal-la-še₃ gub-a-ġu₁₀-de₃
 ka egal.ak.še gub.a.ġu.ed
 gate palace-GEN.-ALL. go-NOMINALIZER-PRO.-SUFF.
 “When I arrived at the gate of the palace”
- B. ku_4 -ku₄-da-ġu₁₀-de₃
 ku.kud.a.ġu.ed
 enter-NOMINALIZER-PRO.-SUFF.
 “When I entered”
- C. ud-bi-a ġiš-e e_2 -gal-la ku_4 -ku₄-da-ni
 ud.bi.a ġiš.e egal.a ku.kud.ani
 day-PRO.-LOC. tree-ERG. palace-LOC. enter-PRO.
 “Then, as Tree entered the palace”

The third-person forms can also occur with an addition of the ablative *-ta*: *gur-re-da-ni* “when he returns,” but *gur-ru-da-ni-ta* “upon his return.” According to Gragg (1973c:128), the latter indicates a time subsequent to an action, while the former relates a time at which something happened.

6. LEXICON

Although Sumerian died out millennia ago, the countless surviving cuneiform tablets preserve a rich and varied lexicon. In addition to words in narrative contexts, we also have access to an extensive native Mesopotamian lexicographical tradition in the form of ancient

monolingual and multilingual lexical lists (Civil 1975). These lexical texts, which were designed for use in teaching the art of writing, have a long tradition, from the very beginnings to the very end of cuneiform use. The early versions are monolingual, but by the second millennium the entries were all provided with Akkadian translations; outside of Mesopotamia other languages were added. The longest composition of this type contains almost ten thousand entries. These lists are arranged by various criteria, graphic, semantic, etc. Some have compound words or sign combinations, and some late bilingual lists are arranged according to the Akkadian translations. The complex nature of these texts should not be underestimated. They include many terms that had long gone out of use, or were no longer properly understood. Some words were simply invented by scribes who were not native Sumerian speakers. Most important, one has to respect the organizational structure of a specific list type to properly understand the semantics of an entry.

The lexical texts contain many words that are not otherwise documented in any Sumerian texts. But the lexicon of the literary and administrative tablets must also be treated with caution. The language of written texts is often conservative and resistant to the changes taking place in the vernacular. Many if not most extant Sumerian texts were written and composed after the language was no longer spoken in the streets, and therefore one has to view diachronic developments differently than one would if this were a living tongue.

It would seem that much of the lexicon is native Sumerian, but this is difficult to gauge correctly in view of the lack of a modern dictionary, and of related languages, and because of some of the ambiguities of the script. Over the millennia, Sumerian came into direct and indirect contact with many other languages and borrowed lexical items from various donors. The majority of such loanwords come from Semitic, mostly from forms of Akkadian. Loans are often, but not always, written out syllabically. Thus, the Semitic loan *dam-ha-ra* “battle” is written with three signs, but *ugula* “overseer,” likewise a Semitic loan, is written logographically with only one grapheme (*PA*). The writing of some changed over time. In early texts the Sumerian word for copper – originally a culture word that came into the language through some Semitic intermediary – is written syllabically as *a-ru₁₂-da*, then as *urudu^{a-ru₁₂-da}* or as *a-ru₁₂-da urudu*, and finally later on simply as *urudu*.

In the past, scholars have claimed that certain basic culture words were borrowed from one or more hypothetical substrate languages, sometimes referred to as Proto-Tigridian and Proto-Euphratic, and that one of them may even have been Indo-European. More recently Rubio (1999b) has shown that these lexemes are either native Sumerian, Semitic loans, or culture words that show up in various languages; and while one cannot discount the possibility of some substrates at some time, the current linguistic evidence does not support this in any way.

Semitic loans have a long history in Sumerian. The earliest such borrowings exclude any Semitic endings (*har-ra-an* “road” from Akkadian *harranum*); Old Akkadian period loans end in *-a* (*ugula* from Akkadian *waklum*); and second-millennium loans retain the Akkadian nominative ending and mimation (*pu-uh₃-ru-um* “assembly” from Akkadian *puhrum*), although there are exceptions to these rules. There are also rare borrowings from Hurrian, for example, *tibira* “metal worker,” although this may be a culture word, and from unknown sources, as is the case with *lams(a)r* “brewing vat.” There are other “wandering words” that appear in many different languages: Sumerian *ugu₄-bi* “monkey” belongs together with Akkadian *pagû*, as well as reflexes in Hebrew and Egyptian; *za₃-gin₂* “lapis lazuli” compounded with *za* “stone” is of the same unknown origin as Akkadian *uqnu* or Hittite *ku(wa)nna(š)*. More complex is the matter of Sumerian (*h*)*urin*, *erin*, Akkadian *a/erû* “eagle.” Civil (1983:3) seeks the origins of these words in a form **haran*, and points to Hittite *ḫaran-* “eagle.” The root appears commonly in Indo-European, but the ultimate origin is

unknown. It has been proposed that a number of Sumerian agricultural terms belong to this category, but this requires further investigation (Rubio 1999b). Borrowed words usually replace native ones, as exemplified by the Semitic loan *iri* “city,” for which the original Sumerian word is not preserved; but sometimes they were used alongside the native term, as *unken* “assembly” coexisted with *pu-uh₃-ru-um*. There are even poetic examples of the rhetorical use of synonymic word pairs, with the native term preceded by the borrowed one, as in *har-ra-an kaskal* “road (road).” This seems to be the order encountered in most languages that have such pairs (Boeder 1991).

7. READING LIST

The most convenient place to read about Sumerian grammar is Thomsen 1984, supplemented by the important remarks of Attinger 1993, and by more recent studies listed in Römer 1999. The two classic highly influential older grammars are Poebel 1923 and Falkenstein 1959, to which one has to add the idiosyncratic but often brilliant insights of Jacobsen 1965 and 1988. Readers of Russian should not ignore the important but often overlooked contributions of Diakonoff (1967 = 1979) and of his student Kaneva (1996). Interesting insights are also found in the older sketches of Jestin (1951) and Lambert (5 fascicles, 1972–1978). No reliable introductory primer is currently available, but there is an excellent reader that contains a selection of texts in cuneiform with a sign list, bibliography, and glossary (Volk 1997).

There is no complete modern dictionary of the language; the first volumes of the monumental *Pennsylvania Sumerian Dictionary* (Sjöberg *et al.* 1984–) are now available, but they currently only cover words beginning with the letters A and B.

It is impossible to list here all the published Sumerian sources; for the important word lists see Civil 1975, and for a survey of literary compositions see Michalowski 1995 with bibliography. For all types of texts and the secondary literature consult Römer 1999.

Bibliography

- Alster, B. 1982. “Emesal in Early Dynastic Sumerian? What is the UD.GAL.NUN-orthography?” *Acta Sumerologica* 4:1–6.
- Anderson, S. 1985. “Inflectional morphology.” In T. Shopen (ed.), *Language Typology and Syntactic Description III: Grammatical Categories and the Lexicon*, pp. 150–201. Cambridge: Cambridge University Press.
- Aristar, A. 1995. “Binder-anaphors and the diachrony of case displacement.” In F. Plank (ed.), *Double Case: Agreement by Suffixaufnahme*, pp. 431–447. Oxford: Oxford University Press.
- . 1996. “The relationship between dative and locative: Kurytowicz’s argument from a typological perspective.” *Diachronica* 13:207–224.
- . 1997. “Marking and hierarchy: types and the grammaticalization of case-markers.” *Studies in Language* 21:313–368.
- Attinger, P. 1993. *Eléments de linguistique sumérienne. La construction de du₁₁/e/di «dire»* (Orbis Biblicus et Orientalis, Sonderband). Fribourg/Göttingen: Editions Universitaires/Vandenhoeck and Ruprecht.
- Bauer, J. 1975. “Zum /dr-/-Phonem des Sumerischen.” *Welt des Orients* 8:1–9.
- . 1998. “Der vorsargonische Abschnitt der mesopotamischen Geschichte.” In J. Bauer, R. K. Englund, and M. Krebernik (eds.), *Mesopotamien. Späturuk-Zeit und Frühdynastische Zeit*. pp. 431–585. Orbis Biblicus et Orientalis, 160/1. Fribourg/Göttingen: Editions Universitaires/Vandenhoeck and Ruprecht.

- Black, J. 1984. *Sumerian Grammar in Babylonian Theory*. Studia Pohl, Series Maior 12. Rome: Biblical Institute Press.
- . 1986. Review of Thomsen 1984. *Archiv für Orientforschung* 33:77–83.
- . 1990. “The alleged ‘extra’ phonemes of Sumerian.” *Revue d’Assyriologie* 84:107–118.
- . Forthcoming “Some Sumerian adjectives.” *Acta Sumerologica* 22.
- Bobrova, L. and A. Militarëv. 1989. “Towards the reconstruction of Sumerian phonology.” In *Lingvistijska rekonstrukcia i drevneiaia istoriia Vostoka*, part 1, pp. 96–105. Moscow: Nauka.
- Boeder, W. 1991. “A note on synonymic parallelism and bilingualism.” *Studia Linguistica* 45:97–126.
- Boisson, C. 1992. “The Sumerian pronominal system in Nostratic perspective.” In V. Shevoroshkin (ed.), *Nostratic, Dene-Caucasian, Austric and Amerind: Materials from the First International Interdisciplinary Symposium on Language and Prehistory, Ann Arbor, 8–12 November, 1988*, pp. 433–461. Bochum: Universitätsverlag Dr. Norbert Brockmeyer.
- . 1997. “The phonotactics of Sumerian.” In I. Hegeds, P. A. Michalove, and A. Manaster Ramer (eds.), *Indo-European, Nostratic, and Beyond: Festschrift for Vitalij V. Shevoroshkin*, pp. 30–50. Journal of Indo-European Studies Monograph 12. Washington: Institute for the Study of Man.
- Bottéro, J. 1992. “The ‘avalanche’ of decipherments in the ancient Near East between 1800 and 1930.” In J. Bottéro, *Mesopotamia: Writing, Reasoning and the Gods*, pp. 55–66. Chicago: Chicago University Press.
- Chung, S. and A. Timberlake. 1985. “Tense, aspect, and mood.” In T. Shopen (ed.), *Language Typology and Syntactic Description III: Grammatical Categories and the Lexicon*, pp. 202–258. Cambridge: Cambridge University Press.
- Civil, M. 1966. “Notes on Sumerian lexicography, I.” *Journal of Cuneiform Studies* 20:119–124.
- . 1973a. “From Enki’s headaches to phonology.” *Journal of Near Eastern Studies* 32:57–61.
- . 1973b. “The Sumerian writing system: Some problems.” *Orientalia* NS 42:21–34.
- . 1973c. “Notes on Sumerian lexicography, II.” *Journal of Cuneiform Studies* 25:171–177.
- . 1975. “Lexicography.” In S. Lieberman (ed.), *Sumerological Studies in Honor of Thorkild Jacobsen*, pp. 123–157. Assyriological Studies, 20. Chicago: University of Chicago Press.
- . 1976. “The song of the plowing oxen.” In B. Eichler *et al.* (eds.), *Kramer Anniversary Volume: Cuneiform Studies in Honor of Samuel Noah Kramer*, pp. 83–95. Alter Orient und Altes Testament, 25. Neukirchen-Vluyn: Neukirchener Verlag.
- . 1982. “Studies in Early Dynastic lexicography, 1.” *Oriens Antiquus* 21:1–26.
- . 1983. “Early Dynastic spellings.” *Oriens Antiquus* 22:1–5.
- . 1984. “Bilingualism in logographically written languages: Sumerian in Ebla.” In L. Cagni (ed.), *Il bilinguismo a Ebla*, pp. 75–97. Naples: Istituto Universitario Orientale.
- . 1987. “The early history of HAR-ra: The Ebla link.” In L. Cagni (ed.), *Ebla 1975–1985. Dieci anni di studi linguistici e filologici*, pp. 131–158. Naples: Istituto Universitario Orientale.
- . 1999–2000. “Reading Gilgameš: history and stories.” *Aula Orientalis* 17–18:179–189.
- . 2002. “The Forerunners of *Marû* and *Ħamtu* in Old Babylonian.” In T. Abusch (ed.), *Riches Hidden in Secret Place: Ancient Near Eastern Studies in Memory of Thorkild Jacobsen*, pp. 63–72. Winona Lake: Eisenbrauns.
- . Forthcoming. “Modal prefixes.” *Acta Sumerologica* 22.
- Civil, M. and R. Biggs. 1966. “Notes sur les textes sumériens archaïques.” *Revue d’Assyriologie* 60:1–16.
- Cooper, J. 1996. “Mesopotamian cuneiform: Sumerian and Akkadian.” In P. Daniels and W. Bright (eds.), *The World’s Writing Systems*, pp. 37–57. Oxford: Oxford University Press.
- Diakonoff, I. 1967. “Shumerskij iazyk.” In I. Diakonoff, *Iazyki drevnei Perednei Azii*, pp. 35–84. Moscow: Nauka.
- . 1979. “Shumerskij iazyk.” In I. Diakonoff, I. M. Dunaevskaia, Iu. D. Desherier, *et al.* (eds.), *Iazyki drevnei Perednei Azii (nesemitskie): iberiisko-kavkazskie iazyki: paleoaziatskie iazyki*, pp. 7–36. Iazyki Azii i Afriki 3. Moscow: Nauka.
- . 1983. “Some reflections on numerals in Sumerian: towards a history of mathematical speculation.” *Journal of the American Oriental Society* 103:83–93.
- Edzard, D. 1963. “Sumerische Komposita mit dem ‘Nominalprefix’ nu-.” *Zeitschrift für Assyriologie* 55:91–112.

- . 1967. “Das sumerische Verbalmorphemen /ed/ in den alt- und neusumerischen Texten.” *Heidelberger Studien zum Alten Orient* 1:29–62.
- Falkenstein, A. 1959. *Das Sumerische*. Handbuch der Orientalistik. Leiden: Brill.
- Gelb, I. 1961. *Old Akkadian Writing and Grammar* (2nd edition). Materials for the Assyrian Dictionary, 2. Chicago: University of Chicago Press.
- Geller, M. 1997. “The first wedge.” *Zeitschrift für Assyriologie* 87:43–95.
- Gragg, G. 1968. “The syntax of the copula in Sumerian.” In J. Verhaar (ed.), *The Verb “Be” and its Synonyms*, 3: *Philosophical and Grammatical Studies*, pp. 86–109. Foundations of Language, Supplementary Series, 8. Dordrecht: Reidel.
- . 1973a. *Sumerian Dimensional Infixes*. Alter Orient und Altes Testament – Sonderreihe 5. Neukirchen-Vluyn: Neukirchener Verlag.
- . 1973b. “Linguistics, method, and extinct languages: the case of Sumerian.” *Orientalia* NS 42:78–96.
- . 1973c. “A class of ‘when’ clauses in Sumerian.” *Journal of Near Eastern Studies* 32:124–134.
- Huber, C. 1996. “Some notes on transitivity, verb types, and case with pronouns in Sumerian.” *Wiener Zeitschrift für die Kunde des Morgenlandes* 86:177–189.
- Jacobsen, T. 1957. “Early political development in Mesopotamia.” *Zeitschrift für Assyriologie* 52:91–140.
- . 1965. “About the Sumerian verb.” In *Studies in Honor of Benno Landsberger on his Seventy-fifth Birthday, April 21, 1965*, pp. 71–102. Assyriological Studies 16. Chicago: Chicago University Press.
- . 1988. “The Sumerian verbal core.” *Zeitschrift für Assyriologie* 78:161–220.
- Jagersma, B. 1993. Review of J. Hayes, *A Manual of Sumerian Grammar and Texts*. Malibu: Undena, 1990. *Bibliotheca Orientalis* 50:422–425.
- . Forthcoming. “Sound change in Sumerian: the so-called /dr/ phoneme.” *Acta Sumerologica* 22.
- Jestin, R. 1951. *Abrégé de grammaire sumérienne*. Paris: Paul Geuthner.
- Kaneva, I. 1996. *Shumerskii iazyk* (The Sumerian language). St. Petersburg: Tcentr “Peterburgskoe Vostokovedenie.”
- Karahashi, F. 2000. “Sumerian Compound Verbs with Body-Parts.” Doctoral dissertation, University of Chicago.
- . Forthcoming. “The locative-terminative verbal infix in Sumerian.” *Acta Sumerologica* 22.
- Kienast, B. 1975. “Zur Wortbildung des Sumerischen.” *Zeitschrift für Assyriologie* 65:1–27.
- Krecher, J. 1978. “Das sumerische Phonem ġ.” In B. Hruška and G. Komoroczy (eds.), *Festschrift Lubor Matouš II*, pp. 7–73. Assyriologia, 5. Budapest: Eötvös Loránd Tudományegyetem, Ókori Történeti Tanszekek.
- . 1987. “Morphemeless syntax in Sumerian as seen on the background of word-composition in Chukchee.” *Acta Sumerologica* 9:67–88.
- . 1993. “The suffix of determination -/al/.” *Acta Sumerologica* 15:81–98.
- Krispijn, Th. Forthcoming. “The change of Official Sumerian in the city state of Lagash.” *Acta Sumerologica* 22.
- Kuryowicz, J. 1964. *The Inflectional Categories of Indo-European*. Heidelberg: Carl Winter.
- Lambert, M. 1972–1978. *Grammaire sumérienne rédigée à l’intention des élèves de l’École du Louvre*. Five fascicles. Paris: École du Louvre.
- Lieberman, S. 1979. “The phoneme /o/ in Sumerian.” In M. Powell, Jr. and R. Sack (eds.), *Studies in Honor of Tom B. Jones*, pp. 21–28. Alter Orient und Altes Testament 203. Neukirchen-Vluyn: Neukirchener Verlag.
- Michalowski, P. 1978. “Two Sumerian literary letters.” *Journal of Cuneiform Studies* 30:114–120.
- . 1980. “Sumerian as an ergative language, part 1.” *Journal of Cuneiform Studies* 32:86–103.
- . 1995. “Sumerian literary traditions: an overview.” In J. Sasson, J. Baines, G. Beckman, et al. (eds.), *Civilizations of the Ancient Near East*, pp. 2277–2289. New York: Scribners.
- . Forthcoming. “The life and death of the Sumerian language in comparative perspective.” *Acta Sumerologica* 22.
- Miner, K. 1986. “Noun stripping and loose incorporation in Zuni.” *International Journal of American Linguistics* 52:242–254.

- Mithun, M. 1984. "The evolution of noun incorporation." *Language* 60:847–894.
- . 1985. "Diachronic morphologization: The circumstances surrounding the birth, growth, and decline of noun incorporation." In J. Fisiak (ed.), *Papers from the 6th Conference on Historical Linguistics*, pp. 365–394. Amsterdam: John Benjamins; Poznan: Adam Mickiewicz University Press.
- . 2000. "Incorporation." In G. Booij, C. Lehmann, J. Mugdan, et al. (eds.), *Morphology: An International Handbook on Inflection and Word Formation*, pp. 916–928. Berlin: Walter de Gruyter.
- Nichols, J. 1993. "Ergativity and linguistic geography." *Australian Journal of Linguistics* 13:39–89.
- Palmer, F. 1986. *Mood and Modality*. Cambridge Textbooks in Linguistics. Cambridge: Cambridge University Press.
- Parpola, S. 1975. "Transliteration of Sumerian: problems and prospects." *Studia Orientalia* 46:239–257.
- Payne, T. 1982. "Role and reference related subject properties and ergativity in Yup'ik Eskimo and Tagalog." *Studies in Language* 6:75–106.
- Poebel, A. 1923. *Gründzuge der sumerischen Grammatik*. Rostock: Selbstverlag.
- Rhodes, R. 1997. "On pronominal systems." In I. Hegeds et al. (eds.), *Indo-European, Nostratic, and Beyond: Festschrift for Vitalij V. Shevoroshkin*, pp. 293–319. Journal of Indo-European Studies Monograph 12. Washington: Institute for the Study of Man.
- Römer, W. 1999. *Die Sumerologie. Einführung in die Forschung und Bibliographie in Auswahl*. Alter Orient und Altes Testament 262. Neukirchen-Vluyn: Neukirchener Verlag.
- Rubio, G. 1999a. Review of A. S. Kaye (ed.), *Phonologies of Asia and Africa*. *Language* 75:138–142.
- . 1999b. "On the alleged 'Pre-Sumerian substratum.'" *Journal of Cuneiform Studies* 51:1–16.
- Schretter, M. 1990. *Emesal-Studien: Sprach- und literaturgeschichtliche Untersuchungen zur sogenannten Frauensprache des Sumerischen*. Innsbrucker Beiträge zur Kulturwissenschaft. Sonderheft 69. Innsbruck: Institut für Sprachwissenschaft der Universität Innsbruck.
- . 1993. "Sumerische Phonologie: Zu Konsonantenverbindungen und Silbenstruktur." *Acta Orientalia* 54:7–30.
- . 1996. "Überlegungen zu den Wortarten des Sumerischen." *Wiener Zeitschrift für die Kunde des Morgenlandes* 86:399–412.
- Sjöberg, Å. 1975. "The Old Babylonian eduba." In S. Lieberman (ed.), *Sumerological Studies in Honor of Thorkild Jacobsen*, pp. 159–179. Assyriological Studies, 20. Chicago: University of Chicago Press.
- Sjöberg, Å. et al. (eds.). 1984–. *The Sumerian Dictionary of the University Museum of the University of Pennsylvania*. Philadelphia: Babylonian Section, University Museum.
- Steiner, G. 1981. "The vocalization of the Sumerian verbal morpheme /=*ED*/ and its significance." *Journal of Near Eastern Studies* 40:21–41.
- Steinkeller, P. 1979. "Notes on Sumerian plural verbs." *Orientalia* NS 48:54–67.
- . 1993. "Early political development in Mesopotamia and the origins of the Sargonic Empire." In M. Liverani (ed.), *Akkad: The First World Empire*, pp. 107–129. Padua: Sargon.
- Thomsen, M.-L. 1984. *The Sumerian Language: An Introduction to its History and Grammatical Structure*. Mesopotamia, 10. Copenhagen: Akademisk Forlag.
- Vanstiphout, H. 1985. "On the verbal prefix /i/ in Standard Sumerian." *Revue d'Assyriologie* 79:1–15.
- Volk, K. 1997. *A Sumerian Reader*. Studia Pohl, Series Maior 18. Rome: Pontifical Biblical Institute.
- Wilcke, C. 1988. "Anmerkungen zum 'Kunjugationspräfix' /i/- und zur These vom «silbischen Charakter der sumerischen Morpheme» anhand neusumerischen Verbalformen beginnend mit i-ib-, i-im- und i-in-." *Zeitschrift für Assyriologie* 78:1–49.
- Woods, C. 1999. "Deixis, person, and case in Sumerian." Paper presented at the Sumerian Grammar Workshop, Oxford, September 1999.
- Wright, H. 1969. *The Administration of Rural Production in an Early Mesopotamian Town*. Anthropological Papers, 38. Ann Arbor: University of Michigan.
- Yoshikawa, M. 1968. "The *marû* and *hamtu* aspects in the Sumerian verbal system." *Orientalia* NS 37:401–416.
- . 1977. "Some remarks on the Sumerian verbal infixes -n/-b- in the preradical position." *Journal of Cuneiform Studies* 29:78–96.

-
- _____. 1992. "The valency-change system in the Sumerian verbal prefixes." *Acta Sumerologica* 14:395–402.
- Zólyomi, G. 1996a. Review of Attinger 1993. *Bibliotheca Orientalis* 53:95–107.
- _____. 1996b. "Genitive constructions in Sumerian." *Journal of Cuneiform Studies* 48:31–47.
- _____. 1999. "Directive infix and oblique object in Sumerian: an account of the history of their relationship." *Orientalia* NS 68:215–253.