

Sumerian

John L. Hayes

Languages of the World/Materials 68

*First published 1997
Second printing 1999*

LINCOM EUROPA

Contents

	Abbreviations.....	3
0.	Preliminaries.....	4
0.1.	External History.....	4
0.2.	Textual Basis.....	5
0.3.	Dialects.....	5
0.4.	Affiliation.....	5
0.5.	Typology.....	6
0.6.	State of Knowledge.....	7
1.	Writing System and Phonology.....	7
1.1.	Writing System.....	7
1.1.1.	External Characteristics.....	7
1.1.2.	Original Nature.....	8
1.1.3.	Internal Characteristics.....	8
1.1.4.	Transliteration and Transcription.....	9
1.2.	Phonology.....	10
1.2.1.	Phonemic Inventory.....	10
1.2.2.	Vowels.....	10
1.2.3.	Consonants.....	11
1.2.4.	Syllabic Structure.....	13
1.2.5.	Stress.....	13
1.2.6.	Tones.....	13
1.2.7.	System.....	14
1.2.8.	Phonological Processes.....	14
2.	Morphology.....	15
2.1.	Root.....	15
2.2.	Nominal Morphology.....	15
2.2.1.	Nominal Roots.....	15
2.2.2.	Inflection.....	15
2.2.2.1.	Definiteness.....	15
2.2.2.2.	Gender.....	15
2.2.2.3.	Animacy.....	15
2.2.2.4.	Number.....	16
2.2.2.5.	Case.....	16
2.2.3.	Derivational Morphology.....	16
2.2.3.1.	Noun-Noun Compounds.....	16
2.2.3.2.	Abstract Nouns.....	17
2.2.3.3.	Concrete Nouns.....	17
2.3.	Pronominalization and Pronouns.....	17
2.3.1.	Personal Pronouns.....	17
2.3.1.1.	Independent Pronouns.....	18
2.3.1.2.	Possessive Pronouns.....	18
2.3.1.3.	Co-referential Pronouns.....	19
2.4.	Demonstratives.....	19
2.5.	Numbers.....	19
2.6.	Verbal Morphology.....	20
2.6.1.	Overall Structure.....	20
2.6.2.	Modal Prefix.....	20

2.6.3.	Conjugation Prefix.....	21
2.6.4.	Dimensional Prefix.....	22
2.6.5.	Personal Affix.....	22
2.6.6.	Verbal Root.....	24
2.6.7.	Aspect.....	24
2.6.8.	Conjugation.....	25
2.6.9.	Other Elements.....	26
2.6.10.	Imperative.....	27
2.6.11.	Negation.....	27
2.7.	Non-finite Forms.....	27
2.8.	Compound Verbs.....	28
3.	Syntax.....	28
3.1.	Ergativity.....	28
3.2.	Voice.....	30
3.3.	Word Order.....	30
3.4.	Co-ordination.....	30
3.4.1.	Co-ordination of Nouns.....	30
3.4.2.	Co-ordination of Sentences.....	31
3.5.	Dependent Clauses.....	31
3.5.1.	Relative Clauses.....	31
3.5.2.	Temporal Clauses.....	31
3.5.3.	Circumstantial Clauses.....	32
3.6.	Interrogative Sentences.....	32
3.7.	Copula.....	33
3.8.	Possession.....	33
3.9.	Noun Modifiers.....	33
4.	Sample Texts.....	34
4.1.	Royal Inscription.....	34
4.2.	Literary Text.....	35
5.	Lexicon.....	37
6.	Research Tools and Bibliography.....	38
6.1.	Research Tools.....	38
6.2.	Bibliography.....	38
	Plate 1: Inscription of Shulgi.....	40
	Plate 2: Opening lines of <i>Inanna's Descent</i>	41

Abbreviations

ABL	Ablative case
ABS	Absolutive case
ABST	Abstract
AFF	Affirmative mood
CP	Conjugation prefix
DAT	Dative
DES	Desiderative mood
DN	Divine name
ERG	Ergative case
GEN	Genitive case
GN	Geographical name
IMP	Imperfect marker
LOC	Locative case
MP	Modal prefix
NOM	Nominalizer
NP	Nominal phrase
PA	Personal affix
PLU	Plural
PN	Personal name
TERM	Terminative case
VP	Verbal phrase

0. Preliminaries*

0.1. External History

Sumerian is the language spoken by the Sumerians, who inhabited the southern part of ancient Mesopotamia (present-day Iraq). Sumerian has the distinction of being the first language actually attested in writing; its earliest texts date to about 3100 BCE. It is not known when Sumerian died, that is, when it ceased to be spoken as a first language. This is a thorny issue much discussed among Sumerologists; the evidence to answer such a question is equivocal and open to various interpretations. The most commonly cited figure for its death is around 2000 BCE, but some evidence points to a later date, perhaps around 1600 BCE; other evidence points to an earlier date.

The different periodizations which have been proposed for Sumerian combine both linguistic criteria and non-linguistic criteria—such as political and other historical events—to outline its external history. One such periodization is:

Archaic Sumerian	3100—2600 BCE
Classical Sumerian	2600—2300 BCE
Neo-Sumerian	2300—2000 BCE
Post-Sumerian	2000 BCE—100 CE

Although Sumerian may have died around 2000 BCE, Sumerian culture was inherited by the Akkadians, a people speaking a Semitic language who moved into Mesopotamia sometime after the Sumerians did. The Akkadians studied Sumerian language and literature in their scribal school system. They compiled long lists of Sumerian vocabulary and grammatical forms, and composed texts in Sumerian a thousand years after its death. Much of our present-day knowledge of Sumerian, particularly of the lexicon, is based on the work of these ancient Akkadian scholars.

In time, knowledge of Sumerian, and even awareness of the existence of the Sumerians themselves, became lost; they are not mentioned, for example, in either the Bible or in the writings of the Greek historians. The Sumerians and their language only came to light in the mid-nineteenth century.

The description given here is of the language of the Classical Sumerian and Neo-Sumerian periods. The language of the Post-Sumerian period was heavily influenced by Akkadian, particularly in its syntax. Thus the ergative nature of Sumerian was not always understood by the Akkadians, who spoke an accusative language, and so Akkadian-speaking scribes occasionally treated Sumerian as if it were an accusative language. Late texts exhibit a substantial number of “errors”. It is not always clear, however, whether unexpected features occurring in Post-Sumerian texts (and occasionally in Neo-Sumerian texts) are errors of the scribes or are genuine features of Sumerian which were preserved in the scribal academies, but which are not yet understood by modern-day Sumerologists.

* It is a pleasure to thank Mr. Oscar Miranda for his advice and technical help in the preparation of this manuscript.

0.2. Textual Basis

A large body of Sumerian texts has been preserved. The majority of texts consists of administrative and economic documents reporting the activities of the palace and temple. But there are also literary, mythological, and religious texts of many genres. Other well-attested types include inscriptions of kings and officials, letters, legal documents, and medical texts.

What is lacking is any kind of “conversational” Sumerian, although hints of spoken forms occur in letters and legal documents. The description in this sketch should thus be understood as a description of the written language only.

0.3. Dialects

Only a limited amount of what may be geographical variation is observable in Sumerian texts. Sumerian was spoken in a relatively small area, and the largely logographic nature of the writing system masks possible geographical differences.

Alongside standard Sumerian, which is commonly called **Main Dialect**, there existed a sociolect called **Emesal**. *eme* is the Sumerian word for ‘tongue, language’; it is not sure what *sal* means in this context. Emesal is probably a kind of “women’s language”. It is used primarily by goddesses when speaking to other goddesses; it is also occasionally used by certain kinds of priests, probably eunuchs, for particular types of incantations. Curiously, when the actual speech of women (as opposed to that of goddesses) is preserved, as it is in certain kinds of legal texts, Main Dialect is used, not Emesal.

Passages in Emesal occur within texts composed in Main Dialect, but there are also texts written completely in Emesal, such as the incantations mentioned above. However, the total corpus of Emesal material is relatively small, and attested rather late. A complete description of Emesal cannot be given, because the largely logographic nature of the Sumerian script hides Emesal pronunciation. Moreover, scribes often wrote Main Dialect forms even when these forms were meant to be pronounced in Emesal. This means that often the Emesal pronunciation of a word is unknown.

Emesal is more conservative than Main Dialect in its morphology and its lexicon, yet at the same time shows some innovative tendencies in its phonology. For example, Main Dialect /d/ regularly appears as /z/ in Emesal: ‘sheep’ is /udu/ in Main Dialect, /eze/ in Emesal. Such a distribution of conservative ~ innovative features is not uncommon in women’s sociolects. There are other instances, however, where Emesal appears to preserve a more archaic pronunciation than does Main Dialect.

0.4. Affiliation

Sumerian is a language isolate, with no genetic connection with any known language living or dead. Numerous attempts have been made in the past by both amateur and professional linguists to link Sumerian with many different languages, but none of these proposals has found general acceptance. Such attempts have usually been based on surface-level resemblances with languages which are typologically similar.

Long-range classification schemes put Sumerian into either the Nostratic or Eurasian super-families, although there is no agreed-upon definition of either of these two super-families. Given the present state of our knowledge, these attempts can be considered ill-conceived.

The possibility that a genetic connection might be found with some other language is slim, because any related languages have probably died off without leaving any written records. The original homeland of the Sumerians itself is unknown. According to hints in their own mythology, they were not indigenous to Mesopotamia. It seems that they lost all contact with this original homeland. This means that it is not even clear where any possible linguistic relatives might be located. Wherever such a homeland might be, it was probably not in an area where writing developed very early.

Theories of the foreign origin of the Sumerians imply that they arrived in southern Mesopotamia sometime in the millennium before the appearance of writing. It has, however, more recently been argued that the Sumerians were present in Mesopotamia from time immemorial, but it is only their appearance in the written record that permits us to see their presence. Unfortunately, the archaeological evidence to determine the original homeland of the Sumerians is as much open to interpretation as is the linguistic evidence.

It has often been suggested that the Sumerians came from somewhere on the Indian subcontinent, and are perhaps connected with the ancient civilizations of Mohenjo-Daro and Harappa. However, there is as yet no archaeological evidence in India to support this view. The attempts which have been made to relate Sumerian to the Dravidian languages have not produced satisfying results.

Sumerian was influenced by other languages spoken in Mesopotamia. This is noticeable in the lexicon, where a number of place names and the names of some crafts and objects go back to prehistoric substrate languages; little, of course, is known of these languages. Sumerian itself influenced the Semitic language Akkadian quite strongly. Under its influence, Akkadian changed from a presumed Common Semitic V-S-O language to a S-O-V language. Akkadian lost its stock of Common Semitic laryngeal and pharyngeal consonants. Akkadian borrowed many Sumerian words; some of these words then passed on from Akkadian to Aramaic and then to Arabic and Hebrew.

0.5. Typology

Popular descriptions of Sumerian categorize it as an agglutinative language, because of its series of postpositions. In recent literature it is also categorized as ergative or split ergative; this is discussed below.

Sumerian is a S-O-V language, with most of the features typical of a S-O-V language. It thus uses postpositions instead of prepositions, and adjectives and relative clauses follow their head noun. Also, the case marker for the ergative is formally identical to, and presumably of the same origin as, one of the adverbial case markers (the locative-terminative case).

Possession, however, is usually expressed by the order possessed-possessor-{ak} (the last being the **genitive marker**). In a S-O-V language, one typically finds the order possessor-possessed. In fact such a construction does exist in Sumerian, but is not frequent. It may well be the older construction, since it is common with numerals, body parts, and certain fixed expressions.

0.6. State of Knowledge

There are many unresolved issues in the study of Sumerian. Study is hampered by the lack of comparative data and by the nature of the writing system, which never fully represented Sumerian speech. In numerous cases it is difficult to decide whether a problem in understanding a passage lies at the level of the writing system, phonology, morphology, or syntax. It is also important, however, to state that in general Sumerian is reasonably well understood; this can be seen, for example, by the fact that translations of straight-forward Sumerian texts will be similar from scholar to scholar. Translations of literary texts, however, which can be couched in difficult poetic language, often show a rather disheartening amount of disagreement. Some of the major issues of disagreement will be discussed in passing, but because of the scope of this sketch it is not possible to mention all the unresolved issues. Specialists will note the host of problems which have simply been glossed over here.

1. Writing System and Phonology

1.1. Writing System

1.1.1. External Characteristics

Sumerian was written in a **cuneiform** writing system. "Cuneus" is the Latin word for "wedge". The term reflects the most striking characteristic of the script: the fact that the signs are built up of strokes looking like little wedges. The cuneiform signs were inscribed by means of a stylus formed from a reed (such as still grows in modern-day Iraq) by impressing the stylus upon a tablet of moist clay. Scholarly consensus is that this writing system originated among the Sumerians, although a minority view is that it was created by some other people whose identity is now lost to us.

The first cuneiform texts deciphered by modern scholars were all relatively late, from a period when the wedge-shaped character of the script was most striking. In the earliest phases of the script, however, the characters do not look particularly wedge-like, and the shapes even include curved lines. Over time, the repertoire of sign shapes became reduced in number and in lay out, eventually producing the fully wedge-shaped character of later times. The term **proto-cuneiform** describes the earliest forms of writing.

The term "cuneiform" refers solely to the method of writing and hence to the external shape of the signs. The cuneiform writing system was adopted and modified by other peoples of the ancient Near East, speaking various languages. It was used, for example, to write Akkadian (a Semitic language), Hittite (Indo-European), Hurrian (of unsure affiliation), etc.

1.1.2. Original Nature

The Sumerian writing system was never an exact phonetic representation of speech. Rather, to some degree the writing system was a mnemonic device which was used to jog the memory of the writer and reader. The earliest uses of writing were for administrative texts, of a formulaic nature, whose contents were familiar to the scribes. There was no need to write down what would be obvious to a scribe who was a native speaker of Sumerian and who was familiar with the material being written. When such scribes read the texts, they knew how to supply the information which was not indicated explicitly in the writing.

Thus, a certain amount of information in the spoken language was not expressed in the writing. For example, the basic graphic shape representing the root for 'to build' was originally a picture of a tent peg. In the earliest Sumerian, this one sign could be used to represent any inflected form of the verb: any tense, mood, or person. Similarly, the expression for 'on that day' in Sumerian was {ud.bi.a} ('day-that-on'). But in the earliest Sumerian it was possible to write only the sign for 'day', {ud}; the reader inferred the rest.

It is this schematic nature of the writing system which causes most of our problems in understanding Sumerian morphology. For example, it is not always easy to decide whether an expected morpheme not appearing in the script is actually "there" but not written, or whether it is not present at all, for reasons perhaps unknown at the present.

As time passed, the scribes wrote more and more down. This increase in explicitness is due to several factors: a natural tendency of writing systems to become more explicit over time; the need to be able to represent vocabulary and personal names of Semitic origin; the fact that Sumerian was gradually dying out and so the scribes needed more help in their own understanding of texts, and so on. However, the writing system never became an exact reflection of Sumerian speech.

1.1.3. Internal Characteristics

The Sumerian writing system is a mixed logographic-syllabic system. In general, logographic writings are used to represent lexical morphemes, and syllabic writings to represent grammatical morphemes (and occasional loanwords and foreign proper names). The logographic nature means that it is very difficult to determine precise phonetic information or to investigate diachronic change.

Many signs are **polyvalent**, that is, they have more than one value. Some signs have more than one logographic value; others have more than one syllabic value. Some signs have both several logographic and several syllabic values. This polyvalency hinders reconstruction both of morphology and of phonology. The fact that, for example, the same sign can be read as /be/ or /bi/ makes it difficult to understand the rules for vocalic assimilation and contraction.

To some extent the Sumerian writing system is morphographemic, in that morphemes were occasionally written in their fullest form, even if in certain phonological

contexts phonetic change or reduction took place. Thus, the postposition marking the dative case was /ra/ after consonants and /r/ after vowels, but it is occasionally written -ra after vowels.

1.1.4. Transliteration and Transcription

Sumerian is typically cited in Latin letters, in two different ways. **Transliteration** is a sign-by-sign reflection of the cuneiform; all the signs forming one word are linked by hyphens. Thus a transliteration such as *mu-un-na-du₃*, 'He built for him', shows that four signs occur on the tablet: the *mu*, *un*, *na*, and *du₃* signs. **Transcription** indicates the presumed pronunciation of a complete word. It typically indicates morpheme boundaries, and usually includes morphemes assumed to be present but not actually written down in the text. For example, these same four signs might be transcribed as {mu.na.n.du₃}. This was presumably pronounced /munandu/. A close comparison of the transliteration and the transcription will show, for example, that a writing such as *mu-un-na* stands for /muna/, and also that there is a (pronominal) element {n}, not shown in the writing, immediately before the verbal root {du₃}.

Transliteration is thus sign-by-sign, while transcription is typically word-by-word. Since transcription reflects the presumed pronunciation of an entire word, transcriptions of a given word or phrase may differ to some degree from scholar to scholar, depending on individual interpretations of the writing system and of the morphology.

There are a large number of homophonic signs in Sumerian. For example, there are a number of signs which are all pronounced as /bi/. It is thus necessary to specify which of these signs were actually present in a text. This is done by a set of subscripts. The most common (or important) value of a sign is unmarked, e.g., *bi*. The second most common is marked by a subscript 2: *bi₂*. The next most common is marked by a subscript 3: *bi₃*, etc. An older system of transliteration, still frequently encountered, uses diacritics (or **indices**). The most common (or important) value of a sign is unmarked, e.g., *bi*. The second most common is marked by an acute accent: *bí*. The next most common is marked by a grave accent: *bì*. Others are marked by subscripts: *bi₄*, *bi₅*, etc. These indices convey no phonetic information. They do not mark different vowels or stress or tones.

Standard Sumerological practice is to cite transliteration in widely spaced Roman type: *m u - u n - n a - d u ₃*. Transcription is often cited simply in Roman, with morphemic boundaries indicated by periods: *mu.na.n.du₃*. To conform to the conventions of the *Languages of the World* series, transliteration will be cited here in Italic, and morphological transcription within braces: *mu-un-na-du₃* = {mu.na.n.du₃}. This morphological transcription occasionally masks vocalic contraction or deletion. Thus, 'in her land', {kur.ani.a} ('land-her-in'), was realized /kurana/, written *kur-ra-na*. Only the most important of these details will be discussed here.

To illustrate the fact that the written expression of Sumerian does not always reflect the presumed spoken forms, the examples will normally be cited in transliteration, morphemic transcription, and morphemic analysis.

1.2. Phonology

1.2.1. Pronemic Inventory

It is not easy to reconstruct the phonological system of Sumerian or the precise pronunciation of any of its sounds. Since Sumerian is an isolate, there is no comparative evidence to provide help. Moreover, most of our knowledge of Sumerian phonology has been filtered through the Akkadian phonological system. For instance, it is quite likely that the word for 'son' in Sumerian was pronounced /domu/, with the first vowel bearing some kind of /o/-quality. But Akkadian does not have an /o/-quality vowel; if there were only Akkadian evidence, it might never even be known that Sumerian had a vowel of such quality.

Likewise, very little is known about the historical development of Sumerian phonology. Sumerian was spoken over a period of several centuries (and was used as a literary language for even more centuries). The phonological system of Sumerian at the time of, say, 2500 BCE may have been rather different than that of 2000 BCE.

It is clear that Sumerian possessed sounds which Akkadian did not, but which can only be determined using a variety of indirect evidence. Because of the difficulties of dealing with this indirect evidence, there have been several different reconstructions of the Sumerian phonological system. These reconstructions differ both regarding the number of phonemes present and the phonetic value attributed to certain phonemes.

The following chart lists the phonemes whose existence is more-or-less uncontroversial:

i	u	b	p	m
e		d	t	n
a		g	k	ŋ
		z	s	š
			ḫ	
		l	r	

1.2.2. Vowels

Sumerian had at least the following vowels:

i	u
e	
a	

Their exact phonetic values are unsure.

These are precisely the same vowels reconstructed for Akkadian, reflecting the fact that knowledge of Sumerian is mediated through the Akkadian phonological system.

It is probable that Sumerian had an /o/-quality vowel. But since no /o/-vowel existed in Akkadian (on the phonemic level), there is only indirect evidence to reconstruct it

for Sumerian. It is very difficult to determine whether any particular Sumerian word had an /o/-quality vowel or an /u/-quality vowel; its existence has been established in only a few words. If this /o/-quality vowel is included in the phonemic inventory, the vocalic system is:

i	u
e	o
a	

This is the most widely accepted reconstruction of the vocalic system. The existence of several other vowels has also been postulated, such as two kinds of /e/, one open and one closed; a series of unlauded vowels; a series of nasalized vowels; etc. A recent attempt at reconstruction (Bobrova and Militarëv 1989) suggests an eight vowel system, which they chart as:

		o	
a			u
ä			ü
	i	e	
		ə	

The presence of some of these vowels is largely inferred from variant spellings. If a word is spelled, for example, with the vowel /u/ one time and with the vowel /i/ another time, this might mean that the vowel was an intermediate vowel of some kind, perhaps /ü/. Such a vowel does not exist in Akkadian, and so Akkadian speakers sometimes interpreted it as /u/, sometimes as /i/. The eight vowel system posited by Bobrova and Militarëv basically derives from a close study of such alternations. The problem with this method is that such spellings typically are late, coming from a period when Sumerian was no longer a spoken language, and in fact it is very difficult to find such alternation at one specific time and place.

It is not known if both short and long vowels existed, at the phonemic level or otherwise; the writing system cannot unequivocally show vocalic length. It is possible that long vowels existed as a secondary development, arising from the contraction of diphthongs or other vocalic contraction.

In practical terms most transliterations of Sumerian texts use only the four short vowels charted above: *a, e, i, and u*.

1.2.3. Consonants

The basic inventory includes the following consonants:

b	p	m
d	t	n
g	k	ŋ
z	s	š
	ḫ	
l	r	

ŋ represents the velar nasal. ɣ is the uvular fricative [x] and ʃ the palato-alveolar fricative [ʃ].

Akkadian has no (phonemic) velar nasal /ŋ/. Its presence in Sumerian is inferred by unusual spellings in Sumerian and by spellings in Akkadian of Sumerian loan words. For example, Sumerian /saŋa/ 'a kind of priest' appears in Akkadian as *šangû*.

While it is clear that a consonant of some kind different from both /m/ and /n/ existed in Sumerian, it is less easy to give its precise value. The Akkadian spellings most likely indicate a velar nasal, but this consonant has also been interpreted as a palatal nasal or as a more complex phoneme, such as a labialized velar nasal, /ŋʷ/.

Transliterations of this phoneme vary. *g̃* is used commonly today (and is so used in this sketch), partially to avoid a precise specification of the phonetic value of this consonant. In older secondary literature it may appear as *g* or as *m*. In the case of some Sumerian words, it is not known whether the word contains the phoneme /ŋ/, /g/, /m/, or /n/.

The chart above lists three pairs of stops: /b/ ~ /p/; /d/ ~ /t/; and /g/ ~ /k/. On the surface, each pair consists of two consonants differing in voice. However, the nature of the opposition has been much discussed. While the difference in Akkadian was one of voice (to judge from comparative evidence), it is more likely that in Sumerian the difference was one of aspiration. The series traditionally transliterated as the voiceless stops *p t k* are to be understood as the voiceless aspirates /p^h t^h k^h/, and the series traditionally transliterated as the voiced stops *b d g* are to be understood as the voiceless nonaspirates /p t k/. This produces a system with two sets of stops: voiceless aspirates and voiceless nonaspirates.

Although this interpretation of the opposition between the two series of stops is the most common understanding today, transliterations only rarely reflect this interpretation. This means that the actual phonetic shape of Sumerian may have been quite different than standard transliterations show. Thus the standard transliteration *gibil* 'new' may well conceal a pronunciation /kipil/.

The values for the sibilants *z s š* are derived from the traditional interpretation of the pronunciation of the Akkadian sibilants, but since the question of the sibilants in Semitic and in Old Akkadian is still an open question, these conventional transliterations should not be taken as any accurate phonetic rendering. Boisson (1989), for example, interprets *z s š* as /ʔ^s s θ/.

There is little evidence to indicate the type of /r/ Sumerian may have had. The Akkadian word *šuršu* 'root' appears in syllabically written Sumerian as *šu-ḥu-uš*. Similarly, the Sumerian word for 'red' *ḥuš-a* appears in Akkadian both as *ḥuššu* and *ruššu*. This may indicate that the Sumerian /r/ was uvular and not a flap.

Another phoneme whose existence is reasonably well established is usually transcribed /dr/ (or /dʳ/). Its precise phonetic value has seldom been discussed, though it is usually regarded as some kind of flap. Its existence is based on variant spellings which show it to be a unit phoneme distinct from /d/, /t/, and /r/. The verb meaning 'to

cut', for example, sometimes appears in syllabic spellings with /d/, sometimes with /t/, sometimes with /r/; this may reflect a pronunciation /kudʳ/. The existence of this phoneme has only been shown for a small number of words.

The presence of other consonants have also been postulated, but the evidence is more tenuous. The evidence is usually predicated on unusual spellings and on the behavior of Sumerian loanwords into Akkadian. There is not space here to go into the details of all these posited phonemes, but they include /h/, /w/, /y/; two or more types of /l/; two or more types of /r/; a series of pre-nasalized stops /^mb/, /ⁿt/, /^ŋk/; /g^w/ and other labialized consonants; /ʃ/; etc. Since most of these sounds do not exist in Akkadian at either the phonemic or allophonic level, the evidence for their existence is very indirect. Standard transliterations of Sumerian do not try to reproduce these disputed phonemes.

There is no clear evidence that consonantal length was a phonemic feature in Sumerian. There are no obvious minimal pairs, although long consonants can arise from suffixation or occasionally from assimilation (/barbar/ > /babbar/).

1.2.4. Syllabic Structure

Because of the way knowledge of Sumerian is filtered through Akkadian, and because of the logographic nature of the script, it is not possible to fully determine Sumerian syllabic structure. At least the following syllable types occur: V, VC, CV, and CVC. These are essentially the same syllable types present in Akkadian. There is no clear evidence for initial or final consonantal clusters. It has however been suggested that some words written CVCVC may represent CCVC syllables.

1.2.5. Stress

Occasional writings which show unexpected loss of vowels may indicate a strong stress on the following (or preceding) syllable. The divine name *Amar-utu* 'bull of the sun' appears in Akkadian as *Marduk*; this may indicate an original pronunciation /amárutuk/. A fair number of such spellings occur, but generally from different places and periods, so that it is not yet possible to determine the nature of stress or to determine whether stress assignment is rule governed or lexical.

1.2.6. Tones

Because Sumerian seems to have a large number of homonyms, it has frequently been argued that Sumerian possessed phonemic tones. The monosyllable /u/, for example, includes words ranging in meaning from 'ten' to 'plant' to 'to ride'. This high degree of homophony is said to result from the fact that Sumerian possesses a relatively small consonantal inventory and a small vocalic inventory, coupled with a tendency towards monosyllabic roots. However, there is no hard data about how much homophony a language actually can tolerate. Also, it may be that some of what are usually considered to be homophones in Sumerian were not actually such; there may have been phonetic differences which are not readily observable. The issue is still under discussion.

1.2.7. System

As was discussed above, the traditional inventories of vowels and consonants for Sumerian contain only phonemes which are known to exist for Akkadian (except for /ŋ/). Moreover, there has been little investigation of the Sumerian phonological system as a system. This means that the following basic questions still need to be resolved: (1) the phonemic inventory and (2) the phonetic nature of the phonemes.

A resolution of these two questions can only take place after a thorough analysis of all the details of the Sumerian writing system, with all its intricacies. This is a major desideratum in Sumerological studies. Even then, however, it is possible that we will never be in a position to understand Sumerian phonology, let alone phonetics, to the degree that we understand that of other ancient languages, such as Akkadian; the pronunciation of Sumerian reflected in our standardized transliterations may be quite different than the way Sumerian was actually pronounced. Several scholars have said, for example, that it will never be possible to reconstruct the vocalic system of Sumerian. But other scholars are more optimistic, and believe that further knowledge of the writing system, of Emesal, and of Akkadian scribal practices will enable us to deepen our understanding.

1.2.8. Phonological Processes

There is not space here to discuss the various phonological processes which Sumerian undergoes, particularly since a number of details concerning assimilation and contraction are unclear. For consonants, the most characteristic feature of Sumerian is **amissability**. This term describes the regular deletion of certain consonants in word final position. For example, the word for 'throne dais' is /barag/, with a word final /g/. At the end of a sentence, the word would have been pronounced /bara/. However, 'at the throne dais', using the locative case marker /a/, would have been pronounced /baraga/.

Because of the general tendency to write lexical morphemes by logograms, it is not actually easy to see amissability in practice, and it has even been argued that the phenomenon did not exist and that seeming cases represent vagaries in the writing system. Assuming that it did exist, two questions are still unresolved. The first is the inventory of consonants which are amissable. Here there is no scholarly consensus. Opinions have ranged from "a few consonants" to "all consonants but not to the same degree" to "all final consonants". The second question is the scope of amissability. Does it only apply to word final consonants, or can it also apply more generally to syllable final position, even within the word? Although the writing system is as usual difficult to interpret, occasional syllabic spellings indicate that amissability in fact probably functioned at the level of the syllable, not just the word.

The most interesting process for vowels is a diachronic one. At some period before Sumerian began to be recorded it underwent a fairly general process of vocalic assimilation, such that in roots with two or more vowels, the first vowel took on the quality of the second vowel. Thus Sumerian has a number of words of the type *barag* 'dais', *iti* 'month', *udu* 'sheep', etc. Occasionally this process can be observed by studying loanwords. Thus 'bronze', a pre-Sumerian substrate word, appears in

Classical Sumerian as /zabar/ and in Akkadian as /siparu/. The original form was something like */sibar/. Akkadian borrowed the word and kept the original vocalization; Sumerian borrowed it but it underwent vocalic assimilation. This process does not seem to have operated throughout the lexicon; cf., for example, *mušen* 'bird'. Moreover, this process was limited to the level of the root; it does not operate across verbal phrases or nominal phrases.

2. Morphology

2.1. Root

Sumerian distinguishes between **verbal roots** and **nominal roots**. Verbal roots can form all possible finite and non-finite verbal forms. Nominal roots only occur as substantives. There is no phonological or morphological distinction between verbal and nominal roots; as will be seen below, they take the same shapes.

There is probably no special class of adjectival roots; adjectives are derived from verbal roots. It is possible that there are a few primary adjectival roots, such as {mah} 'mighty', but the evidence is not yet conclusive.

2.2. Nominal Morphology

2.2.1. Nominal Roots

Typical nominal roots are *a* 'water', *lu₂* 'man', *ur* 'dog', *bad₃* 'wall', and *udu* 'sheep'. There is no canonical shape of the nominal root. Roots of the shape V, CV, VC, CVC, VCV, and CVCVC all occur.

2.2.2. Inflection

2.2.2.1. Definiteness

There is no marker to indicate either definiteness or indefiniteness. Thus *lugal* 'a king' or 'the king'.

2.2.2.2. Gender

Sumerian has no grammaticalized gender system, that is, there are no special markers for either inherently masculine or inherently feminine nouns. In most cases one word may be used for either gender: *diġir* 'god' or 'goddess'. In other cases, the masculine and feminine are formed from different roots: *gud* 'bull' but *ab* 'cow'. Gender can be specified by adding the word for 'man', *nitaġ* or the word for 'woman', *munus* after a noun. *dumu* can mean 'son', 'daughter', or 'child'. *dumu nitaġ* is specifically 'son' while *dumu munus* is specifically 'daughter'.

2.2.2.3. Animacy

Traces remain of what was once probably an extensive system of distinction of animacy. This can still be seen in the different formations of plurals for nouns (§2.2.2.4.) and different forms of pronouns (§2.3.). In general, in the various pronominal forms /n/ is the marker of the animate and /b/ the marker of the inanimate.

Certain case relationships can only be used with animate nouns and others only with inanimate nouns. Thus the dative does not occur with inanimates, while the ablative and locative do not occur with animates. To express, for example, 'from' with an animate noun, a periphrasis of the type 'from the place of' must be used.

2.2.2.4. Number

Sumerian has a singular and a plural; there is no dual. The plural of animate nouns is formed by a suffixed {ene}. 'God' is *diġir*; 'gods' is {diġir.ene}, usually written *diġir-re-ne*. The plural of inanimate nouns is often said to be formed by reduplication of the singular: *kur* 'land', *kur-kur* 'lands'. More likely, however, number is actually unmarked in the case of inanimate nouns; *kur* can mean either 'land' or 'lands', while reduplicated forms of the type *kur-kur* actually stress a totality: 'all the lands'. This question still requires investigation.

2.2.2.5. Case

The Sumerian case system can be categorized as:

core	ergative	{e}	agent	
	absolutive	{∅}	patient	
adverbial	ablative/instrumental	{ta}	from, by	(-/t/ after vowels)
	comitative	{da}	with	(-/d/ after vowels)
	dative	{ra}	to, for	(-/r/ after vowels)
	locative	{a}	in	
	locative-terminative	{e}	by, at, in	
adnominal	terminative	{še ₃ }	to, toward	
	equitative	{gin ₇ }	like	
	genitive	{ak}	of	(-/k/ after vowels)

As will be seen later, the core cases are cross-referenced in the verbal phrase (hereafter, VP) by a personal affix immediately before or after the verbal root. The adverbial cases are cross-referenced by a set of prefixed elements located before the personal affixes. The adnominal cases are not cross-referenced and are cumulative with respect to the other cases.

These case markers occur at the end of the entire nominal phrase (hereafter, NP). This NP can be quite short, consisting, for example, of a single noun: 'to the king'. It can also be very long: 'for the man who built this temple'. In all cases, the case marker comes at the end of the NP. These case markers are traditionally called "postpositions" or "postfixes".

2.2.3. Derivational Morphology

2.2.3.1. Noun-Noun Compounds

Sumerian has very few processes of nominal derivation. A small number of noun-noun compounds occur, derived in different ways. One class is comprised of noun-noun compounds derived from two nominal roots. Examples are *dumu-saġ*, literally 'son-head', thus 'eldest son'; *En-lil₂*, 'lord-wind', the name of a deity. A second

class is composed of noun-noun compounds where the first noun is from a nominal root, and the second is an active participle from a verbal root; the first noun represents the (historic) incorporated direct object. An example is *dub-sar* 'scribe'. *dub* is 'tablet' and *sar* is the verbal root 'to write'; the form here is an active participle, which, as usual, is formally not marked. This thus means 'the one who writes a tablet'. A number of names of professions and officials are formed in this way. A third class is composed of noun-noun compounds, where the first noun is from a nominal root and the second from a verbal root. An example is *še-ba* 'barley ration', from *še* 'barley' and *ba* 'to apportion'. The syntactic relationship between the noun and the verb here is unsure; the verb may be an infinitive, which, as usual, is formally not marked.

None of these types of formation are especially common in historic Sumerian. The attested cases may all be survivals from an earlier period when this derivational process was more productive.

2.2.3.2. Abstract Nouns

nam followed by a nominal or verbal root, or occasionally by a more complicated form, creates abstract nouns. From *lugal* 'king' comes *nam-lugal* 'kingship'. *lugal* itself is originally a noun-adjective NP. *lu₂* is 'man' and *gal* a participle from 'to be great'; *lugal* thus means 'great man'.

The origin of *nam* is unclear. Synchronically, these forms are best described as noun-noun compounds.

2.2.3.3. Concrete Nouns

nig₂ followed by a verbal root forms concrete nouns. From *daġal* 'to be wide' comes *nig₂-daġal* 'something wide'. From *ba* 'to apportion', *nig₂-ba* is 'gift'.

nig₂ is in origin a noun meaning 'thing, something'. The verb form following is probably an infinitive. This formation thus represents another case of noun-noun compounding.

2.3. Pronominalization and Pronouns

In general, pronominalization is accomplished by deletion of the relevant NP, while the various co-referential pronouns in the VP are retained. Thus 'The king built the temple for (the god) Nanshe', {lugal.e e₂.∅ Nanše.r mu.na.n.du₃.∅} can be pronominalized into 'He built it for him', {mu.na.n.du₃.∅}.

2.3.1. Personal Pronouns

There are three main sets of personal pronouns. One functions as independent elements in a sentence; one serves to indicate possession; and one serves to cross-reference the various case relationships.

2.3.1.1. Independent Pronouns

Since the category of person is encoded in the VP, these are not common. They are typically only used for emphasis or contrast. The plural forms are unsure, and will not be listed here. The subject forms for the singular are usually written:

first singular	<i>ġa₂-e</i>	'I'
second	<i>za-e</i>	'you'
third animate	<i>e-ne</i>	'he/she'
third inanimate	<i>ur₅ (?)</i>	'it'

These can be used as the subjects of both transitive and intransitive verbs and of copular sentences. With the appropriate case endings, these can serve to express all the case relationships, with the exception of the ablative/instrumental and locative cases, which are normally only used with inanimate nouns. Using the first person as the model, there occurs:

core	subject	<i>ġa₂-e</i>
	object	—
adverbial	ablative/instrumental	—
	comitative	<i>ġa₂-da</i>
	dative	<i>ġa₂-ra, ġa₂-ar</i>
	locative	—
	locative-terminative	<i>ġa₂-e</i>
adnominal	terminative	<i>ġa₂-še₃</i>
	equitative	<i>ġa₂-gin₇</i>
	genitive	<i>ġa₂-a</i>

In Classical Sumerian these independent pronouns are not used to express the direct object, since this is normally encoded in the VP. They sporadically do so in later Sumerian, under the influence of Akkadian.

2.3.1.2. Possessive Pronouns

The basic forms for the singular are:

first	<i>-ġu₁₀</i>	'my'	
second	<i>-zu</i>	'your'	
third animate	<i>-a-ni</i>	'his/her'	(<i>-ni</i> after vowels)
third inanimate	<i>-bi</i>	'its'	

These can be attached to NPs of any length, ranging from a single noun such as 'his king', {lugal.ani}, to a long complex, such as 'his canal (productive) of food offerings', {id₂.nidba.ak.ani}. These NPs can then be followed by a case marker: 'to his king', {lugal.ani.r}.

2.3.1.3. Co-referential Pronouns

These cross-reference within the VP the various nominal participants in the sentence. Their usage will be described under Dimensional Prefix (§2.6.4.) and Personal Affix (§2.6.5.). The basic forms for the singular are:

first	{Ø} (?), {e} (?)
second	{e} (?), {Ø} (?)
third animate	{n}
third inanimate	{b}

Because of the imprecision of the writing system, the forms of the first and second person are unsure. They were probably different from each other.

2.4. Demonstratives

By far the most common is a suffixed *-bi*, loosely translated 'this'. A few other independent and suffixed forms occur, but none are common and it is difficult to determine their exact meaning. Typical examples are *ne-en* and *ne* 'this' (?), *e* 'this', and *ri* 'that'.

2.5. Numbers

The cardinal numbers from 1 through 10 are:

1	{aš, diš}	6	{aš ₃ }
2	{min}	7	{imin}
3	{eš ₅ }	8	{issu}
4	{limmu}	9	{ilimmu}
5	{ia ₂ }	10	{u}

The distribution of the two forms of '1' is unsure; other forms are also attested. The numbers from '6' through '9' are clearly derived from the forms 5+1 etc. It is rare for any of these numbers to be written syllabically; they are regularly written with special cuneiform signs.

These numbers usually follow a singular noun directly, functioning essentially as an adjective: *abgal 7*, 'the seven sages'. In economic and administrative texts of various kinds the numeral normally precedes. In such cases the noun remains in the singular, with no case marker: *5 udu*, '5 sheep'. This order reflects the list-like nature of such texts.

Ordinal numerals are formed by following the cardinal numeral with the genitive marker {ak} and then the enclitic copula {am₃} (§3.7.). Thus 'fifth' is {5.ak.am₃}, literally 'it is of 5'. 'The fifth king', for example, is {lugal.5.ak.am₃}, usually written *lugal 5-kam*.

2.6. Verbal Morphology

2.6.1. Overall Structure

The VP in Sumerian consists of the following elements, some of which are obligatory, some optional:

- (1) modal prefix
- (2) conjugation prefix
- (3) dimensional prefix
- (4) personal affix
- (5) verbal root
- (6) personal affix
- (7) miscellaneous optional elements

A typical example is {mu.na.n.du₃.Ø}, 'He built it for him', as in 'The king built the temple for (the god) Nanshe'; a typical spelling would be *mu-na-du₃*. This is to be analyzed as:

{mu}	conjugation prefix
{na}	dimensional prefix cross-referencing the dative
{n}	personal affix cross-referencing the agent
{du ₃ }	verbal root
{Ø}	personal affix cross-referencing the patient

Each category in the VP will be discussed in order. There are numerous unresolved problems in the morphology, distribution, and meaning of each of these categories.

2.6.2. Modal Prefix

The first element in the VP is the **modal prefix** (hereafter, MP). These convey a wide range of meanings; "mood" is a rather imprecise term. Use of these MPs sometimes entails rather complex morphological and phonetic changes in following elements in the VP, the details of which are not treated here. Certain of these moods require use of the perfect root, other require the imperfect root, others use one or the other according to function. Some of these moods are only infrequently attested.

Ø		indicative	
<i>bara-</i>	perfect root	negative affirmative	'indeed did not'
<i>bara-</i>	imperfect root	vetitive	'will not'
<i>ga-</i>	perfect root	cohortative	'let me'
<i>he₂-</i>	perfect root	affirmative	'indeed did'
<i>he₂-</i>	imperfect root	desiderative	'let him'
<i>na-</i>	perfect root	affirmative	'indeed did'
<i>na-</i>	imperfect root	prohibitive	'do not'
<i>ša-</i>		contrapuntive	'he on his part'
<i>u₃-</i>		prospective	'when'

The indicative is unmarked. Thus, for example, {mu.na.n.sum.Ø}, 'He gave it to him', written *mu-na-sum*; {bi₂.n.dug₄}, 'He said it', written *bi₂-in-dug₄*. Typical

examples of VPs with MPs are {ga.i₃.na.b.dug}, 'Let me tell it to her', written *ga-na-ab-dug₄* and {he₂.mu.e.da.gub.Ø}, 'May she stand with me', written *ha-mu-da-gub*.

2.6.3. Conjugation Prefix

Immediately after the MP comes the **Conjugation Prefix** (hereafter, CP). The function of these CPs is probably the most disputed question in the study of Sumerian grammar. They mark such categories as deixis, relevancy, foregrounding, etc., but the details are far from clear; there are also significant problems in understanding the morphology. Although treated here as one class in the series of prefixes in the VP, it has frequently been argued that two or more classes should be distinguished.

Since VPs in the indicative are not marked by a MP, most verbal forms in Sumerian actually begin with a CP. This is why they are called "conjugation" prefixes. The term is misleading, however, because the CPs have nothing to do with "conjugation" as the term is normally used.

The most commonly occurring forms will be listed here, with minimal discussion of their translation equivalents or of variant forms.

mu-
i₃-
bi₂-
ba-
im-
al-
a-

The most common CP in unmarked indicative perfect sentences seems to be {mu}, but this depends to some degree on the genre of text studied. In indicative imperfect sentences, the most common is {i₃}. It has been suggested that {i₃} is the most "neutral" CP, and the others are only used under specific conditions. {ba} is particularly common in intransitive and passive sentences.

It is not clear, in either a synchronic or a diachronic sense, whether all these are to be understood as unit morphemes or as combinations of two morphemes. *ba* and *bi₂*, for example, must somehow be related. It is also unsure if {a} is a phonetic variant of {i₃} or whether it is to be ranked as an independent CP. It is especially common in imperatives.

The combination of certain MPs with certain of these CPs sometimes entails changes in the morphology, the details of which are not discussed here.

2.6.4. Dimensional Prefix

The **dimensional prefixes** (hereafter, DP) cross-reference the adverbial case relationships appearing in the sentence. Their use is largely optional. Certain case relationships are more frequently cross-referenced than others. The basic series is:

case	case marker	dimensional prefix
ablative/instrumental	- {ta}	{ta}; {ra} (?)
comitative	- {da}	{da}
dative	- {ra}	{na}
locative	- {a}	{ni}; {a} (late)
locative-terminative	- {e}	{ni} (?)
terminative	- {še ₃ }	{ši}

These prefixes are cumulative and hierarchical. It is possible for a VP to have up to four DPs, following a prescribed order, although it is actually rather uncommon to find a VP with more than two DPs. An example of a VP with one DP is

- (1) *šimbi igi-na mu-ni-in-ġar*
 {šimbi.Ø igi.ni.a mu.ni.n.ġar.Ø}
 antimony-ABS eye-her-LOC CP-DP-PA-place-PA
 'She placed the antimony on her eye'

Here the DP {ni} cross-references the locative phrase marked in {a}.

An example of a pronominalized VP containing three DPs is:

- (2) *mu-na-ra-ni-e₃-eš*
 {mu.na.ra.ni.e₃.eš}
 CP-DP-DP-DP-go-PLU
 'They came out from there for him'

{na} cross-references a dative; {ra} cross-references an ablative; and {ni} cross-references a locative.

The dative alone of the DPs has special forms for the different persons. It is also possible for most of the other DPs to be prefixed by a co-referential pronoun (§2.3.1.3.) which loosely cross-references the adverbial participants in the sentence. An example is {b.da}, with the third person inanimate pronoun {b} prefixed to the DP for the comitative {da}.

As stated above, the use of the DPs appears to be largely optional. It is often difficult to say why, in any given Sumerian sentence, some NPs are cross-referenced by DPs and others are not; the answer may lie on the discourse level. There are other unresolved problems in the morphology and distribution of the DPs. A typical type of problem is an expected DP for the ablative appearing as *-da-* instead of *-ta-*. In some cases it is hard to say if this is a problem at the level of the writing system, phonology, morphology, or syntax and semantics. An even more problematic instance is *-ra-* appearing for the ablative DP instead of *-ta-*, as in example (2) above.

2.6.5. Personal Affix

Personal affixes (hereafter, PA) occupy two positions in the VP: one immediately before the verbal root and one after it. As was the case with the CPs, their function

has been much discussed. In the perfect aspect, the PA immediately before the verbal root cross-references the agent; the PA after the verbal root cross-references the patient. Thus,

- (3) *lugal-le ħi-li mu-dim₂*
 {lugal.e ħili.Ø mu.n.dim₂.Ø}
 king-ERG wig-ABS CP-PA-fashion-PA
 'The king fashioned the wig'

The PA {n} cross-references the agent {lugal.e}, and the PA {Ø} cross-references the patient {ħili.Ø}. If pronominalized, this sentence would be {mu.n.dim₂.Ø}, 'He fashioned it', written *mu-dim₂*.

In the imperfect aspect, the distribution of the PAs is the reverse: the PA immediately before the verbal root cross-references the patient; the PA after the verbal root cross-references the agent. Thus, sentence (4) in the imperfect would be:

- (4) *lugal-le ħi-li ib₂-dim₂-me*
 {lugal.e ħili.Ø i₃.b.dim₂.e.Ø}
 king-ERG wig-ABS CP-PA-fashion-IMP-PA
 'The king will fashion the wig'

The PA {b} cross-references the patient {ħili.Ø}, and the PA {Ø} cross-references the agent {lugal.e}.

Although the description given above represents the most widely accepted interpretation of the PAs, there are numerous seeming exceptions and unexplained cases. A problem is that the first and second persons, and all persons in the plural, are relatively uncommon. The third person singular PAs, whose morphology is the most straight-forward, often do not appear in the texts. In relatively older texts, for example, 'He built' may appear as *mu-du₃*, but in later texts as *mu-un-du₃*. There is however no simple correlation between the presence or absence of the PA with the relative age of the texts; they often do not appear even in relatively later texts. In such cases it is difficult to say whether they are "there" but not written or whether they are in fact not there, perhaps because their use is only necessary in unambiguous contexts or because there are larger syntactic and semantic issues at the level of the discourse not yet clear to us.

The PAs are a specialized use of the co-referential pronouns (§2.3.1.3.). In the pre-verbal root position, the forms in the singular are:

first	{Ø} (?), {e} (?)
second	{e} (?), {Ø} (?)
third animate	{n}
third inanimate	{b}

In the post-verbal root position, the forms in the singular are:

first	{en}
-------	------

second	{en}
third animate	{Ø}
third inanimate	{Ø}

They will be further discussed under §2.6.7., Aspect and §2.6.8., Conjugation.

2.6.6. Verbal Root

The verbal root is invariant. Inflectional elements are all in the pre-verbal and post-verbal series of PAs.

As in the case of the nominal root, there is no canonical shape of the verbal root. Verbal roots of the shape CV or CVC are perhaps the most common: *du₃* 'to build'; *dim₂* 'to fashion', but roots of the shape V, VC, VCV, and CVCVC also occur.

The root is unmarked for transitivity—intransitivity. It is also unmarked for causative constructions, which are not yet completely understood. Thus *gub* can mean 'to stand', 'to make stand', or 'to plant'.

2.6.7. Aspect

It is probable that the Sumerian verb encodes for aspect, not tense. There is a two aspect system: a perfect and an imperfect. The two differ in the root used and, as discussed above, in the usage of the PAs in the VP. Standard Sumerological parlance, using the ancient Akkadian grammatical terms, calls the form used in the perfect the *ḥamṭu* root and the form used in the imperfect the *marû* root.

In terms of morphology, the *ḥamṭu* roots are the unmarked forms. The *marû* is formed from the *ḥamṭu* in a number of ways. The *marû* form for any particular verbal root is lexical, and is not always known. This is partially because Sumerian texts relate past and completed action more often than they do present/future and incomplete action. The following classes of *marû*-formation exist, listed in approximate order of frequency:

affixation: The *marû* is formed by addition of the *marû* suffix {e}. Thus, 'to fashion' in the *ḥamṭu* is *dim₂*; in the *marû* {*dim₂.e*}, written *dim₂-e* or *dim₂-me*. The existence of this class of *marû* formation is not universally accepted. An alternative analysis is to consider this class to be "unchanging", and the {e} to be a conjugational element. This is a thorny problem which cannot be resolved here.

reduplication: The *marû* is formed by (graphically) reduplicating the root. Roots of the type CVC lose the last consonant. Thus, 'to place' in the *ḥamṭu* is {*ḡar*}; the *marû* is {*ḡa.ḡa*}. These are written *ḡar* and *ḡa₂-ḡa₂*.

alternation: Two historically unrelated roots are used. Thus, 'to speak' is {*dug*} in the *ḥamṭu*; the *marû* root is {e}. These are written *dug₄* and *e*.

root varying: The two roots are different, yet phonetically (and presumably historically) related. 'To approach' in the *ḥamṭu* is {*te*}; in the *marû* {*teg*}. These are written *te* and *teg₃*. There are probably several different sub-classes of formation here.

irregular: These do not fit the categories listed above. It includes such cases as different roots used for singular and plural of subject and/or object. Thus 'to go' is /*ḡin*/ in the *ḥamṭu* singular, /*du*/ in the *marû* singular (both *ḡin* and *du* are written by the same sign), /*ere*/ in the *ḥamṭu* plural, and /*sub*/ in the *marû* plural (the plural forms are written in several ways).

Combinations of *marû* formation are occasionally encountered within one verbal form. 'Let him not split (your wood)', in the prohibitive mood, appears as *nam-ba-an-dar-dar-e* = {*na.ba.n.dar.dar.e.Ø*}. Here the *marû* is marked by both reduplication and by the *marû* suffix {e}. Since the verb *dar* is normally a member of the reduplication class, it is not clear why such a hybrid form occurs.

As mentioned above, by and large *ḥamṭu* forms are used for completed actions, which typically occur in the past, and *marû* forms for incomplete actions, which typically occur in the present-future. Alternations between *ḥamṭu* forms and *marû* forms at the level of the discourse remain to be studied. Moreover, the MPs (§2.6.2.) require the use of one or the other root.

2.6.8. Conjugation

The following are the basic conjugations of the perfect and imperfect. There are numerous variations in spelling of certain of these forms. There is also disagreement about the morphology reflected by the writings. The model verb used for the transitive is *sar* 'to write' which forms its *marû* by affixation: {*sar.e*}, written *sar-re*. The CP used for the perfect is {*mu*}, for the imperfect {*i₃*}:

perfect transitive:

first person singular	{ <i>mu.Ø.sar</i> }	I wrote.
second	{ <i>mu.e.sar</i> }	You wrote.
third animate	{ <i>mu.n.sar</i> }	He/she wrote.
third inanimate	{ <i>mu.b.sar</i> }	It wrote.
first person plural	{ <i>mu.Ø.sar.enden</i> }	We wrote.
second	{ <i>mu.Ø.sar.enzen</i> }	You wrote.
third animate	{ <i>mu.n.sar.eš</i> }	They wrote.

In the singular, it is essentially the PA before the verbal root which encodes person. As discussed above, the forms for the first and second person are not exactly clear, and the third person PAs are often not written. It is in fact possible for the writing *mu-sar* to represent all three persons. Plural forms seem to use both prefixed and suffixed elements, but the morphology of the first and second persons is particularly unsure.

Third person inanimate plurals normally use the singular form of the verb.

imperfect transitive:

first person singular	{ <i>i₃.sar.e.en</i> }	I write.
-----------------------	-----------------------------------	----------

second	{i ₃ .sar.e.en}	You write.
third	{i ₃ .sar.e.Ø}	He/she writes.
first person plural	{i ₃ .sar.e.enden}	We write.
second	{i ₃ .sar.e.enzen}	You write.
third animate	{i ₃ .sar.e.ene.Ø}	They write.

Person is encoded by the PA appearing after the *marû* suffix {e}. A typical spelling of the third person singular is *i₃-sar-re*. As mentioned above, there is much controversy about the morphology behind such spellings. The interpretation here is that the writing represents the *marû* suffix {e} followed by the PA.

As discussed at §2.6.3., it is common for perfect verbal forms to use the CP {mu} and for imperfect forms to use the CP {i₃}, but it is also possible to find perfect forms with the CP {i₃} or other CPs and to find imperfect forms with {mu} or other CPs.

It will also be noted that the third person plural animate marker is different in the two conjugations. In the perfect the plural suffix is {eš}; in the imperfect it is {ene}.

In the case of an intransitive/passive verb, there is only one set of endings for both the perfect and the imperfect. The model verb for the intransitive is 'to go', whose *hamtu*-singular root is *gin* and whose *marû*-singular root is *du*. The CP used is {i₃}. Only the singular forms are given:

perfect intransitive:

first person singular	{i ₃ .gin.en}	I went.
second	{i ₃ .gin.en}	You went.
third	{i ₃ .gin.Ø}	He/she went.

imperfect intransitive:

first person singular	{i ₃ .du.en}	I go.
second	{i ₃ .du.en}	You go.
third	{i ₃ .du.Ø}	He/she goes.

Person is thus encoded by the PA after the verbal root.

The CP {i₃} is common with intransitive verbal forms, but other CPs also occur.

2.6.9. Other elements

There are other elements which can occur at the end of a VP; none are well attested. The two most common are {eše} indicating direct speech and {iri} apparently indicating an irrealis, 'were it that'. Neither is attested before the Post-Sumerian period.

2.6.10. Imperative

The imperative is traditionally categorized as one of the Sumerian moods, yet its formation differs from that of the moods discussed above. The order of elements in an imperative VP is:

- (1) verbal root
- (2) conjugation prefix
- (3) dimensional prefix
- (4) personal affix

The root is always the *hamtu* form. The number and distribution of the CPs differ somewhat from those used in finite verbal forms; this still requires study. The PA cross-references the object, not the subject. In the singular, the subject is not marked; plural imperatives are only attested in relatively late forms. A typical example in the singular is {gub.a}, 'Stand!', written *gub-ba*. {gub} is the root and {a} the CP. As discussed under Conjugation Prefix (§2.6.3.), it is unclear whether the CP {a}, which is especially common in imperatives, is a variant of the CP {i₃}, or whether it is a CP of its own, or even a different morpheme. A more complicated example is {sum.mu.a.b}, 'Give it to me!', written *sum-ma-ab*. {sum} is the root, {mu} the CP, {a} a form of the first person dative DP, and {b} the PA which cross-references the object.

A late plural imperative is *a nag-mu-ub-ze₂-en*, representing {a.Ø.na.mu.b.enzen}, 'Give me water to drink'. {nag} is the root; {mu} the CP; {b} the PA cross-referencing the patient {a} 'water', and {enzen} the plural subject marker.

2.6.11. Negation

Negation of the indicative is by means of the negative marker *nu*, which occupies the first position in the VP. Thus, 'He fashioned it', {mu.n.dim₂.Ø}; 'He did not fashion it', {nu.mu.n.dim₂.Ø}.

The non-indicative moods each have their own negative form; the details are not all clear. Thus the imperative is negated by the prohibitive mood in *na*, which uses the *marû* root and the PAs characteristic of the imperfect: *dim₂-ma* 'Fashion!', but *na-dim₂-me-en*, {na.i₃.dim₂.e.en}, 'Do not fashion!'. {na} is the MP of the prohibitive mood and {i₃} is the CP, which presumably has contracted into the /a/ of {na}.

nu may also be used to negate the non-finite forms of the verb. Thus, from *tuku* 'to have' *nu-tuku* is 'poor person', literally 'a not-haver'. *tuku* is here an active participle in .Ø.

2.7. Non-Finite Forms

The traditional understanding is that the verbal root in Sumerian forms an infinitive and two participles. The infinitive is unmarked. The participles are an unmarked active participle and a passive participle marked in {a}. This {a} is usually called the **nominalizer**. Thus *sar*, {sar.Ø}, is 'writer' and *sar-ra*, {sar.a}, is 'something

written'. The terms "active" and "passive" are somewhat misleading, and both the morphology and semantics of the participles (and the infinitive) need further explanation.

The infinitive and the participles are most commonly formed with the *hamtu* root. They can also appear with the *maru* root. The difference in meaning is difficult to determine, but *sar* may mean 'one who writes (in general)' and *sar-re* 'one who is writing (now)'. On the surface, *sar-re* would appear to represent {sar.e.Ø}, but there are hints that the writing actually represents {sar.e.ed.Ø}. The element {ed} is of unsure function and has been much studied. It can also occur in *maru* VPs, where it seems to stress the prospectiveness of the future in some way. Why its usage with the non-finite forms of the *maru* is obligatory is unknown.

Adjectives end in either {a} or {Ø}. They are thus probably participles in origin, derived from verbal roots. The items active participle and passive participle are again misleading, because some adjectives almost always appear in {a}, such as *kalag-ga* 'mighty', {kalag.a}, from *kalag* 'to be mighty', and others almost always appear in {Ø}, such as *gal* 'great', {gal.Ø}, from *gal* 'to be great'. In a few cases a particular adjective sometimes appears in {a} and sometimes in {Ø}, but it is not yet possible to determine a difference in meaning.

2.8. Compound Verbs

Compound verbs are composed of two elements. The first element is a NP with its case marker. The second element is a VP with all its prefix and suffix elements. An example is *gu₃...de₂* 'to speak'. The verbal root *de₂* means 'to pour out'. The nominal root *gu₃* means 'voice'; it is here the historic patient. Historically, this particular compound verb thus means 'to pour out the voice', that is, 'to speak'. A more complicated example is *kiri₃...šu...gal₂* 'to place the hand on the nose', 'to pray'. *kiri₃* 'nose' is in the locative case {kiri₃.a}, *šu* is the historic patient in the absolutive case {šu.Ø}, and *gal₂* the verb.

The category of compound verb is thus defined on semantic criteria. If the expression loosely forms an idiom, translatable by a single English or Akkadian word, it is called a compound verb. The writing system does not show if compound verbs form any kind of phonological unit. There are no obvious morphological criteria to define the category. The nominal elements of a compound verb are less likely to be cross-referenced by a DP in the VP than are the nominal elements of non-compound verbs, but this patterning requires more study.

3. Syntax

3.1. Ergativity

It is only relatively recently that Sumerian has been discussed within an ergative framework. Its ergative nature can be seen from the following two sentences in the perfect. The agent is marked by the ergative case marker {e}, and the patient in both sentences by the absolutive case marker {Ø}.

- (5) *lugal-le hi-li mu-dim₂*
 {lugal.e hili.Ø mu.n.dim₂.Ø}
 king-ERG wig-ABS CP-PA-fashion-PA
 'The king fashioned the wig'
- (6) *lugal i₃-gin*
 {lugal.Ø i₃.gin.Ø}
 king-ABS CP-go-PA
 'The king left'

The patient in both sentences is marked by the absolutive case marker {Ø} and is cross-referenced by the PA {Ø} after the verbal root. This patterning fits the classical definition of an ergative language.

The imperfect, however, functions on an accusative basis:

- (7) *lugal-le hi-li ib₂-dim₂-me*
 {lugal.e hili.Ø i₃.b.dim₂.e.Ø}
 king-ERG wig-ABS CP-PA-fashion-IMP-PA
 'The king will fashion the wig'
- (8) *lugal i₃-du*
 {lugal.Ø i₃.du.Ø}
 king-ABS CP-go-PA
 'The king will leave'

The case markers in all four sentences are the same. However, the case markers are cross-referenced differently. In (7) the patient is cross-referenced by the PA {b} before the verbal root; in (8) it is cross-referenced by the PA {Ø} after the root. Thus, the patient (direct object) in (7) is not treated the same as the patient (subject) in (8). In both the perfect and the imperfect, the case markers are the same for the nominal participants. If ergativity were defined solely by the case markings, Sumerian could be said to be ergative in the imperfect. But as in other languages, it is the series of cross-referencing pronouns which do not behave in an ergative manner.

Since the perfect aspect functions in an ergative manner, and the imperfect in an accusative manner, Sumerian must be considered to be a split ergative language, split along an aspectual basis. Such a split, of course, is not uncommon.

It is thus now reasonably clear that Sumerian is a split ergative language. However, there are many unresolved details. One reason for this uncertainty is the fact that the PAs are often not written. Furthermore, the texts which show a fair amount of grammatical variation—such as the use of different persons, numbers, aspects, etc.—are mostly attested from the period when Sumerian was under the influence of the accusative language Akkadian.

There are other places in the grammar where Sumerian functions in an accusative, not an ergative manner. Thus the personal pronouns (§2.3.1.) can be used as the subjects of both transitive and intransitive sentences. This is a typical case of accusativity in an basically ergative language.

There has been little investigation of syntactic ergativity in Sumerian. This is because knowledge of Sumerian is weak at the discourse level. There are some hints, however, that co-ordination reflects at least some level of syntactic ergativity.

3.2. Voice

The question of the existence of a passive voice in Sumerian is still under discussion. Opinions have ranged from the view that Sumerian as an ergative language cannot have a passive to the view that Sumerian is basically passival in nature. There are thus questions both of general linguistic theory and of the actual facts of Sumerian to be resolved. Similarly, the existence of an anti-passive has only been touched on. Moreover, such categories as intransitive, passive, and anti-passive have not always been clearly distinguished in the literature.

In the most common type of what will be called here a passive sentence, there is no expressed agent. The patient is marked by the absolutive case. The CP {ba} is common, but not necessary, in such constructions.

(9) *lu₂* *e₂* *mu-du₃*
 {lu₂.e e₂.∅ mu.n.du₃.∅}
 man-ERG house-ABS CP-PA-build-PA
 'The man built the house'

(10) *e₂* *ba-du₃*
 {e₂.∅ ba.du₃.∅}
 house-ABS CP-build-PA
 'The house got built'

In (9), the agent {lu₂} is marked by the ergative case and is cross-referenced by the PA {n} before the verbal root. In (10), there is no agent and thus no cross-referencing PA. In (9), the patient {e₂} is marked by the absolutive case and is cross-referenced by the PA {∅}. In (10), the patient {e₂} is treated the same way as in (9).

The CP {ba} is common in such sentences, but other CPs can be used, and {ba} occurs in active/transitive sentences also. It is thus not a marker of the passive.

3.3. Word Order

Preferred word order for a simple declarative sentence is S-O-V. A typical sentence is AGENT - PATIENT - ADVERBIAL COMPLEMENTS - VERB. The adverbial cases may precede the patient or even agent for emphasis. For example, in inscriptions which record the doing of some pious deed for the benefit of a god or goddess, the dative (benefactive) NP usually comes first.

3.4. Co-ordination

3.4.1. Co-ordination of Nouns

Nouns are regularly conjoined without any conjunction: *an-ki* 'heaven and earth'. It is also possible to express co-ordination by *-bi-da*, suffixed to the second noun: *an-ki-bi-da*. In origin, *bi* is the possessive suffix 'its' and *da* is the case marker of the

comitative; this thus meant originally 'the heaven with its earth'. Early on, Sumerian also borrowed a conjunction 'and' from Akkadian, *u₃*: *lal₃ u₃ ġeštin* 'honey and wine'.

3.4.2. Co-ordination of Sentences

Sentences are also normally conjoined without any conjunction. It is also possible to use a conjunction often written *in-ga* on the last verb in a series, in a position after any MPs and before the CP. This usage is relatively uncommon and probably expressed emphasis. It is hard to say exactly how *in-ga* was pronounced; the texts show a variety of contractions and assimilations with surrounding vowels.

(11) *sipad* *zid* *Gu₃-de₂-a* *gal* *mu-zu*
 {sipad zid Gudea.e gal.∅ mu.n.zu.∅}
 shepherd effective PN-ERG great-ABS CP-PA-know-PA

gal *i₃-ga-tum₂-mu*
 gal.∅ inga.i₃.b.tum₂.e.∅}
 great-ABS inga-CP-PA-perform-IMP-PA

'The effective shepherd Gudea knows great (things) and is also going to carry the great (things) out'

3.5. Dependent Clauses

3.5.1. Relative Clauses

There is no morphological class of relative pronouns but such nouns as *lu₂* 'man' and *ud* 'day' serve virtually as such. In the most common formation of relative clause, these markers are followed by a complete sentence nominalized in {a}. Thus, 'He built' is {mu.n.du₃.∅}, representing the CP {mu}, the PA {n}, the verbal root {du₃}, and a final PA {∅}. 'The one who built' is {lu₂ mu.n.du₃.∅.a}. This relative clause can then be used to modify a head noun: 'I, Amar-Sin, the one who built...', or it can be used without a head noun: 'The one who built...'

In the second formation of relative clauses, the sentence is also nominalized in {a}, but the entire set of prefixes before the verbal root is deleted: {lu₂ du₃.∅.a}. This second formation, commonly called a **reduced** relative clause, is less common than the first, and is mostly restricted to certain fixed phrases.

3.5.2. Temporal Clauses

The most common formation is to use the noun *ud* 'day' as a relative marker, followed by a relative clause nominalized in {a}, all of which is then followed by a case marker. With the locative {a}, for example, this produces literally, 'On the day that he built', i.e., 'When he built', {ud mu.n.du₃.∅.a.a}. Using the ablative {ta}, this produces 'After he built', {ud mu.n.du₃.∅.a.ta}.

The prospective mood marked in {u₃} (listed among the MPs in §2.6.2.) usually marks the first of a succession of events; the main verb is then in the indicative:

- (12) *uru* *u₃-mu-niġin₂* ... *uru e₂-gal-la-ka*
 {uru.Ø u₃.mu.n.niġin.Ø ... uru.egal.ak.a
 city-ABS MP-CP-PA-encircle-PA city-palace-GEN-LOC

i₃-ġin-e-en
i₃.ġin.e.en
 CP-go-IMP-PA

'He encircled the city ... and then went into the city
 of the palace'

It can also be used to mark the second of two imperatives, meaning 'Do this and then do that'.

{u₃} presumably derives from {ud} day. Although traditionally classed as a MP, some unusual writings indicate that it may have belonged to some other not yet defined category.

3.5.3. Circumstantial Clauses

The enclitic copula (§3.7.) can be used to form different types of circumstantial clause. In the most common formation, a finite sentence nominalized in {a} is followed by the enclitic copula, meaning literally 'It being the case that'. Thus, {e₂.Ø i₃.du₃.Ø} is 'The temple got built'. With the negative marker {nu}, this is {e₂.Ø nu.i₃.du₃.Ø}, 'The temple did not get built'. Followed by the enclitic copula, {e₂.Ø nu.i₃.du₃.Ø.a.am₃} means 'The temple not having yet been built'.

3.6. Interrogative sentences

The basic interrogative particles are the following:

<i>a-ba</i>	'Who?'
<i>a-na</i>	'What?'
<i>a-na-am₃</i>	'Why?'
<i>a-na-ġin₇</i> ,	'How?'
<i>a-na-ġin₇-nam</i>	
<i>me-na-am₃</i>	'When?'
<i>me-a</i>	'Where?'
<i>me-še₃</i>	'To where?'

It is curious that the animate form *a-ba* is formed with the element /b/, which normally marks inanimacy, while the inanimate form *a-na* is formed with the element /n/, which normally marks animacy.

'Why?' is literally 'It is what?', using the enclitic copula (§3.7.). Similarly, the first formation for 'How?' is literally 'Like what?'; the second formation uses the enclitic copula. The forms in *me* may derive from the copular verbal root *me*, but the origin and function of *na* in *me-na-am₃* is unclear.

The interrogatives tend to occur at the beginning of a sentence, but can occur in sentence medial and even sentence final position, presumably for some kind of emphasis.

There are no obvious markers for yes-no questions. Presumably this was marked by sentence intonation, which the script does not convey.

3.7. Copula

There are two different formulations to express the copula. The **full** form uses regularly inflected forms of the verb *me*: *lugal i₃-me-en*, {lugal.Ø i₃.me.e.en}, 'I am the king'. More common, however, is the **enclitic** copula, in which a reduced form of *me* is suffixed to its noun: *lugal-me-en*, 'I am the king'. The basic forms are:

first person singular	<i>-me-en</i>
second	<i>-me-en</i>
third	<i>-am₃</i> (after consonant)
	<i>-m</i> (after vowel)

Both the full and the enclitic copula can express such predicate types as adjectival, nominal, locational, etc.

3.8. Possession

Possession is marked by the genitive case marker {ak}. The sequence is possessed-possessor-{ak}: {ġili.lugal.ak}, 'wig of the king'. Since /k/ is an amissable consonant, it is not shown in the writing; this was presumably pronounced /ġililugala/. It would normally be written *ġi-li lugal-la*. In older Sumerian, only *ġi-li lugal* might be written.

Complex genitive formations of three or four nouns are also possible; in each case an additional genitive marker is used: {ġili.dumu.lugal.ak.ak}, 'wig of the daughter of the king', normally written *ġi-li dumu-lugal-la-ka*.

A second genitive formation, of more limited use, consists of the sequence possessor-{ak}-possessed-{ani}, literally, 'of the X, his Y'. The NP 'wig of the king' could be expressed as 'of the king, his wig', {lugal.ak ġili.ni}, written *lugal-la ġi-li-ni*. This construction may well be the older one; it is especially common with numerals and parts of the body. It is called the **anticipatory genitive**.

3.9. Noun modifiers

Adjectives regularly follow their nouns: *lu₂-gal*, 'great man'. A few adjectives occasionally precede their noun: *kug Inanna*, 'holy Inanna'. This usage is particularly common with *kug* when referring to deities; perhaps the adjectives had become substantivized.

Relative clauses also regularly follow their head noun: *lu₂ in-du₃-a*, {i₃.n.du₃.Ø.a}, 'the man who built'.

4. Sample Texts

4.1. Royal Inscription

This is a dedicatory inscription inscribed on a stone wig which was to be placed on a statue. An official named Bauninam donated the wig to the goddess Lamar, in the hope of attaining long life for his ruler, Shulgi. Shulgi was king of the city-state of Ur about 2094-2047 BCE.

^d Lamar ¹	nin-a-ni ²	nam-til ₃	^d Šul-gi	nitaḥ
Lamar	nin.ani.r	nam.til ₃	Šulgi	nitaḥ
DN ₁	lady-his-DAT	ABST-live	PN ₁	man
kalag-ga	lugal	Urim ₅ ^{ki} -ma-ka-še ₃ ³	^d Ba-u ₂ -nin-am ₃	
kalag.a	lugal	Urim.ak.ak.še ₃	Bauninam	
mighty-NOM	king	GN-GEN-GEN-TERM	PN ₂	
zabar-dab ₅	Ur- ^d Nin-ḡir ₂ -su	en	ki-aḡa ₂	^d Nanše-ka-ke
zabardab ⁴	Urningirsu	en	ki-aḡa.a ⁵	Nanše.k.ak.e ⁶
bronze-holder	PN ₃	lord	beloved-NOM	DN ₂ -GEN-GEN-ERG
ḥi-li	nam-munus-ka-ni ⁷	mu-na-dim ₂ ⁸		
ḥili	nam.munus.ak.ani.∅	mu.na.n.dim ₂ .∅		
wig	ABST-woman-GEN-her-ABS	CP-DP-PA-fashion-PA		

Bauninam, the bronzeholder of Urningirsu, the beloved lord of Nanshe, fashioned for Lamar his lady her wig of femininity, for the sake of the life of Shulgi, the mighty man, the king of Ur.

¹Sumerian uses certain cuneiform signs to indicate the semantic class to which a word belongs. The sign transliterated as ^d indicates that the following word is a divine name or the name of a deified ruler. Such signs are called **determinatives**. They were part of the writing system only and were not pronounced. Another example is ^{ki}, indicating that the preceding word is a geographic name.

²The unwritten {r} is the case marker of the dative, governing the NP 'DN₁ his lady'.

³The final {še₃} is the case marker of the terminative, meaning 'for the sake of'. The sequence of two genitive markers {ak.ak} marks the sequence 'life of {PN₁, king of {GN}}'. The PN₁ is itself modified by the NP 'mighty man'.

⁴Etymologically, {dab₅} is an active participle in {∅} meaning 'one who holds'; *zabar* 'bronze' is an incorporated direct object. This thus means 'the bronze-holder'.

⁵{ki...aḡa₂} is a compound verb meaning 'to love'. It is not clear what the individual components mean.

⁶The final {e} is the case marker of the ergative, marking this long phrase as the agent. The sequence {(a)k.ak} expresses a sequence of two genitive markers: 'PN₂, the bronze-holder of {PN₃, the beloved lord of {DN₂}}'.

⁷The final {∅} marks this {ḥili nam.munus.ak.ani} as the patient of the transitive verb {dim₂}.

⁸The DP {na} cross-references the dative 'Lamar his lady' marked in {r}; the PA {n} cross-references the agent 'Bauninam...of Nanshe' marked in {e}; the PA {∅} cross-references the patient 'her wig of femininity' marked in {∅}.

4.2. Literary Text

These lines are taken from a literary composition entitled *Inanna's Descent to the Netherworld*, a poetic text over 300 lines long. The original date of composition is unknown. It is preserved in numerous copies and fragments dating to 1800 BCE and later.

(1)	<i>an-gal-ta</i>	<i>ki-gal-še₃</i>	<i>ḡeštug₂-ga-ni</i>	
	an.gal.ta	ki.gal.še ₃	ḡeštug ₂ .ani.∅	
	heaven-great-ABL	earth-great-TERM	ear-her-ABS	
	<i>na-an-gub</i>	(2) <i>diḡir</i>	<i>an-gal-ta</i>	
	na.i ₃ .n.gub.∅ ⁹	diḡir.e	an.gal.ta	
	AFF-CP-PA-stand-PA	goddess-ERG	heaven-great-ABL	
	<i>ki-gal-še₃</i>	<i>ḡeštug₂-ga-ni</i>	<i>na-an-gub</i>	
	ki.gal.še ₃	ḡeštug ₂ .ani.∅	na.i ₃ .n.gub.∅	
	earth-great-TERM	ear-her-ABS	AFF-CP-PA-stand-PA	
(3)	^d Inanna	<i>an-gal-ta</i>	<i>ki-gal-še₃</i>	<i>ḡeštug₂-ga-ni</i>
	Inanna.e	an.gal.ta	ki.gal.še ₃	ḡeštug ₂ .ani.∅
	DN-ERG	heaven-great-ABL	earth-great-TERM	ear-her-ABS
	<i>na-an-gub</i>	(4) <i>nin-ḡu₁₀</i>	<i>an</i>	
	na.i ₃ .n.gub.∅	nin.ḡu ₁₀ .e	an.∅	
	AFF-CP-PA-stand-PA	lady-my-ERG	heaven-ABS	
	<i>mu-un-šub</i>	<i>ki</i>	<i>mu-un-šub</i>	<i>kur-ra</i>
	mu.n.šub.∅	ki.∅	mu.n.šub.∅	kur.a
	CP-PA-abandon-PA	earth-ABS	CP-PA-abandon-PA	LowerWorld-LOC
	<i>ba-e-a-ed₃</i>	(5) ^d Inanna	<i>an</i>	<i>mu-un-šub</i>
	ba.?.a.ed ₃ .∅ ¹⁰	Inanna.e	an.∅	mu.n.šub.∅
	CP-?-DP-descend-PA	DN-ERG	heaven-ABS	CP-PA-abandon-PA
	<i>ki</i>	<i>mu-un-šub</i>	<i>kur-ra</i>	<i>ba-e-a-ed₃</i>
	ki.∅	mu.n.šub.∅	kur.a	ba.?.a.ed ₃ .∅
	earth-ABS	CP-PA-abandon-PA	LowerWorld-LOC	CP-?-DP-descend-PA

⁹{na} is the MP of the affirmative, a mood used for emphasis. The PA {n} cross-references the unexpressed agent. The PA {∅} cross-references the patient 'her ear', {ḡeštug₂.ani.∅}. Neither the ablative NP {an.gal.ta} or the terminative NP {ki.gal.še₃} is cross-referenced by a DP.

¹⁰The verb {ed₃} is here intransitive. The CP {ba} is especially common with intransitive verbs. The function of {e} here is unclear. The {a} is a late form of the DP which cross-references the locative 'Lower World'. The PA {∅} cross-references the (unexpressed) intransitive subject, Inanna.

(14)	<i>me-7-bi</i>	<i>zag</i>	<i>mu-ni-in-keš₂</i>
	me.ak.imin.bi.∅ ¹¹	zag.a	mu.ni.n.keš ₂ .∅ ¹²
	me ¹³ -GEN-7-its-PA	side-LOC	CP-DP-PA-fasten-PA
(15)	<i>me</i>	<i>mu-un-ur₄-ur₄</i>	<i>šu-ni-še₃</i>
	me.∅	mu.n.ur ₄ .ur ₄ .∅ ¹⁴	šu.ni.še ₃
	me-ABS	CP-PA-see-see-PA	hand-her-TERM CP-PA-tie-PA
(18)	<i>hi-li</i>	<i>saġ-ki-na</i>	<i>šu</i>
	hili.še ₃	saġki.ni.a	šu.∅
	wig-TERM	forehead-her-LOC	hand-ABS CP-DP-PA-take-PA
(22)	<i>šimbi</i>	<i>lu₂</i>	<i>he₂-em-du</i>
	šimbi	lu ₂ .∅	he ₂ .im.du.∅ ¹⁶
	antimony	man-ABS	DES-CP-go-PA DES-CP-go-PA-ABS
	<i>igi-na</i>	<i>ba-ni-in-ġar</i>	
	igi.ni.a	ba.ni.n.ġar.∅	
	eye-her-LOC	CP-DP-PA-place-PA	

- (1) From the Great Heaven, she directed her attention to the Great Earth.
 (2) From the Great Heaven, the goddess directed her attention to the Great Earth.
 (3) From the Great Heaven, Inanna directed her attention to the Great Earth.
 (4) My lady abandoned heaven; she abandoned earth; she went down to the Lower World.
 (5) Inanna abandoned heaven; she abandoned earth; she went down to the Lower World.
 (14) She fastened the seven *mes* to her side.
 (15) She sought the *mes*, and tied them to her hand.
 (18) She took her wig for her forehead.
 (22) She placed the antimony paste (named) "Let the man come! Let him come!" on her eye.

¹¹This NP is an anticipatory genitive: 'of the *mes*, their 7', all functioning as patient of the transitive verb 'to fasten', {keš₂}.

¹²The DP {ni} cross-references the locative 'on (her) side', {zag.a}.

¹³A concretization of the abstract principles which the Sumerians believed governed the universe.

¹⁴The verb is in the perfect. The reduplication of the root is used to indicate a plurality of objects.

¹⁵{šu...ti} is a compound verb. {šu} 'hand' is the historic patient. {ti} is the verbal root, 'to draw near' and 'to bring near'. The compound thus means 'to bring the hand near', i.e., 'to take'. The verb governs a terminative case, 'towards the wig', although the terminative case marker in the NP is not written. Similarly, the terminative is not cross-referenced here by any DP.

¹⁶The name of the antimony paste is a desiderative phrase, 'Let the man come'. {lu₂.∅} is the patient of the intransitive verb. {he₂} is the MP of the desiderative. The verb is intransitive.

¹⁷The final {∅} marks all of this line as the patient of the verb {ġar}.

5. Lexicon

Sumerian drew from the vocabulary of other languages spoken in Mesopotamia before the invention of writing, although in many cases it cannot be determined if a particular word is a substrate word borrowed into Sumerian or a native Sumerian word. It also absorbed a certain number of words from Akkadian, even in early periods.

Since Sumerian is an isolate, it may be of interest to list the basic Sumerian vocabulary. It will be noted that several of the Sumerian equivalents are unknown. It will also be noticed that several verbs are expressed by compound verbs; these latter presumably have replaced older, non-compound verbs.

As discussed above under §1.2. Phonology, these transliterations are to be understood only as approximations of the actual spoken forms. Moreover, some of the items given here are open to discussion.

1.	I	<i>ġa₂-e</i>	51.	breasts	
2.	you	<i>za-e</i>	52.	heart	<i>šag₄</i>
3.	we	<i>me-en-de₃-en</i>	53.	liver	<i>ur₅</i>
4.	this	<i>bi</i>	54.	drink	<i>naġ</i>
5.	that	<i>ri (?)</i>	55.	eat	<i>gu₇</i>
6.	who	<i>a-ba</i>	56.	bite	<i>zu₂...ku₅</i>
7.	what	<i>a-na</i>	57.	see	<i>igi...duh</i>
8.	not	<i>nu</i>	58.	hear	<i>ġiš...tuku</i>
9.	all	<i>du₃-a-bi</i>	59.	know	<i>zu</i>
10.	many	<i>šar₂</i>	60.	sleep	<i>nu₂</i>
11.	one	<i>aš/diš</i>	61.	die	<i>uš₂</i>
12.	two	<i>min</i>	62.	kill	<i>gaz</i>
13.	big	<i>gal</i>	63.	swim	
14.	long	<i>gid₂</i>	64.	fly	<i>dal</i>
15.	small	<i>tur</i>	65.	walk	<i>ġin</i>
16.	woman	<i>munus</i>	66.	come	<i>ġin</i>
17.	man	<i>nitaġ</i>	67.	lie	<i>us₂</i>
18.	person	<i>lu₂</i>	68.	sit	<i>tuš</i>
19.	fish	<i>ku₆</i>	69.	stand	<i>gub</i>
20.	bird	<i>mušen</i>	70.	give	<i>sum</i>
21.	dog	<i>ur</i>	71.	say	<i>dug₄</i>
22.	louse	<i>uġ</i>	72.	sun	<i>utu</i>
23.	tree	<i>ġiš</i>	73.	moon	<i>ud-sakar₃</i>
24.	seed	<i>numun</i>	74.	star	<i>mul</i>
25.	leaf		75.	water	<i>a</i>
26.	root	<i>erina</i>	76.	rain	<i>šeg₉</i>
27.	bark	<i>bar</i>	77.	stone	<i>na₄</i>
28.	skin	<i>kuš</i>	78.	sand	
29.	flesh	<i>uzu</i>	79.	earth	<i>ki</i>
30.	blood	<i>mud</i>	80.	cloud	<i>murug</i>
31.	bone	<i>gir₂</i>	81.	smoke	<i>i-bi₂</i>
32.	grease	<i>i₃</i>	82.	fire	<i>izi</i>

33.	egg	<i>nunuz</i>	83.	ash	
34.	horn	<i>si</i>	84.	burn	<i>igi...la2</i>
35.	tail	<i>kun</i>	85.	path	<i>gir3</i>
36.	feather		86.	mountain	<i>hur-saġ</i>
37.	hair	<i>sig2</i>	87.	red	<i>sa5</i>
38.	head	<i>saġ</i>	88.	green	<i>sig7</i>
39.	ear	<i>ġeštug2</i>	89.	yellow	<i>sig7</i>
40.	eye	<i>igi</i>	90.	white	<i>bar6</i>
41.	nose	<i>kiri4</i>	91.	black	<i>giġ</i>
42.	mouth	<i>ka</i>	92.	night	<i>ġi6</i>
43.	tooth	<i>zu2</i>	93.	hot	<i>kum2</i>
44.	tongue	<i>eme</i>	94.	cold	
45.	claw	<i>umbin</i>	95.	full	<i>sig-ga</i>
46.	foot	<i>giri3</i>	96.	new	<i>gibil</i>
47.	knee	<i>dug3</i>	97.	good	<i>dug3</i>
48.	hand	<i>šu</i>	98.	round	<i>gur4</i>
49.	belly	<i>šag4</i>	99.	dry	<i>had2</i>
50.	neck	<i>gu2</i>	100.	name	<i>mu</i>

6. Research Tools and Bibliography

6.1. Research Tools

There is no comprehensive study of the history of the discipline of Sumerology. There are very few scholars who specialize in the language alone; most Sumerologists also study its culture. A history of the discovery of the Sumerian language is in Jones 1969.

The first complete grammar was Poebel 1923. Poebel was the father of Sumerian studies, and his work is still valuable. Falkenstein 1959 is a short sketch; it is often cited but difficult to use. The standard reference grammar is now Thomsen 1989. Attinger 1993 contains a wealth of detail, but presupposes much knowledge. The only useful textbook is Hayes 1990.

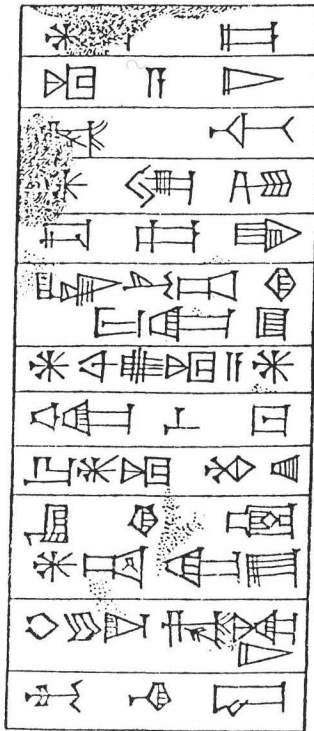
No complete up-to-date dictionary of Sumerian exists; this is a serious obstacle to research in Sumerian. Sjöberg 1984f will eventually be a multi-volume dictionary of all stages of the language, but will not be complete for many years.

6.2. Bibliography

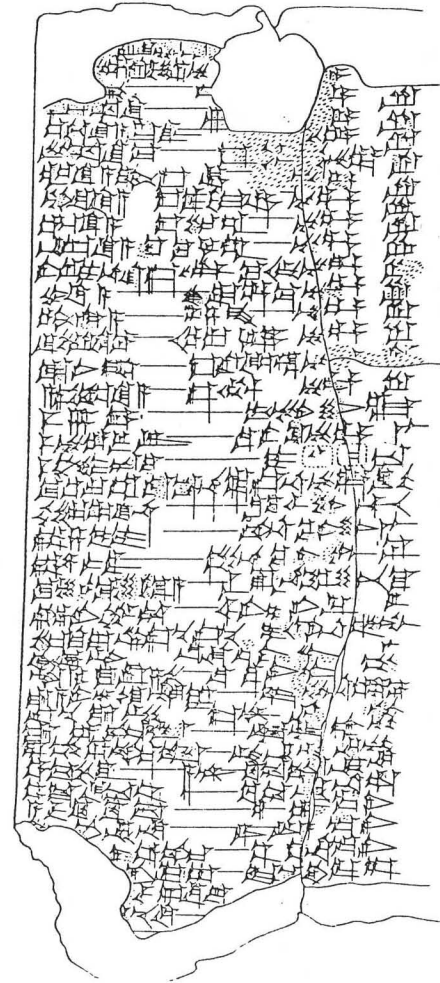
- Attinger, Pascal. 1993. *Éléments de linguistique sumérien*. Fribourg: Editions Universitaires. *Orbis Biblicus et Orientalis* Sonderband.
- Bobrova, L.V. and A. Yu. Militarév. 1989. "Towards the Reconstruction of Sumerian Phonology". *Lingvisticheskaya rekonstrukciya i drevneyshaya istoriya Vostoka: Materialy k diskussiyam na Mezhdunarodnoy konferencii (Moskva, 29 Maya - 2 Iyunya 1989)*. Moscow: Nauka. Vol. 1. 96-105.
- Boisson, Claude. 1989. "Contraintes typologiques sur le système phonologique du sumérien". *Bulletin de la Société de Linguistique de Paris* 84:201-233.
- Civil, Miguel. 1978. "The Sumerian Writing System". *Orientalia* 42:21-34.
- Falkenstein, Adam. 1959. *Das Sumerische*. Leiden: E.J. Brill. *Handbuch der Orientalistik*.

- Hayes, John. 1990. *A Manual of Sumerian: Grammar and Texts*. Malibu: Undena Publications.
- Jones, Tom. 1969. *The Sumerian Problem*. New York: Wiley.
- Poebel, Arno. 1923. *Grundzüge der sumerischen Grammatik*. Rostock: Selbstverlag des Verfassers.
- Sjöberg, Åke et al. 1984f. *The Sumerian Dictionary*. Philadelphia: The Babylonian Section of the University Museum.
- Thomsen, Marie-Louise. 1984. *The Sumerian Language: An Introduction to its History and Grammatical Structure*. Copenhagen: Akademisk Forlag. *Mesopotamia: Copenhagen Studies in Assyriology* 10.

This is the cuneiform original of the inscription of Shulgi, Sample Text 1. Since the function of this text was to obtain the favor of Shulgi, the signs were inscribed in a monumental style of calligraphy.



These are the opening lines of one manuscript of *Inanna's Descent*, several lines of which were studied as Sample Text 2. The handwriting on this manuscript is much more cursive than that of the inscription of Shulgi. This is typical of non-monumental texts, which often exist in many copies.



Languages of the World/Materials

LINCOM's Descriptive Grammar series

- 01 **Ge'ez** (Classical Ethiopic) St. Weninger*
 02 **Cantones** (Polynesian) L. Lindstrom & J. Lynch*
 03 **Mbalanhu** (Wambo, Namibia) D. Fourie*
 05 **Ukrainian** A. Danylenko & S. Vakulenko*
 06 **Cantonese** S.-Y. Killingley*
 07 **Koptisch** R. Schulz & A. Eberle
 08 **Laz** (Kartvelian) U.J. Lüders
 10 **Koiari** (Papuan) T.E. Dutton*
 11 **Gunin/Kwini** (non-Pama-Nyungan) W. McGregor*
 12 **Even** (Tungusic) A.L. Malchukov*
 16 **Middle Egyptian** R. Schulz et al.
 18 **Sanskrit** D. Killingley & S.-Y. Killingley*
 19 **Ixtenco Otomí** (Otomanguean) Y. Lastra*
 20 **Maori** R. Harlow*
 21 **Chadian Arabic** S. Abu-Absi*
 22 **(Modern Eastern) Armenian** N.A. Kozintseva*
 25 **Khoekhoe** W. Haacke
 27 **Passamaquoddy-Maliseet** (Algonquian) R. Leavitt*
 28 **Rural Palestinian Arabic** (Abu Shusha dial.) K.N. Shahin*
 30 **Northern Sotho** L.J. Louwrens, I.M. Kosch & A.E. Kotzé*
 31 **Saliba** (Western Oceanic) U. Mosel*
 33 **Wiyot** (Algic) K.V. Teeter
 34 **Sinhala** J.W. Gair & J. Paolillo*
 47 **Tamanaco** (Carib, extinct) Sp. Gildea & S. Méira
 50 **Zulu** S.E. Bosch & G. Poulos*
 57 **Comorien** (Bantu) Ahmed-Chamaga
 58 **Tokelaun** (Polynesian) R. Hooper*
 59 **Kunama** M.L. Bender*
 62 **Belarussian** A.Ja. Suprun & U. Doleschal
 63 **Maldivian/Divehi** J.W. Gair & B. Cain
 64 **Dogon** V. Plungian*
 65 **Corse** M. Giacomo-Marcellesi*
 66 **Bulgare** J. Feuillet*
 68 **Sumerian** J.L. Hayes*
 69 **Basilicatense** (Ital. dial.) R. Bigalke*
 70 **El Gallego** J.A. Pérez Bouza*
 71 **Pima Bajo** (Uto-Aztecan) Z. Estrada Fernández*
 73 **Kalderaš** (Romani) L.N. Tcherenkov & M.F. Heinschink
 74 **Abruzzese** (Ital. dial.) R. Bigalke*
 77 **Lhasa Tibetan** S. DeLancey
 78 **Ladin dla Val Badia** L. Craffonara
 79 **Souletin** (Basque dial.) U.J. Lüders
 80 **Creolese** (Guyanese Creole) H. Devonish
 81 **Akkadian** Sh. Izre'el
 82 **Canaano-Akkadian** Sh. Izre'el*
 83 **Papiamentu** (Creole) S. Kouwenberg & E. Murray*
 84 **Berbic Dutch Creole** S. Kouwenberg
 85 **Rabaul Creole German** (Papua New Guinea) C. Volker
 86 **Nalik** (Austronesian) C. Volker
 88 **Nyulnyul** (non-Pama-Nyungan) W. McGregor*
 89 **Warwra** (non-Pama-Nyungan) W. McGregor*
 92 **Icari** (Dargwa) N.R. Sumbatova & R.O. Mutalov
 93 **Daur** (Mongolic) Chaolu Wu (Üjiyedin Chuluu)*
 100 **Bare** (Arawak) Alexandra Y. Aikhenvald*
 101 **Acadian French** D. Jory & V. Motapanyane*
 102 **Polabian** (Slavic) W. Suprun & U. Doleschal
 103 **Chamling** K. Ebert*
 104 **Kodava** (Dravidian) K. Ebert*
 105 **Romanes** (Sinti) D. Holzinger*
 106 **Specicides-Romani** P. Cech & M.F. Heinschink*
 107 **Roman** (Romani) D.W. Halwachs et al.
 109 **Karachay** (Turkic) St. Seegmiller*
 111 **Nivkh** E. Gruzdeva
 114 **Hittite** S. Luraghi*
 115 **Lower Sorbian** (Slavic) G. Spieß
 116 **Songhay** R. Nicolai & P. Zima*
 117 **Macedonian** V.A. Friedman
 119 **Abkhaz** Sl. Chirikba
 120 **Ainu** J.C. Maher
 121 **Adyge** R. Smeets
 122 **Tuki** (Niger Kordofan) E. Biloa
 123 **Hindi** Mahendra K. Verma
 124 **Q'eqchi'** (Mayan) J. DeChicchis
 125 **Czech** L. Janda & Ch.E. Townsend
 127 **Modern Hebrew** O. Schwarzwald
 128 **Turin Piedmontese** D. Ricca
 129 **Siciliano** R. Bigalke*
 130 **Ratahan** N.P. Himmelmann & J.U. Wolff*
 131 **El náhuatl de Tezcoco** Valentin Peralta
 133 **Tsakhur** W. Schulze*
 135 **Late Cornish** I. Wmffre*
 136 **Fyem** D. Nettle*
 137 **Yingkartá** A. Dench*
 138 **Jurruru** A. Dench
 139 **Svan** K. Tuite*
 141 **Evenki** N. Bulatova & L. Grenoble
 142 **Modern Hebrew** O. Schwarzwald
 143 **Old Armenian** N. Kozintseva

- 145 **Russian** E. Andrews
 146 **Uzbek** I.D. Cirtautas
 147 **Georgian** M. Cherchi
 148 **Serbo-Croatian** S. Kordić*
 150 **Azeri** A. Bodrogligeti
 151 **Tagalog** L. Shkarban
 152 **Central Breton** I. Wmffre*
 153 **Demotic** St. Vinson
 154 **Polci** R. Cosper
 155 **Bashkiri** A. Bodrogligeti
 158 **Vogul** T. Riese
 159 **Mandan** (Siouan) Mauricio Mixco*
 160 **Upper Sorbian** G. Schaarschmidt
 161 **Toura** (Mandé) Th. Bearth
 162 **West Greenlandic** J.M. Sadock
 165 **Dagaare** (Gur) A. Bodomo
 166 **Yuchi** M.S. Linn
 167 **Itelmen** J. Bobaljki
 168 **Apache** W.de Reuse
 169 **Modern Greek** B.D. Joseph
 170 **Tol** D. Holt*
 171 **Secret Language of Chinese** Yanbin Qu
 172 **Lummi** (Salish) R. Demers
 173 **Khamnigan Mongol** Juha Janhunen
 174 **Nepali** Balthasar Bickel & J. Petersen
 175 **Comecrudo** R.C. Troike
 176 **Panamint** (Central Numic, Uto-Aztecan) J. McLaughlin
 179 **Toba** H.E. Manelis Klein
 180 **Degema** E.E. Kari*
 181 **Kupeño** J. Hill
 182 **Cayuga** H.-J. Sasse
 183 **Jaqaru** M.J. Hardman
 184 **Madurese** W. D. Davis
 185 **Kamass** A. Künnap
 186 **Enets** A. Künnap
 187 **Guajiro** J. Alvarez
 188 **Kurdish** G. Haig
 189 **Salar** A.M. Dwyer
 190 **Esperanto** Ch. Gledhill
 191 **Bonan** Chen Nai-Xiong
 192 **Maipure** (Arawak) Raoul Zamponi
 193 **Kiliwa** (Siouan) M. Mixco
 199 **Mituk Coos** (Coosan) Anthony Grant
 200 **Karbardian** (East Circassian) John Colarusso
 201 **Irish** Aidian Doyle
 202 **Qae** Evelyn Todd
 203 **Bilua** Evelyn Todd
 204 **Ket** Edward J. Vajda
 205 **Finnish** Borje Vähämäki
 206 **Ancashino Quechua** S. Hernán Aguilar
 207 **Damana** (Chibcha) María Trillos Amaya*

- 208 **Embera** (Chocó) Daniel Aguirre*
 209 **Hiligaynon / Ilonggo** Walter L. Spitz
 210 **Lobire** Moses Kwado-Kambou
 211 **Fering** (Northfrisian, Germanic) Karen Ebert
 212 **Udmurt** (Finno-Ugric) Erberhard Winkler
 213 **Ancient Greek** Silvia Luraghi
 214 **Chiwere** Siouan N. Louanna Furbee & Jill D. Davidson
 215 **Chuckchee** (Paleosiberian) Alexander Volodin
 216 **Chiriguano** Wolf Dietrich
 217 **Latvian** Nicole Nau*
 222 **Tyvan** Gregory Anderson
 225 **Slovenian** Ch. Gribble
 227 **Malayalam** Rodney Moag
 242 **Modern Scots** Alexander T. Bergs
 251 **Xakas** Gregory Anderson*
 252 **Old Saxon** James E. Cathey
 254 **Saho** (East Cushitic) Giorgio Banti
 255 **Udeghe** (Tungus-Manchu) Albina H. Girfanova
 256 **Newari/Newar** E. Austin Hale
 257 **Tyvan** (Turkic) Gregory Anderson
 258 **Biri** (Pama-Nyungan) Angela Terrill*
 260 **Ostyak** (Uralic) Irina Nikolaeva
 261 **Lingala** Michael Meeuwis*
 262 **Kllallam** Timothy Montler
 263 **Manchu** Carsten Naecher
 266 **Chuj** Judith Maxwell
 267 **Kaqchikel** Judith Maxwell
 268 **Urak Lawoi'** David Hogan*
 273 **Bubure** Andrew Haruna
 274 **Romanian** Cynthia M. Vakareliyska
 275 **Aragonés** Carlos Inchaurrealde
 276 **Chagatay** A. Bodrogligeti
 277 **Turkish** A. Bodrogligeti
 278 **Isleño Spanish** Felice Coles
 298 **Gheg** Pandeli Pani
 300 **Nuu-chah-nulth** (Nootka) T. Nakayama
 301 **Oneida** C. Abbott
 302 **Sapuan** P. Jacq & P. Sidwell*
 303 **Oi** P. Jacq & P. Sidwell
 304 **Talieng** P. Jacq & P. Sidwell
 305 **Ostyak** I. Nikolaeva
 306 **Ottoman** A. Bodrogligeti
 307 **Faetar** Naomi Nagy
 308 **Choctow** P. Kwatckha
 311 **Juang** Manideepa Patnaik
 312 **Karitiana** L. Raccanello Storto
 320 **Kawesqar** Oscar Aguilar F.
 321 **Turkish** A. Bodrogligeti
 322 **Shanghai** Sean Zhu
 323 **Santali** Lukas Neukom
 324 **Karaj** K. David Harrison
 325 **Pileni** Áshild Næss
 326 **Echie Ozo-Mekuri** Ndimelè
 327 **Judeo-Arabic** Benjamin Hary

- 328 **Tobelo** Gary Holton
 329 **Ogbronuagum** E. Kari
 330 **Old Nubian** Gerald M. Browne
 331 **Taiwanese** Lilly L. Chen
 332 **Kiswahili** Sakari B. Salone
 333 **Wolof** Fallou Ngom
 334 **Karao** Sherri Brainard
 335 **Japanese** Yoshihiko Ikegami
 336 **East Friesland Yaron** Matras & Gertrud Reershemius
 337 **Selayarese** Hasan Basri
 338 **Old Church Slavonic** Boris Gasparov
 339 **Malagasy** Charles Randriamasimanana

Languages of the World/Dictionaries:

- 01 **Minhe Mangghuer - English Dictionary** Wang Xianzheng (*Qinghai Medical College*), Zhu Yongzhong (*Zhonghuan Junior Middle School*), Keith Slater (*Qinghai Junior Teachers' College*), & Kevin Stuart (*University of California, Santa Barbara*)
 03 **Dictionary of Mbay** John Keegan*
 05 **Dictionary of Sango** Bradford & Bradford
 06 **A Dictionary of Negerhollands** Robin Sabino & Anne-Katrin Gramberg
 07 **Degema - English Dictionary** Ethelbert Kari
 08 **Eudeve Dictionary** David Shaul
 09 **A Short Bonan-English Dictionary** Chen Nai-Xiong
 10 **A Short Dongxiang-English Dictionary** Chen Nai-Xiong
 11 **A Short Mongour-English Dictionary** Chen Nai-Xiong
 12 **A Short East Yugour-English Dictionary** Chen Nai-Xiong
 13 **A Short Dagour-English Dictionary** Chen Nai-Xiong
 14 **Tyvan dictionary** Gregory Anderson
 15 **Xakas dictionary** Gregory Anderson
 16 **Nhaheun - French - English Lexicon** Michel Ferlus (ed. by P. Jacq & P. Sidwell)
 21 **Comparative West Bahnaric Dictionary** P. Jacq & P. Sidwell
 22 **Palestinian Arabic-English / English-Palestinian Arabic Dictionary** Kimary Shahin
 23 **Loven (Jruq) Consolidated Lexicon** Pascale Jacq & Paul Sidwell

Languages of the World/Text Collections:

- 01 **Even- Texts** Andrej Malchukov
 05 **Palestinian Texts** Kimary N. Shahin
 07 **Tariana Texts** (North Arawak) Alexandra Aikhenvald*
 08 **Chinook Jargon** Zvezdana Vrzic
 09 **Western Apache Texts** W.de Reuse
 11 **Camling -Texts** Karen Ebert
 12 **Itelmen - Texts** Jonathan David Bobaljki
 14 **A Collection of Laz Spoken Texts (+CD-ROM)** Silvia Kutschler & Nuran Sevin Genç*
 15 **Saho Texts** Giorgio Banti
 16 **Mbay Texts** John M. Keegan
 17 **Der Ostfränkische Basisdialekt von Hetzles** Klaus Geyer

Languages of the World/Text Library:

- 01 **Minhe Mangghuer Folktales** Zhu Yongzhong, Wang Xianzheng, Keith Slater & Kevin Stuart
 02 **Xunhua Salar Folklore** Ma Wie, Ma Jianzhong & Kevin Stuart
 03 **Huzhu Mongghul Folklore** Limusishiden & Kevin Stuart
 04 **Huzhu Folklore Selections** Limusishiden & Kevin Stuart (eds.)
 05 **Die udischen Evangelien der Gebrüder Bečanov** (1893) Wolfgang Schulze
 06 **Anthology of Menominee Sayings** Timothy Guile
 07 **Kawesqar Texts** Oscar Aguilar F.

* = already published

An Introduction to the Study of Morphology

VIT BUBENIK

Memorial University of Newfoundland

Each chapter (with the exception of the last one) is provided with pertinent exercises. Its data are taken from languages the author has been researching over the last twenty years (Latin, Greek, Turkish, Arabic, Hebrew, Sanskrit, Russian). Its argumentation is built around the major turning points in the history of morphology linked with scholars such as Hockett (1954), Matthews (1974), Bybee (1985), Dressler (1985), Bauer (1988), Spencer (1991), Carstairs-McCarthy (1992) and Aronoff (1993). In the last chapter the author explicates a cognitively conceived subdiscipline of Morphology in its relation to Formal Syntax, Generative Phonology, Functional Grammar, so-called Natural Morphology, Universal Grammar, and Typology.

Contents: Introduction, Grammatical Units, Paradigmatic and Syntagmatic Relations, Inflectional and Derivational Morphology, Inflectional Categories Associated with Nominal Elements, Inflectional Categories Associated with Verbal Elements, Morphosyntactic Properties and their Exponents, Morpheme and Allomorph, Derivational Morphology, Theoretical Models of Morphology, References.

ISBN 3 89586 570 2.
LINCOM Coursebooks in Linguistics 07.
Ca. 220 pp. USD 48 / DM 72 / £ 28.

Structure and Interpretation in Natural Language

MARC AUTHIER & LISA REED

The Pennsylvania State University

The central objective of this book is to present an integrated theory of the syntax-semantics interface, one which combines the most recent advances in the generative framework with the basic tenets of model-theoretic semantics. The three opening chapters develop, in a step-by-step and highly accessible fashion, an approach to structure and meaning in these terms.

The remaining chapters show how this approach sheds light on three long-standing issues in formal grammar: the treatment of "syntactically-triggered" presuppositions, the treatment of some notable exceptions to the generative binding conditions, and the issue of the relative autonomy of syntax and semantics. With respect to the first issue, it is argued that a compositional treatment of syntactically-triggered presuppositions can be formulated as a condition which ties presuppositional triggers to a specific class of syntactic configurations definable in terms of devices found in Minimalist syntax. A subsequent chapter demonstrates that the empirical coverage of so-called Bare-Output Conditions in generative syntax can be increased if such conditions are made sensitive to the two types of semantic information which have sometimes been recognized in model-theoretic semantics; that is, extension expressions and implicature expressions. Finally, empirical evidence is adduced which supports the view that there are two distinct types of semantic constraints and that those which make reference to features of tree geometry can, under specific circumstances defined by representational Economy conditions, override those which do not.

Audience: Linguists, philosophers, computational and psycho-linguists, cognitive scientists; advanced undergraduates, graduate students and researchers in these fields.

ISBN 3 89586 603 2.
LINCOM Studies in Theoretical Linguistics 14.
210pp. USD 70 / DM 112 / £ 42.

Introduction to Linguistic Field Methods

BERT VAUX & JUSTIN COOPER

Harvard University

The present volume addresses the need for an up-to-date, accessible, and comprehensive introduction to the elicitation of linguistic data from native speaker informants. The material, following an introductory chapter surveying the general enterprise of field research, is organized into eight major areas of current linguistic and anthropological interest: Phonetics, Phonology, Morphology, Syntax, Semantics, Sociolinguistics/ Dialectology, Lexicography, and Folklore. The chapters are designed to be covered at a rate of one per week, based on a sixteen-week semester. Each chapter presents basic structures to be elicited, and provides cautionary tales drawn from the experiences of seasoned field workers who have attempted to elicit these structures. These, in turn, are followed by suggested readings and illustrative exercises for each chapter. Emphasis is placed not on developing a theory of field work, but rather on providing enlightening suggestions and entertaining anecdotes designed to guide students down their own personal path to linguistic discovery.

ISBN 3 89586 198 7.
LINCOM Coursebooks in Linguistics 01.
Ca. 240 pp. USD 48 / DM 72 / £ 28.

Coursebook in Feature Geometry

JOHN NEWMAN

Massey University

The *Coursebook in Feature Geometry* is an undergraduate course introducing students to current phonology through a sustained use of the Feature Geometry framework. It is written as a coherent, accessible, and well-illustrated introduction to the key ideas of Feature Geometry, focusing on rules of assimilation. In its 20 units and 40 exercises, it takes the reader step-by-step through the representational devices of Feature Geometry. The *Coursebook* attempts to present the core ideas of Feature Geometry in a unified way, rather than attempting to incorporate the (considerable) debate concerning almost every aspect of the theory. The version of Feature Geometry underlying the *Coursebook* is basically that found in Sagey's *The Representation of features in non-linear phonology* (1990), revised in accordance with the claims of Lahiri and Evans' 1991 article on *Palatalization and coronality*.

The author is Senior Lecturer in the Department of Linguistics and Second Language Teaching, *Massey University*, New Zealand. The author has a PhD in linguistics from the University of California at San Diego.

ISBN 3 89586 102 2.
LINCOM Coursebooks in Linguistics 02.
160pp. USD 38 / DM 62 / £ 25.

Course discounts available!