On the Person-Prefixes of the Akkadian Verb

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Introduction

The aim of this study is, by and large, to give an accurate description of the linguistic facts concerning the person-prefixes of the Akkadian verb.[1] As such, it suggests a new concept of the Akkadian verb. Only one set of prefixes is postulated, and rules are posited to account for their different realizations in various environments. Further, a new perception of the formation of the various stem-bases—or patterns—is presented, in which those of the G and N conjugations begin with the root radical, whereas those of the D and Š conjugations have an initial vowel, which is *u*. The precative prefix is also dealt with. It is verified to be *lu:*, and rules are posited to account for its coalescence with the person-morphemes of the verb.

In my terminology, a "stem" consists of a pattern and a root. Thus, the verb *ipqid* consists of the person-prefix *i-* and the stem *pqid*, which in itself consists of the root-morpheme *pqd* and the pattern *CCiC* (= *pris*); see further below. The term "conjugation" will be used here as the English equivalent of Hebrew *binyan*.

The description of the person-prefixes of the Akkadian verb to be presented here is based primarily on the Old Babylonian (OB) dialect, although it may prove applicable to other Babylonian dialects as well. Some attention will also be given to Assyrian.

Within the ensuing description of the verbal prefixes of Akkadian, data are analyzed and rules are posited in order to reach a better understanding of the structure of the language under investigation. When talking about the structure of a language, it is needless to say that the scope of investigation is thus delimited to synchronic analysis. Within the scope, the student must take into account all the

1. This is a revised and enlarged version of a paper read at the 32e Recontre Assyriologique Internationale in Münster, 1985. I would like to thank the participants in the discussion which followed my talk for illuminating remarks. Further, I have benefitted much from discussions with Baruch Podolsky and especially Gideon Goldenberg, whose contribution to my understanding of the data and the conclusions presented here was crucial, and will be specified below within this article. B. Podolsky, G. Goldenberg and Anson F. Rainey have read and commented on earlier versions of this paper. So did Edward L. Greenstein and Outi Bat-El, who have remarked, too, upon some important theoretical issues. Giorgio Buccellati has kindly permitted me to use and refer to his unpublished *Structural Grammar of Babylonian* (1980 version). The gratitude and debt I owe to all these scholars and others who have contributed to my research do not minimize my responsibility for any pitfalls that may have remained, nor should they indicate their full agreement with all the ideas expressed in this article.

data available in a given moment, so that his description will be economical. I consider economy of description to be a very important factor in a linguistic analysis. One may add to it the notion of simplicity, which may also help in teaching the language. In order to achieve this goal, some formalism has been used. Formalism is sometimes helpful in economizing the linguistic statements, and may be used as a convenient teaching aid as well. Verbal statements of given formulae will also be given whenever a rule is stated for the first time.[2]

It is worthwhile to note at this juncture that some phonological rules may be applicable only to specific morphemes or may occur only in certain environments. To use Hockett's words, "in many languages, the morphemes which enter to a single word may vary in their phonemic representation depending on the other morphemes present in the same word."[3] As an illustration, consider the following rules of Akkadian:

(a) In the context of annexing a 3rd person pronominal suffix to a verb ending with a dental or a sibilant, this conjunction yields a cluster which is usually interpreted as *ss*.[4] Thus, e.g.,

iktašad + šu → iktašassu

Otherwise, however, *dš → šš*, as in *edšum → eššum*, and the like (cf. *edēšu* and some of its derivatives which show the *d* on the surface).[5]

(b) When a ventive morpheme (and other suffixed morphemes ending in *m*) is followed by a pronominal suffix, its final *m* is assimilated to the initial consonant of the pronominal suffix.[6] For example,

illik + am + šum → illikaššum

Otherwise, however, such an assimilation does not generally occur; cf. *ḫamšum*.[7]

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2. Formalisms of basically similar types have been used in: Erica Reiner, *A Linguistic Analysis of Akkadian* (The Hague, 1966; henceforth *LAA*), especially in the generative statement of the finite verb, pp. 135–36; Edward L. Greenstein, *Phonological Studies in Akkadian*, PhD Dissertation, Columbia University (1977); idem, "The Phonology of Akkadian Syllable Structure," *Afroasiatic Linguistics* 9/1 (Malibu 1984). See also Greenstein's introduction to the latter monograph, for a broader explanation.

3. Charles F. Hockett, *A Course in Modern Linguistics* (New York, 1958), 277.

4. Cf. *GAG*, §30f; Albrecht Goetze, "The Sibilants of Old Babylonian," *RA* 52 (1958), 137–49; Reiner, *LAA*, §6.1.3. Goetze also deals with the origins of this rule. Whatever the cause for this phonologic outcome and its actual realization on the surface may be, the rule is morphophonemic, and must be described within the synchronic, contemporary structure of the language.

5. Edward L. Greenstein, "The Assimilation of Dentals and Sibilants with Pronominal *š* in Akkadian," *JANES* 12 (1980), 51–64, deals with this issue differently.

6. *GAG*, §31c; cf. Reiner, *LAA*, §6.1.3d.

7. Reiner, *LAA*, §6.1.3d. The cases of *ḫaššu* (< *ḫamšu*) referred to by Greenstein, "Assimilation of Dentals," 55, are not OB (which is the main dialect dealt with in this investigation), yet, the rule of assimilation of *m* in the environment of a boundary of a suffixed morpheme is productive in all dialects of Akkadian, including OB. Most cases which exhibit assimilation of *m* also in other environments are from later periods, yet OA may also have *ḫaššat* (< *ḫamšat*); see Arthur Ungnad—Lubor Matouš, *Grammatik des Akkadischen* (München, 1969), §18e; but cf. Karl Hecker, *Grammatik der Kültepe-Texte* (Rome,

(c) Within a verbal form with infixed *-t-* (to include all *-t-* and *-tan-* conjugations, as well as the so-called "perfect" tense), the *-t-* is assimilated to a preceding sibilant.[8] For example,

**iztakar* → *izzakar*

Otherwise, such an assimilation does not occur; cf. *manzaztum*.[9] (There are no occurrences of the cluster *zt* within the root morpheme.[10])

In the following treatment of the verb, I shall list some morphophonemic rules, which may or may not agree with other phonological rules operating in apparently similar environments of Akkadian, and specifically in the OB dialect.

The syllabic nature of the Akkadian person-prefixes

First to be mentioned is the well known fact that the Akkadian person-prefixes of the verb are syllabic, i.e., they constitute fixed syllable formations. The person-prefixes in all other ancient Semitic languages consisted of consonants alone. No synchronic analysis of the prefixed verb in West Semitic tongues can account for syllabic verbal prefixes. This is indicated by the absolute dependency of the first vowel in the prefix-conjugation verb on the pattern. The quality of that vowel is not predictable unless it is understood as a part of the pattern. Thus, e.g., the Hebrew paradigm consists of the prefixes *ʾ-*, *t-*, *y-*, *n-*. These consonantal prefixes join the verbal stem (i.e., the pattern combined with the root), which may or may not have an initial vowel. This is especially clear with the passive verb, where the vowel *u*, i.e., the vowel following the consonantal prefix and which is the first phone of the stem, signifies the very notion. Thus, e.g., */uqqaḥ/* vs. */iqqaḥ/* (cf. *yuqqaḥ* "he/it will be taken", *yiqqaḥ* "he will take" respectively). For other stems cf. */igmol/*, */aḥmod/*, */dabber/*, */aggi:d/*, */uggad/* (cf. *yigmol*, *taḥmod*, *ydabber*, *ʾaggi:d*, *yuggad*), etc.[11] See also below.

In Akkadian, however, the vowel of the first syllable of the verb is dependent upon the person. The person-prefixes should hence be interpreted as syllabic. The Akkadian prefixes are, thus,

a-, *ta-*, *i-*, *ni-*

for the 1 sg., 2, 3 and 1 pl. respectively. These syllables join the stem to form the inflection of the verb.

1968), §35b. Some other forms which preserve the cluster *mš* are, among others, *amšali* (*CAD* A/2, 79) and *emšum* (*CAD* E, 153f.). *šamšum* has also a later by-form *šaššu* (*AHw.*, 1158f.). Occurrences of similar assimilations within the root morpheme in later periods may by no means serve as an obstacle to our analyzing them within a morphophonemic context in earlier dialects.

8. *GAG*, §30g; Reiner, *LAA*, §6.1.4.1a, with a different qualification of the terms.

9. See Reiner, *LAA*, §6.1.4.1a.

10. Cf. Joseph H. Greenberg, "The Patterning of Root Morphemes in Semitic," *Word* 6 (1950), 175–76.

11. For similar analyses of the verb in Arabic and in Biblical Hebrew see G. M. Schramm, "An Outline of Classical Arabic Verb Structure," *Language* 38 (1962), 360–75; and Joseph L. Malone, *Tiberian Hebrew Phonology* (New York, 1980; ms.).

Interestingly enough, we may even point to a certain practice of some ancient scribes that would illustrate this difference between East and West Semitic. Several Amarna letters, of different origin, attest the form *ni-am-qut/qú-ut*, "we fall (lit.: fell)" in their address formulae (e.g., *EA* 100:6; *EA* 170:3). Since the Western scribes were used to the usual form of the opening formula *amqut*, they took it as the stem, to which, in the case of more than one sender, they had to add the 1 pl. person-morpheme. Being aware (although, most probably, intuitively) of the difference between the languages with regard to the nature of their respective verbal person-prefixes, they insisted on adding the syllable *ni* to that form, rather than simply adding the consonant *n* (which would result in the script in the sequence *na-am*).

It is important to stress the difference between East and West Semitic with regard to the nature of the person-prefixes of the verb since it is precisely this difference between Akkadian and the West Semitic languages, together with uncritical terminology, that has introduced confusion in the description of the syllabic person-prefixes in Akkadian. By "uncritical terminology" I mean reference to the vowel which follows the consonantal prefix in Semitic in general as the "prefix-vowel," caused probably by a spontaneous and intuitive analysis of the word while ignoring its morphology, as well as by the special characteristics of the Hebrew and Arabic scripts, which are mainly consonantal. It is surprising that even Barth, while formulating the so-called "Barth law," which determines the correlation between the two vowels of the verbal imperfect stem of the *Qal* conjugation in Hebrew, referred to these vowels as "die Vocale der Imperfect-Präfixe."[12]

The confusion about defining the Akkadian prefixes can be traced historically as well. Early grammars of Akkadian list the person-prefixes of the verb as if they were consonantal.[13] Reference to the vowel which follows is given also as an aid to the student for the recognition of a verbal form in the D or Š conjugations:

> Next (. . .) comes an *intensive* conjugation which we term Pael, formed by doubling the second radical and (. . .) by combining the vowel *u* with all the person-prefixes. *Yusaccin* "he did make," is a type of this conjugation, where you observe that *the vowel u coalesces with the prefix of the third person singular* (my emphasis). This vowel *u* is of importance, because owing to the frequent habit the Assyrian scribes had of not expressing a reduplicated consonant in writing, the reduplication of the second radical is often omitted in the inscriptions, and our only means of knowing whether a verbal form belongs to the Pael conjugation or not, is by seeing whether or not it had the performative (read: preformative, Sh.I.) *u*.[14]

Once recognized as syllabic, the person-prefixes now imposed a serious difficulty for the description of the verb morphology, as the student of the language was now faced with certain groups of verbs of which the inflection seemed, *prima facie*, different from the regular verb inflection. Take, e.g., Delitzsch's

12. Jacob Barth, "Zu den Vocalen der Imperfect-Präfixe," *ZDMG* 48 (1894), 4–6.

13. E.g., Jules Oppert, "Elements de la grammaire assyrienne," *JA* 5/15 (1860), 342; idem, *Duppe Lisan Assur: Elements de la grammaire assyrienne* (Paris, 1868), 48.

14. Archibald Henry Sayce, *Lectures upon the Assyrian language and syllabary, delivered to the students of the archaic classes* (London, 1877), 80.

description in the first edition of his *Assyrische Grammatik*. He lists *i-ṣ(a)bat*, *ta-ṣ(a)bat*, etc., and adds a note concerning the *vermehrte Stämme*, that "die Praeformative den *u*-Vocal haben, wenn das Permansiv in der ersten Sylbe *u* aufweist."[15] In the second edition he lists the syllabic prefixes of the G conjugation,[16] and as for the other conjugations, he states:

> Die Personen- und Numerusbildung erfolgt in den vermehrten Stämmen durch genau dieselben Afformative wie im Qal; nur die Präformative lauten bei den Stämmen I 2. 3, IV 1. 2. 3
>
> im Sg.: *i-*, *ta-*, *ta-*, *ta-*, *a-*
> Pl.: *i-*, *i-*, *ta-*, *ta-*, *ni-*
>
> wofür die Stämme II 1. 2 (3), III 1. 2 (3) *u-*, *tu-*, *u-* (1 Sg.), *nu-* (1 Pl.) aufweisen.[17]

Very interesting within our short historical survey is the following remark by Delitzsch: "Der Grund der dumpferen Aussprache der Präformative der Intensiv- und Kausativstämme läßt sich noch nicht mit Bestimmtheit angeben."[18]

It thus turned out that when the recognition that the person-prefixes were syllabic had entered the grammars, there were no longer references to this *u*-vowel as marking the stem, but as a part of the prefix or (in the 1 sg., 3 sg. and 3 pl.) even as constituting in itself the person-morpheme. From now on, one would no longer say as Sayce did: "The present and aorist Pael are distinguished from the present of Kal by the vowel *u in the first syllable* (my emphasis)."[19] The characterization of the terms would now be: "In Piel, Schafel und den davon abgeleiteten Formen lauten die *Präfixvokale* (my emphasis) immer *u*."[20] This is essentially the opinion held by the scholarly world up to the present day.[21]

Data

The most accurate presentation of the formation and distribution of the person-prefixes which reflect the scholarly consensus on this issue is given by Reiner:[22] "Two paradigmatic sets, in complementary distribution, determine two conjugations." Set 1 has the vowels *a* or *i* for the various prefixes, the prefixes of Set 2 always have the vowel *u*:

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15. Friedrich Delitzsch, *Assyrische Grammatik* (Berlin, 1889), 249.
16. Friedrich Delitzsch, *Assyrische Grammatik*, 2nd rev. ed. (Berlin, 1906), 264.
17. Ibid., 265.
18. Ibid.
19. Archibald Henry Sayce, *An Elementary Grammar with full syllabary and progressive reading book of the Assyrian Language in the cuneiform type* (London, 1875), 75: cf. also his wording in his *Lectures upon the Assyrian language and syllabary*, cited above.
20. Bruno Meissner, *Kurzgefasste assyrische Grammatik* (Leipzig, 1907), 38, n. 1.
21. See, e.g., G. Ryckmans, *Grammaire Accadienne* (Louvain, 1947), §264; *GAG*, §75d; Augello Lancellotti, *Grammatica della lingua accadica* (Jerusalem, 1962), §11; Ungnad-Matouš, *Grammatik des Akkadischen*, §52d; G. R. Castellino, *Grammatica accadica introduttiva* (Rome, 1970), §81; Richard Caplice, *Introduction to Akkadian* (Rome, 1980), 33, 58, 59; etc. As far as I know, only Buccellati holds a different opinion; see below.
22. Reiner, *LAA*, §5.4.1.

	Set 1				Set 2			
	sg.		pl.		sg.		pl.	
	masc.	fem.	masc.	fem.	masc.	fem.	masc.	fem.
3.	*i-*	*i-*	*i- -u*	*i- -a*	*u-*	*u-*	*u- -u*	*u- -a*
2.	*ta-*	*ta- -i*	*ta- -a*	*ta- -a*	*tu-*	*tu- -i*	*tu- -a*	*tu- -a*
1.	*a-*	*a-*	*ni-*	*ni-*	*u-*	*u-*	*nu-*	*nu-*

It is customary to say that the 1st and 3rd persons of the singular are not distinguishable in Set 2. I would prefer to note that the 1st singular and 3rd person singular and plural morphemes are identical if we posit such a paradigmatic set.

It is to be noted that the prefixes serve to designate the person, while the suffixes designate the gender and the number. This sharp distribution of the functions is valid for the second millennium Babylonian dialects and for standard Babylonian.[23]

As for the distribution of the person-prefixes, Reiner states:

> The four primary or primarily derived stems I, II, III and IV fall into two groups: I (G or B) and IV (N) take actor-affixes (personals) of Set 1, all others (II (D), III (Š) and the residual forms) take actor-affixes of Set 2. Secondarily derived, i.e., {t} and {ta(n)} infixed stems follow, for the selection of personals, the stem they have been derived from.[24]

The applicability of this description appears, *prima facie*, to be satisfactory, as is apparent from the following two paradigms:

		Set 1	Set 2
sg.	1 c	*a-prus*	*u-parris*
	2 m	*ta-prus*	*tu-parris*
	f	*ta-prus-i*:	*tu-parris-i*:
	3 c	*i-prus*	*u-parris*
pl.	1 c	*ni-prus*	*nu-parris*
	2 c	*ta-prus-a*:	*tu-parris-a*:
	3 m	*i-prus-u*:	*u-parris-u*:
	f	*i-prus-a*:	*u-parris-a*:

The syllabic prefixes join the verbal stems, which are considered to always begin with a consonant. Verbs of the so-called *primae aleph* roots do not pose any difficulties in this respect, as their first so-called weak radical coalesces with the vowel of the prefix, thus forming a long vowel. The quality of this long vowel is in most cases identical with that of the vowel of the prefix, except where the radical attracts the change of the *a*-vowels to *e* (i.e., in my terminology, a radical *E*; see below). However, as this change affects all *a*-vowels within the word-boundaries, we may now overlook this change, the treatment of which is outside the scope of this paper. Verbs of *primae aleph* roots are exemplified in the following forms:

23. Ibid., The paradigm is given exactly as in Reiner. As will be apparent later, I differ from Reiner with regard to the length of the final vowels, an issue which is beyond the scope of this paper.

24. Reiner, *LAA*, §5.4.3.2.

	a-class	*e*-class
1 sg. c	*a:ḫuz*	*e:rub*
2 sg. m	*ta:ḫuz*	*te:rub*
3 sg. c	*i:ḫuz*	*i:rub*
1 pl. c	*ni:ḫuz*	*ni:rub*

Yet, there is one class of roots which takes Set 2 also in some stems of the G conjugation. These are *primae waw* verbs, of which (and I again quote Reiner's words) "in the simple stem, in the preterite and the present the stem takes the personals of Set 2."[25] Thus we have:

		Preterite	Present
sg.	1 c	*ubil*	*ubbal*
	2 m	*tubil*	*tubbal*
	f	*tubli:*	*tubbali:*
	3 c	*ubil*	*ubbal*
pl.	1 c	*nubil*	*nubbal*
	2 c	*tubla:*	*tubbala:*
	3 m	*ublu:*	*ubbalu:*
	f	*ubla:*	*ubbala:*

What must be stressed at this point is that the first vowel of the verb in these forms is, unlike the *primae aleph* verbs, short in the preterite too. This is proved by the elision of the second vowel wherever it occurs in an open syllable.[26] This rule is valid not only for OB, but for all Akkadian dialects as well.[27]

In this respect, the *primae waw* verbs in the preterite and present inflections are similar to the inflections of the D and Š conjugational groups.

There is another similarity between the D and Š conjugations and the *primae waw* verbs. Both categories exhibit the vowel *i* of the 3rd person (of Reiner's Set 1) when prefixed by the precative particle *lu*: We shall later return to this issue, to

25. Ibid., §5.4.5.7.1.

26. See Greenstein, *Phonology of Akkadian Syllable Structure*, 36, and n. 29 on p. 23. Greenstein too has seen that synchronically this vowel must be interpreted as short. Yet, Greenstein postulates the shortening of a long vowel, which, in his opinion, had developed from the contraction of the diphthong *aw*, i.e., **ʾ/yawbil > u:bil > ubil*. John Huehnergard, "Three Notes on Akkadian Morphology," in David M. Golomb, ed., *Working With No Data; Semitic and Egyptian Studies Presented to Thomas O. Lambdin* (Winona Lake, 1987), 191–92, suggests that the first vowel had always been short, as comparative evidence points to a proto-form **yabil*. For the common view, see, e.g., *GAG*, paradigm 23 (for §103) and §15a; also §12f: "Austossung eines kurzen Vokales nach einem langen begegnet nur nach *ū* und *ī* im Prt. und Prek. der Verben I *wa-*. . . . " For a critical review of this idea, which conforms with the view expressed here, see already I. J. Gelb, "Notes on von Soden's Grammar of Akkadian," *Bi.Or.* 12 (1955), 111 (for §103).

27. With Huehnergard, "Three Notes on Akkadian Morphology," 191–93; pace Greenstein, *Phonology of Akkadian Syllable Structure*, §5.6.1. Huehnergard has seen that in fact *wabālum* is the only verb (with rare exceptions) that may resist deletion of the thematic vowel in the older dialects, including OAkk. Having an *l* as its third radical, it conforms with other formations of this type which resist vowel deletion (cf. also Greenstein, §5.5.1). Other exceptions to this rule, especially in the literary dialects, are analogous formations to forms of *(w)abālu(m)* and perhaps also to *primae aleph* formations of the type *a:ḫuzu:* and the like.

prove that it is indeed the particle *lu*: that joins the person-inflected verb. However, already at this point it has to be stressed that the 3rd person morpheme *i* must hence be considered as an integral part not only of the G and N conjugations, but also of the D and Š conjugations, and all the more so of the relevant paradigms of the *primae waw* verbs in the G conjugation. In other words, the vowel *i* does not belong to any specific conjugation but must be viewed as a part of the system of person-morphemes. Wherever it is not overt, it must be assumed to be underlying.

The paradigm of the person-morphemes and the inflection of the indicative verb for person

We have seen in the last section that there are two factors that must be accounted for in a description of the inflection of the verb for person in Akkadian: (1) That there is some similarity in the behavior of the prefixation of the person-morphemes to D and Š stems and to *primae waw* verbs in the G conjugation; (2) that an *i*-vowel which marks the 3rd person is attested in all verbal forms, including D and Š or *primae waw* verbs in the precative conjugation, and hence should be regarded as integral to the inflection for person in general.

Thus, the most economical and accurate way to describe the inflection of the verb in Akkadian is to draw only one paradigm. This paradigm will be Reiner's Set 1, namely the one with the vowel *a* in the prefixes of the 1 sg., 2 sg. and 2 pl., and the vowel *i* in the prefixes of the 1 pl., 3 sg. and 3 pl. Further, we shall have to establish rules for their prefixation to the various verbal stems.

Let us now observe some examples of rules which will illustrate the various possibilities of such prefixation. First, here are two sets of rules to exemplify prefixation of the person-morphemes to verbal stems which have an initial consonant. The first set of rules describes the prefixation of the person-morphemes to preterite stems of the strong verb in the G conjugation:

a+prus → *aprus*
ta+prus → *taprus*
i+prus → *iprus*
ni+prus → *niprus*

The second set of rules describes the prefixation of person-morphemes to perfect stems of the N conjugation:

a+ttapras → *attapras*
ta+ttapras → *tattapras*
i+ttapras → *ittapras*
ni+ttapras → *nittapras*

In both the G and the N conjugations of the strong verb, the person-prefixes are attached to the following stem directly and without causing any phonetic or phonological changes in the stem. (Notice that I have not endeavored any further analyses of the stem, as these bear no relevance to the annexation of the prefixes to it.)

Next are two sets of rules which exemplify prefixation of person-morphemes to *primae aleph* verbs of the type *a:ḫuz* and of the type *e:rub*. For the latter type

one must note, that the *e*-timbre is imposed on all the *a*-vowels of the word, as has already been mentioned above, and will also be discussed further below.

a+Aḫuz → a:ḫuz	*a+Erub → e:rub*
ta+Aḫuz → ta:ḫuz	*ta+Erub → te:rub*
i+Aḫuz → i:ḫuz	*i+Erub → i:rub*
ni+A:ḫuz → ni:ḫuz	*ni+Erub → ni:rub*

It may be worthwhile to note at this juncture, that I follow Reiner[28] in distinguishing the root from the pattern, in a similar way as it is accepted for the other Semitic languages, i.e., not including an integral root vowel. Yet, instead of Reiner's introducing the morphophoneme {:}, i.e., length, into the consonantal inventory of which a root can consist,[29] I find it more convenient to introduce concrete vowels. While this is an issue to be dealt with at some length in a separate study, it is necessary to state this methodology, and pay attention to the conventions used herein:

A is the notation for a vocalic root-radical which is an (underlying) *a*. It is used here to mark the first radical of *primae aleph* verbs of the so-called *a*-class.

E is the notation for a vocalic root-radical which is an (underlying) *e*. It is reflected in the surface verbal form also by causing the change of any *a*-vowel to *e*. Here it is used to mark the first radical of *primae aleph* verbs of the so-called *e*-class.

I and *U* are the notations for the respective (underlying) vowels *i* and *u*. These vowels are considered to be the first radicals of the so-called *primae waw* and *primae yod* respectively.

With regard to the prefixation of the person-morphemes to a stem of either a *prima A* verb or a *prima E* verb, the above set of rules states that this prefixation causes the change of the first radical of the root to an element of vocalic length. This is not the case, however, with regard to the prefixation of the person-morphemes to stems of *primae U* (i.e., *primae waw*) verbs. Notice the following set of rules:

a+Ubil → ubil
ta+Ubil → tubil
i+Ubil → ubil
ni+Ubil → nubil

The outcome of the prefixation of the person-morphemes to *primae waw* verbs is different from that of their prefixation to *primae aleph* verbs not only in terms of the length of the first vowel, but also in that the first radical, namely *U*, is firm and overt in all the verbal forms of the paradigm. This *U* (= *u*) conditions the total deletion of the vowel of the prefix, so that a prefix which consists only of a vowel is omitted altogether. It is worthwhile to note at this juncture that, as already stated by Reiner,[30] *u* is phonemically identical with *w*. These two phones may be regarded as allophones since it is the phonetic environment that constraints

28. Reiner, *LAA*, §§5.0; 5.4.3.1.

29. Ibid., §5.4.5.1; cf. §4.1.2.

30. Erica Reiner, "Phonological Interpretation of a Subsystem," in *Studies Presented to A. Leo Oppenheim* (Chicago, 1964), 175.

the surface representation of that phoneme as either consonantal or vocalic. This can be *prima facie* described in either of the two following rules:

$$w \rightarrow u/C$$
$$u \rightarrow w/V$$

These rules state that a postulated phoneme /*w*/ is produced as a vowel, viz. *u*, in the immediate environment of a consonant, or that a postulated phoneme /*u*/ is produced as a consonant, viz. *w*, in the immediate environment of a vowel. Thus, a more economical way of describing this situation would be to posit a single phoneme, i.e., *U*, and formulate the allophonic distribution thus:

$$U \rightarrow u/C$$
$$U \rightarrow w/V$$

Analogously, one may take *i* as phonemically identical with *y*,[31] and thus a representation of the phoneme may be, by the same token, *I*. Note that *primae yod* verbs are inflected like *primae aleph* verbs of the type *e:rub* (the so-called *e*-class), and—by analogy to *primae waw* verbs—may be assumed to have an underlying *I* for their first radical. Some shifting between the inflection of *primae U* (= *w*) verbs and of *primae I* (= *y*) verbs is attested in stative verbs.[32]

The inflection for person in all verbal forms of the D and Š conjugational groups may be formulated much the same as the rules posited for the inflection of the *primae waw* verbs in the G conjugation. Notice the following examples:

a+uparris → uparris	*a+ušapris → ušapris*
a+uparris → tuparris	*ta+ušapris → tušapris*
i+uparris → uparris	*i+ušapris → ušapris*
ni+uparris → nuparris	*ni+ušapris → nušapris*

These formulations show that, very much like the case of the inflection of *primae waw* verbs in the G conjugation, the prefixation of the person-morphemes to a D or Š stem causes the deletion of the vowel of the prefix. What is further implied by the above set of rules is that the stem in the D and Š conjugational groups has an initial vowel, which is always *u*.

That the first vowel of the D and Š conjugations should be analyzed as a part of the stem, has been already seen by Buccellati.[33] In Buccellati's analysis, the person-prefixes of the Akkadian verb are consonantal,[34] so that the G and N conjugational groups also have initial vowels throughout. This vowel in the G and N conjugations was determined as *I*, and was subject to change in the surface structure according to the preceding person-prefix. Thus, in the 1 sg., 2 sg. and 2 pl. it was realized as *a*, yet, after the 1 pl., the 3 sg. and the 3 pl. person-prefixes, this vowel was realized as *i*.[35]

31. Reiner, "Phonological Interpretation of a Subsystem," 174–75.
32. *GAG*, §103m.
33. Buccellati, *A Structural Grammar of Babylonian*, §§14.2–14.3.
34. Cf. ibid., §27.1.
35. Ibid., §14.3.

Indeed, Buccellati understood the necessity of postulating only one set of prefixes for the Akkadian verb. However, the dependency of first vowel of the stem in the G and N conjugations upon the person forces us to disconnect this vowel from the stem, and hence determine the Akkadian person-prefixes as syllabic (cf. above). Also, the appearance of the vowel *i* of the 3rd person D and Š precatives should be taken into consideration within this analysis so that the overall treatment of the Akkadian verb would be more economical.

In a seminar at Tel Aviv University in fall 1982, Prof. Gideon Goldenberg suggested to me that the various pattern-morphemes of either the D or the Š conjugational groups had the vowel *u* as their initial phoneme. In contrast, the G or the N conjugational groups had the first radical of the root as their initial phoneme. The vowel of the person-morpheme is elided by rule when it is prefixed to the stem of a D or Š verbal form. This suggestion now gains support from the mode in which the person-prefixes join the *primae U* verbal stems, as we have seen above. In a way, we return to Sayce (see above) but with one crucial difference: the person-prefixes of the Akkadian verb are syllabic, yet the D and Š stems still have an integral initial *u*-vowel. So it is the stem formation, namely the existence of an initial *u*-vowel, and not the prefix vowel, that distinguishes the present tense of the D conjugation from that of the G conjugation (in verbs where the thematic vowel is *a*).

Parenthetically, one may note that the existence of an *u*-vowel in the participles of the N conjugations, i.e., *mupparsu(m)* etc., is not contradictory to its existence in the D and Š conjugations in general. In the case of the participles of the N conjugational group, the vowel *u* is an element of the participial stems only, just as it is an element in the phonemic sequence of other participles as well.[36]

It might be helpful to recall at this juncture the synchronic view taken in this study. I believe that this vowel, viz. *u*, was in effect integral to these two conjugational patterns, as it was integral to the *primae waw* verbs not only in our modern-scientific-sophisticated eyes, but also in the mind of the ancient Akkadian speaker. The linguist must always aim for a better understanding of the linguistic structure which would not only be beautifully drawn and described, but also reflect the linguistic reality.[37]

Thus, accounting for both groups of data concerning the synchronic analysis of the person-prefixes of the D and Š conjugational patterns, we may now establish a rule in which the vowel of the person-prefix is deleted when followed by the vowel *u*:

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36. Cf. also ibid., §14.2.

37. As for the origin of this vowel in the D and Š conjugations, it may well be that it constituted an element of the prefix in the proto-language. For discussions of this topic see C. Brockelmann, *Grundriss der vergleichenden Grammatik der semitischen Sprachen* I–II (Berlin, 1908–1913), 560; A. Goetze, "The So-Called Intensive of the Semitic Languages," *JAOS* 62 (1942), 7; Viktor Christian, *Untersuchungen zur Laut- und Formenlehre des Hebräischen* (Wien, 1953), 88–89; Burkhart Kienast, "Der Präfixvokal *u* im Kausative und im D-Stamm des Semitischen," *MSS* 11 (1957), 104–8; Frithiop Rundgren, "Das Verbalpräfix *yu-* in Semitischen und die Entstehung faktitiv-kausativischen Bedeutung des D-Stammes," *Orientalia Suecana* 12 (1963), 99–115. For broader possible comparative evidence, cf. I. M. Diakonoff, *Semito-Hamitic Languages: An Essay in Classification* (Moscow, 1965), 100, n. 4. For a suggestion concerning the origin of the *u*-vowel in the (West Semitic) internal passive, see Robert Hetzron, "The Vocalization of Prefixes in Semitic Active and Passive Verbs," *Mélanges de l'Université Saint Joseph* 48 (1973–74), 35–48.

$$(1) \quad V_{pp} \rightarrow \text{null} / \left\{ \begin{matrix} \# \\ C \end{matrix} \right\} \_\_ +u$$

I.e., the vowel (V) of the person-prefix (pp) is deleted in an environment where it follows either a word boundary (= where it begins a word) or a consonant, and is followed by a morpheme boundary and the vowel *u*. This rule will not operate when a person-prefix consisting of only a vowel is itself preceded by a vowel. This is the case encountered when the modal prefix *lu*:- precedes the verbal form to create the precative. We shall return to this issue below.

Note that there is no deletion of the prefix vowel when it is followed by any other phoneme but *u*. Thus, the rule stated here has phonological force since the deletion of the prefix vowel is constrained by the existence of this specific phoneme. Note further that

$$A, E, I \rightarrow : / V_{pp} \_\_$$

I.e., the vocalic root-radicals *A*, *E* and *I* change to an element of vocalic length in an environment where they follow the vowel of a person-prefix (V_{pp}). In other words, there is no deletion of the vowel of the prefix when followed by any other phoneme but *u*. Thus, rule 1 is morphophonemic, i.e., it will not operate in any other morphological environment but this specific one. For the purely phonological rule in similar environments cf., e.g., *rabi+u* → *rabu*:, where the two vowels are contracted into one, and preserve the timbre of the second. This rule is general in Akkadian.[38] A preferable statement of this synchronic phonological rule would be that the second vowel is changed into an element of (vocalic) length.

The difference between the pattern-morphemes of the G and N conjugations and the D and Š conjugations, although it may look strange at first, is not at all surprising. We have exactly the same difference in the initial phones of the parallel verbal patterns in Hebrew—only vice versa. The patterns of the Akkadian G and N conjugational groups begin with either a (consonantal or vocalic) radical, or with a consonant which is the first phone of any stem in the N conjugation. In Hebrew the related patterns, i.e., in the *Qal* and *Nif*ᶜ*al* conjugations, have an initial vowel. The stems of the Akkadian D and Š conjugational groups begin with a vowel, which is the initial phone of their respective patterns, but in Hebrew the related conjugations, namely *Pi*ᶜ*el* and *Hif*ᶜ*il*, begin with the first (consonantal) radical of the root. This is exemplified in the following rules, showing the formation of some Hebrew verbal forms with their (consonantal) person-prefixes:

y+iqtol → *yiqtol* (Qal)
y+iqqatel → *yiqqatel* (Nifᶜal)
y+qattel → *yqattel* (Piᶜel) note: *yqattel* → *yəqattel*
y+haqti:l → *yhaqti:l* (Hifᶜil) note: *yhaqti:l* → *yaqti:l*[39]

38. *GAG*, §§16m,n.

39. In Hebrew /*h*/ is deleted word-internally by rule in the environment of a morphemic boundary. Another example for this rule is: *b+ha:+bayit* → *babbayit*. See Joshua Blau, *A Grammar of Biblical Hebrew* (Wiesbaden, 1976), §7.2.1.

The precative particle and the precative verb formation[40]

Let us now return to the issue of the precative inflection. I would like to demonstrate that the accurate and most economical way of describing this modal formation of the Akkadian verb is to see one precative particle, namely *lu:*, which may be prefixed to the integrated complex of the person-morpheme and the verbal stem. This approach is by no means new or out of the consensus.[41] Yet, it is my aim to formulate synchronic rules which will explain this inflection.

Note the following examples of precative forms:

1 sg.:	*luprus*	*lu:ḫuz*	*lu:rub*	*lu:bil*	*luparris*	*lušapris*
3 sg.:	*liprus*	*li:ḫuz*	*li:rub*	*li:bil*	*liparris*	*lišapris*

As one can see in these data, the 3rd person vowel *i* is found in all precative forms of the 3rd person. The 1st person morpheme *a*, however, is always missing—not only in the D and Š or the *primae waw* verbs, where an *u*-vowel is found initially also in the indicative verb, but elsewhere in the G and N conjugational groups as well. Instead, an *u*-vowel is present at all precative forms of the 1st person, and we shall see later that it must be regarded as the vowel of the precative particle.

Solutions for this situation were sought almost exclusively within the domain of historical linguistics. I would like to mention here only one of these attempts, which is important because of its approach. Edzard, in an excursus to his paper on the modi in Akkadian, wrote:

> Wir müssen fragen, ob die rekonstruierten Formen *lū+* . . . berechtigt sind. Bei ass. *laprus* ist eine Analyse als */l/+aprus* von vornherein wahrscheinlicher, und in den anderen Fällen könnten die mit präfigiertem l-haltigem Morphem gebildeten Formen schon so alt sein, dass sie unserer Analyse nicht mehr zugänglich sind.[42]

It is not our concern here to deal with historical issues. Yet, this attempt of Edzard, although historically oriented, was based on a structural analysis of the relevant Assyrian formations. Edzard assumed that the precative particle of Assyrian should be analyzed as if it was only */l/*, not */lu:/*.

Reiner's analyses of the literary Babylonian dialect had a quite similar orientation. In her generative statement of the inflected verb, she listed the relevant modal particle as *l*, as shown in the following three rules, extracted from her general statement of the verb formation:[43]

(a) $\begin{bmatrix} M_{prec} \\ \\ M_{vet} \end{bmatrix} \rightarrow \left[\begin{bmatrix} L \\ (i) \end{bmatrix}_{\text{aj}} \text{env.}\_\_ \begin{bmatrix} V \\ C \end{bmatrix} \right]$

(b) La → lu

(c) L → l

40. In using the term "precative" I simply follow the most widely accepted terminology. Some other term, covering all nuances of this particle, would be preferable.

41. For which see, e.g., *GAG*, §81c.

42. Dietz Otto Edzard, "Die Modi beim älteren akkadischen Verbum," *Orientalia* 42 (1973), 131.

43. Reiner, *LAA*, 136, rules 15–17; abbreviations and symbols on p. 128.

Rule (a) states that there are two modal elements, viz., a precative one and a vetitive one. The former can be either an *L* or an *i*, depending on the environment. *L* occurs before vowels; *i* may optionally occur before consonants. The vetitive marker is *aj*. Rule (b) states that the string *La* appears on the surface as *lu*. Rule (c) states that *L* appears on the surface as *l*.

In her structural, non-generative analysis, Reiner posited two separate modal prefixes: *lu-* for the cohortative (and thus appearing exclusively for the 1st person), *li-* for the optative (and thus appearing exclusively for the 3rd person.)[44] Her analysis was based on the apparent fact that the distribution of the combined precative-person-prefixes is identical for all stems and conjugations, as we have seen before. Yet, although taking into account the important fact that the precative inflection is indeed associated with the distribution of the person-prefixes, the similarity in vowels between the 3rd person of the inflected verb unmarked for mood and the precative was not taken into account, and Reiner dissociated the description of the precative inflection from the treatment of the verbal inflection in general.

Both Reiner's analyses for Standard Babylonian and Edzard's of Assyrian do not take into considerations some other facts which deserve our attention. In Babylonian, the prefix for the 1st plural is the suppletive *i*, and there is only one form for both the 3rd feminine singular and the 3rd masculine singular. The Assyrian paradigm is fuller, as the same particle appears also with the 1st person of the plural and before the different form that Assyrian has for the 3rd singular feminine, both forms having an initial consonant, namely */n/* and */t/* respectively:[45]

		Assyrian		Babylonian	
		G	D	G	D
sg.	1c	*laprus*	*luparris*	*luprus*	*luparris*
	3 m	*liprus*	*luparris*	*liprus*	*liparris*
	f	*lu: taprus*	*lu: tuparris*	"	"
pl.	1 c	*lu: niprus*	*lu: nuparris*	*i niprus*	*i nuparris*
	3m	*liprusu:*	*luparrisu:*	*liprusu:*	*liparrisu:*
	f	*liprusa:*	*luparrisa:*	*liprusa:*	*liparrisa:*

Precative forms in Assyrian, as these paradigms demonstrate, are built by the prefixation of the precative particle to forms of the inflected verb which are unmarked for mood. This particle is doubtlessly */lu:/*, as is clear from its fuller (or basic) phonemic string, which is retained before a verbal form with an initial consonant. However, when this particle occurs before a verb with an initial vowel, it appears in the form */l/*. We may thus posit a rule that deletes the vowel of the prefix before vowels but retains it before consonants:

$$(2)\ lu: \rightarrow l/\_\_+V$$

It is obvious that this rule is applicable only in Assyrian. The validity of the perception that regards the precative particle as consisting of both the consonant */l/* and the vowel

44. Ibid., §5.4.2.4. Cf. also Buccellati, *A Structural Grammar of Babylonian*, §28.3.
45. Cf. *GAG*, §81c,g and paradigm 10.

/u:/ in Babylonian, too, is proved by its occurring before a consonant preceding the present form, as in *lu*: *taparras* for the 2nd person precative,[46] and also before nominal forms, such as *lu*: *šulmu*, "may (it be) well" (MB), i.e., preceding a noun; *lu*: *atta*:, "may (it be) you," i.e., preceding a pronoun; and *lu*: *paris*, *lu*: *aḫza*:*ku*, with stative forms; as well as before the so-called prefixed statives such as *lu*: *i*:*de*, *lu*: *ti*:*de*, *lu*: *ni*:*de* "may he/you/we know," which also in this respect have the same behavior as regular statives.[47] Note that in nominal forms (including statives, of course), the existence of an initial vowel does not constrain crasis between the precative particle and the noun.

At this juncture, it is instructive to compare the way in which ancient scholars understood the language. Various lexical and grammatical texts list *lu*(-*ú*) or *lu-ú-um* as the equivalent of Sumerian ga, ḫé and their variants.[48] Moreover, they would list only *lu*: as an equivalent to the Sumerian prefixes, treating it as a prefixed morpheme, as in the case where ga, ḫu, ḫa, ḫé are translated there by *lu-ú* AN.TA.[49] Hence, where there is a listing of a syllable (or the syllable-sign) *li* (sometimes spelled *li-i*)[50] in the Akkadian column, it appears regularly as a variant of *lu*:.[51]

Taking this form of the precative particle which appears before consonants as the basic form of the precative prefixed particle, viz. */lu:/*, it is now clear that it is the fuller form of this particle which appears in the 1 sg. precatives, retaining its vowel, */u:/* (for the question of its length see below). Thus, we are left with the problem of the crasis between the particle of the precative and the verbal forms of the 1 sg., 3 sg., and 3 pl., since for these forms too we must postulate the prefixation of the precative particle */lu:/* to a verbal form consisting of both the verbal stem and the prefixed person-morpheme. This is true for both the 3rd persons and the 1 sg., not only for the G and N conjugation groups, but for the D and Š conjugation groups as well. A rule changing the 1st person morpheme to Ø is required:

(3) (a) *lu*:+*a*+stem → *lu*:+Ø+stem

A zero morpheme must be assumed here not only because the vowel *u*: is a part of the precative prefix (it could not serve as the marker for person), but especially because it stands in opposition to the 3rd person marker within the same paradigm. The next step would be to rewrite the outcome of rule #3a in a form closer to the surface output of the 1 sg form, thus:

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46. *GAG*, §81e with Erg.; *CAD* L, 225a.

47. Cf. *AHw.*, 559a. As for the historical aspect, I would rather regard *lu*: as Proto-Akkadian. John Huehnergard, "Asseverative **la* and Hypothetical **lu/law* in Semitic," *JAOS* 103 (1983), 569–93, assumes an analogical process that has ended in the complete disappearance of a putative Proto-Semitic particle **la*-. The same suggestion has been offered by G. Kh. Kaplan, "K fonetike sredneassirijskogo dialekta akkadskogo iazyka," *Semitskie lazyki* 2/1 (1965), 189, for MA, based on the assumption that *u*: may not be assimilated in Akkadian (but cf. *GAG*, §§16m,n; 104f,v). See also below.

48. E.g., *NBGT I* #405; *MSL* IV, 194; cf. *CAD* L, 224; Jeremy A. Black, *Sumerian Grammar in Babylonian Theory* (Rome, 1984), 98.

49. *NBGT II*, #42–45. See Black, *Sumerian Grammar in Babylonian Theory*, 98; Edzard, *RLA* 5: 615.

50. E.g., *CT* 12, 10:1:4.

51. *CT* 12, 10:1:4; also *Diri II*:120f.; *NBGT IX* #48ff.; *NBGT II* #411ff.; cf. Black, *Sumerian Grammar in Babylonian Theory*, 127.

(3) (b) *lu*:+Ø+stem → *lu*:+stem

The possibility of positing a phonological rule of progressive assimilation is most unlikely, as this did not happen in the 3rd person.[52]

A rule postulated for the 3rd person precative formation should first contract the vowel of the precative particle with the vowel of the person-morpheme, and only then be supplied to the stem. It must be stressed that the order of the application of these rules is of great importance. Thus we have:

lu:+*i*+stem → *li*:+stem

Note that this is a purely phonological rule, which conforms with the regular vowel contraction rules of Akkadian.[53]

The solution suggested here differs from Reiner's analysis of the modal prefixes both in substance and in economy. As we have seen above, Reiner posited two separate modal prefixes which serve exclusively in the verbal system and occur in complementary distribution. I, however, have posited a combined prefix which includes the distinct and autonomous precative particle *lu*: followed by the regular person-morphemes of the verb.

It may now prove useful to juxtapose rules (3) and (4) in order to show their paradigmatic relationship:

(3) (a) *lu*:+*a*+stem → *lu*:+Ø+stem (b) *lu*:+Ø+stem → *lu*:+stem
(4) *lu*:+*i*+stem → *li*:+stem

This positioning of the rules helps not only to exhibit and elucidate the paradigmatic relationship between the resulting forms, but may even explain their generation. The change of the 1st person morpheme *a* into Ø may have not been generated except for its paradigmatic context.

In order to derive the surface forms of the various precative verbs, phonological (or morphophonological) rules of vowel shortening must now be established. Since such rules are not confined to these specific morphemic sequences, they need not be explicitly stated here. Yet, a few notes on the available data are in order now.

The question of vocalic length bears on our topic in two different areas: (1) the question of the length of the vowel *u* of the precative particle itself; and (2) the question of the length of the vowel of the combined precative-person-prefix. It must be noted that the question of the length of the precative particle itself is of no relevance to the question of the length of the combined prefix, which anyhow consisted of two consecutive vocalic segments.

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52. This seems true also with regard to the history of this process (pace Buccellati, *A Structural Grammar of Babylonian*, §28.4). Indeed, the historical process which has ended in the elision of the vowel *a* is an interesting question. Here we may assume analogy to the 1st person of the precative formations in the D and Š conjugational groups, as well as to that of the *primae waw* verbs, namely *luparris*, *lušapris*, *lu:šib* and the like. These forms stood in opposition to the respective forms of the 3rd person, viz., *liparris*, *lišapris*, *li:šib* and the like, which had similar correspondences throughout the whole verbal system. Hence, *liparris* : *luparris* = *liprus* : X; X = *luprus*.

53. Cf. *GAG*, §§16m,n; 104f,v.

As for the length of the particle's vowel *u*, I hold it as long.[54] It is not only comparative evidence that points to such a conclusion,[55] but mainly orthographic practice. Defective writing for this particle (viz. *lu*) is, indeed, quite frequently attested. Yet, plene writing (i.e., *lu-ú* or the like) is attested in most Akkadian dialects, even if not always systematically, and it is sometimes corpus-dependent.[56]

The question of vocalic length within the precative verbal complex is much more complicated. Here, too, we must divide our observation into two main aspects: (1) vowel shortening within a closed syllable; and (2) vowel shortening within an open syllable.

As for the vowel within a closed syllable, it must be short. The Akkadian language does not tolerate syllables of more than three segments in this position. Hence, when the long vowel of the precative particle combined with the vocalic person-morpheme finds itself in a closed syllable, it shortens.[57]

The same vowel, when it appears in an open syllable, belongs to one of the following categories: (1) *primae aleph* verbs; (2) *primae waw* verbs; (3) *mediae infirmae* verbs in the G conjugation; (4) verbs of the D or Š conjugational groups. There is no difficulty at all in concluding that *primae aleph* verbs have long vowels in the first syllable, as there occurs no deletion of the second vowel in forms such as *li:ḫuzu:*.[58] The last two categories, namely, *mediae infirmae* verbs and D and Š verbs, are usually described as having a short vowel in their prefixes,[59] and spelling practice supports such a description. Yet, I would not postulate a phonological rule shortening this vowel whenever it occurs in an unaccented open syllable.[60] If stress was indeed non-phonemic in Akkadian,[61] phonological rules depending on stress should rather be avoided in grammatical descriptions of Akkadian.[62] This issue still needs further research. A few comments are, nevertheless, in order now.

Spelling practice in general must not be taken as a solid ground to account for conclusions concerning morphological or even phonological vocalic length.[63] Take, e.g., spellings such as SB *lu-u-nak-kil* (*Enūma Eliš* VI:9), which are assumed to have been stressed *lunákkil*, i.e., with trochaic accentuation.[64] Such spellings may perhaps be compared with spellings like NA *mu-ú-šam-qit*,[65] which

54. With *AHw.*, s.v. and the accepted view; and pace *CAD*, s.v.; Reiner, *LAA*, 25.

55. See data in Huehnergard, "Asseverative **la* and Hypothetical **lu/law* in Semitic."

56. *AHw.*, s.v.; *CAD*, s.v.; Jussi Aro, *Abnormal Plene Writing in Akkadian Texts* (Helsinki, 1953), 5; cf. Ebbe Egede Knudsen, "Stress in Akkadian," *JCS* 32 (1980), 12.

57. For a recent discussion of this topic, see Greenstein, "The Phonology of Akkadian Syllable Structure," 42–43.

58. Cf. Greenstein, "The Phonology of Akkadian Syllable Structure," §5.

59. *GAG*, §81c.

60. Pace loc. cit.

61. Knudsen, "Stress in Akkadian"; Greenstein, "The Phonology of Akkadian Syllable Structure," §5.4.

62. Cf. Greenstein, "The Phonology of Akkadian Syllable Structure," §5.4.

63. Cf. ibid., §5.6.4; Knudsen, "Stress in Akkadian," 13, relates plene writing to stress phenomena. In this he follows Aro, *Abnormal Plene Writing*, and especially Aro's "Exkurs zu den 'unregelmässigen Pleneschreibungen'," *OLZ* 66 (1971), 248–52.

64. Cf. Wolfram von Soden, "Untersuchungen zur babylonischen Metrik, Teil II," *ZA* 74 (1984), 224; cf. also p. 176.

65. *CAD* M/1, 249.

cannot be explained as reflecting a historically long vowel. At the other chronological extreme, OAkk is altogether very sparing in its use of plene writing.

As a matter of fact, most Akkadian dialects do not ordinarily permit plene writing for the precative prefixes. This is true also for the peripheral dialects, although spellings such as *lu-ú-din* (for *luddin*!) are nevertheless attested (e.g., *EA* 161:55). These spellings are analogous to the usual spelling of the unbound particle *lu-ú*.[66]

Plene writing for 3rd person precatives, i.e., with an *i*-vowel, may probably serve as an indicator of the possibility of vocalic length in the combined precative-person-prefix. Indeed, such spellings are extremely rare, especially in the core area. (We should remember that it is Babylonian that we are investigating for this problem, as it has already been shown that the Assyrian precative prefix is reduced to /l/ when followed by a vowel, and hence the vowel following this consonant is, in effect, the same first vowel of the verbal form as it would appear elsewhere.)[67]

If plene spellings of precative forms are indeed attested in Babylonian, they may serve as indicators to suggest the vocalic length of *primae waw* verbs in the precative. We do have a few such forms. Interestingly, all of them are from the double-weak verb *(w)aṣû(m)*. From the OB period, we have some attestations of this verb from Susa, spelled *li-i-ṣí*.[68] From the core area, I have found only one relevant attestation in non-literary texts: *lu-ú-ṣí* (*BE* 17, 13:11).[69] Although not with an *i*, but with an *u*-vowel, this form too may indicate vocalic length in a precative from *aṣû*. Relying on this scanty material, I tentatively suggest that *primae waw* precatives, too, had a long vowel in their combined prefix.

To sum up: although further research is still needed, vocalic length in the precative-person combined prefix is postulated for the *primae aleph* verbs and perhaps also for the *primae waw* verbs in the G conjugation whenever it occurs in an open syllable. In this respect, *primae aleph* and *primae waw* verbs are similar in their precative formation but differ in their formation of the indicative inflection. All other verbal forms probably have short vowels in their precative-person-prefixes.

Returning now to the rule of attaching the combined precative-person-prefix to the verbal stem, we meet with some difficulties when trying to apply this rule to certain formations of various verbs. In order to overcome these difficulties, the following rule should be posited:

$$(5)\ V_{\text{stem}} \rightarrow \text{null}/V+\_\_\text{stem}$$

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66. Shlomo Izre'el, *Amurru Akkadian: A Linguistic Study* vol. 1, Harvard Semitic Studies, 40 (Atlanta, 1991) §1.14.

67. It is a pity that Kaplan, when investigating "irregular vowel length" in MA (*K fonetike srednеassiriĭskogo dialekta akkadskogo iazyka*, 191ff.), did not deal with plene spellings such as *tu-ú-uš-ša-ab* from the Assyrian code (cf. *CAD* A/2, 402a) and the like.

68. L. De Meyer, *L'accadien des contrats de Suse* (Leiden, 1962), 3, 170; Erkki Salonen, *Glossar zu den altbabylonischen Urkunden aus Susa* (Helsinki, 1967), 104.

69. Cf. Jussi Aro, *Glossar zu den mittelbabylonischen Briefen* (Helsinki, 1957), 14. Aro's *li-iṣ-ṣa-am-m[a]* should be read, with Heinz Waschow, *Babylonische Briefe aus der Kassitenzeit* (Leipzig, 1936), 39: *li-iṣ-ṣa-am-m[i-du-ši]*. OB *lu-ú-ṣ[í]* (*TCL* 18, 110:8) is found in an interrogative sentence (Ebeling, *MAOG* 15/I–II:78).

This rule states that whenever a stem has an initial vowel, that vowel (V_{stem}) is deleted when preceded by another vowel (i.e., by the combined precative-person-prefix). Recall that the rule deleting the vowel of the person-prefix when it precedes the vowel *u* (rule #1) operates only when this vowel is either preceded by a consonant or when it occurs in a word-initial position. Note that this rule, viz. rule (5), is applicable not only to the stems beginning with an *u*-vowel, namely the D, Š, and *primae waw* verbs, but to all stems which have any vowel as their first radical, i.e., to *primae aleph* and *primae yod* verbs, too.

To summarize the various possibilities of the precative formations in Babylonian, let us again list the rules governing them, this time in a different sequence:

(A) *lu:*+*a*+stem → *lu:*+∅+stem
(B) *lu:*+∅+stem → *lu:*+stem
(B′) *lu:*+*i*+stem → *li:*+stem
(C) V_{stem} → null/*V*+__

It must be stressed that the rules are applicable only in the order they are listed here. Each successive rule must operate after the preceding rule has already operated (except for rules (B) and (B′), which were accordingly given the same serial enumeration).

The following examples will serve to illustrate the applicability of these rules to the various verbal categories of Akkadian. On the left are the rules operating on the 1 sg., on the right those operating on the 3 sg. verb.

Stems beginning with *CC*:

(A)*lu:*+*a*+*prus* → *lu:*∅+*prus*	
(B)*lu:*+∅+*prus* → *lu:*+*prus*	(B′)*lu:*+*i*+*prus* → *li:*+*prus*
lu:+*prus* → *lu:prus*	*li:*+*prus* → *li:prus*
lu:prus → *luprus*	*li:prus* → *liprus*

Stems with initial (single) *C*:

(A)*lu:*+*a*+*ku:n* → *lu:*∅+ *ku:n*	
(B)*lu:*+∅+*ku:n* → *lu:ku:n*	(B′)*lu:*+*i*+*ku:n* → *li:*+*ku:n*
lu:+*ku:n* → *lu:ku:n*	*li:ku:n* → *li:ku:n*
lu:ku:n → *luku:n*	*li:ku:n* → *liku:n*

Stems with initial *V*:

(A)*lu:*+*a*+*Aḫuz* → *lu:*∅+ *Ahuz*	
(B)*lu:*+∅+*Aḫuz* → *lu:*+*Aḫuz*	(B′)*lu:*+*i*+*Aḫuz* → *li:*+*Aḫuz*
(C)*lu:*+*Aḫuz* → *lu:ḫuz*	*li:*+*Aḫuz* → *li:ḫuz*
(A)*lu:*+*a*+*Epuš* → *lu:*+∅+*Epuš*	
(B)*lu:*+∅+*Epuš* → *lu:*+*Epuš*	(B′)*lu:*+*i*+*Epuš* → *li:*+*Epuš*
(C)*lu:*+*Epuš* → *lu:puš*	*li:*+*Epuš* → *li:puš*
(A)*lu:*+*a*+*Ubil* → *lu:*+∅+*Ubil*	
(B)*lu:*+∅+*Ubil* → *lu:*+*Ubil*	(B′)*lu:*+*i*+*Ubil* → *li:*+*Ubil*
(C)*lu:*+*Ubil* → *lu:bil*	*li:*+*Ubil* → *li:bil*

(A) *lu:+a+uparris* → *lu:+∅+uparris*
(B) *lu:+∅+uparris* → *lu:+uparris* (B′) *lu:+i+uparris* → *li:+uparris*
(C) *lu:+uparris* → *lu:parris* *li:+uparris* → *li:parris*
lu:parris → *luparris* *li:parris* → *liparris*

Stems beginning with *VCC*:

(A) *lu:+a+uptarris* → *lu:+∅+uptarris*
(B) *lu:+∅+uptarris* → *lu:+uptarris* (B′) *lu:+i+uptarris* → *li:+uptarris*
(C) *lu:+uptarris* → *lu:ptarris* *li:+uptarris* → *li:ptarris*
lu:ptarris → *luptarris* *li:ptarris* → *liptarris*

For the last transformation in the respective rule-sets where there is a shortening of the vowel of the first syllable, see the comments concerning the length of the combined precative-person-prefix above.

Unbound lu: and the question of boundaries[70]

We have seen above that there is a crasis of the particle *lu:* only when it precedes verbal forms with an initial vowel. Crasis does not occur when the particle *lu:* is followed by nominal forms. One may now raise the question of why there is a crasis with verbal forms, but not with nominal forms.

A tentative solution for this very interesting problem would be that in Akkadian, more than in any other Semitic language, nominal forms do not tend to accept proclitics, and especially prefixes, whereas verbal forms do. As an illustration, note the enclitization and further suffixation of the person-morphemes to nominal forms to set up the stative inflection—a tendency which later reappears in Syriac[71]—as against the possibility of expressing the person at the beginning of the verbal complex, namely *pars+a:ku* vs. *a+prus*, respectively. The Akkadian verb is subject to both prefixation and suffixation, whereas nominal forms are subject to suffixation only. In any case, it is to be noted that the boundary between the precative particle and the verb is tighter than it is with a nominal form. In other words, there is a morphemic boundary between the precative particle and a verb, but a word boundary between the same precative particle and a nominal form.

The same applies, as we have seen before, to the so-called prefixed statives. They exhibit the same behavior as nominal forms and as regular stative forms, in that they too inhibit the sandhi rules. In other words, the boundary between the precative particle and the prefixed statives is also a word boundary, as it is with nominal forms.

The question of boundaries is relevant also when comparing the two similar Akkadian particles */lu:/*. As is well known, Akkadian also has a particle *lu:* with

70. For the question of boundaries in general see Kenneth L. Pike, "Grammatical Prerequisites to Phonemic Analysis," *Word* 3 (1947), 155–72; Noam Chomsky and Morris Halle, *The Sound Pattern of English* (New York, 1968), chapter 8, no. 6; Michael Kenstowicz and Charles Kisseberth, *Topics in Phonological Theory* (New York, 1977), §2.2.

71. Gideon Goldenberg, "On Syriac Sentence Structure," in Michael Sokoloff, ed., *Arameans, Aramaic and the Aramaic Literary Tradition* (Ramat Gan, 1983), §9.

asseverative or affirmative force.[72] This particle, too, may precede either a verbal form or any other form. Yet, it never exhibits sandhi phenomena with the following form. Cf. the following:

	asseverative	precative
1 sg.	*lu: aprus*	*luprus*
3 sg.	*lu: iprus*	*liprus*

We have, then, two different particles with the form */lu:/*, differing in meaning and in their capability of being prefixed. The boundary between the precative particle and a verb is, hence, tighter than the boundary between the asseverative particle and a verb.

Conclusion

In the preceding sections I have tried to reexamine all available data concerning the person-prefixes of the Akkadian verb, in order to achieve a better understanding and a more economical description of their formation. I tried to show that only one set of person-prefixes is to be postulated, and that different environments may alter their outer form. In this connection, the stems of the D and Š conjugational groups are considered as having an initial *u*-vowel, as is the case with *primae waw* verbs in the G conjugation, too. In addition, the precative formation of the verb has been found crucial for the analysis of the verb inflection for person, as it proved that the prefix *i-* must be regarded as the 3rd person verbal morpheme in the D and Š conjugational groups as well.

The following set of rules may serve as a summary of the formation of the verb inflection for person in Old Babylonian. These rules may also be applicable, perhaps with minor modifications, to other Babylonian dialects. The first two rules determine the formation and attachment of the person-prefixes to the stem in general, while the third rule determines their attachment to the stem when it is preceded by the precative particle. No regular phonological or morphological rules which might have further operated on the specific or relevant forms are given, such as those regarding the introduction of the vowel *e*, rules determining the number of segments in a syllable, or shortening of vowels for other reasons, of which some notice has been given above.

(I) 1 sg. → *a-*
1 pl. → *ni-*
2 → *ta-*
3 → *i-*

(II) $V_{pp} \rightarrow \text{null} / \left\{ \begin{matrix} \# \\ C \end{matrix} \right\} \_\_ +u$

72. *GAG*, §81f; *CAD* L, 225–26.

(III) (A) *lu*:+*a*+stem → *lu*:+∅+stem
(B) *lu*:+∅+stem → *lu*:+stem
(B′) *lu*:+*i*+stem → *li*+stem
(C) V_{stem} → null/*V*+__

For the precative formation in Assyrian, the following rule have been posited:

lu: → *l*/__+*V*.