

The Imperative Forms of Proto-Semitic and a New Perspective on Barth's Law

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1. INTRODUCTION

Over a century ago Jakob Barth suggested,¹ in what has come to be known as Barth's Law, that the quality of the vowel following the consonantal pronominal prefix in the G-stem depends on the thematic vowel of the verbal base, i.e., a dissimilarity between the two vowels. Thus, the assumed Proto-Semitic [henceforth: PS] forms are: **ya-qtul*, **ya-qtil* and **yi-qtal*. Since that time, this law has been confirmed from various facts in the various branches of the Semitic languages.

In this paper I would like to propose a new perspective on this law, and to suggest that this law is in fact connected to another phenomenon. Accordingly, it is not an independent law but rather a reflection of the process through which the preformative conjugation originates, and the distribution of the vowels can be explained accordingly. This hypothesis can be described as synchronic rules or as diachronic changes; for the sake of clarity I will use the historical linguistic terminology.

In order to support this theory I propose the following three hypotheses, which represent three stages in the postulated development:

- A. In PS there was a variety of imperative forms. Among them—if this was not indeed the case for all—were three patterns in which the first and second vowels were not the same: *qatil*, *qatul*, and *qital*.
- B. The prefix conjugation is a result of the merging of the prefixes with the basic verbal form, which is the \emptyset -marked form, also used for the imperative mood.
- C. The vowel of the prefixes was similar to the original first vowel of these verbal forms, and later the first vowel of the basic form of the verb was reduced to zero.

An alternative to C will be considered, according to which there was originally no vowel after the pronominal prefix, and parts of the affixation involved a metathesis.

Acceptance of all of these hypotheses leads to a result according to which all of the verbs in their prefix forms agree with Barth's Law. Let us demonstrate this last statement by following the different options (P stands for Prefix):

*P+qatil	>	[*Pa+qatil	>]	Paqtil [yaqtil]
*P+qatul	>	[*Pa+qatul	>]	Paqtul [yaqtul]
*P+qital	>	[*Pi+qital	>]	Piqtal [yiqtal]

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1. Barth 1904.

The stage described in hypothesis C is put within brackets, since it depends upon the necessity of this stage.

In the first part of this article (§2) I will support hypothesis A regarding the forms of the imperative in PS by adducing on the one hand the evidence for this hypothesis from the different languages, and on the other I will examine the compatibility of the actually occurring forms in the different branches of the Semitic languages with this suggestion.

In §3 I will present the various theories regarding the origin of the prefix conjugation, and will argue in support of the theory presented in B. Following this conclusion, I will assess the validity of the different options that were mentioned in C (§3.3.1), and propose a few explanations for these processes, indicating parallel phenomena in the various Semitic languages. I will conclude this part with the above-mentioned result regarding Barth's Law (§3.3.1.1). In §3.3.1.2 I will follow a discussion on the ramifications of this study to our understanding of Barth's Law, and section §3.3.2 will examine an alternative explanation for the phenomenon discussed.

As a result of hypothesis C, Barth's Law may be assumed to apply already at the stage of PS. In §4 I will deal with the counter-arguments against this result and conclude with an appendix where I will suggest that these hypotheses have the advantage of shedding some light on another unexplained phenomenon in Akkadian.

2. THE FORMS OF THE IMPERATIVE IN PROTO-SEMITIC

2.1. To apply the Prague school terminology, imperatives are used as manifestations of the conative function of languages. By this form the speaker is asking the obedience of the hearer. Sometimes, more humbly, the use of this form of the verb, rather than the indicative, functions merely as a wish for a certain action to be performed by the addressee, especially when the speaker does not have the authority to command his interlocutor.

In this paper I will not discuss any of these issues.² I will deal with neither functions nor uses, and will constrain myself solely to the realm of "pure forms." I will examine the *signum* with little reference to the *signatum*, and will try to propose a new explanation concerning the structural and derivational relationship between the imperative forms and other categories in the verbal system of the Semitic languages.

There are two major questions concerning the form of the imperative in PS:

1. What were the forms of the imperative in PS? Or to be more specific: what were these forms in the G-stem? (It seems that in the other stems the answer is rather simple.)³
2. What is the derivational relationship, if any, between the imperative form and other verbal forms?

Although these two questions are often connected, as it is clear from the relevant literature, they can, or perhaps even should, be treated independently. Therefore I will start by dealing with the former, and following the results of this discussion I will reconsider the latter.

There are two common competing theories in the literature concerning the forms of the imperative in PS. One suggests a monosyllabic **qtVl* pattern as the original form,⁴ that is,

2. For a discussion of what is semantically considered as *imperative*, see inter alia Hamblin 1987, especially the first chapter on the variety of the semantic categories included under the larger umbrella of imperatives. In addition, see the relevant papers in Xrakovskij 2001.

3. Later I will briefly discuss the forms of the imperative in the other stems.

4. See below, n. 45, for an extensive discussion regarding this suggestion.

the root with the thematic vowel; the other, based mostly on evidence from Arabic and Akkadian, assumes that the basic forms were the three different possible disyllabic alternations of the root with two identical short vowels after the first and the second radicals, either with /a/ or with /u/ or /i/. Thus, the three options for the imperative G-stem were: *qatal*, *qutul* and *qitil*.⁵

These standard suggestions are based on the fact that in most Semitic languages the first vowel is a *schwa*,⁶ while a full vowel appears regularly only in Akkadian. Some remnants of this vowel are reflected in Arabic as well, but with one shift: the first vowel is pronounced before the first radical of the root, a phenomenon which will require further consideration later on in this paper. Both in Akkadian and in Arabic the first and second vowels are usually the same, with the exception that in Arabic (and often in Akkadian as well) when the last vowel is /a/ the first vowel is /i/.

In order to understand the background for these proposals let us begin by introducing the regular forms in all the main branches of the Semitic languages, especially in those with vowel attestation:

Akkadian	qutul, qatal (qital), qitil
Arabic ⁷	(‘u)qutl, (‘i)qtil, (‘i)qtal
Ethiopic	qətəl, qətal
Hebrew	qətVl
Aramaic	qətVl

It should be noted that attestations of imperative forms with identical first and second vowel are found in the Amarna letters as well.⁸

While those who hold the first theory take the *schwa* in Hebrew, Aramaic, and Ethiopic as a reflection of an original absence of vowel, adherents of the second theory assume that this *schwa* in fact reflects an original vowel. This is obviously very plausible, since the presence of a *schwa mobile* in these languages is usually an indication of an original short vowel. In Hebrew and Aramaic, we should assume that the stress was on the ultima, an assumption that can be supported by the fact that the second vowel is either /e/ or /o/ and not /i/ or /u/ respectively. Taking for example the *qutul* form, we can assume the following development: **qutul* > **qutōl* > *qētōl*.

Only in the case of an original /a/ after the first radical would we assume that the original vowel should have been preserved, but its reduction can easily be explained as the result of analogy with the other imperative forms that consist of only one vowel: [yaqtil : qētīl :: yiqtal : X = qētāl].

In Ethiopic, since these are original short vowels, reduced vowels are to be expected in the case of original /i/ and /u/; again the reduction of the vowel in verbs with an /a/ vowel would be explained by a similar analogy.⁹

These two common suggestions for the historical development of the imperatives, based on the standard forms of each individual language, are often put forward in the comparative

5. See, for example, Bauer-Leander 1922: 304, §41c; Brockelmann 1908: 545, §258d, also assumes that there was an original vowel after the first radical.

6. This is actually also the case in Arabic when the imperative form is not the first element of the sentence and in many spoken dialects of Arabic as well. See for example, Fischer-Jastrow 1980: 62–63.

7. By Arabic here I mean classical Arabic. Later I will refer to other individual dialects as well. For a basic survey of the imperative forms in the different dialects, see Czapkiewicz 1975: 126–29.

8. Izre‘el 1991b: 142, §2.4.1.2; 154, §2.4.1.4.

9. Later (§2.5), after presenting our explanation, this change will be explained in a different way.

grammars. In this paper, I challenge these schemes by scrutinizing carefully the different forms in the various languages, paying more attention to those forms which are less regular. An alternative picture can be suggested.

I will argue that the first and the second vowels were originally not the same, or—to be more careful and take a more minimalist path—that in many verbs they were not the same. This suggestion was briefly mentioned by Bauer-Leander, but they believed that it could be supported only from Akkadian, and they never developed this option any further.¹⁰ For this purpose I will survey the main branches of the Semitic languages, and try on the one hand to find evidence that will support my suggestion, and on the other examine whether the actual forms in the different languages are compatible with this theory.

In this paper I will not directly refute the **qtVl* hypothesis. The reason for this is that a priori if a linguist has to choose between the two theories, the one that assumes two vowels should be pursued first, since the option of **qtVl* violates what is known to us about the syllabic structures of all classical Semitic languages. The only reason to choose this option would be if there were facts about the imperative forms or their distribution among the different branches of the Semitic languages that were otherwise inexplicable. Thus, by explaining the development of the imperative forms according to the assumption of two vowels, I will have indirectly refuted most of the arguments for the **qtVl* hypothesis.

2.2. Arabic

We have already seen that in Classical Arabic, when the second vowel is /a/ the first vowel is regularly /i/.

Therefore, I assume that the /i/ vowel following the prosthetic aleph is the remnant of an original vowel which originally followed the first consonant, the two together constituting the first syllable. It is assumed that in all the imperative forms a metathesis occurred and that the verbal patterns with pairs of identical vowels (u-u and i-i,) are results of later assimilation (or better: vowel harmony) of the first vowel to the second. It is not crucial in which order the two phenomena took place:

**qatul* > **qutul* > *uqtul*

The fact that in Arabic the vowel /i/ after the prosthetic aleph may be the vestige of such a metathesis can be seen in the nouns in which there is a prosthetic aleph followed by an /i/ vowel. For example: *'ibnun* 'son,' *'ismun* 'name,' *'istun* 'anus.' Based on evidence within Arabic and comparisons with cognate words in other languages, in all these words the vowel /i/ was originally after the first radical of the root:¹¹ **binun* > *'ibnun*.

Vowel harmony which caused an assimilation of the vowel after the prosthetic aleph to a /u/ vowel can be found in nouns as well, for example in the word *'usbū* 'week,' which, based on comparison with other languages, is presumably the result of the following development: **sabū* > **'asbū* > *'usbū*.¹²

However, it should be emphasized that my suggestion regarding the imperative forms in Arabic is independent from whichever explanation we adopt for the prosthetic aleph in these Arabic nouns, although I am in favor of the above explanation.¹³

10. Bauer-Leander 1922: 304, §41a.

11. See Barth 1894: 7–10; Bravmann 1953: 141.

12. For more examples of this phenomenon, see Fischer 1925: 8–11. For a more recent report on the Spanish dialect, see Corriente 1977: 100–101.

13. According to Testen 1985, the origins of the words *'ibnun* and *'iṭnāni* in Arabic are the vowelless proto-stems **bn* and **ṭn*. He rejects the generally accepted reconstruction of short /i/: **binun* and **tinun*. This theory was

In addition, some Arabic dialects always have an /a/ vowel as the prosthetic vowel, and thus present the following patterns: a-u, a-i, and a-a.¹⁴ According to my suggestion, the fact that we find such diversity among the dialects might indicate different patterns in the earlier stages with later analogies.

2.3. Akkadian

In Akkadian there are three groups of verbs that do not follow the regular pattern of two identical vowels in the imperative form. The first consists of some “strong verbs,” including *lamādum* ‘to learn,’ *palāḥum* ‘to worship,’ *pašāḥum* ‘to refresh oneself,’ *rakābum* ‘to ride, mount,’ and *takālum* ‘to trust.’ In all these verbs the vowel between the first and the second radicals is /i/ and the following vowel is /a/. The 2m sg imperative form of the verb *rakābum* is, therefore *rikab* ‘mount, ride.’¹⁵ It is worth mentioning that within this group of verbs, *lamādum*, *pašāḥum*, and *rakābum* preserved the original vowels throughout their forms, as shown in Huehnergard’s discussion of the thematic vowel classes in the Semitic languages.¹⁶

Similarly, the second group of verbs in which we find a vestige of this pattern is made up of a few III-weak forms such as *šime* [*<*šima*’] ‘listen.’¹⁷

accepted by Hoberman 1989: 27, Blau 2006 and others and it is based on the following arguments: 1. The Arabic forms suggest that there was originally no vowel, since “[t]here is no reason to posit a deletion of initial-syllable *i in Pre-Arabic (*bin>bn), thus giving rise to the cluster observed in these forms, whereas it is quite plausible that the *i found in *bēn* and *binu* constitutes an innovation having the same effect as the Arabic *waṣl-syllable*—the resolution of an initial cluster which came to be prohibited by the phonotactics of Pre-Hebrew and Pre-Akkadian.” 2. The fact that these two forms belong to the class of substantives characterized by elision of initial syllable /’i/ (e.g., *wa-bnun* and *wa-ṡnāni*) suggests that the original forms were vowelless. 3. This suggestion can explain the fact that only the words *bar* ‘son’ and *trēn* ‘two’ in Aramaic had the sound shift n > r by proposing the following rule: #Cn- > #Cr-.

Besides the general problem of having a small group of vowelless stems in PS, there are a few specific difficulties with Testen’s arguments. Regarding the first, if I am correct in my current proposal, then it is a more general phenomenon in Arabic, and not limited to just one group of nouns. In addition, the shift of a vowel to the beginning of the word (which is a kind of metathesis) is well attested in other Semitic languages. Compare the shift *CəC > #(‘)CC in the segolite nouns in Mandaic and in other Aramaic dialects, such as the verbal form *’ištiw* “they drank” in Biblical Aramaic, originally *šətiw*. It should be noted that in all these dialects, just as in Arabic, this shift is sporadic and does not occur regularly. Therefore we are not assuming any stage of deletion, but just a metathesis.

The second argument is weak as well. The fact that in non-initial position the first syllable is elided does not prove anything. In the case of the Arabic definite article, where a similar phenomenon occurs (*’albaytu* “the house,” *walbaytu* “and the house”), it is generally agreed that the origin of the Arabic definite article was not simply *’l*. See Rubin 2005: 66–67, 77–78. However, see Blau 2006: 191–92, who is willing to consider this option. Regarding the third argument, it should first be remembered that the forms *bar* and *trēn* can be easily explained as another example of the sporadic interchange of sonorant consonants between Aramaic and other languages, as well as between different dialects of Aramaic. For example: *’almānā* (Hebrew) // *’armlā* (Aramaic) ‘widow,’ *margālit* (Hebrew) // *margālit* (Aramaic) ‘pearl.’ Second, even if we accept Testen’s sound shift #Cn- > #Cr-, it will actually support our opinion that the original imperative form was *qVlVl and not *qtVl, since otherwise we would expect the same shift of n > r in all Aramaic roots with /n/ as the second radical, such as *bny* ‘to build’ and *tny* ‘to repeat.’ This is obviously not attested in any of the Aramaic dialects. See also Dahood, Deller, and Köbert 1965: 42. My thanks to Aaron Koller for raising this issue and providing me some of the bibliography on this topic.

14. Brockelmann 1908: 545, §258d; Fischer 1925: 367–79 (with references to the relevant literature).

15. Gelb 1955: 110 (and others) have suggested that the *qital* pattern is original and occurs only with intransitive verbs, since there are many examples for this pattern. Gelb believed that this evidence runs up against the suggestion of an original *qtVl* pattern for the imperative. Cf. Testen 1994: 32 and 1999: 14, n. 13, who suggests that this is the original pattern in Akkadian and that the *qatal* pattern was secondary. However, he believes that the form of the imperative was originally *qtVl*. He failed to notice the other group of verbs in which the first and the second vowel were not the same. I wish to thank John Huehnergard for the reference to Gelb’s note.

16. Huehnergard 2002: 110–19, esp. 110.

17. See Huehnergard 2005: 143.

The third group of verbs in which we see attestations of the original patterns *qatul* and *qatil* is the I-' verbs. Obviously, it will not be surprising that just these verbs preserved the older forms, lost elsewhere in the verbal system due to phonetic and paradigmatic forces.¹⁸

Thus, we find, for example, the following imperative forms: *ahuz* 'seize,' *alik* 'go,' *ezib* 'leave,' and *epuš* 'do.' In the last forms the original initial vowel could be either /a/ (most likely) or /i/, but definitely not /u/, since the shift /u/ > /e/ is not attested elsewhere in the history of Akkadian.

It is more plausible to assume that these forms preserved the original vowels, than that they are secondary, since it is hard to suggest a good reason why only these forms, especially these few strong verbs, were changed to these unique patterns. On the other hand, we can assume some general analogy which made the majority of the verbs look alike.

Again, I wish to emphasize that I am by no means suggesting that the proto-language had no imperative forms with two identical vowels, like those we find in both Akkadian and Arabic. However, it is not implausible to assume that in certain phonetic environments there was vowel harmony,¹⁹ and later, through the forces that govern the history of languages, the majority of the imperative forms became alike.²⁰ One might posit that such a development happened already before the split between the eastern and western branches of the Semitic languages and that we therefore find patterns like *qatul* / ('u)qatul and *qatil* / ('i)qatil both in Akkadian and in Arabic, or that it took place independently in the two languages.

In the case of the third group (the I-' verbs), it has been suggested that the /' / attracted the vowel /a/, but this seems a rather ad hoc explanation, given that we do not encounter such a phenomenon elsewhere in Akkadian,²¹ and it does not occur with nouns at all.

2.4. Northwest Semitic

So far we have dealt only with Akkadian and Arabic, but recently it has been suggested that evidence for these forms might be found in early Northwest Semitic as well.²² Although it seems that all the other languages are irrelevant for this discussion, due to the phonetic changes through which the first vowel was reduced, eliminating any information regarding the original quality of the vowels, a careful examination nevertheless shows that occasionally we do encounter a vowel after the first radical, namely in cases where a *schwa* is impossible after a certain consonant standing as the first radical of the verb. In Aramaic, for example, this is the case in I-' verbs. In all the Aramaic dialects for which we have a tradition of vocalization, an initial /' / must be followed by a vowel. It is reasonable to assume that these vowels, to some extent, are not later insertions but rather the original vowels which stood in this position.

18. The idea that the vocalization of the gutturals sometimes preserves the original vowel is not uncommon in the literature. For example, the evidence for Barth's Law in Syriac is attested in I-' verbs. See inter alia Blau 1969: 2, or Steiner's discussion (1980) about the vowel *fo* the prefix in the D-stem in Proto-Hebrew and Proto-Aramaic, where he bases his suggestion primarily on the prefix of 1c sg, which contains the consonant /' /.

19. A similar explanation has been suggested by Greenstein 1984: 16–19, but his synchronic method prevented him from reaching our conclusions.

20. There are Arabic dialects in which the vowels were harmonized in all the forms. For example, this is the case in some Bedouin dialects of the northern Sinai; see De Jong 2000: 190.

21. Hasselbach 2004: 33 suggested that there is a common tendency in Akkadian for the initial /' / to take the intrusive vowel /a/. However, her other major example is the prefix of the 1c sg in the prefix conjugation. Later I will supply an alternative explanation for the origin of this vowel. It should be mentioned that a similar idea was already mentioned briefly by Greenstein 1984: 17.

22. See Izre'el 2003: 81 and 99, n. 16, who suggests, based on the Amorite form (Gelb 1980: 365), that the verbal form *šaduk* in the sentence *ša-du-uk a-na ia-a-ši* in the Amarna letters should perhaps be read as an imperative, thus translated "Justify me." I wish to thank Aaron Koller for drawing my attention to this source.

2.4.1. Aramaic

Let us start with Syriac, for which we have a large literary corpus and organized grammars. In this dialect we see two kinds of imperative forms for I-' verbs: either verbs like 'akol 'eat' or like 'emar 'say.' Once again the following pairs are found: a-u and i-a, where /o/ and /e/ stand for the original /u/ and /i/, respectively.

The same situation is found in other dialects of Aramaic as well. In Biblical Aramaic we have four imperative forms of I-' verbs: אָמַר 'emar 'say,' אָזַל 'əzəl 'go,' אָכַל 'ākūl 'eat,' אָמַרְו 'əmarū 'say.' In three of these cases we can easily recognize attestations of the pairs: i-a (אָמַר, אָמַרְו) and a-u (אָכַל) assuming that the *hetef-segol* stands for an original /i/.

Regarding the form אָזַל, Bauer-Leander²³ explain this *segol* according to the general assumption that it reflects an original *qitil* form. However, this assumption is not necessary. A *segol* in Biblical Aramaic can stand for an original /a/ as well.²⁴ Therefore, if we assume that in this case the original form was 'izal and that it went through a phonetic change to become 'ēzəl due to change in the position of the stress, this will fit the distribution in Syriac and will be in harmony with the other verbs in this dialect which are either *qatul* or *qital*.

Support for this suggestion can be found in the Targum fragments from the Cairo Genizah, where we find both forms with *segol* and forms with *patah*: אָזַל (ms F Ex 19, 10) and אָזַלְו (ms E Gn 41:55),²⁵ which indicates that the *segol* in this verb alternates with an /a/ vowel, and therefore can serve as an indication of how this form in Biblical Aramaic should be analyzed as well.²⁶

In some dialects a vowel also appears when other gutturals begin the roots. Although incidences of imperative with other gutturals do occur in Biblical Aramaic, such as הָוּוּ *həwō*, 'be (2m pl),' חָזְוּ *ḥāzē* 'see,' in which the first and the second vowels are not the same, nevertheless as long as there are no occurrences of two verbs with the same first consonant and different thematic vowel, it is hard to know whether the first vowel reflects the original vowel, or whether the specific quality of the vowel was determined by the guttural itself.

This distribution of the vowels in I-' verbs is not attested in all the Aramaic dialects. In the Targum, for example, the vowel after all the I-guttural (including the I-' verbs) is a variant of /i/:²⁷

אָמַר 'emar 'say,' אָזַל 'əzəl 'go,' עִיבַר 'ēbar 'pass.'

2.4.2. Hebrew

Outside of the Masoretic tradition there is some evidence for the existence of a vowel between the first and the second radical in Hebrew or in Proto-Hebrew.²⁸ In the Masoretic

23. Bauer-Leander 1927: 138, §44.

24. Qimron 2002: 23.

25. See Fassberg 1990: 181.

26. Although we do not have vocalization in most of the manuscripts of Jewish Palestinian Aramaic, it seems that the same distribution can be found there as well, since we have a yod after the first aleph only in verbs that have a thematic /a/ vowel in other dialects. Thus, we encounter the following imperative forms: אָכַל and אָזַל. With the verb 'm.r we find the following forms: אָמַר and אָמַרְו (base on Sokoloff [1990]: 63). This alternation reflects a general shift of the thematic vowel to /o/ in this dialect, as can be found in the prefix conjugation as well. Regarding this phenomenon, see Kutscher 1950–1952: *187.

27. It seems that this is also the case in the dialect of the Babylonian Talmud. Despite the fact that there is no good tradition of vocalization for this dialect, we do find the following forms (Kara [1983]: 226, §5.213): אָמַר and אָזַל alongside forms like אָכַל, אָזַל, and אָכַלְו, and it is hard to say whether the first vowel in these verbs is /a/ or /i/. However, it should be noted that the resemblance in vocalization between this dialect and the dialect of the Targum is not surprising.

28. See M. Bar-Asher forthcoming about the Greek transliteration of the imperative form *šēma* 'as σῆμα. While Bar-Asher considers this to be a realization of the *schwa*, we should remember Yuditsky's (2005) observation that

tradition, despite the existence of a vowel after the first radical of the imperative forms in two environments, I nevertheless will argue that in neither case can it assure us of the nature of the original vowel.

The first environment is consistently found in two forms of the declension, in the 2f sg and in the 2m pl forms, and this vowel also appears in the longer form of 2m sg, such as מִשְׁכָּה *moškâ*. As a result of the phonological rules of Hebrew governing the reduction of vowels, which prohibit the presence of two consecutive reduced vowels, it is compulsory to have a vowel in the place of the first reduced vowel. Thus, the paradigm of the imperative of any verb is the following:

<i>kētōb</i>	2m sg
<i>kitbî</i>	2f sg
<i>kitbû</i>	2m pl
<i>kětobnâ</i>	2f pl

Does the vowel after the first radical reflect the original vowel? It seems that in general the default vowel in such an environment is /i/, since this is the regular epenthetic vowel,²⁹ and therefore this is not necessarily the original vowel. However the question arises more strongly in a few verbs with the less common vowel [o]: מִלְכִי *molki* ‘rule,’ מִשְׁכִּי *moški* ‘draw.’

How should this [o] vowel be explained? In all these verbs, in the m sg form of the imperative, the thematic vowel is /o/ as well. Therefore, as Gesenius already put it,³⁰ there could be two competing explanations. Gesenius himself, again, following the common assumption that the original form of the imperative was *qutul*, believed these [o] vowels to be a reflection of an original /u/ vowel. However, if this is not the case, it can easily be explained as the result of assimilation of the first vowel to the second.³¹ This is the case, for example, when a possessive pronoun is suffixed to an infinitive construct: thus, for מֵשְׁדֹךְ ‘to draw’ one finds *moškām* ‘their drawing.’³² The [o] vowel after the first consonant in these cases can be explained as a retraction of the original /u/ in the second syllable.^{33, 34}

these representations of the *schwa* usually reflect the original vowel. Regarding the first vowel, Bar-Asher suggests that it reflects either an /i/ vowel, or most probably a /u/ vowel. If the latter is the case, it is hard to know the quality of the original vowel, since it is probably a result of an assimilation of the vowel to the labial consonant /m/ which follows it.

29. See Bravmann 1977: 17.

30. Gesenius 1910: 124f., §46d.

31. See Bravmann (1977), p. 4–17, who also rejects the common suggestion, and suggest a different explanation, which involves a different explanation to many of the issues discussed in this paper.

32. I am assuming here that the original form of the infinitive construct in Hebrew was *qatāl and not *qutul, and that both infinitive construct and infinitive absolute are developments of the same form. For the reasons to assume that this is indeed the original form of the infinitive construct, see Fox 2003: 207f. Fox is reluctant to accept this conclusion due to the forms suffixed with possessive pronouns that have an /o/ vowel. However, I suggest that this is not the original vowel, but a secondary vowel which is a result of assimilation.

33. In addition, it should be remembered that, based on evidence from Qumran, and transcriptions from the Septuagint, Josephus, Jerome, and Origen, Kutscher 1974: 500f. has suggested that the Tiberian *schwa mobile* was likely to have had the quality of the following vowel, which means that it was assimilated by vowel harmony. If this is the case, we should assume that in general the first reduced vowel of the imperative forms was often similar in quality to the thematic vowel. Therefore it is not surprising that when it undergoes lengthening, we encounter a vowel with the same quality.

34. A similar phenomenon can be found in Syriac in the 2m pl form with pronominal suffixes. One of the alternative forms is *qubrunān(i)* “bury me” (Nöldeke [2001]: 142, §191f). However, it is a common phonological phenomenon in Aramaic that an original short vowel was totally assimilated to another /u/ vowel in the word, and that it appears only when the phonological rules of Aramaic allow it. This is the case in most of the nouns that originated from the *qutl* pattern. Compare also the preposition *lqubal* ‘opposite to’ to its form with pronominal suffixes *luqbal-*.

The second environment in which we find a vowel after the first radical is, as expected, in verbs with first guttural radicals. However, unlike in Aramaic, it seems that these vowels do not reflect the original vowel, but rather that they follow the two regular Tiberian³⁵ phonological rules which involve the gutturals, aside from one exception that should be explained locally:³⁶

*i > ě / #_C {e, ī, ō, ū}

*a, *i > ǎ when the preceding consonant is otherwise any guttural.

Thus aleph always attracts *heteph-segol*:

אָהַב 'ēhab 'love,' אָמַר 'ēmōr 'say.'³⁷

And all the other gutturals go with *heteph-patah*:

הָרַג hārōg 'kill,'³⁸ הָרוֹס hāros 'destroy'
הָגַר hāgōr 'gird,' קָזַק hāzāq 'be strong' הָזַע hāzē 'see'
עָבַד 'ābod 'work'

Thus far, I may say that the evidence from Akkadian, Arabic, and Aramaic strengthens the suggestion proposed earlier that there were in PS imperative forms with non-similar first and second vowels. Let us now conclude with the evidence in the Ethiopian branch of the Semitic languages.

2.5. Ethiopic

As mentioned earlier, the forms of the imperative in Classical Ethiopic are either *qatəl* or *qatal*; therefore in the case of Ethiopic our main goal is to explain the compatibility of my suggestion with the actual forms. If we assume that the imperative forms were originally *qutul*, *qitil*, and *qatal*, and taking into consideration that only short /u/ and /i/ were reduced, it is necessary to assume that an analogy took place in the case of the original *qatal* forms. However, if we follow our new theory and we assume that among the original forms were the following: *qatil*, *qatul*, and *qital* how can we explain the later forms?

First we should demonstrate the expected forms:

*qatil > *qatəl

*qatul > *qatəl

*qital > qatal

Of these three forms, only the last is similar to an actual form in Classical Ethiopic. One can obviously think that the one form with reduced vowel after the first radical influenced

35. In this discussion I refer only to the Tiberian tradition of Biblical Hebrew. Yuditsky 2005: 136, in discussing the representations of the reduced vowels in the transcription of the Hexapla, deals with the imperative form λουμ, which he believes to be a reflection of *luhum* which means "fight." The regular Tiberian form is *luham*. Yuditsky, based on the common opinion concerning the original patterns of the imperatives, suggests that this is an example of an original *qutul*. Though he agrees that the Tiberian form is probably the original (n. 102), he suggests a shift from the pattern *qatal* to *qutul*. However, as can be seen from his discussion in general, the present form does not necessarily attest to an original similarity of the vowels, since there is a general tendency in this dialect for an assimilation of the reduced vowels to other vowels in the same word, especially around gutturals. See also Kutscher 1974: 500f., n. 10.

36. See Lambdin and Huehnergard 2000: 16f.

37. This is the only form that should be given a special explanation, probably as a result of analogy.

38. With the exception of the verb *hyh* 'to be,' in which the first vowel in two forms (2m sg and 2m pl) is /i/: הָיָה hēyā, הָיָה hēyā and in one form (2f sg) we encounter the regular /a/ form הָיָה hāyā.

those with the full vowel (as in Hebrew and Aramaic,) but it might be a result of other sound shifts as well.

One of the sound shifts attested with other forms in Ethiopic that can explain the attested forms is the potential assimilation of the /a/ vowel to /u/ in the *qatul* form. This is the case with the adjectival nominal patterns *qatūl* and *qattūl*, in which we find the following process in Ethiopic:

**kabūr* > **kubūr* > *kəbur* ‘mighty’
 **k’addūs* > **ḵuddūs* > *ḵəddus* ‘holy’

Thus, in the case of the imperative form **qatul*, we may assume a similar assimilation of **qatul* > **qutul* > *qətəl*. Consequently, this Ethiopic sound shift is no longer restricted to only one morphological category. Since there are no clear examples of nouns in Ethiopic whose etymology has an original **qatul* pattern,³⁹ it seems that following our suggestion this sound shift would be unexceptional in Ethiopic.

Even if we do not assume that the same assimilation regularly occurred in the **qatil* form, this assimilation should have taken place in verbs with II-guttural, since as a rule in Ethiopic, a short vowel /a/ followed by a guttural must be of the same height as a vowel in the following syllable. Thus, **kañida* > **kaḥəda* > *kəḥəda* “he denied.” Therefore, in this group of verbs we can assume that once more the imperative form would be *qətəl*.⁴⁰

Since the majority of the verbs probably belong to the *qatul* group, it is reasonable to assume that an analogy operated in Ethiopic, and the imperative became *qətəl* in these two patterns, based on the form of the more “dominant” pattern.

2.6. Having surveyed the various languages, we may go back and examine the other imperative forms, those with two identical vowels. Do they actually reflect original forms?

Adherents of the principle of the Ockham’s razor might assume only three imperative forms, but it seems to me that we are not in a position to provide a definite answer to this question. On the one hand, the fact that we do not find the pattern *qutul* in I-’ verbs either in Akkadian or in Aramaic suggests that these are secondary forms, presumably the result of late vowel harmony.

However, having so many verbs in the *qatal* and *qutul* forms both in Akkadian and in Arabic, leads one toward the option that these forms do reflect some original forms as well.

Therefore, I choose to continue with a minimalist approach and argue that we should at least accept the fact that forms in the patterns of *qatul*, *qatil*, and *qital* in which the first and the second vowels were not the same existed in the proto-language.

At this point I turn to the second part of this paper, and deal with the relationship between the imperative and other forms in the verbal system, especially those of the preformative conjugation.

3. THE ORIGIN OF THE FORMS OF THE PREFORMATIVE CONJUGATION

3.1. Recently, Rebecca Hasselbach dealt with “The Markers of Person, Gender, and Number in the Prefixes of G-Preformative Conjugation in Semitic.”⁴¹ In this paper, she suggests an historical description for the evolution of the G-preformative conjugation which can account for the following phenomena:

39. See Fox 2003: 174.

40. The phonology of Classical Ethiopic in this section is based on Huehnergard 2002: 40.

41. Hasselbach 2004.

1. In most West Semitic languages we find evidence for Barth's Law,⁴² according to which the vowel following the prefix in the G-stem depends on the thematic vowel of the verbal base, i.e., **yaqtul*, **yaqtil*, and **yiqtal*, but there is no evidence for this law in the Eastern dialects, meaning Akkadian.
2. The various persons in Akkadian do not have the same vowel in their prefix forms, i.e., 1c sg, 2nd m/f sg/pl have an /a/ vowel (*a-*, *ta-*), while 3c sg, m/f pl and 1c pl have an /i/ vowel (*i-*, *ni-*).

Hasselbach concludes that the prefix conjugation is a result of a combination of vowelless prefixes, originally personal pronouns, and some variant of the verbal form **prVs*. The current vowels of the prefixes were a result of the initial clustering and depended on the preceding consonant. For early West Semitic we have to assume a vowel redistribution which resulted in what is known as Barth's Law. Thus, Akkadian reflects an earlier stage before the operation of Barth's Law, and it is only the West Semitic branch that went through the process which caused the new distribution.

Although her conclusion that there are no vestiges of Barth's Law in Akkadian is not so certain,⁴³ Hasselbach's solution is very elegant and convincing. However, it seems that in

42. Barth 1894: 4–6. For an extensive survey of the literature regarding the manifestations of Barth's Law in all the West Semitic sub-branches, excluding Ethiopic, see Hasselbach 2004: 26–28. For evidence from Ugaritic, see Ginsberg 1932–33: 382; 1939: 318–22; and Gordon 1947: 60–62. For a more accurate description of the situation in Ugaritic, see Ullendorff 1982 and Verreet 1983. For uncertain vestiges of this phenomenon in the Amarna Tablets, see Rainey 1978. Reflexes of Barth's Law are founded in modern dialects of Arabic, as shown by Barth 1894: 5 himself. According to Bloch 1967, evidence for this law might be found in the description of the Arab grammarian Sibawaih; Hayes 1994 gathers doubtful traces of this phenomenon in Epigraphic South Arabian.

43. Testen 1992: 132f.; 1994: 429 argues that the two forms of the I-w verbs in Akkadian, the fientive type: *ulid* "he gave birth" and the stative type *itir* "he surpassed" attest to Barth's Law in Akkadian. According to Testen, the derivation of the *itir* type can be easily explained if we assume the distribution according to Barth's Law: **yiwCaC* > **yiyCaC* [tendency of w > y in the vicinity of /y/] > **iCaC* > *iCiC* [by analogy to I-y verbs]. Testen presents his suggestion a bit differently, but see Kogan 2004 for its problems. Regarding the *ulid* type, we should assume that the form was originally **yawCiC*. Following Proto-Akkadian phonology, we would expect to have the form *ūCiC*. Accordingly, we should assume that the quantity of the first vowel is long: *ʾūlid*. The problem here is that in the longer forms, such as 3 pl and forms with ventive, we encounter a syncopation of the second vowel: *ubū* and *ublam*, but this syncopation is possible only if we assume that the first vowel was short and not long.

There are two strategies for solving this problem. The first, taken by Greenstein 1984: 36 (and see there for many others), is to assume that this was indeed a long vowel and that something unique happened in this particular form, permitting a syncopation in such an environment. This option can be supported by two facts: 1) In Old Akkadian there are occurrences of a spelling with plene *u* (*u-ub-lum*), which might be an indication of a long vowel. 2) There are many examples without syncopation (*ubilam*), which might indicate a stage before syncopation. However, this lack of syncopation can easily be explained by the /l/ after the vowel, as it is the case in words like *akalum* "food."

The second strategy is to assume a short vowel *ubil*, and to explain the origin of this short vowel by a phonological rule. Testen 1994 takes the second way. Based on this fact and others he develops a general theory regarding the origin of the preformative conjugation, namely that it originally consisted of vowelless prefix + the verbal form *CCVC*. Thus, he believes that when the first consonant of the root was /w/ it could become syllabilized by shifting from semivowel to vowel. That is, **P_{refix}+wCVC* > **P_{refix}^wCVC* > **P_{refix}uCVC*. As noted by Hasselbach 2004: 28, while this explanation might explain the *ubil* type of verbs, it annuls the previous explanation for the *itir* type in general, since we should assume exactly the same development, and expect a form with a /u/ vowel in all the prefixes. Therefore, Hasselbach suggests regarding the origin of the /u/ vowel: "because the I-w verbs of the verbal class *a ~ i* resemble the D- and Š-stems, the analogy with /u/ from the durative was doubly motivated." Following this Hasselbach believes that there is no evidence for Barth's Law in Akkadian.

However, while she is right in rejecting Testen's suggestion, we should remember that if we follow Greenstein's solution (1984), which is supported by evidence from Old Akkadian, then we do have a fact that supports the idea that Barth's Law was still operative in Proto-Akkadian. In addition, we should remember that only if we accept this assumption is the long *i* vowel in the *itir* type explained, as admitted by Hasselbach 2004: 29. However, it should

order to complete this theory we should ask one further question: What was the verbal form to which those pronouns were added? It seems reasonable that if we seek a full understanding of the process by which the cluster of consonants was dissolved at the beginning of the form, we should first determine exactly what this form was.

3.2. A variety of suggestions have been given in answer to this question,⁴⁴ and I would like to explain why one of them seems the most likely. Taking into account some morphological and typological considerations, the option that the verbal form to which these pronouns were added was identical with the imperative form is relatively the most plausible.⁴⁵

Two major phenomena support this suggestion:⁴⁶ the first is the striking fact of identity, almost without exception, in quality between the thematic vowels of the imperative form and those of the preformative conjugation in each and every verb throughout the Semitic languages.

In addition, in examining the declension of the prefix conjugation, it is remarkable that the endings which indicate numbers and gender are the same in the imperative and the prefix conjugation. Of particular interest is the fact that among the singular forms only the 2f sg has a final feminine marker as opposed to the 3f sg, in which the opposition of gender is marked by a different prefix. The end result is that in the same paradigm the opposition of gender is indicated once by a different prefix and once with an additional suffix. This fact can easily

be emphasized that Testen's suggestion does not provide evidence for Barth's Law in Akkadian, but rather shows that if we assume its existence we can explain a certain unexplained distribution. Thus, this explanation is weakened if we can suggest an alternative explanation, and indeed Huehnergard 1987: 191–93 proposes a different explanation for *ubil* (with short vowel).

In addition, it should be noted that according to Kogan 2004, the evidence of the I-w verbs in Akkadian indicates that the distinction between active and stative in this group of verbs was **ya(w)CiC* vs. *yi(w)CiC*. According to Kogan, this fact teaches us that the origin of Barth's Law lies not in a dissimilation, but in a morphological opposition (see especially 345).

44. Among the other suggestions for the origin of this verbal form, one can find Kienast's (2001: 415) suggestion that the prefix conjugation is built on the combination of a pronoun with the predicate adjective form. Accordingly, the following development from the original to the final form is assumed for the Akkadian forms: **ya-p(a)rus* > **yaprus* > *iprus*. Thus, Kienast seeks to show that all the verbal forms originated from a combination of predicate adjective forms with pronouns. The major problem with this attempt is that it is necessary to assume an additional stage in which the thematic vowel of the predicate adjectives and of the preterit forms in Akkadian were split, since synchronically they are not necessarily the same. For example, the preterit of the verb *palāḥum* 'to worship' is *iplah*, while the base of its predicate adjective is *palih*. A similar suggestion was already made by Ungnad 1907, who tried to deal with this problem by suggesting a secondary analogy of the imperfect to the jussive form, which itself was based on the imperative forms (58f.).

45. A similar suggestion appears in Bauer-Leander 1922: 176, §12b. However, this suggestion is not mentioned again later in the main discussion regarding the prefix conjugation, 297, §40c. In addition, Ungnad 1907: 58 proposed something similar, but limited it to the jussive forms, since he believed that the prefix conjugation is based on the same forms as the suffix conjugation.

46. An alternative analysis of the relationship between the prefix conjugation and the imperative takes the prefixed form as the basic one, and the imperative form as a secondary development. According to this theory, the prefix conjugation is a combination of prefix + *qtul*. The remnant *qtul* form of the imperative, after dropping the prefixes, went through another phonetic adjustment, since a cluster of two consonants is impossible at the beginning of a word. This explanation accounts for all the morphological evidence that we mention. However, relying on typology, and based on the fact that we find a variety of forms in the different languages which agree better with the other suggestion, I prefer to go in the opposite direction. For such an account, see, e.g., Ungnad 1912: 121, §319; Wright 1890: 188f.; O'Leary 1923: 246, §148.

be explained if we assume that the forms of the prefix conjugation were added to the imperative forms, and “inherited” the gender suffix only in the second person.

I have already mentioned that this suggestion can be supported by a typological demonstration, by which the significance of the fact that the “basic” form is identical with the imperative form will be elaborated as well. It is striking to note that cross-linguistically the imperative is very often the basic form of the verb to which other affixes are added in order to express tenses and pronouns.⁴⁷ For example in Classical Greek, the common imperative form of 2 sg active is the \emptyset -marked form. That is to say, this is the bare verbal stem, followed by the thematic vowel of the tense without any other ending, for example $\lambda\upsilon\text{-}\epsilon$ ‘release.’ The other persons of the imperative paradigm are the only ones to have unique endings to mark their person and numbers. It should be emphasized that there is no other form with the sign \emptyset throughout the entire declension.⁴⁸

Similar to this phenomenon, in many languages, including English, there is no distinct form for the imperative, and the infinitive, which is also the basic verbal form, is used for this function.⁴⁹

Likewise, it seems that throughout the Semitic languages,⁵⁰ the prefix conjugation in all other stems is regularly built from a form identical to the imperative, with the addition of a prefix.⁵¹ This description is especially valid for the western branch of the Semitic languages. The Akkadian verbal forms will be discussed further in the appendix.

If we take Biblical Aramaic for purposes of illustration, we find the following relationship between the verbal forms:

	Imperative	Prefix Conjugation
D-Stem	<i>katteḅ</i>	<i>y-katteb</i>
H-Stem	<i>hakteb</i>	<i>y-hakteb</i>

From the parallels in the other languages,⁵² and from the general picture within Semitic, it is appropriate to describe the phenomenon under discussion not as if the prefix conjugation

47. The use of the bare stem for the imperative is a common phenomenon cross-linguistically. I will mention only a few languages in which this phenomenon occurs. First, this is the reconstructed form in Proto-Indo-European (Meier-Brügger 2003: 181) and later in Indo-Aryan (Krishnamurti 2003: 357). This is also the case in Modern Mongolic languages in general (Campbell 1995: 348; Janhman 2003: 22); Turkish (Kornfilt 1997: 383), and in Bantu (Werner 1919: 159). In the discussions of language acquisition, it is often pointed out that this form is usually the first to be used by children. See *inter alia* Clark 1993: 252.

For a general discussion of this phenomenon, see Birjulin and Xrakovskij 2001: 2f., who say: “Second-person singular forms are normally represented by either verb root . . . or one of the various types of verb stems . . . The widespread absence of formal markers (or, rather, the use of zero-markers) with second person singular imperatives . . . may stem from the pragmatic importance of the imperative meaning, for whose expression most (though not all) languages reserve their most concise devices” (Kasevič 1988: 201; cf. Jakobson 1971).

48. I wish to thank Adam Strich for suggesting to me this parallel in Greek.

49. See, e.g., Haegeman 1999: 397f.

50. See Dahood, Deller, and Köbert 1965: 38: “In determining the ‘bases’ of Semitic verbal roots we should start from the imperative, which certainly is the most ancient verbal form of human speech.” See also Voigt 1988: 112, who goes in the same direction.

51. On the synchronic level, each language has a different vowel for these prefixes. For some languages, as Izre’el 1991a: 46 has suggested for Hebrew, it seems that there is no vowel at all. However, the common opinion is that the original vowel was /u/. Consequently, the basic prefix was *yu-* as in Arabic and Akkadian. Steiner 1980 proposes that within the western languages there was a later development, with the result that Ugaritic had an /a/ vowel as the vowel of the prefix, while both Proto-Hebrew and Proto-Aramaic had prefixes with variants of the /i/ vowel. For an extensive bibliography concerning this issue, see Steiner 1980: 514, nn. 3–15.

52. See Bravmann 1977: 197–99, who maintains that the Semitic languages and the IE differ in this regard.

were a combination of a prefix with the imperative form, but rather as a form consisting of a personal prefix with the \emptyset -marked form. This \emptyset -marked form is also used to express the imperative mood.⁵³

At this point I come to hypothesis C from the first section of this paper, the third stage of development. I will now combine the two parts of my argument and examine carefully the process of the formation of the prefix conjugation in the earlier stages of PS. This is obviously the most speculative part of my proposal, because we are speaking about a stage for which there is no direct evidence. It is clear that the chosen presentation best fits my hypothesis, but I think that it is sufficient merely to show that it is plausible, given the high probability of the other two parts of my discussion.

Some scholars have suggested that it is enough to demonstrate the close synchronic connection between the paradigm of the imperative and that of the preformative conjugation, without dealing with the derivational relationship.⁵⁴ Indeed, the following description can be presented in two ways: either synchronically as a structural analysis of the proto-language, employing a synchronic phonological explanation of the derivation; or by using historical linguistic jargon and assuming different stages in the evolution of the proto-language. Since the different accounts would be very similar in any case, I prefer evolutionary language, but do not deny that the data could be described quite similarly in a synchronic manner.

3.3. Following Hasselbach's idea that the prefixes of the prefix conjugation should be reconstructed as vowelless, we must assume the following as the original form:

$$P+qV_1tV_2]^{55} [V_1 \neq V_2]$$

Starting with this syntactic combination as the initial stage we can suggest several different processes of development. I will concentrate on two major options, and it will become clear that the choice between them significantly affects the understanding of the different forms and their structural analysis.

3.3.1. The First Explanation

Following the initial stage, as a consequence of the initial cluster of consonants, a vowel emerged between the consonantal prefix and the first radical of the root. We know almost nothing about the phonological rules applying to this hypothetical stage, so it is hard to know the quality of this vowel,⁵⁶ but a reasonable suggestion would be that this new vowel was, by harmony, similar to V_1 .⁵⁷ Moreover, we do not really know why V_1 was later reduced. Although it has been suggested that there was a general rule in PS calling for the

53. For a similar description, see Battistella 1990: 89–91. A very similar description was already given by Charles Bally in his discussion about “Signe Zéro”; see Bally 1965: 161, §250.

54. See, e.g., Voigt 1988: 112, who speaks about a derivational relationship from the synchronic point of view, without arguing for any historical connection.

55. P stands as a variant for one of the prefixes.

56. Poeble 1939 proceeded in a similar manner regarding Akkadian. He believed that the preterit in Akkadian derived from the imperative (133), and that the imperative form was $qVrVl$ (99f. n. 1). He did not consider the option of a three-radical pattern with two non-similar vowels, and therefore suggested the following development:

$$*P_{\text{refix}}+qVrVl > *P_{\text{refix}}+a+qtVl.$$

57. Another crucial point would be the position of the stress, which is an unsolved problem in itself. According to Hetzron 1969, for example, in Proto-Semitic there were a few prefixed verbal forms which differed in the position of the stress.

elimination of the first vowel in the first syllable of the stem following a prefix,⁵⁸ we should also consider the possibility that V₁ was reduced to zero due to the addition of the prefix, and that its quality was preserved in the newly inserted vowel between the prefix and the first consonant.

A similar loss of vowel and appearance of a similar vowel before its original consonant is known in the attested Semitic languages. For example, in Hebrew, as a result of an *apocope* in which final short vowels were dropped, some pronominal suffixes lost their last vowel. However, the same vowel remained before this pronoun, in the place where another vowel indicating the case of the NP, stood.⁵⁹

Thus the vowels before the pronominal suffix are always similar to the vowel that originally belonged to the possessive pronouns:

2ms	*dabarVkā ⁶⁰	>	*dabaraka	>	dēbārāk	>	dēbārkā
2fs	*dabarVki	>	*dabariki	>	dēbārēk (/dēbārēkī, rare)		
3ms	*dabarVhū	>	dabaruhū	>	dēbārô		

Similar forms, which might be the result of a parallel process, can be found in almost all colloquial Arabic dialects:⁶¹

2ms	kitābVka	>	kitābak
2fs	kitābVki	>	kitābik

Similarly, in the eastern dialects of Aramaic, due to a change in the position of the word stress, vowels in a final open syllable were dropped. Therefore, in Syriac, for example: *kitabū* “they wrote,” despite its written form, was pronounced *kitab*. In Babylonian Aramaic we find the form *ktûb* for 3m pl, which can be explained only if we assume that prior to the loss of the final vowel as a result of vowel harmony, the previous vowel /a/ had been assimilated to /u/, and that the original final vowel has left its traces.⁶²

In the same way, one may suggest that at the time of the fusing of the prefix with the simple verbal form, the first vowel of the verbal root was dropped while its quality was preserved in the previous spot between the prefix and the root. Probably, the inserted vowel was initially similar and the first vowel of the basic form of the verb was later reduced to zero.

The problem with this account is that it does not explain why the vowel following the first radical was dropped. A better explanation might adduce the fact that we are dealing here with a classic process of grammaticalization. Hopper-Traugott 2003, in their treatment of grammaticalization, describe a typical course of development:⁶³

content item > grammatical word > clitic > inflection affix

The last stage of this process is often accompanied by irregular phonological reductions (*erosion*). A famous example of this phenomenon is the grammaticalization of the English

58. Bravmann 1953: 140.

59. Variations of this description can be found in many historical grammars of Biblical Hebrew. This presentation is based on Huehnergard 2002: 65–72, esp. 69.

60. The V stands for a vowel-variant indicating case, which alternates according to the syntactic position of the NP in the sentence.

61. For a discussion of these forms in Arabic and a survey of the various explanations for their origin, see Owens 2006: 234–59. For our purposes it does not matter whether the vowel before the prefix was originally an epenthetic vowel or the original case vowel. Both explanations parallel the development I am describing here.

62. See Kutscher 1962: 165–67.

63. Hopper-Traugott 2003: 7.

expression “going to,” colloquially pronounced “gonna” when used to express the future tense.⁶⁴

In the same way, in our case, since we assume that all the above-mentioned stages of the process of grammaticalization occurred, i.e., that the independent pronouns became inflectional affixes, some irregular phonological reductions are not unexpected. Therefore, it is a sound possibility that at first there was indeed some vowel harmony, and that the second vowel was later reduced. Alternately we can suppose that when the consonantal pronoun and the first radical of the verb became elements of one syllable in the process of merging the clitic form with the verb, they attracted the vowel, which was consequently lost, as the nucleus of their syllable.

I wish to emphasize that by evoking the phenomenon of grammaticalization I am by no means arguing that it is a distinct phenomenon with explanatory force. In this matter I agree with Campbell 2001 and others who have argued against this idea. However, it is a matter of fact that in the sequence of linguistic states in which these stages can be traced (content item > grammatical word > clitic > inflection affix), many processes occur which are difficult to explain with regular historical accounts. Recall the English form “gonna,” for which it is hard to account with regular sound shifts.

This last explanation assumes that the vowel moved to the position before the consonant, as regularly in Arabic, where the original first vowel of the imperative is always pronounced before the first radical of the root and followed by a glottal stop.⁶⁵ It should also be noted that in some dialects the vowel of the prefix is always identical with the vowel preceding the imperative forms,⁶⁶ thus:

Imperfect	Imperative	
<i>yifham</i>	<i>ifham</i>	‘to understand’
<i>yiktib</i>	<i>iktib</i>	‘to write’
<i>yuskut</i>	<i>uskut</i>	‘to be quiet’

3.3.1.1. The Results of the Process

In the previous parts of this paper, we have supported the hypotheses proposed in section 1:

1. There was a variety of imperative forms, among which were the three patterns in which the first and the second vowels were not the same: *qatil*, *qatul*, and *qital*.
2. The prefix conjugation was the result of merging prefixes with the basic verbal form (\emptyset -marked form), also used for the imperative mood.
3. The vowel of the prefixes was similar to the original first vowel of these verbal forms, and later on the first vowel of the basic form of the verb was reduced to zero.

If we follow all these conclusions we realize that we can suggest a new explanation for the origin of Barth’s Law. Let us examine the different original PS forms and what should accordingly be the expected forms of the prefix conjugation:

64. For comparable examples in Semitic languages, see Rubin 2005.

65. The phenomenon of the shift CəC > VCC in initial position is known in many Semitic languages. See, e.g., Malone 1971: 50 regarding Mandaic.

66. This is the case in Egyptian Colloquial Arabic (see Spitta-Bey 1880: 207–9, and McGuirk 1986) and in Bedouin dialects of Northern Sinai with harmonized vowels in all the forms (see De Jong 2000: 190–92).

*P+qatil > *Pa+qatil > Paqtil [yaqtil]⁶⁷
 *P+qatul > *Pa+qatul > Paqtul [yaqtul]
 *P+qital > *Pi+qital > Piqtal [yiqtal]

This suggestion obviously has certain consequences concerning the way in which we should perceive Barth's Law.⁶⁸ First, this law should no longer be considered as applying solely to the prefix conjugation, but is rather the result of the process through which this form emerged. Second, we should assume that this law was already operative in the later stage of PS, when the prefix conjugation was grammaticalized, and certainly before the time in which the split between the eastern and the western branches of the Semitic languages occurred.

We will discuss the first consequence in the following paragraph (§3.3.1.2) and leave the second for later (§4).

3.3.1.2. Reanalyzing Barth's Law

Traditionally Barth's Law has been interpreted either as a phonological rule, or as a morphological distribution. According to the phonological explanation, Barth's Law is an example of dissimilation. Thus the prefix originally probably had an /a/-vowel and due to distant dissimilation with the thematic vowel, the known distribution resulted. Thus:

*yaqtul > yaqtul
 *yaqtil > yaqtil
 *yaqtal > yiqtal

This view of Barth's Law is clearly not compatible with our theory. According to the suggestion presented earlier (§3.3.1.2), if such dissimilation were ever active, this was already in the basic verbal form, and the preformative conjugation merely inherited it.

The morphological explanation, as presented by Goldenberg 1994: 16, provides a structural analysis according to which the vowel following the prefix is part of the base and not of the personal marker:

P+aqtul
 P+aqtil
 P+iqtal

According to our explanation (§3.3.1.1), one must assume that this morphological distribution is a result of reanalysis, since originally this vowel was only a result of the initial cluster of consonants. Moreover, according to this explanation, this base form is different from that of the imperative, and we would have to assume a different base for the two paradigms. This is obviously an undesired result. Therefore, it seems that we should seek a better explanation.

3.3.2. The Second Explanation

Starting from our initial stage: P+qV₁tV₂l, we may suggest that the final verbal forms resulted from a process of metathesis of consonant and vowel [CV > VC]:⁶⁹

67. Below we will consider the option of skipping the second stage.

68. It is interesting to note that Barth 1894: 6 himself noticed the connection between his suggestion and the forms of the imperative in the case of the L- verbs in Syriac. However, he believed that "[d]iese Vocale des \aleph sind der Nachhall des Präfixvocals."

69. See Halle forthcoming: §3, for a theoretical explanation for this phenomenon. Here I follow his notation for this process. I wish to thank Prof. Morris Halle for discussing this issue with me, and for providing me with a pre-publication version of his paper.

*y[-q><i]tal >>> *yiqtal*
 *y[-q><a]tul >>> *yaqtul*
 *y[-q><a]til >>> *yaqtul*

A typical instance of such a phenomenon is found in the history of the Slavic languages, in the case of *liquid metathesis*. CVRC gives CRVC in Polish and other West and South Slavic languages. For example IE **gord* >>> Polish *grod* ‘town,’ and a similar explanation has already been suggested for a different phenomenon in the Semitic languages as well.⁷⁰

Accordingly, we suggest a systematic metathesis in the affixation of the pronominal prefix to the basic verbal forms. It should be noted that the idea of a systematic metathesis in the process of affixation was already suggested by Halle 2001 for other languages.

With this option at our disposal, we can follow the morphological analysis suggested earlier that interprets Barth’s Law in such a way that the vowel belongs to the base:

P+*aqtul*
 P+*aqtul*
 P+*iqtal*

This structural analysis is compatible with our suggestion that the base forms were *qatul*, *qatil*, and *qital* at a stage in which the metathesis rule was still active. Accordingly, we assume that in some languages this rule was still active at a very late stage, and it seems that in Arabic it even spread further and was not restricted to the case of affixation. Hence we encounter the same phenomenon in all the imperative forms:

**fham* > *ifham*; **kitib* > *iktib*; **sukut* > *uskut* (with a glottal stop added in the initial position).

4. According to both suggestions, we should assume that Barth’s Law reflects an early stage of PS; we thereby account for its absence from Akkadian, especially when we remember that it was this very fact that led Hasselbach to conclude that this law was not active in PS.

Following Hetzron’s principle of archaic heterogeneity,⁷¹ Hasselbach argued that the fact that the different persons in Akkadian have different vowels attests to its retention of the original pattern. However, to my mind this is not such a crucial problem, for we can assume that initially, after the insertion of the vowel, each of the prefixes appeared either with an /a/ vowel or an /i/ vowel, depending on the verb, and that the person was only marked by the consonant. We can further assume a later stage of reanalysis, occurring solely in Akkadian, in which the entire first syllable was perceived as marking the person and each prefix was identified with only one of the vowels. Thereby the information about the person was marked by an entire syllable consisting of a consonant and a vowel (and later in certain persons only by a vowel).

Hasselbach, moreover, in assuming that each prefix attracted a certain vowel, provided a phonetic explanation which may still be used, but now to explain why each prefix was identified with one of the two vowels, either /a/ or /i/. This was probably the case in earlier

70. Brockelmann 1908: vol. 1, 258–59, §96.c, suggested that a similar phenomenon can be found among the Semitic languages in geminate verbs, in the case of 3m pl: **yasubu* > **yasubbû*, and in the Gt-stem as well. Huehnergard 2005b showed that this is a shared feature of Central Semitic. I wish to thank John Huehnergard for bringing these Semitic phenomena to my attention.

71. Hetzron 1973–74: 38.

stages of Arabic as well. Thus, according to Sibawayh, in eastern dialects of Arabic the vowel of the prefixes depended on the thematic vowels, but in the case of the third person the /y/ attracted an /i/ vowel.⁷² This might also be the case in some modern dialects in which the regular vowel of the prefix is /i/, and only the first person has /a/.⁷³

Although one may take these distributions as supporting Hasselbach's argument for archaic heterogeneity, since the development can be explained phonetically, it may alternatively indicate how Hetzron's principle can sometimes be misleading and should be checked carefully in each and every case.⁷⁴

If this suggestion is correct, it means that in the earlier stages of Proto-Akkadian there was more than one form of each prefix, and that the same consonantal element of the prefix was followed sometimes by an /a/ vowel and at other times by an /i/ vowel, depending on the thematic vowel of the verb. This suggestion can be supported by the fact that in the dual form we find both the prefixes /ta/ and /ti/,⁷⁵ and variations of /ta/ and /ti/ for the other persons are found in various dialects of Akkadian.⁷⁶

5. FINAL NOTE

Throughout this paper I have tried to decide between various solutions for different problems. In each and every case, I have done my best to explain why the one I have chosen is preferable or at least plausible. In conclusion I wish to add one final remark: If answers to different questions can be related to each other and thereby provide a larger picture that is both coherent and well structured, this in turn strengthens each of these explanations. At the same time, however, I must admit that aesthetically pleasing pictures can sometimes prove dangerous as well.

APPENDIX: IMPERATIVE OF THE D- AND Š-STEMS IN AKKADIAN

It was mentioned above that throughout the Semitic languages, there is a close relationship between the imperative forms and the preformative conjugation, especially in the derived stems. It has been noticed that in the D- and the Š-stems the conjugation with a prefix is clearly built on the basic forms of the imperative with the addition of that prefix. However, this relationship is not manifested in Akkadian:

	Preterite	Imperative
D	<i>uparris</i>	<i>purris</i>
Dt	<i>uptarris</i>	<i>putarris</i>
Dtn	<i>uptarris</i>	<i>putarris</i>
Š	<i>ušapris</i>	<i>šupris</i>
Št	<i>uštapris</i>	<i>štupris</i>
Štn	<i>uštapris</i>	<i>štupris</i>

It should be remembered that it is commonly stated in the literature that the original base forms of the D- and the Š-stems to which the prefixes were added were *parris* and *šapris*,

72. See Bloch 1967: 24.

73. As in Egyptian Colloquial Arabic (see, for example, Spitta-Bey 1880: 207 and McGuirk 1986: 53), and in some Bedouin dialects as well (see De Jong 2000: 190).

74. It should be noted that Hetzron 1973–74: 39 was himself well aware of this option.

75. See J. and A. Westenholz 1977: 208.

76. See Bonechi 1988: 130–32, who discuss the option of this alternation as evidence for Barth's Law; Westenholz 1978: 165 n. 49; Limet 1975: 48 n. 4. However Hasselbach 2004: 24f., following her main thesis, believes that this is the result of later foreign influence.

respectively,⁷⁷ and that the prefix of the preformative conjugation consisted of the vowel /u/, i.e., /yu-/ (the only option not used in the G-stem). Therefore, if we assume that the situation in the other languages in which there is a close relationship between the imperative and the preformative conjugation reflects the situation in PS as well, how can we explain the forms of the imperative in the D- and the Š-stem in Akkadian?

If we accept the explanation put forth above regarding the original forms of the G-stem and assume that this was also the case in Proto-Akkadian, we can adduce an analogy that accounts for the Akkadian forms. According to our suggestion, the forms of the imperative and the preformative conjugation in the G-stem were the following:

Preformative Conjugation	Imperative
*yaprus	*parus
*yapris	*paris
*yipras	*piras

In all of these pairs, the vowel of the prefix and the vowel after the first consonant in the imperative forms are identical. Thus, the following analogy:⁷⁸

yaprus : *parus* :: *yuparris* : *X = purris*

The same analogy can be proposed for the other stems as well. If this proposal is correct, then my suggestion regarding the original forms of the preformative conjugation and the imperative has the additional advantage of being able to account for yet another phenomenon in the verbal system.

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77. See Huehnergard 1992: 227.

78. For a similar kind of analogy, see Huehnergard 1992: 227.

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