

Demorphologization and remorphologization

The loss of an imperfective prefix except as a placeholder of stress, the last vestige of a negation marker in Hewramî

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The negation marker in Hewramî, *mé-*, originated as a marker of imperfective aspect. A series of regular sound changes setting Hewramî apart from its closely related sisters caused the demorphologization of the original prefix. The subsequent morphologization of stress accent caused the imperfective prefix, fully retained only in the context of negation, to be reinterpreted as a marker of negation. In this article, we explore these developments in comparison with closely related varieties that have preserved every stage in the process.

Keywords: Gorani, phonological change, morphologization, demorphologization, Cheshirization

1. Introduction

The Hewramî prefix *mé-* expresses the negative of indicative and is identical to the prohibitive prefix *mé-*. In earlier descriptions of Hewramî grammar (e.g., Christensen & Benedictsen 1921, MacKenzie 1966:11), the similarity between these prefixes has been assumed to be an analogical extension from the inherited prohibitive to the negative of indicative. In this article, we challenge this assumption and show, based on a detailed comparative study of Goranî varieties, that the negative indicative prefix *mé-* in core Hewramî dialects developed through regular sound changes from the original indicative prefix *me-*, when preceded by the negation marker *ní-*. The prefix *mé-* came to be a carrier of stress, the last remnant of the negative prefix *ní-*: *ní-me* > *ní-mé* > *n-mé* > *mé-*.

We provide a novel historical account of two intertwined developments in the grammar of Hewramî: (1) the development from a system with predictable stress placement to a language with phonemic stress and (2) the shift from a marker of imperfective aspect to a negation marker. The reason this development was not identified in past work (i.e., by Christensen & Benedictsén 1921 and MacKenzie 1966) is because the ultimate form of the negative prefix *mé-* is identical with the inherited form of the prohibitive prefix *mé-*. A holistic look at sound change in Hewramî makes it clear that the merger is simply the result of regular sound change. However, there are some verbs that did not provide the conditioning environment for the change. In those cases, it was the negative indicative that was analogically extended to the prohibitive (not the reverse; see Section 5.3). In this article, we demonstrate that these two developments resulted from regular sound changes as part of a process of demorphologization and morphologization. This article presents a detailed reconstruction of these two developments. However, we aim to make the broader point that historical happenstance can result in unanticipated morphological developments. A marker of imperfective aspect becoming a marker of negation seems odd at first glance, but this is no stranger than the French *pas* ‘step’ becoming a marker of negation, given what we know about Jespersen’s cycle. Without knowing anything else about the diachrony of Hewramî, one would be tempted to find a semantic justification. Likewise, without knowing anything else about the diachrony of Hewramî, one might, as did Christensen & Benedictsén (1921), look for an analogical source for the innovative negation marker *mé-*.

Hewramî is a member of the Gorani subbranch of the Iranian languages (Indo-European: Iranian: Central Iranian: Northwestern Iranian: (Adharic:) Gorani: Hewramî).¹ It is spoken in the heart of the broader Kurdish-speaking parts of Iran and Iraq. See Figure 1 where the green sections represent Gorani-speaking islands within the shaded Kurdish-speaking areas. It has long been hypothesized that these languages have influenced each other, even as a much larger Gorani-speaking area gave way to Kurdish over time (for more on this, see MacKenzie 1961, Leezenberg 1992, Mohammadirad 2026).

Among the many varieties of the Gorani subbranch of Iranian, the vast majority have a system where stress placement is predictable in ways that should be familiar to all scholars of Iranian languages (see Section 4 for more). The varieties with this type of system include Zerdyane, Şebekî, Rojbeyanî Hewlêr, Bîşkan,

1. Here, we do not address debates about the status of Gorani as a Kurdish language. Regardless of where one stands on that debate, it is clear that Gorani varieties, including Hewramî, are more closely related to each other than to the rest of Kurdish. Thus that debate is beyond the scope of this article.

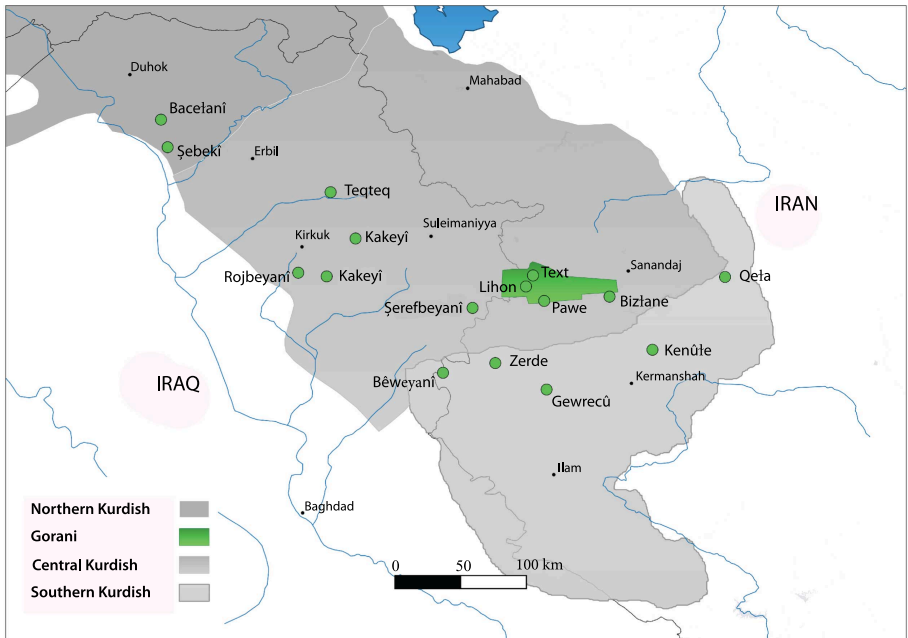


Figure 1. Distribution of Gorani

Bêwenîjî, Gehwareî, Kakeî, Seyyidî, Rêjawî, Gewrecû, and Kenûle, etc. This is the most common system observed and can therefore be reconstructed for Proto-Gorani. Note that we make no claims about how conservative these varieties are. On the contrary, many of these varieties are more innovative in terms of the loss of case, number, gender, and deictic distinctions than the languages of the Hewramî core, which MacKenzie (1966) deemed “probably the most archaic and best preserved of the group” (MacKenzie 1966: 4). We do not generally disagree with MacKenzie’s (1966) claim except to say that, in the case of verbal affixes, Hewramî has clearly innovated. This is justified by the fact that class membership – whether or not a verb takes prefixes – is phonologically determined. This suggests a universal placement that was disrupted by regular sound changes.

This article is structured thus: Section 2 provides an overview of the methods we employ. In Section 3, we present a short preview of the changes we propose to be justified in subsequent sections. In Section 4, we justify our reconstruction of Proto-Gorani verbal formatives, which is the starting point for all subsequent changes. In Section 5, we make a case for the development of the system in Hewramî based on a phonological analysis of the systems of various Gorani varieties. Finally, in Section 6, we discuss how these developments can give us insight into similar developments across the world’s languages.

2. Methodology

In this article, we examine various verb forms belonging to what we refer to in Table 4 as verb Classes (1)–(4): (1) voiceless consonant-initial CVC stems, (2) single-consonant stems (C-) and double consonant initial stems (CCV(C)-), and (3) low vowel-initial VC stems. These are not the only verb types, but they are the most relevant to the current discussion. We then show how these forms evolved from Proto-Gorani to modern spoken Hewramî varieties. Our reconstruction of Proto-Gorani verbal morphology is based on the Neo-Grammarian comparative method. We compare the verbal morphology of all Gorani varieties for which data is available and reconstruct the original forms based on the heuristics of naturalness, majority rule, economy, and shared features. The two most important of these heuristics for the current discussion are majority rule and economy. Essentially, the form that occurs in the most sub-groups is more likely to be the original form, and, wherever possible, it is better to propose fewer changes (for more on the comparative method, see Campbell 2013: 112–118).

Regular, independently attested sound changes are sufficient to explain all developments from Proto-Gorani forms onwards. Some of these occurred early in the history of Gorani and affected most varieties. More changes took place in the mountainous Hewreman region, setting Hewramî apart from other Gorani varieties. To illustrate this point, we employ waveform and spectrograms produced in PRAAT, showing the difference between cognate forms in varieties with and without each additional sound change. Essentially, every stage in the development we propose is preserved in at least one Gorani variety.

The data for Gorani varieties come from recordings collected as part of the ERC-funded “ALHOME: Echoes of Vanishing Voices in the Mountains: A Linguistic History of Minorities in the Near East” project. These recordings were collected in a survey to study phonological, morphosyntactic, and lexical variation across dialects of Kurdish and Gorani.²

The entire analysis here is based on comparative evidence from modern Gorani/Hewramî varieties, using the Neo-Grammarian-inspired comparative method (see Campbell 2013, Hock 2021). This is a departure from what is typically the case in Iranian historical linguistics, where attested forms in Old or Middle Iranian are compared with modern varieties, and the differences are the basis for limited commentary. In this article, we begin from targeted reconstruction of Gorani/Hewramî cognate forms across the subfamily. From that step, only well-documented phonological changes are necessary to account for all the attested

2. The data for the Qela variety comes from the recordings that (Mohammadirad 2020) collected for his study of pronominal clitics in West Iranian languages.

forms in the daughter languages. Furthermore, each stage in this process is preserved in retention zones spanning outward in concentric circles from the Hewramî core, which could be described as archaism of the periphery. Note that this runs against the claims of non-linguistic work on Hewramî, assuming that complexity in the varieties of the Hewramî core is synonymous with archaism. As is commonly known among historical linguists, each variety has a combination of innovations and retentions. Any variety, no matter how innovative, can preserve aspects of the proto-language. Additionally, we reject the use of Old and Middle Iranian as an exemplar for what these varieties would have been like in the Middle Iranian period. It is well established that none of the extant Old and Middle Iranian languages are the ancestor of any Gorani/Hewramî variety. Reliance on Old and Middle Iranian can only give a misleading and erroneous view of proto-Gorani.

3. Summary of proposals

Here, we present the proposals we justify in the following sections. In this article, we focus only on the Hewramî present-tense forms. As such, a full description of the verbal system is not discussed here.

We reconstruct the present tense forms of proto-Gorani as the *Proto-Gorani row in Table 1, based on historical linguistic heuristics traditionally used in phonological reconstruction but applicable here, including, e.g., majority wins and economy (see Campbell 2013). The present-tense stem has the following:

- an indicative prefix **me-* that originally conveyed a progressive meaning

We assume the existence of the marker **me-* due to the heuristic of majority wins. The vast majority of Gorani varieties have the prefix *me-* to this day. This includes varieties across the Gorani world both within the Hewramî-speaking area (e.g., Pawe), the old historical center of the Gorani region (e.g., Kenûle, Zerde, etc.), and as far as northern Iraq (e.g., Şebekî, Sarlî, Maço, etc.). Furthermore, all varieties have preserved some form of the prefix in favorable phonological contexts, i.e., before vowel-initial roots or in closed syllables (e.g., Luhon: *m-aro* ‘she brings’ *mir:fa.no* ‘s/he abducts’).

Additionally, we can also confidently reconstruct the prefix **me-* based on economy. Essentially, the heuristic of economy states that whichever development requires the fewest postulated claims is likely correct. In this article, we show that

only regular sound changes, robustly attested in other parts of the grammar, give you all the extant forms in modern Hewramî varieties, starting from **me-*.³

MacKenzie (1966: 32) stated that “the factors which condition which verbs do and which verbs do not take the prefix are not evident.” However, he concedes that there is a phonological component.

- a negative prefix **ní-* was added to this when negated.

Just like **me-*, we assume the existence of the marker **ní-* due to the heuristic of majority wins. The vast majority of Gorani varieties have the prefix *ní-* to this day. Furthermore, all varieties have preserved some form of the prefix in favorable phonological contexts, i.e., before the imperfective marker on vowel-initial roots (e.g., Luhon: *ni-máro* ‘she doesn’t bring’).

Additionally, we can also confidently reconstruct the prefix **ní-* based on economy. Only regular sound changes, robustly attested in other parts of the grammar, give you all the current forms in modern Hewramî varieties, starting from **ní-*.

- a subjunctive/imperative prefix **bí-*

Just like **me-* and **ní-*, we assume the existence of the marker **bí-* due to the heuristic of majority wins. The vast majority of Gorani varieties have the prefix *bí-* to this day. Furthermore, all varieties have preserved some form of the prefix in favorable phonological contexts, i.e., before vowel-initial roots or in closed syllables (e.g., Luhon: *b-áro* ‘she brings’ *mír.fa.no* ‘s/he abducts’).

Additionally, we can also confidently reconstruct the prefix **bí-* based on economy. Only regular sound changes, robustly attested in other parts of the grammar, result in all the forms in modern Hewramî varieties, starting from **bí-*.

3. Note that there are verbs in Luhon and Text, such as *ker-* (‘do’) and *wín-* (‘see’), and *ber-* (‘take’) that never take any form of the prefixes *mí-* (< **me-*) or *bí-*. These forms must have also had the prefix **me-* and **bí-* historically, as their absence is phonologically conditioned. Mohammadirad & Karim (2025) have worked out the precise conditioning environments for this loss despite their eluding MacKenzie (1966: 32), e.g., the preservation of *mí-* before *mi-sano* ‘s/he takes’ and not *soço* ‘s/he burns (intr.)’. The former is etymologically a consonant cluster, e.g., **stan-*, cf. Şebekî *me-stano* ‘s/he takes’. The **st* cluster is reduced to *s* through regular sound changes, e.g., *Kurdisan* < **Kurdistan* and *desûr* < **destûr* ‘order’. Note that, given **me-* as a starting point, all of the modern forms are produced without having to propose any new sound changes. Given the opposite, reconstructing no prefix, one must postulate a rule such as speakers decided to use an innovative prefix only with verbs that consist of closed syllables or ones with complex onsets CVC/CCVC. They should not apply this rule to CVC roots when the initial consonant is voiceless. There is no attested instance of a syntactic/morphological rule that requires speakers to have that level of phonological awareness in any language.

- a negative subjunctive **né-*
This is still the case in all varieties.
- a prohibitive marker **mé-*
This is still the case in all varieties.

We assume this pattern for the earliest stage in Gorani as it is both the most common pattern across Gorani varieties (e.g., in Zerde, Paweyane, Şebekî, Bacełanî, Maço, Zengene, etc.) and the most common pattern across Western Iranian in general. In Table 1, we show examples from various Western Iranian languages, including Gorani Zerde, Early New Persian, Laki, and Eshtehardi Tati.

Table 1. Verbal inflectional morphology in the present tense of selected Iranian languages

*Proto-Gorani	<i>*me-ker-í</i>	<i>*ní-me-ker-î</i>	<i>*bí-ker-î</i>	<i>*né-ker-î</i>	<i>*mé-ker-e</i>
Zerde	<i>me-ker-î</i>	<i>ní-me-ker-î</i>	<i>bí-ker-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
Persian	<i>mi-kon-í</i>	<i>né-mi-kon-i</i>	<i>bé-kon-i</i>	<i>ná-kon-i</i>	<i>má-kon-Ø</i>
Laki	<i>me-ke-yn</i>	<i>ní-me-ke-yn</i>	<i>bí-ke-yn</i>	<i>né-ke-yn</i>	<i>mé-ke-Ø</i>
Eshtehardi	<i>me-kar-iš</i>	<i>né-mi-kar-iš</i>	<i>bé-kar-āš</i>	<i>né-kar-āš</i>	<i>má-ka</i>
	[IND-dō-2SG]	[NEG-IND-dō-2SG]	[SBJV-dō-2SG]	[NEG.SBJV-dō-2SG]	[PROH-dō-2SG]

From the Proto-Gorani stage, there are several regular, independently attested sound changes that resulted in the loss of some negative, indicative, and subjunctive prefixes. These are outlined in Table 2 and justified in later sections. The innovations at each stage are marked in boldface. Stage 1 represents Proto-Gorani, and the forms provided show the results with several root shapes $C_{[-V]}VC$ (represented in Table 2 by *ker-* ‘do’), VC (*ar-* ‘bring’), C (*l-* ‘go’), and $CCVC$ (**nvîs-* ‘write’). Note that we employ the * to mark reconstructions or things not attested in the modern core Hewramî varieties (e.g., Text and Luhon); forms in italics are attested in one or more of these varieties. This distinction is relevant because all stages proposed here are synchronically attested in some variety. In this sense, our proposals are less reconstructions than descriptive facts for many other varieties or stages of the language. For instance, the analogical extension of the negative indicative *ni-m-* to the prohibitive happened in Hewramî sometime between when Christensen & Benedictsén (1921) and MacKenzie (1966) were writing about it.

In stage 2, the stress shifts from the subjunctive marker to the stem vowel of CVC roots beginning with voiceless consonants. This shift happens in many

Table 2. Preview of proposed changes

stage	IND	NEG.IND	SUB	NEG.SUB	PROH
Stage 1	<i>*me-ker-í</i>	<i>*ní-me-ker-î</i>	<i>*bí-ker-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
	<i>m-ar-í</i>	<i>ní-m-ar-î</i>	<i>b-ár-î</i>	<i>n-ár-î</i>	<i>*m(e)-ár-e</i>
	<i>*me-l-í</i>	<i>*ní-me-l-î</i>	<i>bí-l-î</i>	<i>né-l-î</i>	<i>mé-l-o</i>
	<i>*me-nvîs-í</i>	<i>*ní-me-nvîs-î</i>	<i>bí-nvîs-î</i>	<i>né-nvîs-î</i>	<i>mé-nvîs-e</i>
Stage 2	<i>*me-ker-í</i>	<i>*ní-me-ker-î</i>	<i>*b(i)-kér-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
	<i>m-ar-í</i>	<i>ní-m-ar-î</i>	<i>b-ár-î</i>	<i>n-ár-î</i>	<i>*m-ár-e</i>
	<i>*me-l-í</i>	<i>*ní-me-l-î</i>	<i>bí-l-î</i>	<i>né-l-î</i>	<i>mé-l-o</i>
	<i>*me-nvîs-í</i>	<i>*ní-me-nvîs-î</i>	<i>bí-nvîs-î</i>	<i>né-nvîs-î</i>	<i>mé-nvîs-e</i>
Stage 3	<i>*m(i)-ker-í</i>	<i>*ní-me-ker-î</i>	<i>*p-kér-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
	<i>m-ar-í</i>	<i>ní-m-ar-î</i>	<i>b-ár-î</i>	<i>n-ár-î</i>	<i>*m-ár-e</i>
	<i>m(i)-l-í</i>	<i>*ní-me-l-î</i>	<i>bí-l-î</i>	<i>né-l-î</i>	<i>mé-l-o</i>
	<i>mi-nvîs-í</i>	<i>*ní-me-nvîs-î</i>	<i>bí-nvîs-î</i>	<i>né-nvîs-î</i>	<i>mé-nvîs-e</i>
Stage 4	<i>*m-ker-í</i>	<i>*n-mé-ker-î</i>	<i>*b(i)-kér-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
	<i>m-ar-í</i>	<i>ní-m-ar-î</i>	<i>b-ár-î</i>	<i>n-ár-î</i>	<i>*m-ár-e</i>
	<i>mi-l-í</i>	<i>*n-mé-l-î</i>	<i>bí-l-î</i>	<i>né-l-î</i>	<i>mé-l-o</i>
	<i>mi-nvîs-í</i>	<i>*n-mé-nvîs-î</i>	<i>bí-nvîs-î</i>	<i>né-nvîs-î</i>	<i>mé-nvîs-e</i>
Stage 5	<i>ker-í</i>	<i>mé-ker-î</i>	<i>kér-î</i>	<i>né-ker-î</i>	<i>mé-ker-e</i>
	<i>m-ar-í</i>	<i>ní-mar-î</i>	<i>b-ár-î</i>	<i>*n-ár-î</i>	<i>*m-ár-e</i>
	<i>mi-l-í</i>	<i>mé-l-î</i>	<i>bí-l-î</i>	<i>né-l-î</i>	<i>mé-l-o</i>
	<i>mi-nvîs-í</i>	<i>mé-nvîs-î</i>	<i>bí-nvîs-î</i>	<i>né-nvîs-î</i>	<i>mé-nvîs-e</i>
Analogy	<i>m-ar-í</i>	<i>ni-m-ár-î</i>	<i>b-ár-î</i>	<i>n-ár-î</i>	<i>ni-m-ár-e</i>

Gorani varieties that do not go through any other stages. Therefore, we assume that this was the first change that took place.

In Stage 3, there is a pretonic reduction of the vowel *e* to *i*, causing the imperfective prefix **me-* to become *m(i)-* when the final syllable is stressed, but not when preceded by the stressed negative prefix **ní-*. This is a regular sound change that affects all inherited (non-loan) words in the language.

In Stage 4, the stress shifts from the negative prefix onto the following syllable, just as happened with the subjunctive in Stage 2.

In Stage 5, the resulting initial consonant clusters are deleted.

Note that the stress shifts that occurred in Stages 2 and 4 have similar effects but occur in different phonological environments, i.e., Stage 2 between *b* and a voiceless consonant and Stage 4 between *n* and *m*.

There are two interesting developments of these processes from a historical linguistics perspective: (1) the genesis of phonemic stress accent; the forms of the indicative and subjunctive are only distinguished by stress, and (2) demorphologization; the imperfective/indicative marker **me-* has lost its association with the imperfective/indicative, effectively only remaining as a placeholder for stress, the last remaining vestige of the original negation marker in the negative indicative.

An additional point of potential interest to the Iranist is that the merger of NEG.IND and PROH is a phonologically conditioned one. This affected all roots except for the low-vowel-initial ones like *ar-* ‘bring’ which preserved the original *ní-* negation marker. At the time of Christensen & Benedictsens’s (1921) study, NEG.IND- *mé-* equaled PROH- for all roots except for the three low vowel-initial roots. By the time of MacKenzie’s (1966) study, the NEG.IND- *ni-m-* was extended to PROH- in these roots by analogy.

4. Stage 1: The reconstruction of Proto-Gorani verbal morphology

We propose that stress shift and regular phonological changes caused the indicative/imperfective marker to become a negative marker, only surviving as a placeholder for the stress of the former negative marker. This proposal rests on the foundation that Proto-Gorani, the ancestor of Hewramî, had the indicative prefix **me-*, the negative prefix **ní-*, and the subjunctive prefix **bí-*. These prefixes were originally used with all verbs. Stems with different phonological patterns created different conditioning environments for various regular sound changes. This is justified for two reasons:

- (1) These prefixes are synchronically attested in all varieties with some verbs and in most varieties with all verbs. In the comparative method, one of the four heuristics used to decide whether or not to reconstruct a form in a protolanguage is the majority rule. The form that occurs in most varieties is most likely the proto form unless there is a compelling reason why it cannot be. This is also supported by the heuristic of economy, which assumes the fewest independent changes. Additionally, the heuristic of naturalness states that some changes are more likely to occur than others. For instance, the subjunctive prefixes in Table 3 occur variably as *bí-* and *p-*. Retrogressive voicing assimilation is likely to devoice **b* to *p* in the context of the following *s*, not the opposite. In the following section, we discuss the regular phonological changes that lead to lenition and deletion and are more natural than assuming the opposite.

(2) The factors that condition the occurrence of the prefixes in the Hewramî varieties Text and Luhon are purely phonetic. It has long been thought that the core Hewramî varieties Text and Luhon are probably “the most archaic and best preserved” (MacKenzie 1966: 4). We largely agree with MacKenzie’s assertion, with the caveat that highly conservative varieties can be innovative in some ways that less conservative varieties are not. Often discussed among Iranists but never published is the idea that Hewramî (Text and Luhon) has preserved an older pattern where these prefixes are only used with some verbs. However, this assertion has no basis in comparative historical linguistics. There are languages, like New Persian, where the cognate prefix *mī-* is used with most verbs but never with *dar-* ‘have’. This is the logical result of a semantic clash between the original progressive meaning of the prefix, which never would be used with ‘have,’ i.e., **I am having*. In contrast, the factors that condition the presence or absence of the prefix in Hewramî are purely phonetic. This points to a once wider distribution that changed due to regular independently attested phonological changes.

Table 3. Verbal inflectional morphology in the present tense of Gorani varieties

Language	IND-buy-2SG	NEG.IND-buy-2SG	SUB-buy-2SG	NEG.SUB-buy-2SG	PROH-buy-2SG
Şebekî	<i>me-stan-î</i>	<i>nî-me-stan-î</i>	<i>bî-stan-î</i>	<i>né-stan-î</i>	<i>né-stan-e</i>
Zerde	<i>me-sen-î</i>	<i>nî-me-sen-î</i>	<i>bî-sen-î</i>	<i>né-sen-î</i>	<i>mé-sen-e</i>
Pawe	<i>me-san-î</i>	<i>nî-mé-san-î</i>	<i>p-sân-î</i>	<i>né-san-î</i>	<i>né-san-e</i>
Gewrecû	<i>me-san-î</i>	<i>nî-me-san-î</i>	<i>bî-san-î</i>	<i>né-san-î</i>	<i>mé-san-e</i>
Kenûte	<i>me-san-î</i>	<i>nî-mé-san-î</i>	<i>bi-sân-î</i>	<i>né-san-î</i>	<i>mé-san-e</i>
Qela	<i>mi-san-î</i>	<i>nî-m-san-î</i>	<i>bî-san-î</i>	<i>né-san-î</i>	<i>mé-san-e</i>
Bizlane	<i>mi-son-î</i>	<i>n-mé-son-î</i>	<i>p-són-î</i>	<i>né-son-î</i>	<i>mé-son-e</i>
Text	<i>mi-san-î</i>	<i>mé-san-î</i>	<i>p-sân-î</i>	<i>né-san-î</i>	<i>mé-san-e</i>
Luhon	<i>mi-san-î</i>	<i>mé-san-î</i>	<i>p-sân-î</i>	<i>né-san-î</i>	<i>mé-san-e</i>
*Proto-Gorani	<i>*me-stan-î</i>	<i>*nî-me-stan-î</i>	<i>*bî-stan-î</i>	<i>*né-stan-î</i>	<i>*mé-stan-e</i>

In Table 3, we show the synchronically attested forms of the verb **stan-* in nine Gorani varieties, including the Hewramî of Text and Luhon. Despite each of these varieties going through their own idiosyncratic developments (e.g., NEG.SBJ *né-* replacing the PROH in Şebekî and Pawe),⁴ all nine of them show a reflex of

4. Note that the merger of NEG.SUB and PROH is common across Iranian languages, including colloquial New Persian and Southern Kurdish. This is the logical result of a four-part analogy *bî-* [SUB] : *bî-* [IMP] :: *né-* [NEG.SUB] : X [PROH-] (i.e., NEG.IMP), where the answer is *né-* (not *mé-*).

imperfective/indicative **me-*, subjunctive **bí-*, and seven of them show a reflex of **ni-*. These facts led us to reconstruct the Proto-Gorani forms as they appear in the table.

It is generally accepted that the indicative/imperfective prefix *m(i)-* in Hewramî is a reflex of the Old Iranian formative **ham* ‘same,’ although the specifics have yet to be established. A similar prefix is found in New Persian, i.e., *mī-*. According to (Windfuhr 2009: 25–26), the Persian form originates from Old Iranian **hama-aiwa-* ‘same duration, time.’ In early New Persian, it began to be used to mark events in progress and continuing states. Eventually, it was generalized to the entire imperfective domain. This is a process known as the progressive to imperfective cycle following Deo (2015). The emergent progressive form eventually becomes a generalized imperfective. This process has occurred in languages across the world. Of course, we do not intend to suggest that the Hewramî forms are borrowings from Persian;⁵ the vowel quality of a hypothetical borrowed Persian form would be *-î* (or *ê* depending on the time period). The Gorani/Hewramî forms *me-/m(i)-* neither reflect possible borrowing nor a reflex of **ham-aiwa*, i.e.,

5. The majority of contact for Hewramî and Gorani varieties are Northern, Central, and Southern Kurdish, which do not have the prefix **me-* but rather **de-* and are thus not a likely source of borrowing. The neighboring Laki language has a similar prefix, the disjoint *=e me-*. However, Laki is not a contact language in the majority of the Gorani area, and thus not a likely source of borrowing. Minorsky (1943) cites the Egyptian scholar Shihab al-Din al-'Omari's (744/1343) table of Kurdish tribes according to the contemporary sources placing Gūrān people in the mountains between Hamadan and Şarazûr, centered around Dereteng (the current heart of the Gorani speaking zone, between Zerde and Bêweyanî). Hamadan is mentioned here to serve as a renowned geographical landmark, allowing the reader to locate the region on the world map. The Gūrān are in the mountains between Hamadan and Şarezûr, not in Hamadan city proper. Of course, there were Laks and Persians in parts of Hamadan in 1343. However, contact at the furthest Gorani periphery is not a likely source for developments shared by all Gorani varieties, i.e., elements that must have been part of a common or proto-Gorani. Later, Minorsky cites Ibn al-Athir who refers to the city of Jowraqan (north of Hamadan) as Gūrānān. This is apparent evidence for Gūrān people in Hamadan province. However, he also states that Yaqit (623/1225) misspells Jawraqan as jūzāqān, showing that there are several names for the area, but there is no linguistic evidence tied to this assertion. Of course, he begins his article saying, “Outside the circle of a few professional scholars, it is still a very little known fact that on the south-eastern and southern edge of the Kurdish territory there exists a considerable area occupied by a people of a different origin and whose speech is Iranian but non-Kurdish. For simplicity's sake, this population can be called Gūrān”; in other words, Minorsky is using the term to refer to any non-Kurdish, non-Persian Iranian group in the area. As such, no conclusions about the location of Gorani speakers can be made in good faith. The current location of Gorani/Hewramî villages, as well as the linguistic evidence, point against Minorsky's assertion. As a further note, the current authors caution against using non-linguistic evidence in linguistic reconstruction, because, as Minorsky concedes, the term Gūrān has many different meanings.

**mêw-*. The precise origin of the formative is only of tangential significance to the current article.⁶ What's important is that we begin from Proto-Gorani **me-*.

Table 4. Luhon: 2SG: IND, SBJ, IMP, PRH (MacKenzie 1966: 37–38)

		IND	SBJ	IMP/PRH
1	<i>kerdey</i> ‘do’	AFF	<i>ker-î</i>	<i>kér-î</i>
		NEG	<i>mé-ker-î</i>	<i>né-ker-î</i>
2	<i>day</i> ‘give’	AFF	<i>mi-ðe-î</i>	<i>bi-ðé-î</i>
		NEG	<i>mé-ðe-î</i>	<i>mé-ð-e</i>
2	(e) <i>nvîsey</i> ‘write’	AFF	<i>mi-nvîs-î</i>	<i>bí-nvîs-î</i>
		NEG	<i>mé-nvîs-î</i>	<i>mé-nvîs-e</i>
3	<i>awirdey</i> ‘bring’	AFF	<i>m-ar-î</i>	<i>b-ár-î</i>
		NEG	<i>ni-m-ár-î</i>	<i>ni-m-ár-e</i>

The subsequent sound changes that took place in each variety affected the verbal prefixes differently in different conditioning environments, creating different conjugation classes as illustrated in Table 4. The verb *ker-* ‘do/make’ belongs to the most common class of verbs within Hewramî. However, about 10% of verbs belong to different conjugation classes summarized in Table 4. Here, the *ker-* class is labeled (1). Class (2) contains verbs with the structure C(y)(V)- and CCV(C)- with the exception of *b-* ‘be’. In class (2) the negative forms are essentially the same. However, the affirmative forms feature prefixes *m(i)-* [IND/IPFV-] and *bi-* [SUB/IMP-] in addition to the stress shift. Class (3) features verbs that begin with low vowels. Here, the indicative/imperfective, subjunctive/imperative, negative/prohibitive, and negative prefixes *m(i)-*, *b(i)-*, *mé-*, and *né-* merge with the following vowel-initial stem. In addition to these mergers, the negative and prohibitive forms have an additional negation marker *ni-* that distinguishes these prefixes from the indicative/imperfective *m(i)-* in addition to stress shift. These three

6. One possible etymology follows similar independent developments in Sogdian. The preverbal formative **ham* occurred in the Middle Iranian Sogdian language where the combination of *ham* ‘same’ and the imperfective augment *a-* became *ma-* (see Windfuhr 2009: 26 and Yoshida 2009: 296). This is also the case for the Khwarezmian “pre-vocalic imperfective marker *m(a)-* < **ham* + augment **a-*” (Windfuhr 2009: 26). The augment demorphologized just as it did in Greek, only surviving as phonological bulk on the preverb. Based on the quality of the vowel following *m-* in Gorani varieties, *i* or *e*, **ham* (probably with the augment **a*, as in Sogdian), not **ham-aiwa* as in Persian make a better candidate for the etymon of Gorani *me-*. Note we do not assume any close relationship between Sogdian and Hewramî; they are two varieties cooking with the same ingredients.

classes are the main ones. However, there are some verbs that begin with high vowels that behave like vowel-initial verbs in the affirmative and like consonant-initial verbs in the negative, which are not included here for simplicity.

In the following section, we show how each of these classes developed through regular sound changes. The developments can be confirmed, as each stage in the development has been preserved in at least one synchronically attested variety.

5. Sound change

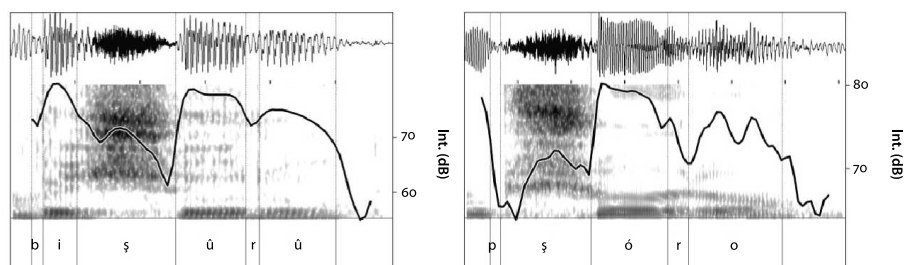
It can be said that Iranian languages generally feature stress on the final syllable of verbs. This is disrupted by stress-attracting prefixes, including the negative, prohibitive, and subjunctive/imperative markers. This pattern occurs in Kurdish, Persian, Balochi, Tati, and many others, including, crucially, Proto-Gorani. Hewramî represents a departure from this system. We have identified several clues as to the reason for these changes. In the following sections, we elaborate on the stages outlined in Section 3, using comparative data from several Gorani varieties. We show that the majority of Gorani has not changed this aspect of the verbal system. As one travels deeper into the Hewreman region, one can observe that more of the changes have taken place.

5.1 Stage 2: The subjunctive stress shift (*bíCV* > *biCý*)

The first change that can be found in Hewramî varieties and among the Gorani varieties on the Hewramî periphery is the stress shift from the *bí-* prefix to the stem *bíCV* > *biCý*). These varieties are Pawe (G), Kenûle (G), Bizlane (H), Text (H), and Luhon (H). This change preceded the shortening of the *i* vowel before disyllabic verbs beginning with a single consonant. For example, **bíşoro* ‘(that) s/he washes’ would become **bşóro*, ultimately with devoicing to *pşóro*. This is illustrated in Figure 2, where the form from the Gorani variety of Zerde (Figure 2a) maintains the inherited system with stress on the subjunctive prefix *bí*.⁷ In contrast, the variety spoken in Pawe (G) (Figure 2b) shows a complete reduction of the vowel and a stress shift to the stem *şór-*. The shift of stress of the first syllable only ever occurs with the short vowel *i*. Note that the variety of Pawe (G) is

7. Note that the amplitude on the syllable *şú* is only slightly lower than the amplitude on *bí*. In addition to amplitude, vowel length is a correlate of stress, which remains in Zerde and not in the Pawe example.

not particularly innovative in this regard, suggesting that this change was early enough to be shared with both Gorani and Hewramî varieties.

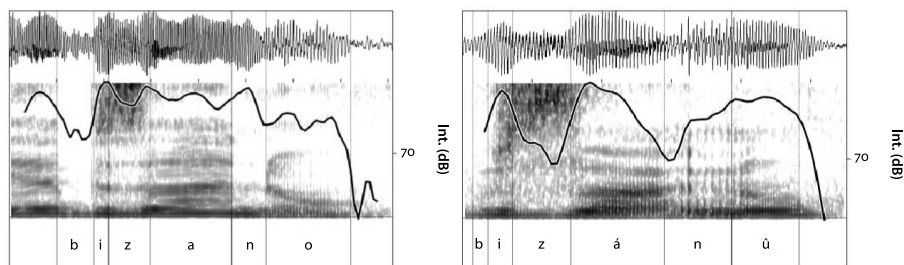


a. Zerde: SBJ '(that) s/he wash'

b. Pawe: SBJ '(that) s/he wash'

Figure 2. The initial subjunctive stress shift

This stress shift first took place with stems beginning with single voiceless consonants and voiced and voiceless stops. Subsequently, the stress shift spread to those beginning with single voiced fricatives. This is illustrated in Figure 3, which shows the verb *zan-* 'know' in the variety of Pawe next to Hewramî Luhon. Note that Pawe, which features the stress shift before voiceless consonants like in Figure 2b, does not feature the stress shift before the voiced fricative in *bízano* in Figure 3a. However, in the core Hewramî variety of Luhon, the stress shifts from the prefix *bi-* to the stem *zán-*, as shown in Figure 3b.



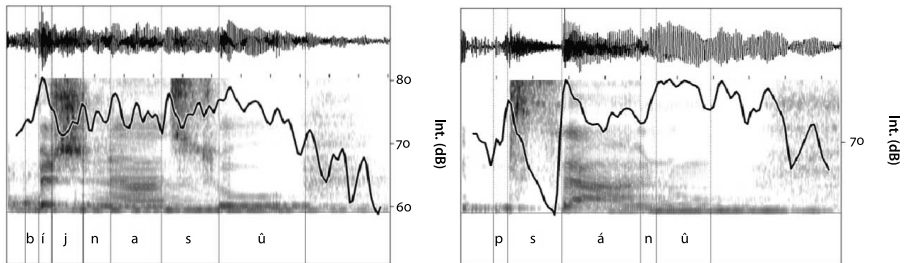
a. Pawe: SBJ '(that) s/he know'

b. Luhon: SBJ '(that) I know'

Figure 3. The initial subjunctive stress shift

Verbs that begin with consonant clusters like *(e)rfanay* 'to steal' and *(e)jnasay* 'to know (someone)' do not undergo stress shift. Additionally, they receive a prothetic *e-* when not preceded by any prefixes in the variety of Luhon. Although cluster-initial verbs do not shift the stress from the prefix to the stem, there are certain stems *esanay* 'to buy,' *eseřyey* 'to wipe,' etc. that show the remnants of their cluster initial etyma, e.g., *esanay* 'to buy' < **staHn* (Cheung 2006: 361). These

verbs have undergone a subsequent stress shift onto the stem clearly after the independently attested sound change **st > s*. In Figure 4, we show the subjunctive of *jnas-* ‘know’ with stress on the prefix *bí-* compared with the subjunctive of *san-* ‘buy’ with stress shifted to the stem (Figure 4b).



a. Text: SBJ ‘(that) I know’

b. Text: SBJ ‘(that) I buy’

Figure 4. The third subjunctive stress shift

All the Hewramî varieties have gone through this stress shift with some, but not all, roots. In contrast, only the Gorani varieties closest geographically to Hewramî have shifted stress. The rest preserve the stress on the subjunctive *bí-* in all environments. The Gorani variety of Pawe, for instance, maintains stress on the prefix *bí-* in all environments except before the stems beginning with voiceless consonants. On these stems, the prefix vowel is lost, and the **b* devoices to *p*, shifting its stress to the following vowel.

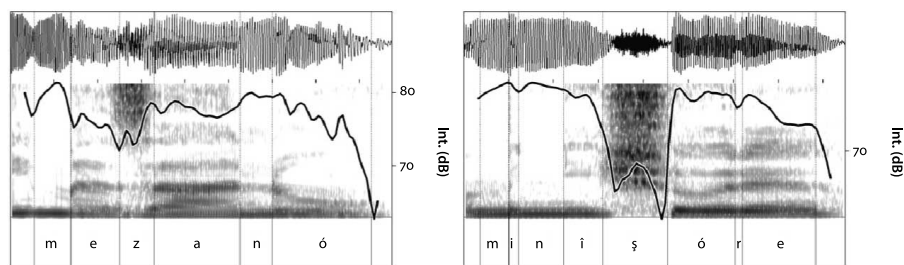
The Hewramî varieties of Luhon and Text feature the reduction of the vowel and stress shift on the verb, except with verbs beginning with consonant clusters. In the Hewramî varieties of Text, Luhon, and Bizlâne, the initial *bí-* prefix is usually lost (see Section 5.3). An exception to this rule is when the word begins with a consonant cluster that can block the vowel reduction and subsequent loss of the consonant. However, the recent reduction of certain stem-initial consonant clusters created verbs that newly met the conditioning environment for the stress shift, demarcating three waves of shifts. In summary, the varieties of Text, Luhon, Bizlâne, and Pawe have undergone the same stress shift from the subjunctive prefix to the stem, separating them from the rest of Gorani, represented here by the variety of Zerde (although Zerde is not alone in this regard).

5.2 Stage 3: Pretonic shortening (*me > m(i) / _C(VC)ý*)

The next relevant development is pretonic reduction. In Hewramî, as well as many other local languages (e.g., Southern Kurdish varieties and Laki), the vowel *e* reduces to (*i*) before a stressed syllable. This is a regular sound change. For

instance, Pawe: *ejdehá* ‘demon’, Text: *ijdehá* ‘demon’, Central Kurdish: *ferman* ‘command’, Persian: *farmanbardār* ‘obedient’, Text: *firmanbirdār* ‘obedient’, southern Central Kurdish: *gezer* ‘carrot’, Text: *gizêrî* ‘carrot’, Arabic: *hakāyat* (*hekayet* in our orthography) ‘story’, Text: *hikayét* ‘story’, Central Kurdish: *helûçe* ‘cracked wheat’, *hilôşe* ‘cracked wheat’, Central Kurdish: *merû-le* ‘ant’, *miro-çê* ‘ant’, Persian: *namāz* ‘prayer’, Text: *nimá* ‘prayer’. There are many clear examples of this shift in Hewramî. For the current study, it is important to apply this regular sound change to the reconstructed verbal forms **me-STEM-ÁGR* and **ní-me-STEM-AGR*.

When the stress is on the final syllable, the vowel **e* in the initial syllable is reduced to *i*. This affects all inherited words in the language. In the verbal system, the consequence is that the indicative prefix *me-* reduces to *i*, i.e., *m(i)-*. The /i/ in the prefix is identical to the vowel *i* employed as an epenthetic vowel synchronically breaking up certain consonant clusters. The stages of this process are illustrated in Figure 5.



a. Pawe: IPFV ‘s/he knows’

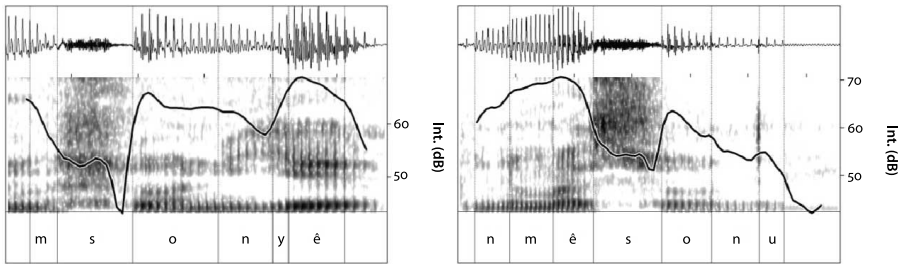
b. Luhon: IPFV ‘s/he sits’

Figure 5. Pretonic reduction

The Pawe example in Figure 5a shows the stress on the final vowel and the full vowel in the prefix *me-*, e.g., *mezanó*. The vowel of the prefix *me-* remains consistent in Pawe. In other words, there is no pretonic reduction, as is the case with Zerde and most of Gorani.

In most varieties with pretonic reduction, the full form of the prefix is preserved in the negative. This is illustrated in Figure 6, where two forms from Bizlâne are presented. The indicative/imperfective form *msonyé* ‘you (pl) buy’ (Figure 6a) shows final stress and the reduction of **me-* to *m(i)-*. In contrast, the negative prefix *ní-* is stress-bearing/attracting. Note that in the negative imperfective form from Bizlâne, the vowel of the negative prefix has completely or almost completely reduced. The stress that was originally on the prefix *ní-* then shifted onto the following vowel of the imperfective marker. This change is parallel to what was shown for the subjunctive prefixes in Section 5.1. Figure 6b shows that in Bizlâne the original **nímesonu* (preserved in Zerde) shifted to *nímésonu*. The result of pre-

tonic reduction essentially means that there are now two different imperfective/indicative allomorphs *m(i)-* in the affirmative and *mé-* in the negative.

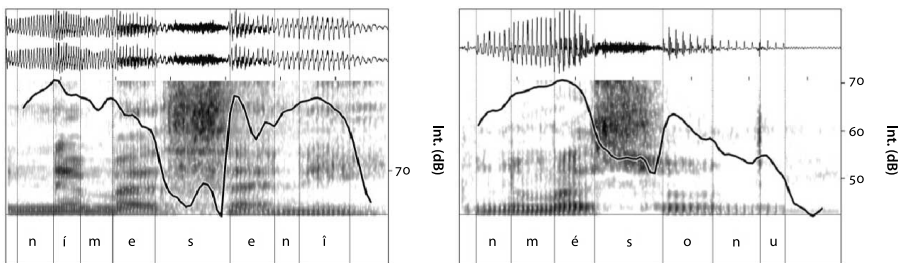


a. Bizlane: IPFV 'you (PL) buy'

b. Bizlane: NEG.IPFV 's/he doesn't buy'

Figure 6. Pretonic reduction blocked

5.3 Stage 4: The negative stress shift (*níCV* > *niCv*)



a. Zerde: NEG.IPFV 'you don't buy'

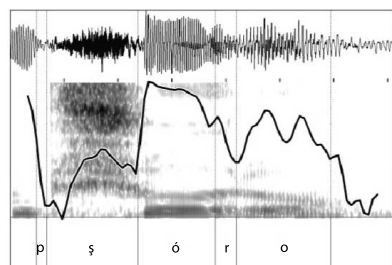
b. Bizlane: NEG.IPFV 's/he don't buy'

Figure 7. Negative stress shift

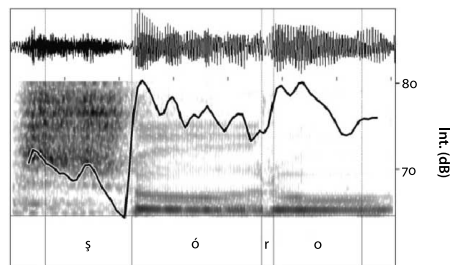
Just as with the subjunctive in Stage 2 (Section 5.1), the stress of the negation marker shifts to the following syllable. Stress on the negation marker can be observed in Zerde, as in Figure 7b. The stress shifts to the following syllable with a reduction of the vowel, creating a cluster as observed in Figure 7a. Note that the shift of stress of the first syllable only ever occurs with the short vowel *i*.

Stage 5: Cluster reduction

The last sound change of importance to the development of the phonemic stress accent system and the progressive to negative shift is consonant cluster reduction. This happens early on in Hewramî with the subjunctive/imperative prefix *b(i)-* and the imperfective/indicative prefix *m(i)-* before voiceless consonant-initial roots. Note that the same environment that conditions the loss of *m-* conditions the loss of the negative prefix *n-* before the indicative/imperative prefix *mé-*.



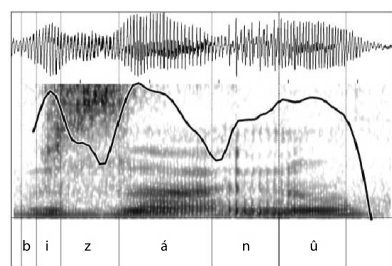
a. Pawe: SBJV '(that) s/he washes'



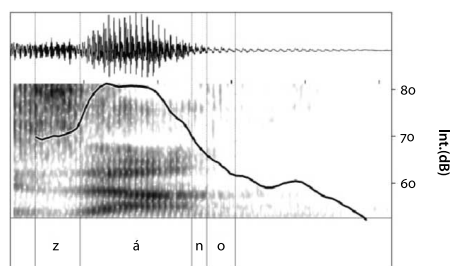
b. Text: SBJV '(that) s/he washes'

Figure 8. Loss of SBJV p- in clusters

As described in Section 5.1, before voiceless consonants, the vowels of the subjunctive prefix *bí-* were deleted after stress shifted to the following syllable, and the *b* devoiced: **bíʃoro* > **biʃóro* > **bʃóro* > **pʃóro*. This form is illustrated in Figure 8 where the Pawe form *pʃóro* in Figure 2b shows the prefix allomorph *p-*. This cluster is reduced word-initially in the core Hewramî varieties of Luhon, Text, Bizlâne, etc. Compare the Text form *ʃóro* in Figure 8b, where the prefix caused the stress to shift onto the first syllable of the stem before the prefix was subsequently lost.



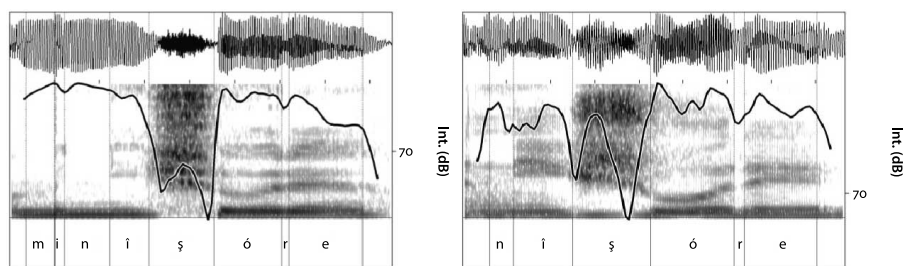
a. Luhon: SBJV '(that) I know'



b. Text: SBJV '(that) s/he knows'

Figure 9. Loss of SBJV p- in clusters

As described in Section 5.1, the second stress shift regarding the *bí-* prefix occurred before voiced fricatives. Unlike the shift before voiceless consonants, this did not take place in Pawe, pointing to a later date. The shift takes place in the core Hewramî varieties, as shown for Luhon in Figure 9a, repeated from Figure 3b. Just as the **pC* clusters were reduced in these varieties, the **bC* clusters were reduced in most of core Hewramî but crucially not in Luhon, giving us evidence for this relative chronology. Luhon and Text are compared in Figure 9. Here, the Text form Figure 9b shows the stress shift caused by the prefix that was subsequently lost.

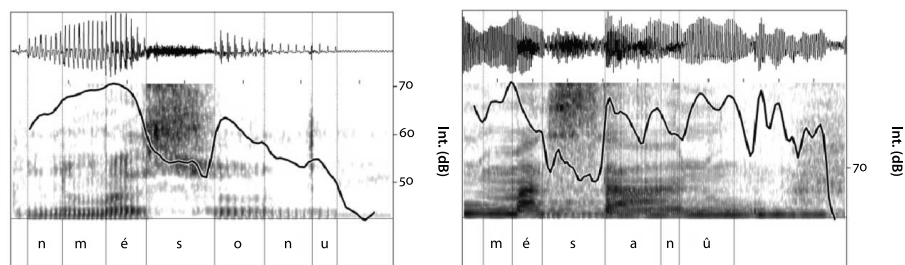


a. Luhon: IPFV 's/he sits'

b. Text: IPFV 's/he sits'

Figure 10. Loss of **m(i)-*

The reduced indicative prefix *m(i)-* underwent the same reductions described for *bí-* in the same varieties. This process likely occurred parallel to the changes with *bí-* because the same distribution is observed. In other words, Text and Luhon show the loss of the prefix before most consonant-initial verbs, but there is a split between Text and Luhon with verbs beginning with a voiced continuant. Luhon preserves the prefix in these examples, while Text loses the prefix. This is illustrated in Figure 10. The Luhon verb *mí-nîş-ó-re* 's/he sits down' parsed as [IPFV-SI.PRS-3SG-down] (Figure 10a) retains the prefix. The Text equivalent *nîşóre* has the same stress pattern but is missing the *bi-* prefix.



a. Bizlâne: NEG.IPFV 'I don't buy'

b. Text: NEG.IPFV 'I don't buy'

Figure 11. Loss of *ni-* in *nime-*

The same changes that resulted in the loss of the *bí-* and *m(i)-* also condition the loss of the *ní* prefix. This is a change that has affected most core Hewramî varieties except for Bizlâne, which preserves the medial stage. This difference is illustrated in Figure 11. The Bizlâne verb *nmésonu* 'I don't buy' (Figure 11a) shows the preservation of the stress shift from the negative prefix *ní-* to the stem vowel and the reduction of the vowel *i*. However, the *n-* formative is preserved. In contrast, the Text form *mésanû* shows the imperfective prefix *mé-* with the stress shifted to it by the negative prefix *ní-* that was subsequently lost. This constitutes a split between the core Hewramî varieties of Text and Luhon. The former loses the prefix before voiced continuants, and the latter retains them.

5.4 Systemic effects

One systemic effect of the sound changes observed here is that Hewramî is now a language with phonemic stress placement. The shift of stress from the final suffix syllable to the stem was caused by a stress-attracting prefix. When that prefix was subsequently lost, the only remnant of its existence was stress placement: *bíkero* > *bikéro* > **bkéro* > **pkéro* > *kéro* ‘(that) s/he does’ vs. *mekéro* > *mikéro* > **mkeró* > *keró* ‘s/he does’.

This is similar to phonemic umlauting in Germanic languages. For example, the English distinction between the singular *mouse* and plural *mice* began as a suffix *-i that caused vowel harmony on the word **mus* becoming **müsi*. The final syllable was subsequently lost (**müs*), there was a merger between **ü* and **i* (**mis*), and a diphthongization of the vowels ([mais]). A distinction made by concatenative affixes is now expressed by a suprasegmental process (umlauting). The development of phonemic stress can be described as morphologization, the development of a new morphological process. This phenomenon has also been referred to in the Literature (i.e., Matisoff 1991) as Cheshirization after the Cheshire cat from *Alice’s Adventures in Wonderland* by Lewis Carroll. The Cheshire cat disappears, leaving behind only its smile. Likewise, the subjunctive marker in Hewramî has disappeared, leaving behind only its stress.

One consequence of the sound changes described above is that the original imperfective marker, now stressed, is the negative marker in the context of indicative: *nímesano* > *nimésano* > *nmésano* > *mésano* ‘s/he doesn’t buy’. The imperfective prefix *me-* was reduced and lost in unstressed contexts, just like the subjunctive *bi-* and the negative *ni-*. When these formatives were lost, only the stress-attracting properties of the negative and subjunctive were retained, causing stem-initial stress to be the marker of subjunctive and stress on the imperfective prefix to be the marker of negative. As such, the meaning indicative decoupled from the prefix *mé-*. This is a process known as demorphologization, the decoupling of form and meaning correspondences. The morphologization of stress-accent preserved the *me-* prefix only as the bearer of stress, the last remnant of the original negative marker. This process can, therefore, be described as demorphologization and remorphologization.

Another consequence of the sound changes observed here is that the form of the prohibitive and the negative of the indicative have merged: *mé-sane* ‘don’t buy’ (no change), cf. *mé-sanî* ‘you don’t buy’. Note that the pretonic reduction and stress shift are independently attested in the language and, therefore, must have taken place here. If one were to propose that this is an analogical extension of the prohibitive to the indicative, this would be redundant as the negative indicative is already *mé-*. The heuristic of economy states that the solution with the fewest

changes is more likely to be the correct one. Additionally, roots that did not merge the two forms for phonological reasons, i.e., low vowel-initial roots, have separate negative indicative and prohibitive forms according to Christensen & Benedictsen (1921), and the form of the negative indicative for both is recorded in MacKenzie's (1966) study approximately 60 years later.

The prohibitive marker *mé-* is featured across the Iranian world, and its origins date back to Proto-Indo-Iranian **mā* (Skjærvø 2009:126). This formative method, combined with the injunctive, forms the prohibitive. This negation marker tends to be lost in Iranian languages as it has been in colloquial New Persian, where it has been replaced by the negative marker of the subjunctive, e.g., *nékon* 'don't do' compared to the subjunctive *nékonî* '(that) you not do'.

- (1) *bí-* [SUB-] : *bí-* [IMP-] : *né-* [NEG.SUB-] : X [NEG.IMP-] (i.e., [PROH-])

This analogical extension is likely due to the four-part analogy in (1). The imperative and subjunctive both have the same prefix in the affirmative in most Iranian languages, e.g., New Persian *bé-*, and the parallelism is extended to the negative of both the subjunctive and imperative. However, that is not what happened in Hewramî. The negative of the indicative and prohibitive have merged for what we have identified as phonological reasons. This is evidenced by closely related varieties where all relevant steps in the process are preserved: Pawe [IND]/[NEG.IND]: *me-/níme-*, Bizlane *m(i)-/nmé*, Luhon, and Text Ø-/*mé*, etc. In varieties like Pawe, Bizlane, Zerde, etc., the distinction between the negative indicative *nmé-* and the prohibitive *mé-* has been preserved.

As it happens, there is one place in core Hewramî varieties like Luhon and Text where the *ní-* prefix has been retained: before low-vowel-initial verbs. This implies the retention of stress on the negative prefix *ní-* until late in the relative chronology. The cluster reduction that transformed **nmékero* into *mékero* must have taken place before the stress shift with low-vowel-initial verbs, e.g., **nímaro* > *nimáro*, which doesn't further reduce to **nmáro* or **máro*. Additionally, it implies a state where all verbs in the language have merged the prefixes, except for low-vowel-initial verbs *awirdey/ ardey* 'bring,' *amay* 'come,' and *astey* 'let'. These three continued to have distinct forms for the negative of indicative and prohibitive: *nímarî/máre* 'you don't bring/don't bring,' *nímey/mó* 'you don't come/don't come,' and *nímazî/máze* 'you don't let/don't let'. This is still the case in the varieties of Zerde and Pawe, and it was the case in Luhon at the time of Christensen & Benedictsen's (1921) study. However, in the core Hewramî varieties (Text and Luhon), the forms of the prohibitive have been leveled to match their indicative counterparts albeit with a stress shift similar to that described in Section 5.3, i.e., *nimârî/nimáre* 'you don't bring/don't bring,' *niméy/nimó* 'you don't come/don't come,' and *nimázî/nimáze* 'you don't let/don't let'.

There are thus two different phenomena that led to the complete merger of negative indicative and prohibitive. The shift from the form of the negative indicative *níme* to match the prohibitive *mé-* was purely phonological, affecting all but three verbs. The extension of the negative indicative of those three verbs to the prohibitive is analogical in nature. This extension runs contrary to Christensen & Benedictsens's (1921) original claim:

[l]a négation s'exprime par les syllabes *nä* et *mæ*. *Mæ* a, comme le *mä* persan, la fonction de particule prohibitive, étant préfixé à l'impératif. Mais en outre il est employé, en awromānī, comme une particule de négation ordinaire: on se sert de *mæ* pour dîner au présent un sens négatif, tandis que *nä* est employé avec les formes prétéritales" [Negation is expressed by the syllables *nä-* and *mæ-*. *Mæ-*, like Persian *mä-*, functions as the prohibitive particle, being prefixed to the imperative. However, it is also used in Hewramî as an ordinary negative particle. *Mæ-* is used to give the present tense a sense of negation, while *nä-* is used with past-tense forms.]. (Christensen & Benedictsens 1921: 31)

However, the equation of the two forms in the minds of Hewramî speakers that resulted in the *ni-* prefix being extended to the prohibitive had not yet occurred in 1901 when Christensen & Benedictsens (1921) collected their field notes. The extension of the indicative negative *ni-* to the prohibitive of low-vowel-initial verbs must, therefore, have taken place between 1901 and 1957 when MacKenzie (1966) conducted his fieldwork. Compare the form *m-é-ydê* <mæjðä> [PROH-COME.PRS-2PL] (Christensen & Benedictsens 1921: 78) with *ním-e-ydê* [PROH-COME.PRS-2PL] (MacKenzie 1966: 46).

5.5 Summary of changes

It is difficult to strictly separate the relevant sound changes at play in the systemic changes described here. There are several initial consonant clusters that were reduced during these developments: **m*, **n*, **p*, and **b* were all deleted in the same conditioning environment. A single cluster-reduction event would be the most economical description of these changes. However, a relative chronology is necessary, as the prerequisite sound changes that put **m*, **n*, **p*, and **b* into the environments that condition their deletion took place at different stages. The stress shifts off of *bí-* before a voiceless consonant-initial $C_{[-V]}VC$ syllable caused the devoicing of **b* to **p* before **p* was deleted. This is true even in Pawe, which didn't subsequently delete the *p*. The same variety, Pawe, has not shifted the stress from *bí-* before voiced consonants. The more central varieties of Text, Luhon, and Bizlane have shifted the stress from *bí* even before voiced fricatives. However, the *bí-* remains except for in Text. This clearly shows several deletion events.

There must have been multiple deletion and stress-shift events in the relative chronology. It is our opinion that the deletion of certain word-initial clusters was likely part of the active phonology of the language. During the life cycle of this sound change, in the sense of Bermúdez-Otero (2007), any shift that created the conditioning environment for deletion would result in deletion. As such, we have elected to simplify the display of these changes into the five stages described above: (1) Proto-Gorani, (2) subjunctive stress shifts, (3) pretonic reduction, (4) negative stress shift, and (5) cluster reduction. These stages are listed by variety in Table 5.

Table 5. Summary of phonological changes in Gorani

	Text	Luhon	Bizlâne	Kenûte	Qeṭa	Pawe	Zerde	Şebekî	Bacelanî
S ₁									
S ₂									
S ₃									
S ₄									
S ₅									

When a variety goes through a stage restricted to a particular conditioning environment, we have lightened the hue of the cell. For instance, Luhon goes through the subjunctive stress shift with both *ker*-type roots and *zan*-type roots, but the deletion only occurs with the former. Thus we have colored the S₅ (cluster reduction) cell at 66% opacity. Likewise, in Bizlâne, the stress shift and deletion occur in most places, but not with cluster initial roots. The geographical distribution of these forms is displayed in the map in Figure 12.

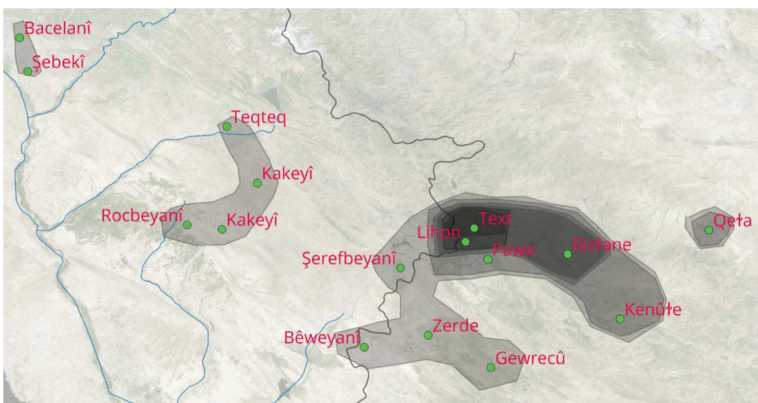


Figure 12. Distribution of sound changes

6. Discussion

The genesis of phonemic stress in Hewramî is the result of a process of “morphologization” or “Cheshirization” as described by (Matisoff 1991: 443) that has many cross-linguistic parallels. One example is the process of umlauting that occurred broadly in German and sporadically in English (as described in Section 5.3). A vowel was fronted under the influence of a following vowel. That following vowel was subsequently lost, leaving the fronting as the only trace of its existence. If the lost vowel was a meaning-bearing unit (a morpheme), the fronting becomes a morpheme.

Janda (2017) refers to the process of morphologization as “the most extreme sort of aftermath of sound change” when a sound change becomes “completely divorced from phonological considerations altogether, and so to pass into what can be characterized as ‘(the) morphology’” (Janda 2017: 404). He gives several examples of similar phenomena, including Celtic mutations. In Celtic languages, there were once two active phonological rules post-vocalic spirantization $C > CH / V_$ and a post-nasal voicing $T > D / N_$. These changes occurred across word boundaries, and then the final vowels and nasal consonants were lost. The only trace of these word endings was in the form of spirantization or voicing of the following word. This spirantization, for instance, now encodes morphological information, i.e., feminine gender *Bean Pháidín* ‘Páidín’s wife’.

The developments in Celtic serve as a strong parallel to what is observed in Hewramî. A phonological process occurred where the presence of a morpheme created a favorable conditioning environment. A subsequent change caused the loss of the morpheme and the original conditioning environment. The only remnant left is the phonological process, which is now part of the morphology. The short vowel *i* became a non-permissible host for stress in open syllables. To resolve this problem, the stress shifted off of the vowel *i* and onto the next vowel, e.g., *bíkerû* > *b(i)kérû*. When a subsequent sound change caused the deletion of the **bk* cluster, only the stress placement distinguished the subjunctive *kérû* from the indicative *kerû* < **m(i)kerû* < *mekerû*. Note that the indicative prefix **me-* is only preserved when it would have been preceded by a stressed prefix with the vowel **i*, i.e., the negative marker **ní-*.

There is a similar change that took place in the history of Greek that Joseph & Janda (1988: 189–199) labeled an example of demorphologization. In ancient Greek, there was a prefix *e-* known as the “syllabic augment” that was used to mark past-tense forms, e.g., *e-páideu-on* [teach.IPFV.1SG], *e-láb-ete* [take.AOR.2PL], *é-lab-e* [take.AOR.3SG], *e-paidéu-omen* [teach.IPFV.1PL]. The presence of the augment signified the meaning of past tense, and its presence is not tied to any phonological phenomenon. However, in Modern Greek, the augment only occurs

if the predictable anti-penultimate stress falls on it, acting as a placeholder for that stress (following Kaisse 1982:77–79). Compare the forms *élava* ‘I took’ with *lávame* ‘we took’. In this case, the augment, which was a morpheme expressing past tense, became a phonologically predictable element acting only as a placeholder for stress. In other words, there was a decoupling of the morphological form from the past tense meaning.

The demorphologization of the Greek augment has some important parallels with the development of the negative imperfective in Hewramî, as an example of both demorphologization and morphologization. Early Gorani likely had a system of predictable stress placement on the final syllable, except in the presence of a stress-attracting affix, e.g., *ní-*, *né-*, *bí-*, *húr-*, etc., as is still the case in most of Gorani and other Western Iranian languages. The presence of the negation prefix *ní-* through a regular stress shift caused the prefix *mé-* to be stressed in the context of negative. The vowel *e* was subsequently lost in all other (unstressed) contexts.

If the negation prefix were to have been retained, as it is in some contexts in Bizlâne, we might assume a demorphologization of this form; *mé-* is merely the stressed allomorph of *m(i)-*. However, once the negation prefix *n-* was lost, as it was in most environments in Text and Luhon, the initial conditioning environment for the retention of *mé-* disappeared. There was a demorphologization of the prefix that became a carrier for the stress that is the “Cheshirized” last remnant of the negation marker. The result is a remorphologization of this verbal affix as part of the greater morphologization, culminating in the development of phonemic stress accent in Hewramî. The shift from a marker of the imperfective aspect to a marker of negation is mere happenstance. However, it is an illustration of a common diachronous tendency.

Another relevant diachronic trend is Kuryłowicz’s fifth law of analogy (Kuryłowicz 1945): “A more marginal distinction is eliminated for the benefit of a more significant distinction.” In Gorani, the formerly progressive marker *me-* comes to signify the imperfective aspect and then ultimately the indicative mood. In Hewramî, there is a further change where *mé-* becomes a marker of negation. This replaces the marginal (typologically unmarked) distinction of indicative with the more significant distinction of negative. However, this is not the result of an analogical process in Hewramî. The original marker of negation was only the stress on *mé-*. The stress on the indicative marker *mé-* conditioned its retention only as a placeholder for that stress, like in the example of the Greek augment (Joseph & Janda 1988). As the indicative prefix demorphologized, the purely phonetic environment conditioning its retention was caused by the morphological category of negative, equating its presence with negation.

7. Closing remarks

In this paper, we have provided a novel account for the development of stress accent in Hewramî. This has consequences for linguistics in general, adding to a body of work on morphologization and demorphologization. Additionally, there is specific interest in correcting the descriptive record. We have demonstrated here that regular phonological processes caused a merger between the inherited prohibitive marker and an innovative negative marker, originally a complex formative consisting of a negative morpheme and an indicative marker. However, this was not in analogy with the prohibitive. On the contrary, in the few cases where analogy plays a role, the analogy was in the opposite direction. Hewramî and its sisters are highly endangered Iranian varieties. As data has become available from these varieties, it has become increasingly clear that the diversity of these varieties preserves much of their diachrony.

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