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What contact did to Yoruba morphosyntax

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Abstract: In this article, I show that, due to the influence of English, major changes have occurred in Yoruba morphosyntax. The changes I identify include (i) the emergence of a transitive-marking Mid Tone Syllable (MTS) on loan verbs; (ii) the emergence of a pattern in which native verbs select accusative weak pronouns while loan verbs select genitive weak pronouns; (iii) changes in word order; (iv) syntactic doubling; and (v) category changes that apply only to loanwords. These changes have led to different forms of synchronic variation in the language. I show that the resulting variations fall into three major descriptive categories: free variation, lexicon-driven variation, and stratification-driven variation. Contact-induced stratification-driven variation exhibits two of the three patterns of the core-periphery structure of the lexicon (Brian Hsu and Karen Jesney, "Weighted scalar constraints capture the typology of loanword adaptation" [2018]), namely the "subset at periphery" and "superset at periphery" patterns. The Yoruba data exhibit an additional pattern that I describe as "complementary subsets". Although the core-periphery structure of the lexicon (Junko Itô and Armin Mester, "The core-periphery structure of the lexicon and constraints on reranking" [1995] and "The phonological lexicon" [1999]) has been largely shown to have consequences for the module of phonology, the Yoruba data show that the core-periphery structure of the lexicon can be consequential for the syntactic module as well.

Keywords: Yoruba; syntactic change; variation; lexical stratification; core-periphery structure

1 Introduction

Studies that examine diachronic syntactic changes in Yoruba are rare compared to studies with a synchronic focus. Fagborun (1994), with its focus on contact-induced syntactic changes in Yoruba, remains the most extensive study of diachronic syntactic changes in the language. However, most of the patterns identified by Fagborun

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(1994) are largely based on loan translation. In this article, I show that, due to the continued contact between English and Yoruba, some English-induced syntactic changes have emerged in Yoruba that go beyond loan translation.

The Yoruba language has several dialects, including Ekiti, Ijebu, Ọyọ-Ibadan, Onko, Eko, Ijẹṣa, Ifẹ, Ikalẹ, Ọwọ, Idanre, etc.; however, my focus in this article is the Standard Yoruba dialect spoken across the Yorubaland in Nigeria, which is sometimes regarded as Common Yoruba or Literary Yoruba. To situate the changes that I describe in the remainder of this article, I distinguish the following periods in the development of the Standard Yoruba language (Adebayo 2022, 2023: 253): (a) Pre-Contact Yoruba (a variety spoken before the arrival of the British colonialists in Nigeria), (b) Contact Yoruba (a variety spoken during the period when English and Yoruba came in contact before writers like John Raban began to collect wordlists in Yoruba), (c) Pre-Crowther Yoruba (a variety documented by writers like John Raban mostly through wordlists), (d) Crowther Yoruba (a variety documented in Samuel Ajayi Crowther's[1] work and those of his contemporaries), and (e) Contemporary Yoruba (a variety spoken from the beginning of the twentieth century till the present time). I characterize the syntactic changes as a shift from Pre-Crowther Yoruba to Contemporary Yoruba. Since there was a significant increase in the contact between English and Yoruba during the period of Crowther Yoruba (as this was when a lot of written materials were developed for the language), I assume that the changes started with Crowther Yoruba.

While loan translations such as those in the following examples are the most glaring of the effects of English on Yoruba syntax, they do not in fact constitute any major shift in the syntactic grammar of the language since they have not resulted in a new regular syntactic pattern that transcends the isolated instances documented. The change in this regard is simply that two or more words that are not normally put together in Pre-Crowther Yoruba are now put together by analogy with some expressions in English or that the meaning of an expression is extended, thereby resulting in syntactic variation where structures from

1 Samuel Ajayi Crowther (1806–1891) was the first African Bishop of the Church Missionary Society, which was established by the Church of England. He produced the first translation of the Bible into an African language by a native speaker (Walls 1992: 18). His Yoruba grammar, dictionary, and translation of the Bible played a significant role in the development of what are today considered Standard Yoruba orthography (Pulleyblank and Ola Orie 2003: 867) and the Standard Yoruba variety itself. According to Fagborun (1994: 24–28), Crowther's shuttling between the Oyo-Ibadan dialect and the Egba dialect in his translations and his and contemporaries' translation activities which incorporated word-for-word loan translations and brought in borrowed structures that are not seen today as foreign had a significant effect on what is today considered Standard Yoruba. It is precisely in order to capture this influence that I have proposed a diachronic variety called Crowther Yoruba among other diachronic varieties identified in this section.

Pre-Crowther Yoruba (1b and 2b) occur in free variation with loan translations (1a and 2a).[2]

(1) a. Ọba **pè fún** ìdásílẹ́ ilé ẹ̀kó gíga
king call for establishment house learning high
'The king called for the establishment of a higher institution of learning.'

b. Ọba pàrọwà pé kí wọ́n dá ilé ẹ̀kó gíga sílẹ́
king urge that that 3PL establish house learning high to.ground
'The king urged that a higher institution of learning be established.'

(2) a. Ìjọba dàbí awakọ̀ **nígbà-tí** ará ìlú dàbí èrò
government resemble driver in.time that people town resemble passenger
'The government is like a driver while (i.e. and) the public is like passengers.' (Fagborun 1994: 59)

b. Ìjọba dàbí awakọ̀ tí ará ìlú sì dàbí èrò
government resemble driver that people town SI resemble passenger
'The government is like a driver while (i.e. and) the public is like passengers.'

Fagborun (1994) has some other examples of loan translation in Yoruba, especially those found in written documents. These loan translations, however, do not constitute any significant change in the syntactic grammar of the Yoruba language. Since the resulting structures are the kinds of structures we find in traditional Yoruba anyway, they do not count as a major shift in the grammar of the language. *Pè fún* in (1a), for example, is a phrasal verb which is invented by analogy with the English phrasal verb *call for*, but this does not tell us much about how the Yoruba syntax is being influenced by English given that phrasal verbs such as *ké sí* 'call on' as in (3) already exist in the language. *Nígbà-tí* 'when' which functions as an adverb of time in Pre-Crowther Yoruba as in (4) is grammaticalized in (2a) to function as a conjunction by analogy with English *while*. This too does not seem to get us very far in studying how English has influenced Yoruba syntax. The major conclusion that we can draw from these isolated instances and many others (some of which are documented in Fagborun 1994) is that loan translation may have grammatical consequences as we see in the grammaticalization of *nígbà-tí*.

2 Tones on Yoruba examples are marked in the following way in line with the Standard Yoruba orthography: High = ´ ; Low = ` ; and Mid = unmarked.

(3) Ó **ké sí** wọn láti múra dáadáa
3SG call to 3PL in.and hold.body very.well
'He called on them to be well-prepared.'

(4) Mo jẹhun **nígbà-tí** mo délé
1SG eat.thing in.time-that 1SG reach.home
'I ate when I got home.'

Some syntactic innovations also exist in which loan and native words are merged to create new hybrid phrases that add innovation to Yoruba syntax. Some examples are as follows (English loans are italicized):

(5)

	Expressions	**Translation**
a.	*although* ná	however
b.	*though* ná	however
c.	*even* gan-an	in fact
d.	*use* mọ́	used to
e.	*relate* mọ́	relate with
f.	*as* pé	because

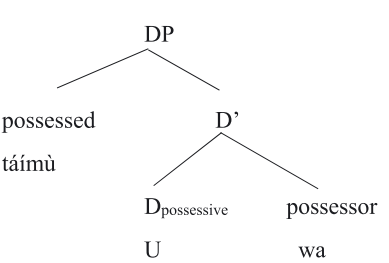
Again, while these expressions can be cataloged as part of the syntactic innovations occasioned by contact with English, they do not go far in telling us the major shift that is taking place in Yoruba and the resulting variation. Some syntactic changes also seem to be a consequence of phonological change. Consider the following variation, for example:

(6) a. táímùU wa
time.MTS 2PL
'our time'
b. táím wa
time 2PL
'our time'

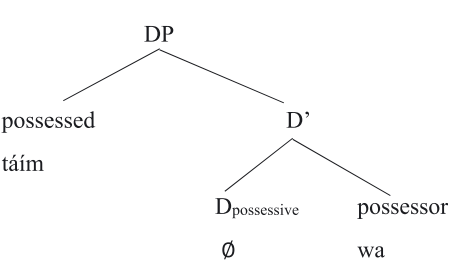
The variation in (6) has to do with whether the possessive determiner, i.e. the Mid Tone Syllable (MTS), is pronounced (6a and 7a) or null (6b and 7b).

(7)

a. pronounced MTS



b. unpronounced MTS



This variation, however, is not internal to syntax per se. This syntactic variation arises as a result of phonological choices with regard to coda. When the coda in the possessed NP is resolved, there is a vowel that the MTS can dock on, and this results in the pronunciation of the MTS. However, when the coda in the possessed NP is retained, there is no vowel that the MTS can dock on, and the MTS is thus unpronounced. Again, while phonological choices result in syntactic variation, the resulting variation does not tell us much about the effect of English on the core syntax of Yoruba. The focus of this article, therefore, is on contact-induced changes that have resulted in regular syntactic variations, rather than on syntactic loan translations, hybridization of native and English words (which seem to be sporadic in that they apply to specific lexical items), or syntactic variations that are as a consequence of markedness resolution in other modules (e.g., phonology).

The following sections outline the major changes that have occurred in Yoruba syntax as a result of its continued contact with English as well as the resulting variations. Each resulting variation is classified as free variation, lexicon-driven variation, or stratification-driven variation. A major generalization that emerges in the discussion of these variation patterns is that the core-periphery structure of the lexicon (see Itô and Mester 1995, 1999), which is the major hallmark of stratification-driven variation, can have consequences for syntactic derivations just as it has been shown in phonology to be consequential for phonological processes. I show that in addition to the three patterns of the core-periphery organization of the lexicon identified by Hsu and Jesney (2018), namely "superset at periphery", "subset at periphery", and "divergent repairs", the Yoruba data provide evidence for another pattern that I describe as "complementary subsets". The concluding section summarizes the article.

2 The emergence of a transitive-marking Mid Tone Syllable (MTS) in Yoruba

A prominent change that seems to have taken root in Yoruba is the emergence of a transitive-marking MTS. Yoruba syntax appears to distinguish between transitive and intransitive loan verbs in such a way that transitive loan verbs are marked with a word-final MTS which is absent when the same verb is intransitive. Consider the following examples; the segments bearing the transitive-marking MTS are in upper case:

(8) a. Ẹ́ńjíìnì ọkọ̀ ti ń **ró̩o̩nù**
engine car PFV PROG **run**
'The car's engine has been running.'

b. Wọ́n **rọ́ọ́nùU** wàyá gba inú ilẹ̀
3PL run.MTS wire go inside ground
'They ran a wire underground.'

c. Wọ́n **gbé(*E)** wàyá gba inú ilẹ̀
3PL take.MTS wire go inside ground
'They ran a wire underground.'

(9) a. Ilé ìwòsàn aládáni **bétà**
house healing private be.better
'Private hospitals are better.'

b. Ilé ìwòsàn aládáni **bétàA** ilé ìwòsàn ìjọba
house healing private be.better.MTS house healing government
'Private hospitals are better than government hospitals.'

c. Ilé ìwòsàn aládáni **dáa(*A)** ju ilé ìwòsàn ìjọba lọ
house healing private be.better surpass house healing government go
'Private hospitals are better than government hospitals.'

(10) a. Mo **kọ́ọ̀lù** lánă
1SG call in.yesterday
'I called yesterday.'

b. Mo **kọ́ọ̀lùU** Bọ́lá lánă
1SG call.MTS Bọ́lá in.yesterday
'I called Bọ́lá yesterday.'

c. Mo **pe (*E)** Bọ́lá lánă
1SG call.MTS Bọ́lá in.yesterday
'I called Bọ́lá yesterday.'

In (8) through (10), we see that transitivity in English loan verbs is systematically marked by an MTS (see the (b) sentences), which is absent on native verbs (see the (c) sentences). MTSs on transitive loan verbs point to a stratification in the Yoruba lexicon: loan verbs take a transitive MTS, which is forbidden[3] on native verbs. This pattern of lexical stratification, where native lexical items and loanwords are subject to different structural requirements, has been extensively investigated in phonology, specifically in the work of Junko Itô and Armin Mester on Japanese. Itô and Mester (1995, 1999) identify four strata in the Japanese lexicon: native stratum, established

3 Throughout this article, when a structure is described as forbidden, or a language is said to forbid a structure, such a structure is not grammatical in the language. This usage is consistent with the Optimality Theory literature, where lexical stratification has been extensively studied.

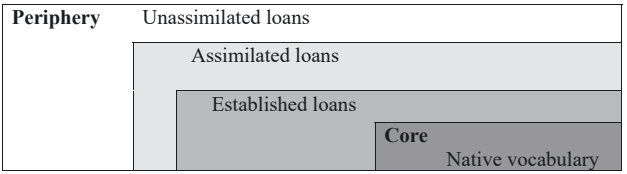


Figure 1: Lexical stratification in Japanese.

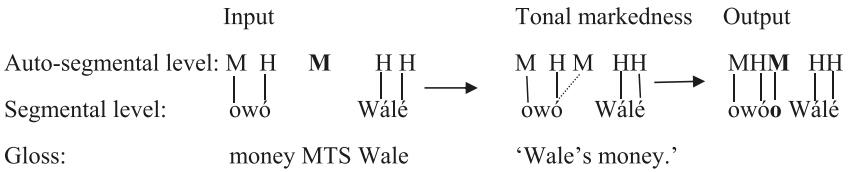
loan stratum, assimilated loan stratum, and unassimilated loan stratum. They show that the strata are organized in a core-periphery fashion as in Figure 1 where lexical items in the core stratum (native vocabulary) are subject to strict phonological restrictions, but as one moves from the core to the periphery, these phonological restrictions are less and less enforced.

However, Hsu and Jesney (2018) have shown that this pattern (what they call "superset at periphery"), where structural restrictions are weaker and weaker as one moves from the core to the periphery, is just one of the three patterns attested in natural language. They show that it is also possible to have a pattern that they call "subset at the periphery", where the structural restrictions that are enforced in the periphery are not enforced in the core. Below, I show that the pattern described above, in which the MTS requirement for loan verbs is not enforced for native verbs, is an example of the "subset at periphery" pattern. "Divergent repair" is the third pattern they identify. Here, forbidden structural forms are repaired differently for the lexical items in the core and those in the periphery. An important point to make here is that although lexical stratification has long been shown to have phonological consequences, the contact-induced syntactic variations described in this article show that sub-lexicalization in the lexicon of a language can have grammatical consequences in the syntactic module as well. In the descriptions that follow, I identify the contact-induced syntactic variations that are conditioned by lexical stratification, highlighting whether they exhibit the "superset at periphery", the "subset at periphery", or the "divergent repair" pattern.

I will come back to the generalization about lexical stratification, but first, let us examine what tone syllables are and where the transitive MTS came from. A tone syllable can be regarded as a syllable that has a lexical tone but is underspecified for segmental properties. There are two well-established tone syllables in Yoruba: (i) the subject-verb agreement-marking High Tone Syllable (HTS) which, as Ajiboye (2005) argues, projects InFl (or T) and (ii) the possessive-marking MTS, which is also argued in Ajiboye (2005) to project D in the nominal domain. The following illustration exemplifies how the tone syllables get their segmental properties:

(11)

Derivation for Possessive MTS



In (11), the possessive-marking MTS is a floating tone that copies its segmental properties from a preceding segment. This is the same process that we find in the emerging transitive-marking MTS exemplified in (8) through (10). To distinguish between these two kinds of MTS, I gloss possessive MTS as MTS_{POSS} and transitive MTS as MTS_{TR}. Now let us consider the question of how MTS_{TR} emerged. There are indeed cases of disyllabic verbs where on the surface it looks like MTS_{TR} is actually present in traditional (Pre-Crowther) Yoruba. Consider the following examples:

(12) a. Mo **kígbe**
1SG shout
'I shouted.'

b. Mo **kígbeE** wọn
1SG shouted.MTS 3PL
'I shouted their name.'

(13) a. Ìgè **sáré**
Ìgè run
'Ìgè ran.'

b. Ìgè **sáréE** owó
Ìgè run.MTS money
'Ìgè pursued money.'

These examples might seem to suggest that the MTS_{TR} is present in traditional Yoruba syntax, but on closer examination, we see that a contraction has taken place in (12 and 13) and that the MTS present in the structures is not the same as the MTS we find in transitive loan verbs in (8–10). The MTS in (12 and 13) are actually MTS_{POSS} which became part of the verb because the noun they attach to has been incorporated into the verb. The most accurate representations of (12 and 13), therefore, are as in (14):

(14) a. Mo **ké** **igbe**
1SG shout shout
'I shouted (lit: I shouted a shout).'

b. Mo **ké** **igbeE** wọn
1SG shout shout.MTS$_{POSS}$ 3PL
'I shouted their name (lit: I shouted the shout of their name).'

c. Ìgè **sá** **eré**
Ìgè run running
'Ìgè ran. (lit: Ìgè ran a run).'

d. Ìgè **sá** **eréE** owó
Ìgè run running.MTS$_{POSS}$ money
'Ìgè pursued money. (lit: Ìgè ran money's run).'

The generalization then is that monosyllabic verbs totally forbid MTS$_{TR}$ and the disyllabic verbs that appear to have an MTS have MTS$_{POSS}$ rather than MTS$_{TR}$. A further look into incorporation in Yoruba suggests that this assessment is on the right track. The canonical verb form in Yoruba is the monosyllabic verb form with the structure CV (Adeyeye and Ogunwale 2019; Déchaine 2015; Ogunwale 2005; Ola 1995; Pulleyblank 1994), and so verbs with more than one syllable arise as a result of incorporation. Two major lexical categories appear to participate in incorporation in Yoruba: nouns and prepositions. The examples in (14) illustrate nominal incorporation where a noun is embedded within a canonical CV verb but the syntax still has access to the lexical features of the incorporated noun thereby permitting MTS$_{POSS}$ to dock on it. Disyllabic or multisyllabic verbs that have undergone prepositional incorporation outrightly forbid either MTS$_{TR}$ or MTS$_{POSS}$ as in (15) below. This further confirms the intuition that no Yoruba verbs allow MTS$_{TR}$. If it were the case that the MTS found on some disyllabic Yoruba verbs is the MTS$_{TR}$, one would expect all disyllabic or multisyllabic verbs to possess the MTS$_{TR}$. But this is not what we find in (15). The explanation here is simple. Disyllabic or multisyllabic verbs with nominal incorporation allow the MTS$_{POSS}$ to dock on the verb because the lexical category of the incorporated noun is visible to the syntactic computation. However, verbs with prepositional incorporation like those in (15) do not allow any form of MTS (POSS or TR)[4] because prepositions are not the kind of lexical items that take an MTS$_{POSS}$ in Yoruba. Because nouns ordinarily take MTS$_{POSS}$, incorporated nouns within verbs accommodate the MTS$_{POSS}$.

4 The internal composition of these examples of prepositional incorporation is as follows:

Verbs with prepositional incorporation	**Verb**	**Incorporated preposition**
tẹ̀lé 'follow'	*tẹ̀* 'bend'	*lé* 'on top of'
gùnlé 'embark on'	*gùn* 'climb'	*lé* 'on top of'
jẹ́mọ́ 'relate to'	*jẹ* 'eat'	*mọ́* 'with'
dásí 'take part'	*dá* 'break'	*sí* 'to'

(15) a. Òjó **tẹ̀lé** Wálé
Òjó follow Wálé
'Òjó followed Wálé.'

a'. Òjó ***tẹ̀léE** Wálé
Òjó follow.MTS_{TR} Wálé
'Òjó followed Wálé.'

b. Àwọn òṣìṣẹ́ **gùnlé** ìyanṣẹ́lódì
PL worker begin strike
'The workers began a strike.'

b'. Àwọn òṣìṣẹ́ ***gùnléE** ìyanṣẹ́lódì
PL worker begin.MTS_{TR} strike
'The workers began a strike.'

c. Èyí **jẹmọ́** òṣèlú
this relate.to politics
'This has to do with politics.'

c'. Èyí ***jẹmọ́Ọ** òṣèlú
this relate.to.MTS_{TR} politics
'This has to do with politics.'

d. Yẹmí **dásí** ọ̀rọ̀ òṣèlú lánă
Yẹmí take.part issue politics in.yesterday
'Yẹmí took part in a political discussion yesterday.'

d'. Yẹmí ***dásíI** ọ̀rọ̀ òṣèlú lánă
Yẹmí take.part.MTS_{TR} issue politics in.yesterday
'Yẹmí took part in a political discussion yesterday.'

Given this picture, I assume that MTS_{TR} emerged out of MTS_{POSS} through an analogy that is based on structures like those in (14). This means that MTS_{TR} did not emerge out of the blue but in analogy to existing structures. This makes sense since analogy is an important mechanism in language change (see Gaeta 2010). The result of the emergence of MTS_{TR} is that it introduces variation in Yoruba syntax: transitivity is either marked on the verb using MTS or it is absent. But this variation is not free; it is lexically conditioned. Only loan verbs allow MTS_{TR}; native verbs forbid it.

Another question that may be worth pursuing has to do with whether or not traditional (Pre-Crowther) Yoruba marks the distinction between transitive and intransitive verbs. It turns out that Pre-Crowther Yoruba does make a distinction between transitive and intransitive verbs even if in a very subtle way. Pre-Crowther Yoruba appears to mark transitivity by changing the tone on a verb. For example, the L(ow) tone on an intransitive verb like 'sàn' (16a) changes to a M(id) tone when the verb is used transitively in (16b).

(16) a. Omi **sàn** lọ
water flow go
'The water flowed/meandered away.'
b. Omi **san** ewé lọ
water flow leaf go
'The water carried the leaf away.'

(17) a. Omi **dà**
water pour
'The water poured.'

(18) b. Adé **da** omi
Ade pour water
'Ade poured water.'

We see the same form of markedness in intransitive verbs bearing the M tone. These verbs do not change their tone when they are used transitively. This is expected. If transitivity has anything to do with the M tone, then we will expect verbs already bearing the M tone not to be affected by a markedness condition that changes the tone on an intransitive verb to an M tone when it is used transitively. This is what we see in the following examples:

(19) a. Ìgè **rọ** lẹ́sẹ̀
Ìgè cripple in.leg
'Ìgè has a crippled leg.'
b. Wọ́n **rọ** Ìgè lẹ́sẹ̀
3PL cripple Ìgè in.leg
'They crippled Ige's leg.'

With the examples in (19), it looks like we have a generalization that transitive verbs are marked with M tone. A clear exception to this generalization is demonstrated by intransitive verbs bearing the H(igh) tone. As we see below, intransitive verbs with the H tone do not lose their H tone to have an M tone when they are used transitively:

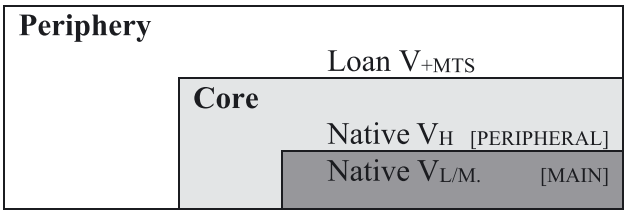
(20) a. Igi **kán**
stick break
'A stick broke.'
b. Adé **kán** igi
Adé break stick
'Adé broke a stick.'

Based on the data in (16) through (20), the following generalization holds for Pre-Crowther Yoruba syntax:

(21) Transitivity in Pre-Crowther Yoruba syntax:
$V_{INTRANSITIVE(L/M)} \rightarrow V_{TRANSITIVE(M)}$

We now have a fuller picture of the kind of lexical stratification that is attested in Contemporary Yoruba syntax. With regard to transitivity, we have evidence for lexical stratification where there are two strata, a foreign stratum where transitivity is marked by a verb-final MTS_{TR} and a native stratum where transitivity is marked by changing the tone on a verb to an M tone. The native stratum is further stratified in such a way that there is an H tone stratum and an L/M stratum. The H tone stratum includes verbs that do not reflect transitivity at all, while the L/M tone stratum includes verbs that reflect transitivity by ensuring that a transitive verb has the M tone. This stratification can be illustrated as follows:

(22) Lexical stratification with regard to transitivity



The core-periphery structure of the Yoruba lexicon modeled in (22) reveals that both the "superset at periphery" and the "subset at periphery" patterns are attested here. The core is characterized by the "superset at periphery" pattern. The main core containing native verbs bearing L and M tones are subject to a structural restriction, namely, that transitive verbs bearing L or M tone must have their tones changed to M. This structural requirement is weakened in the peripheral core containing verbs with H tone, since these verbs do not change their tones when used transitively. The main core-periphery organization with loan verbs in the periphery and native verbs in the core exhibits the "subset at periphery" pattern since the transitive MTS requirement that is enforced for verbs in the periphery is not enforced for verbs in the core. This shows that, while the documented crosslinguistic pattern is for lexica to exhibit one of the three patterns documented in Hsu and Jesney (2018) one at a time, it is possible for a lexicon organized in a core-periphery fashion to exhibit two of these patterns simultaneously.

The next question that I consider is: is MTS_{TR} always realized in transitive loan verbs? There are actually situations where the MTS_{TR} is not realized at all, but this results from a highly generalized phonological process. If the complement of a transitive loan verb begins with a consonant, MTS_{TR} is realized, whereas if it begins with a vowel, the MTS is dropped. Consider the following examples:

(23) a. Mo ìnfáìtì **Ọ**lá
1SG invite 3PL
'I invited Ọlá.'
b. Mo ìnfáìtì**I** **Ṣ**ọlá
1SG invite.MTS_{TR} 3PL
'I invited Ṣọlá.'

It turns out that this is exactly how the traditional MTS_{POSS} behaves. It is not realized if the following lexical item begins with a vowel but appears if it begins with a consonant:

(24) a. Owó**O** **W**álé
money. MTS_{POSS} Wálé
'Wálé's money'
b. Ow**ó** **A**dé
money Adé
'Ade's money'

One plausible explanation for this behavior of both kinds of MTS is that they disappear in cases where their presence will lead to a super heavy vowel hiatus where there is a sequence of three distinct vowels. In the case of (24b), this will be [óoa] as in *owóo Adé*. It can be concluded that MTS_{POSS} and MTS_{TR} disappear in these contexts to prevent a super heavy hiatus.

This is not the only case where the MTS_{TR} disappears. It seems also that there is a kind of locality constraint on the realization of MTS_{TR}. It is realized when the object of the transitive loan verb immediately follows it. It is absent if the object moves to a different position as we see in the following examples:

(25) a. Mo láìkì**I** Bọ́lá dáadáa
1SG like.MTS_{TR} Bọ́lá very.much
'I like Bọ́lá very much.'
b. Bọ́lá ni mo láìkì dáadáa
Bọ́lá FOC 1SG like very.much
'It is Bọ́lá that I like very much.'

In (25a), where the transitive loan verb is in a local configuration with the object, MTS_{TR} is marked on the verb, whereas in (25b), where the object has moved to the left periphery for the purpose of focalization, the MTS_{TR} is absent. It turns out that this is actually not peculiar to the MTS_{TR}. For intransitive native verbs bearing an L tone which change to M when the verb is transitive, this change of tone is prohibited when the object of the verb has been dislocated to the left periphery as seen in (26c).

(26) a. Omi **dà**
water pour
'The water poured.'
b. Adé **da** omi
Adé pour water
'Adé poured water.'
c. Omi ni Adé **dà**/***da**
water FOC Adé pour
'Water is what Adé poured.'

We can use this locality constraint to further confirm the diagnosis that the MTS found on some disyllabic native verbs is not MTS_{TR} but MTS_{POSS}. If the MTS is MTS_{TR}, we will expect those verbs to exhibit the same behavior: MTS_{TR} and the transitive M tone are pronounced only if the object of the verb is in a local configuration with a transitive verb. This is not what we find, however, in (27). Not only is it impossible to move the possessed NP (the element that on the surface appears to function as the object) without further adjustment as in (27a), but it is also impossible for the sentence to be grammatical by moving the possessed NP and removing the MTS as in (27b) as is the case for transitive loan verbs. For structures containing verbs with nominal incorporation, when the possessed NP is moved, a resumptive pronoun is inserted in the site where it is extracted. This makes sense since a possessed NP needs to be close to the NP that possesses it. Transitive loan verbs do not need resumptive pronouns since they do not involve possession. Native monosyllabic verbs with the transitive M tone too do not need resumptive pronouns since they do not involve possession. The fact that verbs with nominal incorporation require resumptive pronouns in the context of movement (or more specifically, in the context of focalization) further confirms the generalization that the MTS found on those verbs is not MTS_{TR} but MTS_{POSS}.

(27) a. *Owó ni Ìgè sáré**E**
money FOC Ìgè run.running.MTS_{POSS}
'It is money that Ìgè pursued (lit: it is money that Ìgè ran its running).'
b. *Owó ni Ìgè sáré
money FOC Ìgè run.running
'It is money that Ìgè pursued (lit: it is money that Ìgè ran its running).'
c. Owó ni Ìgè sáré**E** rẹ̀
money FOC Ìgè run.running.MTS_{POSS} RSM
'It is money that Ìgè pursued (lit: it is money that Ìgè ran its running).'

To wrap up this section, let us outline the generalizations that have emerged so far. First, a new kind of syntactic markedness has emerged in the form of an MTS that

marks accusativity on a verb. Second, this MTS is limited to loan verbs from English, thereby suggesting a lexical stratification. Third, it emerged from an existing MTS which marks possessiveness. Fourth, it is conditioned by a phonological process that resolves super heavy vowel hiatus. Fifth, it is conditioned by a locality constraint which requires the object to be closer to the verb for the verb to be overtly marked with the transitive MTS. Sixth, Pre-Crowther Yoruba appears to make a tonal distinction between transitive and intransitive verbs, a phenomenon which is constrained by the same hiatus and locality conditions mentioned for the transitive-marking MTS. Finally, the resulting picture is one where there is a lexical stratification between loan and native verbs and a sub-stratification between native verbs.

3 Lexical stratification in the selection of weak pronouns

In the previous section, we saw some level of lexical stratification with regard to MTS_{TR} and the M tone. In this section, we look at another case of lexical stratification. A generalization that seems to have emerged in Yoruba syntax has to do with the fact that native verbs select a kind of weak pronoun while loan verbs select a different kind of weak pronoun. Table 1 outlines pronoun distributions in Yoruba.

In Pre-Crowther Yoruba, only accusative weak pronouns are used as objects of a verb, as expected. With the exception of *yín* and *rẹ̀/ẹ̀*, all genitive weak pronouns bear the M tone. In a separate work (Adebayo, in progress), I have shown that the tone on accusative weak pronouns is not stable and is determined by the tone on the verb. For this reason, an accusative form may come to resemble a genitive form if the tone on the verb determines the tone on an accusative weak pronoun to be an M. The only paradigm that does not exhibit this ambiguity is the third person singular, where the accusative form is a tone syllable whose tone is determined by the tone on the verb

Table 1: Strong and weak pronouns in Yoruba.

Person	Number	Strong	Weak		
			Nominative	Accusative	Genitive
1st	Singular	èmi	mo/n/mi	mi	mi
	Plural	àwa	a	wa	wa
2nd	Singular	ìwọ/ìrẹ	o	ọ/ẹ	rẹ/ẹ
	Plural	ẹ̀yin	ẹ	yín	yín
3rd	Singular	òun	o	V	rẹ̀/ẹ̀
	Plural	àwọn	wọn	wọn	wọn

and *rẹ̀/ẹ̀* are the genitive forms. For this reason, I will illustrate the syntactic distinction between accusative and genitive weak pronouns using the third-person paradigm.

(28) a. Adé ń pè**É**
Adé PROG call.3SG
'Adé is calling him or her.'
b. Adé ń pè ***rẹ̀/ẹ̀***
Adé PROG call. 3SG
'Adé is calling him or her.'

This example clearly shows the distinction between accusative and genitive weak pronouns. English loan verbs, however, show a diametrically opposed distribution. They take genitive weak pronouns as objects while they forbid the accusative forms from object positions:

(29) a. Adé ń kọ́ọ́lùU ***rẹ̀/ẹ̀***
Adé PROG call.MTS$_{TR}$ 3SG
'Adé is calling him or her.'
b. Adé ń ***kọ́ọ́lùUù***
Adé PROG call.MTS$_{TR}$.3SG
'Adé is calling him or her.'

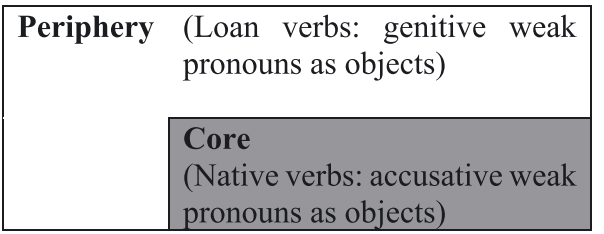
This becomes much clearer when we observe as in the following examples that the genitive pronouns taken as objects by loan verbs do not vary in their tone realization but must be realized exactly as indicated in Table 1.

(30) a. Adé ń kọ́ọ́lùU *mi/*mì/*mí*
Adé PROG call.MTS$_{TR}$ 1SG
'Adé is calling me.'
b. Adé ń kọ́ọ́lùU *wa/*wà/*wá*
Adé PROG call.MTS$_{TR}$ 1PL
'Adé is calling us.'
c. Adé ń kọ́ọ́lù(U) (r)ẹ/*(r)ẹ̀/*(r)ẹ́
Adé PROG call.MTS$_{TR}$ 2SG
'Adé is calling you.'
d. Adé ń kọ́ọ́lùU yín/*yin/*yìn
Adé PROG call.MTS$_{TR}$ 2PL
'Adé is calling you.'
e. Adé ń kọ́ọ́lù(U) (r)ẹ̀/*(r)ẹ/*(r)ẹ́
Adé PROG call.MTS$_{TR}$ 3SG
'Adé is calling him/her.'

f. Adé ń kọ́ọ́lùU wọn/*wọ̀n/*wọ́n
Adé PROG call.MTS$_{TR}$ 3PL
'Adé is calling them.'

The result of these distributions is a stratified lexicon where native verbs select accusative weak pronouns as objects whereas English loan verbs select genitive weak pronouns as objects. Just as in the previous section, this stratification can be visualized as follows:

(31) Loan-native verbs' weak pronoun stratification



This pattern does not match any of the three patterns of core-periphery organizations documented in Hsu and Jesney (2018). It is not organized in the form of "superset at periphery", "subset at periphery", or "divergent repair". Instead, what we have is a situation where the structural requirement that is enforced for the periphery is forbidden for the core, and the structural requirement that is enforced for the core is forbidden for the periphery. For the purpose of conceptualization, I refer to this pattern as "complementary subsets" where the structural adjustment that is enforced on the core sublexicon is exactly the structural adjustment that is forbidden for the peripheral sublexicon and vice versa.

4 Category change and lexical stratification

Category change through conversion (zero derivation) is fairly common in natural language, but it is hardly used in Pre-Crowther Yoruba. However, loans from English appear to exhibit zero derivation where Yoruba equivalents are forbidden from such a process and the English equivalents of English loans are forbidden from a similar process in English itself. Consider the following examples:

(32) a. Mo ti ń **tóíléẹ̀tì** kí wọn ó tó dé
1SG PFV PROG toilet COMP 3PL 3SG before arrive
'I have been defecating before they arrived.'

b. Adé ti **fọ́ọ̀tì** kí wọ́n tó bí Ọlá
Adé PFV forty COMP 3PL before give.birth.to Ọlá
'Adé has turned forty before they gave birth to Ola.'

c. Délé ń **sîìkì** lọ́wọ́ ni wọ́n bí Túndé
Délé PROG sick in.hand FOC 3PL give.birth.to Túndé
'Délé was being sick when they gave birth to Túndé.'

(33) a. Mo ti ń ***ilé-ìyàgbẹ́/*ìyàgbẹ́** kí wọn ó tó de
1SG PFV PROG toilet COMP 3PL 3SG before arrive
'I have been defecating before they arrived.'

b. Adé ti ***ogójì** kí wọ́n tó bí Ọlá
Adé PFV forty COMP 3PL before give.birth.to Ọlá
'Adé has turned forty before they gave birth to Ola.'

c. Délé ń *__alàìlera__ lọ́wọ́ ni wọ́n bí Túndé
Délé PROG sick in.hand FOC 3PL give.birth.to Túndé
'Délé was being sick when they gave birth to Túndé.'

(34) a. 'I have been *__toileting__ before they arrived.'
b. 'Adé has *__fortied__ before they gave birth to Ola.'
c. 'Délé was *__sicking__ when they gave birth to Tunde.'

The examples in (32) show a noun being used as a verb (32a and b) and an adjective being used as a verb (32c). In (33), we see that the Yoruba equivalents of these loans cannot undergo similar conversion, while (34) shows that the same process of conversion is ungrammatical in English itself. The stark contrast between the examples in (33) and those in (34) shows that these conversions are an innovation that can be traced neither to the source language nor to the recipient language. Yoruba appears to be exhibiting the folk wisdom about making lemonade from lemons. Yoruba is taking lemons of loan words and creating lemonade of conversions. The major takeaway from the data in (32) through (34) is that conversion is lexically conditioned, indicating a lexical stratification where the native stratum forbids conversion whereas the foreign stratum permits it. Here, conversion as a structural adjustment is forbidden in the native stratum, but this structural restriction is weakened in the periphery, indicating that this is an instance of the "superset at periphery" pattern.

5 Word order: adjuncts

Let us turn now to cases having to do with word order. It is now common to find some loan adjuncts in positions where native equivalents are ungrammatical and for some

other loan adjuncts to be ungrammatical in positions where native adjuncts are found:

(35) a. Wọ́n **rílì** ń gbìnyànjú
3PL really PROG try
'They are really trying.'
b. Wọ́n ***gan-an** ń gbìnyànjú
3PL really PROG try
'They are really trying.'
c. Wọ́n ń gbìnyànjú **gan-an/rílì**
3PL PROG try really
'They are really trying.'

(36) a. Wọ́n ń **rílì** gbìnyànjú
3PL PROG really try
'They are really trying.'
b. Wọ́n ń ***gan-an** gbìnyànjú
3PL PROG really try
'They are really trying.'
c. Wọ́n ń gbìnyànjú **gan-an/rílì**
3PL PROG try really
'They are really trying.'

(37) a. Mo gbádùn eré yẹn **gan-an/*sóò**
1SG enjoy play that really
'I really enjoyed the play.'
b. Mo **sóò/*gan-an** gbádùn eré yẹn
1SG really enjoy play that
'I really enjoyed the play.'

Even though the above examples seem to indicate that native adjuncts cannot precede the verb in Yoruba, Yoruba does permit some native adjuncts to precede the verb as we see in the following example.

(38) Mo tètè sá lọ
1SG quickly run go
'I quickly ran away.'

The conclusion to draw here, therefore, is that adjunct linearization is not determined by whether an adjunct is loan or native, but each adjunct, native or loan, seems to possess lexical properties that determine whether it will adjoin to the left or right of an intermediate projection (the V' in this case). It is also interesting to note that two adverbs, having a similar meaning, such as *tètè* (38) and *kíákíá* (39) defer in

how they are linearized with V: one is left-adjoined while the other is right-adjoined and neither could interchange position with the other.

(39) Mo sá lọ kíákíá
1SG run go quickly
'I quickly ran away.'

Unlike the stratification-driven variation that we have seen up to this point, this variation involving both loan and native lexical items is not conditioned by lexical stratification. Rather, individual lexical items, loan or native, seem to carry lexical properties that dictate their linearization in syntactic computation. I refer to this kind of variation as lexicon-driven variation to highlight the fact that it is the properties of individual lexical items in the lexicon that are the source of this kind of variation. The two kinds of variation that we have seen up to this point can be summarized as follows (this is revised below):

(40) Patterns of syntactic variation in Contemporary Yoruba
a. *Stratification-driven variation*: variation resulting from the stratification of the lexicon
b. *Lexicon-driven variation*: variation resulting from the lexical properties of the individual lexical items in the lexicon

6 Word order: noun-modifier order

Traditional (Pre-Crowther) Yoruba syntax is configured in such a way that modifiers (adjectives and nouns) follow the nouns they modify as in (41a). However, Fagborun (1994: 97) observes that by analogy with English, a configuration in which a noun is preceded by a modifier had become part of the Yoruba syntax (41b).

(41) a. Èbúté pàtàkì (Fagborun 1994: 98)
harbor important
'Important harbor'
b. Pàtàkì èbúté (Fagborun 1994: 98)
'Important harbor'

The cases documented in Fagborun (1994) involve instances where both the modifier and the noun are native lexical items. But what happens in hybrid noun phrases where a loan modifier modifies a native noun or a native modifier modifies a loan noun? And is this linearization variation free or constrained? Also, given that Fagborun's (1994) account is based on written texts such as textbooks and newspapers, is the modifier-noun order attested in casual speech? To start with this last question,

yes, this order is attested in casual speech as this is evident in the fieldwork data reported in Adebayo (2022). The modifier-noun example in (42) is taken from one of my interviews. To answer the remaining questions, let us first observe that it is now permitted to have a loan modifier precede the native noun it modifies (42a and c) and to have a loan noun precede the native modifier that modifies it (42b).

(42) a. ímpọ́tẹ́d **ọtí**
imported wine
'Imported wine'
b. ápù **kékeré**
apple small
'Small apple'
c. fréṣh **àgbàdo**
fresh corn
'Fresh corn'

With respect to whether a native modifier can precede a loan noun and whether a loan modifier can be preceded by the native noun that it modifies, it seems that these two configurations are possible as in (43) but they are constrained by the fact that the resulting structure is transformed into a possessive construction with the MTS_{POSS} between the modifier and the noun and the fact that not all native modifiers and loan modifiers can be used this way grammatically. I assume here that the MTS found in these structures are MTS_{POSS} for the following reasons. MTS_{POSS} is found in nominal structures involving a head noun (the thing possessed) and a modifier (the possessor). The structures in (43) are also nominal structures involving head nouns and adjuncts (in this case, adjectives). Although MTS_{POSS} does not contribute to the interpretation of the resulting structures in examples like those in (43), this lack of interpretation is not uncommon in the languages of the world. In fact, it is a textbook example of a kind of form-interpretation mismatch classically described in Carlson (2006: 8) where a form that is present in the syntax of an expression does not have any interpretation in its semantics.

(43) a. **ÀgbàA** pástọ̀
old.MTS_{POSS} pastor
'An old pastor'
b. **ỌtíI** ímpọ́tẹ́ẹ̀d
wine.MTS_{POSS} imported
'Imported wine'

Despite the possibility in (43), some loan and native modifiers resist these kinds of order as demonstrated in the following examples:

(44) a. yúslẹ́ẹ́s **obìnrin**
useless woman
'Useless woman'
b. ***obìnrinIN** yúslẹ́ẹ́s
woman.MTS useless

(45) a. káàdì **pupa**
card red
'Red card'
b. ***pupa** káàdì
red card

What this points to is that even though, as Fagborun (1994) observes, a modifier-noun order is now possible in Contemporary Yoruba as opposed to Pre-Crowther Yoruba, not all native and loan modifiers can be grammatical in such configuration, and this order innovation does not go without a consequence such as the introduction of MTS_{POSS}. The major takeaway from this as well is that noun-modifier linearization in Contemporary Yoruba is constrained by lexical properties so that some native and loan modifiers permit only a modifier-noun linearization and some other loan and native modifiers permit only a noun-modifier order while some others permit both. This variation is also an instance of lexicon-driven variation.

7 Syntactic doubling

The last phenomenon to explore in this article is the case of what is referred to in the literature as syntactic doubling. These are instances where a single syntactic object is marked twice. There are three kinds of syntactic doubling in my fieldwork data (reported in Adebayo 2022), but all of them involve situations where a single syntactic object is marked twice, once in Yoruba and once in English. The first kind involves morphological and lexical marking of the same syntactic object. Consider the following examples.

(46) a. **Àwọn** grásìì**s**
PL grass.PL
'Grasses'
b. **Àwọn** ewébẹ̀ẹ̀**s** wa
PL grass.PL 1PL
'Our vegetable'

c. **Àwọn** Àmọ̀tẹ́kùùn**s** wa
PL Àmọ̀tẹ́kùn.PL 1PL
'Our Amọtẹkuns (our local security people)'

A conclusion that can be drawn from (46) is that Yoruba has borrowed the English plural marker 's', and it is highly productive in that any noun can be marked in the version of (43). However, there seems to be some sort of constraint with regard to this configuration. It seems like the Yoruba plural marker 'àwọn' is obligatory in any nominal plural marking. Even though a structure like (47b), where the borrowed English morpheme 's' is absent and the Yoruba plural marker 'àwọn' is present, is grammatical, the structure in (47c), where the opposite applies, is at least less acceptable and perhaps ungrammatical.

(47) a. **Àwọn** ewébẹ̀ẹ̀**s** wa
PL vegetable.PL 1PL
'Our vegetable'
b. **Àwọn** ewébẹ̀Ẹ̀ wa
PL vegetable.MTS 1PL
'Our vegetable'
c. #(*)Ewébẹ̀ẹ̀**s** wa
vegetable.PL 1PL
'Our vegetable'

The second kind of syntactic doubling in my fieldwork data involves cases where a single grammatical element is realized by two functional elements, one from Yoruba and another from English:

(48) a. Òun ló wà **ní ìn** cháàjì ẹ̀
3SG FOC.3SG exist in in charge 3SG
'S/he is the one in charge of it.'
b. **Dóo ná** òun ló ni mọ́tò
though though 3SG FOC.3SG have car
'Though he is the one who owns the car.'

The third kind of doubling involves lexical items with the same meaning. A typical example is (49a), but the structure in (49b) is marked in the sense that there is an MTS_{POSS} between the two lexical items. In (49b) the MTS_{POSS} does not seem to contribute any meaning to the structure.

(49) a. **Táìmù ìgbà** tí wọ́n dé
time time when 3PL arrive
'When they arrived'

b. Mo rí wọn ní **ọjọ́-ajéE** **Mọ́ńdè**
1SG see 3PL in Monday.MTS Monday
'I saw them on Monday.'

Syntactic doubling, unlike the other kinds of contact-induced syntactic changes and variation outlined in the previous sections, does not seem to be constrained by lexical stratification or driven by lexical properties. Rather, it is a phenomenon that some speakers use and some speakers do not. The variation arising from this therefore can be understood in the sense of 'realize syntactic doubling' versus 'avoid syntactic doubling'. The generalization in (40) can now be revised as follows:

(50) Patterns of syntactic variation in Contemporary Yoruba
a. *Stratification-driven variation*: variation resulting from the stratification of the lexicon
b. *Lexicon-driven variation*: variation resulting from the lexical properties of individual lexical items in the lexicon
c. *Free variation*: variation in grammar is not triggered by lexical stratification or lexical properties

Although more crosslinguistic considerations are needed to be sure, the generalization in (50) suggests that at least three different kinds of synchronic variations are permitted in natural language. All of these patterns of synchronic variation are present in the traditional (Pre-Crowther) Yoruba syntax, but a continued contact with English appears to have increased these variations, most especially in the area of stratification-driven variation. The fact that transitive MTS, differential selection of weak pronouns, novel conversions, and syntactic doubling are exclusive to expressions incorporating elements from both English and Yoruba, while being absent in Pre-Crowther (traditional) Yoruba, strongly suggests that these phenomena are the result of language contact. Specifically, they appear to have emerged as a consequence of the prolonged interaction between the two languages.

8 Conclusions

The three major takeaways of this article are as follows. First, I showed that, in addition to various instances of loan translation and novel combinations of lexical items from English and Yoruba, there are major changes that have taken place due to the continued contact between the two languages. These include (a) the emergence of a transitive-marking MTS, (b) differential selection of weak pronouns by loan and native verbs, (c) conversion differences between loan and native words, (d) changes

in word order (noun-modifier order and adjunct linearization), and (e) syntactic doubling.

Second, I have shown that each of these variations can be classified into three major categories: free variation, lexicon-driven variation, and stratification-driven variation. In free variation, the variation emerges only in the grammar. That is, the variation occurs in the grammar but without any trigger in the lexicon. Syntactic doubling is an instance of free variation. Stratification-driven variation arises because the lexicon is partitioned into strata so that each stratum is subject to varying degrees of structural demands. Verb transitivity morphology and weak pronoun selection are examples of stratification-driven variation. In lexicon-driven variation, individual lexical items carry different lexical properties that result in syntactic variation. Conversion is an example of lexicon-driven variation. An important conclusion to be drawn from these three patterns is that at least natural language permits three kinds of variation, all of which can occur in a single language.

Third, I have also shown that the stratification-driven syntactic variation in Yoruba exhibits two of the three core-periphery patterns of lexical stratification identified in Hsu and Jesney (2018), namely the "superset at periphery" and the "subset at periphery" patterns. I showed, in addition, that the Yoruba data exhibit another pattern that I describe as "complementary subsets", where structural demands for the core vocabulary and loan vocabulary are exactly opposite. A major observation that I have made in this article is that, although the core-periphery organizations of lexica in natural language have been shown mainly to have consequences for the phonological module, the data in this article have shown that stratification in the lexicon can have consequences for the syntactic module as well.

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Abbreviations

Abbreviations used in the article:

1	first person
2	second person
3	third person
MTS	mid tone syllable
MTS_{TR}	mid tone syllable, transitive
MTS_{POSS}	mid tone syllable, possessive
PFV	perfective

PL	plural
PROG	progressive
RSM	resumptive marker
SG	singular

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