

Identify the roots and inflectional affixes; if there are phonological alternations, describe them and write the relevant rule(s). Notes: [ts'] is a single phoneme (ejective alveolar affricate); V indicates a stressed vowel.

Huixtec Tzotzil (Mayan)

nibát	‘I went’	nabát	‘you went’
nikóm	‘I stayed’	nakóm	‘you stayed’
nivéʔ	‘I ate’	navéʔ	‘you ate’
nitál	‘I came’	natál	‘you came’
ts'ibát	‘I will go’	ts'abát	‘you will go’
ts'ikóm	‘I will stay’	ts'akóm	‘you will stay’
ts'ivéʔ	‘I will eat’	ts'avéʔ	‘you will eat’
ts'itál	‘I will come’	ts'atál	‘you will come’
bátemun	‘I have gone’	bátemot	‘you have gone’
kómenun	‘I have stayed’	kómenot	‘you have stayed’
véʔemun	‘I have eaten’	véʔemot	‘you have eaten’
tálemun	‘I have come’	tálemot	‘you have come’

There are a couple of solutions, depending on how you analyze the phonology in the perfective forms. There is no formal way to choose between the two, and, quite frankly, there are decent arguments for either. (Also, there is just not enough data to make a particularly compelling case for one over the other.) Here is the vowel epenthesis solution.

Vowel epenthesis solution — no [e] underlyingly

The paradigm varies by aspect.

Non-perfective			Perfective		
Tense	past	n-	Tense	past	-m
	future	ts'-		future	no data
Person	1	i-	Person	1	-un
	2	a-		2	-ot

Phonological rules:

There are two rules: nasal dissimilation and vowel epenthesis. They must be ordered as they are here.

- (i) **Nasal dissimilation:** The bilabial nasal /m/ becomes the alveolar nasal [n] when immediately preceded by another bilabial nasal /m/.

$$/m/ \rightarrow [n] \quad / \quad m ___$$

- (ii) **Vowel epenthesis:** The vowel [e] gets epenthesized when two consonants are adjacent.

$$\emptyset \rightarrow [e] \quad / \quad C ___ C$$

Sample derivations:

Only need to consider the forms with perfective aspect.

Underlying representation	Nasal dissimilation	Vowel epenthesis	Surface form
/bát-m-ot/ 'you have gone'	—	bátemot	[bátemot]
/kóm-m-ot/ 'you have stayed'	kómnot	kómenot	[kómenot]

The other solution, where there is no vowel epenthesis.

No vowel epenthesis — /e/ exists underlyingly in perfective morpheme /-em/

The paradigm varies by aspect.

Non-perfective			Perfective		
Tense	past future	n- ts'-	Tense	past future	-em no data
Person	1 2	i- a-	Person	1 2	-un - ot

Phonological rules:

There is one rule: nasal dissimilation. It is not clear whether or not there must be a vowel for this process to occur, so the V in the context of the rule will be enclosed in parentheses with a subscripted '?'. Usually, parentheses indicate that the thing enclosed in them is optional; here we are uncertain whether it is optional or not.

- (i) **Nasal dissimilation:** The bilabial nasal /m/ becomes the alveolar nasal [n] when the consonant that precedes it is another bilabial nasal /m/.

$$/m/ \rightarrow [n] \quad / \quad m (V)? \text{ ___ }$$

Sample derivations:

Only need to consider the forms with perfective aspect.

Underlying representation	Nasal dissimilation	Surface form
/bát-em-ot/ 'you have gone'	—	[bátemot]
/kóm-em-ot/ 'you have stayed'	kómenot	[kómenot]