

The Three-Way Vowel Harmony in Nòni

Author(s): Pierre Bancel

*Proceedings of the Seventeenth Annual Meeting of the Berkeley Linguistics Society: Special Session on African Language Structures* (1991), pp. 3-14

Please see “How to cite” in the online sidebar for full citation information.

Please contact BLS regarding any further use of this work. BLS retains copyright for both print and screen forms of the publication. BLS may be contacted via <http://linguistics.berkeley.edu/bls/>.

---

*The Annual Proceedings of the Berkeley Linguistics Society* is published online via [eLanguage](#), the Linguistic Society of America's digital publishing platform.

## THE THREE-WAY VOWEL HARMONY IN Nən̄n̄ɪ̄ (BANTU A.44, CAMEROON)

Pierre BANCEL

Université Lumière (Lyon) & LACITO - C.N.R.S. (Paris)

### ABSTRACT

*Nən̄n̄ɪ̄ has three distinct, successively ordered ATR-type vowel harmony processes. A description is drawn of how each applies to its respective domain. Then we show the implications of the interaction between the harmony and vowels-in-contact rules in the particular morphological field of Preverbal Markers.*

*Two consequences follow from these implications: (i) synchronically, the preservation of morphological information of certain morphemes after the word-formation level; (ii) diachronically, a link may be established with the shift from the Proto-Bantu \*S-V-O word-order to Nən̄n̄ɪ̄ S-O-V through intermediate stages.*

Nən̄n̄ɪ̄ (also [Tu]Nen) is a Bantu language (A.44 in Guthrie's classification) spoken in Cameroon around Ndikinimeki by approximately 30 to 40.000 speakers, calling themselves Pən̄ən̄ɪ̄ (sg. Mūn̄ən̄ɪ̄, also Banen). Nən̄n̄ɪ̄ is fairly well documented, with regard to most other minor languages of Cameroon.

This is due to the work of an anthropologist, Idelette DUGAST, who devoted her entire scholarly career to the description of the Pən̄ən̄ɪ̄ culture and language. Previous analyses of vowel harmony in Nən̄n̄ɪ̄ rely on her data (STEWART & VAN LEYNSEELE, 1979; MOUS, 1986). The present paper aims at presenting the three distinct harmony processes of this language, as elicited in seven weeks fieldwork<sup>1</sup> in December 1989 and January 1990, in the Ndiki dialectal area, which was Dugast's implicit reference dialect.

Two main points will be dealt with. The first will be the morphological implications of the definition of the harmony domains, in the light of other phonological rules concerning vowels and boundaries. Secondly, a link will be established between the present morphological properties of Nən̄n̄ɪ̄, as they appear from the vowel phonology, and its other peculiarity of having a SOV word-order, as against SVO in all other Bantu languages.

The Nən̄n̄ɪ̄ vowel system displays a rather unusual distribution of segments in the phonetic space, with its four auditory height contrasts in back vowels, as against only two in front vowels (table 1a). This uneconomic distribution, however, is counterbalanced at the phonological level by an optimal integration in terms of distinctive features (table 1b).

In table 1a, the division between the + and - ATR vowels has been represented, in order to show that all the +ATR vowels are phonetically higher than any -ATR vowel. This is another unusual feature for cross-height harmony systems, which

would justify an articulatory investigation. Until then, we will continue to refer to the harmonic feature as  $\pm$ ATR, but with some reservations as to its actual articulatory implementation.

+ATR	i		u
		ə	ɔ
-ATR		ɛ	ɔ
		a	

a. Nə̀n̄ɪ radical vowels  
(phonetic representation).

Table 1.

The vowel system  
of Nə̀n̄ɪ.

		-Back	+Back
+ATR	+High	i	u
	-High	ə	ɔ
-ATR	+High	ɛ	o
	-High	a	ɔ

b. The Nə̀n̄ɪ vowel system  
(phonological classification).

### I. Primary Obligatory Harmony.

The first harmony process, which I will call Primary Obligatory Harmony (henceforth POH), was analyzed by STEWART & VAN LEYNSEELE (1979), followed by MOUS (1986). My data disagree with Dugast's transcriptions on several points regarding vowel qualities, and my analysis of POH will therefore correspondingly diverge from that of these authors, most notably in rejecting the existence of neutral or, rather, transharmonic<sup>2</sup> vowels. These differences will not be discussed as such here.

POH has an equal effect on all the eight vowels of the Nə̀n̄ɪ inventory, as represented in (1). This inventory may be divided up into either two harmonic series of freely co-occurring vowels, as in (2), or into four alternating pairs, as in (3).

(1) Inventory: / i ɛ ə a u o ɔ ɔ /

(2) Harmonic Series: / i ə ɔ u /<sub>+ATR</sub> vs / ɛ a ɔ o /<sub>-ATR</sub>

(3) Alternating Pairs: / i ~ ɛ /, / ə ~ a /, / o ~ ɔ /, / u ~ o /.

POH is characterized by its **obligatoriness** within the word. It applies to any morpheme sequence where it may apply, and throughout the whole sequence.

A very important excursus must be made, to make clear that not all the morphemes considered as affixed to the verb root in other Bantu languages really are affixes in Nə̀n̄ɪ. Among them, only those of the sequence [Nominalization Prefix (class 3a) + Passivisation Prefix + Verb Root + all the Suffixes] are affixed, and as such regularly undergo POH. But POH does not apply to the sequence of the separable preverbal markers, namely [Subject + Negation + Tense / Aspect + Direction Markers].

Between them and the verb root the object noun is regularly inserted; thus, they are not true affixes, and their harmonization will be treated in section II below.

The second feature of POH is its **asymmetricality**. In verbs, the dominant roots such as / t w ə̀ n̄ / in (4 a, b & c), always surface with +ATR vowels, and harmonize all the affixes. Recessive roots such as / p a l /, on the contrary, surface with -ATR vowels when combined with Ø- or recessive affixes such as the nominalizing prefix (NP) and the applicative suffix in (5a), but harmonize to +ATR, together with the recessive affixes, in combination with dominant affixes such as the causative suffix (5b & c)<sup>3</sup>.

- (4) a. [ ɔ̣ - t w ə̀ n̄ - ɪ n̄ ] to sit somewhere. NP cl. 3a +Verb Root+Applicative  
 b. [ ɔ̣ - t w ə̀ n̄ - ɪ̣ ] to cause to sit. NP cl. 3a +Verb Root+Causative  
 c. [ ɔ̣ - t w ə̀ n̄ - ɪ̣ n̄ - ɪ̣ ] to cause to sit somewhere. NP cl. 3a +Vb Rt+Applic.+Causat.

- (5) a. [ð-pá l-é n] *to climb somewhere.* NP cl. 3a +Verb Root+Applicative  
 b. [ù-pá l-ì] *to cause to climb.* NP cl. 3a +Verb Root+Causative  
 c. [ù-pá l-ì n-ì] *to cause to climb somewhere.* NP cl. 3a +Verb Root+Causative

This asymmetricality is not present in its typical form in all the morphological types undergoing POH. For instance, POH might be analyzed as symmetrical in nouns and qualifying adjectives, since only the affixes (in fact, the noun prefixes) alternate, according to the themes they combine with, while the themes themselves do not. This may be accounted for in an overall asymmetrical model, in assuming that all the noun prefixes are recessive.

Conversely, POH is more complex in the small set of numeral adjectives (consisting of the first eight positive integers), where POH is **triply** asymmetrical. The specific numeral prefixes<sup>4</sup> must be divided up into dominant (in classes 3, 4, and 19) and recessive ones (table 2), since the themes for "one" and "two" display vowel alternation according to the class prefix allotted by the determined noun.

Class	1	2	3	4	5	6	7	8	9	13	14	19
Num. Prefixes	o-	pA-	u-	i-	nE-	A-	E-	pE-	E-	tO-	pO-	hi-

Table 2. *The recessive and dominant Numeral Prefixes of*  $\mathcal{N}(\hat{e}n\hat{i})$ .

Also, it follows that the two relevant themes are recessive.

An example of each variant of "two" is given in (6a & b). It may be noted that the two nouns are recessive; furthermore, their underlying forms end in the same vowel /A/, elided before a (non high front) vowel-initial word. This shows that the nouns are not the trigger of the difference between the two forms of the theme.

- (6) a. [mè-sáp í-fèndì] *two machetes* (cl.4). NP cl. 4 + Theme # Num P cl. 4 + Theme.  
 b. [pâ-ná pá-fàndè] *two children* (cl.2). NP cl. 2 + Theme # Num P cl. 2 + Theme.

Only one numeral theme is dominant, namely /n i s ə/, "four", and it surfaces with +ATR vowels in all cases, as well as any class prefix it takes (7).

- (7) a. [mè-sáp í-nìs] *four machetes* (cl.4). NP cl. 4 + Theme # Num P cl. 4 + Theme.  
 b. [pâ-ná pé-nìs] *four children* (cl.2). NP cl. 2 + Theme # Num P cl. 2 + Theme.

The other numeral themes, "three", "five", "six", "seven"<sup>5</sup> and "eight" harmonize to -ATR the numeral prefixes of all classes. The theme for "three", for instance, surfaces with the expected -ATR vowel after the recessive class 2 numeral prefix in (8b); but, contrary to what happens to "one" and "two", when following in (8a) the dominant class 4 numeral prefix, the theme still surfaces with a -ATR vowel, and the dominant +ATR prefix harmonizes to -ATR.

- (8) a. [mè-sáp é-làl] *three machetes* (cl.4). NP cl. 4 + Theme # Num P cl. 4 + Theme.  
 b. [pâ-ná pá-làl] *three children* (cl.2). NP cl. 2 + Theme # Num P cl. 2 + Theme.

Thus, the not-intrinsically +ATR numeral themes must be divided into two distinct series. On the one hand, the themes whose vowels are harmonized by a +ATR morpheme (belonging to the same harmony domain), and which otherwise surface with -ATR vowels; the first two numerals are to be classified here.

On the other hand, the themes that always surface with -ATR vowels, and which harmonize to -ATR the underlying +ATR vowels within their harmony domain.

The -ATR numerals "three", "five", "six", "seven" and "eight" belong here.

If the former type still may be called recessive, the latter, on the contrary, is in fact -ATR superdominant, since it controls dominant, +ATR morphemes<sup>6</sup>.

Another feature of POH is its **bidirectional spreading**. In the examples above, +ATR spreads rightwards in (6a), leftwards in (5b & c) and (7b), and both leftwards and rightwards in (4a).

Lastly, it must be noted that another word category regularly behaves in a very particular way with regard to POH. The possessives and the non-emphatic demonstratives<sup>7</sup> are dimorphemic compounds, formed on the scheme:

Concord Prefix of Determined Noun +  $\left\{ \begin{array}{l} \text{Person / Number Marker of Possessor (possessives)} \\ \text{Specific Demonstrative Morpheme (demonstratives)} \end{array} \right.$

Each of the two constituents may be either dominant (+ATR) or recessive, so that the four combinations occur. In the first morpheme, being common to the two word-types, the dominant concord prefixes are those of exactly the same classes as in the numeral adjectives, namely class 3 /u-/ , cl. 4 /i-/ , and cl. 19 /hi-/ . The possessor marker of the possessives is dominant in the plural persons, and recessive in the three singular ones (table 3).

Pers. / Numb.	sing.	1	2	3	plur.	1	2	3
Possessor Mker		-AmA	-A	-A jA		-ə n(u)ə	-ə s(u)ə	-ə p(u)ə

Table 3. The recessive singular and dominant plural Number / Person Markers of  $\mathcal{N}(\hat{e}n\hat{i})$ .

The specific demonstrative morphemes are either dominant or recessive as well, according to case. The proximal demonstrative ( $\emptyset$ -marked) and the anaphoric demonstrative /-E jE/ are recessive, whereas the distal demonstrative /-i ni/ is dominant.

The particularity of demonstratives and possessives, with regard to harmony, is that POH applies to them, if and only if they have at least one dominant, +ATR constituent. The 3rd pers. sg. possessive /-A jA/, when in combination with a cl.1 recessive concord prefix, surfaces with -ATR vowels (9a). In combination with a cl. 4 dominant concord prefix, it surfaces with +ATR vowels, irrespective of the + or - ATR value of the following noun (9b & c).

- (9) a. [w-à j á mð-n] *his child* (cl.1). DP cl. 1 + PNM 3rd sg # NP cl. 1 +Theme.  
 b. [j-ə j ə mî-s ə k y] *his elephants* (cl.4). DP cl. 4 + PNM 3rd sg # NP cl. 4 +Theme.  
 c. [j-ə j ə m j-ǎ l] *his buffaloes* (cl.4). " " " "

(10a & b) are two ill-formed variants of (9c). They show that neither may the possessive harmonize a -ATR noun (10a), nor may the noun harmonize the possessive<sup>8</sup> to -ATR (10b). Thus, the two sequences are independent POH-domains.

- (10) a. \*[j-ə j ə m j-ǎ l] "*his buffaloes*" (cl.4).  
 b. \*[j-ǎ j ǎ m j-ǎ l] "*his buffaloes*" (cl.4).

However, when the two constituent morphemes of the possessive (or of the demonstrative) are recessive, as in (9a), the possessive does not undergo POH, but is optionally harmonized to +ATR by the following +ATR noun. The same possessive as that of example (9a) may be partially (11b) or completely (11c) harmonized before a +ATR noun, though it may also surface with -ATR vowels in this environment as well (11a). Needless to say, the recessive possessive may not



- (14) Subj. 1st sg. ≠Accompl. Recent Past ≠ Object Noun<sub>-ATR</sub> # Verb Root (+ Intensive) + Applicative
- a. [mɛ̃ ná s̃àn j'á p'ɛ̃l-ɛ̃n] \* [m̃ ñó s̃àn j'á p'ɛ̃l-ɛ̃n]  
I put down the mouse.
- b. [mɛ̃ ná s̃àn j'á s̃j'í-ɔ̃k-ɪ̃n] \* [m̃ ñó s̃àn j'á s̃j'í-ɔ̃k-ɪ̃n]  
I saw the mouse.
- (15) Subj. 1st sg. ≠Acc. Recent Past ≠ Object Noun<sub>+ATR</sub> # Verb Root (+ Intensive) + Applicative
- a. [mɛ̃ ná h̃ɪ̃-s'í n'í p'ɛ̃l-ɛ̃n] ~ [m̃ ñó h̃ɪ̃-s'í n'í p'ɛ̃l-ɛ̃n]  
I put down the pot.
- b. [mɛ̃ ná h̃ɪ̃-s'í n'í s̃j'í-ɔ̃k-ɪ̃n] ~ [m̃ ñó h̃ɪ̃-s'í n'í s̃j'í-ɔ̃k-ɪ̃n]  
I saw the pot.

### II. 3. Opt PH in Demonstratives and Possessives.

Recessive demonstratives and possessives, contrary to the dominant ones (those having at least one dominant constituent), do not constitute a POH-domain, but are harmonizable by the following noun. Below is developed the series of well- and ill-formed variants of the class 3 proximal demonstrative (16), whose concord prefix is intrinsically +ATR. Its vowel is always +ATR, regardless of the ATR value of the following noun, be it either -ATR (16a), or +ATR (16b).

- (16) Proximal Demonstrative. # Noun Prefix + Theme
- a. [w̃ú m̃ð-kàŋà] \* [wó m̃ð-kàŋà] this root (cl.3).
- b. [w̃ú m̃ù-ŋɔ̃] \* [wó m̃ù-ŋɔ̃] this tomb (cl.3).

The following examples, on the contrary, illustrate the fact that the proximal demonstrative always surfaces with -ATR vowels, when it determines a recessive noun from a class, other than classes 3, 4 & 19. The concord prefixes are here recessive (17a). When the noun itself is +ATR, the proximal demonstrative freely surfaces with + or -ATR vowels (17b), i.e. is optionally harmonized by the noun.

- (17) Proximal Demonstrative. ≠ Noun Prefix + Theme
- a. [p̃ó p̃òlɛ̃] \* [pú p̃òlɛ̃] this tree (cl.14).
- b. [p̃ó p̃ùs̃ɪ̃] ~ [pú p̃ùs̃ɪ̃] this face (cl.14).

The same alternation scheme holds for the anaphoric demonstrative, still with regard to underlying + and -ATR concord prefixes (18).

- (18) Demonstrative Prefix + Anaphoric Marker. # Noun Prefix + Theme
- a. [w̃-ɪ̃j̃ɪ̃ m̃ó-kàŋà] \* [w-ɛ̃j̃ɛ̃ m̃ó-kàŋà] ... this root (cl.3).
- b. [w̃-ɪ̃j̃ɪ̃ m̃ú-ŋɔ̃] \* [w-ɛ̃j̃ɛ̃ m̃ú-ŋɔ̃] ... this tomb (cl.3).
- c. [pw-ɛ̃j̃ɛ̃ p̃ólɛ̃] \* [pw-ɪ̃j̃ɪ̃ p̃ólɛ̃] ... this tree (cl.14).
- d. [pw-ɛ̃j̃ɛ̃ p̃ùs̃ɪ̃] ~ [pw-ɪ̃j̃ɪ̃ p̃ùs̃ɪ̃] ... this face (cl.14).

The possessives have been dealt with in sufficient detail at the end of the previous section, to see that they behave exactly the same way as demonstratives.

### III. Optional Secondary Harmony.

The last harmony process is Optional Secondary Harmony (Opt SH). It has already been mentioned by JANSSENS (1988: 66, note 2), though not in full detail, in a paper mainly dealing with tone and vowel elision in Nɛ̃nɪ̃. It applies to a word-final vowel, which has already been POH-harmonized, and which is thus

reharmonized, hence the proposed designation of Secondary for this process.

Secondary Harmony regularly applies to the [ə-a] vowel pair only<sup>11</sup>;

ATR spreads leftwards from the vowel at the right, belonging to either a POH- or to a Opt PH-domain;

In (19), the final vowel of /nE-hɔkA/, "the axe", is not harmonizable to [ə] if followed by a connective and a recessive noun (19a), but only if the connective itself is already harmonized, in application of Opt PH, by a following, +ATR noun (19b). In turn, the final [ə] of /O-mɪnə/ is harmonizable to [a] before + or -ATR nouns (19c' & d'), but only if the connective itself remains with the default, -ATR value. This shows that Opt SH is controlled by the next vowel to the right only.

(19) Determined Noun # Connective ≠ Determining Noun

- a. \*[nɛhɔkɑ nɪ mɔndɔ] \* [nɛhɔkɔ nɪ mɔndɔ] *the axe of the man.*  
 b. [nɛ-hɔkɔ nɪ mwɪ-əɔndɔ] \* [nɛ-hɔkɔnɛ mwɪ-əɔndɔ] *the axe of the woman.*  
 c. [ɔ-mɪnə wɑ mwɪ-əɔndɔ] d. [ɔmɪnə wɑ mɔndɔ]  
 c'. [ɔ-mɪnə wə mwɪ-əɔndɔ] d'. \* [ɔ-mɪnə wə mɔndɔ]  
 c''. [ɔ-mɪnɑ wɑ mwɪ-əɔndɔ] d''. [ɔmɪnɑ wɑ mɔndɔ] *the taro of the man.*  
 \* [ɔ-mɪnɑ wə mwɪ-əɔndɔ] *the taro of the woman.*

In (20), the final [ə] of a possessive, having an underlying +ATR constituent and thus being an independent POH-domain, is optionally reharmonized to [a] by a following recessive noun (20b).

There is a clear difference between the effect of Opt PH on recessive possessives and that of Opt SH on dominant possessives: in the former case, the two vowels of the possessive may be harmonized to +ATR by a dominant noun (see (11) above), while in the latter case, only the last vowel is reharmonizable to -ATR by the following noun (20b).

(20) Possessive # Noun

- a. [hɔ-əmə hɪ-nɔnɪ] \* [hɔ-əmə / hɔ-əmə hɪ-nɔnɪ] *my bird* (cl.19).  
 b. [hɔ-əmə hɔ-əfɔ] ~ [hɔ-əmə hɔ-əfɔ] \* [hɔ-əmə hɔ-əfɔ] *my fish* (cl.19).  
 (hɪ-AmA → (POH) hɪ-əmə → (Desyll.) hɔ-əmə → (Opt SH) hɔ-əmə)

Opt SH may also apply in spreading +ATR directly from the dominant vowel of a POH domain. In example (21), the final vowel of the object noun reharmonizes before an opposite ATR-valued verb.

(21) [mɛ nd ɛ-tákə sɪn] *I see the kitchen shelf.* (EtAkA# → a# → ə#)

ATR-spreading is **symmetrical**, contrary to what happens for the Primary Harmony processes, so that a -ATR [a] may be reharmonized to [ə] by a following +ATR vowel, as in (19b, 21), as well as a +ATR final [ə] may reharmonize to [a] before a following -ATR vowel as in (19 c' & d', 20b).

#### IV. The morphological status of the Preverbal Markers.

The 3 harmony rules are clearly ordered in the encoding process, since Opt PH depends on the output of POH, and Opt SH depends on the output of both POH and Opt PH. Furthermore, Opt PH must take place after the morphological word formation stage, since harmonization of preverbal markers may be triggered by completely heterogeneous sequences (e.g. verb bases, object nouns and even possessives or demonstratives, if they precede a sequence [determiner + object noun]).

Opt SH is quite clearly distinct from the two primary harmony processes. One could wonder, however, whether POH and Opt PH could not be the result of two conditioned applications of one and the same rule. The conditioning factor could be an optional cliticization rule, applying to preverbal markers, connectives, recessive possessives, etc. A unique, obligatory Primary Harmony rule would apply only afterwards. The cases of non-harmonization of clitics were accounted for by the optionality of the cliticization rule.

In fact, the morphemes undergoing Opt PH have to be marked lexically, in order to differentiate them from those that undergo Opt SH. An optional cliticization mark is the solution to this effect. But cliticization does not solve all the problems posed by POH and Opt PH. As shown in section I, a dominant possessive constitutes an independent POH-domain (9b & c; 10), while recessive possessives undergo Opt PH from the following noun (9a; 11). If both harmonizations were caused by one and the same (bi-directional, obligatory) rule, one would expect dominant possessives to harmonize a following recessive noun, at least optionally. In fact, this does not occur (10a).

On the contrary, dominant possessives in such an environment optionally undergo secondary harmonization of their final vowel - and only of this final vowel (sect. III, (20b)). Thus, the leftwards-only ATR spreading direction in Opt PH cannot be accounted for by a cliticization rule alone, but must in fact be considered as a distinctive feature of Opt PH, as opposed to POH.

#### IV. Preverbal Markers and the Vowels-in-contact Rules.

A remarkable thing is that this necessary cliticization does not always have the same effects, besides the ATR-spreading rules. This may be seen in the divergent behaviors of the subject and tense markers respectively with regard to vowel elision and desyllabification rules.

Within the word, a morpheme-final back vowel before a morpheme-initial front vowel is regularly desyllabified to a labio-velar glide, as illustrated in (22a) by a noun prefix before a vowel-initial theme, or in (22b) by a CV verb root, followed by the applicative suffix.

- (22) a. /tO iɲə iɲə/ → [tʷiɲiɲ] *small teeth*. NP cl.13 plur. + *tooth*  
 b. /sO Ak/ → [sʷək] *wash*. *wash* + INTENSIVE

The tense / aspect markers, ending with the same vowel, such as /ndO/, unaccomplished present, /nO/, accomplished present, or /ŋO/, determined future, when followed by a front vowel, do not undergo desyllabification, but obligatory elision of their final vowel, as in (23). The vowel-initial word triggering the vowel elision may be the verb base (23a), as well as the object noun (23b).

- (23) Subject Marker + T/A Marker ≠ (Object #) Verb Base  
 a. /mE ndO əmbin/ → [mí nd əmbìn] *I throw*.  
 b. /mE ndO EtAkA sìn/ → [mɛ nd ɛtáɰkə sìn] *I see the kitchen shelf*.

Final back vowel elision before another vowel is found elsewhere in Nɛnɪ only word-finally in nominals, though not obligatorily, and under several tonal and syllabic conditions, which have been discussed in JANSSENS (1988: 88-90). These conditions are not fulfilled by the relevant tense markers; thus, it cannot be the same rule at work in their case. However, one may consider that this elision rule is of a word-boundary sensitive type.

Other morphemes undergoing Opt PH, e.g. connectives, undergo the affixal vowel desyllabification in the same environment, see (24).

(24) /pOIE pO EmbɔmA/ → [pɔljá pw émbʲɔm] *the tree of the bush.*

The most interesting phenomenon is perhaps that the subject markers ending in a back vowel such as /tO/ and /nO/, respectively 1st and 2nd plural persons, undergo vowel desyllabification as well, before a vowel-initial verb base (25a & b), and before a vowel-initial object noun (25c).

(25) a. /tO AkAn/ → [twákán] *let us go.*

b. /tO əmbin/ → [twəmbʲɪn] *let us throw.*

c. /tO EtAkA sin/ → [tw ètákə sɪn] *we see the kitchen shelf.*

The elision of the vowel is in their case not allowed, even if they immediately precede the verb root - a position where the cliticizable final boundary of the preverbal markers sequence should have the same effect on subject as on tense markers, but in fact does not have it - insofar as vowel-in-contact rules are concerned.

The effect of this boundary is however the same as regards harmony, since in such sequences, exemplified in (26) with a consonant-initial verb, harmonization of the subject marker remains optional.

(26) /tO twən/ → [tɔ twən] ~ [tɪ twən] *we sit.*

Thus, while the harmonic behaviors of respectively the subject and tense markers remain the same in all cases, their behaviors diverge before a vowel-initial word. Since both processes (Opt PH and Desyllabification) take place after the word-formation stage only, this implies two distinct degrees of cliticization in subject and tense markers respectively.

In other words, we must assume not only that the subject and tense markers have different morphological properties, but also that these properties are still accessible after the word-formation level.

On the basis of the behaviors of their final vowels, one is tempted to say that the tense markers are radical-type clitics, while the subject markers are clitics of a prefixal type. We are thus faced in Nənɪ with four hierarchized morphological degrees, including affixes, roots, and two different types of clitics.

#### IV. The Status of the Preverbal Markers and the SOV word-order.

This difference between subject and tense markers must be the result of a historical process. In Proto-Bantu (PB), both subject and tense markers are reconstructed as affixes. The evolution from the affixal to the clitic status would be a highly unexpected one. It would have violated an apparent diachronic universal (though it does not seem to be documented in the literature), to the effect that a morpheme, once fallen to the affix status in a given syntactic use, may survive or perish, for instance as a result of phonetic erosion, but by no means recover a higher status.

Let us now consider that the basic word-order reconstructed for PB is \*S-V-O, while it is S-O-V in Nənɪ (more precisely, S-preverbal markers-O-V), an almost unique case in Bantu languages, where apart from Nənɪ and the neighbouring, unclassified micro-language Nyɔʔɔn (MOUS & BREEDVELD, 1979: 189), the SVO word-order is universal. Thus, in the evolution from PB to Nənɪ, the object noun should have been displaced from the clause-final place, to be inserted between tense marker and verb base. This insertion would have been made within a morphological word, which appears to be another impossibility, determined by the reverse side of the same universal: if it is impossible for an affix to recover combinatory freedom from the root it attaches to, it is impossible for a word to be inserted

within another word. In Nən̄ɪ, the two apparent violations of the two sides of the same prohibition have occurred at the same place. It is more than likely that a link exists between the two.

An explanation is offered by the widely accepted proposal that the tense markers of Proto-Bantu derive from earlier modal verbs. The changes having given rise to the degraded forms of the modal verbs may also have triggered changes in the word-order. For instance, the loss by the verb base of its own person, number and tense markers may have entailed an attraction of the modal verb (becoming an auxiliary) on the object, because of the preservation of its own verbal marking, thus precisely in the name of the \*SVO order.

This would have yielded the sequence [Subject Prefix + Mod./Aux. Verb + Object + Verb], very close to the present situation, with only the degradation of the auxiliary to its clitic status remaining to be performed. Moreover, this change had occurred not only without breaking the SVO order, but, on the contrary, to preserve it.

The syntax of Nən̄ɪ, if examined in more depth<sup>12</sup>, gives several arguments in favor of this hypothesis.

The first argument is that in fact, not only the object is found in Nən̄ɪ at the crucial place, between the tense markers and the base. The "emphatic subject pronouns" described by DUGAST (1971: 130) are compounds of two morphemes. They are used as single words before a verb in a Ø-marked tense (27).

- (27) [n̄ɪ a s, m̄ɪ ɔ m̄ɪ n̄ y ɔ k] "Leave it, I'll do by myself." (DUGAST, 1971)  
 leave 2nd sg. IMPERATIVE – 1st sg. EMPHATIC SUBJECT – work SUBJECTIVE INTENSIVE

However, as is stated by DUGAST herself, although in a remote section (1971: 334-5), and in a euphemistic form: "Les pronoms emphatiques se scindent couramment en deux parties, soit dans une proposition négative, soit quand la proposition est exprimée à un temps qui demande [...] un indicateur [...] dans ce cas, les adverbes de négation ou les indicateurs de temps viennent s'insérer entre les deux parties du pronom".

Indeed, it appears from her own data that this split is not only "courant", but obligatory, if there is any negation or tense marker in the verb construction (28).

- (28) [m̄ɪ l̄ɛ n̄ d' ɔ m̄ɪ m̄ ɔ n̄ y] "For my part, I do not know." (DUGAST, 1971)  
 1st sg. SUBJECT – NEGATION – UNACC. PRESENT – 1st sg. EMPHATIC – know

This clearly points to an earlier construction, where the tense marker was a conjugated verb and the verb base the equally conjugated verb of a subordinate clause.

Secondly, a verb in the nominal form, when used as an object of another verb, is never inserted between the separable markers and the verb base, but is obligatorily postponed, thus restoring the \*SVO order. This SVO order, with ordinary nouns as objects, is also found in a range of presumably archaic constructions (e.g. songs, etc.) in DUGAST's (1975) volume of oral literature.

- (29) a. [b̄ ɔ k a b i ɔ n̄ ɔ b̄ n̄ ɔ b a l ɛ n d o l o n u m] "They begot seven children."  
 3rd pl. SUBJECT – REMOTE PAST bear – cl.2 child – cl.2 seven (DUGAST, 1975: 175)

Thirdly, Nən̄ɪ makes use of modal verbs in several constructions, where they vary from the full verbal status to that of auxiliaries; moreover, this might involve consequences for the word-order.

A root such as /t i k/, "leave", is used in a fully auxiliary way as a subsecutivizer, the modalized verb appearing as a naked base, without even the nominalizing prefix, as in (30). The object of the base is inserted between the auxiliary and the base (30a), but shows a clear tendency to be rejected after it (30b), a tendency that might also point to a former \*SVO order.

- (30) a. [mùənyɪ n a t i k é m ā ŋ á t u a n a] "The woman carried then the kernels."  
 cl.1 woman – ACCOMPL. RECENT PAST – leave – cl.4 kernel – carry (DUGAST, 1975: 41)
- b. [à n á t i k ə y i m ò t í k à k i b i l] "He cut then another bunch of palm-nuts."  
 3rd sg. SUBJ. – ACC. REC. PAST – leave – cl.7 one – cut – cl.7 bunch of palm-nuts (ibid.)

A verbal root such as /pA1/, "begin"<sup>13</sup>, modalizes verbal clauses, whose verb is in the nominalized form. One may find in DUGAST (1975: 79) one clause at least, where the object of the modalized verb precedes the modal verb (31).

- (31) [mɛ̃ l o n a k á b o f i a b a l ú t i m ə n ə n] "The rat went over there to begin to dig  
 cl.9 rat – PAST/REMOVING – cl.14 pit -- begin – cl.3 dig – over there [the grave.]"

Since in Nə̀n̄ɪ̀, the object canonically precedes the verb, this example might be, other things being equal, a case of attraction of the object by the modal verb, very parallel to that hypothesized above for the shift from \*SVO to SOV<sup>14</sup>.

Finally, it is worth saying that apart from Primary Obligatory Harmony, which is so clearly attested in Dugast's data that it could give way alone to second-hand analyses, optional harmonization is also attested in her transcriptions.

Notably, while word-final vowel secondary harmonization is scarcely attested in Dugast, connectives sometimes undergo an optional harmonization, although no case of shift from [a] to [ə] is attested, but only of other vowels.

On the contrary, the preverbal markers frequently undergo harmonization, but the most commonly harmonized vowel is by far [a], and in the rightmost vowel of the sequence only. This is just the way Opt SH applies word-finally today, whereas the preverbal markers now undergo Opt PH. Thus, Opt SH was a transposition of a former verb clitic harmonization. The verb clitics had in turn undergone an extension of the optional harmonization to all vowel pairs, probably under the influence of POH, as a further step in their degradation process.

This again seems to show that the preverbal markers sequence enjoyed then a morphological status, near to that of an independent word, of which the present situation is the trace.

If this is correct, the two problems of the two-fold cliticization of the separable preverbal markers and the long-lasting one of the SOV word-order in Nə̀n̄ɪ̀ find here a unique solution.

## NOTES

1. My best thanks are due to MOUNDOUBOU Robert, MOUTOMBI Jean, NDOUNG Pierre-Giraud, MASSALAMANDA Ernest, to the ONGMOUTOMBO family, and to all the Pə̀n̄ɪ̀ people who made this fieldwork not only a fruitful enterprise, but also a delightful period. Grateful thanks are also due to the LACITO (C.N.R.S.) for the material support which made this work possible.
2. I call *transharmonic* a vowel which may occur with vowels of the two sets, but is not neutral, since it takes a particular ATR value, according to the morphemes where it is found.
3. Underlinings have the following meanings: V vowel triggering harmonization; V vowel undergoing primary harmonization; V vowel undergoing secondary harmonization.
4. The specificity of the numeral prefixes may be seen at the segmental level from the class 6 numeral prefix /a/, to be compared with /ma/ in all the other forms.
5. In fact, [-lɛndrɔmɔn] "seven" displays other exceptional peculiarities, in having the single attested occurrence of [r] in the Nə̀n̄ɪ̀ lexicon, and in allowing vowels of opposite harmonic series to co-occur in the same theme.

6. One will remark how strikingly it corresponds to the Turkana vowel harmony described by NOSKE (this volume). Turkana makes a wider use of the triple ATR opposition, the only formal difference with Nə̀n̩̂ being that Turkana displays the full set of contrasts in suffixes instead of themes.
7. My data are restricted to the plain demonstratives. In DUGAST, an emphatic form exists for each of them. According to the vowel correspondences between the data in possessives and plain demonstratives, the emphatic ones might well display the same harmonic behavior.
8. In a single example of my data, however, a recessive noun undergoes harmonization from the preceding dominant possessive.
9. This harmonization may occur even with a recessive root, if the root had been harmonized to +ATR before, by e.g. a dominant suffix, such as the causative one.
10. This does not constitute an obvious difference between Opt PH and POH, since the obligatoriness of the latter prevents any detailed observation of ATR-spreading over its domain.
11. Here must also be mentioned a handful of exceptions, where -ATR vowels, other than [a], undergo reharmonization to +ATR [i] or [u].
12. I lack personal information on the matter, and am forced to rely on Dugast's transcriptions, which I hold for generally phonetically reliable. A fortiori, they can be confidently relied upon from the word-order point of view. DUGAST's orthography has been respected.
13. Its differs tonally from /pA1/, "climb", appearing in several previous examples.
14. Most other Bantu languages also make use of modal verbs (HEINE, this volume). Among them, the case of yi-Punu (B.52), which has the classical SVO order, but allows the object to precede the verb in infinitive subordinate clauses (J. BLANCHON, pers. comm.), might be a case of the hypothesized attraction of the object by the verb of the main clause. It seems, however, to be isolated in the numerous SVO Bantu languages.

## **REFERENCES**

- BANCEL P. (1990) L'harmonie vocalique facultative en Nə̀n̩̂, paper read at the 20th Colloquium on African Languages and Linguistics, University of Leiden, 3-5 september 1990.
- DUGAST Idelette (1967) Lexique de la Langue Tunen, Paris: Klincksieck.
- DUGAST Idelette (1971) Grammaire du Tunen, Paris: Klincksieck.
- DUGAST Idelette (1975) Contes, Proverbes et Devinettes des Banen, Paris: SELAF.
- HEINE Bernd (1991) Auxiliaries in African languages, this volume.
- JANSSENS Baudouin (1988) Ton et élision vocalique en nen, Linguistique Africaine, 1, 61-94.
- VAN DER HULST Harry, Maarten MOUS & Norval SMITH (1986) The autosegmental analysis of reduced vowel harmony systems: the case of Tunen, in F. BEUKEMA & A. HULK (eds), Linguistics in the Netherlands, Dordrecht: Foris.
- MOUS Maarten (1986) Vowel harmony in Tunen, in Koen BOGERS, Harry VAN DER HULST & M. MOUS (eds.), The Phonological Representation of Suprasegmentals, Dordrecht: Foris.
- MOUS Maarten & Anneke BREEDVELD (1979), A dialectometrical study of some Bantu languages (A.40 - A.60) of Cameroon, in Gladys GUARISMA & Wilhelm MÖHLIG (eds), La méthode dialectométrique appliquée aux langues africaines, Berlin: Dietrich Reimer.
- NOSKE Manuela (1991) Feature-changing Harmony in Turkana, this volume.
- STEWART John & Hélène VAN LEYNSEELE (1979) Underlying cross-height vowel harmony in Nen (Bantu A.44), Journal of African Languages and Linguistics, 1, 31-54.