# The 4306 forms of the Nimboran verbal paradigm

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1.1    By most linguists it is taken for granted that the linguistic situation in New Guinea and surrounding islands is the most complex in the world. For budgetary, political, and geophysical reasons, and because of the anti-descriptive trend in linguistics during the last thirty years, deplorably few linguists did work in New Guinea and/or in languages of New Guinea. This is especially true of the western half of the island, the Indonesian province of Irian Jaya.

One of the rare exceptions was Johannes Cornelis Anceaux (1920-1988), professor in Austronesian and Papuan linguistics at Leiden University (1971-1986), and a language officer of the Dutch colonial administration in New Guinea (1954-1962). One of his major studies is a detailed description of the morphologically highly complex Nimboran language. This language is spoken in the Jayapura district, Nimboran subdistrict, in an area west of Lake Sentani around the town of Nggeniém[1] by an estimated number of speakers of 3.000 (Anceaux 1965: xv and 1; Wurm & Hattori 1983: map 3)[2]. The language belongs to the Trans New Guinea Phylum, Nimboran Stock-Level Family (Silzer & Heikkinen Clouse 1991: 29 and 69, Wurm & Hattori 1981: map 3).

Since Anceaux' study Nimboran has been the target of a SIL couple (May 1978, May 1981, May & May 1981), but their scope has so far been limited to phonology and anthropology. As far as I know, Anceaux' description of Nimboran morphology (which is practically exclusively verbal) remains therefore the latest account of that aspect of the language.

1.2    Anceaux' approach is basically didactic. Step by step the various morphological categories and classes of categories ("orders"), pertinent to the structure of the Nimboran verb, are introduced and discussed, culminating in the paradigm of 62 pages

of the verb *nggedóu-* 'to draw' (pp.185-246)[3]. The approach is typically word-based, with statements such as: "Opposed to the series: *suándu* - I will water (here), etc. etc. we find the following forms: *sáondáru*[4] - I will water them (here), *sáondáre* - you will water them here ... *saóindiarám* - you and I (you and we) will water them (here) ... All these new forms belong to a productive category whose members have in common the semantic element "the action is connected with a plural object". Formally, the members are characterized by an element *-de-* that immediately follows the root-morpheme and takes the form *-da-* whenever it is immediately followed by the Tense morpheme" (pp.105-106).

In this way Anceaux introduces in the fifty sections on "The Productive Categories of the Verb-system" (pp.56-122) the following categories (in this order):

1) singular actor categories: 1st person, 2d person, 3d person masculine and 3d person neutral (= non-masculine);
2) tense categories: future, present, past and recent past;
3) position categories, coined 1 to 5;
4) combinations of 2) and 3);
5) further position categories, coined 6 to 16;
6) further actor categories: 1st+2d person singular, 1st+2d person dual;
7) root-morpheme categories: singular, dual;
8) plural actor categories: 1st person exclusive, 1st person inclusive, 3d person;
9) the plural root-morpheme;
10) combinations of 5) and 8);
11) iterative vs. momentary categories;
12) object categories: masculine, plural;
13) the category of the durative;
14) combinations of 13) and 11), and of 13) and 2);
15) the "infinitive" and "final infinitive" categories;
16) The so called "secondary" verbal categories.

Subsequently (pp.123-164) "blockading" categories and words are discussed, which comprise recurrent and unique, lexically or phonemically conditioned, formal exceptions in the

expression of the categorial meaning of some of the productive morphological categories.

Finally, Anceaux introduces two additional verbal categories: feminine object and 2d person plural actor, which are relevant only for a (very) restricted number of stems (pp.165-166).[5]

1.3 Anceaux does not give an explicit systematic survey of the structure of the Nimboran verbal paradigm, but this can be derived from his combined statements and especially from the sample paradigm of *nggedóu-*. Below I will present a systematized overview of the Nimboran verbal system, based on a rearrangement and reinterpretation of Anceaux' data and comments.

The multidimensional character of the verbal paradigm makes that the possible combinations of categories can best be schematized in a series of charts. In section 2 of this paper I shall discuss the positional deictic categories expressed in the verb, and in section 3 the possible combinations of these categories with other categories. In section 4 the formal build up of the verbs will be discussed.

2 One of the most salient aspects of the Nimboran verbal paradigm is the elaborate system of what Anceaux calls position categories. In an earlier paper (Steinhauer, to appear) I have tried to systematize the oppositions between these categories, which by Anceaux are described in a rather impressionistic way. The result is illustrated in chart 1. In this chart the 16 position categories are divided into two groups: those which indicate the presence of a movement (of the agent and/or of the patient), and those which do not ([+move] and [-move] in the chart). The [+move] categories are not available for actions which do not involve a change of place. For verbs which do, the [-move] categories seem to express that the movement starts at the indicated position.[6]

Both [+move] and [-move] categories are subdivided into two sets: those which involve the position of the speaker ([+S]), and those which do not ([-S]). Relevant positions are further defined by elevational features: [+H], higher than the place of the

speaker; [+L], lower than the place of the speaker; [-H,-L], at the same level as the place of the speaker. All these positions are implicitly visible ([+vis]) and opposed to what is far away and not visible ([-vis]). It is understood that [-H] includes positions which are [+L] and [-H,-L], whereas [-L] includes [+H] and [-H,-L]. The numbers in the chart correspond with Anceaux' numbering of the positional categories.

| | [+S] | [-S] |
|---|---|---|
| [-move] | (1) | (2) [+H]<br>(3) [+L]<br>(4) [-H,-L]<br>(5) [-vis] |
| [+move] | from [+S] to ... | from ...        to ... |
| | (6) [+H]<br>(7) [-H,-L]<br>(8) [+L]<br>(9) [-vis] | (13) [-H]/[-vis]   [+H]<br><br>(14) [+L]        [-H,-L] |
| | from ... to [+S] | (15) [+vis]        [-vis] |
| | (10) [+H]/[-vis]<br>(11) [+L]<br>(12) [-H,-L] | (16) [-L]/[-vis]   [-H] |

Chart 1: The system of the 16 position categories.

3.1  The first major distinction to be made for the verbal paradigm as a whole is one between {+indicative}[7] vs. {-indicative} forms. The latter comprise only two other categories, *viz.* what is called by Anceaux the "infinitive" and the "final infinitive". The "final infinitive" has the categorial meaning 'in order to ...'. The "infinitive" is used as an adjective (translated as a passive perfect participle), a coarse imperative, or indeed a kind of infinitive occurring in contexts such as *like to ---*, *refuse to ---*.

3.2 In contradistinction to the {-indicative} forms, the {+indicative} forms always contain subject markers, and are used as heads of predicates. Their subdivision is illustrated in chart 2. There the possible combinations of the positional and other categories are presented in abbreviated semantic terms. Abbreviations and symbols used in this chart are as follows: (i) ±act., ±stat., ±plur., durat., momt., iter., unsp., masc.: ±active, ±stative, ±plural, momentary, iterative, unspecified, masculine; (ii) 1-16: the 16 position categories of chart 1; (iii) P(ast), R(ecent) P(ast), Pr(esent), F(uture); (iv) "system n": a system of n categorial oppositions for subject agreement marking (to be discussed below); (v) } and {: one of the embraced items should be selected.

3.3 The categories which are labelled {-active} in chart 2 are coined "secondary" verbal categories by Anceaux. He distinguishes three such categories alongside the "infinitives" and what by default would be "primary" categories. The latter are called {+active} in chart 2: their subject markers are agents, whereas the subject markers of the {-active} forms are patients. Anceaux' first and second "secondary" categories have the categorial meanings 'to get into the state caused by the action' or 'to get into the state (denoted by the lexical meaning)', and 'to be in the state caused by the action' or 'to be in the state (denoted by the lexical meaning)'. They are labelled {-stative} and {+stative} in the chart. Anceaux' third "secondary" category appears to consist of variant forms for the '3d person plural inanimate' of the second "secondary" verbal paradigm.[8]

As chart 2 shows, {-active} categories have forms for the 1st to 5th position only. Apparently, the passive categorial meaning of the {-active} forms collides with the meanings of the 6th to 16th position categories, which imply movement and action (cf. chart 1).

Obviously only transitive verbs have both {+active} and {-active} forms. Anceaux indicates that {-active} forms are typical of adjectives (p.120). Although he is less explicit about intransitive

verbs, it may be inferred that these have a paradigm of exclusively {+active} forms.

| voice | position | tense | aspect | object | subject |
|-------|----------|-------|--------|--------|---------|
| -act. | 1 | P, RP, Pr, F | +stat. | | |
| | 2-5 | P, Pr/RP, F | -stat. | - | system 15 |
| +act. | {1, 6-12} | P, RP, Pr, F | durat. (unsp.) | +plur. | system 10 |
| | {2-5, 13-16} | P, Pr/RP, F | momt. | | |
| | {1, 6-12} | P, RP, Pr | iter. | masc. -plur. (unsp.) | system 12 |
| | {2-5, 13-16} | P, Pr/RP | | | |

Chart 2: Combinations of {+indicative} verbal categories.

3.4  Both {+active} and {-active} forms have tense oppositions: {past}, {recent past}, {present} and {future}. The {future} indicates that "the action will take place in the future, or begins in

the present and will continue in the future, or takes place in the present and is directed towards the future ... [Furthermore it is] used to indicate that the actor intends or wants to perform the action, or that the speaker wants the action to take place" (p.59); the {present} indicates that "the action takes place in the present or is completed in the present" (loc.cit.), while it is also "used in all those cases in which the time of the action is unimportant or is left out of account" (p.60); the {past} indicates that "the action took place in the past" (loc.cit.), though it supposedly does not overlap with the {recent past} which covers events which happened earlier today or yesterday, as well as past events between an earlier past event and the present (cf. p.60).

As is shown in chart 2 the opposition {present} vs. {recent past} is systematically neutralized for all position categories which do not involve the position of the speaker ([-S] in chart 1). No obvious semantic explanation for this phenomenon forces itself upon us.

3.5    For the {+active} forms Anceaux distinguishes the following aspectual (combinations of) categories: "momentary", "iterative", "durative momentary" and "durative iterative". The {iterative} indicates "repeatedness of the action"; sometimes ... "successiveness of the action" (if the actor is plural)" (p.98), while for the {momentary} category "the action is continuous, uninterrupted, or confined to one moment" (loc.cit.). Apparently the {iterative} cannot be combined with {future} tense. Perhaps the {iterative} requires repeated evidence up to the time of speaking, but further research is necessary to corroborate such a hypothesis or to find another explanation.

By distinguishing "durative momentary" and "durative iterative" categories, the combinations of the durative aspect and the tense categories are defective: Anceaux' "durative momentary" aspect only occurs in the {present}, while his "durative iterative" aspect is found in the {present}, {past} and {recent past}. Although formally this analysis seems to be justifiable, semantically it is counter-intuitive: events which are conceptually more complicated (iterative) than other events (momentary) are not likely to show a higher degree of subcategorization. The

opposite is indeed the case for Anceaux' non-durative "iterative" and "momentary" categories.

Therefore it seems to me that for the durative no distinction between momentary and iterative should be made. This conclusion is in fact corroborated by Anceaux himself, when he remarks that "the Momentary forms ... also have the meaning of "continuation of an action in the future" [while] the Present forms of the Iterative of the Durative ... have the meaning "continuation in the present of an action, begun in the past ... [whereas the] Past and Recent Past forms of the Iterative of the Durative can be used to denote a continual action in the past without any element of repetition being present" (p.111). In other words, iterativity is at best a possible interpretation of the more general durative meaning ('continued presence of the action', vs. mere 'presence of the action' for the non-durative categories).

Apparently, such an iterative interpretation is precluded for what Anceaux therefore identifies as the "durative *momentary* present". Given, however, the possible meaning "continuation of the action in the future",[9] and the fact that the notions of iterativity and future cannot be combined, it seems likely that this "durative momentary present" should be interpreted as the {durative} {future}. This reinterpretation is reflected in chart 2.

As a consequence of this reanalysis, I distinguish a ternary aspectual opposition for the {+active} forms with regular distribution of tenses, replacing Anceaux' double binary opposition with defective tense distribution.

3.6   The {momentary} and {iterative} categories in chart 2 can be combined with one of the two object categories, *viz.* {plural object} and {masculine non-plural object}. The latter choice indicates that the object consists of "one or two male beings, not identical with the speaker or the person addressed" (p.104), while {plural object} indeed indicates that the object is plural, again excluding the speaker and the addressee. The object may be left unspecified. This is obviously the only option with intransitive verbs. With transitive verbs it is the unmarked option: the actual object may be any number of men, women or things (cf. p.107). With the {durative} category the object is always unspecified.

3.7 Each possible combination of {+indicative) categories discussed so far, should be combined with some subject agreement category.[10] Three subsystems for subject agreement marking are distinguished. They differ in the structure of the non-singular categories and are in complementary distribution. The most elaborate system ("system 15" in chart 2) is found with the {-active} categories of the paradigm. It is difficult to explain why this should be so. The least elaborate system ("system 10") is characteristic for those {+active} verbal categories which indicate what can be called an "extended referential scope", to wit {durative} verbs and verbs with a {plural object}. "System 12" finally, is found with the other {+active} categories.

| | system 10 {+active} "extended reference" | system 12 {+active} (other) | system 15 {-active} |
|---|---|---|---|
| singular<br>dual<br>plural | - | 1<br><br>3 | 1<br>2<br>3 |
| +singular<br>-singular | 1<br>2<br>1+2<br>3 | 2<br>1+2 | 1+2 |

Chart 3: Combinations of number and person
in the subject agreement marking systems.

In all three systems, number of subject and person/gender are separate morphological categories. Gender is only relevant for the third person. The other persons distinguished are {first person subject}, {second person subject} and {first + second person subject}. The possible combinations of number and person are illustrated in chart 3.

It should be noted that {+singular} for the {first + second person subject} indicates the minimal number of speech

*participants needed to qualify* as such, i.e. one speaker and one addressee.

Chart 4 illustrates the gender distinctions with the third person subject in the three subsystems. As with the object marking categories {(+)masculine} has to be read as referring to male beings only (p. 58, 84), whereas {-masculine} ("neutral" in Anceaux' terminology) refers to not exclusively male beings. Anceaux' "Feminine Object" as an additional verbal category in {+active} verb forms of *some* lexical stems is defined as referring to an object consisting of "one or two beings of the female sex" (p.165). This neutralization of singular and dual parallels the {masculine non-plural object} category discussed above. However, it is unclear how "feminine" in the 3d person dual forms of "system 15" has to be interpreted: as referring to two female beings or to at least one female being and something else (male or inanimate)?[11]

| system | number | gender oppositions | | |
|--------|--------|--------------------|--------|----------|
| 10 | ±singular | +masculine | -masculine | |
| 12 | singular dual | +masculine | -masculine | |
| | plural | - | | |
| 15 | singular | +masculine | -masculine | |
| | dual | masculine | feminine | -animate |
| | plural | +animate | | -animate |

Chart 4: Gender oppositions for third person subject agreement

It should be noted by the way that the high degree of specification for gender of the 3d person dual in "system 15" as compared to singular and plural subject is counterevidence to one of Greenberg's language universals, *viz.* Universal 37 in Greenberg

1966 (p.95), which reads: "A language never has more gender categories in nonsingular numbers than in the singular".[12]

4.1.1 As to the formal aspects of the {+indicative} verbs in Nimboran, their general shape is *root + suffixes*. For a phonologically defined number of verbs the root comes in different shapes. No general rule can be given for the formal relations between these forms, but they are functionally distinctive. Maximally four forms are distinguished: one for forms other than {+active} forms, i.e. for {-active} forms and {-indicative} forms, and three for {+active} forms, corresponding with subject number. An example is the verb 'to put':

> *káong* {+active} {dual subject}
> *kuáng* {+active} {singular subject}
> *kaóing* {+active} {plural subject}
> *kóng* {-active} and {-indicative}

Verb forms with "extended reference" (i.e. those which are {durative} or have a {plural object} only {+singular subject} and {-singular subject} are distinguished. The {plural subject} forms for the root is used for {-singular subject} in these cases.

Verbs which lack one or more of these root forms use the form for the {dual subject} instead, e.g. the verb 'to draw':

> *nggedóu*  1. {+active} {dual subject}
>           2. {-active}, and {-indicative}
> *nggedúo* {+active} {singular subject}
> *nggedói* {+active} {plural subject}

For lists of root forms subject to such modification I refer to Anceaux (1965:86-91, 93-97, 113-114) and Steinhauer (1994).

The {-indicative} verbs forms are the only verb forms without suffixes. Anceaux' "infinitive" consists of the mere root, his "final infinitive" is derived from the latter through partial reduplication. For particulars I refer to Anceaux (1965:114-117) and again to Steinhauer (1994).

4.1.2 The semantic differences between the {+active} and {-active} sections of the {+indicative} paradigm are matched by striking formal differences. I shall therefore discuss the possible strings of suffixes for the {-active} and {+active} forms separately.

It should be stressed that fronting of vowels in all suffixes is (one of) the formal exponent(s) of the {-active} {+stative} and of the {+active} {durative} categories, as well as of those position categories which involve a movement over a large distance or downwards (i.e. position categories 8, 9, 12, 15 and 16).[13] In fact this difference in suffix vowels is the only difference between {+stative} and {-stative} forms, and between the position categories 7 and 8, and 14 and 16. Below I shall discuss suffixes in their *unfronted* shape only (except when they are inherently fronted). This also pertains to suffixes containing the vowel *a* but which can be followed by a suffix string consisting of at least two vowels separated by a consonant, in which case this *a* is also fronted to *e* (whether the other suffix vowels are fronted or not).

Some of the suffixes to be discussed below are potentially stressed. This is indicated by an acute on the relevant vowel. The last potentially stressed suffix will receive the main stress of the word. A secondary stress will then be on the verb root. If there is no potentially stressed suffix present, main stress is on the verb root.

4.2.1 The {+active} paradigm has the following order of suffixes. Suffixes of the same order are mutually exclusive. Order classes (slots) are marked by Roman numbers.

I    {dual subject}: *-ke-* (*-k-* before *-r*).
II   {durative} aspect: *-tem-* (*-te-* if followed by *-m*);
     {masculine non-plural object}: *-rá-*;
     {plural object}: *-dá-*;
III  {plural subject}: an infix *-i-* after the first consonant
     of the first suffix, provided this consonant is dental (*t, d, n, s*).
IV   {first + second person subject} {singular subject}:
     *-maN-*;[14]

V     position category 3 {momentary} {present/recent past}, and
position category 3 {durative} {future}: *-ke-*

VI    the position categories (subject to fusion, see VIII):
(1) 0 (zero), (2) *-bá-*, (3) *-ngá-*, (4) *-sá-*, (5) *-ná-*,
(6) *-be-*, (7) *-se-*, (8) *-se-*, (9) *-ne-*, (10) *-keN-*,
(11) *-báN-*, (12) *-sáN-*, (13) *-bená-*, (14) *-sená-*,
(15) *-kené-*, (16) *-sené-*;

VII   aspect categories:
{momentary}{present/recent past} position categories [-S]
[+move]: *-ná-* (*-né-* when fronted);
{momentary} in other combinations: 0 (zero);
{iterative} the exponent of which fuses with the
    segmental exponents of the position categories of VI
    resulting in the following forms:
    (1) *-ká-*, (2) *-beká-*, (3) *-nggá-*, (4) *-ská-*,
    (5) *-nenggá-*, (6) *-beká-*, (7) *-ská-*, (8) *-ské-*,
    (9) *-nenggé-*, (10) *-nggeN-*, (11) *-bekáN-*,
    (12) *-skáN-*(13) *-benenggá-*, (14) *-senenggá-*,
    (15) *-kenenggé-*, (16) *-senenggé-*;
{durative}, non-future: as {iterative};

VIII  tense categories:
*-k-*    {past};
*-p-*    {recent past};
*-t-*    {present};
      {future} {durative} position categories [+S];
      {present/recent past} other than {momentary},
         position categories [-S] [-move];
*0*    {future} {durative} position categories [-S];
      {present/recent past} {momentary}, position
         categories [-S] [-move];
*-r-*    {future} {momentary} position category [+S]
         [-move], specified object;
      {future} {momentary} position categories [-S];
*-d-*    {future} {momentary} position category [+S]
         [-move], unspecified object;
      {future} {momentary} position categories [+S]
      [+move];

IX   person/gender categories of subject (subject to fusion with the preceding suffix):

*-u*    first person;
*-e*    second person;
*-ám*  first + second person;
*-um*  third person, non-masculine, other than plural;
*-am*  other third persons;

when the tense marker is 0, the latter three suffixes fuse with the preceding vowel: *-á-* + *-um* > *-óm*; *-á-* + *-am* > *-ám*; *-á-* + *-ám* > *-ám* (with the fronted pendants *-é-* + *-ym* > *-yém*; *-é-* + *-im* > *-ém*; *-é-* + *-ím* > *-ém*).

**4.2.2** In the {-active} section of the paradigm the following order of suffixes is found. This holds for both {+stative} and {-stative} verb forms, which - as indicated above - only differ in the frontness of their suffix vowels.

I    *-k-*    third person subject, -animate, dual;
II   *-de-*   first + second person subject, singular;
     *-ra-*   singular subject other than first + second person;
            third person subject, -animate, non-singular;
     *-dia-*  all other dual and plural cq. -singular subjects;
III  *-maN-*  first + second person subject;
            first person subject, plural;
            second person subject, plural.

(NB different from {+active} *-maN-* (which has a narrower semantic scope) this {-active} *-maN-* is not subject to fronting if followed by two syllables separated by a consonant).

IV  *-ke-*   position category 3 {present/recent past}
V   the [-move] position categories:
     (1) *0*, (2) *-bá-*, (3) *-ngá-*, (4) *-sá-*, (5) *-ná-*;
VI  tense categories:
     {past}: *-k-;* {recent past}: *-p-*; {present}: *-t-*
     {future}: *-r-* (*-d-* after *-maN-*); {present/recent past}: *0*
VII  subject agreement categories:
     *-u*     first person, plural, position categories [+S];
           first person, position categories [-S],
              {present/recent past};

| | |
|---|---|
| -*ú* | first person (other combinations); |
| -*e* | second person, plural, position categories [+S]; |
| | second person, position categories [-S], |
| | {present/recent past}; |
| -*é* | second person (other combinations); |
| -*úm* | third person, -masculine, singular; |
| | third person, feminine, dual; |
| -*ám* | third person (other combinations); |
| | first + second person. |

4.2.3 As the lists in 4.2.1 and 4.2.2 illustrate, the {+active} and {-active} differ in stress placement and morphophonology, while formally similar suffixes have different functions. Both systems of categories, oppositions and suffixes, with their cumulative, extended, fused and overlapping exponence, are indicative for the ±activeness of the respective sections of the total verbal paradigm.

## Notes

1. ng is used for Anceaux' velar nasal.
2. Silzer & Heikkinen (1991:69 and map VII) estimate the number of speakers to be 3500.
3. Reference is always made to Anceaux 1965.
4. In Anceaux' notation the last stressed syllable indicates main stress. A possible second stressed syllable carries a secondary stress. (Main) stress is phonemic.
5. It should be added though, that these categories are also pertinent to the "first" and "second secondary verb categories" (see below).
6. This is suggested by the two examples presented (Anceaux 1965:64).
7. Braces are used for morphological categories and corresponding sections of the paradigm. Binary oppositions are presented as privative. This does not imply a definite commitment as to the exact semantic nature of these oppositions. As positive member of each binary opposition I

chose the one whose appropriate referents are most easily marked off.

8. I have disregarded variant forms in my calculations for the title of this paper.

9. Anceaux himself presents this formulation as one of the meanings of the future category. See the quotation above.

10. Anceaux' term "actor category" is adequate only for the {+active} part of the paradigm: the corresponding suffixes in the {-active} refer to the object of the action.

11. Anceaux does not indicate how a heterosexual couple would be referred to. Apart from that, it remains a task for ethno-metaphysics and ethno-sexuology to define the borders between animateness and inanimateness, and to establish which animate entities are male or female.

12. For another counterexample see Steinhauer 1985.

13. *ú, ó, é, á, u, a* are fronted to *ý, yé, í, í, y, e*. Only unstressed *e* and *i* remain unchanged. Other vowels do not occur in the suffixes. For details I refer to Steinhauer (to appear) and Voorhoeve (to appear).

14. *N* is a morphophoneme whose (nasal) realization is conditioned by assimilation to the following consonant. It represents a velar nasal before vowels.

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