Symmetrical Voice and Applicative Alternations: Evidence from Totoli

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This paper proposes an analysis of the system of voice and applicative alterna-tions in Totoli, a language spoken on Sulawesi in Indonesia. This system appears to be unique among Western Malayo-Polynesian languages (at least the ones reasonably well known to date). Its uniqueness is due to a particularly intricate interplay of (symmetrical) voice and applicative functions marked by a set of affixes that are clearly cognate with voice marking affixes in Philippine-type languages. In trying to tease apart the functions of the different construc-tions making up the system, the paper contributes to a better understanding of the commonalities and differences between symmetrical voice and applicative alternations. It also discusses variation in the use of voice-related morphology, thus providing a rather rare glimpse into the ongoing change of a western Aus-tronesian voice system.

1. INTRODUCTION.[1] Totoli is a Western Malayo-Polynesian language spoken in the northern part of Central Sulawesi in and around the city of Tolitoli (see map 1 below and map 2 in section 4). Compared to other languages of this group, Totoli seems to take a special position. Its voice system combines features of typical Philippine-type[2] symmetrical voice alternations and typical applicative alternations as found, for exam-ple, in Standard Indonesian, in such a way that it becomes very difficult, if not impossi-ble, to decide whether a given alternation should be considered a voice alternation or an applicative alternation.

Some Philippine-type voice alternations, specifically the alternations targeting seman-tic roles *other* than PATIENT and THEME, such as INSTRUMENT, LOCATION, or BENEFI-CIARY, are functionally similar to applicative alternations. Some authors, for example, Arka and Ross (2005:8f), appear to suggest that there is in fact no major difference

2. "Philippine-type" is used here as defined in Himmelmann (2005:113), that is, as referring to a symmetrical voice system that exhibits at least two formally and semantically distinct UNDER-GOER VOICES, at least one (nonlocal) phrase-marking clitic for nominal expressions, and which allows for pronominal clitics to be positioned in second position. The Totoli voice sys-tem is *not* a Philippine-type voice system by this definition, but it is a symmetrical voice sys-tem. In fact, it is perhaps the clearest example of a symmetrical voice system encountered to date, as shown in Riesberg (to appear).

MAP 1. TOMINI-TOLITOLI LANGUAGES
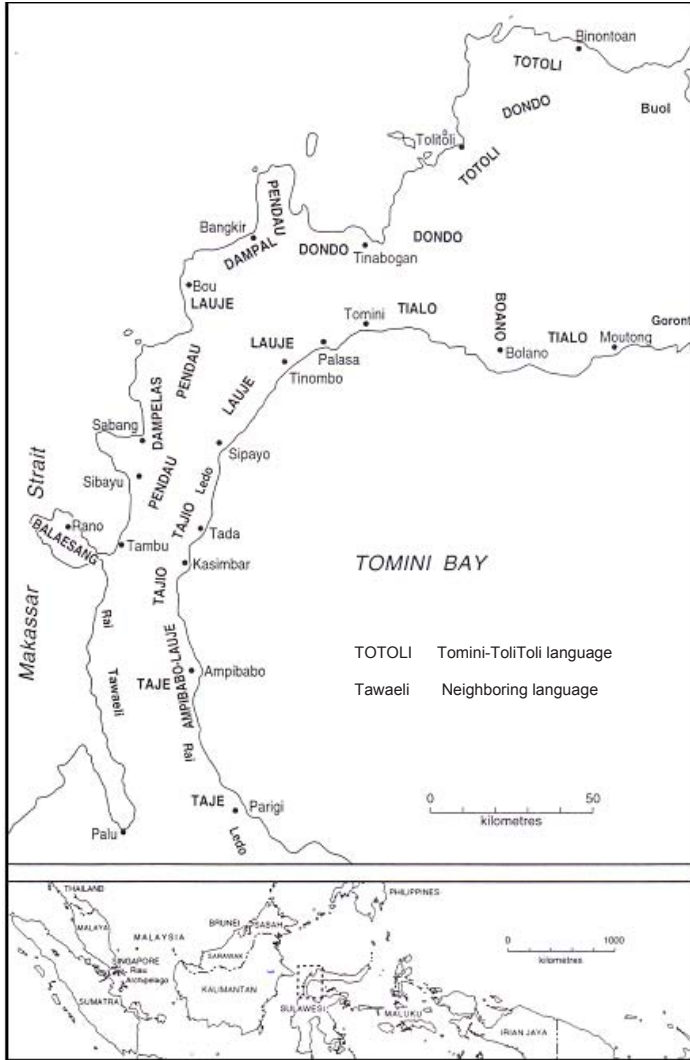
kilometers

between these alternation types. Davies (2005) argues for Madurese that voice and applicative morphology should be seen as constituting a single overall system, and that, therefore, the differences between Philippine-type voice systems and the voice systems found in the languages of western Indonesia are not as striking as often assumed. However, the applicative morphology in Madurese and languages with similar systems, such as Standard Indonesian or Balinese, is clearly distinguishable from the voice morphology. Hence, it remains questionable whether one can actually speak of a single overall system.

The case of Totoli to be discussed here is quite different in this regard. On a purely formal level, we are clearly dealing with a single morphological system. There are eight different verbal formations that convey voice distinctions, in the sense that the verbal form encodes information regarding the semantic role of the subject argument of the overall construction. As is typical for Philippine-type languages, these formations systematically occur in two modes, called REALIS and NONREALIS here. This is one major factor contributing to the overall formal coherence of the system. Table 1 lists these forms without any further functional labeling, as it will be important to carefully argue for each step in the further functional analysis of these formations.[3]

Unsurprisingly for someone familiar with western Austronesian voice morphology, the forms listed in the first three rows occur in constructions where the subject bears the ACTOR role. The remaining forms occur in constructions where the subject is an UNDERGOER. Consequently, the following list of examples will make use of a first, very basic distinction between ACTOR VOICE and UNDERGOER VOICE formations (AV and UV, respectively). The presentation of these examples in sections 2 and 3 also includes some preliminary functional characterizations of the constructions, to make it easier to keep track of them.

Even a very superficial inspection of the formations listed in table 1 shows that the undergoer voice formations are much more heterogeneous in terms of their formal make-up than the actor voice formations. Most conspicuously, the suffix -an occurs in realis mode in formations V and VI, but in nonrealis mode in formations VII and VIII. In the undergoer voices, the suffix -i only occurs in nonrealis mode. In the actor voices with suffixes (II and III), on the other hand, the suffixes are used consistently in both modes. This distribution is prone to confuse both analysts and speakers and, as further discussed in section 4, we are in fact dealing with a highly variable and unstable system, as there are various tendencies to "regularize" morphological markers.

Taking this variability into account, in section 5 we propose an analysis of the formations listed in table 1 as forming a single overall system, where voice and applicative alternations are tightly integrated and partially overlap. We argue that applicative and (symmetrical) voice alternations are distinguished not only by the fact that applicative

TABLE 1. TOTOLI VERBAL FORMATIONS CONVEYING VOICE DISTINCTIONS

	REALIS	NONREALIS
I	no(g)/noN-	mo(g)/moN-
II	no(g)/noN-+-i	mo(g)/moN-+-i
III	no(g)/noN-+-an	mo(g)/noN-+-an
IV	ni-	Ø
V	ni-+-an	-i
VI	ni-po(g)/poN-+-an	po(g)/poN-+-i
VII	ni-	-an
VIII	ni-po(g)/poN-	po(g)/poN-+-an

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3. There have been two previous attempts at analyzing the Totoli system, one by Wolff (1996) and the other by Himmelmann (1996). These analyses, which do not agree with each other, were based on incomplete data and are not further discussed here for this reason. The interested reader may find it instructive to look at these previous attempts, as they illustrate the pitfalls of basing an analysis of the Totoli system too strongly on Philippinists' assumptions.

alternations typically target the object function and voice alternations the subject function. Instead, we propose a number of additional features distinguishing these two alternation types, features that are needed to make sense of the Totoli facts.

Before turning to an exemplification of the formations in table 1, it will be useful to stress the importance of the realis/nonrealis alternation. Note, for example, that formations IV and VII both are suffixless in realis mode, and both take the general realis UV prefix *ni-*. That is, these two formations are only distinguished by the fact that they have different corresponding forms in nonrealis mode (IV is also suffixless in nonrealis mode, but VII involves the suffix *-an*). It is, thus, of utmost importance to keep track of the realis/nonrealis alternation for each formation in analyzing the system. It should be clearly understood that this alternation only pertains to mode and, by implication, temporal distinctions. This holds true regardless of whether or not the two forms making up a mode-alternation pair share formal similarities. Examples making up a mode-alternation pair are morphosyntactically identical, except for the different mode values. Compare the example pair in (1).[4]

(1) a. Niug   ana   ko-doong   **botak**   i   Jui.
         coconut   MED   POT-want   split   HON   PN
         'Jui will split this coconut.'

     b. Niug   ana   tooka=mo   **ni-botak**   i   Jui.
         coconut   MED   finished=CPL   RLS-split   HON   PN
         'Jui split this coconut.'

Example (1a) contains the nonrealis form of the verb *botak* 'split', which is morphologically unmarked; example (1b) shows its realis counterpart, marked by the prefix *ni-*. Syntactically, the examples are identical. In both examples, *niug* 'coconut' is the subject, which could also occur at the very end of the clause. *Jui* is the nonsubject core argument, which has to occur in immediate postverbal position.

In this and some of the following examples, the word *kodoong* 'want, will' occurs in the nonrealis clause to emphasize the nonrealis mode, and *tookamo* 'finished' in the realis clause to emphasize the realis mode. These are artifacts of elicitation where Indonesian clauses were used to elicit Totoli forms: *kodoong* renders Indonesian *akan* 'will' or *mau* 'want', and *tookamo* Indonesian *sudah* 'already'. These words do not occur in this function in spontaneous speech. They are also not displayed in the English translations accompanying the examples here. The different mode values are generally mirrored by translating realis mode forms with an English past tense form, and nonrealis mode forms with English future or progressive forms. Note also that we also do not make an attempt to capture the difference between actor and undergoer voice constructions in the English translation (in particular, we do not translate undergoer voice constructions with English passives, because UV constructions differ both syntactically and functionally very clearly from passive constructions).

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4. The following abbreviations are used in glossing the examples: ACT, actor (prefix); AND, andative; APPL, applicative; AV, actor voice; CPL, completive; GEN, genitive; HON, honorific article; INTJ, interjection; LOC, locative; LV, locative voice; MED, medial (deictic); MOT, motion by actor; PART, particle; PN, personal name; POT, potentive; PRX, proximative (deictic); REL. relative clause; RLS, realis; S, singular; SF, stem former; ST, stative; UV, undergoer voice; VEN, venitive.

Example (1) and almost all of the following examples are elicited and edited to facilitate parsing and comparison. For each construction type, however, many natural examples can be found in the Totoli documentation corpus accessible in *The Language Archive* (formerly *DoBeS archive*, www.dobes.nl). Whenever examples are taken directly from the corpus, they are referenced to their source.

Like the mode values, the definiteness/specificity values used in the translations are approximate at best. They are largely irrelevant for the alternations discussed here. Note in particular that, unlike in many Philippine-type languages, definite undergoers are allowed in AV main clause constructions, as can be seen in examples (4), (5), and (6). As in many other symmetrical voice languages, there is a preference to use a UV construction when the undergoer is definite. But this preference is less strongly grammaticized in Totoli than it is in Philippine-type languages.

2. THE ACTOR VOICE FORMATIONS. The AV formations I–III in table 1 involve prefixes of three closely related shapes (that is, *nog/mog-, noN/moN-,*[5] and *no/mo-*). The distribution of these prefixes is partially phonologically and partially lexically conditioned. Vowel-initial bases generally take *mog-*, consonant-initial ones *moN-*. However, there are many exceptions where consonant-initial bases take *mo-* instead of *moN-*.[6] Lexical bases are subcategorized for exactly one of these prefixes. The difference between these prefixes will be of no further concern in the remainder of this paper, because it is unrelated to voice and applicative alternations.

2.1 FORMATION I. In formation I, the AV prefixes occur by themselves, without a suffix. In this way, AV forms are derived for both intransitive and transitive verbs, as illustrated in examples (2) and (3).

(2) AV INTRANSITIVE
Nemenek   poni ulang isia.
noN-penek poni ulang isia
AV.RLS-climb again repeat 3S
'(So) he climbs up again.'

(3) AV TRANSITIVE
I   Rinto manaip   taipang.
i   Rinto **moN**-taip taipang
HON PN   **AV**-peel   mango
'Rinto peels mangoes.'

2.2 FORMATION II. In formation II, the AV prefixes cooccur with the suffix *-i*. In many instances, the construction containing such a verbal form has clearly applicative semantics and syntax. In this case, it usually alternates with a construction where the verb does not bear any suffix and the "applied" undergoer occurs in a peripheral function,

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5. *N* represents a prefix-final nasal that assimilates to, and often substitutes for, the base-initial consonant. Note that the prefix *noN/moN-* does *not* occur before vowels, unlike in many other western Austronesian languages.
6. Here, and elsewhere in this article, the nonrealis form is used as a "citation" form for realis/nonrealis pairs, whenever the difference between the two forms is not at issue.

marked with a preposition. Compare the following two examples, where *motor* is part of a prepositional phrase in (4a), but an (unmarked) core argument in (4b):

(4) AV+i
  a. Isia mosumake   dei motor   ia.
     isia -um-**mo-**sake dei motor   ia
     3S   -SF.MOT-**AV-**ride LOC motorcycle PRX
     'He is riding (on) the motorcycle.'

  b. Isia mosumakei   motor   ia.
     isia -um-**mo-**sake-**i**   motor   ia
     3S   -SF.MOT-**AV-**ride-**APPL2** motorcycle PRX
     'He is riding the motorcycle.'

As shown in this example, the *-i* suffix typically occurs when locatives (including goal/recipient and source) function as core arguments. This formation is particularly common with intransitive verbs of motion. Derivations with applicative *-i* from transitive bases are much less common, as will be further discussed and illustrated in section 5.

Importantly, and in line with the applicative constructions found in most languages of western Indonesia, not all formations consisting of AV+-*i* are clearly applicative in form and function. The suffix *-i* may be attached to transitive bases *without* leading to an obvious change in argument and function structure, as seen in the following example pair:

(5) Sia kan   magala   tinga   Ttoli.
     isia kan   **mog-**ala tinga   totoli
     3S   PART AV-take language Totoli
     'She is collecting (data for) Totoli.'   (rice_2.008)

(6) kode magalai   tinga   ia
     kode **mog-**ala-**i**   tinga   ia
     only AV-take-**APPL2** language PRX
     'only collecting (data for) this language'   (Mansur's_work.020)

In examples such as the ones above, it is not clear what exactly the difference between the two constructions might be. In other examples, specificity and definiteness appear to be involved, the construction with *-i* being used when the undergoer is specific or definite. But this does not seem to be the case in examples (5) and (6), as both nonsubject phrases are clearly definite. Differences in specificity and definiteness, however, are an issue we cannot pursue further here.

2.3 FORMATION III.   In formation III, the AV prefixes cooccur with the suffix *-an*. In most instances, the construction containing such a predicate has clearly applicative semantics and syntax, bringing in an additional core argument in benefactive or instrumental function. Compare example (3) above with example (7).

(7) AV+an
     I   Rinto manaipan   aku taipang.
     i   Rinto **moN-**taip-**an** aku taipang
     HON Rinto AV-peel-**APPL1** 1S   mango
     'Rinto peels mangoes for me.'

Here, derivations from both transitive and intransitive bases are common. But once again, not all formations with AV+-*an* are clearly applicative in function, as seen in the following example, where -*an* functions as an iterative marker:

(8) Isia   mambagulan   i   aku.
     isia   **moN**-bagu'-**an**[7] i   aku
     3S   AV-hit-**APPL1**   HON   1S
     'He hits me (repeatedly/habitually).'

Unlike in the case of *i*-suffixed AV forms, specificity and definiteness do not appear to be of major import in this type of examples. Rather, the suffixed form appears to convey an increased intensity or frequency, or the habitualness of the action denoted by the base, as indicated by the translation in (8).

3. THE UNDERGOER VOICE FORMATIONS. The UV formations IV–VIII are formally somewhat more complex, but they all involve the prefix *ni-* in realis mode (again a widespread feature in western Austronesian voice systems). They can be grouped roughly into three groups: those without a suffix (IV); those with suffix -*i* in nonrealis mode (V, VI); and those with suffix -*an* in nonrealis mode (VII, VIII). Table 2 shows the UV formations that do not involve the prefix *po(g)/poN-*.

**TABLE 2. TOTOLI UNDERGOER VOICE FORMATIONS
WITHOUT STEM-FORMING PREFIXES**

	REALIS	NONREALIS
IV	ni-	Ø
V	ni-+-an	-i
VII	ni-	-an

Several points are noteworthy with regard to the formal make-up of the paradigm and contribute to the overall complexity of the system:

1.   There is no systematic formal relation between realis and nonrealis forms (other than that the prefix *ni-* occurs in all realis forms). As already noted above, the suffix -*an* occurs in the *realis* form of formation V, but in the *nonrealis* form of formation VII. This looks suspiciously like a case for paradigmatic leveling, and this is indeed what has happened/is happening in the speech of some speakers, as discussed in the next section.

2.   The pair realis *ni-*/nonrealis -*an* (formation VII) is highly unusual, possibly even unique, among forms marking mode alternations in voice paradigms in western Austronesian.[8]

3.   Verbs marked simply by prefix *ni-* in realis mode are ambiguous as to which kind of undergoer voice they signal. This can only be diagnosed by determining the

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7.   The phoneme /l/ in Totoli has three allophones. Word-finally it is realized as a lengthening of the preceding vowel. This is represented as <'> in the practical orthography we use.

8.   The suffix -*an* is in all likelihood related to the nonindicative (or atemporal) circumstantial (instrumental) voice suffix -*an* (possibly with further prosodic marking) reconstructed for Proto–Malayo-Polynesian and Proto-Austronesian (Wolff 1996:17; Ross 2002, 2009). The indicative forms would be expected to reflect a prefix *(h)i-,* which, however, is not found in Totoli, except that *i-* is a regular alternate for the UV realis prefix *ni-*.

corresponding nonrealis form (zero/unaffixed base form in the case of formation IV, -*an* in the case of formation VII).

3.1 FORMATIONS IV AND V.   The formal heterogeneity of UV formations is mirrored by their functional heterogeneity. Formations IV and V are widely attested in what appear to be simple undergoer voices in a symmetrical voice system, as seen in examples (9) and (10). The subject of the overall construction, which may occur in pre-verbal as well as in postverbal position (following all nonsubject arguments), is the undergoer. The nonsubject actor argument has to occur in immediate postverbal position. An exception is the first singular actor pronoun *ku*-, which is prefixed in nonrealis mode, but encliticized in realis mode, as seen in (10).

(9)   UV Ø

   a. Taipang   ko-doong   taip   i   Rinto.
      mango   POT-want   peel:UV1   HON   PN
      'Rinto will peel the mango.'

   b. Taipang   **ni**-taip   i   Rinto.
      mango   **RLS**-peel:**UV1**   HON   PN
      'Rinto peeled the mango.'

(10)   UV+-i

   a. babi   kupatei
      babi   ku-pate-**i**
      pig   1S.ACT-kill-**UV2**
      'the pig I will kill'

   b. babi   nipateankumo
      babi   **ni**-pate-**an**=ku=mo
      pig   **RLS**-kill-**UV2**=1S.GEN=CPL
      '(the) pig I already killed'

As far as we can tell, there is no semantic difference between the two UV formations. Verbal bases are lexically subcategorized for either one of them: that is, most bases allow just one undergoer voice (an exception is *been* 'give', which involves some additional complexities discussed in section 5). However, formation V, exemplified and glossed as UV2 in (10), is also the regular corresponding undergoer voice for applicatives with -*i* (formation II) illustrated in (4) above. Compare:

(11)   a. Isia   memeneki   puun niug.
        isia   **moN**-penek-**i**   puun niug
        3S   AV-climb-**APPL2**   tree   coconut
        'He is climbing the coconut tree.'

    b. Puun niug   ko-doong   penek-**i**=na.
        tree   coconut   POT-want   climb-**APPL2**=3S.GEN
        'He will climb the coconut tree.'

    c. Puun niug   **ni**-penek-**an**=na.
        tree   coconut   **RLS**-climb-**APPL2**=3S.GEN
        'He climbed the coconut tree.'

Thus, formation V occurs in two functions: as a "normal" undergoer voice for some verbal bases such as *pate* 'kill', and as the regular undergoer voice for applicatives with *-i*. This poses several analytical problems, which we will attend to in section 5.

3.2 FORMATION VI. Formation VI, a UV formation also involving the suffix *-i* but additionally the prefix *po(g)/poN-*, occurs in constructions where the subject bears the role of a (stative) locative, as seen in the following example set:

(12) a. Bale   ia   pangaani   ssia.
     bale   ia   **poN-kaan-i** sisia
     house PRX **SF-eat-LV**   3P
     'This house is where they eat.'

    b. Bale   ia   nipangaanan   ssia.
     bale   ia   **ni-poN-kaan-an** sisia
     house PRX **RLS-SF-eat-LV**   3P
     'This house is where they ate.'

Prima facie, this construction would appear to allow for an analysis both in terms of an applicative as well as a symmetrical voice alternation. See section 5 for further discussion.

3.3 FORMATIONS VII AND VIII. Finally**,** formations VII and VIII, both of which involve the suffix *-an* in nonrealis mode, are functionally more straightforward. Both correspond regularly to the applicative AV formation with suffix *-an* (formation III), and, just like it, they both have applicative semantics and syntax. In the case where no further prefix is added to the base (formation VII), the subject of the construction is the theme argument, as seen in the following example sets:

(13) a. Puun   niug   ko-doong penek**-an**=na.
     tree   coconut POT-want   climb[9]-**APPL1**=3S.GEN
     'He will lift up the coconut tree.'

    b. Puun   niug   **ni**-penek=na.
     tree   coconut **RLS**-climb:**APPL1**=3S.GEN
     'He lifted up the coconut tree.'

(14) a. Taipang itu   kodoong taipanna   i   aku.
     taipang itu   ko-doong taip**-an**=na   i   aku
     mango   DIST POT-want slice-**APPL1**=3S.GEN HON 1S
     'He will peel that mango for me.'

    b. Taipang itu   nitaipna   i   aku.
     taipang itu   **ni**-taip=na   i   aku
     mango   DIST **RLS**-peel:**APPL1**=3S.GEN HON 1S
     'He peeled that mango for me.'

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9. Although it may look somewhat odd, we continue to employ the gloss 'climb' for *penek,* already used in examples (2) and (11): *penek* is the Totoli equivalent of *panjat* in Standard Indonesian, and there are other words to render 'go up' (Standard Indonesian *naik*) in Totoli, including *sake*, exemplified in (16). The applicative form here means something like 'cause to climb without autonomous movement' (that is, the thing moving upwards does not move on its own).

Example (14) is the undergoer voice equivalent of the AV construction in (7). The following example, exemplifying formation VIII, is also an undergoer voice equivalent of this construction, however, one where the beneficiary occurs in subject function.

(15) a. Aku kodoong panaipan   Rinto taipang.
      aku ko-doong **poN-taip-an** Rinto taipang
      1S   POT-want   **SF-peel-APPL1** PN   mango
      'For me, Rinto will peel a mango.'

   b. Aku nipanaip   Rinto taipang.
      aku **ni-poN-taip** Rinto taipang
      1S **RLS-SF-peel:APPL1**PN   mango
      'For me, Rinto peeled a mango.'

This concludes the exemplification of the eight formations assembled in table 1. Before turning to the question of how the overall system is organized, we have to take note of the fact that not all speakers use the formations in the way we have described them here. There are several tendencies to regularize the forms constituting a realis/nonrealis pair, as illustrated in the next section.

4. "REGULARIZATIONS" OF THE UNDERGOER VOICE PARADIGM.

As seen in table 2 above and illustrated in the preceding examples, the subparadigm of UV formations is characterized by the fact that different suffixes occur in realis and nonrealis modes. Thus, in formation V, the suffix -*an* in realis mode alternates with suffix -*i* in nonrealis mode. Furthermore, the suffix -*an* occurs in the *realis* form of formation V, but in the *nonrealis* form of formation VII. In our data, we find different kinds of "regularizations" of these "irregularities," as seen in table 3, where the regularized forms are highlighted. Unsurprisingly, these regularizations consist of using the same suffix for the same formation in both modes.[10]

It is not quite clear yet which factors influence the use of these regularized UV formations. In part, at least, this involves a geographic difference. The Totoli speaking area is divided into two major dialect areas, as seen in map 2. One is centered around the city of Tolitoli, which includes the villages of Kalangkangan and Ginunggung, where most data for the Totoli documentation project were collected. This area is considered to be the homeland of Totoli. Nowadays, however, it is characterized by a clear dominance of the local variety of Malay as the standard means of communication in all domains, including everyday interactions. Speaker proficiency in Totoli here is highly variable. It ranges from full competence correlated with regular use of Totoli in the family domain to the mostly passive

TABLE 3. "REGULARIZED" UNDERGOER VOICE FORMATIONS V AND VII

|	REALIS	NONREALIS
V′	ni-+-**i**	-i
VII′	ni-+-**an**	-an

10. The same regularizations are also attested for the formations with the prefix *po(g)/poN-* (formations VI and VIII). Thus, we also find formations VI′ *nipo(g)/poN-+-i* and VIII′ *nipo(g)/poN-+-an*. These have been omitted from the table and the following discussion to simplify the exposition. The regularities and tendencies noted here with regard to V′ and VII′ also hold for them.

competence of being able to understand what the current discourse is about and the ability to produce short emblematic utterances in Totoli. In many families, the youngest generation (children up to the age of 10) does not even possess this knowledge any more.

The other dialect, called Northern Totoli here, is spoken in four villages in the Northern Tolitoli district (*Kecamatan Tolitoli Utara*), sharing a border with Buol, a language belonging to the Gorontalo-Mongondow group. Here, Totoli is much more a means of daily interaction and can often be overheard in the streets and at home, though switching between Totoli and the local variety of Malay is frequent. Many speakers come from diverse language backgrounds, with nearly everyone counting at least one non-Totoli speaker among the grandparent generation. See Himmelmann (2001, ch. 2, and 2010) for further details on the language area and vitality assessment.

The social evaluation of the two dialects is somewhat paradoxical. On the one hand, the northern dialect is considered by both groups to be less refined and more innovative (*kasar* is the most often-used Indonesian predicate in this regard). Thus, both groups would point to Kalangkangan and Nalu (a quarter of Tolitoli City) as the place where the "best" and "most refined" (Indonesian *halus*) Totoli is spoken. At the same time, both groups point to the north as the place where Totoli is still widely known and used, and assert that in Tolitoli City it is hardly used anymore and that very few people can still speak it properly.

MAP 2. THE TWO AREAS WHERE TOTOLI IS SPOKEN
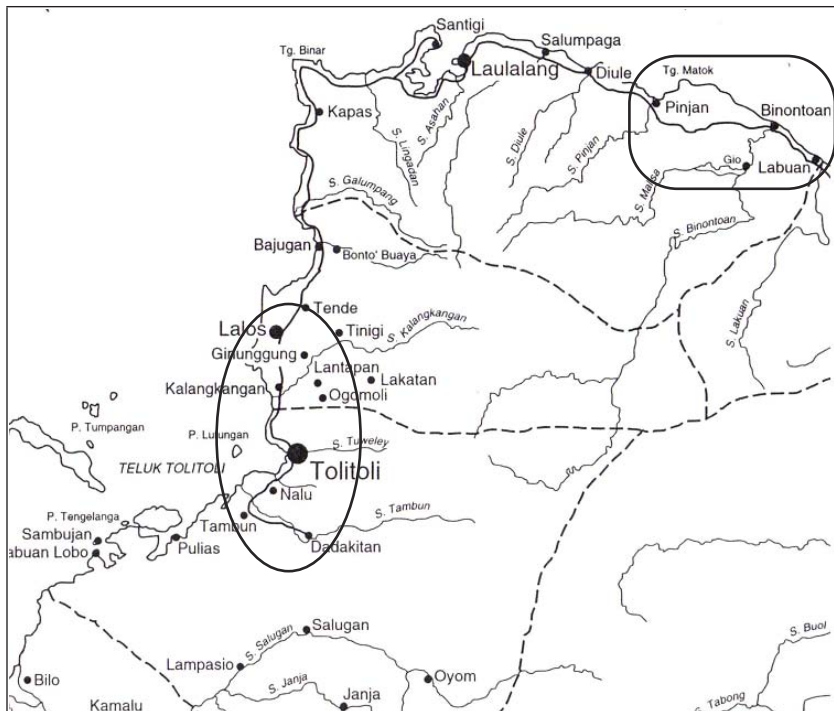
The preceding observations sketch the background against which the substantial variation in our data has to be evaluated. Speakers of Northern Totoli consistently regularize *ni-/-an* to *ni-+-an/-an* (= VII′ in table 3) in both elicitation and spontaneous speech (narratives, conversations). There is also a tendency to use *ni-+-i* as the realis equivalent to nonrealis *-i*, although there is considerable variation in this regard. Importantly, however, northern speakers generally accept forms affixed *ni-+-i* when offered in elicitation. This is in marked difference to the most competent speakers in the Kalangkangan area, who consistently reject these forms (see further below). Thus, for Northern Totoli we could tentatively suggest the paradigm of UV forms given in table 4, which is characterized by a regularization of formation VII and two alternative realis forms in formation V.

In the Kalangkangan area, regularization tendencies are somewhat different. There is a small group of mostly older speakers (50 years and above) who use the realis/nonrealis pairs set out in table 2 fairly consistently. In elicitation, these speakers consistently reject *ni-+-i* forms such as *ʔnipatei* (instead of *nipatean* as in [10]), even though some of them may occasionally use them themselves in spontaneous speech. Other speakers do not all reject such forms, though reactions may range from acceptance without further comment to saying that this may be possible, but the form with *ni-+-an* would be better. In spontaneous speech, the use of *ni-+-i* forms is widespread, with the least competent speakers using only these forms. With regard to formation VII (*ni-/-an*), the least competent speakers tend to be very inconsistent, sometimes using *ni-+-an*, sometimes using *ni-* for the realis form in elicitation, but often not being able to offer a form at all when an attempt is made to transform the corresponding AV construction into a UV one. In spontaneous speech, they tend to avoid the relevant forms.

The preceding discussion has attempted to make sense of the variation occurring in the data by linking it to different speaker profiles (Northern vs. Kalangkangan, more or less competent speaker). A natural question to ask at this point is on what evidence these profiles and the associated judgments are based. Specifically, why should one assume that the north is more innovative than Kalangkangan and what is the evidence for considering some speakers more competent than others? As already indicated in the preceding discussion, these assumptions are based primarily on the views expressed by speakers with regard to the dialect areas and proficiency levels, and their observable behavior in actual communicative events and in elicitation.

The assumption that the realis/nonrealis pairs in table 2 are more conservative and that the variants seen in tables 3 and 4 are innovations is additionally supported by the following considerations. First, it is reasonable to assume that speakers typically innovate by regularizing the formal make-up of a paradigm rather than the reverse. Second, and more importantly, the major characteristic of the paradigm in table 2—that the formal exponents for a given voice are not the same in different modes—is a highly pervasive and

TABLE 4. UNDERGOER VOICE PARADIGM (OF MOST SPEAKERS) IN NORTHERN TOTOLI

	REALIS	NONREALIS
IV	ni-	Ø
V/V′	ni-+-i/ni-+-an	-i
VII′	ni-+-an	-an

well attested characteristic of Philippine-type voice paradigms and has been reconstructed for various protostages (cp. Wolff 1973, 1996; and Ross 2002, 2009 for exemplification).

The following discussion, then, will only be concerned with the formations given in table 2, despite the fact that it is only used by a minority of current speakers and is currently changing in various directions. Nevertheless, this paradigm is likely to be the "original" one for Totoli. Furthermore, it is the one of most interest for understanding the interaction of voice and applicative alternations, to which we now turn.

5. VOICE, OR APPLICATIVE, OR BOTH? In this section, we discuss the question of how the overall system of voice-related formations in table 1 is organized. From the exemplification in sections 2 and 3, it would appear to be obvious that this array of formations involves both voice and applicative alternations. But how exactly are they related to each other? And how should each formation be analyzed (and hence labeled)? Our glossing of the examples above already indicates our analysis. The current section provides a precise statement of this analysis and explicates our arguments for it.

To begin with, it will be useful to make explicit what we take to be the essential difference between symmetrical voice and applicative alternations.[11]

The primary function of symmetrical voice alternations is to allow participants with differing semantic roles to occupy the syntactically most privileged position (subject/pivot). The function of the voice affix(es) is to mark the semantic role of this privileged argument. Symmetrical voice marking *does not* necessarily change transitivity or valency, although some voice formations may involve the addition of an argument (in particular ones involving peripheral roles such as instruments, beneficiaries, or (stative) locatives).[12] Furthermore, there is generally only one voice formation per lexical base for a given semantic role. For example, if a lexical base allows for a theme subject/pivot, it will always be marked with the same affix set, regardless of whether the construction involves additional arguments.

The primary function of applicative alternations is to allow a participant in a peripheral role to appear in a core syntactic position, typically the object position. Applicatives generally increase valency/transitivity, although this may not be manifest syntactically when the former object is demoted into a noncore role; cp. Peterson (2007:56–58, passim) for discussion and exemplification. That is, applicative marking of transitive predicates always implies the presence of an additional undergoer argument relative to the nonapplicative formation, regardless of whether or not the undergoer argument of the base form is overtly expressed. Furthermore, applicative marking is usually constant when other alternations are applied to the derived stem (like voice).

Philippine-type voice alternations and applicative alternations differ quite clearly with regard to the prototypical undergoer roles patient and theme. These roles are the preferred target of voice alternations (and they tend to be marked differently in Philippine-type voice sys-

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11. Peterson (2007:217ff) and Lemaréchal (2010:41–49, passim) suggest that Philippine-type voice alternations historically derive from applicative alternations without, however, discussing the question of whether and how these two alternation types actually differ.

12. In fact, Philippine-type voice alternations do not necessarily involve multivalent bases. They can also serve to derive monovalent predicates from zero-valent predicates, for example, Tagalog *langgam-ín* 'be infested with ants' from *langgám* 'ant'. See also the widely attested stative undergoer voice construction meaning 'be caught in the rain' such as Malay *ke-hujan-an*, Tagalog *ma-ulan-án*, or Totoli *ni-ko-udan-an* (realis).

tems), but there are generally no applicative alternations for these roles, because they are usually linked to core functions as a default. Thus, problems of delimitation typically arise in those instances where both alternation types serve to link a peripheral participant to a core function. For example, arguments in goal function (*put something on the table*, *send something to somebody*) are less clearly aligned with either alternation type, because languages differ as to whether these arguments are treated as core or as noncore arguments by default. As we will see at the end of this section, goal arguments also have special characteristics in Totoli.

As just noted, symmetrical voice alternations target the subject (pivot) function, while applicative alternations typically target the object function. However, this potentially distinctive diagnostic feature only works properly in nominative-accusative alignment systems. In ergatively aligned constructions, for example, applied objects typically occur in absolutive function, which may exhibit a considerable number of pivot properties; see Peterson (2007:56–58) for examples from Kalkatungu.[13] To date, there has been no detailed investigation into which grammatical function is the default target of applicative alternations in symmetrical voice systems (the subject or the nonsubject core position, the latter roughly corresponding to the object function in nominative-accusative systems). Hence, it cannot be presumed that an alternation that targets the subject function is *not* applicative. Conversely, however, it is most likely that an alternation that targets a nonsubject function is *not* a *voice* alternation, and is quite likely an applicative alternation. In the case of the AV formations with suffixes -*i* and -*an* discussed in section 2 above, we already made use of this heuristic and declared them applicatives, among other reasons because these suffixes relate to changes in the nonsubject core function.

In the case of UV constructions, however, this heuristics cannot be applied. It could always be argued that the argument that occurs in subject function in a UV construction would occur in nonsubject function in a different voice. Hence, one could argue that applicative and voice alternations have the same outcome with regard to the alignment of syntactic function and semantic role in a UV construction. Below we will argue for a distinction between an undergoer voice formation and an applicative formation that are formally identical (both being marked with suffix -*i* in nonrealis mode and suffix -*an* in realis mode). An important additional diagnostic in this argument will be the corresponding AV. If a given UV regularly corresponds to a nonapplicative AV, it will also be considered to be nonapplicative. If it regularly corresponds to an applicative AV, it will be considered to be applicative as well. Recall from section 2 that, in the case of AV constructions, the distinction between applicative and nonapplicative constructions is clear.

Turning now to the analysis of the Totoli voice formations, the observations made so far with regard to the formations exemplified in sections 2 and 3 can be summarized as follows:

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13. Cp. Peterson who writes (2007:218f): "In ergative languages, it is often the case that the absolutive grammatical function is one of relatively high topicality. For instance, in Eskimo languages, the absolutive argument is typically definite; for an indefinite object, the antipassive is used. The function of applicative constructions in languages with ergative dominant alignment is to put arguments into the absolutive grammatical function, or a function with typically high topicality. We have seen that putting semantically peripheral entities into positions of high topicality is a function that at least certain types of applicatives often appear to perform. In particular, we have seen that a typical role of applicative constructions, regardless of the thematic entity they refer to, is to make it possible to pronominalize (or verbally index) a participant."

- Some constructions, in particular the AV formations with -*i* and -*an* (II and III) and the UV formations with -*an* (VII and VIII), appear to have applicative semantics and syntax.
- Some constructions (I, IV, and V) look very much like typical voice alternations, without specifically showing applicative semantics.
- It is not unusual to find AV forms with suffixes having applicative semantics in western Indonesian languages (for example, Standard Indonesian *meN-+-i*, *meN-+-kan*). These can usually also be put into a UV or passive where, importantly, the suffixes remain constant (for example, Standard Indonesian *di-+-i*, *di-+-kan*; cp. also Davies 2005: 207 on Madurese). It is also common that not all constructions with these formatives are clearly applicative. The difference between applicative and nonapplicative uses is often rather subtle and not easy to categorize (cp. Sneddon 1996:69–98 for a detailed discussion of the Standard Indonesian *meN-+-i* and *meN-+-kan* formations).

Based on these observations, and taking into account primarily similarities in the formal exponents, one might be tempted to analyze the formations listed in table 1 either as a system consisting of a simple AV/UV opposition and two applicatives (as in table 5), or as a system involving both multiple voice alternations as well as multiple applicative alternations (as in table 6). (In the following discussion, only nonrealis forms will be used in the tables in order to facilitate the exposition.)

Neither of the two analyses is supported by the data. The functions of the formations briefly sketched in sections 2 and 3 do not match the distribution suggested by the two tables, as shown in the following discussion. The interlacing of applicative and voice alternations in the overall system is considerably more complex than suggested by either analysis. The analysis we are arguing for is given in table 7.

TABLE 5. TOTOLI VOICE FORMATIONS: ANALYSIS INVOLVING A SINGLE AV/UV ALTERNATION

	BASE FORM (NONREALIS)	APPLICATIVE1 (NONREALIS)	APPLICATIVE2 (NONREALIS)
ACTOR VOICE	mo(g)/moN-	mo(g)/moN-+-an	mo(g)/moN-+-i
UNDERGOER VOICE	Ø	(po(g)/poN-) -an	(po(g)/poN-) -i

TABLE 6. TOTOLI VOICE FORMATIONS: ANALYSIS INVOLVING MULTIPLE VOICE AND APPLICATIVE ALTERNATIONS

	BASE FORM (NONREALIS)	APPLICATIVE1 (NONREALIS)	APPLICATIVE2 (NONREALIS)
ACTOR VOICE	mo(g)/moN-	mo(g)/moN-+-an	mo(g)/moN-+-i
UNDERGOER VOICE 1	Ø	po(g)/poN-+-an	po(g)/poN-+-i
UNDERGOER VOICE 2	-i		
UNDERGOER VOICE 3	-an		

TABLE 7. TOTOLI VOICE FORMATIONS: ANALYSIS PROPOSED HERE

	BASE FORM (NONREALIS)	APPLICATIVE1 (NONREALIS)		APPLICATIVE2 (NONREALIS)
ACTOR VOICE	mo(g)/moN-	mo(g)/moN-+-an		mo(g)/moN-+-i
UNDERGOER VOICE	UV 1: Ø UV 2: -i	po(g)/poN-+-an -an	INS/BEN THEME	-i GOAL
LOCATIVE VOICE	po(g)/poN-+-i			

Major points where this analysis differs from the apparently simpler analyses in tables 5 and 6 are the following:

1. Our analysis postulates three voice alternations: ACTOR, UNDERGOER, and LOCA-TIVE VOICE. One of these, the undergoer voice, has two lexically conditioned allo-morphs (Ø = UV1 and -*i* = UV2). The analysis clearly differs here from the alternatives (only two voice alternations in table 5, four in table 6).

2. The formatives that are analyzed as exponents of UV2 (that is, NRLS -*i*/RLS *ni-*+-*an*) are also analyzed as exponents of the undergoer voice of APPLICATIVE 2. That is, some verbs marked with -*i* (RLS *ni-*+-*an*) are considered to be applicative, others not. This is the least intuitive and potentially most controversial aspect of the analy-sis, and we will use most of the remainder of this section to substantiate it.

3. All analyses concur in postulating that applicative formations occur in two voices (actor and undergoer). However, in our analysis, two different undergoer voice alterna-tions are distinguished for APPLICATIVE 1. One alternation targets the theme argument, the other the instrument or beneficiary. The latter could be called an instrumental or beneficiary voice. This, however, would be misleading in that it would suggest that Totoli has a voice alternation that freely allows instruments or beneficiaries to occur in subject function. Such an interpretation would be wrong, because this alternation is strictly limited to applicative constructions. As we will show below, this formation has applicative semantics and syntax even when not all argument slots are filled overtly.

4. Formations with one of the prefix alternants *po-*, *pog-*, or *poN-* are considered to have clearly confined functions of their own. They are not just variants of the forma-tions without these suffixes, as assumed in the analysis given in table 5 (which is not totally implausible given the fact that the occurrence of stem-forming affixes without further semantic import is widely attested in western Austronesian voice systems). One of the functions, when cooccurring with the suffix -*an*, is to mark the alternation allowing instruments or beneficiaries in applicative constructions to occur in subject function (as just discussed). The other function, when cooccurring with the suffix -*i*, is to mark the locative voice alternation. On purely formal grounds, one would expect that *po(g)/poN-*+-*i* is related to the applicative form with suffix -*i*, as assumed in tables 5 and 6. So again our analysis is in need of further substantiation.

In summary, our analysis makes the overall system look less tidy than the two alterna-tives presented first. There are various points in need of further substantiation, as just noted. We will begin with the arguments for positing a locative voice alternation. Next, we take a closer look at APPLICATIVE 1 to illustrate how a fully regular applicative alterna-tion in Totoli works, and to show why two undergoer voices can be distinguished here. Finally, we justify the claim that UV formations with suffix -*i* are sometimes applicative and sometimes not.

Why, then, should formation VI (*po(g)/poN-*+-*i*) be analyzed as a locative voice alter-nation? Recall from example (4) above that av *mo(g)/moN-*+-*i*-AV is a formation that promotes (stative) locatives to core function and can hence be considered a locative appli-cative. Looking at an example pair like the following, one may well be led to the view that *po(g)/poN-*+-*i* is in fact the regular undergoer voice for this locative applicative:

(16) a. Isia   mosumakei   motor   ia.
      isia   -um-**mo**-sake-**i**   motor   ia
      3S   -SF.MOT-**AV**-ride-**APPL2**   motorcycle   PRX
      'He is riding the motorcycle.'

    b. Motor   ia   posumakeina.
      motor   PRX   -um-**po**-sake-**i**=na
      motorcycle   PRX   -SF.MOT-**SF**-ride-**LV**=3S.GEN
      'He is riding the motorcycle.'

The first argument for a locative voice analysis of this formation (instead of a locative applicative analysis) is the fact that for many formations affixed with *po(g)/poN-+-i*, there is no corresponding AV form with suffix *-i*. This is illustrated with example (12a), repeated here for convenience as (17a), along with the ungrammatical (17b):

(17) a. Bale   ia   pangaani   ssia.
      bale   ia   **poN**-kaan-**i**   sisia
      house   PRX   **SF**-eat-**LV**   3P
      'This house is where they eat.'

    b. *Sisia   mangaani   bale   ia.[14]
      sisia   moN-kaan-i   bale   ia
      3P   AV-eat-APPL2(?)   house PRX

Derivations with *po(g)/poN-+-i* are in fact very productive. All kinds of verbal bases, dynamic as well as stative, allow this derivation regardless of the valency of the base. Importantly for current purposes, the selection of the prefix (*poN-, pog-*, or *po-*) is predictable on the basis of the corresponding simple (nonsuffixed) AV form. If the verbal base takes *moN-* to form the basic AV, the locative voice prefix is *poN-*; if the AV is *mo-*, the locative voice is *po-*; and so on. It is a common feature of Philippine-type voice systems that the stem-forming prefixes regularly occurring in the more peripheral undergoer voices—such as benefactive or locative voice—are predictable on the basis of actor voice affixations; cp., for example, Schachter and Otanes (1972:310ff) on Tagalog.

A further argument pertains to the fact that locative voice constructions show two exceptional properties that distinguish them from applicative constructions as well as other voice alternations, but which, importantly, are characteristic for locative voice alternations in many Philippine-type voice systems (cp. Rubino 2005:346f for an Ilokano example). First, the subject (the place where a state of affairs occurs) has to occur initially in immediate preverbal position (in other voices, the subject may also occur postverbally), or it has to be the antecedent of a relative clause. Thus, it is not possible to switch the order in (17) to **Pangaani ssia bale ia*, as it would be in an "ordinary" UV construction. Second, the subject—if the clause-initial constituent is indeed one—may optionally be preceded by a preposition, as in:

(18) Dei   gauan   ia   nipalakopanku   saa.
    dei   gauan   ia   ni-po-lakop-an=ku   saa
    LOC   garden   PRX   RLS-SF-catch-LV=1S.GEN   snake
    'This is the garden where I caught a snake.' (lit., 'In this garden is where I caught a snake.')

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14. Note that the form **mangaani* per se is not well formed, so that the glossing here is speculative.

Finally, the locative voice form always has the reading of a stative locative ('place where'), while APPLICATIVE 2 forms typically involve goal arguments, as seen in example (11) (repeated below in [29]).

We turn now to the question of why the UV formations with *-an* and *po(g)/poN-+-an* can be analyzed as UV alternations of the AV APPLICATIVE 1 formation *mo(g)/moN-+-an*, and hence also as applicatives (column 3 of table 7). The first argument pertains to the regularity of the correspondence between AV and UV formations. Unlike in the case of the locative voice just discussed, we find here a completely regular correspondence of the following kind:[15] for all UV formations marked with *-an* or *po(g)/poN-+-an*, there is a syntactically and semantically similar AV form with *-an*; and, conversely, for most AV formations with *-an*, there are UV forms marked with *-an* and/or *po(g)/poN-+-an*. (Exceptions pertain to AV with suffix *-an* that lack clear applicative semantics.) The following example illustrates such a regular correspondence set:

(19) a. I   Rinto   manaipan   aku taipang.
        i   Rinto   **moN**-taip-**an** aku taipang
        HON Rinto   **AV**-peel-**APPL1** 1S   mango
        'Rinto is peeling a mango for me.'

     b. Aku kodoong   panaipan   Rinto taipang.
        aku ko-doong   **poN**-taip-**an** Rinto taipang
        1S   POT-want   **SF**-peel-**APPL1** Rinto mango
        'Rinto will peel a mango for me.'

     c. Aku notookamo   nipanaipna   taipang.
        aku no-tooka=mo   **ni-poN**-taip=na   taipang
        1S   ST.RLS-finished=CPL **RLS-SF**-peel=3S.GEN mango
        'He peeled a mango for me.'

Here the beneficiary is the "applied object." Note that strictly speaking there is no monoclausal nonapplicative construction for this state of affairs in Totoli, because there is no native preposition to express the meaning 'for (the benefit of)'. The only possible AV version of the clause without the applicative suffix would be *inangku manaip taipang untuk aku*, which is dispreferred, because it involves the Malay preposition *untuk*.

The same forms are used when the "applied object" is an instrument, as in the following example:

(20) Kode gopas nanasi   nipadaamkuko   ulos   ana.
     kode gopas nanasi   **ni-po**-daam-ku=ko   ulos   ana
     only   yarn   pineapple **RLS-SF**-sew-1s.GEN=AND sarong MED
     'I only use the yarn from the pineapple leaf to sew this sarong.'

APPLICATIVE1 is most commonly applied to bivalent bases, deriving trivalent verb forms, as in the examples above. The UV with *po(g)/poN-+-an* is used to link the newly introduced ("applied") object (beneficiary and instrument) to subject function. It is also possible to promote the other object argument in this construction, that is, the theme argument, to subject function. In this case, the UV is formed by simply suffixing *-an* (that is, a

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15. So far, this holds only for dynamic verb formations. It may very well turn out that it does not hold for statives and potentives, an issue we cannot go into here.

form without a stem-forming prefix).[16] Consequently, for (19), the following UV alterna-tion is also possible:

(21) a. Taipang   itu   kodoong   taipanna   i   aku.
       taipang   itu   ko-doong   taip-**an**=na   i   aku
       mango   DIST POT-want   slice-**APPL1**=3S.GEN   HON   1S
       'He will peel the mango for me.'

    b. Taipang   itu   notookamo   nitaipna   i   aku.
       taipang   itu   no-tooka=mo   **ni**-taip=na   i   aku
       mango   DIST ST.RLS-finished=CPL RLS-peel.APPL1=3S.GEN   HON   1S
       'He peeled the mango for me.'

The important point to note about this last example pair is the fact that marking the UV alternation for the theme argument with *-an/ni-* clearly signals the presence of a further undergoer argument (an instrument or a beneficiary). Of course, the theme participant is also a core argument in the nonapplicative base construction ('Rinto peels a mango'). In this nonapplicative construction, however, the UV alternation promoting the theme argu-ment to subject function is marked differently, that is, by the form labeled UV1 in table 7:

(22) a. I   Rinto   manaip   taipang.
       i   Rinto   **moN**-taip   taipang
       HON Rinto   **AV**-peel   mango
       'Rinto peels a mango.'

    b. Taipang   kodoong   taip   i   Rinto.
       taipang   ko-doong   taip   i   Rinto
       mango   POT-want   peel:**UV1** HON   Rinto
       'Rinto will peel a mango.'

    c. Taipang   nitaip   i   Rinto.
       taipang   **ni**-taip   i   Rinto
       mango   **RLS**-peel:**UV1** HON   Rinto
       'Rinto peeled the mango.'

That is, the simple (nonapplicative) transitive verb 'peel' requires the use of a different set of voice affixes both in the AV and the UV. Comparing (21) with (22) shows that the marking of the THEME role as subject depends on the valency of the overall construction. In a bivalent construction, the UNDERGOER VOICE is Ø/*ni-*, while in a trivalent construc-tion, it is *-an/ni-*. There is thus a clear difference between the two UV constructions, despite the fact that in both of them the subject is the THEME argument. As one of the two constructions necessarily implies the presence of a further (second) undergoer core argu-ment, the difference between these two constructions is best analyzed as the difference between an applicative and a nonapplicative construction. This analysis is further

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16. In fact, things are a bit more complicated in that verbal bases forming their AV with *mo-* always retain the prefix *po-* in applicative formations. In this case, UV alternations for beneficiaries/ instruments and themes are formally identical. The complete paradigm for APPLICATIVE1 is thus:

	Paradigm 1		Paradigm 2	
ACTOR	mog-/moN-+-an	nog-/noN-+-an	mo-+-an	no-+-an
THEME	-an	ni-	po-+-an	nipo-
BEN/INST	pog-/poN-+-an	nipog-/nipoN-	po-+-an	nipo-

confirmed by the fact that the trivalent construction with *-an/ni-* regularly corresponds to an applicative AV construction.

Note that typical Philippine-type voice systems never allow for the kind of contrast seen between (21) and (22): given a lexical base, a UV featuring the theme argument as the subject will always be marked in the same way, regardless of the valency of the overall construction.

In principle, this argument also holds for APPLICATIVE 1 derivations from monovalent bases, although there is, of course, no nonsubject core argument in the base construction that the applied object could be contrasted with. Compare the following APPLICATIVE1 derivations from the intransitive base *penek* 'climb' (intransitive use is illustrated in [2]):

(23) a. Isia (me)menekan   puun   niug.
      isia **moN**-penek-**an** puun   nuig
      3S   AV-climb-**APPL1**   tree   coconut
      'He will lift up the coconut tree.'

    b. Puun niug   ko-doong penek-**an**.
      tree   coconut POT-want   climb-**APPL1**
      'He will lift up the coconut tree.'

    c. Puun niug   **ni**-penek=na.
      tree   coconut **RLS**-climb:**APPL1**=3S.GEN
      'He will lift/lifted up the coconut tree.'

With movement predicates such as *penek*, APPLICATIVE1 introduces a theme argument. Theme arguments of *bivalent* bases usually require UV1 or UV2 constructions when occurring in subject function, as seen in the following examples (UV2 is illustrated in [27] and [28]):

(24) hadiah anu nibeenku   dei Aco[17]
     hadiah anu ni-been=ku   dei Aco
     present REL RLS-give:**UV1**=1S.GEN LOC PN
     'the present I gave to Aco'

(25) Niala   tau   anakna   bbine.
     ni-ala   tau   anak=na   bibine
     RLS-take:**UV1** person child=3S.GEN woman
     '(All) her daughters have been taken away (= married).'

                              (conversation_3.095)

Hence, the fact that the UV in (23) is marked with *-an* clearly indicates the derived status of the theme argument in this construction, which, therefore, can also be analyzed as applicative marking.

We turn finally to the undergoer voice formation with suffix *-i* (V in table 1), which we analyze as marking both a simple voice alternation (UV2) and the UV of APPLICATIVE2. The main reason for analyzing it as marking a simple (nonapplicative) UV voice alternation is the fact that this formation is frequently found to correspond to simple AV *mo(g)/moN-*, as illustrated by the following examples:

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17. As discussed further below, in examples (30) and (31), *been* 'give' in Totoli is basically a bivalent predicate.

(26) a. Tau   ana   mogoot   limaku.
     tau   ana   **mo**-goot   lima-ku
     person MED   AV-hold   hand-1S.GEN
     'This person is holding my hand.'

   b. Sopa go-goot-**i**=mu?
     what   RDP-hold-**UV2**=2S.GEN
     'What are you holding/carrying (in your hands)?'

(27) a. Setela napaas   buntog mengekemo   siote.
     setela no-paas   butong **moN**-keke-mo siote
     after ST.RLS-lowtide tide   AV-dig-CPL   shell
     'After the tide went out, (they) have been digging shells.'

                                             (making_ambaa_siote.069f)

   b. … anu keekekei   dennia.
     … anu RDP2-keke-**i** dennia
        REL   RDP2-dig-**UV2** like.this
     '(They are not expensive,) the ones that are dug like this.'   (siote_2.106)

(28) a. Mangana ana lau   moguru tinga   Inggris.
     mangana ana lau   **mo**-guru tinga   Inggris
     child   MED presently AV-learn   language English
     'The child is learning English.'

   b. Tinga   Inggris lau   gurui   mangana ana.
     tinga   Inggris lau   guru-**i** mangana ana
     language English presently learn-**UV2** child   MED
     'The child is learning English.'[18]

As already noted above, it is a lexical property of a given base whether it occurs with UV1 or UV2. Both undergoer voices regularly alternate with the suffixless AV (formation I in table 1). Importantly, UV2 in the constructions above does not signal a change in argument structure (such as the presence of a further undergoer argument). Thus, with regard to these uses, there is no reason for analyzing UV formations with suffix -*i* as anything other than a typical undergoer voice alternation.

However, the UV formation with suffix -*i* may also be used as undergoer voice for applicative AV constructions with suffix -*i*, as already illustrated with example (11) above, repeated here for convenience as (29):[19]

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18. An anonymous referee asks whether it is clear that this sentence does not mean 'The child is taught English'. Yes, this is clear. Words for 'teaching' are derived from the same root with the causative prefix *po-*, hence *mopoguru* 'teach s.o. (AV)', *nipoguruan* 'teach s.o. (UV2.RLS)'. Other roots for 'teach' are *tudu* and *ajar* (the latter probably also a loan from Malay).

19. There is one further complication, which we do not discuss here in detail, in order not to further complicate the exposition. But for reasons of completeness, it should be noted that some UV2 forms may also alternate with the AV with suffix -*i* (and then look suspiciously like applicatives). Importantly, such UV2 forms alternate with both the unmarked and the *i*-suffixed AV. Thus, for example, the UV2 form *patei* 'kill' in example (10) alternates with both AV *mamate* (*maN-pate*) and AV *mamatei*; and UV2 *gooti* 'hold, take' in (26) alternates with AV *mogoot* and AV *mogooti*. As noted with respect to the difference between examples (5) and (6) above, it is sometimes very difficult to pinpoint the meaning difference between the two AV formations. Whatever the difference is, it is not expressible in the corresponding undergoer voice, because in all these instances there is only a single UV formation corresponding to the two AV formations.

(29) a. Isia memeneki   puun niug.
     isia **moN**-penek-**i** puun niug
     3S   AV-climb-**APPL2** tree   coconut
     'He is climbing the coconut tree.'

   b. Puun niug   ko-doong penek-**i**=na.
     tree   coconut POT-want   climb-**APPL2**=3S.GEN
     'He will climb the coconut tree.'

   c. Puun niug   **ni**-penek-**an**=na.
     tree   coconut **RLS**-climb-**APPL2**=3S.GEN
     'He climbed the coconut tree.'

In principle, there are three possible analyses of this state of affairs: (a) that UV2 is regularly used as the undergoer voice of APPL2; or, conversely, (b) that for some (nonapplicative) AV, the corresponding undergoer voice is regularly applicative; or (c) that there are two homophonous undergoer voices, UV2 and the UV of APPLICATIVE 2. We opt for (c) in our analysis in table 7. The main argument for this choice is the fact that there are regular paradigmatic relations between the nonapplicative, suffixless AV and UV2, and between the applicative, suffixed AV and its UV counterpart. Speakers are very consistent in this regard, and never offer an *i*-suffixed AV as the AV counterpart to a formation analyzed as UV2 (with the exception of the instances noted in footnote 19). Still, this analysis would be more strongly supported if it could be shown that there are further differences between the applicative and the nonapplicative UV with suffix *-i*.

In analogy with the argument given in connection with example (23) exemplifying applicative *-an* above, one could hold that the presence of suffix *-i* in examples such as (29) indicates the derived status of the goal argument in this construction. But note that there is an important difference here: the fact that the subject of an undergoer voice construction is a theme is never marked by suffix *-an, unless* we are dealing with a clearly derived (applicative) construction such as (23). When theme arguments function as subjects in nonderived constructions, the predicate is marked with either UV1 or UV2, as illustrated with examples (24)–(28). In the case of goal arguments, however, the following generalization holds: whenever a goal argument occurs in subject function, the predicate is marked by *-i* (realis *ni-+-an*). That is, there are not two different UV constructions for goals, one applicative and one not.

Hence the question arises whether all constructions with goal subjects in Totoli can be shown to be derived (applicative) constructions. This would entail that there are no regular (nonapplicative) voice alternations targeting goal (or source) arguments. Consequently, UV1 and UV2 would be basically restricted to patient and theme subjects. To the best of our knowledge, this last consequence is, in fact, true. All constructions analyzed as UV1 or UV2 have patient and theme subjects. But, of course, this assessment very much depends on our ability to show that all constructions with goal subjects are derived. In our analysis, this amounts to the claim that these construction are regularly in paradigmatic correspondence with an applicative AV construction.

Predicates of major import in this regard are predicates that are at least semantically three-place predicates. The prototypical example is *been* 'give'. This appears to be basically a bivalent predicate in Totoli:

(30) a. I   aku nemeen   buuk dei Aco.
        i   aku noN-been buuk dei Aco
        HON 1S   AV.RLS-give book LOC PN
        'I gave Aco a book.'

     b. hadiah   anu   nibeenku   dei   Aco
        hadiah   anu   ni-been=ku   dei   Aco
        present REL   RLS-give=1S.GEN LOC   PN
        'the present that I gave to Aco'

Both in the AV and the UV, the recipient (*Aco*) is marked by a preposition, and the verb forms do not carry suffixes. But *been* can also be constructed with *i*-suffixed forms. The resulting construction is trivalent, both recipient and theme now being in core positions (that is, not marked by a preposition):

(31) a. Aku memeeni   i   Aco buuk.
        aku **moN-been-i** i   Aco buuk
        1S   **AV-give-APPL2** HON PN   book
        'I will give the book to Aco.'

     b. Aco anu kubeeni   hadiah
        Aco anu **ku-been-i**   hadiah
        PN   REL **1S.ACT-give-APPL2** present
        'Aco, who I will give a present to'

Here, then, suffixing *-i* clearly signals the presence of an additional core argument both in AV and UV voice, which supports an analysis as applicative marker.

Similar evidence is provided by verbs of putting. The base form here is typically monovalent, denoting the state of having been put somewhere, which occurs with the stative prefix *mo-*:

(32) Barang usausatna   nattaumo   ssaakan dei sia.
     barang RDP3-usat=na   **no-**RDP1-tau=mo sasaakan dei isia
     goods   RDP3-sibling=3S.GEN **ST.RLS-**RDP1-put=CPL all   LOC 3S
     'The goods of his younger siblings are all stored with him.' (farming_2.0813)

Adding a theme argument—putting something (somewhere)—requires an APPLICATIVE1 derivation, as seen in (33):

(33) a. Inang sasa   ana manauan   ai.
        inang sasa   ana **mo-nau-an**   ai
        very   tired MED **AV-descend-APPL1** VEN
        'It's very tiring to put this down here.'   (conversation_4.807)

     b. Tauan   dei ogo   isia.
        tau-**an**   dei ogo   isia
        put-**APPL1** LOC water 3S
        'It is put into water.'   (red_sugar.307)

Note that the derived predicate is bivalent, with actor and theme core arguments. The goal argument (that is, the place where something is put) is expressed in a noncore function, prepositionally marked by *dei* or by a locative particle such as venitive *ai* in (33a). It can only occur in core function if the predicate is marked with *-i*. All naturally

occurring examples of such derivations in our corpus are in undergoer voice, as in the following example:

(34) Ambia   ia   taui   niug.
      ambia   ia   tau-**i**   niug
      sago   PRX   put-**APPL2** coconut
      'You put coconut on the sago (lit., the sago gets coconut put on).'
                                                    (making_ambaa_siote.0704)

These types of predicates derived with -*i* are clearly trivalent, with both a goal and a theme argument in core function, in addition to the actor argument. Thus, in these instances, suffix -*i* signals two things: first, that the subject of the overall construction carries the semantic role of a goal; and second, that the predicate is derived and includes more arguments in core function than the base predicate.

To date, we are not aware of any constructions with goal subjects that do not involve a derived predicate with increased transitivity (monovalent → bivalent or bivalent → trivalent). It thus seems warranted to analyze those constructions where -*i* occurs in construction with goal subjects as locative applicatives (=APPLICATIVE2),[20] and to distinguish them from the homophonous, but nonapplicative UV2. For reasons of clarity, we illustrate this part of the analysis again in table 8, with the most important verb forms occurring in the preceding examples.[21]

As a final aside, note that, in this analysis, both applicatives do not have unequivocal suffixal formatives. Instead, the formative that occurs in most mode forms of APPL1 (-*an*) is missing in the realis UV of APPL1. Instead it occurs in the realis UV form of APPL2, which otherwise has suffix -*i*. Table 9 illustrates this.

As briefly discussed in section 4, this is a state of affairs prone to confuse speakers and analysts. The obvious regularization strategy is to generalize -*an* for APPL1, -*i* for APPL2, and to make UV1 (that is, Ø) the only regular undergoer voice for the nonapplicative AV. The result would look very much like table 5, which, of course, is a system widely attested in western Indonesia, including Standard Indonesian.

TABLE 8. TOTOLI VOICE FORMATIONS: NONAPPLICATIVE AND APPLICATIVE UNDERGOER VOICES

	ACTOR VOICE REALIS	ACTOR VOICE NONREALIS	UNDERGOER VOICE REALIS	UNDERGOER VOICE NONREALIS	
'peel' 'give' (2-place)	nanaip nemeen	manaip memeen	nitaip nibeen	taip been	← UV1
'dig' 'hold' 'learn' 'kill'	nengeke nogoot noguru namate(i)	mengeke mogoot moguru mamate(i)	**ni**keke**an** **ni**goot**an** **ni**guru**an** **ni**pate**an**	keke**i** goot**i** guru**i** pate**i**	← UV2
'ride (on)' 'climb' 'give' (3-place)	nosumakei nemeneki nemeeni	mosumakei memeneki memeeni	**ni**posumake**an** **ni**penek**an** **ni**been**an**	posumake**i** penek**i** been**i**	← APPL2

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20. We prefer the more general locative here, rather than goal, because this includes also source arguments and means of transportation as in 'ride a motorcycle'.

21. Many thanks to one of the anonymous reviewers for suggesting this and the following tabulation.

TABLE 9. DISTRIBUTION OF SUFFIXES
MARKING THE TWO APPLICATIVES

	REALIS	NONREALIS	
AV	-an	-an	APPL1
UV	**Ø**	-an	
AV	-i	-i	APPL2
UV	**-an**	-i	

6. SUMMARY. In this paper, we argued for a particular analysis of the Totoli voice system, summarized in table 7. This system was shown to constitute a unique case of integrating symmetrical voice alternations with applicative alternations.

Totoli has one actor voice alternation realized by three phonologically determined prefixes, and one (basic) undergoer voice alternation. The latter is expressed by two different affix sets, the choice between which is lexically determined. Furthermore, Totoli exhibits a morphologically fully productive third voice alternation, that is, locative voice, which can be derived from any semantically suitable verbal base. Locative voice constructions, however, have a special status, as they are syntactically more restricted than the other two voices. These three voice alternations are complemented by two formally and functionally different applicatives, which occur both in AV and UV.

The UV of APPLICATIVE1 makes use of an affix set of its own (formation VII of table 1) that in realis mode, however, partially overlaps with one of the two affix sets marking basic UV (that is, UV1). Both are simply marked by the realis prefix *ni-* and no suffix.

The affix set marking the UV of APPLICATIVE2 is homophonous with the affix set marking basic UV (that is, UV2). As noted in section 4 and at the end of section 5, this system is not stable, and it is easy to see how it can develop into the kind of systems attested in many languages of western Indonesia, including Madurese and Standard Indonesian, which combine two basic voice alternations with two formally and functionally clearly separated applicative alternations.

From a purely formal point of view, the Totoli system looks "untidy" in that it makes use of the same forms in different functional slots of the paradigm, sometimes combining them in asymmetrical ways. The formal "messiness" makes it difficult to tease apart forms that should be analyzed as "simple" voice formations from those that additionally exhibit an applicative function.

The nonambiguous cases were shown to be those that involve the applicative suffix *-an* in the nonrealis mode. Undergoer voice forms that correspond to an actor voice form with *moN-+-an* could clearly be shown to involve an additional undergoer argument in core function when compared to constructions that use the nonapplicative undergoer voice and an unsuffixed actor voice form. More importantly, applicative undergoer voice constructions and nonapplicative undergoer voice constructions here make use of two different paradigms. Derived predicates that include one more core argument than their base predicates will be marked by *-an/ni-*, while underived predicates will be marked by *Ø/ni-* or *i-/ni-+-an*. Note that both these options mark the theme argument as subject—a fact that would be highly unusual if both were simple voice constructions.

This kind of formal difference between the nonapplicative voice paradigm and the applicative paradigm is not attested in the same way for applicatives formed with the

suffix *-i*. While the distinction obtains in the actor voice (*moN-* vs. *moN-+-i*), the undergoer voice forms of the nonapplicative UV2 construction and the applicative undergoer voice construction are homophonous, both being marked by *-i/ni-+-an*. However, just like the applicatives formed with *-an*, applicative constructions formed with *-i* necessarily involve an additional undergoer argument in core function. Both applicatives thus increase the semantic valency of the base predicate by one, promoting a peripheral undergoer argument to become a core argument.

The analysis developed here rests on the assumption that symmetrical voice and applicative alternations are different types of alternations. In general, they are not difficult to keep apart, but there are some domains where the distinction cannot always be straightforwardly applied (see beginning of section 5). Still, there are a number of diagnostic features that help to apply the distinction even in those instances where they are not immediately obvious. Table 10 summarizes these features.

TABLE 10. DIAGNOSTIC DIFFERENCES BETWEEN (SYMMETRICAL) VOICE AND APPLICATIVE ALTERNATIONS

SYMMETRICAL VOICE	APPLICATIVE
primary function: marks semantic role of privileged argument	primary function: allows a participant in a peripheral undergoer role to appear in a core syntactic position (typically but not necessarily object)
does not necessarily change (semantic) transitivity or argument structure	always changes argument structure and (semantic) transitivity
voice marker remains constant for semantic role (as per lexical base); occurs only when argument is in privileged position	applicative marking remains constant when other alternations apply (e.g., voice, causative)
symmetrical voice systems always include options for prototypical undergoer roles patient and theme	applicative systems usually do not target prototypical UG roles patient and theme but are restricted to more peripheral roles, in particular instrument, beneficiary, and location

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