

On the development of agreement markers in some Northern Philippine languages

LAWRENCE A. REID

This paper attempts to provide an explanation for an innovation occurring in the Central Cordilleran languages of the Philippines, in which what were originally derivational endings *en]* and *an]* lose their final nasal when they carry first, second or third person singular agreement features, respectively *k]*, *m]* and *na]*. It is claimed that this situation arose as a result of the incorporation of a reduced form of what was originally a genitive case-marking preposition *ni* as *n]* onto vowel-final verbs and their nominal counterparts. An analogy was then established between these forms ending in *n]* and derived forms with *en]* and *an]* endings, so that the latter were also perceived as being vowel-final for the purpose of substituting the *k]*, *m]* and *na]* agreement endings. The discussion is presented within the Lexicase theoretical framework, specifically its claim that words have neither internal structure nor morphological boundaries.

1 Introduction¹

Alternation in the forms of the first and second person singular, so-called clitic genitive pronouns in a number of Austronesian languages has been noted in various publications, including Dyen (1974), Tharp (1974), Blust (1977) and Reid (1979, 1981). The alternation is found in all but a few of the Cordilleran languages of the Northern Philippines,² where the full

¹ It is a privilege to be invited to contribute a paper to this volume honouring Byron, who for decades has introduced students to the complexities of Philippine verbal morphology through a series of exercises on Tagalog that formed part of his Introduction to Morphology course, and who through his own quiet style has encouraged me in my own explorations of Philippine languages. I would like to thank Ritsuko Kikusawa, Hsiu-chuan Liao, Carl Rubino and Stan Starosta for reading and commenting on this paper. This analysis is presented within the framework and notational conventions of Lexicase (Starosta 1988 and subsequent works) and seamless morphology (Ford, Singh & Martohardjono 1997 and others discussed in §3). All errors of fact, interpretation and application of the theory, however, are unfortunately mine alone.

² The alternation is found in all of the Central and Southern Cordilleran languages, in both Northern and Southern Alta (Reid 1991), in Ilokano (Rubino 1997), and in the Cagayan Valley languages, but not in the

forms are typically =*ku* '1s' and =*mu* '2s'³ following consonant-final stems. Vowel-final stems, however, take reduced =*k* '1s' and =*m* '2s', respectively. These alternations recur, regardless of whether the form is functioning as the possessor of a noun or as the agent of a transitive verb, as shown in Tables 1 and 2, which demonstrate the complete set of genitive pronominal forms in Bontok, a Central Cordilleran language.⁴ The forms are listed in these tables following the usual analysis of such forms in the literature, but without at this point making any commitment to their actual status.⁵

Table 1: Bontok Genitive possessive forms

	POSTCONSONANTAL		POSTVOCALIC	
1S	<i>ʔábuŋ =kú</i>	'my house'	<i>ʔásu =k</i>	'my dog'
2S	<i>ʔábuŋ =mú</i>	'your house'	<i>ʔásu =m</i>	'your dog'
3S	<i>ʔábuŋ =ná</i>	'his/her house'	<i>ʔásu =ná</i>	'his/her dog'
1+2S	<i>ʔábuŋ =tá</i>	'our (DL) house'	<i>ʔásu =tá</i>	'our (DL) dog'
1P	<i>ʔábuŋ =mí</i>	'our (EX) house'	<i>ʔásu =mí</i>	'our (EX) dog'
1+2P	<i>ʔábuŋ =takú</i>	'our (IN) house'	<i>ʔásu =takú</i>	'our (IN) dog'
2P	<i>ʔábuŋ =yú</i>	'your (PL) house'	<i>ʔásu =yú</i>	'your (PL) dog'
3P	<i>ʔábuŋ =dá</i>	'their house'	<i>ʔásu =dá</i>	'their dog'

Negrito languages of Northeastern Luzon (Headland & Headland 1974, Reid 1983), nor in Arta, a Negrito language isolate spoken in the Cagayan Valley (Reid 1989). Yogad, one of the Northern Cordilleran languages, has a variant following vowel-final words only for the second singular genitive pronoun (Healey 1958).

³ An equals (=) sign preceding a form marks it as an enclitic.

⁴ All Bontok forms are cited in phonemic transcription from the author's fieldnotes.

⁵ Two sets of abbreviations are used in this paper. The set used in conventional Lexicase feature matrices includes: *addr* – addressee, *AGT* – Agent, *cltc* – clitic, *COR* – Correspondent, *F* – semantic feature, *Gen* – Genitive, *N* – Noun, *plrl* – plural, *prnn* – pronoun, *pssd* – possessed, *spkr* – speaker, *trns* – transitive. Other abbreviations used in glosses and elsewhere include: *1S* – first person singular pronoun, *1P* – first person exclusive pronoun, *1+2S* – first person dual pronoun, *1+2P* – first person plural inclusive pronoun, *2S*, second person singular pronoun, *2P* – second person plural pronoun, *3S* – third person singular pronoun, *3P* – third person plural pronoun, *Det* – Determiner, *DL* – dual, *EX* – exclusive, *IN* – inclusive, *NP* – noun phrase, *P* – Preposition, *PL* – plural, *PPh* – Proto Philippine, *SG* – singular, *s.th.* – something, *WFS* – word formation strategy.

Table 2: Bontok Genitive agent forms

	POSTCONSONANTAL		POSTVOCALIC	
1S	<i>ʔwasít =kú</i>	'I throw s.th. out'	<i>ʔlákú =k</i>	'I sell s.th.'
2S	<i>ʔwasít =mú</i>	'you throw s.th. out'	<i>ʔlákú =m</i>	'you sell s.th.'
3S	<i>ʔwasít =ná</i>	'he/she throws s.th. out'	<i>ʔlákú =ná</i>	'he/she sells s.th.'
1+2S	<i>ʔwasít =tá</i>	'we (DL) throw s.th. out'	<i>ʔlákú =tá</i>	'we (DL) sell s.th.'
1P	<i>ʔwasít =mí</i>	'we (EX) throw s.th. out'	<i>ʔlákú =mí</i>	'we (EX) sell s.th.'
1+2P	<i>ʔwasít =takú</i>	'we (IN) throw s.th. out'	<i>ʔlákú =takú</i>	'we (IN) sell s.th.'
2P	<i>ʔwasít =yú</i>	'you (PL) throw s.th. out'	<i>ʔlákú =yú</i>	'you (PL) sell s.th.'
3P	<i>ʔwasít =dá</i>	'they throw s.th. out'	<i>ʔlákú =dá</i>	'they sell s.th.'

In the Central Cordilleran languages,⁶ as well as in Ilokano, an innovation has produced an additional environment in which the shortened forms are found. On transitive verbs containing a reflex of either *-en or *-an,⁷ the short pronominal form replaces the final *-n* of the verb ending. In each of these languages (but not in Ilokano) the final *-n* is also replaced when the third person singular form =*ná* occurs, as shown in Table 3.

Table 3: Bontok Genitive Agent forms following transitive verbs with *-en or *-an suffixes

1S	<i>ʔaláʔə =k</i>	'I get s.th.'	<i>dalusá =k</i>	'I clean s.th.'
2S	<i>ʔaláʔə =m</i>	'you get s.th.'	<i>dalusá =m</i>	'you clean s.th.'
3S	<i>ʔaláʔə =ná</i>	'he/she gets s.th.'	<i>dalusá =ná</i>	'he/she cleans s.th.'
1+2S	<i>ʔaláʔən =tá</i>	'we (DL) get s.th.'	<i>dalusán =tá</i>	'we (DL) clean s.th.'
1P	<i>ʔaláʔən =mí</i>	'we (EX) get s.th.'	<i>dalusán =mí</i>	'we (EX) clean s.th.'
1+2P	<i>ʔaláʔən =takú</i>	'we (IN) get s.th.'	<i>dalusán =takú</i>	'we (IN) clean s.th.'
2P	<i>ʔaláʔən =yú</i>	'you (PL) get s.th.'	<i>dalusán =yú</i>	'you (PL) clean s.th.'
3P	<i>ʔaláʔən =dá</i>	'they get s.th.'	<i>dalusán =dá</i>	'they clean s.th.'

The primary purpose of this paper is to examine the factors that have brought about the use of the postvocalic variants on transitive verbs that otherwise would end in a consonant. However as a prelude to this discussion, it will be necessary to consider the status of the forms themselves.

2 Full words, clitics, affixes or none of the above?

Determining where words begin and end is of primary importance when one's theory of language claims that it is full words that are the units that are stored in one's lexicon and that each word carries with it all the information that is necessary not only for its semantic

⁶ The Central Cordilleran languages include Bontok, Kankanaey, Balangaw and Ifugaw (the Nuclear Central Cordilleran languages), Kalinga and Itneg (which together with the Nuclear group constitute North Central Cordilleran) and Isinai (Reid 1974).

⁷ My use of reconstructed affixes is inconsistent with the theoretical claims being made in this paper, namely that words have no internal structure. They are cited here as affixes solely for their heuristic value.

interpretation but also for its syntactic distribution. The problem here lies in determining whether a phonological word constitutes a single lexical item, or whether it is constituted of more than one lexical item, one of which is a free form, and the other a clitic having its own syntactic privileges but phonologically attached to the free form.

The problem of determining whether a phonologically bound form in a language is a clitic or an affix was the topic of work by Zwicky and Pullum (1983). A later article by Zwicky (1985) tackled the related problem of determining whether a given form is a clitic or an independent word. Each paper suggests a series of tests by which evidence for one or another analysis could be adduced. In this section, I will attempt to apply some of the tests proposed in those papers to determine whether the genitive pronominal forms of the kind shown in Tables 1–3 are actually clitics (as they are characterised in many descriptions of Philippine languages); whether they are independent lexical items (as they are usually written in local orthographies); or whether, at least in some cases, they are neither clitics nor separate words, but are forms that have been incorporated into their former host, in the process contributing some of their features to those of their host as agreement features.

2.1 Full words or clitics?

By several of Zwicky's tests most of the forms cited in the tables above are at least clitics and not free forms. One of the tests for clitics is that they form a phonological unit with an independent word (Zwicky 1985:286). The postvocalic forms *-k* and *-m* are by this criterion clearly not independent words. If they were, they would be the only words in the language with no vocalic nucleus of their own. It is not clear, however, that the longer forms, those having at least one vocalic nucleus, constitute a phonological unit with the independent word they follow, for the following three reasons:

- (i) Pronominal forms carry their own stress, even if they are only single syllables. Note that in Bontok, the sequence *ʔásu=ná₁* 'his dog' is homophonous with *ʔásu ná₂* 'this is a dog', in which *ná₂* is a demonstrative noun freely substituting for a full NP such as *nan dáʔəy* 'this (one)', in a sentence such as *ʔásu nan dáʔəy* 'This one is a dog'.
 - (ii) Monosyllabic prepositions and determiners, on the other hand, are typically unstressed, so that the pronominal form *dá₁* in the sequence *ʔásu=dá₁ nan lallaláki* 'the men's dog' (lit. 'their dog, the men') is not homophonous with the unstressed plural determiner *da₂* in *ʔásu-n da₂=Juán* 'the dog of John and his companions', where *da₂* is phonologically (and syntactically) dependent on the word that follows it.
 - (iii) The presence of a pronominal form does not affect the position of stress on the preceding word. Words are stressed on either their ultimate or their penultimate syllable, so that a transitive verb that is suffixed carries stress one syllable further to the right than its associated form without a suffix, as shown in (1–4). Note that the verb meaning 'get' in (1) and (2) is always stressed on the penultimate syllable, while the verb meaning 'eat' in (3) and (4) is always stressed on the ultimate syllable, regardless of the presence or absence of a pronominal form.
- (1) a. *maɲála* 'to get ([–trns])'
 b. *maɲála =ká* 'you (SG) get (some)'
 c. *maɲála =kayú* 'you (PL) get (some)'

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|-----|----|----------------------|---------------------|
| (2) | a. | <i>ʔaláʔən</i> | ‘get ([+trns])’ |
| | b. | <i>ʔaláʔən =yú</i> | ‘you (PL) get (it)’ |
| | c. | <i>ʔaláʔən =takú</i> | ‘we (IN) get (it)’ |
| (3) | a. | <i>maʔán</i> | ‘to eat ([-trns])’ |
| | b. | <i>maʔán =ká</i> | ‘you (SG) eat’ |
| | c. | <i>maʔán =kayú</i> | ‘you (PL) eat’ |
| (4) | a. | <i>kanán</i> | ‘eat ([+trns])’ |
| | b. | <i>kanán =yú</i> | ‘you (PL) eat (it)’ |
| | c. | <i>kanán =takú</i> | ‘we (IN) eat (it)’ |

Zwicky further notes that “if an element counts as belonging to a phonological word for the purposes of accent, tone, or length assignment, then it should be a clitic” (1985:286). By this criterion, however, the pronominal forms should be clitics, not independent words, because in Bontok, as in many Philippine languages, only stressed open penultimate syllables have lengthened vowels. Open ultimate stressed syllables do not have long vowels. However, a form with a stressed open ultimate syllable does carry vowel length, if a pronominal form follows it, as in (5).

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|-----|----|----------------|-----------|-------------|
| (5) | a. | <i>matá</i> | [matá] | ‘eye’ |
| | b. | <i>maták</i> | [maták] | ‘my eye’ |
| | c. | <i>matá=ná</i> | [matá:ná] | ‘his eyes’ |
| | d. | <i>matá=yú</i> | [matá:yú] | ‘your eyes’ |

A further test is stated as follows, “an element affected by or conditioning a sandhi rule otherwise known to be internal should be a clitic” (Zwicky 1985:286). This particular test is of little relevance to the Bontok data cited above, because there are no sandhi rules operating in the data. However if we look at data from Karao, a Southern Cordilleran language, we find clear evidence that postvocalic variants of genitive pronouns are, at least in this language, part of the preceding phonological word and are probably therefore clitics. Apart from the first and second person singular forms, which retain the Proto Cordilleran postvocalic variants =*k* and =*m* respectively, Karao uses a set of innovated intervocalic consonant-initial variants for each of the other forms.

Table 4: Karao Genitive⁸ pronouns (Brainerd 1997:146)

	POSTCONSONANTAL	POSTVOCALIC
1S	<i>ko</i>	<i>k</i>
2S	<i>mo</i>	<i>m</i>
3S	<i>to</i>	<i>tho [θo]</i>
1+2S	<i>mi</i>	<i>wi</i>
1P	<i>tayo</i>	<i>thayo [θayo]</i>
1+2P	<i>tayocha</i>	<i>thayocha</i>
2P	<i>jo</i>	<i>yo</i>
3P	<i>cha</i>	<i>ra</i>

Finally, Zwicky notes, “We expect that bound elements will be affixes, but that free elements will constitute independent words. Correspondingly, if an element is bound, and especially if it cannot occur in complete isolation, it should be a clitic; if free, and especially if it occurs in complete isolation, it should be an independent word” (1985:287). By these criteria, none of the pronominal forms that we have been discussing can be considered to be free forms. None of them can occur independently from the form to which they are phonologically attached, and no other form may intervene between that form and the pronominal element.

One other piece of evidence suggests that the pronominal forms are clitics and not independent words. In Bontok and all other Central Cordilleran languages, any lexical item which is clearly independent, such as a personal or a common noun, and which can occur as the possessor of a noun or the Agent of a transitive clause, requires that the head of the construction, if otherwise ending in a vowel, end in *-n*. Compare examples (6–7), in which the head of each construction ends in a consonant, with (8–9), in which the head of each construction ends in a vowel plus *-n*. However, as shown in (10–11), the pronominal form following a head ending in a vowel may not have *-n* preceding it.

- (6) a. *ʔábuʃ Pakúlan* ‘Pakoran’s house’
 b. *ʔábuʃ nan laláki* ‘the man’s house’
- (7) a. *ʔnwasít Pakúlan* ‘Pakoran threw (s.th.) out’
 b. *ʔnwasít nan laláki* ‘the man threw (s.th.) out’
- (8) a. *ʔásu-n Pakúlan* ‘Pakoran’s dog.’
 b. *ʔásu-n nan laláki* ‘the man’s dog’
- (9) a. *ʔníla-n Pakúlan* ‘Pakoran saw (s.th.)’
 b. *ʔníla-n nan laláki* ‘the man saw (s.th.)’
- (10) a. *ʔábuʃ =yú* ‘your (PL) house’
 b. *ʔásu =yú* ‘your (PL) dog’
 c. **ʔásu-n yú*

⁸ Brainerd labels these forms “ergative/genitive”, noting the homophony between not only the ergative and genitive pronominal forms, but also the homophony of her so-called “ergative/oblique case markers” and what she refers to as “genitive markers”, which she does not consider to be case forms (Brainerd 1997:145–146).

- (11) a. *ʔinwasít =yú* 'you (PL) threw (s.th.) out'
 b. *ʔiníla =yú* 'you (PL) saw (s.th.)'
 c. *ʔiníla-n yú

2.2 Clitics or affixes?

Having determined that the forms are probably not free words is only part of the answer. Determining whether they are clitics or have lost their syntactic independence and become further grammaticalised as part of the word to which they were formerly phonologically attached is a more difficult task and has more intriguing theoretical implications.

Of the various criteria listed by Zwicky and Pullum (1983:503–504) and cited in A–F below, at least A, C and D are applicable to the forms under discussion.

- A. Clitics can exhibit a low degree of selection with respect to their hosts, while affixes exhibit a high degree of selection with respect to their stems.
- B. Arbitrary gaps in the set of combinations are more characteristic of affixed words than of clitic groups.
- C. Morphophonological idiosyncrasies are more characteristic of affixed words than of clitic groups.
- D. Semantic idiosyncrasies are more characteristic of affixed words than of clitic groups.
- E. Syntactic rules can affect affixed words, but cannot affect clitic groups.
- F. Clitics can attach to material already containing clitics, but affixes cannot.

With respect to A, there is a set of nonpronominal clitics in Bontok that do have a low degree of selection with respect to their hosts. This, for example, is true of all prepositions, such as locative *ʔas* and *ʔad*, either of which can become an enclitic, respectively =*s* and =*d*, to any vowel-final form that happens to precede them. It is also true of all determiners, which—depending on their form—become either preclitics or enclitics to the form to which they are adjacent. All of these clitics are typical of so-called “simple” clitics (Zwicky 1977), whose phonological attachment is clearly the result of their prosodically deficient character as monosyllabic forms and consequent loss of their vocalic nuclei, regardless of the fact that syntactically the prepositions and determiners are related to what follows them, not to what precedes them. In (12a), for example, the locative preposition *ʔad* is phonologically attached to a noun; in (12b), the same preposition is attached to a transitive verb (with a pronominal clitic) embedded in a relative clause; whereas in (12c), the preposition *ʔas* is attached to an infinitive, intransitive verbal complement. In this respect they are not unlike the NP-internal clitics of Kwakw’ala (Anderson 1997:9), which occur at the left edge of the phrase to which they are syntactically related, but which attach phonologically to the right edge of the preceding phrase.

- (12) a. *ʔnmáy nan laláki =d Mayníla*
 went Det man =P Manila
 ‘the man went to Manila’
- b. *ʔnmáy nan laláki =ay ʔníla =yú =d Mayníla*
 went Det man =P saw =you =P Manila
 ‘the man you saw went to Manila’

- c. *ʔiməy nan laláki =ay ʔumála =s ʔásu*
 went Det man =P get =P dog
 'the man went to get a dog'

The genitive pronominal forms, on the other hand, are more restricted in their distribution. They may attach only to nouns, or to transitive verbs that are the heads of 'root' clauses, that is, transitive verbs that are not themselves dependent on some other predicate. In this way then, they are similar to Zwicky's "special" clitics, and are more affixlike in their distribution than they are to 'simple' clitics. Their distribution as second-order clitics, either to the verbal head of a clause, or to the nominal head of a noun phrase is typical not only of many Austronesian languages, but of a wide range of languages from diverse language families, a fact noted first by Wackernagel (1892) and subsequently discussed in an extensive literature (Kaiser 1997).

With respect to C and D, there are several lines of evidence that suggest that, at least in Bontok, the shortened forms of the first and second singular pronominal forms exhibit morphophonological idiosyncrasies that make them more affixlike than cliticlike. The first is that these forms have not developed as the result of any regular phonological rule, otherwise we would expect that other pronominal forms ending in a high back vowel, such as =yú '2P', =takú '1+2P' and =kayú '2P', would also have shortened forms; but they do not.

Second, the strange fact that noncompleted transitive verbs replace their final *-n* with the postvocalic variant only in the first, second and third persons, but not for any other person and number, is an idiosyncrasy which makes the forms appear affixlike. When we consider other languages in the Cordilleran family that have short postvocalic pronominal forms, we find other idiosyncrasies that support the view that the shortened forms are not clitics but affixal. Both Yogad and Ibanag in the Cagayan Valley subgroup of Northern Cordilleran, as well as Itneg, Kalinga and Balangaw in the nuclear subgroup of Central Cordilleran have *-m* as the expected postvocalic form for '2s'. But instead of =*mu* as the postconsonantal form, each of these languages has =*nu*. The full clitic form has apparently evolved independently from the postvocalic variant, probably by analogy with the third person singular form which has an initial alveolar nasal, =*na* '3s'.⁹

In Ilokano, there are a series of morphophonological idiosyncrasies that are clearly of the kind that show that what were once genitive clitic pronouns have become incorporated into the verb and now function only to mark the verb as having certain agreement features. These idiosyncrasies occur in transitive verbs which imply a sequence of actor and Patient. When the sequence implies an actor followed by a third person nominative Patient, the forms are phonologically transparent only under certain conditions. When a third person singular pronoun (or any full lexical NP) occurs as the nominative Patient, then the expected form of the actor occurs—either the full, postconsonantal forms, as in Table 5a, or with the expected postvocalic forms if the transitive verb ends in a vowel. It should be noted that *isúna* '3s' is optional, and may occur independently, for instance as a nominal predicate.¹⁰

⁹ Tharp (1974:86) reconstructs the Proto Northern Cordilleran second person singular form as **nu*, *-m*. However, it seems clear that the source of the shortened form must originally have had a bilabial nasal, and that the change to an alveolar was a subsequent analogical development occurring in a cluster of geographically fairly closely related languages.

¹⁰ Third person singular nominative pronouns are typically morphologically unmarked in many Philippine languages, as they are also in most Formosan languages.

Table 5a: Ilokano Transitive Actor agreement with 3S Nominative Patient

Actor Agreement	3S Nominative Patient Pronoun	
[+spkr,-addr,-plrl] '1S'	1. <i>kinábilkó (isúna)</i>	'I hit him/her'
[-spkr,+addr,-plrl] '2S'	2. <i>kinábilmó (isúna)</i>	'you (SG) hit him/her'
[-spkr,-addr,-plrl] '3S'	3. <i>kinábilná (isúna)</i>	'he hit him/her'
[+spkr,+addr,-plrl] '1+2S'	4. <i>kinábiltá (isúna)</i>	'we (DL) hit him/her'
[+spkr,-addr,+plrl] '1P'	5. <i>kinábilmí (isúna)</i>	'we (EX) hit him/her'
[+spkr,+addr,+plrl] '1+2P'	6. <i>kinábiltayó (isúna)</i>	'we (IN) hit him/her'
[-spkr,+addr,+plrl] '2P'	7. <i>kinábilyó (isúna)</i>	'you (PL) hit him/her'
[-spkr,-addr,+plrl] '3P'	8. <i>kinábilda (isuna)</i>	'they hit him/her'

A similar situation occurs when the nominative Patient is third person plural, as in Table 5b. However, in this case the form of the nominative clitic, although phonologically transparent, is not an independent lexical item. The independent predicative form is not *idá*, but *isúda* '3P'.

Table 5b: Ilokano Transitive Actor agreement with 3P Nominative Patient

Actor Agreement	3P Nominative Patient Pronoun Clitic	
[+spkr,-addr,-plrl] '1S'	9. <i>kinábilkó=idá</i>	'I hit them'
[-spkr,+addr,-plrl] '2S'	10. <i>kinábilmó=idá</i>	'you (SG) hit them'
[-spkr,-addr,-plrl] '3S'	11. <i>kinábilná=idá</i>	'he hit them'
[+spkr,+addr,-plrl] '1+2S'	12. <i>kinábiltá=idá</i>	'we (DL) hit them'
[+spkr,-addr,+plrl] '1P'	13. <i>kinábilmí=idá</i>	'we (EX) hit them'
[+spkr,+addr,+plrl] '1+2P'	14. <i>kinábiltayó=ida</i>	'we (IN) hit them'
[-spkr,+addr,+plrl] '2P'	15. <i>kinábilyó=idá</i>	'you (PL) hit them'
[-spkr,-addr,+plrl] '3P'	16. <i>kinábildá=idá</i>	'they hit them'

However, a different situation occurs where the form that marks the Patient is something other than third person. In this case only two possible forms can be identified as marking the transitive actor: one is *na*, as shown in Table 5c. But instead of marking a third person singular actor, *na* only indicates that the actor is singular. Person is not marked, hence the ambiguous interpretations for #17 and #20.

Table 5c: Ilokano [-spkr, -plrl] Transitive Actor agreement

Patient Agreement	Actor Agreement [-spkr, -plrl]	
[+spkr, -addr, -plrl] '1S'	17. <i>kinábilnák</i>	'you (SG) hit me' 'he hit me'
[-spkr, +addr, -plrl] '2S'	18. <i>kinábilnaká</i>	'he hit you (SG)'
[+spkr, +addr, -plrl] '1+2S'	19. <i>kinábilnatá</i>	'he hit us (DL)'
[+spkr, -addr, +plrl] '1P'	20. <i>kinábilnakamí</i>	'you (SG) hit us (EX)' 'he hit us (EX)'
[+spkr, +addr, +plrl] '1+2P'	21. <i>kinábilnatayó</i>	'he hit us (IN)'
[-spkr, +addr, +plrl] '2P'	22. <i>kinábilnakayó</i>	'he hit you (PL)'

The other possible form to identify the transitive actor is *da*, as shown in Table 5d. But *da* here only indicates that the actor is plural. Person is not marked hence the multiple ambiguities in the table.

Table 5d: Ilokano [+plrl] Transitive Actor agreement

Patient Agreement	Actor Agreement [+plrl]	
[+spkr, -addr, -plrl] '1S'	23. <i>kinábildák</i>	'you (PL) hit me' 'they hit me'
[-spkr, +addr, -plrl] '2S'	24. <i>kinábildaká</i>	'we (excl) hit you (SG)' 'they hit you (SG)'
[+spkr, +addr, -plrl] '1+2S'	25. <i>kinábildatá</i>	'they hit us (DL)'
[+spkr, -addr, +plrl] '1P'	26. <i>kinábildakamí</i>	'you (PL) hit us (EX)' 'they hit us (EX)'
[+spkr, +addr, +plrl] '1+2P'	27. <i>kinábildatayó</i>	'they hit us (IN)'
[-spkr, +addr, +plrl] '2P'	28. <i>kinábildakayó</i>	'we (EX) hit you (PL)' 'they hit you (PL)'

Finally, in Table 5e, there is no phonological form at all to mark the transitive actor. In this case the verbs are interpreted as having a first person singular actor.

Table 5e: Ilokano [+spkr, -plrl] Transitive Actor agreement

Patient Agreement	Actor Agreement [+spkr, -plrl]	
[-spkr, +addr, -plrl] '2S'	29. <i>kinábilká</i>	'I hit you (SG)'
[-spkr, +addr, +plrl] '2P'	30. <i>kinábilkayó</i>	'I hit you (PL)'

These changes that have taken place in Ilokano would suggest that when a sequence of clitics becomes incorporated into a word, integration happens one layer at the time, the earlier/innermost accretions becoming more phonologically integrated than the more recent accretions. Thus a sequence of what was once a genitive pronoun followed by a nominative

pronoun shows irregularity precisely in what was once the genitive form, but not in the nominative, which being at the outer boundary of the word has maintained its phonological transparency.

2.3 Affixes or agreement features?

Returning to the problem at hand, that of determining the nature of the so-called genitive pronouns, it is clear that even if the postconsonantal forms are treated as clitics, the postvocalic short forms cannot be considered to be phonologically conditioned “allomorphs” of them. All the evidence for the short forms clearly indicates that they are not clitics but are part of their earlier host, whether noun or verb. As clitics, the postconsonantal forms are pronouns, and in addition to having a case form—Genitive—they also carry a case relation, either Agent if they are attached to a transitive verb, or Correspondent if attached to a noun.¹¹ But as incorporated forms, they cannot by definition be pronouns, since they are now part of the noun or the verb that formerly hosted them. Nor can they have a case form, or a case relation. They have become simply forms that mark agreement, specifically with the person and number of the (optional) actor of transitive verbs, or of a Correspondent, if they are part of a noun.

There is some evidence that true clitics retain their phonological transparency, and therefore have the potential of moving away from their clitic status back to independent word, since this is primarily a phonological process with the only syntactic changes required being those that result from the loss of its clitic status. Such a change must have taken place in the history of languages (such as Inibaloi) which have lost an auxiliary verb (probably meaning ‘go’) that must have formerly marked imperatives, leaving the clitic pronouns which followed them stranded as independent forms.

- (13) Inibaloi (Ballard, Conrad & Longacre 1971:24)
Jo di olop jet idaw jo la'd ma Peshis.
 you here fetch and bring you *la*=to *ma* Peshis
 ‘Go fetch him and bring him to Peshis.’

But once they have lost their clitic status and contributed their features to the host this is a process of no return. It is a one-way process with concomitant blurring of phonological boundaries triggered by the loss of morphological distinctiveness.

3 The analogical basis for the development of the Central Cordilleran Actor agreement marking

In the preceding sections I have used the term affix only as a convenient way of referring to forms that have been grammaticalised one step beyond their earlier status as clitics, and which in addition to becoming phonologically part of their host now contribute some of their semantic and syntactic features to it. At this point however, I shall abandon completely the

¹¹ A Correspondent is one of the five case relations allowed within Lexicase (Starosta 1988). It is, among others, the case expressed by a Genitive case form in Austronesian languages when it is dependent on a noun. In this position, it is typically referred to as a possessor. The other case relations are Agent, Patient, Locus and Means.

term 'affix', and refer simply to the agreement features that have been contributed to the head. This is an essential step to take. It is clear that retaining older structuralist notions of morphology, by which words are viewed as being composed of a root (or a stem) plus affixes, leads to unsolvable problems of segmentation in even 'analytic' languages such as English, with the postulating of replacive morphs and other such ad hoc devices. The problems become more acute in so-called 'fusional' languages, where it is often impossible to uniquely associate one or another syntactic or semantic feature with some phonological stuff within a word. The problem multiplies in complexity when one attempts to do a traditional morphological analysis of a Semitic language with its 'triconsonantal' roots.

More recent approaches to morphology (Starosta 1988, to appear; Anderson 1992; Ford, Singh & Martohardjono 1997) have moved beyond the structuralist Item and Arrangement (IA) and Item and Process (IP) attempts, and even earlier Word and Paradigm (WP) approaches, to so-called 'word-based', 'a-morphous', or 'seamless morphology' theories within which words are claimed not to have internal morphological structure.

3.1 Word formation strategies

Since words, according to the theory espoused here, specifically Lexicase as expounded by Starosta (1988 and subsequent works), have no internal morphological structure, they are themselves the smallest category available for syntactic analysis. There are no such things as 'morphology rules', that is rules which manipulate segmental morphemes. This does not, of course, mean that there is no relationship between the different forms of a verbal or nominal set. Words are related as members of analogical sets, formed by one or another WORD FORMATION STRATEGY (Ford, Singh & Martohardjono 1997:1). In Starosta's terms, a Word Formation Strategy "is an analogical pattern holding between pairs of words or n-tuples of words in a lexicon" (pers. comm.); in a grammar, it is a description of the relationship holding between a set of words that are perceived as sharing some analogical pattern. Thus, using Starosta's example (to appear, p. 5), the relationship between regular present and past tense English verbs is an analogical relationship of the form given in Figure 1, which can be represented by a word formation strategy of the type given in Figure 2.

slɪpt	:	slɪp	::
'slipped'		'slip'	
[+past]		[-past]	
mɪst	:	mɪs	::
'missed'		'miss'	
[+past]		[-past]	
wɔkt	:	wɔk	::
'walked'		'walk'	
[+past]		[-past]	

Figure 1: Analogical patterns: English *t* past and zero nonpast

[+past] : [-past]
 t] :]

Figure 2: Word formation strategy: English *t* past and zero nonpast

3.2 Bontok Word Formation Strategies

Applying this concept (of the analogical relationship between systematically related sets of words) enables us now to tackle the problem first stated in the introduction. There it was indicated that the primary purpose of this paper is to examine the factors that brought about the use of the postvocalic variants on transitive verbs that otherwise would end in a consonant. Restated without appealing to the concept of morphological variant, the issue is now to determine what the analogical processes were that resulted in the loss of the final *-n* of transitive verbs, when what were earlier genitive pronominal clitics became part of the verb and contributed their person and number features to the verb. The patterns first displayed in Table 3 are restated below in Table 6. I am taking the position here that the forms displayed in the first three rows are single lexical items—transitive verbs with Actor agreement features—whereas the forms in the remaining rows of the table are sequences of lexical items—transitive verbs followed by Genitive Agent clitic pronouns. This allows for a simpler description than one in which the forms in the remaining rows are also treated as marking actor agreement features on the verb. It is also consistent with the position that inflectional paradigms may develop one step at a time.¹²

Table 6: Bontok transitive verbs showing Actor agreement

1S	<i>ʔaláʔək</i>	'I get s.th.'	<i>dalusák</i>	'I clean s.th.'
2S	<i>ʔaláʔəm</i>	'you get s.th.'	<i>dalusám</i>	'you clean s.th.'
3S	<i>ʔaláʔəná</i>	'he/she gets s.th.'	<i>dalusáná</i>	'he/she cleans s.th.'
1+2S	<i>ʔaláʔən =tá</i>	'we (DL) get s.th.'	<i>dalusán =tá</i>	'we (DL) clean s.th.'
1P	<i>ʔaláʔən =mí</i>	'we (EX) get s.th.'	<i>dalusán =mí</i>	'we (EX) clean s.th.'
1+2P	<i>ʔaláʔən =takú</i>	'we (IN) get s.th.'	<i>dalusán =takú</i>	'we (IN) clean s.th.'
2P	<i>ʔaláʔən =yú</i>	'you (PL) get s.th.'	<i>dalusán =yú</i>	'you (PL) clean s.th.'
3P	<i>ʔaláʔən =dá</i>	'they get s.th.'	<i>dalusán =dá</i>	'they clean s.th.'

3.2.1 The word formation strategy for vowel-final possessed nouns

The analogical patterns that are relevant to the problem include a set of nominal forms, specifically those that can be possessed and that end in a vowel. An example of such a set is given in Figure 3. The analogical word formation strategy (WFS1) that accounts for such forms is given immediately below the examples. Lexicase formalism is used to specify the relevant morphosyntactic features in the terms of the analogy. Included in Figure 3 are only those forms that are pertinent to the problem of understanding the basis of the analogical

¹² This is the position claimed by Starosta (1985) with reference to incipient case inflection in Mandarin Chinese.

association that brought about the irregular verbal forms under discussion. The set could have been extended to include all person and number forms, if they are considered to also be part of the noun and no longer clitics.

<i>ʔásu</i> 'dog'	<i>ʔásuk</i> 'my dog'	<i>ʔásum</i> 'your dog'	<i>ʔásun</i> 'dog of'	::
<i>báŋa</i> 'pot'	<i>báŋak</i> 'my pot'	<i>báŋam</i> 'your pot'	<i>báŋan</i> 'pot of'	::
<i>sikí</i> 'leg'	<i>sikík</i> 'my leg'	<i>sikím</i> 'your leg'	<i>sikín</i> 'leg of'	::
$\left[\begin{array}{c} N \\ ?([N]) \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} N \\ +pssd \\ ? \left[\begin{array}{c} COR \\ +spkr \\ -addr \\ -plrl \end{array} \right] \\ ? [COR] \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} N \\ +pssd \\ ? \left[\begin{array}{c} COR \\ -spkr \\ +addr \\ -plrl \end{array} \right] \\ ? [COR] \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} N \\ ? \left[\begin{array}{c} N \\ -prnm \end{array} \right] \\ ? \left[\begin{array}{c} +Gen \\ N \end{array} \right] \\ ? \left[\begin{array}{c} COR \\ +Gen \end{array} \right] \\ ? \left[\begin{array}{c} COR \\ -spkr \\ -addr \end{array} \right] \\ \alpha F_i \end{array} \right]$	
<i>Vj</i>	<i>Vkj</i>	<i>Vmj</i>	<i>Vnj</i>	

Figure 3: WFS for Bontok possessed nouns (WFS1)

WFS1 states that there is an analogically based word formation strategy in Bontok such that any vowel-final noun (*Vj*) which allows a dependent noun, ?([N])—typically this would be a following ‘possessor’, or Correspondent in Lexicase terminology—may have associated with it a set of obligatorily possessed (+pssd) nouns each with the same set of semantic features (αF_i). One of these associated forms carries a set of agreement features which implies a first person singular possessor ([COR,+spkr,-addr,-plrl]) and is marked with the ending *kj*. Another of these associated forms carries a set of agreement features which implies a second person singular possessor ([COR,-spkr,+addr,-plrl]) and is marked with the ending *mj*. It should be emphasised that WFS1 encodes an assumption that at least the endings that mark first and second person agreement are *not* genitive clitics; the rule simply indicates that the whole form carries person and number pronominal features that agree with an (optional) dependent Correspondent. The endings are not themselves case-marked forms, nor are they suffixes in the traditionally understood use of the term.¹³ A third associated form

¹³ Typically in descriptions of Austronesian languages, affixed forms that are translatable as pronouns are referred to as pronouns, and are also noted as having a case form. Thus Zeitoun in discussing Budai Rukai nominative pronouns states, “The short form—the most widely used—occurs in postverbal position. It is suffixed to the verb, and its position is fixed” (1997:317).

requires a dependent Genitive nonpronominal noun (N, –prnn), which is a third person possessor ([COR, –spkr, –addr]). This form is marked with the ending *n/*. This is the form of a vowel-final noun as it appears before nonclitic (that is, nonpronominal) genitive noun phrases, as in (8) above, repeated below without any morphological divisions as (14):

- (14) a. *ʔásun Pakúlan* ‘Pakoran’s dog’
 b. *ʔásun nan laláki* ‘the man’s dog’

3.2.2 The word formation strategy for vowel-final deverbal nouns

In the previous section, WFS1 showed an analogical relationship between nouns that allow a dependent Genitive Correspondent. This excludes certain nouns that are so-called “deverbal nominalizations”. While for nonderived nouns such as *ʔásu* ‘dog’, *báŋa* ‘pot’ and *síkí* ‘leg’ a Genitive Correspondent is optional, a noun which has a derivational relationship with a vowel-final transitive verb must have either an agreement feature marking a possessor, as in (15a–b), or a dependent Genitive Correspondent—either a clitic pronoun, as in (15c), or a nonpronominal lexical noun, as in (15d–e). The noun *ʔíníla* ‘thing seen’ is such a form.

- (15) a. *ʔásu nan ʔínílak* ‘a dog is what I saw’
 dog Det saw.of.1S lit. ‘a dog is my seen thing’
 b. *ʔásu nan ʔínílam* ‘a dog is what you (SG) saw’
 dog Det saw.of.2S lit. ‘a dog is your (SG) seen thing’
 c. *ʔásu nan ʔíníla =yu* ‘a dog is what you (PL) saw’
 dog Det saw.of =Gen.2P lit. ‘a dog is your (PL) seen thing’
 d. *ʔásu nan ʔínílan Pakúlan* ‘a dog is what Pakoran saw’
 dog Det saw.of Pakoran lit. ‘a dog is the seen thing of Pakoran’
 e. *ʔásu nan ʔínílan nan laláki* ‘a dog is what the man saw’
 dog Det saw.of Det man lit. ‘a dog is the seen thing of the man’

The word formation strategy that relates sets such as this is given in Figure 4.

<i>ʔiníla</i>	<i>ʔinílak</i>	<i>ʔinílam</i>	<i>ʔinílan</i>	::
'seen by prnn'	'seen by me'	'seen by you'	'seen by N'	
<i>ʔinláku</i>	<i>ʔinlákuk</i>	<i>ʔinlákum</i>	<i>ʔinlákun</i>	::
'sold by prnn'	'sold by me'	'sold by you'	'sold by N'	
<i>ʔiláku</i>	<i>ʔilákuk</i>	<i>ʔilákum</i>	<i>ʔilákun</i>	::
'sells by prnn'	'sells by me'	'sells by you'	'sells by N'	
$\left[\begin{array}{l} \text{N} \\ +\text{pssd} \\ ? [\text{N}] \\ ? \left[\begin{array}{l} \text{COR} \\ +\text{prnn} \\ +\text{cltc} \end{array} \right] \\ ? \left[\begin{array}{l} \text{COR} \\ +\text{Gen} \end{array} \right] \\ ? [\text{COR}] \\ \alpha\text{F}_i \end{array} \right]$	$\left[\begin{array}{l} \text{N} \\ +\text{pssd} \\ ? \left[\begin{array}{l} \text{COR} \\ +\text{spkr} \\ -\text{adrs} \\ -\text{plrl} \end{array} \right] \\ ? [\text{COR}] \\ \alpha\text{F}_i \end{array} \right]$	$\left[\begin{array}{l} \text{N} \\ +\text{pssd} \\ ? \left[\begin{array}{l} \text{COR} \\ -\text{spkr} \\ +\text{adrs} \\ -\text{plrl} \end{array} \right] \\ ? [\text{COR}] \\ \alpha\text{F}_i \end{array} \right]$	$\left[\begin{array}{l} \text{N} \\ +\text{pssd} \\ ? [\text{N}] \\ ? \left[\begin{array}{l} +\text{Gen} \\ \text{N} \end{array} \right] \\ ? \left[\begin{array}{l} \text{COR} \\ +\text{Gen} \end{array} \right] \\ ? \left[\begin{array}{l} \text{COR} \\ -\text{spkr} \\ -\text{adrs} \end{array} \right] \\ \alpha\text{F}_i \end{array} \right]$	
<i>Vj</i>	<i>Vkj</i>	<i>Vmj</i>	<i>Vnj</i>	

Figure 4: WFS for Bontok nominalised vowel-final transitive verbs (WFS2)

WFS2 states that there is an analogically based word formation strategy in Bontok such that any vowel-final (*Vj*) possessed (+pssd) noun requiring a pronominal Genitive clitic dependent may have associated with it a set of possessed nouns each with the same set of semantic features (αF_i). One of these associated forms implies a first person singular possessor and is marked with the ending *kj*. Another of these associated forms implies a second person singular possessor and is marked with the ending *mj*. A third associated form requires a dependent Genitive nonpronominal noun (N, -prnn), which is a third person possessor and is marked with the ending *nj*.

3.2.3 The word formation strategy for vowel-final transitive verbs

Vowel-final transitive verbs (and the nouns with which they are analogically related) are of three types. These are exemplified at the head of Figures 4 and 5. The first are vowel-final verbs that have an initial [*ʔiC* sequence, where the *C* is not an alveolar nasal consonant. These have traditionally been called nonperfective instrument (or associate) focus verbs with an *ʔi-* prefix, such as *ʔiláku* 'sell s.th.', *ʔipíli* 'choose s.th.', *ʔiyáli* 'bring s.th.'. The second are the perfective forms of the same verbs. In Bontok, these verbs have an initial [*ʔin* sequence,¹⁴

¹⁴ Historically these initial sequences resulted from what has in the past been considered to be affixation of a perfective <in> into an *ʔi-* prefixed stem, resulting in a sequence of *ʔin>i-*, with subsequent deletion of the final (unstressed) *i* of the affix complex.

such as *ʔinlaku* ‘sold s.th.’, *ʔinplli* ‘chose s.th.’, *ʔinyáli* ‘brought s.th.’. The third type of vowel-final transitive verbs are the perfective forms of so-called ‘object (or goal) focus’ verbs with an initial [Cin sequence. All other transitive verbs are consonant-final, since they end in reflexes of *-an or *-en. The word formation strategy that relates these verbs is given in Figure 5.

<i>ʔinla</i> ‘prnn saw s.th.’	<i>ʔinlak</i> ‘I saw s.th.’	<i>ʔinlam</i> ‘you saw s.th.’	<i>ʔinlan</i> :: ‘N saw s.th.’
<i>ʔinlaku</i> ‘prnn sold s.th.’	<i>ʔinlakuk</i> ‘I sold s.th.’	<i>ʔinlakum</i> ‘you sold s.th.’	<i>ʔinlakun</i> :: ‘N sold s.th.’
<i>ʔilaku</i> ‘prnn sells s.th.’	<i>ʔilakuk</i> ‘I sell s.th.’	<i>ʔilakum</i> ‘you sell s.th.’	<i>ʔilakun</i> :: ‘N sells s.th.’

$\left[\begin{array}{c} V \\ +trns \\ ? [N] \\ ? \left[\begin{array}{c} +Gen \\ +prnn \\ +cltc \end{array} \right] \\ ? \left[\begin{array}{c} AGT \\ +Gen \end{array} \right] \\ ?[AGT] \\ \alpha F_i \end{array} \right]$ <p>Vj</p>	$\left[\begin{array}{c} V \\ +trns \\ ? \left[\begin{array}{c} AGT \\ +spkr \\ -adrs \\ -plrl \end{array} \right] \\ ? [AGT] \\ \alpha F_i \end{array} \right]$ <p>Vk]</p>	$\left[\begin{array}{c} V \\ +trns \\ ? \left[\begin{array}{c} AGT \\ -spkr \\ +adrs \\ -plrl \end{array} \right] \\ ?[AGT] \\ \alpha F_i \end{array} \right]$ <p>Vm]</p>	$\left[\begin{array}{c} V \\ +trns \\ ? [N] \\ ? \left[\begin{array}{c} +Gen \\ N \end{array} \right] \\ ? \left[\begin{array}{c} AGT \\ +Gen \end{array} \right] \\ ? \left[\begin{array}{c} AGT \\ -spkr \\ -adrs \end{array} \right] \\ \alpha F_i \end{array} \right]$ <p>Vn]</p>
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Figure 5: WFS for Bontok vowel-final transitive verbs (WFS3)

WFS3 states that there is an analogically based word formation strategy in Bontok such that any vowel-final transitive verb (Vj) which requires a pronominal Genitive clitic dependent expressing an Agent, may have associated with it a set of transitive verbs each with the same set of semantic features (αF_i). One of these associated forms implies a first person singular actor and is marked with the ending k]. Another of these associated forms implies a second person singular actor and is marked with the ending m]. A third associated form requires a dependent Genitive nonpronominal noun (N, -prnn), which is a third person Agent and is marked with the ending n].

3.2.4 The word formation strategy relating vowel-final transitive verbs and their nominalisations

Vowel-final transitive verbs and their homophonous nominalised forms are themselves related by a word formation strategy, two terms of which are given in Figure 6.

<i>ʔinilan</i> 'N saw s.th.'	:	<i>ʔinilan</i> 'thing seen by N'
<i>ʔinlákun</i> 'N sold s.th.'	:	<i>ʔinlákun</i> 'thing sold by N'
<i>ʔilákun</i> 'N sells s.th.'	:	<i>ʔilákun</i> 'thing being sold by N'
$\left[\begin{array}{c} V \\ +trns \\ ? [N] \\ ? \left[\begin{array}{c} +Gen \\ N \end{array} \right] \\ ? \left[\begin{array}{c} AGT \\ +Gen \end{array} \right] \\ ? \left[\begin{array}{c} AGT \\ -spkr \\ -adrs \end{array} \right] \\ \alpha Fi \end{array} \right]$:	$\left[\begin{array}{c} N \\ +pssd \\ ? [N] \\ ? \left[\begin{array}{c} +Gen \\ N \end{array} \right] \\ ? \left[\begin{array}{c} COR \\ +Gen \end{array} \right] \\ ? \left[\begin{array}{c} COR \\ -spkr \\ -adrs \end{array} \right] \\ \alpha F_j \end{array} \right]$
<i>n]</i>		<i>n]</i>

Figure 6: WFS for Bontok transitive verbs to nominalised perfective transitive verbs (WFS4)

WFS3 states that there is an analogically based word formation strategy in Bontok such that any verb which has a Genitive Agent, third person lexical noun (i.e. nonpronominal) dependent has an analogical relationship with a possessed noun of the same form. Both forms end in *n]*, but whereas the case relation carried by the noun that is the Genitive dependent of the verb is Agent, that of the associated noun is Correspondent, or possessor. The verb in this situation would be, by definition within Lexicase (Starosta 1988), a transitive verb, since only transitive verbs may have an Agent.

3.2.5 The Word Formation Strategy for transitive verbs ending in *n]*

The analogical pattern existing between sets of vowel-final nouns and verbs, by which the addition of an *n]* ending marks the presence of a Genitive nonpronominal dependent, provided the basis for the innovation first discussed in §1, and illustrated in Tables 3 and 6, by which so-called ‘goal focus’ transitive verbs containing a reflex of PPh *-en, and ‘locative focus’ transitive verbs containing a reflex of PPh *-an (as well as their nominal counterparts) lose the final *n]* of the form when it carries first, second or third person singular agreement marking. In effect, forms which are consonant-final are treated as though they are vowel-final, their final *n]* marking the presence of a Genitive third person lexical noun dependent, as shown in Figure 7. A parallel word formation strategy exists relating the homophonous nominalised forms of these transitive verbs.

<i>ʔilákun</i> : ‘N sells s.th.’	<i>ʔilákuk</i> : ‘I sell s.th.’	<i>ʔilákum</i> : ‘you sell s.th.’	<i>ʔilákuna</i> :: ‘he sells s.th.’
<i>ʔiláʔən</i> : ‘N sees s.th.’	<i>ʔiláʔək</i> : ‘I see s.th.’	<i>ʔiláʔəm</i> : ‘you see s.th.’	<i>ʔiláʔəna</i> :: ‘he sees s.th.’
<i>dalusán</i> : ‘N cleans s.th.’	<i>dalusák</i> : ‘I clean s.th.’	<i>dalusám</i> : ‘you clean s.th.’	<i>dalusána</i> :: ‘he cleans s.th.’

$\left[\begin{array}{c} V \\ +trns \\ ? [N] \\ ? [+Gen] \\ \quad [N] \\ ? [AGT] \\ \quad [+Gen] \\ ? [AGT] \\ \quad [-spkr] \\ \quad [-adrs] \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} V \\ +trns \\ ? [AGT] \\ \quad [+spkr] \\ \quad [-adrs] \\ \quad [-plrl] \\ ? [AGT] \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} V \\ +trns \\ ? [AGT] \\ \quad [-spkr] \\ \quad [+adrs] \\ \quad [-plrl] \\ ? [AGT] \\ \alpha F_i \end{array} \right]$	$\left[\begin{array}{c} V \\ +trns \\ ? [AGT] \\ \quad [-spkr] \\ \quad [-adrs] \\ \quad [-plrl] \\ ? [AGT] \\ \alpha F_i \end{array} \right]$
<i>Vn]</i>	<i>Vk]</i>	<i>Vm]</i>	<i>Vna]</i>

Figure 7: WFS for *n]*- final transitive verbs (WFS5)

4 Historical source of *n]*

The analogically based word formation strategies labelled WFS1–WFS5 are common to all Central Cordilleran languages and must therefore be reconstructable to their parent language. It is clear that the sources of the *k]* and *m]* first and second person singular agreement markers on postvocalic forms are the reduced forms respectively of the earlier clitics =*ku* and =*mu*, so that the Genitive case-marking and agreement system of Proto Central Cordilleran can be represented as in Table 7:

Table 7: Proto Central Cordilleran Genitive case-marking and agreement system

	POSTCONSONANTAL	POSTVOCALIC
Pronoun: 1s	= <i>ku</i>	<i>k]</i>
2s	= <i>mu</i>	<i>m]</i>
Proper Noun	N	<i>n]</i> N
Common Noun	Det N	<i>n]</i> Det N

However, a question arises as to the source of the final *n]* on postvocalic forms. It seems probable that it is the result of the grammaticalisation of what was earlier a genitive case-marking preposition **ni* which occurred postvocally in Proto Cordilleran and earlier stages

of the family (Reid 1981), as shown in Table 8. Loss of the postconsonantal form *ʔi with subsequent cliticisation of postvocalic *ni onto vowel-final stems, and finally, with loss of its vocalic nucleus, complete phonological merger and bequeathing of its features to its head resulted in the *nj* final forms.

Table 8: Proto Cordilleran Genitive marking

	POSTCONSONANTAL	POSTVOCALIC
Pronoun: 1S	= <i>ku</i>	= <i>ku</i>
2S	= <i>mu</i>	= <i>mu</i>
Proper Noun	<i>ʔi</i> N	<i>ni</i> N
Common Noun	<i>ʔi</i> Det N	<i>ni</i> Det N

5 Conclusion

This study has attempted to provide an explanation for the unusual verbal and nominal forms in the Central Cordilleran languages, in which what were originally derivational endings, *enj* and *anj*, lose their final nasal when they carry either first, second or third person singular agreement features, respectively *kj*, *mj* and *naj*. I have claimed that this situation arose as a result of the incorporation of reduced forms of what were originally clitic genitive pronouns on the one hand, and subsequently the incorporation of a reduced form of the genitive case-marking preposition *ni* as *nj* on the other hand, onto vowel-final verbs and their nominal counterparts. An analogy was then established between these *nj* final forms and derived forms with *enj* and *anj* endings, so that the latter were also perceived as being vowel-final for the purpose of substituting the *kj*, *mj* and *naj* agreement endings.

This explanation, however, does not account for the presence of a similar phenomenon in Ilokano (Rubino 1997), a language which does not form a part of the Central Cordilleran subgroup and which has been considered to be a first-order subgroup within the Cordilleran family. The explanation does not account for the Ilokano situation because this language does not have, and has no evidence of ever having had, a reduced form of the genitive *ni* occurring on vowel-final forms, a situation which I have claimed was crucial to the development of the agreement markers in the Central Cordilleran languages. Ilokano does have a set of *n* initial clitics that attach to vowel-final words. These are =*nto* 'future' and =*nsa* 'maybe, possible'. Alternate forms without the initial nasal attach to consonant-final words. Similarly, Ilokano =*n* 'now, already' attaches to vowel-final words, while its alternate, =*en* attaches to consonant-final words. There is no evidence, however, that the nasal on these forms was originally *ni, nor that they formed the basis of an analogy such as we find in the Central Cordilleran languages.

A number of possible explanations exist for the Ilokano situation, none of which I find particularly appealing. One explanation is that Ilokano has been influenced by its geographical proximity to the Central Cordilleran languages, and has developed precisely the same set of agreement features by a process of borrowing. I find this unconvincing, because Ilokano is, and probably has been for centuries, a more prestigious language than any of the Central Cordilleran languages, and lexical borrowing has been almost completely in the opposite direction.

A second explanation is that we don't know enough of the historical development of the Ilokano case-marking system. The conditions that brought about the agreement marking

system in the Central Cordilleran languages may well have existed in Ilokano at some earlier point in its history. There has been a substantial reformation in Ilokano of the system reconstructed for Proto Cordilleran, as can be seen by comparing Tables 8 and 9. The distinction between postconsonantal and postvocalic forms has been lost in Ilokano, too, with *ni* being generalised to follow both consonants and vowels, but only preceding proper nouns. Common nouns are preceded by *ti* or one of a variety of other forms having their origins in demonstratives. Although included in Table 9, neither *ni* nor *ti* are case markers since they also precede Nominative nouns and other case forms. Most cases in Ilokano are marked by word order and by the forms of pronouns. I find this second explanation unappealing because there is no alternation present in the language between a final *n]* and the form *ni*, as occurs, for example, between *n]* and *no* in the phrase *inton bigat* or *into no bigat* ‘tomorrow’. Moreover, the *n-* initial clitics that do occur in Ilokano are very ancient, predating the phonological reduction of first and second person singular pronominal forms *ko* and *mo*. When *n-* initial clitics occur following these pronominal forms, they protect them from phonological reduction, as in *nakitamon* ‘you saw (it) already’.

Table 9: Ilokano Genitive marking

	POSTCONSONANTAL	POSTVOCALIC
Pronoun: 1S	= <i>ku</i>	<i>k]</i>
2S	= <i>mu</i>	<i>m]</i>
Proper Noun	<i>ni</i> N	<i>ni</i> N
Common Noun	<i>ti</i> N	<i>ti</i> N

A third explanation is that Ilokano is actually a Central Cordilleran language and shares the innovation with those languages. But this would create more problems because Ilokano does not share any of the innovations which link both the Central and Southern Cordilleran languages, and would still require an explanation for the loss of word-final *n]* from *ni*.

Finally, it may be that my account of the development of agreement markers in the Central Cordilleran languages is wrong, or that there are other as yet unrecognised explanations for the irregular loss of the final nasal of transitive verbs that have operated in Ilokano. Zeitoun (1997:327) discusses a similar situation also in Kavalan, in which the final nasal of an *-an* suffix is lost before what appear to be *k* ‘1S’ and *na* ‘3S’ agreement markers. She describes these, in the traditional manner, as Genitive bound pronouns, as in (16a & b) (cited with her glosses¹⁵). She does not discuss the conditions that may have brought about this situation.

- (16) a. *pukun -an -ku -pa sunis [pukunaka sunis]*
 beat -P/LF -1S.GEN -will child
 ‘I will beat the child’
- b. *pukun -an -na [pukunana]*
 beat -P/LF -3S.GEN
 ‘he beat (s.o.)’

Perhaps when the conditions for the development of the Kavalan agreement markers become clear, a more comprehensive explanation will be available for both Ilokano and the languages of the Central Cordillera.

¹⁵ P/LF = Patient or Locative Focus

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