A Note on Verbal Agreement in Maung*

MARK DONOHUE

The non-Pama Nyungan languages of the north of Australia are notable for the often elaborate pronominal prefixing that is found on verbs. Most descriptions of this prefixing describe it as following a nominative-accusative pattern, and note that the ordering of the affixes is not fixed: sometimes object precedes subject, sometimes subject precedes object. In this article I demonstrate that the pronominal prefixing found in Maung is broadly a split-ergative system, and that through reference to the alignment categories distinguished by the prefixes, not the syntactic roles (A, S or O), we can find a set of principles behind the variations in prefix order, which are modelled in a set of constraints following the principles of Optimality Theory. Some speculations on the historical origins of this system are presented, suggesting that this aberrant system arose from the reanalysis of a voice marker, and the development of the accusative prefixes from the nominative forms. The Maung data is used to argue that Bittner and Hale’s proposals regarding agreement ordering do not represent a set of universal conditions.

Maung is a non-Pama Nyungan language spoken on Goulburn island off the north coast of the Northern Territory in Australia. The language displays extensive verbal agreement and a class system, and has been described in Capell and Hinch (1970), from which all data for this article has been drawn. The details that are relevant for this article are that verbs have prefixes that show agreement with both subject and object, and there is a class system for nominals. Importantly, there is not one universal order to the prefixes that index the subject and object.

There are tense-suppletive forms that are clearly related to a basic form of the prefix (for example, and the present is formed by the addition of $g$- to the vowel initial prefixes, thus $gijinda$ ‘He is speaking’, compared with $injiga$ ‘He spoke’, which displays a vowel initial subject prefix, but a final $-g$ marking tense). In the class system Class I indicates male humans and some other animate (or classificatorily animate) entities, Class II is used for human female and other animate entities, Class IV for things associated with the earth, Class V for trees and parts of trees, and Class VI is used for vegetable food and plants. Class III is the

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plural of Classes I and II for humans only; non-human terms in Classes I and II do not have a separate plural form.¹

In Section 1 I shall exemplify the agreement morphology of Maung, and attempt some morphological analysis of that material beyond that found in Capell and Hinch (1970). Section 2 presents a summary and formal model of the restrictions on prefix placement, and Section 3 examines some of the empirical findings of the morphological reanalysis in the light of recent claims by Bittner and Hale regarding the relative ordering of agreement affixes.

1. Maung Agreement Prefixes

Maung is a good language with which to begin an investigation into affix-ordering in Australia, since it is, despite its own individual quirks, surprisingly regular in the forms of the affixes and the ability of the prefix clusters to be segmented into separate morphemes for subject and object. In many other Northern Australian languages there is ‘contamination’ of part of the verb paradigm by other parts; Capell and Hinch (1970) note, referring to the related Yiwaija language of the mainland, that ‘[t]here is not so much irregularity as in Jiwadja’ (p. 68) and that ‘[t]he Jiwadja statives coalesce in Maung with the intransitives’ (p. 66). In languages further south, such as in Mangarayi, in which ‘[s]econd person nonsingular acting on any first person category is equivalent to third person non-singular subject acting on that first person category’ (Merlan 1982: 163), showing contamination of the 2NS → 1 combinations from the 3NS → 1 part of the paradigm. In Wardaman (Merlan 1994) there is not only contamination from other parts of the same paradigm, but some combinations use irrealis forms of the pronominal prefixes in the realsis paradigm, further complicating a description of the system. Such occurrences are not untypical of the northern Australian languages. Maung, on the other hand, appears not to suffer to a significant degree from these sort of complications,² having instead a system which is complex, yet without any major traceable irregularities of the sort mentioned above, and without any portmanteau forms that would also obscure an investigation into prefix-ordering.

¹ Abbreviations used: 1 first person, 2 second person, 3 third person, class (I, II, III, IV, V and VI), A O S: most and least agentive of a transitive verb, single argument of an intransitive verb, ABS absolutive, ACC accusative, ANIM animate, ART article, CAUS causative, ERG ergative, EXCL exclusive, FUT future, HUM human, INCL inclusive, L left, NOM nominative, NONANIM non-animate, NS non-singular, OBJ object, OBL oblique, PASS passive, PL plural, SG singular, SUBJ subject, SUBORD subordinate, TNS tense.

² Based on the prevalence of a g in the future forms of the prefixes (as noted in the Introduction) we might hypothesize that the suppletive form ar(g)- for 1PL.INCLS may be a future form used in the present. We might further speculate that the irregular (based on the other second person forms) 2SG.S form an- is influence form another paradigm, but we have no evidence for this synchronically.
Table 1. Pronominal forms in Maung

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>S</th>
<th>O</th>
<th>Free form</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 INCL</td>
<td>ar-</td>
<td>ar(g)-</td>
<td>arun-</td>
<td>ḡarwuri</td>
</tr>
<tr>
<td>1 EXCL PL</td>
<td>ḡar-</td>
<td>ḡar-</td>
<td>ḡarun-</td>
<td>ḡari</td>
</tr>
<tr>
<td>SG</td>
<td>ḡ-</td>
<td>ḡa-</td>
<td>ḡan-</td>
<td>ḡabi</td>
</tr>
<tr>
<td>2 PL</td>
<td>gur-</td>
<td>gur-</td>
<td>gurun-</td>
<td>nuwuru</td>
</tr>
<tr>
<td>SG</td>
<td>gu-</td>
<td>an-</td>
<td>gun-</td>
<td>nuji</td>
</tr>
<tr>
<td>3 PL HUM</td>
<td>ĆLI</td>
<td>wu-</td>
<td>awun-</td>
<td>wenad</td>
</tr>
<tr>
<td>3 (SG) ANIM</td>
<td>ĆLI</td>
<td>ni-</td>
<td>(i)i-</td>
<td>(i)-janad</td>
</tr>
<tr>
<td>ĆLII</td>
<td>ḡa-</td>
<td>inj-</td>
<td>(i)inj-</td>
<td>in-janad</td>
</tr>
<tr>
<td>NONANIM</td>
<td>ĆLI</td>
<td>ḡa-</td>
<td>aŋ-</td>
<td>an-janad</td>
</tr>
<tr>
<td>ĆLV</td>
<td>ḡa-</td>
<td>ma-</td>
<td>ma-</td>
<td>m-anad</td>
</tr>
<tr>
<td>ĆLVI</td>
<td>ḡa-</td>
<td>aw-</td>
<td>aw-</td>
<td>ad-janad</td>
</tr>
</tbody>
</table>

Regarding the order of the prefixes, Capell and Hinch (1970) state that in the Maung verb ‘it’he object prefix precedes the subject prefix’ (1970: 76), and list pronominal forms for subject and object agreement (1970: facing page 68, 76–77), tacitly assuming a nominative-accusative alignment for the prefixes. The pronominal verbal morphology, as presented by Capell and Hinch (1970) for the generic tenses (the most basic forms) is set out in Table 1, along with the free pronouns, for comparison. The forms shown in Table 1 do not wholly support Capell and Hinch’s (1970) descriptive statement that allows for a simple division into subject and object sets of prefixes. To avoid prejudicing the outcome I have listed the forms used to cross-reference A, S and O (following Dixon 1979; for definitions, see Andrews 1985: 68) in separate columns, awaiting later analysis (there is no split in the intransitive paradigm, as is noted by Capell & Hinch 1970: 66). The choice to list nonsingular forms before singular ones is based purely on the patterns in the Maung data, and, since it reflects patterns widely attested regarding the relative position of singular and nonsingular pronouns on the animacy hierarchy (Silverstein 1976), it should not be thought unusual.

Various morphophonemic changes are found when two prefixes occur together on a transitive verb, and when any prefix interacts with a consonant-initial stem, involving vowel cluster reduction and manner of articulation changes amongst the consonants. These changes serve to obscure the workings of this rather neat system, but all the changes are morphophonemically transparent, and there are no prefix clusters that are best analysed as being portmanteau forms rather than combinations of the prefixes shown in Table 1.

A further morphophonemic analysis of many of these prefixes is straightforward, and important in the alternative analysis of the system presented here. For the non-third person pronouns -r is used to make a plural form of the corresponding singular pronominal element, with pairs such as gu- 2SG.A and gu-r- 2PL.A, ḡara-1SG.EXCL.S and ḡar-1PL.EXCL.S. For all the first and second persons, as well as the Class III (third person human plural) prefixes, there is a special marker added to the
'base form' of the prefix (a 'prefixal suffix', so to speak) when the prefix indicates an object. Given the fact that this morpheme is restricted to appearing only with prefixes that cross-reference the O in a clause, we can analyse this morpheme as an accusative marker, with the forms -n/-un (as after vowels, -un after a consonant, the vowel probably being epenthetic). This morpheme is found only with the bound pronominal prefixes; it does not appear on free pronouns denoting an object, or on object nominals. For the first and second person prefixes the paradigm is thus split between a nominative prefixal form used for the S and A functions, and an accusative form, morphologically derived from this nominative form, which is used for O functions and formed by the addition of the accusative suffix.

With the third person class prefixes the basic paradigm appears to be absolutive-ergative, with suppletive forms for ergative and absolutive functions (generally; the Class I ergative prefix is apparently related to the absolutive one, but cannot be said to be a regular derivation of it in the absence of any other similar alternations). Interestingly, the same prefix, ña-, is used for A in all the non-human classes; this point will be addressed in more detail in Section 4. The Class III forms (plural animate) act as a bridge between these two systems, the first and second persons with nominative-accusative alignment and the third persons with ergative-absolutive alignment. The root forms of the Cl.III prefixes show an ergative-absolutive split (aw- for S and O, wu- for A), but when used to refer to an object the absolutive prefixal form additionally take the accusative suffix -(u)n (thus, awun-) characteristic of the first and second persons.

3 A similar phenomenon is found in Tarascan (Mexico; Foster 1969; Donohue 1997). In this Mexican language pronominal clitics serving as objects take the accusative suffix -ni. Tarascan differs from Maung in that it also requires this accusative marker on free pronouns. Compare the following (details of morphology have been simplified, but not falsified, to expedite the presentation):

(i) pampati ak.toi.
   accompany = 3PL
   'They will accompany her/him.'

(ii) pampati = kji.
     accompany = 3PL-ACC
     'He/She/They will accompany them.'

(iii) pampati = kji      tata-ño.
     accompany = 3PL gentleman-ACC
     'They will accompany the gentleman.'

(iv) pampati = ksj-ño
tata-xta-ño.
     accompany = 3PL-ACC gentleman-PL-ACC
     'He/She/They will accompany the gentlemen.'

(v) pampati = ksj-ño
     tata.
     accompany = 3PL-ACC gentleman
     'The gentleman will accompany them.'

Here we can see that the pronominal clitics take affixes that apply to them, but not the word to which they are attached. In Maung (and many other northern Australian languages) the pronominal elements are prefixal to the verb, not cliticized in noninitial position, and so represent a further development of the system seen in Tarascan.

4 The second person singular form is more complicated, with what is evidently a suppletive form for the 2SG.S role; the fact that the 2PL.S form is gu + -r suggests (rather speculatively, in the absence of any evidence or a more detailed examination of the diachronic linguistic situation in Maung) that at an earlier stage the language used gu- for 2SG.S as well, and that an- is a recent innovation.
Comparing the bound prefixal forms with the free forms, we can see that there is little resemblance between the form of the first and second person free pronouns and the first or second person bound forms, with the exception of the first person exclusive category. The third person free pronouns all show a class prefix, corresponding in most cases closely to the S or O verbal prefixes in form, attached to a root -janad. Another difference between the bound and free pronominal forms is that, unlike the pronominal prefixes, the free pronouns lack any alignment distinction (though there are separate forms available to mark oblique and dative cases, as opposed to the core pronominal forms listed in Table 1).

A summary of this reanalysis of the Maung pronominal prefixes as displaying a person-based split-ergative system is shown in Table 2, which divides the bound forms in Table 1 into areas in which the forms representing the different syntactic roles are built on the same (or similar) bases, or based on different root forms.

With an intransitive verb (or a ‘transitive’ verb that takes an oblique object, for which there are no verbal prefixes, as in yanam jotawu 1SG.NOM-tell CLII.OBL ‘I’ll tell her’, literally ‘I’ll tell her’ (Capell & Hinch 1970: 60), with a free pronoun showing the oblique object), the nominative (or absolutive) form of the prefix is simply attached to the verb root, with regular morphophonemic changes as required. Transitive verbs require additional information about the ordering of the two prefixes, discussed in more detail in Section 2.

Note that these categories (ergative-absolutive, etc.) represent distinct systems; the third person forms are all consistently ergative-absolutive in alignment, without any evidence to show that they mark the O in any manner distinct from the S (with the exception of the Class III forms, as noted above), and importantly have suppletively distinct forms for the ergative and absolutive. Similarly, the first and second person forms represent a distinct nominative-accusative system; the accusative set is productively derived from the (base) nominative ones, and this system of accusative derivation is clearly spreading into the third person plural, thus showing that the forms do not represent suppletive alternations of each other, but rather distinct and independent systems.
Maung examples illustrating some of these points are given in examples (1)-(5) (all drawn from Capell and Hinch); a full underlying morphophonemic gloss has been given in addition to the surface phonological form, since phonological changes sometimes obscure the workings of the prefixal system.

(1) *Da gurunman gurunbanawun.*
   da [gur-un]-ma-n [gur-un]-bana-wu-n
   ‘If we catch you, we shall hit you.’ (102)

(2) ŋejan.
   ŋ-i-aja-n
   1SG-CLI.ABS-see-TNS
   ‘I see him’ (40)

(3) ŋandi ŋanilagadjbŋ?  
   ŋandi [ŋa-n]-ni-lagadjbu-ŋ  
   who [1SG-ACC]-CLI.ERG-call-TNS  
   ‘Who called me?’ (109)

(4) *La da mabular ŋuŋbaga awąŋguŋ jiwuŋjalanŋuŋ ajay la maŋdagidj.*  
   la da mabular ŋuŋbaga awąŋguŋ  
   and CLVI.ART CLVI.calm CLIV.that way CLIII.S-go:TNS  
   ji-wu-jalanŋuŋ-ŋ ayaj la maŋdagidj  
   CLI.ABS-CLIII.ERG-seek-TNS CLI.kangaroo and CLI.bush.tail.wallaby  
   ‘And when it was calm they [sandflies, CLI III] used to always go seeking  
   kangaroos and bushy tailed wallabies.’ (115)

(5) *Awuningu mada andjila mada maragab.*  
   [aw-un]-i-u-ŋ mada andjila  
   [CLI III.ABS-ACC]-CLI.ERG-give-TNS CLV.ART CLV.spear  
   mada m-aragab  
   CLV.ART CLV-poor/pity  
   ‘He gave them his only spear.’ (98)

These five examples show the major patterns found, with examples of first or second person (the nominative-accusative categories) acting on each other and on third persons (the ergative-absolutive category), and of third persons acting on both the first/second person category) and other third persons, including the Class III plurals that show mixed ergative-absolutive and accusative behaviour. They also illustrate that the order of the two prefixes on a transitive verb is not constant; compare the orders found in (2) and (3). The principles behind the order of the two prefixes is the subject of the next two sections.

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$^5$ I shall gloss all the tense/aspect/mood suffixes simply as ‘TNS’, avoiding a detailed analysis of their semantic components, which is beyond the scope of this paper. The interested reader is referred to the discussion in Capell and Hinch (1970).
1. Prefix Ordering

The relative ordering of the pronominal prefixes when they occur on a transitive verb is more problematic than the statement about the occurrence of one prefix with intransitive verbs. The complication found is that no one order prevails between the two prefixes used (only two prefixes are ever found on a verb, with a ditransitive verb the recipient is indexed by the prefixes, and the theme is not, appearing only as a free nominal).

Examining the ordering of the two prefixes just in terms of the categories A, S and O, we arrive at the following table showing pronominal prefixes on the verb, arranged according to the person of the subject and object (all of the nominal classes are treated the same way, as third person affixes, as regards their ordering on the verb; similarly, all intransitive verbs are treated in the same way, S-V).

Extrapolating from Table 3, we can see that essentially the pronominal prefix representing the most highly animate argument (first person > second person > third person) is always placed furthest from the verb; in the event of a tie (which is only possible in the event that there are two third person arguments), the prefix indicating the A is closer to the verb than the one referring to the O. Furthermore, when both the arguments are first or second person (both speech act participants), then only one prefix, that referring to the O, is found on the verb (these last two facts indicate that more than just the animacy of the arguments is relevant to the ordering of pronominal prefixes).

Arranging this data in terms of the nominative, accusative, absolutive and ergative alignment categories that the different persons distinguish we arrive at Table 4, showing the ordering of the different prefixal categories.

The synthesis of the material in Tables 3 and 4 is given in Section 2, in which the different restrictions on relative affix positioning in Maung are addressed. The analysis shows that reference both to the categories distinguished and the

| Table 3. Agreement ordering on the transitive verb in Maung: syntactic roles |
|-----------------------------|--------|--------|--------|
| A|O| 1 | 2 | 3 |
| 1 | — | O-V | A-O-V |
| 2 | O-V | — | A-O-V |

| Table 4. Agreement ordering on the transitive verb in Maung: alignment |
|-----------------------------|--------|--------|--------|
| A|O| 1 | 2 | 3 |
| 1 | — | ACC-V | NOM-ABS-V |
| 2 | ACC-V | — | NOM-ABS-V |
| 3 | ACC-ERG-V | ACC-ERG-V | ABS-ERG-V |
grammatical functions represented is necessary in order to account for the positions of the affixes. A model of the variation within the framework of Optimality Theory is presented, and Section 3 gives a brief discussion of how the results of the reanalysis of the Maung data pose a problem for a recent model of verbal agreement, and suggestions for the reasons behind these discrepancies.

2. Formalizing the Constraints

From Table 4 we can see that, in addition to the comments made to Table 3, the different categories show different restrictions regarding their placement even when referring to the same syntactic role. Essentially, the Accusative prefixes must be initial (furthest from the verb root), and the Ergative prefixes must be closest to the verb root (that is, not the initial prefix). Nominative prefixes always precede the Absolutive ones, but we cannot directly compare them with accusative prefixes since they never co-occur; this point, the non-occurrence of *NOM-ACC-V or *ACC-NOM-V verb forms, is addressed below. Absolutive prefixes can appear in any position, and appear to be placed according to the constraints on the ordering of the other pronominal prefixes: they fit in wherever the other prefix (nominative or ergative) cannot be placed.

Comparing these constraints with the intransitive verb forms, which only contain one prefix indexing the one argument of the verb, we note that the constraint against an ergative prefix appearing initially in a prefix cluster is consistent (though hardly surprising, and not predictive) with their non-occurrence in intransitive verb forms: since there is only one agreement position, it is impossible for the Ergative prefix to appear in any position other than initial, and so their use with intransitive verbs is proscribed.

Examining alternations when at least one argument is third person proves itself to be very useful in determining the constraints on the system. For third person → third person (third person subject acting on third person object) we find that the constraint against an ergative prefix occurring initially is sufficient to determine the prefixal orderings. When we have first/second person → third person, the constraint requiring a nominative prefix to be initial determines the order, and similarly third person → first/second person is ordered by reference to the accusative-first constraint. Given this account of most of the system, we are left only with the first/second person → first/second person cases, in which only one prefix is found. Since we already require a constraint positioning the Accusative prefixes initially, and that the Nominative prefixes are only found initially, we can account for these first/second person → first/second person forms with the simple assumption that the constraints placing these two different prefixes in initial position are not ranked with respect to each other; that is, they are equally prominent constraints, neither of which can be violated by a successful candidate. This in turn reflects the fact that the forms of the Accusative prefixes are based on those of the nominative set; the addition of the Accusative suffix -n is productive in transforming the Nominative set of prefixes into the Accusative set.
Given this, we predict that, when both a Nominative prefix and an Accusative prefix are required, because of the categories available to the different persons, only one may appear, so as not to force the other into a noninitial position. Significantly, the prefix referring to the object is always present, and the one referring to the subject is sometimes omitted, showing that the constraint calling for morphological representation of the object on the verb outranks that requiring subject information. Although the subject prefixes are not present in these two cases, they are present in the other five person/number combinations (see Tables 3 or 4), and so we may posit a low-level constraint requiring representation of the subject, though this is lower-ranked than all the other constraints introduced so far, and so easily violable.

Again a note on the Class III prefixes is in order, since again they function as if they were absolutive prefixes with respect to this ordering, despite displaying an overt accusative morpheme. This offers additional support for the hypothesis advanced earlier that the accusative morpheme has recently spread to the Class III prefixes, and suggests that we are witness to an alignment system in which accusative marking is spreading from the first and second persons to all (or at least more) persons, coexisting with a set of conventions to do with prefix ordering that assumes that the Class III prefixes are not accusative. The free form of the Class III pronoun is clearly more in line with the other third person pronouns, with the initial consonant of the free form reflecting the consonant found in the absolutive form of the verbal prefix, again supporting the idea that the appearance of accusative marking in the Class III forms is a relatively recent innovation.

Collecting these principles in one place, we can see that the following ranked constraints are called for, in the order shown (the notation \( \triangleright \) indicates that the constraint to the left outranks the constraint to the right in terms of relative importance):

\[
\text{Parse (OBJ)} \triangleright \text{Align (Acc, L), Align (Nom, L)} \triangleright \text{Noninitial (Erg)} \triangleright \text{Parse (SUBJ)}
\]

(Although I have listed the Accusative and Nominative orderings in terms of leftmost position, as is the case in Maung, these are more generally formulated in terms of position most distant from the verb stem; similarly, the noninitial constraint on the ergative agreement affixes is more generally expressed as not appearing in the position most distant from the verb stem.)

Different languages can be expected to have different rankings of these constraints. In Section 4 I describe the problems that the Maung data pose for Bittner and Hale's predictions regarding the relative ordering of verbal agreement affixes. Particularly, the Parse (OBJ) and Parse (SUBJ) constraints are obviously ranked much lower, individually or as a pair, in the case of many languages that lack (full) verbal agreement, such as Chinese with no agreement, or various Indo-European languages with only subject agreement. Ergative affixes do generally appear closer to the verb stem than other affixes, and so a higher ranking of Noninitial (Erg) is more usual (keeping in mind the comments on relative distance from the verb stem) with respect to the constraint Align (Acc, L), though not with respect to Align (Nom, L).
Indeed, the only surprises in the ordered rankings presented above are the equal ranking of the constraints placing the accusative and nominative affixes, and the low ranking of Parse (SUBJ). The first of these oddities can be accounted for by the fact that the Accusative prefixes are transparently and regularly derived from the Nominative set, and so are in a sense the same pronominal form. The low ranking of Parse (SUBJ) is also unusual, given that most languages with object agreement also display subject agreement, and so the reverse ranking order for these two constraints, but other examples of object agreement without subject agreement are reported (e.g. Barai, Woleian).

Illustrations of the interaction of these constraints to produce the affixal ordering seen in Tables 3 and 4 are given in four parts in (6)–(17). In each case the example sentence is presented first (with morpheme-by-morpheme and interlinear glosses), the alignment of the two prefixes involved and the relative order of the affixes in the particular example. Following this is a table of the constraints discussed above, presented formally with the language of Optimality Theory (Prince & Smolensky 1993; and others), that serve to define that affixal combination, and the list of non-optimal candidates generated. One example from each of the four distinct ‘areas’ of alignment-category interactions shown on Table 4 is presented, exemplifying each of the four different prefix-ordering combinations. Each table presents the four possible orders and combinations of prefixes marking A and O, and evaluates each of these our candidates in terms of the ranked constraints that have been argued for in the preceding sections. In each case the selection procedure, using the constraints listed along the top of the table, determines the final candidate based not on the declaration of a particular candidate in a certain environment, but by the selection of the final candidate as the least bad option given the interaction of the constraints and the input.

(6) ᵇanėjawη
    [ŋa-n]-ni-ajaw-ŋ
    [1SG-ACC]-CL.ERG-see-TNS
    ‘He saw me.’
    A: ERG alignment
    O: ACC alignment
    Order: O-A-V

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6 Capell and Hinch (1970) do not provide a complete verbal paradigm illustrating all the person-number-class combinations, but do list the forms and positions of the prefixes when they occur in combinations on verb. Because of this, some of the full verbal forms presented below are not attested in Capell and Hinch (1970), but have been constructed based on existing verbal forms, the lists of prefix combinations given, and the morphophonemic rules standard for the language. The important part of the examples, the relative ordering of the prefixes, is attested in Capell and Hinch (1970) and does not represent any conjecture.
(7) [‘see (x,y)’, 3SG (x), 1SG (y)]

<table>
<thead>
<tr>
<th>Parse</th>
<th>Align</th>
<th>Align</th>
<th>Noninitial</th>
<th>Parse</th>
</tr>
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<tbody>
<tr>
<td>(OBJ)</td>
<td>(ACC, L)</td>
<td>(NOM, L)</td>
<td>(ERG)</td>
<td>(SUBJ)</td>
</tr>
<tr>
<td>1SG-3SG-V</td>
<td>$\Rightarrow$</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3SG-1SG-V</td>
<td>$\ast$</td>
<td></td>
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<td>$\ast$</td>
</tr>
<tr>
<td>1SG-V</td>
<td></td>
<td></td>
<td>$\ast$</td>
<td></td>
</tr>
<tr>
<td>3SG-V</td>
<td>$\ast$</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(The conventions used in this table and the following tables are as follows: a single asterisk * indicates failure to satisfy the constraint in question, $\Rightarrow$ indicates the point at which a candidate fails due to the presence of other, more suitable candidates at that level, shading of cells shows a derivation which has already failed, and a ‘thumbs-up’ $\Rightarrow$ indicates the successful candidate of those present.)

(8) * ɲanajawŋ
    * ɲanajawŋ
    * ɲejawŋ

In example (6) we can see that the failure to align the accusative first person prefix leftmost in the prefixal cluster is the cause of the A-O-V candidate failing, and both of the forms with only one pronominal affix are ruled out on the grounds that they do not parse all pronominal information—all three failed candidates are shown in (8). Since there are no constraints operating against an O-A-V ordering, this is the option that is realized.

(9) ɲanejawŋ
    ɲ-i-ajaw-ʊ
    1SG-CL1.ABS-see-TNS
    ‘I saw him.’

    A: ERG alignment
    O: ABS alignment

    Order: A-O-V

(10) [‘see (x,y)’, 1SG (x), 3SG (y)]

<table>
<thead>
<tr>
<th>Parse</th>
<th>Align</th>
<th>Align</th>
<th>Noninitial</th>
<th>Parse</th>
</tr>
</thead>
<tbody>
<tr>
<td>(OBJ)</td>
<td>(ACC, L)</td>
<td>(NOM, L)</td>
<td>(ERG)</td>
<td>(SUBJ)</td>
</tr>
<tr>
<td>3SG-1SG-V</td>
<td></td>
<td></td>
<td>$\ast$</td>
<td></td>
</tr>
<tr>
<td>1SG-3SG-V</td>
<td>$\Rightarrow$</td>
<td></td>
<td>$\ast$</td>
<td></td>
</tr>
<tr>
<td>1SG-V</td>
<td></td>
<td></td>
<td>$\ast$</td>
<td></td>
</tr>
<tr>
<td>3SG-V</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

M. Donohue

(11) * fitajawŋ
    * fejajawŋ
    * nujawŋ

In (9) we have the same ordering of the pronominal affixes as in (6), despite the reversal of roles; now the constraint calling for nominative prefixes to be leftmost dictates the affix ordering, having ruled out the last two candidates which do not parse all pronominal information.

(12) fitajawŋ

ji-ni-ajaw-ŋ
CL.LABS-CL.LERG-see-TNS
‘He saw him.’

A: ERG alignment
O: ABS alignment

Order: O-A-V

(13) ['see (x,y)', Parse Align , Align Noninitial Parse
3SG (x), 3SG (y)] (OBJ) (ACC, L) (NOM, L) (ERG) (SUBJ)

| 3SG.O-3SG.A-V | *! |
| 3SG.A-3SG.O-V | *! |
| 3SG.O-V | *! |
| 3SG.A-V | *! |

(14) * Ni(∅)ejawŋ
    * fejajawŋ
    * Nejajawŋ

In this third person → third person example the constraint against an initial ergative prefix is the determining factor in arriving at the O-A-V order on the verb. Once again, the desire to parse all pronominal information when that does not overly violate other constraints rules out half the candidates.

(15) Gunajawŋ
    [gu-n]-ajaw-ŋ
    [2SG-ACC]-see-TNS
    I saw you.’

A: NOM alignment
O: ACC alignment

Order: O-V
Example (15) is the most interesting one in terms of the operation of constraints and the outcome. It involves both a nominative-alignment subject and an accusative-alignment object prefix, and shows the need to produce verb forms with a single pronominal prefix, despite this failing to parse all available pronominal and grammatical function information. The reason for this failure to parse the subject is that the orders with two prefixes (the first two candidates in (16)) necessarily fail to align one of either the subject or the object pronominal affixes to the leftmost position, which is called for by the ordering constraints—since Align (ACC, L) and Align (NOM, L) are equally ranked, they are effectively inviolable. This leaves only the highly-ranked constraint against not parsing the object to determine that gunajawŋ is the final successful candidate. Note that, even though the final verb form contains no prefix with pronominal information about the subject, this information is nonetheless functionally transparent, since only a first person subject could be acting on a second person object without a verbal prefix, and the overt accusative morpheme unambiguously marks the second person as object, rather than (necessarily intransitive) subject.

Intransitive verbs, with only one prefix for the subject, are accommodated in the system without problems. Since they do not subcategorize for an object, the constraint Parse (OBJ) does not apply to them, or applies spuriously since there is no object information in the input. The sole pronominal prefix will necessarily be leftmost in the prefix cluster, and not ergative, so again is unproblematic for the set of constraints presented here. The only constraint that applies to differentiate forms is Parse (SUBJ), which ensures that there is a pronominal representation of the subject on the verb.

The tables given in (7), (10), (13) and (16) above show that the system of constraints not only accounts for the relative positioning of two prefixes when (as in most cases) both arguments of a transitive verb are indexed on the verb, but also, with no additional stipulations, correctly models the appearance of only one pronominal prefix when both subject and object are first or second person. This account is possible only if we refer not just to the grammatical functions or syntactic roles that are represented by the prefixes, but also to the alignment category (NOM,
ACC, ERG, ABS) of the prefixing paradigm for that particular point on the animacy hierarchy. Since both the O-A-V and A-O-V orderings of the two prefixes are found elsewhere in the same paradigm, we can see that alignment constraints based on the grammatical function, such as ‘Align (SUBJ)’ or ‘Align (OBJ)’, are not adequate for a correct model of the prefix orders.

Similarly, the use of animacy alone as a determiner of the order is not adequate; it cannot be used to explain the ordering of third person → third person. A combination of constraints involving animacy and A vs. O (Align (High Anim, L) > Align (OBJ, L) seems to be adequate) would account for this, but would not explain the first person → second person and second person → first person combinations, in which the only prefix present is that referring to the O.

3. Bittner and Hale’s Model of Agreement Ordering

An interesting fact that the Maung data forces us to confront is the relative ordering of the ergative and accusative affixes. Bittner and Hale have recently made the claim that ‘accusative object agreement will be closer to the verb, whereas subject agreement will be more peripheral’ (1996: 54). They give the following hierarchy of affixal positions with respect to the verb (the order of morphemes has been inverted so that Bittner and Hale’s model is more readily comparable with the Maung pronominal agreement system, which is prefixal, not suffixal as was used (arbitrarily) in Bittner and Hale’s model), noting that ‘the actually attested pronominal agreement morphemes generally occur in positions consistent with this hierarchy’ (emphasis mine).

(18) Canonical Agreement Hierarchy (from Bittner & Hale 1996: 43)

C (NOM agreement) < I (ERG or NOM subject agreement) < D (ACC agreement)-V

(The second, outermost, NOM agreement (C) is the absolutive category (S + O), whereas the first, closer, one (at I) is the nominative (S + A) category.)

Ignoring the theoretical basis of this claim, it is clear that the claim with respect to agreement affix ordering is that accusative agreement is found closer to the verb stem than other pronominal agreement. The prefixing system of Maung in part supports this ordering, but also contains certain facts that contradict it. The appearance of ergative agreement consistently inside the absolutive agreement prefixes is consistent with Bittner and Hale’s model. We can see from examples such as (6), however, that there is a requirement that the accusative prefix be leftmost in a cluster and so furthest from the verb stem, and also that the ergative prefix must be placed closer to the verb stem than any other affixes, including accusative.

(19) Maung Agreement Hierarchy

(ACC or NOM subject agreement) < (ABS subject agreement) < (ERG agreement)-V
Not only is the ergative agreement position inside the accusative one, rather than outside it, but additionally the \((S + A)\) nominative and ergative agreement positions are in demonstrably separate positions, and the nominative subject agreement position is outside the absolutive (= Bittner and Hale's C NOM) agreement position. As has been pointed out in Section 3, the fact that the accusative affixes are derived from the nominative set may go some way in explaining this synchronically unusual system. It is not a long step to imagine a pre-Maung language in which there was no separate accusative set of prefixes. This language would have the relative affix orderings seen in (20), in which the Accusative set as a separate set of affixes has not yet developed from the Nominative prefixes.

\[
(20) \text{Pre-Maung Agreement} \\
\text{(NOM subject agreement)} < \text{(ABS subject agreement)} < \text{(ERG agreement)} \quad \text{V}(\text{ACC-NOM})
\]

This goes some way towards answering the question of the aberrant position of the Accusative agreement prefixes.

Another factor appears to play a part in the relative ordering of the ergative and accusative prefixes. It is worth noting that this combination is only found for third persons acting on first or second persons. Examining this section of Table 1, we can see that the form of the ergative prefix for the majority of the third persons is ūa-; this is the form found for the Class II, IV, V and VI prefixes, only the Class I and Class III having distinct forms (nī- and wu-, respectively). Since the majority of the nouns in Classes II, IV, V and VI are non-human, we can well imagine a stage in the language's history in which we find a constraint operating such that non-human actors may not appear as the subject of the sentence; in order to avoid a non-human subject, the language would have employed a passive-like device (for a discussion of this constraint (and other, similar ones) in grammars, see DeLancey 1981). Recalling the accusative prefixes on the verb are transparently related to the nominative ones, we can imagine a stage in which this morpheme, ūa-, was in fact a passive, and the derived subject of the (now) intransitive verb is marked with the intransitive subject set of prefixes. In this case a verb such as (21) would have been found without the accusative marker on the pronominal prefix, and with the glosses as seen in (22).\(^7\)

\[
(21) \text{Mada murgun nuwu la mada jumbaldjumbal nuwu ūa-ladbalangajin.}
\]

<table>
<thead>
<tr>
<th>mada murgun nuwu la</th>
<th>mada jumbaldjumbal nuwu</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLV.ART CLV.rod 2SG.OBL and</td>
<td>CLV.ART CLV.staff 2SG.OBL</td>
</tr>
<tr>
<td>[ūa-]-ūa-ladbalangajin</td>
<td>[1SG-ACC]-CLV.ERG-strong-CAUS:TNS</td>
</tr>
</tbody>
</table>

'Thy rod and Thy staff strengthen me.' (p82)

\(^7\) This stage is not in fact necessary for this analysis; passives with accusatively marked undergoers are attested in Finnish, Manchu, and other languages (see Foley and Van Valin 1984 for a discussion).
(22) ηα-ηα-labalaŋa-jin   (Hypothesized pre-Maung)
   1SG.NOM-PASS-strong-CAUS:TNS
   'I am strengthened (by Thy rod and Thy staff).'

While this may have been a reasonable analysis for the ηα- at an earlier stage, this
is no longer a possible synchronic analysis, since the ACC-ERG-V order is found for
human third persons acting on first or second persons as well, with different prefixes
(the nominal Classes I and III; see Table 1). This is demonstrated with sentences
such as (3), with a third person human subject, and the same ACC-ERG-V order.

Interestingly, very strong support for this hypothesis of the passive origins of ηα-
can be found in the contemporary use of this prefix in Maung. Capell and Hinch
(1970: 85) write that:

Although there is no formal passive in Maung, the idea of the passive can
be expressed in two ways...

2. The prefixes of Classes II, IV, V and VI can be used: this is far more
idiomatic ... In the formation of this construction, the idea that would be
expressed by the subject in English becomes the object in Maung, and the
subject in Maung is always that which is common to the four classes
mentioned. If this be translated, for convenience sake, as 'it', then 'he was
killed' is rendered by 'it killed him' ...

Importantly, Capell and Hinch note that 'it is the past tense forms of the prefix
that are used, even though the stem of the verb is in some other tense.', and give the
following examples of this in practice; note that the future form of the prefix cluster
in (23) is gunbaja-, and this is not the form used here (both examples from p. 85).

(23) Gunbamanbu.
   [[gu-n]-ηα]-manbu
   [[2SG-ACC]-PASS/CLII/IV/V/VI.ERG]-NON.FUTURE-kil:FUTURE
   'You will be killed.'

(24) Dja gabala agudju iŋalaŋagawaŋaŋ.

dja    gabala    agudju    i-ŋα-laŋaŋaŋaŋ
   ART.CLI  CLI.boat also  CLI.ABS-PASS/CLII/IV/V/VI.ERG-send:away
   'The boat will be sent off again.'

We can thus formally recognize a passive construction in contemporary Maung,
which uses the ηα- prefix as a passive prefix, but which keeps the undergoer of the
action in the accusative (that is, it is a demoting passive, with no associated
promotion of the undergoer). The fact that the ηα- prefix is still used with a passive
sense in modern Maung is an extremely strong indicator that in pre-Maung the sole
function of the ηα- prefix was as a passive (or similar voice) marker, which was used
obligatorily when a non-animate actor was found in a clause.
The occurrence of the Absolutive prefixes inside the Nominative prefixes is still problematic, but probably reflects an earlier system in which verbs showed agreement with the third person arguments, but not first or second person; this development would have been facilitated by the existence of a separable set of class prefixes found in nominal agreement, and so an easier grammaticalization path. Compare the forms of the verbal prefixes and the free pronominal forms in Table 1, where we can see that, while the third person absolutive verbal prefixes bear strong resemblances to the class markers, the first and second person prefixes show less similarity.

Regardless of the diachronic explanations for a linguistic system, it exists synchronically and must be accounted for as such. Languages with (statistically) unusual agreement ordering such as Maung show that the tendencies described by Bittner and Hale are only that, and are a long way from representing universal constraints on language. As a result, they are beyond the purvey of Universal grammar, and affix-ordering must be accounted for with language-specific parameters, such as the relatively-ranked set of constraints that I have described above with respect to Maung. Since these are language-specific, it is to be expected that other languages will use them with a different ranking, or utilize different constraints entirely.

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