FREE PREFIX ORDERING IN CHINTANG

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This article demonstrates prefix permutability in Chintang (Sino-Tibetan, Nepal) that is not constrained by any semantic or morphosyntactic structure, or by any dialect, sociolect, or idiolect choice—a phenomenon ruled out by standard assumptions about grammatical words. The prefixes are fully fledged parts of grammatical words and are different from clitics on a large number of standard criteria. The analysis of phonological word domains suggests that prefix permutability is a side-effect of prosodic subcategorization: prefixes occur in variable orders because each prefix and each stem element project a phonological word of their own, and each such word can host a prefix, at any position.*

1. INTRODUCTION. Standard definitions of the grammatical word include a constraint against free morpheme permutation, that is, against permutation that is not driven by scope or other aspects of semantic or syntactic structure (Dixon & Aikhenvald 2002, Bickel & Nichols 2007). The literature reports a few cases that arguably challenge this constraint (e.g. Stevens 1971 on Madurese, Luutonen 1997 on Mari, Blevins 2001: 58ff., 118ff. on Nhanda, or Watters 2006:62 on Kusunda), but where the data is rich enough to allow closer analysis, the permutations turn out to involve clitics rather than affixes (e.g. in Kusunda) or to involve clitics and also to correlate to some degree with dialect differences (e.g. in Mari). In this article, we report on recent discoveries from a fieldwork project in eastern Nepal that show cases of free permutation of inflectional prefixes without any regular correlate with semantic or morphosyntactic structure, or with dialect or any other language variety differences. Since most theories of morphology would rule out such unconstrained permutation, these discoveries challenge received notions of possible human languages.

Free prefix permutation is found in some Kiranti (a subgroup of Sino-Tibetan, Nep. *Kirãtī* or *Kirātī*) languages and was first briefly mentioned by N. K. Rai in his dissertation on Bantawa (1984:114). In this article we focus on Chintang, the target language of our current fieldwork and a close neighbor of Bantawa. Chintang (ISO 639-3: ctn)

belongs to the Eastern subgroup of Kiranti and is spoken by about five to six thousand speakers, most of whom are also fluent in Bantawa and Nepali. The Chintange live on one of the southern foothills of the Himalayas close to the Saptakośi River confluence. The language is divided into two dialects, identified as the Sambugāũ and the Mulgāũ dialects, but we find no difference between the dialects with respect to the issues discussed here. (Unless noted otherwise, examples are from the Mulgāũ dialect.) The following examples illustrate free prefix permutation with two and three prefixes, respectively.[1]

> (1) a. a-ma-im-yokt-e.
>   2-NEG-sleep-NEG-PST
>   b. ma-a-im-yokt-e.
>   NEG-2-sleep-NEG-PST
>   Both: 'You didn't sleep.'
>
> (2) a. u-kha-ma-cop-yokt-e.
>   3NS.A-1NS.P-NEG-see-NEG-PST
>   b. u-ma-kha-cop-yokt-e.
>   3NS.A-NEG-1NS.P-see-NEG-PST
>   c. kha-u-ma-cop-yokt-e.
>   1NS.P-3NS.A-NEG-see-NEG-PST
>   d. ma-u-kha-cop-yokt-e.
>   NEG-3NS.A-1NS.P-see-NEG-PST
>   e. kha-ma-u-cop-yokt-e.
>   1NS.P-NEG-3NS.A-see-NEG-PST
>   f. ma-kha-u-cop-yokt-e.
>   NEG-1NS.P-3NS.A-see-NEG-PST
>   All: 'They didn't see us.'

More than three prefixes cannot occur in a row because of semantic constraints (e.g. a third person actor prefix cannot cooccur with a second person actor prefix), but longer strings are possible with bipartite stems.[2] Synchronically, the two parts of a stem like *ya-cept-* 'to call', *som-tukt-* 'to love, care, have sympathy for (as of seniors for juniors)', *wa-pokt-* 'get wet', or *kha-siŋs-* 'to ask' have no independent occurrence, but morphologically, they act as independent units: prefixes can precede either stem part, and in any order. We indicate the permutable string by curly brackets.

> (3) {kha-u-kha-ma-}siŋ-yokt-e.
>   {ask-3NS.A-1NS.P-NEG-}ask-NEG-PST
>   'They didn't ask us.'

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[1] Data that are not followed by a text recording reference were elicited from at least two speakers and cross-checked with at least one speaker, and usually several. Abbreviations in interlinear glossing are: 1: first person, 2: second person, 3: third person, A: actor (most agent-like argument) of transitives, ACC: accusative, ADD: additive ('also, even') focus, AMB: ambulative (a spatially distributed event), ART: article, AUX: auxiliary, BEN: benefactive, CNT: continuative aspect, COM: comitative, COMP: complementizer, DU: dual, DAT: dative, DEM: demonstrative, EX: exclusive, EMPH: emphatic, ERG: ergative, F: feminine, FOC: focus, HORT: hortative, IN: inclusive, IMP: imperative, IPFV: imperfective, LOC: locative, M: masculine, N: neuter, NA: epenthetic syllable *na*, NEG: negative, NMLZ: nominalizer, NOM: nominative, NPST: nonpast, NS: nonsingular, P: primary object, PL: plural, PERF: perfect, POSS: possessive, PST: past, PTCL: particle, PTCP: participle, RECP: reciprocal, RED: reduplication, REP: reportative, RESTR: restrictive focus, SG: singular, S: sole argument of intransitives, SBJV: subjunctive, SIM: simultaneous, TAM: tense/aspect/mood, TOP: topic, X > Y: X acts on Y.

[2] For a typological take on bipartite stems, see Bickel & Nichols 2007.

Thus, prefixes can permutate even inside stems: among other orders, 3 can be realized as *kha-u-kha-ma-siŋyokte*, *kha-kha-u-ma-siŋyokte*, *kha-kha-ma-u-siŋyokte*, and so forth. When presented with forms as in 3, not all informants accept all logically possible orderings (which are no less than twenty-four), but judgments vary widely and, as far as we can tell, not systematically. When eliciting paradigms, we often noticed that speakers would first volunteer one form, and then, when rechecking whether we accurately transcribed the form, volunteer a form with a different prefix order.

In order to demonstrate free permutation, we need to show (i) that the prefixes under consideration form a single grammatical word with their host in all other respects save ordering constraints, and (ii) that permutation does not reflect semantic scope, syntactic constituency, or language variety choice. We take these points up in §§4 and 5, but by way of background information, we begin by describing the inflectional system of the Chintang verb. In order to elucidate Chintang word structure and the full range of possible prefix positions, we also first need to describe the stem structure of the language in some detail. We then provide a deeper analysis and explanation of prefix permutability, as well as a demonstration that these permutable elements are prefixes and not clitics.

2. THE INFLECTIONAL MORPHOLOGY OF CHINTANG VERBS. The Chintang verb inflects nonperiphrastically for tense, aspect, polarity, and mood, and agrees in various alignment patterns with the single argument of intransitives (S) and with both the A (actor) and P (primary object) arguments of transitives. Table 1 illustrates the simple nonpast and past tense paradigm of the verb *tupma* 'to meet someone, to agree with someone' in affirmative and negative polarity. Shaded cells cover reflexive forms and scenarios lacking a form (e.g. 1DU.IN > 2, presumably lacking due to rare real-life demand). The intransitive forms of plurivalent verbs (last column in Table 1) are identical to those of monovalent verbs and serve as antipassives with P arguments that are syntactically demoted and semantically generic. The forms in 1 above correspond to monovalent intransitive forms, with a second person singular S argument in the negative past, that is, to the forms on the last line in the 2SG intransitive cell of Table 1.

Table 2 contains alternative forms for first person nonsingular P agreement. These forms are preferred by some speakers in the Mulgāū dialect and are the only forms used by Sambugāū speakers. The forms are likely to reflect an ongoing paradigm-replacement shift that has happened elsewhere in the Kiranti family (Ebert 1991). The forms illustrated in 2 stem from this paradigm, corresponding to the forms on the last line in Table 2.

In Table 3 we provide a short description of the semantics and allomorphies of each inflectional affix in their templatic position class.[3] The most important general phonological rules that obscure affix boundaries are (i) deletion of *a*, *u*, and *e* before other vowels (e.g. 1SG > 2SG.PST *tup-na-e-hẽ* > *tupnehẽ* 'I met you', or 3DU > 3SG.NPST *u-tup-ce-o-ko* > *utupcoko* 'They (two) meet him/her');[4] (ii) intervocalic deletion of velar nasals word-internally, that is, in nonperipheral syllables (e.g. 1PL.EX.PST *tub-i-ŋa-e-hẽ* > *tubiehẽ* 'we (excl.) met', vs. 1PL.EX.NPST *tub-i-ki-ŋa* 'we (excl.) meet' with *ŋ* surviving in peripheral position); and (iii) assimilation of *ŋ* to labials (e.g. 3SG > 1SG.PST *u-tup-ŋa-ʔã* > *utupmaʔã* 's/he met me', 1PL.EX > 3SG.NPST *tub-u-ku-m-cum-ŋa* > *tubukumcumma* 'we (excl.) meet him').

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[3] Position classes are strictly formally defined, by cooccurrence restrictions.

[4] We return to the precise context of vowel deletion rules in §4.2.

	1SG	1DU.IN	1PL.IN	1DU.EX	1PL.EX
1SG					
1DU.IN					
1PL.IN					
1DU.EX					
1PL.EX					
2SG	atupmaʔã atupmaʔãniŋ atubehẽ {a-ma}tupyoktehẽ			{a-ma}tupceke {a-ma}tupcekeniŋ {a-ma}tubace {a-ma-ma}tupyoktace	{a-ma}tupno {a-ma}tupnikniŋ {a-ma}tube {a-ma-ma}tupyokte
2DU	atupmaʔanciŋ atupmaʔanciŋniŋ atubaŋcihẽ {a-ma}tupyoktaŋcihẽ				
2PL	atupmaʔaniŋ atupmaʔaniniŋ atubaŋnihẽ {a-ma}tupyoktaŋnihẽ				
3SG	utupmaʔã utupmaʔãniŋ utubehẽ {u-ma}tupyoktehẽ				
3DU	utupmaʔanciŋ utupmaʔanciŋniŋ utubaŋcihẽ {u-ma}tupyoktaŋcihẽ	maitupceke maitupcekeniŋ maitubace {mai-ma}tupyoktace	maitupno maitupnikniŋ maitube {mai-ma}tupyokte	matupceke matupcekeniŋ matubace {ma-ma}tupyoktace	matupno matupnikniŋ matube {ma-ma}tupyokte
3PL	utupmaʔaniŋ utupmaʔaniniŋ utubaŋnihẽ {u-ma}tupyoktaŋnihẽ				

TABLE 1. Chintang agreement paradigms of simplicia: nonpast and past (*tup-* 'find, agree').

Note: Forms listed in vertical order as follows: nonpast affirmative, nonpast negative, past affirmative, past negative.

2SG	2DU	2PL	3SG	3NS	INTR
tupnaʔã tupnaʔãniŋ tupnehē matupyoknehē	tupnaʔãce tupnaʔãceniŋ tupnace matupyoknace	tupnaʔãni tupnaʔãniniŋ tupnanihē matupyoknanihē	tubukuŋ tubukuŋniŋ tubuhē matupyoktuhē	tubukuŋcuŋ tubukuŋcuŋniŋ tubuŋcihē matupyoktuŋcihē	tupmaʔã tupmaʔãniŋ tubehē matupyoktehē
			tupcoko tupcokoniŋ tubace matupyoktace	tubumcum tubumcumnim tubumcumhē matupyoktumcumhē	tupceke tupcekeniŋ tubace matupyoktace
			tubukum tubukumnim tubumhē matupyoktumhē		tubiki tubikiniŋ tubihē matupyoktihē
	tupnaʔãncīyã tupnaʔãncīyãniŋ tupnancīyehē matupyoknancīyehē		tupcokoŋa tupcokoŋaniŋ tubacehē matupyoktacehē	tubumcumma tubumcummaniŋ tubumcummehē matupyoktumcummehē	tupcekeŋa tupcekeŋaniŋ tubacehē matupyoktacehē
			tubukumma tubukummaniŋ tubummehē matupyoktummehē		tubikiŋa tubikiŋaniŋ tubiehē matupyoktiehē
			atuboko atubokoniŋ atube amatupyokte	atubukuce atubukuceniŋ atubuce {a-ma}tupyoktuce	atupno atupnikniŋ atube {a-ma}tupyokte
			atupcoko atupcokoniŋ atubace amatupyoktace	atubumcum atubumcumnim atubumcumhē {a-ma}tupyoktumcumhē	atupceke atupcekeniŋ atubace {a-ma}tupyoktace
			atubukum atubukumnim atubumhē amatupyoktumhē		atubiki atubikiniŋ atubihē {a-ma}tupyoktihē
natupno natupnikniŋ natube {na-ma}tupyokte	natupceke natupcekeniŋ natubace {na-ma}tupyoktace	natubiki natubikiniŋ natubihē {na-ma}tupyoktihē	tuboko tubokoniŋ tube matupyokte	tubukuce tubukuceniŋ tubuce matupyoktuce	tupno tupnikniŋ tube matupyokte
			utupcoko utupcokoniŋ utubace {u-ma}tupyoktace	utubukuce utubukuceniŋ utubuce {u-ma}tupyoktuce	utupceke utupcekeniŋ utubace {u-ma}tupyoktace
			utuboko utubokoniŋ utube {u-ma}tupyokte		utupno utupnikniŋ utube {u-ma}tupyokte

	1DU.IN	1PL.IN	1DU.EX	1PL.EX
2SG			{a-kha}tupno {a-kha}tupnɨknin̯ {a-kha}tube {a-kha-ma}tupyokte	
2DU			{a-kha}tupceke {a-kha}tupcekenin̯ {a-kha}tubace {a-kha-ma}tupyoktace	
2PL			{a-kha}tubiki {a-kha}tubikinin̯ {a-kha}tubihẽ {a-kha-ma}tupyoktihẽ	
3SG	kha-tupno kha-tupnɨknin̯ kha-tube {kha-ma}tupyokte			
3DU	{u-kha}tupceke {u-kha}tupcekenin̯ {u-kha]tubace {u-kha-ma}tupyoktace			
3PL	{u-kha}tupno {u-kha}tupnɨknin̯ {u-kha]tube {u-kha-ma}tupyokte			

TABLE 2. Alternative first person nonsingular forms.

Note: Forms listed in vertical order as follows: nonpast affirmative, nonpast negative, past affirmative, past negative.

Note that, as in other Kiranti languages, first person is sometimes expressed as the singular of exclusives (Bickel 1995, Bickel & Nichols 2005b): this is, for example, the reason why the 3 > 1SG forms contain the exclusive suffix -ŋ from position 9, and why -ʔã (position 3) marks in some contexts first person singulars, while in 1 > 2 forms, the same suffix is generalized for all first person exclusive actors.

After the complete string of affixes, verb forms can be nominalized (enclitic =ko) and, if in the nonpast, put into the continuous aspect (=ta) or, if in the nonpast subjunctive, into the hortative (=ne). In addition, inflected forms host various enclitic conjunctions, for example, sequential =kina ~ =ki 'and then', or simultaneous =lo ~ =lok 'while, when, by way of, in the manner of', some of them (e.g. =lo ~ =lok) requiring subjunctive forms as hosts.

3. STEM STRUCTURE. The verb stem (Σ) in Chintang has a recursive structure.

(4) $[_{\Sigma'} [_{\Sigma} \text{ROOT-AUGMENT}]^{+}]$

The innermost layer consists of a monosyllabic root with a canonical CV(C) shape, which is suffixed in many cases by a coronal augment -*t* (~ -*d* after nasals or vowels) or -*s*, for example, *lut-t* 'press down', *lu-t* 'tell someone', *lu-s* 'tell (antipassive), narrate (intransitive)'. The augments go back to Proto-Sino-Tibetan derivatives but lack an active synchronic function (cf. Michailovsky 1985, Sprigg 1985, 1992, Bickel 2003). They appear only before vowels within the same (phonological) word. Thus, with the

PREFIXES

    ma- ~ *mai-* 'NEG' (in PST and IMP forms; only together with *-yokt* ~ *-t* 'NEG')

    ma- 'EX.P'   } **or** *kha-* '1NS.P' (in alternative forms)
    mai- 'IN.P'

    a- '2.S/A'

    u- '3.A' (if P = 1SG) **or** '3NS.S/A' (elsewhere)

    na- '3 > 2' (and also '1NS.EX > 2' in the Sambugāū dialect)

SUFFIXES:

1 *-yokt* 'NEG' (Mulgāū dialect) ~ *-t* 'NEG' ~ *-th* (in imperatives)

2 *-a* 'PST' (with Pos. 10 suffix *-e*) or 'IMP' (with Pos. 10 suffix *-a*)

    -na '1 > 2'

    -ŋa '1SG.S/P' ~ *-ya* (after glottal stops or nasalized vowels) ~ *-ŋ* (before C)

3 *-ʔã* 'EX.NPST'

4 *-ce* 'DU' ~ *-c* (before vowels) ~ *ci* (with 1SG.P.PST/IMP) ~ *-nci* (with 1SG.P.NPST)

    -i 'PL' ~ *-ni* (after vowels) ~ *-ni* (with 1SG.P)

5 *-u* '3.P' ~ *-o* (with 1DU, 2SG/DU, 3SG/DU/PL.NPST)

6 *-kV* ~ *-no(k)* 'NPST' (if directly following Σ′)

    ~ *-nik* (if directly following the stem in negative forms)

7 *-ŋ* '1SG.A'

    -m '1/2PL.A' **or** '1/2NS.A' (with 3NS.P)

8 *-ce* '3NS.P' ~ *-cuN* ~ *-ciN* (after nasals) ~ *-ci* (before *-hẽ*) }
9 *-ŋa* 'EX' ~ *-ŋ* (after back vowels)   } *-ncĩa* 'EX > 2'

10 *-e* 'PST'

    -a 'IMP'

11 *-hẽ* 'EX.PST' (with nonplural reference) **or** 'PST' (with plural reference)

    -hã 'EX.IMP' (with nonplural reference) **or** 'IMP' (with plural reference)

    -niŋ 'NEG' ~ *-niN* (after nasals) (in NPST forms only)

12 *-ka* 'SBJV.IPFV' (Sambugāū only)

TABLE 3. Affix analysis.

Notes:

1. V and N in a morpheme copy their place of articulation from the closest V and N segments in immediately preceding morphemes, respectively. (These copy rules are the historical residue of v2-stem compounds of the kind explained in the text.)

2. When no structural context is given, allomorphy is free within and across speakers of the same dialect.

consonant-initial infinitive ending *-ma*, both *lu-t* and *lu-s* surface as *luma*, while *lut-t* surfaces as *lutma*.[5] Before vowels, the stems surface with their augments, for example, with the past tense suffix *-e*, our sample stems are realized as *lu-d-e* 's/he told him/her', *lu-s-e* 's/he told (people)', and *lut-t-e* 's/he pressed it down'.

In bipartite stems like *khasiŋs-* 'ask' only the rightmost syllable behaves like a regular stem consisting of root and augment (here, *siŋ-s-*); the rest (*kha-*) behaves like a morphologically separate item, despite the lexical unity of the two parts.

There can be more than one inner stem as the result of compounding lexical stems with what is commonly called a 'v2' or 'vector verb' in South Asian linguistics.[6] These v2-stems have a regular root + augment structure. They can have regular lexical meanings, but many have developed into derivational notions, and two of them realize the inflectional categories imperfective and perfect. Two additional properties of v2-stems are essential: (i) they derive Σ′ from Σ, and (ii) they have a prosodic subcategori-

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[5] Note specifically that *lu-t-* 'tell' does not surface as **lutma*, although this would be well-formed phonotactically, as witnessed by the existing form *lutma* from *lut-t-*. The realization of augments is determined by their specific phonological properties, and not by general constraints against consononant clusters.

[6] Outer stems (Σ′) can also be combined, for example, with the causative verb *mett-*, but these make up periphrastic multiword constructions. We briefly discuss them in §5.2, but their analysis is outside the scope of this article.

zation (alignment) constraint (e.g. Inkelas 1989, McCarthy & Prince 1993) requiring a disyllabic unit as host, tentatively analyzed here as a foot (φ).[7]

    (5) [$_{\Sigma'}$ ($_\varphi \Sigma$)-Σ]

Because regular stems (lexical stems and the rightmost syllable of bipartites) are mono-syllabic, v2-stems cannot directly attach to Σ. Instead, Σ needs to be augmented by a regular inflectional suffix or, if there is none, an epenthetic element, creating a disyllabic foot. Once this is achieved, and the v2-stem is added, the result is a derived stem Σ' that hosts the standard range of inflectional suffixes. The most common consequence of this is a recursive structure in which Σ is partially inflected by one suffix, while Σ' hosts the full inflectional string, including the one suffix that occurs already on Σ.[8]

   In most cases syllable augmentation is achieved by adding whatever suffix comes first in the intended paradigm cell, following the template in Table 3. This is illustrated by the paradigm in Table 4.

   The following data exemplify the morphological and phonological structure with the v2-stems *-gon-d*, which denotes a spatially distributed situation, and *-bi-d*, which de-notes a benefactive event. (Note that the augments *-d* and *-s* surface only before vowels in both lexical and v2-stems; CVN stems like *-gon* regularly surface as CVṼ before glides, nasals, and glottal stops.)

    (6) a.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ ko]-ŋa)-goĩ]-ya-ʔã.
                walk-1SG.S-AMB-1SG.S-EX.NPST
         'I (will) walk around.'
      b.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ kos]-i)-gond]-i-ki-ŋa-niŋ.
                walk-PL-AMB-PL-NPST-EX-NEG
         'We (pl. excl.) don't walk around.'
    (7) a.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ met]-na)-bi]-na-ʔã-ni.
                do-1>2-BEN-1>2-EX.NPST-PL
         'I'll do it for you (pl.).'
      b.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ mett]-u)-bid]-u-ku-ce.
                do-3.P-BEN-3.P-NPST-3NS.P
         'S/he does it for them.'

   While in general one suffix is taken to suffice for foot formation, some speakers sometimes include the single-nasal suffixes *-ŋ* '1SG.A' and *-m* '1PL.A' with the third person patient suffix *-u*. The following are in free variation.

    (8) a.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ mett]-u-ŋ)-bid]-u-ku-ŋ.
                do-3.P-1SG.A-BEN-3.P-NPST-1SG.A
      b.   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ mett]-u)-bid]-u-ku-ŋ.
                do-3.P-BEN-3.P-NPST-1SG.A
         Both: 'I (will) do it for him/her.'

In the case of the past tense suffix *-a*, single-nasal morphemes are always included in Σ-inflection.

    (9)   [$_{\Sigma'}$ ($_\varphi$ [$_\Sigma$ mett]-a-ŋ)-bid]-e-hẽ.
            do-PST-1SG.S-BEN-PST-EX.PST
       'I did it for (people).' (antipassive, generic P)

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[7] The metrical system of Chintang needs further analysis, and the relevant unit may turn out to be bipedal (as is the case for a minimality constraint on inflected forms in Belhare, a closely related language: Bickel 1996:75f.). Note that the two-syllable unit is not the minimal word in Chintang, which can be as short as one mora (*mi* 'fire').

[8] Recursive inflection is also attested in other Kiranti languages, for example in Dumi (van Driem 1993) or Athpare (Ebert 1997), but the literature generally describes it by means of ad hoc rules of suffix copying.

This example—as well as 6a—shows that the appearance of one or two suffixes on Σ is not due to a phonological anticipation or copying rule: there is no *-ŋa* in the post-Σ′ suffix string from which anything could be anticipated or copied. Suffix selection is strictly morphological, although its causes are phonological.

There are two conditions under which no suffix is available when a Σ-stem needs to be adapted to the foot condition of a v2-stem: one condition arises with the nonpast marker *-no* ~ *-nok*, which can only occur after Σ′-stems (cf. Table 3); the other arises in third person singular intransitive subjunctive forms, which have no affix at all. In both cases, the language resorts to an epenthetic element *-na* (occasionally, for some speakers, *-naya*).

(10) a. $[_{\Sigma'} (_{\varphi} [_{\Sigma}$ met]-na)-bi]-no.
    do-NA-BEN-NPST
    'S/he does it for (people).' (nonpast indicative antipassive, generic P)

  b. $[_{\Sigma'} (_{\varphi} [_{\Sigma}$ ko]-na)-gon]=lok . . .
    walk-NA-AMB=SIM
    'when s/he walks around . . . ' (nonpast subjunctive, conditioned by conjunction =*lok*)

The marker *-na* does not show up in any other context, and its function is strictly limited to satisfying the prosodic needs of v2-stems. Therefore, it does not appear, for example, in third person singular nonpast subjunctive forms if there is no v2-stem.

(11) chiʔma $[_{\Sigma'} [_{\Sigma}$ kaʔ]]=lok   u-nap   tha-no.
    disgust   come.up=SIM 3SG.POSS-snot come-NPST
    'His snot is running in a disgusting way.'   (CLLDCh3R02S06.168)

V2-stems are stems, and as such, they can host prefixes just as well as suffixes. The following examples illustrate this with the prefixes *u-* '3NS.A' and *a-* '2', respectively. The two possible orders in each of the following examples are free variants of each other.

(12) a. u-kos-a-gond-e.
    3NS.S-walk-PST-AMB-PST

  b. kos-a-u-gond-e.
    walk-PST-3NS.S-AMB-PST
      Both: 'They walked around.'

(13) a. a-ko-na-gon-no.
    2-walk-NA-AMB-NPST

  b. ko-na-a-gon-no.
    walk-NA-2-AMB-NPST
      Both: 'You (will) walk around.'

Note that adding the prefix *u-* '3NS.A' to the v2-stem in 12 results in the odd situation in 12b that a prefix follows a suffix (here, *-a* 'PST')! Prefixing to v2-stems does not cancel the requirement of a disyllabic host for stems. Therefore, the first stem is inflected by a suffix (as in 12), or if there is no suitable suffix, by the epenthetic syllable *-na* (as in 13). In order to understand the reasons for this, we now need to discuss the grammatical and phonological word domains of the language. We come back to the exact distribution of prefixes and the way they are positioned within words in §6.

4. WORDHOOD. The prefixes, stems, and suffixes of Chintang form single grammatical words, but phonologically they form smaller domains. We discuss these domains in turn.

4.1. GRAMMATICAL WORDHOOD. The prefixes in Chintang are grammatically dependent morphemes that do not constitute independent words or clitics in syntax. Several pieces of evidence support this.

	1SG	1DU.IN	1PL.IN	1DU.EX	1PL.EX
1SG					
1DU.IN					
1PL.IN					
1DU.EX					
1PL.EX					
2SG	ameiʔyãbiŋaʔã amettaŋbidehẽ				
2DU	ameiʔyãbiŋaʔãnciŋ amettaŋbidaŋcihẽ			amametcibiceke amamettabidace	amametnabino amamettabide
2PL	ameiʔyãbiŋaʔãniŋ amettaŋbidaŋnihẽ				
3SG	umeiʔyãbiŋaʔã umettaŋbidehẽ				
3DU	umeiʔyãbiŋaʔãnciŋ umettaŋbidaŋcihẽ	maimetcibiceke maimettabidace	maimetnabino maimettabide	mametcibiceke mamettabidace	mametnabino mamettabide
3PL	umeiʔyãbiŋaʔãniŋ umettaŋbidaŋnihẽ				

TABLE 4. Chintang agreement paradigms of complex stems: nonpast and past affirmative
(*met-t-bi-d-*'do for someone').

Note: Prefixes are again permutable and can also occur before the stem *-bi-d-* (see main text).

SELECTIONAL RESTRICTION: No prefix can occur alone or with a nonverbal stem. In other words, prefixes are selectionally restricted to a single stem class.

OBLIGATORINESS: Verbal stems cannot be used in isolation. They must be inflected according to the paradigm-realization rules of the language, exemplified by Tables 1–4 and including both prefixes and suffixes. There is only one form that is affix-free, viz. the third person singular intransitive nonpast subjunctive noted in 11 above, but its specific semantics suggests that the form results from zero realization and is not an uninflected stem.

STEM-INTERNAL OCCURRENCE: Prefixes can be entirely enclosed by the elements of a single stem. This is possible with bipartite stems, as exemplified by 3 above. Example 14 confirms this by natural discourse evidence.

(14) ya-a-ma-cep-yokt-u-ce = naŋ,   hana?
      call-2-NEG-call-NEG-3.P-3NS.P = PTCL 2SG
      'Didn't you call them?'   (kamce_talk.054)

2SG	2DU	2PL	3SG	3NS	INTR
metnabinaʔã metnabinehē	metnabinaʔãce metnabinace	metnabinaʔãni metnabinanihē	mettu(ŋ)bidukuŋ mettu(ŋ)biduhē	mettu(ŋ)bidukuŋciŋ mettu(ŋ)biduŋcihē	meiʔyabitŋaʔã mettaŋbidehē
			metcubicoko mettabidace	mettu(m)bidukumcim mettu(m)bidumcimhe	metcibiceke mettabidace
			mettu(m)bidukum mettu(m)bidumhe		mettibidiki mettibidihe
	metnabitnaancīyã metnabinancīyehē		metcubicokoŋa mettabidacehē	mettu(m)bidukumcimma mettu(m)bidu(m)cimmehē	metcibicekeŋa mettabidacehē
			mettu(m)bidukumma mettu(m)bidummehē		mettibidikiŋa mettibidiehē
			amettubidoko amettubide	amettubidukuce amettubiduce	ametnabino amettabide
			ametcubicoko amettabidace	amettu(m)bidukumcim amettu(m)bidu(m)cimhe	ametcibiceke amettabidace
			amettu(m)bidukum ammetumbidumhe		amettibidiki amettibidihe
nametnabino namettabide	nametcibiceke namettabidace	namettibidiki namettibidihe	mettubidoko mettubide	mettubidukuce mettubiduce	metnabino mettabide
			umetcubicoko umettabidace	umettubidukuce umettubiduce	umetcibiceke umettabidace
			umettubidoko umettubide		umetnabino umettabide

Structures like these are not verb-particle constructions of the kind found in English (e.g. *call up*), since the first stem element *ya-* cannot be separated from the rest of the stem (*-cep-*) except by prefixes (and as we note below, by endoclitics). Moreover, *ya-* and *-cep-* have no independent function in the language.

INTERAFFIX DEPENDENCIES: There are formal dependencies between prefixes and suffixes of a kind that are unexpected if these were independent words, but that are standard phenomenena within words: the negation prefix *mai-* can only occur together with the suffix *-yokt* (Mulgāū dialect) or *-t* (Sambugāū dialect), and vice versa. In other words, these markers behave like circumfixes. In addition, all of these markers require that there be a past or imperative suffix.

There are also semantic dependencies between prefixes and suffixes. As can be seen in Table 3, some Chintang inflectional markers are semantically underspecified, and it is only through their combination that affixes realize specific cells of the paradigm. For example, prefixes tend to mark person in specific roles without any number specification (*a-*, *u-*, *na-*), or person-role values that neutralize the distinction between dual and plural (*ma-*, *mai-*, *kha-*, *u-*). More specific number values are supplied by suffixes. Yet some of the number suffixes are not specialized for role. The question of which

role they refer to depends on what else is coded in the form: the plural and dual markers
-i and *-ce* (and their allomorphs), for example, refer to the S or P argument, but when
P is specified as having singular reference (by the suffix *-ŋa* in the first and by *-u* ∼
-o in the third person), the markers refer to the number of the A argument. Other
semantic specification involves global rules in Silverstein's (1976) sense (see also
Bickel 1995), that is, the meaning of one role marker depends on the nature of another
role: whether *u-* denotes a nonsingular or any third person A argument depends on
whether or not the P argument is first person singular.

   All of these cross-slot dependencies create various kinds of extended exponence
(Matthews 1972)—a property that is not expected for phrasal word combinations, and
that has indeed been taken as a theoretical argument against attempts to derive grammat-
ical word forms by syntactic or other incremental mechanisms (Stump 2001). Example
15 illustrates two simultaneous patterns of extended exponence. Morphosyntactic fea-
tures are expressed in square brackets and exponence by connecting lines.

   (15)   a-mai-kha-tup-t-a-ce.

          [2.A], [NEG], [1DU.EX.P], [PST]
          'You (sg./du./pl.) didn't meet us (du. excl.).' (Sambuḡãu dialect)

Could extended exponence be resolved, at least in part, by decomposing agreement
features into finer constituents, for example, the P agreement features in 15 into the
two feature complexes [PERSON: [+speaker, −addressee]] and [NUMBER: dual]
linked to *kha-* and *-ce*, respectively? This would not help much since one would still
have to account for the fact that *kha-* does not just denote person: it is also a genuine
coexponent of number, with the value 'nonsingular'. This value becomes crucial in the
absence of dual marking, where the form has a nonsingular nondual value, that is,
unambiguously denotes a plural (*amaikhatupte* 'You didn't meet us (pl. excl.)'). More-
over, it seems impossible (in a synchronic analysis) to resolve extended exponence in
the case of the negation circumfix *mai-* . . . *-t* (or *mai-* . . . *-yokt* in Mulgāū). And under
a semiotically minded theory of allomorphy (Anttila 1975, Andersen 1980, Dressler
1985, Bickel 1995), one could even argue that tense has both *mai-* and *-t* (∼ *-yokt*) as
ancillary coexponents since these markers always coindex past tense.

   SYNTACTIC INTEGRITY: If prefix-stem-suffix strings are words, that is, terminal nodes
X⁰ in syntax, we expect that no phrasal projection can occur inside them. This expecta-
tion is borne out: no XP of any kind can intervene between prefixes or between prefixes
and stems (or stems and suffixes). The following data demonstrate this for a noun and
for an adverbial modifier.

   (16) a.   kancha   a-ma-khaŋ-yokt-e.
              youngest 2-NEG-see-NEG-PST
                 'You didn't see Kancha.'
        b.   *a-ma-kancha-khaŋ-yokt-e.
        c.   *a-kancha-ma-khaŋ-yokt-e.
   (17) a.   nu=lo   ma-a-pheŋ-yokt-e.
              nice=SIM NEG-2-plow-NEG-PST
                 'You didn't plow nicely.'
        b.   *ma-nu=lo-a-pheŋ-yokt-e.
        c.   *ma-a-nu=lo-pheŋ-yokt-e.

This is in marked contrast to the constituent order flexibility of the language. The following are equally grammatical, and the natural discourse examples in 14 and 19 illustrate the frequent phenomenon of extracting pronouns into a postsentential after-thought position.[9]

(18) a. hana nu = lo   ma-a-pheŋ-yokt-e.
         2SG nice = SIM NEG-2-plow-NEG-PST
           'You didn't plow NICELY.'

     b. nu = lo   hana ma-a-pheŋ-yokt-e.
         nice = SIM 2SG NEG-2-plow-NEG-PST
           'YOU didn't plow nicely.'

There is one case that suggests that some syntactic elements can nevertheless intrude into words. This concerns the focus clitics = *yaŋ* and = *ta*. In the following examples, they appear after the negative prefix *mai-* in 19a and after the first piece of the bipartite stem *som-tukt-* 'love (as of seniors caring for juniors)' in 19b.

(19) a. maŋka = lo cek-no   them mai = ta-khem-yakt-u-hẽ,   akka = na.
         little = SIM speak-NPST what NEG = FOC-hear-NEG-3.P-EX.PST 1SG = TOP
           'She speaks with a low voice, I could NOT hear anything.'

                                                              (CLLDCh3R02S06.23:36)

     b. som = yaŋ-u-kha-ma-tuk-yokt-e = hou,   anaŋa = na.
         love = ADD-3NS.A-1NS.P-NEG-love-NEG-PST = EMPH 1PL.EX = TOP
           'They didn't CARE ABOUT us either.' (context: they are different from
             us, and they don't care about us either)   (them_talk.088)

But this is not evidence against the word status of prefix-stem combinations, because the same clitics can occur even inside stems. In other words, they can function as endoclitics similar to what has recently been described for the Nakh-Dagestanian language Udi by Harris (2000) (see also Bickel 1996:56 for another Kiranti example). The following illustrates endoclisis with the bipartite stem *laklus-* 'dance'.

(20) a. laklus-e = ta.
         dance-PST = FOC
    a'. lak = ta-lus-e.
         dance = FOC-dance-PST
           'S/he DANCED.'
     b. laklus-e = yaŋ.
         dance-PST = ADD
    b'. lak = yaŋ-lus-e.
         dance = ADD-dance-PST
           'S/he danced as well.'

The stem *laklus-* has no semantic or syntactic constituency, but clitics can regularly occur after its first syllable. Thus, if the position of = *yaŋ* and = *ta* in 19 is taken as evidence against wordhood, one would have to conclude on the basis of 20 that some lexical stems do not project single words either. It seems more reasonable to follow Harris's (2000) analysis of Udi and assume endoclisis.

    An additional piece of evidence for the analysis of = *yaŋ* and = *ta* as endoclitics, and for syntactic integrity of the word forms into which they intrude, comes from the following: = *yaŋ* and = *ta* can also intrude into v2-compounds.

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[9] Throughout this article we use small caps in the translation to indicate focus.

(21) a. kos-a = ta-gond-e.
      walk-PST = FOC-AMB-PST
        'S/he walked around.'
  b. kos-a = yaŋ-gond-e.
      walk-PST = ADD-AMB-PST
        'S/he walked around as well.'

We noted in §3 that v2-stems require a disyllabic host. This requirement cannot be fulfilled by = *ta* and = *yaŋ*, although their syllabic structure would certainly meet the prosodic needs of v2-stems: in 21, -*gond* still triggers the appearance of the suffix -*a* 'PST' on the first stem. This is entirely predictable if = *ta* and = *yaŋ* are analyzed as endoclitics. As such, the markers are syntactic elements that intrude into words postlexically. But the words themselves are formed inside lexical morphology. The disyllabic-host requirement of v2-stems is part of the lexical morphology, and no post-lexical process can intervene.

This confirms the claim that Chintang verb forms show syntactic integrity as lexically formed words. The only case of syntactic intrusion is due to endocliticization into words that are already formed. However, the fact that endoclitics can appear in various positions inside words raises the question as to the exact nature of their host. We come back to this issue in the next section, as these positional possibilities are an important aspect of phonological word structure.

4.2. PHONOLOGICAL WORDHOOD. With regard to stress, the prefixes are part of the same word as the stem and the suffixes: Chintang words contain one main stress, and it regularly falls onto the last syllable of the lexical stem (and the first stem in compounds). Prefixes are never stressed, since they are not stems. There is evidence, however, that the prefixes form phonological subconstituents on their own within the word. In the following representation of this, ω2 denotes a level between the phonological word and the phonological phrase, and is the domain for stress assignment; ω denotes a subdomain of ω2, and Σ1 denotes the first part of a bipartite stem.

(22) ($_{\omega_2}$ ($_\omega$ pf/Σ1) ($_\omega$ Σ$^{(\prime)}$-sf))

There are (at least) two phonological regularities that reference the domains marked as ω in 22.[10] We discuss these in the following, with special attention to bipartite stems and v2-compounds: initial parts of bipartites (Σ1) are predicted by 22 to be in a different ω-domain than the rest of the stem; v2-stems (Σ) are predicted to begin their own ω-domain just like derived stems (Σ′).

ONSET REQUIREMENT: Chintang, like other Kiranti languages, disallows vowel-initial phonological words. If there is no underlying consonant, a glottal stop is added.[11]

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[10] There is one further rule that is sensitive to these word boundaries: intervocalic deletion of velar nasals in word-internal positions (see §2). However, since there are no velar nasals among prefixes, the rule has no impact on the issue of interest. There is an endoclitic with a velar nasal (= *yaŋ*) and, as can be seen in 19b, it is retained between vowels. But clitics are perhaps exempt from these rules anyway, in any position.

Intervocalic voicing is also sensitive to word domains, but the relevant domain does not match the domains of ω and ω2 as defined in 22: voiceless obstruents can (optionally) be voiced within strings of ω-domains, that is, within sequences of prefixes and/or initial stem parts, or within sequences of stems and/or suffixes. Thus, the relevant domain ('ω3') falls between ω and ω2. The ω3 domain is irrelevant for endocliticization and the distribution of prefixes.

[11] Alternatively, one could say that the glottal stop is underlying and that there simply are no vowel-initial lexical items. The formulation of the onset requirement remains the same. In noninitial position, the glottal stop is contrastive in Chintang: *leĩma* 'to move' vs. *lei?ma* 'to plant'.

(23) asinda > (ω ʔasinda) 'yesterday'

This is also observed at the left edge of stems, and at the left edge of prefixes.

(24) a. a-mai-ep-t-e.   > (ω ʔa)(ω mai)(ω ʔepte)
          2-NEG-get.up-NEG-PST
     b. mai-a-ep-t-e.   > (ω mai)(ω ʔa)(ω ʔepte)
          NEG-2-get.up-NEG-PST
              Both: 'You didn't get up.'

It should be noted, however, that in rapid speech intervocalic glottal stops are often elided, so that *ʔamaiepte* and *maiaepte* are also possible realizations of the forms in 24.

Despite this variation, the situation is very different with suffixes. Here, hiatus is never resolved by glottal insertion, even in the most careful pronunciation (following a similar pattern as the related language Limbu: Hildebrandt 2005). Instead, we find a number of vowel coalescence patterns (§2).[12]

(25) a. u-tub-a-u-ce. > (ω ʔu)(ω tubuce), never *(ω ʔu)(ω tuba)(ω ʔuce)
          3NS.A-meet-PST-3.P-3NS.P
              'They met them.'
     b. tup-ce-o-ko. > (ω tupcoko), never *(ω tupce)(ω ʔoko)
          meet-DU-3.P-NPST
              'We (du. incl.) meet him/her.'

We noted earlier that the rightmost syllable in bipartite stems has the regular morphological structure of stems (specifically, it has augments), while the preceding part has a different structure (no augments): in all instances we are aware of, the rightmost syllable has an onset, and therefore vacuously satisfies the requirements for projecting its own ω-domain.

All v2-stems also begin with an underlying obstruent, and so they all vacuously satisfy the conditions for a ω-boundary as well. There are two exceptions to this, arising from phonological contraction in the wake of grammaticalization. We discuss these exceptions in detail in §6 since they provide important clues for the analysis of the prefix distribution.

ENDOCLITICIZATION: The phonological word structure in 22 also defines the possible hosts of endoclitics. Endoclitics can be hosted by any and all ω-units.

(26) ω = clitic

Because prefixes and stems defined their own ω, the focus clitics =*yaŋ* and =*ta* can occur between them (Sambugāū dialect form), as noted earlier.

(27) (ω mai) = ta(ω im-t-e).
          NEG = FOC sleep-NEG-PST
          'S/he didn't sleep.'

Bipartite stems again consist of two phonological words: the rightmost syllable always projects its own word domain. This is the reason why focus clitics can occur, as noted earlier, between the two stem parts.

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[12] An alternative analysis, suggested to us by Brian Joseph, would posit an underlying glottal stop for prefixes but not for suffixes. This would miss the generalization that glottal stops are predictable from the general onset requirement, and that this requirement affects all prefixes alike, with no lexical exceptions. And, we show in §6.2 that positing a general onset requirement makes the right predictions for the placement of prefixes after the stem.

(28) $(_\omega$ lak) = ta-$(_\omega$ lus-e).
        dance = FOC-dance-PST
        'S/he danced.'

But endoclitics cannot occur between stems and suffixes: *$laklu = ta\text{-}e$ is not a possible alternative of 28, nor is *$maim = tate$ an alternative of 27: their host is defined as ω, not as a syllable, nor as a stem.

V2-stems also introduce a new ω-boundary. Therefore the preceding stem-suffix complex forms its own ω-domain, and so it can host clitics. We already saw this in example 21, repeated here with its prosodic structure.

(29) $(_\omega$ kos-a) = ta-$(_\omega$ gond-e).
        walk-PST = FOC-AMB-PST
        'S/he walked around.'

Given this distribution, endoclitics in Chintang can be defined simply as clitics that subcategorize for ω. Other clitics—those that do not endocliticize—subcategorize for ω2, as defined in 22.

(30) a. Endoclitics (e.g. = ta 'FOC'): ω = clitic
       b. Enclitics (e.g. = lo 'SIM'):   ω2 = clitic

This distinction corroborates the importance of both ω and ω2 in Chintang.

4.3. SUMMARY. In §4.1 we presented multiple lines of evidence that Chintang prefixes are part and parcel of grammatical words, despite their permutability. The evidence presented in §4.2 suggests that phonologically, prefixes are less tightly integrated with their host. Two regularities (onset requirement and endocliticization) converge on a structure in which prefixes as well as initial parts of bipartite stems form their own phonological word ω, separate from stems, the final part of bipartites, and suffixes.

(31) $(_{\omega 2}\ (_\omega\ \text{pf}/\Sigma 1)\ (_\omega\ \Sigma^{(')}\text{-sf}))$

Both ω-domains are, however, part of a single ω2-domain for stress assignment and enclitic hosting.

The fact that some (but not all) phonological rules treat prefixes as separated from their host is not surprising, especially not for a Sino-Tibetan language and especially not for negation marking, which is one of the relevant Chintang prefixes. Bickel and Hildebrandt (2005) survey differences in phonological word structure. In an exhaustive search of strictly affixal (nonclitic) phonological rule domains of thirty languages (twelve of which are Sino-Tibetan) with prefixes, they find that every language has at least one phonological rule that excludes prefixes. The median ratio of domains that exclude prefixes per number of distinct domains in the language is 0.78. In line with this, but taking a different perspective, a search of a genealogically balanced sample of the AUTOTYP database[13] on negation prefixes shows that 48% of negation prefixes are phonologically separate ('isolating') from their stem hosts in at least some respects (N = 162; see Bickel & Nichols 2005a for the coding criteria in the database).

5. ABSENCE OF STRUCTURE. As noted at the beginning of this article, grammatical words are generally assumed not to allow affix permutation unless the permutation reflects internal morphosyntactic or semantic constituency. Strictly speaking, we cannot prove that morpheme permutability in Chintang does not reflect any such structure: one can never prove what isn't. But we can describe those properties of the system

[13] www.uni-leipzig.de/~autotyp

that make it very unlikely that structure is involved, and contrast the Chintang findings with languages where inflectional affix permutation does reflect word-internal constituency. We first examine possible candidates for word-internal structure in semantics and then discuss the usage of different orders in discourse.

5.1. SEMANTIC AND SYNTACTIC STRUCTURE. Most Chintang verb forms have an unambiguous person-number-role meaning, but there are systematic patterns of paradigm cell neutralizations (syncretism), for example, the neutralization of A number in the presence of first and second person P arguments (except when a first person singular is involved).

(32) {a-ma-}tub-e.
      2-EX.P-meet-PST
        'You (sg./du./pl.) met us (pl. excl.).'

But prefix order is never used to disambiguate reference in these cases, and it would in fact be quite surprising typologically if order expressed number.

The individual affixes themselves denote specific combinations of person, number, and role features. As shown in Table 3, some of them are ambiguous. But, again, no ambiguity is ever resolved through ordering rules. For example, the question of which role (A or P) the plural and dual markers *-i* and *-ce* (or their allomorphs) refer to does not depend on their linear position but on the semantic composition of the word form in which they appear (partly supported by different allomorphies): as noted in §4.1, the markers always code the dual and plural number of the P or S argument, except in those forms that are explicitly coded as having a singular P argument (1SG.P with suffix *-ŋa* and 3SG.P with suffix *-u* ∼ *-o*).

This is very different from a language like Abkhaz (Northwest Caucasian), where the role reference of affixes directly depends on their position in the internal constituent structure of the word form. As argued in Bickel & Nichols 2007, the constituent structure of Abkhaz agreement forms is as shown in 33.

(33) [S/P [IO [A [Σ]]]]

The function of an affix like *b-* 'second person singular feminine' is directly determined by whether it fills the outer S/P as in 34a, or the inner A position as in 34b.

(34) a. bzə̀ya b-z-bòyt'.   (with regular schwa epenthesis, *bəzbòyt'*)
          well   2SG.F-1SG-see.TAM
            'I love you (fem.).' (lit. 'I see you well.')
      b. d-b-bòn.   (with regular schwa epenthesis, *dəbbòn*)
          3SG.HUMAN-2SG.F-see.TAM
            'You (fem.) would have seen him/her.'

No such constituent structure determines the role reference of Chintang agreement markers.

Another possible way in which one could hypothesize that affix permutation might reveal internal structure is not semantic but results from periphrasis. A case in point is Turkish pluperfect (and past conditional) constructions. These forms allow permutation of person and tense (or mood) markers (Lewis 1967).

(35) a. git-ti-ydi-m.
          go-PST-PST-1SG
      b. git-ti-m-di.
          go-PST-1SG-PST
            Both: 'I had gone.'

As standardly assumed in Turkology, and as recently discussed in detail by Good and Yu (2005), forms like these arose from periphrastic constructions with *-di* (∼ *-ti* after voiceless segments) as an enclitic auxiliary. In these constructions, either the lexical verb or the auxiliary could be inflected for agreement (AGR).

(36) a. [Σ-PST] = AUX-PST-AGR
     b. [Σ-PST-AGR] = AUX-PST

Despite some degree of univerbation, there is evidence that the structures in 36 survive in the modern language, and therefore explain the apparent suffix permutation in 35 as a case of competing periphrastic structures. Evidence for this comes from the fact that the auxiliaries can still be phonologically separated (Lewis 1967). If they are separated, they surface as the regular past tense of the auxiliary verb 'to be' (*i-*).

(37) a. git-ti   i-di-m.
         go-PST AUX-PST-1SG
     b. git-ti-m   i-di.
         go-PST-1SG AUX-PST
            Both: 'I had gone.'

A parallel case is found in Chintang, with auxiliaries like *meiʔma* 'to cause' or *dheĩma* 'to complete, perform to the end' (Nep. *hālnu*). Unlike v2-stems, these auxiliaries are themselves full-fledged Σ′-stems, and so they do not require disyllabic Σ-hosts. Instead they form periphrastic constructions together with a lexical verb. And just like in Turkish, either the lexical or the auxiliary stem can be inflected.

(38) a. hunce-ko khu-ma-ce   poka-ce   them∼them-ce
         3NS-GEN   carry-INF-NS luggage-NS RED∼what-NS
             khu   kha-u-mett-a-k-e.
             carry 1NS.P-3NS.A-cause-PST-IPFV-PST
         'They made us carry their loads, luggage, whatever stuff.'

                                                                    (rana_pilgrim.061)

     b. kha-u-khu   mett-a-k-e.
         1NS.P-3NS.A-carry cause-PST-IPFV-PST
             'They made us carry it.'

Both the auxiliary and the main verb are grammatical words on their own. This is in sharp contrast with all of our examples of prefix permutation INSIDE grammatical words. This is particularly clear in the case of bipartite stems. But it also holds for v2-compounds because, as argued at the end of §4.1, their specific behavior in imposing a phonological condition on the morphology of their host (i.e. the disyllabicity condition) shows that they are morphological, not periphrastic, formations.

There is one phenomenon in Chintang that does suggest word-internal constituent structure, but interestingly, it does not determine—let alone interact with—prefix ordering. As noted in §4, some focus markers can endocliticize to phonological words. As long as this phonological condition is met, they simply follow whatever is in their scope. Thus, they can appear after adverbs, after verb forms, and after prefixes.

(39) a. asinda = ta   a-ma-im-yokt-e.
         yesterday = FOC 2-NEG-sleep-NEG-PST
             'You didn't sleep YESTERDAY.'
     b. asinda   a-ma-im-yokt-e = ta.
         yesterday 2-NEG-sleep-NEG-PST = FOC
             'You DIDN'T SLEEP YESTERDAY.'

    c.   asinda   a-ma＝ta-im-yokt-e.
             yesterday 2-NEG＝FOC-sleep-NEG-PST
               ‘You did NOT sleep yesterday.’

Thus, under one possible analysis, the scope domain of clitics forms a constituent, so that 39c would be assigned the structure in 40.

    (40) a-[$_{FOC}$ [ma]＝ta]-imyokte.

What is not possible is to attach the clitic to a person-marking prefix. The likely reason is that there is a more explicit, competing strategy with an overt pronoun. (No such competing strategy exists with stems or negation markers.)

    (41) a.   *a＝ta-ma-im-yokt-e.
            2＝FOC-NEG-sleep-NEG-PST
             Intended: ‘YOU didn’t sleep.’
       b.   hana＝ta a-ma-im-yokt-e.
            2SG＝FOC 2-NEG-sleep-NEG-PST
             ‘YOU didn’t sleep.’

Now, crucially, the constraint against clitics on person prefixes does not depend on the relative position of the prefixes. Instead of 39c we can also get 42a, while 41a does not improve by reordering the prefixes; compare 42b.

    (42) a.   ma＝ta-a-im-yokt-e.
          NEG＝FOC-2-sleep-NEG-PST
           ‘You did NOT sleep.’
       b.   *ma-a＝ta-im-yokt-e.
          NEG-2＝FOC-sleep-PST-NEG
            Intended: ‘YOU didn’t sleep.’ *or* ‘You did NOT sleep.’

Thus, in the only area where prefixes do appear (under one analysis) to form hierarchical constituents, their ordering is irrelevant.

5.2. USAGE. In order to explore possible distributional patterns in different prefix orders, we searched our corpus for prefix combinations. More than two prefixes at a time are relatively rare because they require highly specific semantic contexts (negative past situations with a third or second person actor and a first person nonsingular patient; compare the paradigms in Tables 1, 2, and 4). Forms with two prefixes are a bit more common, and the part of our corpus that we have already sufficiently analyzed (ca. 5,600 clauses)[14] allows a rough frequency count. We found that the orders PERSON-NEGATION and NEGATION-PERSON occur in the same order of magnitude (26 vs. 32, a difference that is not significantly different from a 50/50 probability distribution under an exact binomial test).

    The choice of orders does not correlate with dialects, nor idiolects. In our corpus we have so far identified five (adult) speakers (three from the Mulgāū and two from the Sambugāū dialect) for which we have more than three examples of multiple-prefix forms (one with four, and the others with between ten and fourteen examples). Four of these speakers switch orders within the same recording sessions. One speaker is consistent across all of his (ten) examples in the sample corpus, but we have no reason to assume that he would be more consistent than other speakers outside our sample.

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[14] We estimate clause numbers on the basis of transcription records in our database, where we assign roughly one clause to one record, but sometimes a record contains subclausal units or combines closely connected clauses into one record.

To better understand order switching in discourse, we selected one interview recording (ca. 450 clauses long) and two recordings of interactional small talk between two speakers (ca. 90 and 120 clauses long, respectively) for closer analysis.[15] The analysis of the three recordings reveals that in general each speaker produces orderings independent of his interlocutor's orderings—even in nearby turns, and even when the interlocutors are from the same family and dialect. The following example from a small-talk conversation shows two speakers using different orders in nearby turns. Speaker J uses NEGATION-PERSON order (*mai-u-lattehẽ* 'it wasn't enough for me' in the second turn), while speaker R uses PERSON-NEGATION order (*a-kha-ma-siŋyoktehẽ* 'you didn't ask me' in the third turn).

(43) **R:** hunce-ŋa na-tett-e,   na-latt-e = naŋ,   paisa-ŋa.
      3NS-ERG 3>2-help.out-PST 3>2-be.enough-PST = PTCL money-ERG
         'They helped you out, the money was enough.'

 J: manchiʔ, mai-u-lat-t-e-hẽ   miʔmuŋ!
      no   NEG-3.A-be.enough-NEG-PST-EX.PST few
         'No, it wasn't quite enough for me.' (Nep. *alikati pugena*)

 R: e   hana akka khasiŋ-ma parne thiyo = ni = naŋ,
      hey 2SG 1SG ask-INF   must AUX.PST(Nep.) = PTCL = PTCL
         akka khasɨŋs-a-hã = mo   akka lu-na = kha = naŋ,
         1SG ask-IMP-EX.P.IMP = REP 1SG tell-1>2 = PTCL = PTCL
         a-kha-ma-sɨŋ-yokt-e-hẽ = naŋ!
         2.A-ask-NEG-ask-NEG-PST-EX.PST = PTCL
         'Hey, but you should have asked ME! Ask ME, I tell you! But you
         didn't ask me!'   (kamce_talk.035-39, small talk)

The next example is from an interview where the interviewee (K) is the maternal aunt of the interviewer (S), speaking the same dialect.

(44) **K:** hun = leya to-goiʔ batta   bop = lok
      DEM = RESTR UP-DEM this.much have.roundish.extent = SIM
         lett-u-yakt-e.   kalla-be   ek phokta   cha.
         plant-3.P-IPFV-PST terrace-LOC one farm.plot is (Nep.)
         'He was the only one who used to plant such an amount [of ginger]
         up there. There is a plot of land in the terraces.'

 S: aru   bakhaiʔ   baiʔ   teĩ   tola-be
      other around.here DEM.PROX village settlement-LOC
         u-mai-leiʔ-yakt-akt-e,   u-mai-leiʔ-yakt-akt-e?
         3NS.S-NEG-plant-NEG-IPFV-PST 3NS.S-NEG-plant-NEG-IPFV-PST
         'Others didn't use to plant in this area around here?'

 K: manchi, salo = yaŋ mai-u-leiʔ-yakt-akt-e.
      no   who = ADD NEG-3NS.S-plant-NEG-IPFV-PST
         'No, nobody used to plant.'

 S: hani = yaŋ ma-a-leiʔ-yakt-i-yakt-i-hẽ?
      2PL = ADD NEG-2-plant-NEG-PL-IPFV-PL-EX.PST
         'Even you didn't use to plant?'

K: manchi
no
   'No.'

S: to-patti-go-ce,   yo-patti-go,   mo-patti-go,
UP-side-GEN-NS ACROSS-side-GEN DOWN-side-GEN
     bhaiʔ-patti-go-ce?
     PROX-side-GEN-NS
   '[None of] those from up there, from over there, from down there,
    from here?'

K: jamma jugo jugo.
all   ever ever
   'Nobody, ever.'

S: jogo = yaŋ mai-u-leiʔ-yakt-akt-e.
who = ADD NEG-3NS.S-plant-NEG-IPFV-PST
   'Nobody used to plant?'

K: ã
yes
   'Yes.'   (phidang_talk.110–17, interview)

Speaker S starts with PERSON-NEGATION order (*u-mai-leiʔyaktakte* 'they didn't use to plant'), but even when directly responding to S, K uses NEGATION-PERSON order in the third turn (*mai-u-leiʔyaktakte*). What emerged as a general pattern in the three sample recordings, however, is that speakers copy each other's ordering when their turns are structured in parallel. In 44, this can be observed in the fourth turn, where S switches to K's NEGATION-PERSON order (*ma-a-leiʔyaktiyaktihẽ* 'you didn't use to plant'), and the two turns have exactly the same syntactic structure: a pronoun marked by additive focus and followed by a negative verb form. This is confirmed by ex. 45, from another recording session, with different speakers (the same ones as in 43).

(45) **J:** hunce-ŋa mai-na-pi-t-e?
    3NS-ERG   NEG-3>2-give-NEG-PST
     'They wouldn't give you (money to come and see the movie)?'

    R: sa-ŋa?
     who-ERG
      'Who?'

    J: hunce-ŋa i-kam-ce-ŋa = ni!
     3NS-ERG   2SG.POSS-friend-NS-ERG = EMPH
      'Your friends!'

    R: koni   hunce = ta u-ma-tok-yokt-akt-e   e = na
     don't.know 3NS = FOC 3NS.A-NEG-have-NEG-IPFV-PST or = TOP
       u-tog-akt-e   e, them = ma na-phat-no?
       3NS.A-have-IPFV-PST or what = TOP 3>2-help-NPST
      'I don't know whether they had money with them or not, and so what,
       would they help you?'

    J: akka lo,   huŋkhiyace kha-phat-nɨk-niŋ = go-ce-niŋ = yaŋ
     hey   come.on like.that   1NS.P-help-NPST-NEG = NMZL-NS-COM = ADD
       yu-i-ki = kha?
       be-PL-NPST = PTCL
      'Hey, come on! Would we (pl. incl.) (= generic 'one') be with people
       who don't help us?'

R: u-ma = ta-phat-yokt-a-ŋ-nɨ-hẽ,   aŋ   meiʔ-ma-ce = naŋ?
     3.A-NEG = FOC-help-NEG-PST-1SG.P-PL-EX.PST what do-INF-3NS.P = PTCL
         'They didn't help me, what can you do?' (Nep. *ke garne?*)
J: a-mai = ta-ŋak-t-u-ce   hola,   them = naŋ?
     2-NEG = FOC-request-NEG-3.P-3NS.P probably what = PTCL
         'Probably you didn't even ask them, or what?'

<div align="right">(them_talk.020-28, small talk)</div>

Here, speaker J first uses NEGATION-PERSON order (*mai-na-pite* 'they didn't give it to you' in the first turn), while R uses PERSON-NEGATION order in the fourth (*u-ma-tokyok-takte* 'they didn't have it') and sixth (*u-ma = ta-phatyoktaŋnɨhẽ* 'they didn't help me') turn. In the last turn J's response (*a-mai = ta-ŋaktuce* 'you didn't ask them') to R's utterance in the preceding turn has an exactly parallel structure: a negative verb form with a focus endoclitic, followed by a rhetorical question. Just as in 44, the speaker here copies the ordering, now using PERSON-NEGATION order in contrast to her earlier NEGATION-PERSON order.

This suggests that order selection in these cases is perhaps determined by priming effects from an input trigger to an output target. This would explain why in the three sample recordings, parallel syntax across turns always leads to parallel prefix order across speakers. But other factors no doubt also play a role in order selection. In the interview text, we find that the interviewer (S) copies the interviewee's (K's) order, but we have no example where K copies S. In 46, S switches to the ordering used by K without there being any structural parallel in syntax.

(46) **S:** helawa-ce a . . . a . . . helawa-ce
         monkey-NS   monkey-NS
             u-mai-choiʔ-yakt-akt-e?
             3NS.S-NEG-make.trouble-NEG-IPFV-PST
         'The monkeys, ehm . . . ehm . . . didn't the monkeys use to make
             trouble?'
     K: mai = ta-u-yuŋ-yokt-akt-e   huĩ gari.
         NEG = FOC-3NS.S-be-NEG-IPFV-PST DEM time
             'There were none at that time.'
     S: hani a-kha-m-cum[16]   gari, helawa-ce
         2PL 2-look-2PL.A-3NS.P when monkey-NS
             mai-u-yuŋ-yokt-akt-e?
             NEG-3NS.S-be-NEG-IPFV-PST
         'When you looked for them, there were no monkeys?'
     K: manchi = ni!
         no = EMPH
             'No!'   (phidang_talk.397-400, interview)

S starts out with PERSON-NEGATION order (*u-mai-choiʔyaktakte* 'they didn't use to make trouble'), but after K uses the opposite order (*mai = ta-u-yuŋyoktakte* 'they weren't'), he follows suit the third turn (*mai-u-yuŋyoktakte* 'they weren't'). K is S's *madum* 'mother's elder sister', and it seems plausible that S copies her order because she is in a highly respected kinship relation to him: S appears to copy her order as a social model in the given context of an interview.

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[16] from *a-khay-u-m-cum* [2-see-3.P-2PL.A-3NS.P], with regular deletion of intervocalic /ŋ/, as described in §2, followed by vowel coalescence, as described in §4.2.

But priming and social-model copying are unlikely to be the only factors involved: during elicitation, some consultants also report a vague feeling that ordering might reflect a slight difference in emphasis—so that elements to the right tend to be a bit more prominent than those to the left. The difference might have to do with different activation degrees of referents. But it is extremely subtle and does not compare at all to the clear information-structure difference that can be achieved by focus endoclitics like $= ya\eta$ and $= ta$ or by manipulating the order of NP arguments in the clause as in 18 above.

Given that different factors are likely to have an impact on prefix ordering, we submit that a given order can ultimately be predicted only stochastically, by a multivariate model. At present we are unable to explore such models because our corpus is far too small for robust statistical analysis.

5.3. SUMMARY. Surveying possible candidates for semantic constituency and usage patterns reveals no structural correlate that would allow us to predict prefix order. From all we can see, the prefix order that a speaker chooses at a time reflects the interaction of various competing processing factors—priming, social-model copying, activation degree of meanings expressed, perhaps individual habits and other unknown factors—but not a single factor that would warrant structural representation in terms of semantic or morphosyntactic features and their configuration. In other words, while it might be possible to predict prefix orders stochastically from a multitude of factors, it is very unlikely that a given order has a stable semantic or morphosyntactic structure, that is, a structure with an invariable and indefeasible effect on interpretation or syntax.

But the question remains whether free prefix odering is indeed just that, unordered, essentially structure-free prefixation, or whether it is the result of other structural principles of Chintang. This is the topic of what follows.

6. TOWARD AN EXPLANATION. Why does Chintang allow free prefix permutation, and why is it such a rare—up to now hardly documented—phenomenon? The key to answering these questions comes from the phonological structure of prefix hosts.

6.1. ANALYSIS. In §4 we observed that the phonological word that defines the domain of onset requirements and endoclitic hosting separates prefixes and initial stem parts ($\Sigma 1$) from stems (Σ or Σ') and suffixes. This is repeated in 47.

(47) $(_{\omega 2} (_\omega \text{pf}/\Sigma 1) (_\omega \Sigma^{(')}\text{-sf}))$

Given this, prefixes can also be analyzed as subcategorizing for ω rather than for Σ or Σ' as their host in a verb.

(48) pf-ω

Closer inspection shows that 48 is indeed the right generalization. Immediate evidence for this comes from bipartite stems. In §4.2 we argued on phonological grounds that bipartite stems consist of two ω-domains.

(49) $(_\omega ya)(_\omega cept\text{-})$
          'call'

The structure in 48 predicts that both domains can host prefixes, and this is exactly what we find.

(50) a. kha-u-ya-cept-e.   (or: *ukhayacepte*)
            1NS.P-3NS.A-call-call-PST
      b. ya-kha-u-cept-e.   (or: *yaukhacepte*)
            call-1NS.P-3NS.A-call-PST
              Both: 'They called us.'

Saying that Chintang prefixes select stems as their host would account only for 50a, where they precede the stem *yacept-*, but not for 50b, where they do not. But both kinds of data are covered by the prosodic subcategorization constraint in 48 because each stem part, and each prefix, project their own phonological word and, accordingly, can receive a glottal stop if vowel-initial.

(50)′ a.   ($_\omega$ kha)($_\omega$ ʔu)($_\omega$ ya)($_\omega$ cepte)
      b.   ($_\omega$ ya)($_\omega$ kha)($_\omega$ ʔu)($_\omega$ cepte)

As can be seen from the prosodic analysis in 50′, each prefix immediately precedes a phonological word, regardless of whether it is a stem part or another prefix.

If 48 captures the distribution of prefixes, their variable positioning is not the result of actual permutation within the prefix string but the result of variation as to which phonological word ω inside a grammatical word is chosen as their host. As soon as a word form contains one prefix, or a bipartite stem, there are two phonological words.

(51) kha-tup-e. >   ($_\omega$ kha)($_\omega$ tube)
      1NS.P-meet-PST
        'S/he met us.'
(52) yacept-e. >   ($_\omega$ ya)($_\omega$ cepte)
      call-PST
        'S/he called.'

When adding a prefix, for example, *a-* '2', to these structures, the choice between the two words results in what appears as permutation.

(53) a.   a-($_\omega$ kha)($_\omega$ tube).
      b.   ($_\omega$ kha)a-($_\omega$ tube).
            Both: 'You (sg.) met us.'
(54) a.   a-($_\omega$ ya)($_\omega$ cepte).
      b.   ($_\omega$ ya)a-($_\omega$ cepte).
            Both: 'You (sg.) called.'

If this analysis is correct, it explains why the surface phenomenon of prefix permutation is exceedingly rare in the languages of the world—indeed, from all we know limited to a couple of Kiranti languages in the Himalayas. The prefixes of these languages behave exactly like what is commonly described as infixes: their hosts are phonologically defined (here, by ω) in exactly the same way that all known instances of infixes have phonologically defined hosts (Yu 2003). And infixation is rare because it has only a limited and highly specific set of possible sources (metathesis, entrapment, reanalyzed reduplication) and only few prosodic conditions under which it can survive over time (adjacency to phonologically prominent positions) (see Yu 2003 for a state-of-the-art survey). In Chintang, the most likely source is entrapment inside compound verbs, some of which have been reanalyzed as bipartite stems (see §7 below). The catalyst helping infixes to survive in Chintang was presumably their immediate adjacency to phonological word boundaries.

6.2. TESTING THE PREDICTIONS OF THE ANALYSIS. The analysis in 48 and the explanation it affords predicts that all and only ω-boundaries in a verb can host prefixes. So far we saw regular stems, stem parts, and prefixes defining such hosts. Given the structure in 47 we also expect v2-stems to be able to host prefixes. This is confirmed by the examples in 12 and 13, repeated here.[17]

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[17] There is one exception: the prefixes with shape *ma-* or *mai-* cannot precede v2-stems although they can occur before ω-boundaries in bipartite stems. The reasons have to do with the specific etymologies of the markers, but this must be left for another study.

(55) a. ($_\omega$ kos-a)-u-($_\omega$ gond-e).
       walk-PST-3NS.S-AMB-PST
       'They walked around.'

    b. ($_\omega$ ko-na)-a-($_\omega$ gon-no).
       walk-NA-2-AMB-NPST
       'You (will) walk around.'

The fact that, as noted in §4.2, the v2-stem has an onset and that the preceding string can host endoclitics qualifies *-gon-d* as a licenser of a ω-boundary. This is why it can be prefixed by *a-* '2' or *u-* '3NS.A' in 55.

    We noted earlier that v2-stems like *gon-d-* require a disyllabic stem host. The data in 55 show that a prefix cannot meet this demand: *-gon-d* still induces a regular inflectional suffix *-a* in 55a and an epenthetic suffix *-na* in 55b. The reason that a prefix cannot meet the disyllabicity demand is that the prefix does not belong to the same ω-domain as the v2-stem (§4.2). This is evidenced by the possibility of a glottal stop before the prefix.

    (56) ($_\omega$ ko-na)($_\omega$ ʔa)($_\omega$ gon-no)

In 56 only ($_\omega$ *kona*) can satisfy the disyllabicity requirement because it is the only stem-containing element preceding the v2-stem—despite the fact that it is not immediately adjacent. In this regard prefixes are phonologically different from endoclitics. We noted in §4.1 that endoclitics cannot resolve the disyllabicity requirement of v2-stems either. But there the reason was that they are postlexical insertions. Prosodically, they would be part of the same domain as the initial stem because endoclitics FOLLOW their host: ($_\omega$ *ko-na=ta*)($_\omega$ *gon-no*), and there is no prosodic reason why they should not create the needed disyllabicity—but this is ungrammatical: *($_\omega$ *ko=ta*)($_\omega$ *gon-no*).

    One v2-stem varies as to whether it licenses a ω-boundary, and this provides a crucial additional test ground for the analysis in 48. The relevant v2-stem is *-yak-t* (∼ *-wak-t* after *u*), which derives from a verb 'to be, stay' and marks imperfective aspect. In most contexts, this marker behaves like any other v2-stem and its onset (*y* ∼ *w*) aligns with a ω-boundary. In these contexts, the stem can host prefixes, as in 57, and the preceding ω-unit can host endoclitics, as in 58.[18]

    (57) a. a-($_\omega$ pid-i)($_\omega$ yakt-i-hẽ).
       2-give-PL-IPFV-PL-PST
     a′. ($_\omega$ pid-i-)a-($_\omega$ yakt-i-hẽ).
        give-PL-2-IPFV-PL-PST
        Both: 'You (pl.) were giving (used to give) it to (people).' (antipassive, generic P)
     b. a-($_\omega$ pid-u-)($_\omega$ wakt-e).
       2-give-3.P-IPFV-PST
     b′. ($_\omega$ pid-u-)a-($_\omega$ wakt-e).
       give-3.P-2-IPFV-PST
       Both: 'You (sg.) were giving (used to give) it to him/her.'
    (58) a. a-($_\omega$ pid-i-)=ta($_\omega$ -yakt-i-hẽ).
       2-give-PL=FOC-IPFV-PL-PST
       'You (pl.) were GIVING (used to GIVE) it to (people).'

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[18] Note that the allomorphy of *-yakt* ∼ *-wakt* still depends on its real host, that is, the foot that contains the initial stem. Just as with the disyllabicity requirement, an intervening prefix or clitic does not change the host of the v2-stem. The resulting effect of long-distance allomorphy raises important theoretical questions, which we must however leave for another occasion.

   b. a-(_ω pid-u-) = ta(_ω -wakt-e).
      2-give-3.P = FOC-IPFV-PST
        'You (sg.) were GIVING (used to GIVE) it to him/her.'

However, after /a/, the glide onset of the imperfective is preferably elided. If this happens, the marker can no longer align with a ω-boundary. As a result, the remaining vowel undergoes the same coalescence patterns as it would in regular suffixes, that is, the vowel merges, as in the second (and preferred) realization option in the following examples.

   (59) a. tup-na-yak-na-ni-hẽ. > (_ω tupna)(_ω yaknanihẽ) *or* (_ω tupnaknanihẽ)
         meet-1>2-IPFV-1>2-PL-PST
           'I was meeting (used to meet) you (pl.).'
      b. pid-a-yakt-a-ce.   > (_ω pida)(_ω yaktace) *or* (_ω pidaktace)
         give-PST-IPFV-PST-DU
           'We (du. incl.) were giving (used to give) it to him/her.'

If this happens, there is no ω-boundary left, and as a predictable consequence, no prefix can occur, and no endoclitic.

   (60) a.   a-(_ω pid-a-kt-a-ce).
          2-give-PST-IPFV-PST-DU
      b. *pid-a-a-kt-a-ce.
          give-PST-2-IPFV-PST-DU
      c. *a-pid-a = ta-kt-a-ce.
          2-give-PST = FOC-IPFV-PST-DU
           'You (du.) were giving (used to give) it to him/her.'

In the Sambugāū dialect, the imperfective is always reduced, and it also has lost the augment. As a result, the marker has the simple shape -*k*, and the only difference from a suffix is that it still requires a disyllabic host, that is, it still triggers recursive inflection. The Sambugāū version of 57a is 61.

   (61) a-(ω pid-i-k-i-hẽ).
        2-give-PL-IPFV-PL-PST
         'You were giving (used to give) it to (people).'

Because there is no onset, there is no ω-boundary, and because there is no ω-boundary, no prefix and no clitic can be inserted: *pidiakihẽ*, *piditakihẽ* are ungrammatical variants of 61.

   The same reduction of a v2-stem is found with the perfect marker, but here in both dialects. The marker derives from a stem **yaŋ-s-* 'to keep', but in modern Chintang it occurs only as -*ŋ-s*. The marker still has an augment (-*s*) and still triggers recursive inflection, but since it lacks an onset, it cannot license a ω-boundary, and therefore neither a prefix nor an endoclitic can ever occur before it.

   (62) a-(ω ims-a-ŋs-a-ce).
        2-sleep-PST-PERF-PST-DU
         'You (du.) have slept.'

Again, *imsaaŋsace* or *imsataŋse* are ungrammatical variants of this.

   These findings suggest that only those v2-stems that align with ω-boundaries can host prefixes, and this confirms the predictions of the analysis in 48. Now, given that 48 predicts ANY ω-domain in a verb to be able to host prefixes, it should be possible that there are also nonstem elements that project ω-boundaries and thus can host pre-

fixes. There is one such case, involving past tense negative forms in the Mulgāū dialect. Unlike in the Sambugāū dialect, where negation is marked by a suffix *-t*, the Mulgāū dialect relies on the suffix *-yokt* ~ *-yakt*. This suffix derives diachronically from the same v2-stem as the imperfective, but lost the property of v2-stems of requiring a disyllabic host and recursive inflection; instead *-yokt* directly follows the stem, like an ordinary suffix. But *-yokt* retains the canonical root + augment (*yok* + *t*) shape of stems and it also retains the property of v2-compounds to start a new ω-boundary. In line with this, the preceding stem can host endoclitics.

(63) (ω ma)-(ω ep) = ta-(ω yokt-e).
       NEG-get.up = FOC-NEG-PST
       'S/he didn't get up.'

And, predictably, *-yokt* can host prefixes.

(64) (ω ma)-(ω ep)-a-(ω yokt-e).
       NEG-get.up-2-NEG-PST
       'You didn't get up.'

That this is prefixation to the phonological word starting with *-yokt*, and not a further case of affix permutation—here, between prefixes and suffixes—or of suffixation of what should be a prefix (*a-*), is shown by four pieces of evidence.

First, prefixes can appear only before *-yokt*, not before other suffixes, because only *-yokt* projects a phonological word. Thus, it is not possible to change 64 into **ma-ep-yokt-a-e*, with the prefix *a-* before the suffix *-e*. In the Sambugāū dialect, the negative past contains the suffix *-t* instead of *-yokt*, and because *-t* does not license a phonological word boundary, no prefix can appear before it: **ma-im-a-t-e*.

Second, the prefix can receive a glottal stop (*maʔepʔayokte*), as is expected if they are prefixes, but not if they were suffixes (§4.2).

Third, with stems that have them, coronal augments appear only before vowels in the same word. Even though a following *a-* '2' would provide a vowel, it is not in the same word. Hence, the augment is deleted in a stem like *im-s-* 'sleep'.

(65) ma-ims-a-yokt-e. > (ω ma)(ω′ʔim)(ω ʔa)(ω yokte) *not* *(ω ma)(ω′ʔimsay-okte)
       NEG-sleep-2-NEG-PST
         'You didn't sleep.'

Finally, only prefixes can occur between the lexical stem and *-yokt*. Initial stem parts of bipartites, for example, cannot. Thus, 66b is not a possible permutation of 66a (stem (ω *ya*)(ω *cept*)- 'call').

(66) a.   ma-ya-cep-u-kha-yokt-e.
              NEG-call-call-3NS.A-1NS.P-NEG-PST
                'They didn't call us.'
       b.   *ma-cep-ya-u-kha-yokt-e.
              NEG-call-call-3NS.A-1NS.P-NEG-PST
                Intended: 'They didn't call us.'

The ungrammaticality of 66b follows from the fact that *ya-* is a stem part, and not a prefix. Only prefixes are free to choose any word-internal ω-boundary as their host.

These data confirm the claim in 48 that the distribution of prefixes is regulated by phonological subcategorization for ω within verbs rather than morphological subcategorization for Σ within verbs.

7. ARE PREFIXES CLITICS? The host for which prefixes subcategorize is exactly the same domain as the one identified in §4.2 as the host of endoclitics, viz. the phonological word ω. The only difference in their distribution is that the affixes precede ω while clitics follow ω.

(67) affix-ω = clitic

This raises the question of whether Chintang prefixes are in fact clitics. If this were the case, their permutability would be considerably less surprising since there are known parallels in other languages—for example, in various German dialects. Compare the positional possibilities of pronominal clitics in Swiss German.

(68) a.   Hèt = er = s = em   gsait?
          have.3SG.NSPT = 3SG.M.NOM = 3SG.N.ACC = 3SG.M.DAT PTCP.say
     b.   Hèt = er = em = s   gsait?
          have.3SG.NPST = 3SG.M.NOM = 3SG.M.DAT = 3SG.N.ACC PTCP.say
              'Did he tell it to him?'

The reason for this permutability is that despite their phonology, Swiss German clitics are independent grammatical words (pronouns), and as such, they are not subject to the ordering constraints that apply inside grammatical words.

But such an analysis does not carry over to Chintang. The prefixes resemble clitics only in their phonological host requirements. As argued at length in §4.1, with regard to their grammatical behavior, they are full-fledged parts of words, hence affixes and not clitics. Most importantly, unlike Swiss German clitics, Chintang prefixes are selectionally restricted to verbs. This is not true for Swiss German pronominal clitics, as shown by 69, where the clitics are hosted by a complementizer.

(69) I   wais   das = er = em = s
     1SG.NOM know.1SG.NPST COMP = 3SG.M.NOM = 3SG.M.DAT = 3SG.N.ACC
         gsait   hèt.
         PTCP.say have.3SG.NPST
         'I know that he told it to him.'

Moreover, we expect clitics to undergo gapping in conjunction reduction (Miller 1992). This is possible with Swiss German pronominal clitics.

(70) Hèt = er$_i$ = em = s   gsait   und
     have.3SG.NPST = 3SG.M.NOM = 3SG.M.DAT = 3SG.N.ACC PTCP.say and
         isch = Ø$_i$ ggange?
         be.3SG.NPST PTCP.go
         'Did he tell him and (did he) go?'

Gapping is also possible with genuine Chintang clitics: the continuous aspect marker = ta, the converbial conjunction = lok, and the hortative marker = ne can all be optionally gapped under identity. The effect is that these clitics have scope over both propositions.

(71) a.   [huŋgo pempak ca-no   cuwa thuŋ-no] = ta.
          3SG   bread   eat-NPST water drink-NPST = CNT
              'He is eating bread and drinking water.'
     b.   [Kathmandu yu-wakt-a   khim-be   u-taema
          K.   stay-IPFV-PST house-LOC 3.POSS-wife
              si-yad-a-kt-a] = lok . . .
              die-TELIC-PST-IPFV-PST = SIM
              'When he was staying in Kathmandu and his wife was dying at
              home . . . '

    c. tub-i-ŋs-i   ghari, [ni-ka-ni   lus-i   rett-i] = ne,
         meet-PL-PERF-PL when see-RECP-see AUX-PL laugh-PL = HORT
            cekt-i = ne!
            talk-PL = HORT
        'When we will have met, let's see each other, let's laugh, let's talk!'

                                              (ctn_songRM01.11)

Gapping shows that clitics are phrase-level affixes (see e.g. Anderson 1992). Chintang prefixes, by contrast, are stem-level, that is, genuine affixes. Therefore, they cannot be gapped under identity.

    (72) a.   u-khad-e = kina   u-kha-lott-e.
             3NS.S-go-PST = and 3NS.A-1NS.P-tell-PST
               'They went and told us.'
        b.   *u$_i$-khad-e = kina   Ø$_i$-kha-lott-e.
             3NS.S-go-PST = and 1NS.P-tell-PST
              Intended: 'They went and told us.'[19]

Finally, Chintang prefixes are agreement markers and not cliticized pronouns. As such, they can cooccur with coindexed NPs in regular argument positions, including indefinite pronouns.

    (73) a.   hunce-ŋa$_i$ akka$_j$ u$_i$-ma-lu-yokt-a-ŋ-ni-hẽ$_j$.
             3NS-ERG   1SG.NOM 3NS.A-NEG-tell-NEG-PST-1SG.P-PL-EX.PST
              'They did not tell me.'
        b.   sa-ŋa$_i$ = yaŋ   akka$_j$ u$_i$-ma-lu-yokt-e-hẽ$_j$.
            who-ERG = ADD 1SG.NOM 3NS.A-NEG-PST-EX.PST
              'Nobody told me.'

By contrast, Swiss German clitics—being pronouns—cannot cooccur with any kind of coreferential NPs in regular argument positions.

    (74) *Hèt = er = em$_i$ = s   em = maa$_i$
        have.3SG.NPST = 3SG.M.NOM = 3SG.N.ACC = 3SG.M.DAT DAT.ART = man
          gsait?
          PTCP.say
        Intended: 'Did he tell it to the man?'

This all suggests that prefix permutability in Chintang cannot be explained away by appeal to some notion of cliticization—synchronically, that is. It is possible that they originated from clitics, but comparative research on this must wait for another occasion.

8. CONCLUSION. Challenging received theoretical assumptions on the nature of words, Chintang prefixes can be freely reordered inside a grammatical word and even inside a (bipartite) stem. Our analysis suggests that free prefix ordering is not due to a different structure of grammatical words in Chintang (e.g. a word domain that is idiosyncratically exempt from linear ordering rules), but that it is the side effect of a particular kind of phonological subcategorization: subcategorization for phonological words. Prefixes appear in different orders because grammatical words consist of several phonological words and because prefixes can select any of these words as their host. Since free prefix ordering stems from the same kind of phonological subcategorization pattern as infixes, it is as rare as infixation.

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[19] This sentence is grammatical as 'they went and s/he told us', with *khalotte* interpreted as a form with a zero-marked third person singular actor. The sentence is also grammatical if *khalotte* is interpreted as a Sambugāũ dialect form because in this dialect 3 > 1 forms do not differentiate number of the A argument.

What makes free ordering even rarer than infixation is that the subcategorization constraints specify the phonological word as their host, but the grammar does not regulate which word should be chosen in case there are several. Why this should be possible in Chintang (and Bantawa) we do not know. But since our experience is that speakers of nonstandardized languages tend to tolerate a great amount of variance, it is perhaps not so surprising that they would tolerate variance inside the grammar of words as well. We leave this question for future research, but what becomes clear is that without detailed empirical work on more languages, and especially on less well known and endangered languages like Chintang, we will never be able to estimate the true range of what is possible in the languages of our species.

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