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SYNTACTIC CONSTRAINTS ON NOUN INCORPORATION IN SOUTHERN TIWA

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0. Introduction The existence of complex verb stems which include a noun stem is often referred to as 'noun incorporation'. Although this phenomenon is commonly spoken of as if it were a process, there is of course no reason why it must be so treated in a grammar. This paper looks at the status, within a non-constructional theory (Relational Grammar), of constraints on noun incorporation in Southern Tiwa (ST).

To describe noun incorporation as other than a process which moves a noun from a syntactic position outside of the verb to a position within the verb, constraints on this phenomenon must be of at least two types. First, there must be rules which allow noun stems to be constituents of verbs, limit this occurrence to a subclass of verbs if such a limitation is required by the language in question, state the relative order of the verb and noun stems, and determine that the appropriate allomorphs of the constituent stems are utilized. Second, the strong constraints on which syntactic or argument positions are correlated with the incorporated noun must be stated.

After brief coverage of ST verb morphology in §1, this paper focuses primarily on the aforementioned constraints on syntactic correlations. It will be demonstrated that it is to both initial and final grammatical relations, and not to argument structures or thematic/semantic roles, that these constraints on the distribution of noun-incorporated verbs must make reference.¹

1. Verb Morphology Looking first at the morphological structure of the verb, the minimum requirements of the verb as a word are an agreement prefix, a verb stem, and a tense suffix (in that order), as exemplified in (1) and (2):²

- (1) Musa-n i-k'euwe-m.
cat-pl B-old-pres
'The cats are old.'
- (2) Yedi seuan-in bi-mū-ban.
those man-pl 1s:B-see-past
'I saw those men.'

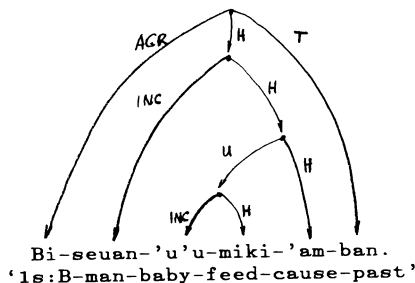
Any additional complexity of the verb may, and evidently should, be ascribed to potential for expansion of the verb stem. (3) illustrates a verb stem made up of a transitive stem plus the passive morpheme. The complex stem in (4) includes a causative root, while those in (5) and (6)³ include another verb root; the complex verb stem of (7) has an incorporated noun stem (cf. (2)):

- (3) Yedi seuan-in-ba te-mũ-che-ban.
those man-pl-instr 1s-see-pass-past
'Those men saw me. (lit: I was seen by those men.)'
- (4) Ti-t'arata-'am-ban 'euwa-de.
1s:A-work-cause-past youth-sg
'I made the youth work.'
- (5) Te-si-the-ban.
1s-cry-want-past
'I wanted to cry.'
- (6) Hliawra-de ø-na-sheu-at-khiwī-ban.
lady-sg 3s-q-enter-try-past
'The lady tried to go in.'
- (7) Yedi bi-seuan-mũ-ban.
those 1s:B-man-see-past
'I saw those men.'

More than one level of verb stem expansion is possible; (8) shows the passive of a causative, (9) has a verb stem with incorporated noun, plus another verb root; (10) shows the passive of a causative of a verb stem with incorporated noun stem; (11) has an inner layer of a verb stem plus incorporated noun and an outer layer of the corresponding causative verb stem with its own incorporated noun stem.

- (8) Seuan-ide-ba te-t'arata-'abe-ban.
man-sg-instr 1s-work-cause:pass-past
'The man made me work.'
(lit: 'I was made to work by the man.')
- (9) 'U-mnin i-p'akhu-kha-the-ban.
child-pl B-bread-bake-want-past
'The children wanted to bake (the) bread.'
- (10) Wisi seuan-ide-ba te-p'akhu-kha-'abe-ban.
two man-sg-instr 1s-bread-bake-cause:pass-past
'The man made me bake (the) two (loaves of) bread.'
(lit: 'I was made by the man to...')
- (11) Bi-seuan-'u'u-miki-'am-ban.
1s:B-man-baby-feed-cause-past
'I made the men feed the baby.'

I take the structure of the verb in (11) to be as in (11'):



I have included labels for the morphological relations I think are necessary in ST verbs. And though the particular labels are tentative,⁴ we will see later that there are morpho-syntactic⁵ rules which make reference to the relations of verb constituents.

In summary, verb morphology may be described by the following rules; note that they refer to relations, not nodes. (Each non-terminal node involved would be a V node.)

$$(12) \quad P = \text{AGR} + H + T$$

$$(13) \quad H = (\{U, \text{INC}\}) H$$

$$(14) \quad U = (\text{INC}) H$$

Virtually all verb stems of ST may combine with noun stems to give complex stems. In all cases, the noun stem precedes the verb stem. When incorporated, nouns lack number suffixes. And of course only a relatively small subset of verbs are subcategorized to be the Head in a union construction. Only verbs head U arcs.⁶

2. Syntactic Correlations of Incorporation In this section I explicate what I meant above by correlation of incorporated noun stems and syntactic functions. Consider first examples (15)-(17):

(15) *Seuan-ide i-musa-tuwi-ban (yedi).*
 man-sg A:B-cat-buy-past those
 'The man bought (those) cats.'

(16) *U-k'uru-k'euwe-m (wisi).*
 C-dipper-old-pres two
 'The (two) dippers are old.'

(17) *Bi-'u-wia-ban hliawra-de-'ay.*
 1s:B-child-give-past lady-sg-to
 'I gave the children to the lady.'

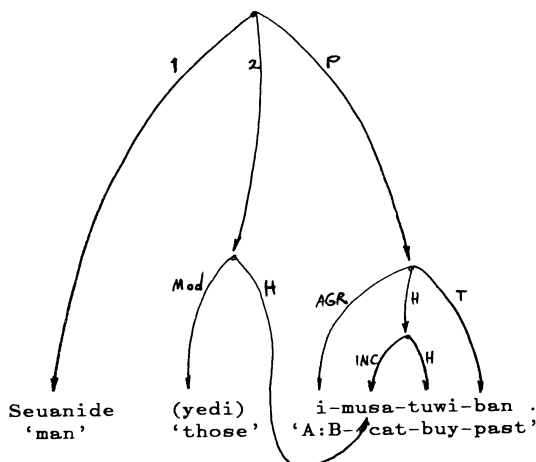
These examples illustrate that the incorporated noun always corresponds to the Head of a noun phrase bearing a grammatical relation to the verb. In (15) *musa* 'cat' corresponds to the Head of the 2, while in (16) *k'uru* 'dipper' corresponds to the Head of the (final) 1. If the noun phrase has no constituents, such as a numeral or demonstrative, other than its Head, then there will be no surface (ie overt) noun phrase if the Head is incorporated.⁷

Consider the relational network for (15) given as (15') [next page]; note that the noun stem *musa* bears the relation of Head of the noun phrase as 2 as well as bearing a relation within the verb stem.

Given that morphology takes precedence over syntax in determining the linear positioning of morphemes, as proposed by Sadock (ms), the noun which bears competing relations occurs within the verb; consequently, only if the noun phrase with the incorporated Head noun has some other constituent will there be a surface nominal. The nominal still counts as a final 2, however;⁸ this latter fact accounts for the agreement of the verb prefix with the nominal, for verb prefixes of ST always agree with their final 1s and final 2s.

Relational constraints on the correlation of incorporated noun to Head of a nominal bearing a grammatical relation are repeated here from Allen, Gardiner and Frantz (1984).

(15')



- (i) Only nouns as Head of initial 1s and 2s may be incorporated.
- (ii) Heads of inanimate gender absolutes must be incorporated.
- (iii) Heads of animate gender final 1s are never incorporated.
- (iv) Heads of absolutive chomeurs must be incorporated.
- (v) Heads of 2s in a clause with an advanceable 3 must be incorporated.

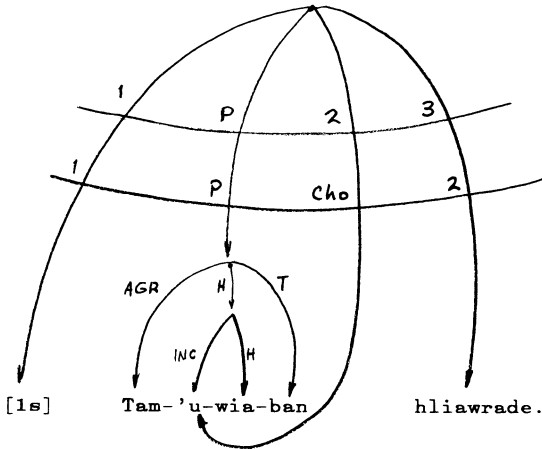
3. Necessity For Syntactic Levels Constraints (ii), (iii), and possibly (v), could be stated in monostratal theories, but (i) and (iv) are clearly multilevel rules. I will repeat some of the evidence for (i) and (iv) in this section, and consider the difficulties these facts offer to some other approaches in §6.

Consider (18) - (20):⁹

- (18) Tam-'u-wia-ban hliawra-de.
1s:A\B-child-give-past lady-sg.
'I gave the lady the children.'
- (19) * Tam-wia-ban hliawrade 'umnin.
1s:3s\3p-give-past lady children
- (20) * Tam-hliawra-('u-)wia-ban.
1s:A\B-lady-(child-)give-past
('I gave them(children) to the lady.')

As demonstrated in Allen and Frantz (1978), (18) differs from (17) in that (18) has one more level of relations such that it exhibits the phenomenon called 3 to 2 advancement in RG, as shown in (18'): That is, the initial 3 of (18) is the final 2; consequently the initial 2 is a final chomeur and, by (iv), must be incorporated, as can be seen in (19). And even though *hliawrade* 'lady' in (18) has all other final 2 properties (see Allen and Frantz, 1978), it may not be incorporated, as shown in (20). The incorporation is disallowed even when the initial 2 lacks a noun to be incorporated, i.e. when it is a

(18')



pronoun, as the parentheses in (20) are intended to show.

Constraint (iv) also comes into play in examples involving advancement of a destinal Goal to 1 (Allen, 1978). The Goal of (21) corresponds to the final 1 in (22). (23) is bad because it violates (iv).

- (21) Seuanide ϕ -wan-ban 'i-'ay.
 man A-man-come-past 2s-to
 'The man came to you.'
 (22) Ka-seuan-wan-ban.
 2s\A-man-come-past
 'The man came to you.'
 (23) * Seuanide ka-wan-ban.
 man 2s\A-come past

Similarly, the chomeur of possessor ascension constructions must be incorporated, as shown in (24) and (25).

- (24) In-musa-teurawe-we.
 1s\A-cat-run-pres
 'My cat is running'
 (25) * Musade in-teurawe-we.
 cat 1s\A-run-pres

4. Inadequacy of Semantic/Thematic Role Constraints In this section I consider whether the facts accounted for by (i) might be captured in monostratal theories by reference to semantic or thematic roles. Granted, the incorporee in most cases can be characterized as a patient or theme, though not without the usual difficulties which attend all such characterizations; e.g. is 'man' in (22) an agent or a theme? But even granting the theme role to the incorporee of such examples, the possessor ascension cases such as (24) demonstrate the failure of such role characterizations, for the incorporated noun in that example is surely an agent. Another case where an agent may be incorporated is provided by passives. Compare (26)-(28):

If we attempt to apply this model to ST, we find that it makes entirely the wrong predictions about noun-incorporated verbs. First of all, the incorporated noun is never understood as an oblique argument.¹⁰ Second, a subset of internal arguments may be incorporated (2s but not 3s; see (20)). And third, 'external' arguments often are incorporated; see (16), (22), and (24).¹¹

Furthermore, incorporation never satisfies the syntactic argument structure of verbs, as evidenced by verb agreement and presence of the remainder of complex noun phrases ((15) and (16)).¹²

In a very interesting and provocative discussion, Jerry Sadock (ms.) interprets morphology:syntax discrepancies such as ST incorporation as evidence for the need for departure from the strict submodularity of standard views of morphology, and proposes an "autolexical" theory of syntax which gives morphology an independence from syntax that is clearly not present in most other current models. Syntactic rules are distinct from rules of word structure, and consequently a given string may be given a particular bracketing by the syntactic rules and a different bracketing by the morphological rules. For those of us who have had extensive experience with a polysynthetic language, this has a ring of truth, for this is essentially how we have been forced by the languages to view our analyses. Sadock goes beyond this by beginning to consider what kinds of constraints can be placed on the mapping between the two representations.

Because a noun may be the head of a NP in the syntax but a subconstituent of a complex verb in the morphology, Sadock is proposing what I have described above in RG as multiattachment, except that in the RG account no separate dimension is posited for morphology, since the same apparatus and the same types of constraints on well-formedness of networks account for both morphological and syntactic relations. Thus I view Sadock's conclusion of the need for an autolexical approach as a direct consequence of his choosing a model (GPSG) which does not sanction multiattachment.

Notes

¹All of the data and most of the analysis presented here are the work of Barbara Jane Allen and Donna Gardiner, both of the Summer Institute of Linguistics. See Allen, Gardiner, and Frantz (1984) for a more complete coverage of ST noun incorporation.

²The agreement prefix on the verb reflects features of the final 1, final 2, and if different from these, the initial absolutive. The features of these nominals are represented in the prefix gloss as follows: final 1:final 2\absolutive. In glosses only, 1, 2, and 3 abbreviate first, second, and third person, respectively. *s* and *p* abbreviate singular and plural. E.g., '1s:A' indicates first person singular final subject, with A as final direct object. A is one of three third person inflectional categories of Tanoan languages formed by reducing to three the six possible combinations of two numbers (singular and plural) and three gender classes (i, ii, iii), as follows: A = is or iis; B = ip or iis; C = iip or iiip. Gender class i may be characterized as the class of animate nouns, though it includes a few non-living objects such as *karude* 'car' and *barkun* 'boat'. The other two gender classes consist of inanimate nouns. (In two cases the agreement is prefix is null: 'A' as final 1 of an intransitive verb, and 'A:A' as final 1:final 2 on a transitive verb.)

³The apparently empty prefix *na-*, glossed 'q' and seen in (6), is required on any verb stem of which certain roots are Head.

⁴AGR=agreement, H=head, T=tense, U=union, INC=incorpoatee. I distinguish **Head** of, a relation to a node, from **head** of, a relation to an arc.

⁵I use the term 'morpho-syntactic', not to refer to the syntax of words, but to rules which make reference to both morphological and syntactic relations.

⁶Since there is good reason to treat the passive suffix as the Head of passive verbs. I am tentatively assigning the union relation to the verb to which it is attached; this presupposes that the passive morpheme Heads the P of a syntactic union construction of the type that has been called Equi-subject union (Frantz, 1976). Alternatively, (14) must be revised to allow a third possibility within the brackets, say 'DR' for root of a derived stem.

⁷It may seem that I am beginning to speak about deriving noun-incorporation examples from corresponding clauses without noun incorporation. But as will be clarified in §5, the constraints on incorporation to be listed below are well-formedness constraints on networks.

⁸ST differs in this regard from most other languages for which noun incorporation has been reported. See Mardirussian (1975) and Mithun (1984).

⁹The morphological category of the initial absolutive is indicated to the right of a slash in the verb prefix gloss, as stated in note 2.

¹⁰Unless the passive chomeur is viewed as such, as it would have to be in mono-stratal theories. But note that it would be unique among obliques in this regard, for no others are incorporated, not even instrument, even though the latter, when unincorporated, is marked by the same flag as the passive chomeur:

(a) Te-hwiete-ban keuap-ba. 'I was hit with a shoe.'
1s-hit:pass-past shoe-instr

(b)* Te-keuap-hwiete-ban. ('I was hit with a shoe.')

¹¹Williams 1984.653, says that external arguments are excluded from compounding. Consequently, he would have to say that the 'comer' and 'runner' in (22) and (24), and the 'dipper' in (16), are not external arguments in these sentences. This certainly would require unusual argument structures in ST, including the requirement that inanimate gender nouns never be external arguments - see (ii).

¹²Herein may lie the grounds for distinguishing compounding from incorporation within Williams' model: incorporation, unlike compounding, does not satisfy argument structure and consequently is not subject to the constraints on argument satisfaction.

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