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The Role of Verb Serialization in Word-order Change<sup>1</sup>

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Introduction. The Tibeto-Burman (TB) languages are, generally, cast from the "verb final" mould: verbs are consistently clause final; case marking is by post-position; modality morphemes usually follow the head verb; and genitive phrases - and frequently, other modifiers as well - precede the head noun. The higher grouping of Sino-Tibetan (ST) includes Karen and Chinese, languages in which verb-medial patterns predominate in the clause, while the modifier-before-modified pattern is retained in the noun phrase. Language-internal factors may have played a role in Karen and Chinese developments, but sources for verb-medial patterns are found in the Tai (once spoken farther to the north and east than now) and Mon-Khmer families, and it is likely that Karen and Chinese were influenced by contact with languages within these groups.

Besides Karen and Chinese, there are two languages - one actually a cluster of closely related dialects - that have broken with the verb-final tradition of their TB congeners. One is Yi (formerly called "Lolo"), spoken in southwestern China; the other is Angami Naga, a language spoken in eastern India. Both have developed grammatical patterns that cannot be attributed directly to contact. The syntactic changes attested by Yi and Angami seem to have sprung from within, and for this reason, the two languages stand to contribute to our understanding of the processes of word-order and typological change.

1.0 From "OV concatenating" to "OV serializing". The Yi languages are spoken at the eastern reaches of the TB family. They form a northeastern subgroup within the Loloish branch. Other important members of this branch are Lisu, Lahu, and Hani (known as "Akha" outside China). The three "non-Yi" Loloish languages exhibit the typical TB pattern of optionally marked noun phrases freely ordered to the left of a string of verbs and "auxiliaries". The following Lisu sentence is representative:<sup>2</sup>

1. LI<sub>H</sub>(140)    ása nya    alě lé    áyá    vwù    yè    -á  
                   Asa TOP    Ale to    fowl    sell    give    DECL  
                   Asa sold some chickens to Ale.

This polarized arrangement of clause constituents, frequently seen in OV languages, can be regarded as the reduction of multiple-clause constructions - whether temporally or logically successive clauses, as in this case, or embedded clauses, as in others - to the format of a single clause.<sup>3</sup>

The Yi dialects retain many of the OV features seen in the non-Yi. But in a large number of cases, they eschew the rigid separation of nominals and verbs for the even interchange seen in our second example, from the Yi dialect described by Gao (1958):

## 2. YI(100):

t'a<sup>31</sup>vi<sup>55</sup> ʃɿ<sup>33</sup> vɛ<sup>32</sup> tʃ'e<sup>31</sup>t'u<sup>24</sup> t'a<sup>31</sup> ʃɿ<sup>33</sup> dʒo<sup>213</sup> t'i<sup>31</sup> dʒɛ<sup>44</sup>  
 her sis. a-measure take rice one catty weigh her give  
 With a measure, her sister measured out a catty of rice for her.

Structurally, this sentence cannot be distinguished from a complex sentence containing two consecutive clauses and a result clause - the Yi languages are highly paratactic, and clausal boundaries are not explicitly signalled. There is no alternate way of expressing the instrumental or the benefactive, however, and the comparative evidence, some of which is presented below, shows that the Yi construction regularly corresponds to a single clause in the non-Yi languages. Clearly, we are dealing with an extension of multiple-clause syntax into single-clause semantics, i.e., a classic example of what is generally called "verb serialization".<sup>4</sup> The Yi languages, then, we will label "OV-serializing". For the non-Yi type, in which nominals cannot intervene in the verbal string, we may appropriate Matisoff's term, "verb concatenation", and label the languages "OV-concatenating". The Yi languages reflect a change from OV-concatenating to OV-serializing structure.

To show the extent of the Yi developments, I have selected six Yi sentences and matched them with semantically comparable (though not identical) sentences from the non-Yi languages:

- 3a. YI(29)    ɲa<sup>213</sup> jɛ<sup>33</sup> b'e<sup>33</sup> t'v<sup>44</sup> sɿ<sup>33</sup> tsɿ<sup>31</sup> ku<sup>44</sup> tsv<sup>44</sup>  
 my mother clothes put trunk inside be-at
- b. LH        ɲà ò-e vè?-gâ thà? ta-qō ò-qhō kə tā ve yò  
 my mother clothes OBJ box inside put PT PT PT
- Both:        My mother put the clothes in the trunk.
- 4a. YI(112)    t'i<sup>31</sup> tʃ'i<sup>33</sup> t'a<sup>31</sup> ʃə<sup>32</sup> tsɿ<sup>213</sup> mi<sup>33</sup> ɲɛ<sup>44</sup> tʃ'e<sup>213</sup>  
 his dog one time run field mouth reach
- b. LH        yô ve ph† hɛ ú-qhō ǵ† lò? e ve  
 his GEN dog field top run enter PT PT
- Both:        His dog immediately ran to the top of the field.
- 5a. YI<sub>M</sub>(66)    tʃə<sup>33</sup> by<sup>44</sup> hæ<sup>33</sup> t'v<sup>11</sup> mɔ<sup>44</sup> gw<sup>33</sup> ɶ<sup>33</sup>  
 run temple one CLF enter go  
 [He] ran inside a temple.
- b. LI<sub>H</sub>(147)    ása nya hipywe khwù wa tǒ dw† ye-a  
 Asa TOP shack inside to run enter go DECL  
 Asa went running into the shack.
- 6a. YI(49)    na<sup>31</sup> dɔ<sup>55</sup> a<sup>55</sup> tʃɛ<sup>44</sup> a<sup>31</sup> si<sup>55</sup> a<sup>31</sup> dɛ<sup>44</sup> na<sup>31</sup> mu<sup>33</sup>  
 you speech this phrase who by tell you teach  
 Who explained this phrase of yours to you?
- b. LI(61)     e<sup>1</sup>li<sup>4</sup> ma<sup>3</sup> ɲua<sup>3</sup> nu<sup>5</sup> tɛ<sup>1</sup> la<sup>5</sup> ʃu<sup>3</sup> tʃua<sup>3</sup> ma<sup>1</sup> go<sup>3</sup>  
 principles PT us to completely tell teach give  
 Explain the principles to us thoroughly. (abbreviated)

- 7a. YI(107) a<sup>44</sup>p'i<sup>33</sup> mo<sup>44</sup> k<sup>32</sup> t'a<sup>31</sup> d<sup>44</sup> piε<sup>44</sup> ji<sup>31</sup> mo<sup>24</sup> t'ε<sup>55</sup>  
 g'mother feeble one CLF change orangutan become  
 The feeble grandmother turned into an orangutan.
- b. LI(133) ŋua<sup>1</sup>tʃhu<sup>6</sup> ŋua<sup>1</sup>thy<sup>3</sup> thi<sup>5</sup>thy<sup>3</sup> pu<sup>1</sup>li<sup>4</sup> gu<sup>4</sup> ua<sup>3</sup>  
 abalone one CLF change bec'm complete ASP  
 [The young girl] changed completely into an abalone.
- 8a. YI(22) t'i<sup>33</sup> va<sup>33</sup> ts'ɔ<sup>33</sup> tsi<sup>33</sup> va<sup>55</sup> fo<sup>32</sup> tɕ<sup>33</sup>  
 her husband make pig pen build  
 [She] made her husband build a pigpen.
- b. LH(245) yô ñà thà? nā-mâ šê? cî lâ ve  
 he me OBJ oil spill make PT PT  
 He made me spill the oil.

These sentences, like the first two examples, all contain noun phrases whose semantic role can be subsumed under the heading of "goal" or "end point": inner locatives, destinations, benefactives, purposes, "transforms" (#7), and "causated entities" (#8). As before the Yi sentences differ from the non-Yi in that these goals are always separated from agents and patients by a verb.

Core constituents other than goals are not treated serially in Yi, and they appear together to the left of the verb, just as in the non-Yi languages (cf. #3). As for adjuncts, some are treated serially in Yi, others not. Regardless of the way they are encoded, the order of constituents in Yi tends to be fixed; for nominals, goals appear last, and others appear in the order shown in the following sentence:<sup>5</sup>

9. YI(31) a<sup>31</sup>vi<sup>55</sup> a<sup>31</sup>ku<sup>44</sup> ts'ɿ<sup>32</sup> t'a<sup>31</sup> ʃε<sup>32</sup> t'i<sup>31</sup> tɕ<sup>55</sup>  
 sister house be-at one strike him hit  
 His sister struck him at the house.

While it might be difficult to account for the relative order of, say, "range" and "patient" in #9, it is clear that the order of core constituents in Yi is highly iconic; verbs are serialized in temporal or logical order and they retain the nominals with which they are semantically connected. Indeed, it is for this reason that goals - "end points" - appear towards the end of the sentence. In the non-Yi languages, while concatenated verbs tend to follow temporal or logical order as well (though cf. #8b), nominals are freely ordered, and even the most pragmatically neutral ordering of noun phrases differs from that seen in Yi: in Lahu, for example, datives and benefactives tend to precede patients rather than follow.

1.1 Verbs or co-verbs? Since the serial configuration provides relatively direct access to the semantic-grammatical roles of nominals, it is not surprising to find that there is a tendency, attested by languages in different parts of the world, for verbs that appear regularly as one member of a serialization to be reanalyzed as case markers, and concomitantly, to shed some of the morphosyntactic properties characteristic of ordinary verbs. Such categorial shifts have been inferred for Chinese (Li and Thompson 1974) and for Niger-

Congo languages (Givon 1975 inter alia). Such a shift is probably under way in Yi as well. Verbs such as ts'132 'be at', ve<sup>32</sup> 'take', and tsi<sup>33</sup> 'cause to', which occur as first members of serializations, and tsy<sup>44</sup> 'be at', dze<sup>44</sup> 'give' and te'e<sup>213</sup>, which occur as second members, appear regularly with the semantic roles of "outer locative", "instrumental", "causee" and "inner locative", "dative/benefactive" and "destination" respectively. Syntactic evidence for the grammatical value of the morphemes is hard to come by; in the texts there are very few examples of either verb in a series being modified for aspect, and where modality morphemes are found, they can be considered to be in constituency with the whole of the rest of the sentence rather than with just the preceding verb. But the fact that several of the verbs have obviously undergone semantic broadening shows that the grammaticalization process is under way in Yi.<sup>6</sup> In the following sentence, dze<sup>44</sup> cannot have its literal meaning of 'give':

10. YI(104) ni<sup>44</sup> sa<sup>33</sup> xā<sup>24</sup> uo<sup>213</sup> ti<sup>31</sup> dze<sup>44</sup>  
 two three night stay-awake him "give"  
 [He] kept him awake for several nights.

"Co-verb" is an appropriate name for such morphemes; they are like post-positions in function, but unlike them in not being themselves deletable, while allowing their objects to be anaphorically deleted.

2.0 Causes of Yi developments. How are we to account for the development of serialization in the Yi languages? External sources can be ruled out - at least as a direct influence - because even though the Yi have been in contact with languages that may be loosely called serializing - Chinese and Tai languages, for example - these are without exception verb-medial; nominals follow their governing verb rather than precede.

If contact is ruled out as an explanation, then we must look for causes within the language. Givon (1975 §3.2), along the lines of Vennemann (1973) and others before him, regards the development of serialization in certain Niger-Congo languages (VO serialization in most cases, OV in one) as a functional adjustment to the phonetic attrition of nominal case-marking morphology. But in Loloish languages, post-positions are constantly being reinforced by the doubling up of morphemes with similar functions.<sup>7</sup> It is more tempting to see the origin of the massive restructuring of the clause in Yi in the perceptual complexity of the OV concatenating pattern, which requires the listener to infer the semantic relations between several nominals and verbs simultaneously.<sup>8</sup> Though the concatenating pattern is stable in languages such as Lahu, Lisu, and Hani, it may well be closer to the limits of human processing abilities than other patterns. If so, the intensive mixing of speech communities, that is known to have taken place in the history of the Yi,<sup>9</sup> may have strained processing abilities to the point of encouraging the use of a periphrasis that avoids the "self-embedded" pattern.<sup>10</sup> The initial source of the new pattern - eventually to become the

verb serialization of modern Yi - was, presumably, sentences containing consecutive or purpose clauses; but if the Yi languages were, at the same time, becoming paratactic, the adaptation of multiple-clause syntax to single-clause semantics could have spread without the necessity of passing through a complex-sentence stage.<sup>11</sup>

3.0 Serialization in Angami Naga. Angami Naga is spoken in the Kohima district of Nagaland in northeastern India. Kohima is approximately 300 miles west of Yi speaking territory, across mountain ranges and river valleys occupied mainly by other TB or Tai speaking peoples, so developments in Angami and Yi are very likely independent of each other.

We speak with much less assurance about Angami. Published accounts have little to say about syntax, so our information is based solely on material gathered from a single native speaker in an intensive "field methods" class given at Berkeley in the spring of 1975.<sup>12</sup> This material shows verb serialization in Angami functioning very much as it does in Yi. In fact, in two of the three examples we cite, the verbs associated with the goal phrase (tsə 'give' in #11 and tso 'reach' in #12) match the equivalent Yi morphemes in form as well as function.

11. AN (cf. #2)    zu   sə   mye   tsə   tsye  
                   beer fill man give IMPER  
                   Serve the man some beer!
12. AN (cf. #4a)    u-nye   vo   rək<sup>h</sup>ro-ra   tso   kə-mo-nu ...  
                   they-two go Rekhro-village reach NZR-not-at  
                   Before the two of them arrived at Rekhro ...
13. AN (cf. #8a)    pwo bu   nyoranyo-yo   k<sup>h</sup>rə wa   lye  
                   he "call" child    wash ASP IMPER  
                   Make him wash the baby!

My impression is that serialization is not quite so prevalent in Angami as it is in Yi; in some cases there are other options. And more information is needed before we can consider the grammatical value of morphemes such as tsə and tso. Still, it is fair to conclude that at some point in its history, Angami, and perhaps closely related languages as well, underwent changes comparable to those that occurred in Yi. Whether the causes were the same or not, we cannot say. The linguistic map of eastern India is complex, and it is difficult to rule out an external source for the OV serializing pattern. But if no external source is found, then the fact that Angami and Yi both appear on the peripheries of the TB speaking region may not be irrelevant; it is there, where hillman meets lowlander, that social disruption on a scale large enough to have the linguistic consequences that we infer can be expected.

4.0 Change of word order: the TB evidence. Li and Thompson (1974) for Chinese, and Givon (1975 §4.4), for various Niger-Congo languages, argue that the grammaticalization of first verbs in series has introduced verb final patterns into otherwise verb medial serializing languages, i.e., using the dative pattern, S V<sub>pat</sub> V<sub>dat</sub> >

S CV-Opat V Odat.<sup>13</sup> Hyman (1975 §2.3) observes that the same process in a verb-final setting, this time affecting the second verb, would introduce verb-medial patterns into otherwise verb-final serializing syntax, i.e., S Opat V Odat V > S Opat V Odat-CV. In both cases, the OV and the VO - either verb may be grammaticalized, but only the grammaticalization of one in each case will lead to the introduction of a novel word order. Grammaticalization of second verbs in VO-serializing languages restores VO non-serial patterns; grammaticalization of first verbs in OV-serializing languages restores OV non-serial patterns. Which verb is affected seems to depend on the semantics of the sentence.

Paradoxically, except for the position of the co-verb, the word order introduced by the grammaticalization process is the same regardless of whether the language is VO- or OV- serializing to begin with. It is a mixed order, with patients on the left of the verb and goals on the right, i.e., SOVG.

TB developments illustrate the path envisioned by Hyman; in Yi, if tsv<sup>44</sup> in #3a, tɕ'e<sup>213</sup> in #4a and dɕe<sup>44</sup> in #2 have, indeed, lost their verbal identity, then those sentences are, of course, no longer verb-final; goals now follow the verb, while patients remain in their original position before it.

We should not overlook the role played by the development of serialization in the process of introducing novel word order. In Yi and Angami, it is the serializing process - the remaking of the sentence along the lines of temporally or logically successive clauses - that separates goals from patients (among other constituents) and sets the stage for the isolation of the former on the right of the verb in the event that grammaticalization of the second verb takes place. So, too, in Chinese and the Niger-Congo languages, where serialization appears in a verb-medial context. Again, it is the serializing process that ensures that certain constituents will be in a position to be stranded on the left of the verb should grammaticalization of the first verb occur.

The process of serialization followed by grammaticalization, attested by the Yi languages, is unlikely to be the only route by which verb-medial features can be introduced into a verb-final language, but it is a remarkably effective one; it creates a breach in the final barrier of the verb large enough for the processes of analogy to work on, and it does not presuppose a great time depth. Chinese and Niger-Congo are also thought to have been of the OV type originally - Chinese is, after all, ultimately related to TB through ST. Since verb serialization is also characteristic of both groups, it would be interesting to consider whether these languages could have taken the TB route in shifting from OV- to VO-typology.

First of all, Chinese: Li and Thompson deal with relatively recent changes that have restored OV features to Chinese; though they discuss it (1974: 206-10), they do not attempt to explain the earlier "pre-archaic" change from OV to VO. Chinese, at various times in its history, has developed VO-serializing patterns, but there is no evidence for an OV-serializing stage. An explanation for the OV to VO

shift along TB lines, then, would involve the development of OV serialization, followed by its demise in the grammaticalization process, and its eventual reemergence after the language had shifted to verb-medial clause patterns. But is a double-dose of serialization any more far-fetched than the shift from OV to VO and back that has taken place in certain types of sentence in Chinese?<sup>14</sup> It would be interesting to find out if there is any evidence for an OV-serial-stage in the earliest Chinese records.

What of the Niger-Congo developments? The mixed SOVX order seen in Niger-Congo languages such as Kpelle and Bambara (Mande group) suggests the serializing route; but the significance of this feature is mitigated by the fact that post-verbal nominals in these languages are marked by post-positions whose derivation - if known - seems to be from nouns rather than verbs (Givon 1975: 49-50 and Hyman 1975: 127). But the main reason that the serial-verb route has been rejected as an explanation for the shift in Niger-Congo seems to be because the OV-serializing pattern is so rare in that group. Only one language, Ijo, is OV serializing; the other serializing languages in Niger-Congo are VO. Moreover, like Chinese, Niger-Congo would also require a double-dose of serialization.

Explanations involving other processes have been proposed for the Niger-Congo developments. Givon, along the lines of Vennemann (1973), views the shift of the verb from medial to final position as a functional adjustment to the phonetic attrition of nominal case marking, while Hyman, though he recognizes the potential of the serializing route (1975: 124), rejects it in favor of an explanation involving the reinterpretation of "afterthoughts" as unmarked post-verbal nominals. Hyman's hypothesis, it should be noted, predicts an SOVX stage; afterthoughts are most likely to involve constituents other than patients. However, it does not predict that goals be the first nominals to appear post-verbally, and this might be a criterion for choosing between the afterthought and serialization routes.

At present, then, the serialization route for the OV to VO shift is strongly supported by the TB evidence, but is, as yet, unsubstantiated for Chinese and Niger-Congo.

4.1 SOVG to SVO. As Hyman notes, if further change takes place in a language with SOVX order of constituents, it is likely to involve the competition of the verb-final pattern with the verb-medial. In the Yi case, goals might be drawn to the left of the verb by analogy with patients, in which case the language reverts to the OV type; or patients might be drawn to the right of the verb by analogy with goals, in which case, the language will have moved a step closer to the VO type. Yi data shows that one place that the movement of objects from pre- to post-verbal position could begin is in complex sentences in which a higher object is identical to a lower subject. In Yi, a few members of a class of "causative" verbs that would normally be expected to take a nominal object and an embedded subjectless clause ("make him go"), treat the nominal as subject of the lower clause ("make he go"); in other words, some members of the class of verbs that generally induce "object-controlled equi-noun-phrase deletion", induce, instead, "backwards equi". Rather than the



pattern seen in #14a, with the nominal appearing before the higher verb, we find that of #14b, with the nominal placed after it:

14a. YI(22) a<sup>31</sup>vi<sup>55</sup> nō<sup>31</sup>g'u<sup>31</sup>p'u<sup>44</sup> k'u<sup>33</sup> nō<sup>31</sup>g'u<sup>31</sup>  
 sister doctor call illness treat  
 [My] sister asked the doctor to treat the illness.

b. YI(31) xɔ<sup>44</sup> tɕ'i<sup>33</sup> dʒɔ<sup>44</sup> t'a<sup>55</sup> go<sup>32</sup> lɛ<sup>24</sup>  
 lead dog place on play come  
 Take the dog outside to play!

The pattern represented by #14b probably reflects Chinese influence, for it has the form of a Chinese construction known as the "pivotal construction" (Chao 1968 §2.13), so called because it contains a nominal "pivot", shared by higher and lower verbs. The nominal, tɕ'i<sup>33</sup> in post-verbal position, might easily be interpreted as the object of xɔ<sup>44</sup> - following its governing verb. It may be possible to identify other structures vulnerable to reinterpretation of this kind, which will allow changes harmonic with the medial position of the verb to leak slowly through the language.

#### NOTES

1. My views on this topic have been greatly clarified in the course of discussions with Orin Gensler, Jim Matisoff, and Graham Thurgood.
2. Lisu is abbreviated LI, Lahu, LH; Yi remains YI. Subscripts indicate the source: LI, without subscript = Xu and Ou (1958); LI<sub>H</sub> = Hope (1974); YI, without subscript = Gao (1958), called "Nasu"; YI<sub>M</sub> = Ma (1951), called "Sani". LH is either Matisoff (1973) or personal communication. All examples are cited in original transcription, except that for Yi, "tone letters" are written numerically. Abbreviations for grammatical functions and classes should be self-evident, except: TOP(ic marker); DECL(arative marker); NZR = nominalizing particle; CLF = classifier; PT = particle.
3. For discussion of this phenomenon, cf. Matisoff (1973 §4.13), under the heading of "fortuitous concatenation", and Wheatley (to appear).
4. Cf. Givon (1975 §4.2) for a similar, semantically based definition.
5. Agent may follow patient in Yi, but if so, it must be marked by the post-position -a<sup>31</sup>, as in #6a.
6. Cf. Givon's discussion of the re-analysis of verbs as co-verbs or ad-positions in §4 of his 1975 article.
7. Cf. Burmese -móu, -móulóu, -cáunmóulóu, all 'because, since'; -cáun and -lóu are derived ultimately from nouns.
8. Just how complex the semantic structures underlying concatenated verbs can be is shown in detail in Matisoff's study of the Lahu verb phrase (1969, 1973).
9. For additional remarks on Yi history, cf. Wheatley (to appear).
10. Paradoxically, the argument of avoiding the perceptually difficult concatenating pattern was used by Givon (1975: 98) to explain the

apparent rarity of the OV serializing type. Givon's argument is based on the fact that in OV-serializing languages, such as Ijo, verb concatenation continues to be found. This is true of Yi, as well. But it is also true that the incidence of such strings is much reduced in an OV-serializing language compared to an OV non-serializing one.

11. Cf. Givon (1975, note 34): "... even though a syntactically coordinate ('consecutive') construction may have been always used to initiate serial-verb constructions, the semantic relationship between the clauses in series is probably sub-ordinate (i.e., structured, hierarchized) to begin with." (Givon's emphasis)
12. Supervised by Jim Matisoff, with the assistance of Mr. Vikuosa Nienu, a native speaker of Angami. Verb serialization (though not under that heading) is discussed in Martine Mazaudon's paper written for that course, entitled, "The structure of the Angami sentence," which includes the three examples I have cited. I wish to acknowledge Mazaudon's invaluable contribution while myself taking full responsibility for the toneless transcription and the glosses. I would also like to thank Boyd Michajlovsky for reminding me about the Angami data.
13. By labeling the nominals 'patient' and 'dative', I imply that the first part of the formula represents verb serialization like that seen in Yi, rather than a complex sentence.
14. For discussion of cyclical change in TB, cf. Matisoff (1978: 71, 86-90).

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