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PSYCHOLINGUISTIC ASPECTS OF VERBO-NOMINAL POLYVALENCE IN MAYA ROOTS

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using evidence primarily from the Maya language of the Yucatán peninsula in México, the present paper proposes and explores testable psycholinguistic implications of contrasting solutions to what seems at first to be merely a lexicographic puzzle and concludes that the polyvalence of lexical roots raises rather deeper and quite intriguing psycholinguistic questions.

Let’s begin with a few facts about Maya (cf. Straight 1976a). Sometimes known as Yucatec (spelled Yukatek by some, mostly European linguists, e.g. Bohnemeyer 2002), Peninsular Maya, or el maya-yucateco, and very similar to Chan Santa Cruz Maya and Lacandón (or Lakantun) spoken in Quintana Roo and Chiapas, in 1990 Maya had nearly three quarters of a million speakers (Ethnologue 2004), more than at the time of first European contact and nearly 50 percent more than a generation or so ago (Robertson 1992), and that number has almost certainly grown considerably over the last decade plus. Virtually all Maya speakers reside in the Lowland Maya area, which includes inland Belize (near the Quintana Roo border), the states of Yucatán, Campeche, Quintana Roo, and Chiapas in México, plus portions of the Petén, the northernmost part of Guatemala. Although bilingualism in Spanish has increased apace over the past few generations, a higher proportion of the population of the state of Yucatán speaks an indigenous language (in this case Maya) than in any other state in México (Güémez Pineda 1994). The growth of the Maya-speaking population has occurred as a result of a high birth rate among its speakers but also because of a low rate of out-migration, a somewhat falling death rate, and the recent growth of Maya as a late-acquired second language by non-Mayan Yucatecans, who embrace Maya as an emblem of their sociopolitical unity and, perhaps more importantly, their separateness from the rest of México (cf. Güémez Pineda 1994).

I want to focus here on a few well-known properties of Maya roots. Table 1 (overleaf) provides examples of the canonical forms of Yucatec roots, all of which, whether categorized as verbs, nouns, adjectives, pronouns, or whatever, have the same Consonant-Vowel-Consonant shape. Any root not having this form can almost always be traced to a non-Mayan source, borrowed either from Spanish as a result of the post-Conquest contact, or, reflecting a previous era of semi-domination by the Aztecs, from Náhuatl.

Mayan linguists have long struggled with the question of how to categorize lexical roots that exhibit the morphosyntactic properties of both nouns and verbs (Laughlin 1975). That is, some roots participate in both nominal and verbal morphological
and phonological paradigms and appear to shift in their pragmatic and semantic import between nominal and verbal meanings, or, at any rate, between nominal and verbal morphosyntactic paradigms. In addition, many apparently roots classed as verbal sometimes describe actions, sometimes activities, and sometimes states, thus exhibiting the characteristics of transitive, intransitive-processive, and stative verbs (Straight 1976b). Here too, the morphosyntactic and pragmosemantic similarities of these roots as both arguments and predicates in agent, actor, and possessor paradigms provide further evidence for widespread verbo-nominal root polyvalence in Mayan languages.

To understand these issues, we need to examine the marking of person in Maya verbs. Table 2 contains the two sets of person markers found in Maya, which (following Lucy 1994) I here refer to as nominative and absolutive, while Table 3 provides examples of the uses of these two sets of markers.

Looking first at psycholinguistic processing, we can presume that the possible representation of roots as morphosyntactically ambivalent resides, as with ambiguity of all kinds, on the receptive side of the divide between the neurocognitive processes that support construing and the neurocognitive processes that support saying. Figure 1 presents an overview of the RIFE (Receiving-Interpreting-Formulating-Executing) Model of Language Processes (Straight 1999) structured around this doubly-dissociated divide.
With ‘nouns’:

1. Possession (nom-):
   Leti’e in-ksiimin. ‘This (is) my horse (< tapir).’
   Boox in-ksiimin. ‘My horse (is) black.’

2. Attribution (-abs):
   I máak-ech. ‘You (are a) person.’
   Boox-oob. ‘They (are) black.’

3. Poss-attrib (nom-...-abs):
   Aw-atan-en. ‘I (am) your wife.’

With ‘verbs’:

4. Intransive (nom-):
   Táan in-kaan. ‘I’m learning (lit. my learning is going on).’

5. Stative (-abs):
   J liub-éex. ‘You-all fell (lit. you-all are fallen).’

6. Transitive (nom-...-abs):
   Táan uy-il-ik-ech. ‘He’s seeing (looking at) you (lit. his seeing of you is going on).’

7. Processive (nom-):
   Tsóök u-liub-ul. ‘He has fallen (lit. his falling is over).’

8. Perfective (-abs):
   Il-naj-oön. ‘We saw (lit. we are having seen).’

9. Causative (nom-...-abs):
   Táan a-kan-s-ik-en. ‘You’re teaching me (lit. your causing of me to learn is going on).’

10. Passive (nom-):
    Tsóök a-kan-s-áal. ‘You’ve been taught (lit. your being made to learn is over).’

Table 3. Examples of uses of Maya person markers.

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**Figure 1.** The RIFE model of language processes (modified from Straight 1999).

The semantic content of a speaker’s intention presumably lacks the ambiguity that a listener (or even the speaker as self-monitor) may discern in the output that the speaker produces. In other words, except by virtue of pre-monitoring of their output, speakers cannot know until they have produced (or at least thought of producing) a given output that this output contains ambiguous linguistic forms. Puns are
discovered, not created. The selection of a particular lexical item, or morphological pattern, or syntactic construction, presumably occurs on the basis of an unambiguous expressive intention. To put this in neurocognitive terms (after Lamb 1999), the flow of activation down a particular pathway to a given node occurs irrespective of other pathways that may also activate that same node. Only an upward flow, triggering other interpretive pathways connected with that node, or, in the model I prefer (Figure 1), involving corresponding receptive nodes activated by horizontal connections from the anterior to the posterior lobes of the brain, can make the speaker realize that a given output, or candidate output, may trigger unintended interpretations in the listener. Consequently, the morphosyntactic structures of a given utterance, including the lexical items that occur in them, presumably contain only monovalent entities with respect to the processes by which a speaker produces them.

In the RIFE Model depicted in Figure 1, language is completely dialectical in its processing, such that no pathways or nodes are held in common between expression and reception (Straight 1971, 1976c, 1980, 1986, 1992, 1993, 1999). For purposes of exposition, then, the present paper employs this unusual bi-representational model, even though nothing about the points being discussed hinges on whether this or one of the more usual uni-representational models proves correct in the long run.

Looking now at the specific examples of polyvalent roots, we find three classes of verb root identified by most linguists in the post-Colonial era (López Otero 1912 and 1968, Tozzer 1921, Andrade 1940, Blair & Vermont-Salas 1965 and 1967, McQuown 1967, Owen 1968, Bricker 1981, Lucy 1994). Examples of these appear in the paradigm presented in Table 4. Table 5 summarizes the examples given in Table 4 in terms of marked versus unmarked morphological patterns.

Table 4. Three classes of verb root in Maya.
The largest group of native roots, which constitute a relatively fixed set because of the now exclusively non-native (Spanish and English) sources of new lexical items, is the ‘inherently transitive’ set. John Lucy (1994:629) estimates the size of this group of roots at 500+. The second largest group of native roots, the ‘inherently processive’ set, which has ‘[w]ell over 100’ instances by Lucy’s estimation, also contains all of the verbs borrowed from Spanish, which of course come to predominate as types (though not as tokens) in the output and input of adult Maya speakers and listeners. Interestingly, these verbs are borrowed in their infinitive form, which patterns like a noun rather than a verb in Spanish, and uniformly receive the same -t derivational suffix that is used to convert native noun roots, such as míis ‘broom’, into verb stems, such as míis-t- ‘sweep’. Finally, the most nominal but also the smallest group of native verb roots, with ‘fewer than 75’ exemplars, is the ‘inherently stative’ set, which patterns as much like adjectives as nouns.

To understand this last point, and to get a clearer picture of the morphosyntactic facts that underlie the whole controversy over the verbo-nominal polyvalence of Yucatec roots, we need to look again at the structure of Yucatec propositions, for nouns and verbs, and for adjectives, too. (See Table 2 and Table 3.)

It should now be clear that only painstaking inquiry into the time course and phenomenology of receptive processing, plus measures of the subsequent use of heard items in productive patterns, can reveal whether, when processing putatively polyvalent input, a listener’s morphosyntactic parsing and lexico-semantic interpretation end up treating these entities as polyvalent. Measures of such treatment consist primarily of the application to a given root of verbal, nominal, and adjectival derivational and inflectional patterns. If such application occurs, further study can help us choose among a number of different accounts of how a listener-speaker might ‘represent’ this polyvalence. I put ‘represent’ in quotes because the issue is of course not only of representation per se but rather of configurations (and receptive-expressive discrepancies of configurations) among connections between the interpretive and executive nodes involved in a given example of language perception or production. One possibility, of course, is that the listener as speaker will add derivational affixes (-t, -s, and a few others not mentioned here) to roots on the basis of the relative attributive (adjectival) or substantive (nominal) semantics of the root involved. Another possibility is that both the speaker and the listener will treat these derived

<table>
<thead>
<tr>
<th>Verb type</th>
<th>Aspect</th>
<th>Transitive</th>
<th>Intransitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inherently Transitive</td>
<td>Imperfective</td>
<td>Unmarked</td>
<td>Long vowel L.v. + -naj-</td>
</tr>
<tr>
<td>Inherently Processive</td>
<td>Imperfective</td>
<td>Marked: -t-</td>
<td>Unmarked Marked: -naj-</td>
</tr>
<tr>
<td>Inherently Stative</td>
<td>Imperfective</td>
<td>Marked: -s-</td>
<td>Unmarked</td>
</tr>
</tbody>
</table>

Table 5. Unmarked versus marked patterns in Maya verb forms.

forms as unanalyzed wholes, in which case polyvalence exists more in the eye (and mind) of the linguist than in the ear (or brain) of the listener.

Given these considerations, it should come as no surprise that scholars have argued vigorously over the correct handling of Yucatec verbo-nominal morphology. Most recently, Christian Lehmann et alia have put forward evidence for a claim that the Yucatec pattern of 'possessive constructions, experiential constructions, and benefactive constructions', among other things, indicates that Maya favors 'relational prominence' over the 'person prominence' they find in 'Standard Average European' languages, using Whorf’s famous term (Lehmann et al. 2002). Similarly, Robert D. Bruce, whose native-like mastery of Maya was legendary, concluded that while 'Occidental languages classify the elements of reality... as either NOUNS or VERBS' (Litzinger & Bruce 1997:8), in Maya ‘Everything in human experience is conceived of as belonging to and/or possessing some other entity, either as a manifest phenomenon ([ba’a]l, associated with the Set A nominative prefixes]) or as an attribute ([bi]k [associated with the Set B absolutive suffixes])’ (9):

In the [ba’al] possession of [tsimin] ‘horse, mule, donkey or tapir = a large herbivorous beast. Wa a [tsimin]? ‘Is it your horse?’ However, in the [bi]k possession of the same [tsimin], it is not the entity or phenomenon that is grammatically possessed, but rather the QUALITY OR CONDITION: Wa [tsimin]-ech? ‘Are you a dumb brute?’ This expression, often used familiarly, means 'Don’t be stupid'. (Litzinger & Bruce 1997:10)

Unfortunately, Bruce was more polyglot than linguist: His brief account of Mayan grammar does not consistently show a correspondence between Set A and Set B person markers and this alleged [ba’al]/[bi]k distinction.

Looking at this phenomenon from the standpoint of first-language acquisition, we can easily surmise that the above-described dynamic tension between receptive and expressive processes exists in, indeed results from, the dynamics of language development itself. Interestingly though perhaps not surprisingly given their predominance as lexical types, Barbara Pfeiler (1998) found that in very early child language (ages 1:9 to 2:4) inherently transitive roots greatly predominate over inherently processive or inherently stative verbs in transitive verb phrases. Unfortunately, she did not report on the occurrence of non-transitive verb phrases (processive, stative, passive, and other), nor on the occurrence of nominal and adjectival attributive clauses in her sample. She also did not report on errors the children presumably made in the semantic uses of roots or in their derivation or inflection; nor did she have anything to say regarding her subjects’ interpretation of any of these verb forms when they heard them. Presumably the transitive-intransitive-stative-attributive-substantive continuum that characterizes the opposition between verbs and nouns results at least in part from cognitive commonalities that arise from universals of human experience and characteristics of perceptual processing in general. For clues regarding these commonalities, as well as how Maya children learn the adult-users’ partitioning of
this verb-noun cognitive continuum, we need to look longitudinally not only at what children say but also at where it differs from adult patterns and how it compares with their own developing receptive performance.

Regardless of these variables, however, other studies of child language and cognition should lead us to doubt the validity of the early usage patterns observed by Pfeiler as guides to the language of older children and adults. Many studies have concluded that children under 3 don’t make a clear noun-verb distinction, while others say that the transitive-intransitive dichotomy settles down only at age 4 or 5. For example, 3-year-olds are famous for such creative errors as ‘Tell him to stay his straw out of my milkshake!’ Clearly we need to look closely at Yucatec Maya-learning children’s omission or misuse of person affixes (both Set A and Set B), derivational suffixes, aspectual particles, and the wide array of inflectional affixes that occur in verb forms before we can determine what they are doing in this domain. Finally, lexical representation undergoes radical change at about age 6, from decidedly holistic to much more compositional and syntactically complex internal structures (Straight 1981, Carey 1985, Heyman et al. 2003), so it is in the 5–7 age range that we might expect the most action to be occurring in verbo-nominal derivation and inflection for learners of Yucatec Maya.

A combination of naturalistic observation and experimental investigation should help us to determine whether and in what ways children’s early interpretations and developing uses of lexical roots exemplify, and in fact create and perpetuate, both the real or apparent verbo-nominal polyvalence of Yucatec Maya roots and the seeming micro-diachronic (i.e. developmental-psycholinguistic) push toward monovalence, in which increased syntactic and semantic sophistication leads children to recognize and to productively employ, in both receptive and expressive performance, the patterns that exist in morphologically complex verbo-nominal stems.

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