Noun incorporation and non-canonical objects

**Nutshell:** We propose that in analytic languages (in the sense of Huang, 2005) verbs thematically license instruments, paths, temporals and locations (and direct objects), but not sources, goals, benefactives, or comitatives. Empirically, we employ noun incorporation (NI) and related phenomena (Baker, 1988, Barrie, to appear) and non-canonical objects in Mandarin (Li, 2010) to support this claim. We relate verbal analyticity to the notion of satellite-framed languages (Talmy, 2000) and briefly discuss Romance verbs.

**Background: Noun Incorporation:** NI in Mohawk and other Northern Iroquoian languages is not restricted to direct objects (Mithun, 1984). Instruments, paths and locations often productively incorporate (only some examples shown for lack of space, 1)). Furthermore, adverb incorporation has been attested in other languages with NI (i.e., Chukchi, Spencer, 1995). Note, however, that comitatives, sources and goals cannot undergo NI in virtually any language. This is our first puzzle.

1) a. honathahidákheˀ [Onondaga, (Woodbury, 2003)]
   hon- at- hah- idakhe-2
   3.PL.NOM- SREFL- run- PUNC ‘They are walking on a path.’

   b. waˀhageˀnhyayëdáˀ (Woodbury, 2003: 928)
   waˀT hakT nhyaT aT yëhdT daˀ
   FACT- 3.SG.M.AG:1.SG.PAT stick- JOIN- hit- PUNC ‘He hit me with a stick.’

2) a.* t- a’T keT wirT uT ‘ne  athvno [Mohawk, (Baker, 1996: 207)]
   CIS- FACT- 1SS- baby- JOIN- give- PUNC NE ball
   ‘I gave the baby to the ball.’

**Puzzle 1:** Why is NI available to direct objects, instruments, paths, locations, adverbs, but not to comitatives, sources or indirect objects?

**Background: Non-Canonical Objects:** Li (2010) showed that in Mandarin Chinese, bare NPs other than the direct object can appear as though it were a direct object of the verb, without the aid of a preposition. Shockingly, the set of elements that can appear as non-canonical objects is glaringly similar to the set of elements that can undergo NI: instruments, paths, locations and temporals. Comitatives, sources, goals and benefactives cannot appear as non-canonical objects in Mandarin Chinese. Indirect objects (goals) also appear postverbally, making it difficult to tell if indirect objects are or are not in the object position, especially when the direct object can be deleted.

3) a. ta zai canting chi (fan)
   he at restaurant eat (meal) ‘He eats at the restaurant.’

   b. ta chi canting
   he eat restaurant ‘He eats at the restaurant.’

4) a. ta xihuan yong zhe zhi maobi xie (zi)
   he like use this CL pen write (word) ‘He likes to write with this pen.’

   b. ta xihuan xie zhe zhi maobi
   he like write this CL pen ‘He likes to write with this pen.’

5) a. wo gei ta zuo dangao
   I BEN him make cake ‘I make cake for him.’

   b. wo zuo ta
   I make him ‘I make (food) for him.’

**Puzzle 2:** Why is the set of objects available to NI almost identical to the set of objects that can appear as non-canonical objects?

**Proposal:** We propose that in Northern Iroquoian and Mandarin goals, sources, comitatives, and benefactives crucially rely on P for both thematic and Case licensing, while instruments,
paths, locations, and temporals rely on P merely for Case. The thematic relations associated with the latter set are supplied pragmatically, the P merely assigning Case. This elasticity is afforded by verbs in analytic languages since the verbal root itself does not restrict the interpretations of the VP-internal arguments. In an analytic language (as Huang uses the term), paths, instruments and other obliques are introduced by additional morphology (free in Mandarin, bound in Northern Iroquoian – thus Mohawk is an analytic language in this sense!)

In a synthetic language, a single root encodes a greater number of semantic roles, including themes, paths, locations, etc. When the analytic verbal root is stripped of this additional morphology, nominals such as paths, instruments and so forth are free to be pragmatically related to the verb, as long as they are Case-licensed.

Thus, in Mandarin, *zai* (‘to/at/in’) in ex 3) assigns Case but has no semantic role. In the absence of a direct object, the location is free to occupy the position of the direct object and be assigned accusative Case. The locative semantics are furnished pragmatically. The benefactive marker, *gei*, in ex 5), on the other hand, crucially has a semantic contribution (along the lines of Pylkkänen, 2008) in addition to assigning Case.

The situation in Northern Iroquoian is a somewhat more complex. Oblique arguments are typically obligatorily introduced by additional applicative morphology. As in Mandarin, the benefactive marker is obligatory to license the presence of an additional argument, both in terms of Case and of semantic import. Instruments can be introduced by an instrumental applicative or can be incorporated (as discussed). When incorporated, there is no applicative morpheme [Mohawk, (Mithun, 2004)].

6) a. o-nieh~'khok ron-ohnhe-{ha}kw-en ‘They were surviving on snow.’

   NT-snow-NOM.SUF only 3.PL.PAT-live-{INSTR}-STAT

b. ka-hserie~'t-aneren~'NT.AG-cord-tie.up-STAT ‘It [was] tied up with a cord.’

Again, we argue that if the oblique object can occupy the direct object position, it is eligible to undergo NI and no longer needs the Case licensing properties of the instrumental applicative. The instrumental semantics is supplied by the verb and not by the applicative morpheme.

**Romance Verbs:** We note that in Romance languages incorporation type phenomena are found in V+N compounds (Spanish: *toca-discos* ‘record player’). Unlike NI described above, V+N compounds in Romance are restricted to themes (Spanish: *anda-caminos* ‘path walker’). We argue this falls out from the proposal above. In Romance, verbal roots encode oblique roles (path, instrument, etc.). These roles are semantically transmitted via prepositions to an appropriate DP. Since the semantic role is an inherent part of the verb, it cannot be stripped off as in Mandarin or Northern Iroquoian, giving rise to possible NI.

**Conclusions:** We have proposed that in Huang-type analytic languages, oblique thematic roles are encoded by additional morphology, akin to satellite-framing. We showed that these morphemes can be stripped off and that the nominal in question can either undergo NI or appear as a non-canonical object. In verb-framing languages, the oblique thematic role is an inherent part of the verbal root and cannot be stripped away.


