Unselected OBJECTS in Moro[1]

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The basic issues

1. Conventional among formal theories to

a) distinguish between *arguments* and *adjuncts*;

b) assume a one-to-one mapping between *semantic roles* = SR and *grammatical functions* = GF (or equivalents), e.g., FUNCTIONAL UNIQUENESS (or its equivalent).

$$\begin{array}{ccccccc} & & SR1 & & SR2 & & SR_n \\ & & | & & | & & | \\ P & < & x, & & y, & z \ \ldots > & = \textit{selected arguments} \\ & & | & & | & & | \\ & & GF1 & & GF2 & & GF_n \end{array}$$

Previous results

2. Ackerman (2010) and Ackerman and Moore (2011) argue that Thetogovela Moro basic three place predicates and predicates with benefactive applicative ($APPL_{BEN}$) and causative (CAUS) valence-increasing extensions,

a) have multiple OBJ arguments and, posit,

b) OBJ* PARAMETER: Universal grammar permits transitive predicates to select for multiple OBJ arguments. (Keenan 1977, Kimenyi 1980, Hyman and Duranti 1982, Alsina 2001, Beck 2006, McKay & Trechsel 2008, among others)

Observation: arguments are selected by predicates, so OBJ status is associated with multiple selected arguments.

Present goals

Argue that evidence from Thetogovela Moro suggests that,

1) OBJ* PARAMETER extends to adjuncts,

2) adjuncts are not selected by the predicate.

3) these are unselected OBJs,

2) the argument versus adjunct distinction is far less relevant in the Moro grammar system than is the assignability of OBJ status to most non-SUBJ constituents that co-occur with verbs.

Organization

Part 1: The basic patterns and theoretical challenges

Part 2: Verbs and benefactive/recipient constituents

Part 3: Verbs and locative constituents

Part 4: Verbs and instrumental constituents

Part 5: Interactions

Part 5: Moro and syntactic government

Part 1: The basic patterns and theoretical challenges

Two common assumptions in formal linguistic theories

(1) **Argument** versus (locative & instrumental) **adjunct** distinction

(2) FUNCTIONAL UNIQUENESS: Each G(rammatical)F(unction), however characterized, is associable with a single argument.

Complement vs. Adjunct distinction: Notional Characterization

The distinction between COMPLEMENTS and ADJUNCTS has a long tradition in grammatical theory, and it is also included in some way or another in most current formal linguistic theories. But it is a highly vexed distinction for several reasons, one of which is that no diagnostic criteria have emerged that will reliably distinguish adjuncts from complements in all cases - too many examples seem to fall into the crack between the two categories, no matter how theorists wrestle with them. Dowty 2003:34

Arguments *Adjuncts*

(1) Mary cuts out paper dolls (with her embroidery scissors for her children on the porch every week-end).

The intuition behind this classification of schematic participant information contributed by verbs is that the required presence of two schematic participants – and two NPs which express them – is a property of cut. In contrast, the presence of other participants in the situation (and PPs which express them, italicized in sentence (1)) is neither required nor depends on the particular verb the speaker chose. These participants could co-occur with most other verbs. J-P Koenig et. al. 2003:68

Verbal arguments are selected constituents
Verbal adjuncts are unselected constituents

Complement vs. Adjunct distinction: Notional Characterization

Typically cited distinguishing criteria: (adapted from Culicover and Jackendoff 2005:173)

As part of its meaning, a verb specifies a certain number of semantic arguments - entities intrinsically involved in the situation that the verb denotes. Which are semantically obligatory, and which are semantically optional? (i.e., in order for the verb to be selected to express the intended message, is the semantic argument required or not?

If an argument is semantically present, is it expressed in syntax **obligatorily** or only **optionally**? (i.e., is the argument required in the syntactic context?)

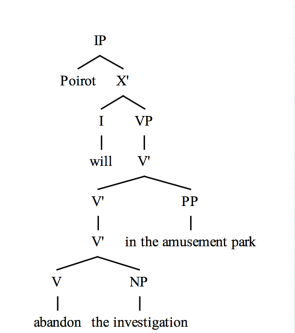
If a semantic argument is expressed syntactically, does the verb have to stipulate anything about its syntactic category, and if so, what?

If a semantic argument is expressed syntactically, does the verb have to stipulate anything about its position and/or morphological form?

Argument vs. Adjunct distinction: Realization

"There is a common and generally unquestioned assumption in much of contemporary linguistics that there is a syntactic distinction between complements (= arguments FA) and adjuncts, and that these two classes of dependents occupy different tree-configurational positions (e.g., sister of X^0 complements vs. sister of X^1 for adjuncts." Kathol et. al 2011:58.

Configurational encoding 1: GF equivalents derived (adapted from Haegeman 1994:139, but see proposals in Ernst 2002 and Cinque 2004)

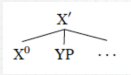


Adjunct

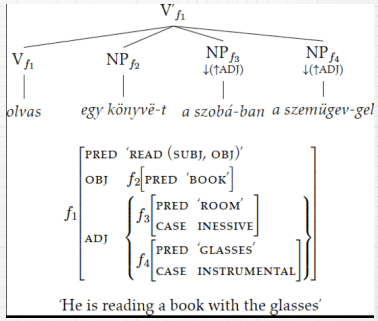
Argument

Argument vs. Adjunct distinction: Realization

Configurational encoding 2: GFs are primitives (or feature bundles)



"We further assume that a lexical item of category X^0 is sister to a series of complement and adjunct phrases (YP…) and forms a constituent of category X^0 whose phrasal head is X^0." Dalrymple 2003

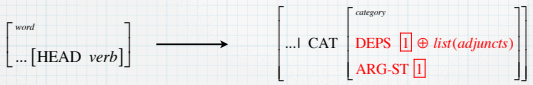


Distinction between argument and adjunct is not necessarily encoded in C(-onstituent) Structure, but in F-structures, where a set of multiple adjuncts can be the value of the ADJ attribute.

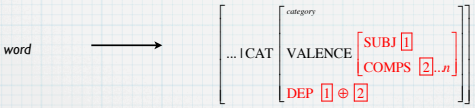
Adjuncts-as-complements approach

"The central idea of all these analyses is that (at least a class of) adjuncts must be added to the verb's subcategorization frame at the lexical level and are thus indistinguishable from complements in syntax... ARG-STR enodes the "core" argument structure, that is, information about dependents that is more or less idiosyncratically required by the word. This information is eventually mapped into the word's VALENCE attributes, responsible for the syntactic realization of these dependents." Kathol et. al. 2011:58.

Argument structure extension:



Argument realization:



This proposal still distinguishes the two types, but permits (subsets of) adjuncts to participate in the same syntactic behaviors as arguments by having the same status as dependents (see Bouma, Malouf, Sag 2001)

Argument vs. Adjunct distinction: Realization

Observations about encoding: (adapted from Sells 2000)

There is no necessary morphological difference between arguments and adjuncts.

The same case markers can mark arguments or adjuncts.

The same adpositions can mark arguments or adjuncts.

No language specifically marks argument/adjunct distinctions, though there may be particular forms (e.g. comitatives) which only ever express adjunct meanings.

Functional Uniqueness

*Each **argument** can bear only a single grammatical function or bear a single structural relation to the verb, with every grammatical relation/syntactic role itself restricted to a single appearance in a clause.*

• *Follows from fundamental Principles or architectures:*

STRATAL UNIQUENESS (Relational Grammar)

FUNCTIONAL UNIQUENESS (Lexical Functional Grammar)

UNIFORM THETA ASSIGNMENT HYPOTHESIS /BINARY BRANCHING (P&P/Minimalism)

Where selected arguments intersect with GFs

Grammatical functions can be cross-classified in several different ways. The governable grammatical functions SUBJ, OBJ, OBJ, COMP, XCOMP, and OBL can be subcategorized, or required, by a predicate; these contrast with modifying adjuncts ADJ and XADJ, which are not subcategorizable. Dalrymple 2001:10

Functional uniqueness only applies to arguments.

Crucial on previous accounts that,

(1) arguments are distinct from adjuncts (either reflected in structural configurations or not),

(2) only arguments are associated with governed or selected grammatical functions (either derived configurationally or primitive), and

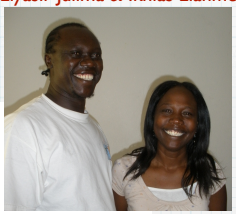
(3) any governed GF (or equivalent) can only be associated with a single argument.

Part 2: Verbs with benefactive/ recipient complements

Part 1: The basic patterns and theoretical challenges

θetogovela Moro

Kordofanian (Niger-Congo) language (West-Central Heiban subgroup), spoken in the Nuba Mountains of Sudan. All data are from the Thetogovela dialect of Moro based on consultation with Elyasir Julima & Ikhlas Elahmer.



Kordofanian
- Heiban
  - East (Ko, Warnang)
  - Central (Koalib, Logol, Laru, Heiban, Otoro)
  - West (Tira, **Moro**)
- Talodi (Masakin, Dengebu, Tocho, Toladi, Nding, Tegem)
- Rashad (Tagoi, Tegali)
- Katla (Katla, Tima)

Relevant basic grammar properties

Basic Word Order:

*SUBJECT PREDICATE OBJECT**

NP_{AG} V {$NP_{BEN/REC/CASUEE}$ NP_{THEME}} NP_{LOC} NP_{INST} (default order)

Partial verbal morphotactics:

{$SM_{1ST\&2ND}$-}CM_{3RD}-CLAUSE-[OM-ASP-ROOT-EXT-ASP/MOOD] $_{MACROSTEM}$-OM-OM-OM.INST-OM.LOC

Morphotactics:

The position of OM (i.e., before or after verb stem) depends on various conditions, including value of Aspect/Mood, P(erson)/N(umber) of OM and tone

Noun class:

Approximately 24 classes, with singular/plural reflected in prefixes (and suffixes) on nouns and concord markers on agreeing categories such as verbs and adjectives (Gibbard, Rhode, and Rose 2009).

Phonology:

Two tone system (with few lexical minimal pairs) and height harmony. (Rose and Jenks 2011)

Abbreviations: SM = subject marker; CM = class marker; OM = object marker

Monotransitive predicates in Moro

Observations:

Construction Split: (Malchukov et. al. 2007)

1) lexical $NP_{PATIENT}$ immediately after the predicate.
2) All OMs are pronominals incorporated into the verb

Morphology

(3) Form of OM does not reflect noun class of nominal, unlike (often) in Bantu.

Object properties: Monotransitive verbs

Simple transitive clause:

1. kúku g-a-ləvətʃ-ó ɲ-ogopájá V NP_{TH}
   Kuku CM-MAIN-hide-PFV CM_{PLURAL}-cup
   `Kuku hid the cups'

Pronominal objects realized by inflectional markers on verb; these reflect person/number, but not noun class of object; they are in complementary distribution with lexical NPs:

2. kúku g-a-ləvətʃ-ó-lo *(ɲ-ogopájá) V-3PL.OM *(NP_{TH})
   Kuku CM-MAIN-hide-PFV-3PL.OM CM_{PLURAL}-cup
   `Kuku hid them (cups)'

Object arguments can passivize, indicated on the verb by the passive suffix -ən and vowel raising in the stem; the SUBJ is a bare NP and the verb agrees with it in class.

3. ɲ-ogopájá ɲ-ʌ-ləvətʃ-ən-ú NP_{TH} V-PASS
   CM_{PLURAL}-cup CM-MAIN-hide-PASS-PFV
   `The cups were hidden'

Object properties: Monotransitive verbs

Simple transitive clause with t̪a NP constituent:

4. í-g-ʌ-bug-ú ðamala t̪a órâŋ
   1sg-CM-MAIN-hit-PFV camel because man
   `I hit the camel because of the man'

5. ðamala ð-ʌ-bug-ən-ú t̪a órâŋ
   camel CM-MAIN-hit-PASS-PFV because man
   `The camel was hit because of the man'

(i) ta- NP constituents cannot passivize:

(ii) ta- NP constituents do not participate in pronominal incorporation

(iii) ta- NP constituents are adjuncts

(iv) Given contrast between monotransitive OBJ arguments versus ta- NP constituents Moro displays the familiar argument/adjunct distinction.

Object properties: Polytransitive verbs

Simple di-transitive clause: note the semantic role ambiguity among OBJs

6. é-g-a-natʃ-ó órâŋ ŋerá V NPΘ1 NPΘ2
   1SG.SM-CM-MAIN-give-PFV man girl
   `I gave the man to the girl/girl to the man'

Pronominal incorporation:

7. é-g-a-natʃ-ó-lo ŋerá V-3PL.OMΘ1 NPΘ2
   1SG.SM-CM-MAIN-give-PFV-3PL.OM girl
   `I gave them to the girl/girl to them'

Passivization:

8. órâŋ g-ʌ-nʌtʃ-ən-ú ŋerá NPΘ1 V-PASS NPΘ2
   man CM-MAIN-give-PASS-PFV girl
   `The man was given to the girl/The girl was given to the man'

Simultaneous expression of OBJ properties associated with *symmetrical* OBJs (Bresnan and Moshi 1990, among others): passivization and OM

9. órâŋ g-ʌ-nʌtʃ-ən-ú-ŋó NPΘ1 V-PASS-...-3SG.OMΘ2
   man CM-MAIN-give-PASS-PFV-3SG.OM
   `The man was given to her/She was given to the man'

Object properties: Beneficiary applicative

Simple intransitive:

10. é-g-alaŋ-ó
    1SG.SM-CM-sing-PFV
    `I sang'

Dedicated APPL(ICATIVE)$_{BEN}$ marker: -ə̪t̪- and vowel raising in verb stem

11. í-g-ʌlʌŋ-ə̪t̪-ú ŋerá V-APPL$_{BEN}$ NP$_{BEN}$
    1SG.SM-CM-give-APPL$_{BEN}$-PFV girl
    `I sang to/for the girl'

Pronominal incorporation:

12. í-g-ʌlʌŋ-ə̪t̪-ú-ŋó V-APPL$_{BEN}$-3SG.OM
    1SG-CM-sing-APPL$_{BEN}$-PFV-3SG.OM
    `I sang to/for her'

Passivization:

13. ŋerá ŋ-ʌlʌŋ-ətʃ-ən-ú NP$_{BEN}$ V-APPL$_{BEN}$-PASS
    girl CM-sing-APPL$_{BEN}$-PASS-PFV
    `The girl was sung to/for'

Object properties: Beneficiary applicative

Applicativized transitive:

14. Kuku k-ʌkʌl-t-^{i}ə ŋera eða V APPL$_{BEN}$ NP$_{BEN}$ NP$_{TH}$
    Kuku CM-cut-APPL$_{BEN}$-IMPFV girl meat
    `Kuku is cutting the meat for the girl'

Pronominal:

15. Kuku k-a-ŋá-kʌl-t-^{i}ə eða 2SG.OM-V- APPL$_{BEN}$ NP$_{TH}$
    Kuku CM-MAIN-2SG.OM-cut-APPL$_{BEN}$-IMPFV meat
    `Kuku is cutting the meat for you'

Passive also obtains, so the *beneficiary/recipient* of applicativized transitives has the same syntactic behavioral repertoire as with applicativized intransitives.

Object properties: Polytransitive verb

Applicativized di-transitive:

Since ditransitive predicates select two objects and applicative constructions add an additional object, the two can be combined to yield a total of three object arguments: (same interaction obtains for combination of CAUS and transitivized APPL.

16. í-g-ʌ-nʌʤ-ə̪ṯ-ú aljásər-o kúku-ŋ ŋál:o-ŋ
    1SG.SM-CM-MAIN-give-$APPL_{BEN}$-PFV Elyasir-ACC Kuku-ACC Ngallo-ACC

Any of the three objects can be aligned with each of the three semantic roles associated with the verb's arguments: theme, goal, and beneficiary:

a. 'I gave Elyasir to Kuku for Ngallo.'

b. 'I gave Elyasir to Ngallo for Kuku.'

c. 'I gave Kuku to Elyasir for Ngallo.'

d. 'I gave Kuku to Ngallo for Elyasir.'

e. 'I gave Ngallo to Kuku for Elyasir.'

f. 'I gave Ngallo to Elyasir for Kuku.'

Summary

The syntactic constituents associated with simple three place predicates show the same syntactic behaviors as the syntactic constituents of beneficiary applicative predicates: they are all arguments.

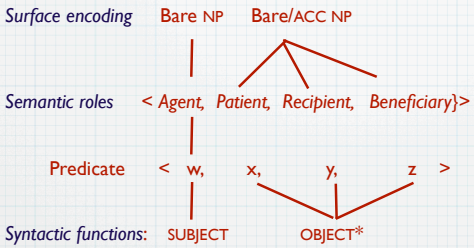
They all show usual OBJ behaviors: pronoun incorporation, passivization, and semantic ambiguity.

Predicate formation operations standardly alter verb valence, so that the beneficiary applicative is interpretable as a valence increasing operation that adds an OBJ argument.

Moro beneficiary applicative formation can create predicates with multiple OBJ arguments. (Moro has *symmetrical* object constructions)

Multiple OBJ arguments

1) Account for ambiguity of semantic role interpretation (Duranti 1979 (Haya); Hyman & Duranti (Haya)1982; Lamoureaux 2004 (Maasai); Haspelmath 2007 (Cape Verdian Creole & Hausa); McKay & Trechsel 2008 (Misantla Totonac): Beck 2006a, 2006b (Upper Necaxa Totonac), among others)
2) Account for behaviors indicative of multiple OBJECTs. (Bresnan & Moshi 1990; Alsina 1996, 2001; Donohue 1996, 2001; Beck 2006a, 2006b; Kibort 2008, among others)



Q1: Can other semantic roles share the OBJ function?

Q2: Can the OBJ function be associated with adjuncts?

Part 3: Verbs and locative constituents

Object properties: locative arguments

Simple three place verb:

17. k-ʌ-v-ʌ́kk-ʌg-iə eða í-ðə́dí V NP_{TH} NP_{LOC}
    CM-MAIN-ʔ-ITR-put-IMPFV meat LOC-hole
    `He is putting the meat in the hole'

Pronominal incorporation:

18. k-ʌ-v-ʌ́kk-ʌg-iə́-∅-u eða V-...-LOC NP_{TH}
    CM-MAIN-ʔ-ITR-put-IMPFV-3SG.OM-LOC meat
    `He is putting the meat in it'

Passivization: Bare NP SUBJ and verb agreement for class of the SUBJ.

19. eða j-ʌ-v-ʌ́kk-ʌg-ən-iə í-ðə́dí NP_{TH} V-PASS...
    meat CM-MAIN-ʔ-ITR-put-PASS-IMPFV LOC-hole
    `The meat is being put in the hole'

20. ðə́diə ð-ʌ-v-ʌ́kk-əg-ən-iə́-u eða NP_{LOC} V-PASS-...-LOC
    hole CM-MAIN-ʔ-ITR-put-PASS-IMPFV-LOC meat
    `The hole is being put the meat into'

Since `put' is three place predicate, -u does not mark valence increase, but simply registers locative pronoun incorporation, (here ø- for 3RDSG inanimates) and passivization of locative argument.

Object properties: locative arguments

Locatives are passivized, rather than topicalized (as argued for some similar Bantu distributions - ref), since they participate in Moro's subject extraction strategy:

21. ŋʷə́-ðə́díʌ-ði ð-i-v-ʌ́kk-ʌg-ən-iə́-u eða
    CLEFT-hole-CM CM-SUBJ.EXT-ʔ-ITR-put-PASS-IMPFV-LOC meat
    `This is the hole that was put the meat into'

Simultaneous expression of OBJ properties:

22. eða j-ʌ-v-ʌ́kk-ʌg-ən-iə́-∅-u NP_{TH} V-PASS-LOC
    meat CM-MAIN-ʔ-ITR-put-PASS-IMPFV-3SG.OM-LOC
    `The meat is being put in it'

The locative argument exhibits the OBJ behaviors previously demonstrated for theme and beneficiary/recipient arguments: pronominal incorporation, passivization, simultaneous OBJ behaviors for theme and locative (see Cocchi 2000, Dimmendaal on locatives in African languages 2003, Creissels 2004, 2008, Diercks 2011a, b.)

Object properties: Locative adjuncts?

Simple transitive verb:

23. k-a-kə́l-á oṯeá (í-lúgi) V NP_{TH} NP_{LOC}
    CM-MAIN-cut-IMPFV branches LOC-CM_{PL}.tree.
    `He is cutting the branches (from the tree).

Pronominal incorporation:

24. k-a-kə́l-á-l-u oṯeá V-...-3PL.OM-LOC NP_{TH}
    CM-MAIN-cut-IMPFV-3PL.OM-LOC branches
    `He is cutting the branches from them.

Passivization:

25. oṯeá k-ʌ-kʌ́l-n-iə (í-lúgi) NP_{TH} V-PASS (NP_{LOC})
    branches CM-MAIN-cut-PASS-IMPFV LOC-CM_{PL}.tree
    `The branches are being cut from the trees

26. lugi l-ʌ-kʌ́l-n-iə́-u oṯeá NP_{LOC} V-PASS...LOC NP_{TH}
    CM_{PL}-tree CM-MAIN-cut-PASS-IMPFV-LOC branches
    `The trees are being cut branches from'

Despite not being a semantic entailment of `cut', these locative constituents display the same OBJ properties as locative arguments.
-u registers pronoun incorporation and passivization of a locative; -u does increase valence.

Object properties: Locative adjuncts?

27. k-a-kə́l-a eða lugí ékᵊrél
    CM-MAIN-cut-IMPV meat CM_{PL}.tree beside
    He is cutting the meat beside the trees

30. lugi l-ʌ-kə́l-n-iə-u eða ékᵊrél
    CM_{PL}.tree CM-MAIN-cut-PASS-IMPFV-LOC meat beside
    `The trees were cut meat beside' NP_{LOC} V-PASS-LOC NP_{TH} BESIDE

31. lugi ékᵊrél l-ʌ-kə́l-n-iə-u eða
    CM_{PL}.tree beside CM-MAIN-cut-PASS-IMPFV-LOC meat
    `The trees were being cut the meat beside' NP_{LOC} BESIDE V-PASS-LOC NP_{TH}

-u registers locative pronominalization and passivization; -u is not a valence-increaser, but a marker of various locative semantic relations.

Some adpositions are passivized along with NP, but verb agreement is with the NP.

Locative adjuncts: Semantic ambiguity

32. í-g-Á-ssʌtʃ-iə ŋ̀ndrí ᵊdíə éðəpé V NP NP on top
1SG-CM-MAIN see-IMPFV bull cow on-top-of
`I see the bull on top of the cow/cow on top of the bull'

33. í-g-Á-ssʌtʃ-iə-∅-u ŋ̀ndrí éðəpé V_{LOC} NP on top
SG-CM-MAIN-see-IMPFV-3SG.OM-LOC bull on-top-of
`I see the bull on top of it'

34. ŋ̀ndrí ŋ-Á-ssʌtʃ-in-iə-u ᵊdiə éðəpé $NP_{Θ1}$ V-PASS-LOC $NP_{Θ2}$ on top
bull CM-MAIN-see-PASS-IMPFV-LOC cow on-top-of
`The bull is being seen on top of the cow'
`The cow is being seen on top of the bull'

35. ŋ̀ndrí ŋ-Á-ssʌtʃ-in-iə ᵊdiə éðəpé NP_{THEME} V-PASS NP_{LOC} on top
bull CM-MAIN-see-PASS-PFV cow on-top-of
`The bull is being seen on top of the cow'

(32) is ambiguous because éðəpé 'on-top-of' does not form a constituent with the NP it follows - rather, it has scope over either NP.

Ambiguity in active is maintained in the passive when the locative role marker -u is present (34)

When this marker is absent (35), there is no ambiguity, since the absence of -u indicates the SUBJ cannot be *locative*.

Locative applicatives

Dedicated APPL(ICATIVE)$_{LOC}$ marker: -ạ́- no vowel raising in verb stem

36. k-a-kə́l-ạ́-a eða ugi ékərél/ík-úgi
CM-MAIN-cut-APPL-IMPFV meat tree beside/in-tree
`He is cutting the meat beside the tree/in the tree'

(Entire activity is located beside/in the tree or the cutting action is directing the meat beside or into the tree)

Locative applicative is a valence increaser that adds an obligatory locative argument:

37. * k-a-kə́l-ạ́-a eða
CM-MAIN-cut-APPL-IMPFV meat

Locative applicative alters the semantics of the base verb by adding a locative argument (valence increase).

Locative applicatives are frequently associated with telic aspect.

Object properties: Locative applicatives

41. He cut the meat in the tree/beside the tree
ka-kəl-a eða ík-úgi/ ugí kᵊrél

42. eða j-ʌ-kəl-ʌtʃ-in-ú ík-úgi
meat CM-MAIN-cut-$APPL_{LOC}$-PASS-PFV in-tree
`The meat was cut in the tree'

43. ugi k-ʌ-kəl-ʌtʃ-in-ú-u eða
tree CM-MAIN-cut-$APPL_{LOC}$-PASS-PFV-LOC meat
`The tree was cut meat in'

44. ugi k-ʌ-kəl-ʌtʃ-in-ú-u eða ékᵊrél
tree CM-MAIN-cut-$APPL_{LOC}$-PASS-PFV-LOC meat beside
`The tree was cut meat beside'

45. ugi ékᵊrél k-ʌ-kəl-ʌtʃ-in-ú-u eða
tree beside CM-MAIN-cut-$APPL_{LOC}$-PASS-PFV-LOC meat
`The tree was cut meat beside'

Marker -u registers locative pronominalization and passivization, in conjunction with locative applicative: -u is not a valence-increaser, but a marker of various locative semantic relations.

Again, some adpositions are passivized along with NP, but verb agreement is with the NP.

(A)telic effects

Simple verb: Non-telic

38. k-abə́tʷ-a (n-alẹ́ṭa/ík-úgi)
CM-climb-IMPFV on-wall/LOC-tree
`He is climbing (on the wall/in the tree)'
(He is simply climbing on the wall/in the tree)

Pronominal incorporation

39. k-abə́tʷ-á-∅-u
CM-climb-IMPFV-3SG.OM-LOC
`He is climbing on/in it'

Passive:

40. aleṭa j-ʌbətʃ-in-íə-u
wall CM-climb-PASS-IMPFV-LOC
`The wall is being climbed on'

The non-telic variant contains an unselected locative, which displays diagnostic OBJ behaviors.

(A)telic effects

Locative applicative verb: Telic

41. k-abə́dʷ-a̱ṯ-a n-aleʔta
    CM-climb-APPL$_{LOC}$-IMPFV on-wall
    `He is about to clamber over up the wall'
    (E.g., he is avoiding danger; his intention is to get over the wall)

Pronominal incorporation:

42. k-abə́dʷ-a̱ṯ-iə-∅-u
    CM-climb-APPL$_{LOC}$-IMPFV-3SG.OM-LOC
    `He is about to clamber over it'

Passive:

43. aleʔta j-ʌbúdʒ-ʌtʃ-in-íə-u
    wall CM-climb-APPL$_{LOC}$-PASS-IMPFV-LOC
    `The wall is about to be being clamber over'

The telic variant contains a selected locative *argument* that displays diagnostic OBJ behaviors.

Directional dimension of locative applicative

Unselected - *source* variant:

44. é-g-a-və́dað-a ŋərá (é-ŋə́ná)
    1SG-CM-MAIN-sweep-IMPFV trash LOC-room
    `I am sweeping the trash (from the rooms)'

45. é-g-a-və́dað-á-l-u ŋərá
    1SG-CM-MAIN-sweep-IMPFV-3PL.OM.-LOC trash
    `I am sweeping trash from them'

Selected - *goal* variant:

46. é-g-a-və́dað-a̱ṯ-a ŋərá é-ŋᵊna
    1SG-CM-MAIN-sweep-APPL$_{LOC}$-IMPFV trash LOC-room
    `I am sweeping the trash into the rooms'

47. é-g-a-və́dað-a̱ṯ-á-l-u ŋərá
    1SG-CM-MAIN-sweep-APPL$_{LOC}$-IMPFV-3PL.OM-LOC trash
    `I am sweeping the trash into them'

Distribution of locative applicatives

There are some verbs that cannot take an APPL$_{LOC}$ marker with locative constituents:

48. k-a-dáŋ-á (ík-úgi) V NP$_{LOC}$
    CM-MAIN-sit-IMPFV LOC-tree
    `He is sitting in the tree'

49. * k-a-dáŋ-a̱ṯ-a ík-úgi *V-APPL$_{LOC}$ NP$_{LOC}$
    CM-MAIN-sit-APPL$_{LOC}$-IMPFV LOC-tree
    `He is sitting in the tree'

There are other verbs that must take a APPL$_{LOC}$ marker with locative constituents:

50. *g-a-v-áláŋ-a ík-úgi *V NP$_{LOC}$
    CM-MAIN-ʔ-sing-IMPFV LOC-tree
    `He is singing in the tree'

51. g-a-v-áláŋ-a̱ṯ-a ík-úgi V-APPL$_{LOC}$ NP$_{LOC}$
    CM-MAIN-ʔ-sing-APPL$_{LOC}$-IMPFV LOC-tree
    `He is singing in the tree'

Summary

Three types of locative constituents:

(i) Selected locatives of 'put' predicates

(ii) Selected locatives - the result of a valence-increasing applicative suffix

(iii) Unselected locatives

The locatives in (i-ii) would traditionally be treated as arguments, while those in (iii) would be adjuncts.

However, all of these locatives exhibit usual OBJ behaviors:: pronoun incorporation, passivization, and semantic ambiguity.

Hence, rather than an *argument/adjunct* distinction, there is a distinction between *selected* and *unselected* objects.

Other than valence increase, locative applicatives have other lexical semantic effects:

(i) Aspectual properties, including telicity effects

(ii) Lexical restrictions on whether certain verbs must, cannot, or may take locative morphology.

Summary

How does the lexical semantics of the relevant verbs fit with Koenig et. al. 2003:80 questions concerning verbs that take locative constituents and results from English?

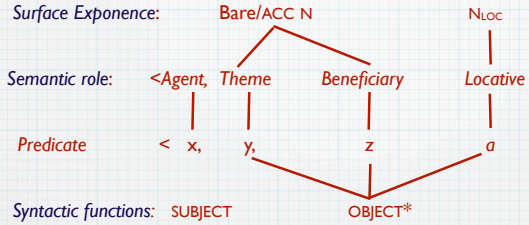
a. EVENT LOCATION: Does the verb describe situations which include a location in which all the participants must, can, or cannot be located and in which the event as a whole takes place (e.g. the location in which the writing occurs in 'Marc wrote the address')?

b. PARTICIPANT LOCATION: Does the verb describe situations which must, can, or cannot include a location in which one, but not necessarily all participants are(e.g. the notebook in 'Martha wrote down the address in her notebook')?

We don't yet know.

Locative objects

Correspondence Architecture:



1. Proper nouns inflect for ACCUSATIVE case.

Part 4: Verbs and instrumental constituents

Instrumental arguments

52. eða j-ʌww-ʌ
    meat CM-hot-IMPFV
    `The meat is hot'

53. k-ʌww-ʌ ŋerá-ŋá V NP-CM
    CM-hot-IMPFV girl-INSTR.CM
    `He loves the the girl'

54. k-ʌww-ʌ-ŋó-ja V-IMP-3SG.OM-INSTR
    CM-hot-IMPFV-3SG.OM-INSTR
    `He loves her'

55. ŋerá ŋ-ʌβ-ən-iə-ja
    girl CM-hot-PASS-IMPFV-INSTR
    `the girl is loved'

ʌwʌ 'hot' governs an instrumental argument in the meaning `love'.

-ja markers registers the instrumental constituent for pronominalization and passivization (cf. the use of -u for locatives).

The person/number of the pronoun is realized as an OM preceding -ja and modified by it.

Unselected instrumentals

56. k-a-kə́l-á eða ndə́rṭə́-ná V NP NP-INSTR.CM
CM-MAIN-cut-IMPFV meat CM_{PL}.knife-INSTR.CM
`He is cutting the meat with a knives'

Pronominal incorporation:

57. k-a-kə́l-á-lí-ja eða V-...-3PL.OM-INSTR NP_{TH}
CM-MAIN-cut-IMPFV-3PL.OM-INSTR meat
`He is cutting the meat with them'

Passive:

58. eða j-ʌ-kə́l-n-iə ndə́rṭə́-ná NP_{LOC} V-...-PASS NP_{INSTR}
meat CM-MAIN-cut-PASS-IMPFV CM_{PL}.knife-INSTR.CM
`The meat is being cut with the knives'

59. ndə́rṭí n-ʌ-kə́l-n-iə-lí-ja eða
CM_{PL}.knife CM-MAIN-cut-PASS-IMPFV-3PL.OM-INSTR meat
`The knives are being cut the meat with' NP_{INSTR} V-...-PASS...3PL.OM...INSTR NP_{TH}

*ndə́rṭí n-ʌ-kə́l-n-iə-ja eða
CM_{PL}.knife CM-MAIN-cut-PASS-IMPFV-INSTR meat

-ja registers semantic role instrumental for the unselected instrumental.
Plural object marker that agreeswith the plural passivized SUBJ is evidently obligatory.

Summary

There are some predicates that govern instrumental arguments.

There is no dedicated verbal morphology that adds instrumental arguments, i.e. there is no instrumental applicative.

All Moro instrumental constituents are objects, some are selected and some are unselected.

Summary

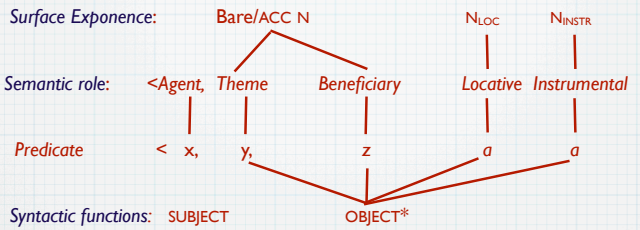
How does the lexical semantics of the relevant verbs fit with Koenig et. al. 2003:79 questions concerning verbs that take instrumental constituents and results from English? (see also Koenig et. al. 2008)

INSTRUMENT: Does the verb describe situations in which one participant must, can, or cannot use another participant to perform an action (e.g.'Marc poked the frog' requires Marc to have used something)?

We don't know.

Instrumental objects

Correspondence Architecture:



Part 5: Interactions between OBJs

Part 5: Interactions between OBJs

60. k-a-ńdr-a (í-rᵊdí) (ɲivə́rðiə-ɲa)
CM-MAIN-sleep-IMPFV LOC-CM$_{PL}$.crevices CM$_{PL}$.blanket-INSTR.CM
`He is sleeping in the crevices with the blankets'

61. ŕdíə r-Á-ndr-ən-iə́-u (ɲivə́rðiə-ɲa) NP$_{LOC}$ V-PASS-LOC NP$_{INSTR}$
CM$_{PL}$.crevices CM-MAIN-sleep-PASS-IMPFV-LOC CM$_{PL}$.blanket-INSTR.CM
`The crevices are being slept in with the blanket'

62. ɲivə́rðiə ɲ-Á-ndr-ən-iə-(li)-ja (í-rᵊdi)
CM$_{PL}$.blanket CM-MAIN-sleep-PASS-IMPFV-(3PL.OM)-INSTR LOC-CM$_{PL}$.crevices
`The blankets are being slept with in the crevices' NP$_{INSTR}$ V-PASS-(3PL.OM)-INSTR NP$_{INSTR}$

63. ŕdíə r-Á-ndr-ən-iə-li-já-u NP$_{LOC}$ V-PASS...3PL.OM.INSTR-LOC
CM$_{PL}$.crevices CM-MAIN-sleep-PASS-IMPFV-3PL.OM-INSTR-LOC
`The crevices are being slept in with them'

64. ɲivə́rðiə ɲ-Á-ndr-ən-iə-já-l-u NP$_{INSTR}$ V-PASS...INSTR-3PL.OM-LOC
CM$_{PL}$.blankets CM.SG-MAIN-sleep-PASS-IMPFV-INSTR-3PL.OM-LOC
`The blankets are being slept with in them'

*ɲ-Á-ndr-ən-iə́-li-já-l-u cannot be two 3PL OMS

Interactions with APPL$_{BEN}$

65. í-g-Á-ŋÁ-ndr-ə̰t-iə (í-rᵊdí) (ɲəvə́rðiə-ɲa)
1SG.SM-CM-MAIN-2SG.OM-sleep-APPL$_{BEN}$-IMPFV LOC-CM$_{PL}$.crevice CM$_{PL}$.blankets-INST.CM
`I am sleeping for you (in the crevices) (with the blankets)' SUBJ-CM-2SG.OM-MAIN-APPL$_{BEN}$

66. Á́-g-Á-ndr-əʧ́-in-iə SUBJ-CM-MAIN-APPL$_{BEN}$-PASS
2SGSM-CM-MAIN-sleep-APPL$_{BEN}$-PASS-IMPFV
`You are being slept for'

67. ɲəvə́rðiə ɲ-Á-ŋÁ-ndr-ʧ́-in-iə-lí-ja SUBJ-CM-2SG.OM-MAIN-APPL$_{BEN}$-
CM$_{PL}$.blankets CM-MAIN-2SG-sleep-APPL$_{BEN}$-PASS-IMPFV-3PL.OM-INSTR MUST CONTAIN PLURAL:
`The blankets are being slept with for you.' *ɲ-Á-ŋÁ-ndr-ʧ́-in-iə́-ja

68. ðədíə ð-Á-ŋÁ-ndr-ʧ́-in-iə-li-já-u
crevice CM-MAIN-2SG-sleep-APPL$_{BEN}$-PASS-IMPFVV-3PL.OM-INSTR-LOC
`The crevice is being slept in for you with them'

69. Á́-g-Á-ndr-ʧ́-in-iə-li-já́-u
2SG-CM-MAIN-sleep-APPL$_{BEN}$-PASS-IMPFV-3PL.OM-INSTR-LOC
`You are being slept for with them in it/them'

The simultaneous participation of *beneficiary*, *locative*, and *instrumental* in passive and prononominal incorporation indicate that they are all OBJs.

Intriguing semantics concerning the interpretation of 3PL pronominal locative and instrumental.

Part 5: Moro and Syntactic Government

Summary of basic results

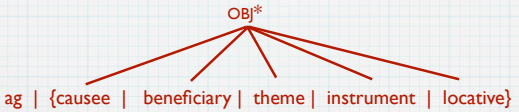
Theotogovela Moro contains:

1. Simple verbs that select for *theme, recipient, locative* and *instrumental* arguments.
2. Two types of applied verbs:
   (i) APPL_{BEN} adds a beneficiary
   (ii) APPL_{LOC} adds a locative argument.
3. Simple verbs that can co-occur with unselected locatives and instrumentals.
4. All of these semantic relations (as well as *causee)* display OBJ properties:
   (i) pronominal incorporation
   (ii) passive
   (iii) semantic ambiguity.
5. Moro verbs display dedicated locative (**-u**) and instrumental (**-ja**) semantic role markers for pronominal incorporation and passive.
6. While careful lexical semantic research must be done on verbs, the usual theoretical distinction, as well as formal ways to distinguish between arguments and adjuncts, seems irrelevant, except for ta NP.

OBJ* and Semantic roles

OBJ* PARAMETER (revised): Universal grammar permits predicates to occur with multiple OBJ arguments and this leads to a potential cross-linguistic typology of grammatical function realization – from multiple objects to a single object.

Function Expression Continuum: With respect to the grammatical function expression of semantic roles, languages range from less restrictive, where multiple OBJs are permitted, to more restrictive where they are sometimes permitted, to most restrictive, where they must always be distinct (Functional Uniqueness).



Contrary to usual theoretical assumptions the argument/adjunct bifurcation seems largely irrelevant to Moro syntax with respect to OBJ assignment:

(i) OBJ can be associated with selected and unselected elements,
(ii) OBJ can be associated simultaneously with multiple presumptive arguments or unselected adjuncts.