Motion-Event Segmentation

Event segmentation in motion expressions in Jaminjung and Kriol

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Overview

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Typological Background

- Bohnemeyer et al. 2007. Principles of Event Segmentation in Language: The Case of Motion Events. *Language* 83:495-532.

- Towards semantic typology of motion-event segmentation
- Information about event is usually not mapped into a single lexical item, but distributed across phrases, clauses and larger chunks of discourse
- → event segmentation is the distribution of information about an event across the parts of an utterance

Typological Background

- Language constraints derive partly from ‘lexicalisation patterns’ as proposed in Talmy (1985, 2000)
- and partly from availability of syntactic constructions with certain properties

How to measure event segmentation?

- Proposed starting point: Macro-Event-Property (MEP)

Typological Background

- Notwithstanding previous research, **Macro Event Property**: comparable constructions in individual languages to package information about an event

- a construction has the MEP if it packages event representations such that temporal operators necessarily have scope over all subevents
- “That is, an expression has the MEP iff any time-positional operator denoted by a time-positional adverbial, temporal clause, or tense that ‘locates’ a subevent entailed by the expression in time also locates all other subevents in time.”

(Bohnemeyer et al., 2007)

Typological Background

- Examples having the MEP:

a. The vase was broken by Sally.

b. Sally broke the vase by knocking it over.

c. Floyd instantly pushed the door shut.

d. Floyd went from Rochester via Batavia to Buffalo.

- Examples lacking the MEP

a. Sally knocked over the vase and it broke.

b. The vase broke because Sally knocked it over.

c. Floyd pushed the door and it shut instantly.

d. Floyd left Rochester, passed through Batavia, and arrived in Buffalo.

Typological Background

- Study focuses on encoding information about the (change of) location of a moving figure with respect to some referential ground
  - The **Figure** is a moving or conceptually moveable object whose path or site is at issue
  - The **Ground** is a reference frame or a reference object stationary within a reference frame with respect to which the Figure's path or site is characterised

(Talmy, 2000)

- within some frame of reference
  - **Intrinsic** (of partitioning of the ground object named facets), **relative** (mapping from an observer's own axes onto the ground object), and **absolute** (needs fixed bearings) frame of reference

(Levinson, 1996)

Path type	**Path function**	**Corresponding Subevent**	**Examples**
Bounded paths	FROM (source) TO (goal)	Departure Arrival	*From the entrance, off the roof, out of the kitchen* *To the entrance, onto the roof, into the kitchen*
Routes	VIA (route)	Passing	*Past the entrance, across/over the roof, through the kitchen*
Directions	TOWARD, AWAY-FROM	Any phase of motion oriented in a frame of reference	*Towards the entrance, north(bound), down, upriver, left(ward)* (Jackendoff, 1983)

Typological Background

Segmentation of location-change sequences:

- Three types of languages on the basis of how many and what kinds of subevent representations they can integrate into the denotation of a macro-event construction

Typological Background

Type I languages:

- clause- or phrase-level constructions that have the MEP and license combinations of maximally one departure, arrival, and passing subevent each
- Such languages are
  - either satellite-framed in Talmy's distinction and thus permit multiple path phrases in a single verb phrase,
  - or they have multiverb-constructions that string multiple location-change denoting VPs together to form macro-event expressions encoding both departure and arrival

Typological Background

Example from English:

The circle rolled from the square past the house-shaped object to the triangle in just 30 seconds.

- shows that durational and time-positional adverbials with simple uncoordinated monoclausal representations have scope over all three subevents

**The circle rolled from the square then past the house-shaped object finally to the triangle*.

- 'timing' of individual subevents, as required for interpretation of adverbs *then* and *finally* is impossible

- Other languages: Ewe (Kwa, Ghana), Lao (Tai-Kadai, Laos), Marquesan (Austronesian, Marquesas), Tiriyó (Carib, Brazil) and Dutch

Typological Background

Example from Tiriyó:

Kau wewe-pisi enee-ja-n wewe-pəe əema-tae
cow wood-dim bring-pres-evid wood-from path-along
kanawa-pona
vehicle-toward
'The cow is bringing the little stick from the tree along the path to the vehicle'

- Here, timing of individual subevents is impossible – minimally multiple coordinated verb phrases are required

Typological Background

Type II languages:

- use macro-event expressions encoding both departure and arrival,
  - but commonly, though not necessarily, require a second macro-event expression for the integration of passing subevents.
- All languages in the sample employ a double-marking strategy for the encoding of path functions
  - expressing path in verb roots - verb-framed - but simultaneously marking them in the ground phrase

Typological Background

- Example from Japanese

(Kinoo) *ki-no* *tokoro-kara* *ie-made* *it-ta.*
Yesterday tree-GEN place-ABL house-until go-PAST
"(One) went from the tree to the house (yesterday)."

- source is expressed by an ablative-marked NP, headed by a relational noun possessed by the ground-denoting nominal
- Verb is a change-of-location verb, semantically compatible with both source and goal specifications → it becomes possible to combine a departure- and arrival-entailing ground phrase in a single VP
- Since an optional time-adverbial can be understood of denoting a time interval that covers both subevents, the construction has MEP
- Other languages: Arrernte (Australian, Australia), Basque (Isolate, Spain), Hindi (Indo-European, India), Trumai (Isolate, Brazil)

Typological Background

Type III languages:

- require a separate VP for encoding each location-change subevent that involves a distinct ground
- Verb-framed languages lacking the kind of double-marking of path relations as e.g. found in Basque, Japanese or Hindi
- Express location change exclusively in verb roots or stems and at the same time lack multiverb constructions that combine multiple location-change denoting VPs into a single MEP construction

Typological Background

- Example from Jalonke (Guinea, Niger-Congo):

  A keli wuri-n'ii', a siga (haa) gɛmɛ-n ii.'
  3SG leave tree-DEF.LOC 3SG go until rock-DEF.LOC
  "He left the tree (and) went as far as the rock."

- example illustrates tell-tale path-neutral ground phrases that are key to type III framing
- Both the source ground (tree) and the goal ground (rock) are referred to by postpositional phrases headed by the same generic locative postposition *i*.

- Other languages: Kilivila (Austronesian, Papua New Guinea), Saliba (Austronesian, Papua New Guinea), Tidore (West Papuan, Indonesia), Tzeltal (Mayan, Mexico), Yêlî Dnye (East Papuan, Papua New Guinea), Yukatek (Mayan, Mexico), Zapotec (Oto-Manguean, Mexico)

Typological Background

Some principles of form-to-meaning mapping which appear to be sensitive to MEP and universals:

- **Macro-Linking Principle**:
  - Event descriptions encode sets of subevents and sets of relations
  - The only subevents that may be referred to in a macro-event expressions are those subevents to which the (temporal, causal, etc.) relations of the expression can apply
- **Referential Uniqueness Constraint**:
  - Concerns referential binding in macro-event expressions
  - It appears to be universally impossible to refer to the same ground more than once in the same macro-event expression
- **Unique Vector Constraint**:
  - If a macro-event expression includes more than one direction specification, then the two or more specifications must refer to the same direction

Typological Background

- Which type a language falls under is largely a matter of interplay of 2 factors:
- (1) lexicalisation – expression of path or location-change functions in verbs, satellites, or ground phrases or both (Talmy 1985, 2000)
- (2) availability of certain morphosyntactic constructions (such as multiverb-constructions and double-marking strategy)

Event Segmentation in Jaminjung

- Jaminjung spoken in Victoria River Area of Northern Australia → non-Pama-Nyungan
- Approximately 100 speakers remaining (not acquired by children any longer)
- First language and language of daily interaction = Kriol (English-based Creole language)
- Code-switching and borrowing very common even when traditional languages are spoken

Event Segmentation in Jaminjung

- Existence of 2 distinct predicative word classes:
- **Verbs**:
  - closed class of around 30 lexemes carrying verbal inflection
  - encode only fact of motion and ‘anchoring’ of path
- **Coverbs**:
  - Open class of uninflected elements (cover semantic areas usually covered by verbs (and adverbs and adpositions) in other languages
  - express both manner of motion and other aspects of path
- → clear division of labour with respect to expression of spatial relations and components of motion events

Event Segmentation in Jaminjung

- Jaminjung falls outside Talmy's verb-framed/satellite-framed division
  - Careful definition of 'verbs' and 'satellites' – distinguishing between 'main verb status' (verbs) and 'open class membership' (coverbs) as defining criteria necessary

burduj *ga-jga-ny,* *jalalang* *miri*
go.upwards 3sg-GO-PST hang leg
'(the boy) has climbed up, his legs hanging down'

(Schultze-Berndt, 2007)

  - Manner and path expressed by coverbs and verbs respectively, but are coverbs satellites or verbs?

Event Segmentation in Jaminjung

- Jaminjung also does not fit Slobin's (2006) category of equipollently-framed languages (framing in which both path and manner have roughly equal morphosyntactic status)

jalig-malang *yugung* *walig* *ga-jga-ny=nu,*
child-GIVEN run go.around 3sg-GO-PST=3sg.OB
'the child ran around for him' (to pick up the dog after its fall from the window'

(Schultze-Berndt 2007)

  - Both coverbs of manner and path or position can be combined in a single intonation unit with a single verb
  - In this respect, Jaminjung has characteristics of an equipollently-framed language
  - however, small corpus search by Schultze-Berndt (2007) showed that manner is only expressed if manner information is foregrounded in discourse (no stylistically marked structure)

Event Segmentation in Jaminjung

- Verbs in Jaminjung do not encode manner information and path information only in a very limited nature (restricted to motion 'as such' (Schultze-Berndt, 2007))

jid *ga-rdba-ny* *warrangan-ngunyi* *thamirri* *gulban-bina*
go.down 3sg-FALL-PST cliff-ABL down ground-ALL
'he went down from the cliff down to the ground'

- Verb –*irdba*, specification of source, the goal, the absolute direction, and the path

bayirr *nganth-ardgiya-ny=bina* *langiny-bina* *na*
supported 2sg:3sg-THROW-PST=now wood-ALL now
'you threw it over the branch now'

- In addition to verb and allative phrase (goal), there is a positional coverb indicating the spatial configuration that the moving figure assumes at goal location (Schultze-Bernd, 2006)

Event Segmentation in Jaminjung

Classification of Jaminjung using the MEP:

- Only possible to make assumptions as data is very scarce for the motion events of goal, source and passing at the same time:
- Assumption: Jaminjung belongs to **Type II**
  - ME expressions used to encode departure and arrival, but not necessarily passing event
  - double-marking strategy for encoding path functions as possible further distinction from Type I languages

Event Segmentation in Jaminjung

langiny yina-ngunyi=biyang burrantham *xx*
wood DIST-ABL=NOW 3pl:3sg-BRING-PRS
ngiyi-bina
PROX-ALL
'from those trees they bring it ?? here'

- ME expression used to encode both subevents of departure (source) and arrival (goal) (time operator not there but possible)
- Double-marking strategy?:
  - Path encoded in verb roots (*burrantham* – 3pl:3sg-BRING-PRS) **and**
  - simultaneously marked in the ground phrase (*langiny yina-ngunyi=biyang* – wood DIST-ABL=NOW)

Event Segmentation in Jaminjung

thawaya yirra-gba *Jalyarri=biyang* *burl*
eat 1PL.EXCL-BE.PST Subsection=now emerge
ga-ruma-ny, *marraj ga-jga-ny*
3sg-COME.PST past 3sg-GO.PST
'we were eating, then Jalyarri appeared, (and) went past'

- Subevents of emerging and passing are intonationally separated and there are two inflecting verbs for both subevents of emerging (*burl ga-**ruma**-ny*) and passing (*marraj ga-**jga**-ny*)
- Time operator (*biyang*) seems to have scope over two subevents of eating and emerging but not over the passing one

Event Segmentation in Jaminjung

Timber Creek ngunyi biya yurrurumany,
placename ABL 1Pl.GO.PST
...marraj=ung.. yurrijga:ny, Gregory bina
go.past 1.PL.INCL.PST placename ALL
'we came from Timber Creek, we went past, to Gregory'

- Source and goal subevents are separated from the passing event here by an intonational break

Event Segmentation in Jaminjung

- further characteristic of Type II languages: the route is coextensive with the path, that is, contiguous to source and goal
- It is then possible to combine source and goal phrases with a route-denoting verb :

jid *ga-rdba-ny* *warrangan-ngunyi*
go.down 3sg-FALL-PST cliff-ABL
thamirri *gulban-bina*
down ground-ALL
'he went down from the cliff down to the ground'

- *gardbany* (in connection with the manner-denoting coverb *jid*) is a route-denoting verb that here combines source and goal phrases

Event Segmentation in Jaminjung

Conclusions

- First brief observation of data indicates Jaminjung being a Type II language
- Need for further fieldwork to obtain data concerning these particular motion events of emerging, passing and arriving using a time operator
- Jaminjung's use of verbs and coverbs to mark path and manner needs further research in defining "double-marking" and "multiverb constructions"

Event Segmentation in Kriol

- English-lexified creole language spoken in different varieties in northern Australia by approximately 20.000 speakers
- Where spoken, Kriol either supplanted the traditional language or is in the process of doing so
- Described by Sandefur (1986) as “dynamic continuum”
  - Dynamic: variable language
  - Continuum: number of subsystems (linked together by gradation)

Event Segmentation in Kriol

- Like most creole languages: little bound morphology
- Freer word order than English, but marks core arguments using SVO order (Meakins, 2007, Sandefur, 1986)
- The preposition *langa* indicates movement towards a goal and *burrum* indicates movement away from a source:

dumaji imin gu **langa** riba
because 3SG=PST go PREP river
'because he went to the river'

dumaji imin gudan **burrum** ontop la hil
because 3SG-PST descend PREP ADV PREP hill
'because he descended from the top of the hill'

(Sandefur, 1986)

Event Segmentation in Kriol

- Little formal distinction between topological relations and motion events – both use same form *langa* (*la, nanga, na*) to mark goal location
- *langa* = optional in many motion expressions but mandatory for marking location:

det gel ***wok-bek*** ***la*** *kemp*
the girl walk-back PREP house
'the girl walked back to the house/home'

det gel ***im wok-bek*** *kemp*
the girl 3SG walk-back home
'the girl walked back to the house/home'

(Meakins, 2007)

Event Segmentation in Kriol

Classification of Kriol using the MEP

- Only assumptions possible as well, as data is even scarcer than for Jaminjung for these kinds of motion events
- Assumption 1: Kriol belongs to **Type I** (like superstrate English)
  - English classified as satellite-framed language in Talmy's typology (expressing manner information in satellites accompanying the verb rather than in the verb itself)
  - ME expressions used to encode departure, arrival and passing events
  - Permit multiple path phrases in a single verb phrase

Event Segmentation in Kriol

det gel ***wok-bek*** *la kemp*
the girl walk-back PREP house
'The girl walked back home/to the house.'

detlot kid ran ***streitap*** *langa det modika dumaji im*
DET.PL child run straight.up PREP the car because 3sg
reinrein
rain.REDUP
'the kids ran straight to the car because it was raining.'

(Meakins, 2007)

- Forms ***wok-bek*** and ***streitup*** components could be defined as satellites in the Talmy-sense
- Then Kriol seems to be not so different from English, apart from a stronger lexicalised combination

Event Segmentation in Kriol

mibalan bajim na olabat an mibalan kipgon
1pl pass PREP 3pl CONJ 1pl keep-going
raidap langa - langa roud
right-up PREP – PREP road
'we passed them and continued along, along the road'

- Coordination of passing and goal event is not in one ME expression but in two
- These are two sentences with two subjects combined by conjunction '*an*'
- Assumption 2: If this is the right analysis, then Kriol could also be defined as **Type II** language with a separation of passing and goal/source events

Event Segmentation in Kriol

Conclusions

- It is impossible at the moment to come to any valuable conclusions concerning Kriol as it seems to show characteristics of Type I as well as Type II languages
- A thorough analysis of substrate and superstrate influences would be necessary as well as further research in one variety of Kriol
- Has been stated that English influence mainly concerns lexicon, but that grammatical features are often derived from Aboriginal language sources (Sandefur, 1986) – need for further research in this area

Conclusions

- Problematic explanation for relationship between MEP and syntax
  - as MEP seems to be bound to the VP, but there are language-specific differences concerning the existence of a VP
  - – it is possible to encode motion information in other parts of the syntax such as associated motion, NPs etc.
- Not clearly defined language types - terms such as double-marking or multiverb-phrases are not defined precisely enough to be applied to all languages (type II languages seem to lack clear distinction from type I languages)
- Examples from languages seem highly artificial at times (English in particular)
- More data needs to be obtained from both Jaminjung and Kriol possibly with specifically designed tools/questions etc.

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