Towards a Multivariate Typology of Reference Tracking

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Category tracked (first major generalization)

• Jakobson’s (1957 *Shifters...*) system suggests a useful generalization:
  • relative vs. absolute tense: $E^nE^n$ vs. $E^nE^s$, person: $P^nP^s$
  • so, $P^nP^n$ would be “relative person”, i.e. switch reference

• Given this, reference tracking appears to be a special choice on a more general variable of Category Tracked: \{Tense, Reference, Location, Status, ...\}

• Confirmed by e.g. Switch Location (Angaatiha, Huisman 1973)
  a. *nimaa-t-osa-té nanó-hô*
     hang.up-1s-PERF-SL.SS sleep-1sPST
     ‘I hung [it] up and slept.’
  b. *nimaa-t-osa-mé nun-té nanó-hô.*
     hang.up-1s-DL.SS go-1sSEQ.SL.SS sleep-1sPST
     ‘I hung [it] up, went and slept (there).’
Category tracked (first major generalization)

Switch X (Amele: Madang, Roberts 1987)

a. age ?eta gul-do-?o-bil l-i bahim na ta?-in.
   3p yam carry-3s-P-DS-3p go-PRED floor on fill-3p-REM.PST
   ‘They carried the yams on the their shoulders and went and filled
   up the yam store.’

b. ?ois eu ma-do-?o-min l-ig eh-i l-i m-ih-ig-en
   PTCL that say-3sP--DS-1s go-1s take-PRED go-PRED put-2sP-1s-FUT
   ‘OK, I say I will take you and give you to him.’

- Tracking devices are sometimes better analyzed as
discourse markers rather than as dedicated reference
trackers...
• \{identity, difference\}

• Identity trackers seem to be more common than difference trackers. Many languages have only identity and no difference trackers: *part. coni.*, many South and Central Asian converbs etc.

• Possible motivation: identity trackers develop through codification of zero anaphora, which is extremely popular for economy reasons

(but we first need to establish whether identity trackers are indeed universally preferred!)
Coding (second major generalization)

• {none, overt}
  • ‘none’: conjunction reduction; or coreference constraints on e.g. infinitives in control constructions when the same infinitives also occur outside such constructions
Locus of Reference Tracker

• \{on main, on dependent\} clause

• always on dependent. I am not aware of a reference tracking system on the main clause (registering difference/identity of reference in a dependent clause) — a universal?

• when trackers are on the dependent clause, we get the following universal correlation (hypothesis):

  • prospective tracking with final main clauses (and OV)
  • retrospective tracking with initial main clauses (OV or VO)
Position of dependent and direction of tracking

Kâte (Trans-New-Guina; Pilhofer 1933)
ra fisi-\textit{pie} fahare-\textit{râ} yâpe?-\textit{yopa-\textit{pie} mafa-ye\=n\=i}
go arrive-SEQ.3p\textit{DS} rise-SEQ.\textit{SS} chase.away-3pDO-SEQ.3p\textit{DS} stuff-3pPOS
\textit{behe-\textit{râ} wise-\textit{pie} fiu? ro=fâre-mbîn\=i.}
throw.away-SEQ.\textit{SS} flee-SEQ.3p\textit{DS} illicitly take=all-3pREMOTE.PST
‘When they\textsubscript{i} (the foreigners) arrived, they\textsubscript{j} (the villagers) got up and
chased them away. They\textsubscript{i} threw away their stuff and fled. Then,
they\textsubscript{j} stole their stuff.’

Igbo (Benue-Congo; Welmers 1973)
a. ọ lâ-râ ụlọ rí-é ń’rí
3s go-FACT home eat-SEQ food
‘He went home and ate.’
b. ọ lâ-râ ụlọ ọkóyè è-rí-é ń’rí
3s go-FACT home O. DS-eat-SEQ food
‘He\textsubscript{i} went home and the Okoye\textsubscript{j} ate.’
Locus of Marking of Reference Tracker (third major generaliz.)

• {on head, on dependent, none, ...}  
  • on dependent: ‘long-distance reflexives’, ‘logophorics’, ‘anaphoric pronouns’ etc.

Yup’ik Eskimo (Reed et al. 1977)

a. angun ater-te-ller-*mini* alinge-llru-uq.
   man.sABS drift.with.the.current-WHEN-3s\{S\}={S, A} be.afraid-PT-3s
   ‘When the man drifted with the current, he was afraid.’

b. angute-m tange-llr-*ani* tuntuvak aya-llr-uq.
   man-ERG see-WHEN-3sA>3sO.\{O\}={S,A} moose.NOM go.away-PST-INTR-3s
   ‘When the man saw him\textsubscript{i}, the moose\textsubscript{i} went away.’

c. tang-ller-*miniu* tuntuvak angun aya-llr-uq.
   see-WHEN-3sA>3sO.\{A\}={S,A} moose.NOM man.NOM go.away-PST-INTR.3s
   ‘When he\textsubscript{i} saw the moose, the man\textsubscript{i} went away.’

Gokana (Cross-River, Benue-Congo; Hyman & Comrie 1981)

*Lébàreè kò aè div-èè e.*

L. say 3s hit-*LOG* 3SG.P
   ‘Lebare\textsubscript{i} said that he\textsubscript{i} hit him\textsubscript{j}.’ or ‘Lebare\textsubscript{i} said that he\textsubscript{j} hit him\textsubscript{i}.’
Selector Scope

- \{all, controller only, none, split, ...\}
- All: one selector type (e.g. \{S, A, p-P\} for all)
- Controller only: typical for reflexive pronouns and logophorics
- None: some unselected coreference (attested only for dep-marked trackers): “Relativischer Anschluss”?

Latin
*at ego basilicus sum. quem nisi oras, guttas non feres.*

‘But I am royal: if you don’t ask me, you won’t get any drop.’

[Plaut. *Rud.* 431]
• Split: controller vs. controllee

Warlpiri (Pama-Nyungan; Simpson 1991)

a. *ngarrka=ka  wangka-mi karli   jarnti-rninja-karra.*
   man.NOM=PRS speak-NPST boomerang.NOM trim-INF-SIM. \{S,A\}={S,A}
   ‘The man talked when trimming the boomerang.’

b. *ngajulu-rlu-rna yankirri  pantu-rnu, ngapa  nga-rninja-kurra.*
   1s-ERG=1sA  emu.NOM spear-PST  water.NOM drink-INF-{S,A}={O,G}
   ‘I speared the emu while it (not I) was drinking water.’

Ancient Greek

a. *pollakhoû dê  me  epéskhe  légo-nt-a*
   often  PTCL 1sACC stop.3sIMPERFECT talk-IPFV.ACT.PTCP-ACC.s
   metaxú.
   in.the.middle
   ‘[The oracle] has often stopped me when I was in the middle of
   talking.’ (Plat. *Apol.* 40b)

b. *egô  eréō  hōs eû  epistá-men-os.*
   1sNOM speak.1sFUT PTCL well understand-IPFV.MED.PTCP-NOM.s
   ‘I will speak out because I understand it well.’ (Herod. *Hist.* IX 42)
• {none, <some argument set> }

• ‘none’ typically for logophoric/reflexive pronouns or the antecedent of part. coni., which can occur in any function

• claims that ‘switch-reference’ is never ‘ergative’ are difficult to evaluate... If ‘switch-reference’ means ‘overt reference tracker’, what does occur is:
  • {S,P,d-A}-{A} (Dyirbal -ŋura)
  • {S,P,d-P}->{S,P,d-P} (Dyirbal -li)
  • {P}->{S,A,d-P} (Yup’ik -ani etc.)
  • {A}->{S,A,d-P} (Yup’ik -miniu etc.)
Argument treatment

- \{\text{none, shared, gapped, deleted, required, ...}\}
  - \text{shared: can’t ever be overt (e.g. w/ infinitives)}
  - \text{gapped: can’t be overt under coreference (e.g. control )}
  - \text{deleted: can’t be covert under non-coreference (e.g. conjunction reduction)}
- Typically, head-marked reference trackers don’t constrain argument treatment, but identity trackers tend to block agreement (but not always: Kobon, Maricopa)
# The beginnings of a survey

## Some overtly coded reference trackers:

<table>
<thead>
<tr>
<th>Switch</th>
<th>Marking of RT</th>
<th>Selector Scope</th>
<th>Selected</th>
<th>Arg treatment</th>
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<td>all</td>
<td>{S,A}</td>
<td>none</td>
</tr>
<tr>
<td>≠</td>
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<tr>
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<td>H</td>
<td>all</td>
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<td>shared</td>
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<tr>
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<td>split</td>
<td>{S,A,p-P}-{S,A,p-P}</td>
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<td>split</td>
<td>{S,A,p-P}-{P}</td>
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<tr>
<td>=</td>
<td>D</td>
<td>none</td>
<td>{A}</td>
<td>NA</td>
</tr>
</tbody>
</table>
A couple of hypotheses on distributions across languages

The distribution of reference tracking looks like an excellent areal marker, but we have no good databases (yet):

- Reference (identity and difference) tracking w/ adjoining clauses but not subcategorized clauses: Inner New Guinea, South Asia

- Reference (identity) tracking w/ subcategorized but not adjoining clauses: Macro Sudan Belt (in Güldemann’s sense 2008)
And some observations about distributions within languages

• Reference trackers can be ‘isolated’, i.e. there is no *ceteris paribus* clause linkage construction:
  
  • Swahili *na ku-* coreference tracker (“and INF”)
  
  • Pali -*tvā* coreference tracker (“absolutive”)
  
  • Yankunytjatjara -*la* different subject marker (Goddard 1983:171, 1988:188f)
  
• But some are
  
  – in equipollent opposition
  
  – in privative opposition

within a *ceteris paribus* clause linkage construction
Privative systems and one historical origin of ‘switch reference’

*Ceteris paribus*, one marker tracks reference, the other is neutral, as in classical IE *part. coni.* vs. absolute constructions:

Ancient Greek *gen. abs.*

a. [∅ ek dè toútou thâtton proïó-nt-ôn sùn kraug-ê]
   out PTCL DEM.GENsM faster proceed-IP-GENpM with shout-DATs
   apò toû automátou drómos e-géne-to
   from ART.GENsM spontaneity.GENs run.NOMs PST-become-3sIMPERF.MED
   toîs stratôt-ais.
   ART.DATpM soldier-DATp
   ‘But as afterwards (the leaders) proceeded faster and with a loud shout, the soldiers took to a running pace by themselves.’ (Xen. *Anab.* I, 2, 17)

b. [asthenésa-nt-os aut-oû] oudépote ap-é-leip-e tôn
   feeble-IP-GENsM 3-GENsM never away-PST-leave-3sIPFV ART.ACCsM
   pápp-on.
   grandfather-ACCs
   ‘When he was sick, he would never leave his grandfather.’ (Xen. *Cyr.* I, 4, 2)
A parallel in Australia

Yukulta part. coni. vs. dat. abs. (Tangkic; Keen 1983, Evans 1995)

a. *danka-ya=karri ngida karna-ja [makurrarra-wurla-ya karna-jurlu-ya].*
   man-ERG=3>3PRES wood light-ACT wallaby-PROPR-ERG light-PURP-ERG
   ‘The man lit the fire in order to cook the wallaby.’

b. *baa-ja=kandi dathin-ki dirr-i [ ∅ bala-tharri-nja=ma].*
   bite-IND=3>3POT DEM-ERG snake-ERG hit-NEG.IND-DAT=if
   ‘That snake will bite if (someone) doesn’t kill (it).’

c. *mutha=kurrarrungka kurri-kurri-ja [ ∅ wirrka-jarrra-ntha wangarr-inaba-ntha].*
   lot=AUX:3p>1nsPT watch-RED-IND dance-PRIOR-DAT corroboree-ABL-DAT
   ‘A big mob watched us dancing the corroboree.’
Absolute constructions > difference trackers (and thereby an equipollent system) through pragmatic competition with part. coni. constructions (identity trackers):

- Warlpiri dative
- Yuman comitative (‘associative’)
- Muskogeian accusative
- Uto-Aztecan accusative (*-kV) (reconstructed as identical with the proto-DS marker by Jacobsen 1983...)
References

Bickel, Balthasar, 1999. From *ergativus absolutus* to topic marking in Kiranti: a
typological perspective. *Proceedings of the 25th Annual Meeting of the Berkeley
Linguistics Society* 38 – 49.
Bickel, Balthasar & Johanna Nichols, 2001. Inflectional morphology. Expanded ver-

cion of chapter published in Shopen, T. (2007) *Language typology and syntac-

[http://www.uni-leipzig.de/~autotyp/download/infl.pdf].

Benjamins.

& Pamela Munro (eds.) *Switch-reference and universal grammar*, 105 – 128. Ams-
terdam: Benjamins.
Haspelmath, Martin, 1995. The converb as a cross-linguistically valid category. In

Haspelmath, Martin & Ekkehard König (eds.) *Converbs in cross-linguistic perspec-
Jakobson, Roman, 1957. Shifters, verbal categories, and the Russian verb. In *Se-

Gruyter 1970.


Conclusions

• Diversity much larger than what terms like ‘switch-reference’ suggest

• Identity trackers seem to be extremely common worldwide,

• but their specific characteristics and combinations with difference trackers look like interesting areal markers