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: $E^n E^n$ vs. $E^n E^s$, person: $P^n P^s$
  - so, **$P^n P^n$** 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 ʔeta gul-do-**ʔo**-bil   l-i   bahim na taʔ-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. *ʔois eu   ma-do-**ʔo**-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 prefered!)

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)

Kâte (Trans-New-Guina; Pilhofer 1933)
*ra fisi-**pie*** *fahare-**râ** yâpeʔ-yopa-**pie*** *mafa-yeŋiʔ*
go arrive-SEQ.3p**DS** rise-SEQ.**SS** chase.away-3pDO-SEQ.3p**DS** stuff-3pPOSS
*behe-**râ*** *wise-**pie*** *fiuʔ ro=fâre-mbiŋ.*
throw.away-SEQ.**SS** flee-SEQ.3p**DS** illicitly take=all-3pREMOTE.PST
'When they$_i$ (the foreigners) arrived, they$_j$ (the villagers) got up and chased them away. They$_i$ threw away their stuff and fleed. Then, they$_j$ stole their stuff.'

Igbo (Benue-Congo; Welmers 1973)

 a. *ọ̀ là-rà ụ̀lọ̀ rí-é ń'rí*
    3s go-FACT home eat-SEQ food
    'He went home and ate.'

 b. *ọ̀ là-rà ụ̀lọ̀ òkóyè **è**-rí-é ń'rí*
    3s go-FACT home O. **DS**-eat-SEQ food
    'He$_i$ went home and the Okoye$_j$ ate.'

- {on head, on dependent, none, …}
  - on head: 'switch-reference', 'infinitive', 'purposive', 'implicated clauses'
  - on dependent: 'long-distance reflexives', 'logophorics', 'anaphoric pronouns' etc.

Yup'ik Eskimo (Reed et al. 1977)

a. *angun   aterte-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-uuq.*
   man-ERG   see-WHEN-3sA>3sO.**{O}={S,A}** moose.NOM go.away-PST-INTR-3s
   'When the man saw him$_i$, the moose$_i$ went away.'

c. *tang-ller-**miniu**   tuntuvak   angun   aya-llr-uuq.*
   see-WHEN-3sA>3sO.**{A}={S,A}** moose.NOM man.NOM go.away-PST-INTR.3s
   'When he$_i$ saw the moose, the man$_i$ went away.'

Gokana (Cross-River, Benue-Congo; Hyman & Comrie 1981
*Lébàreè kɔ aè div-**èè** e.*
L.   say 3s hit-**LOG** 3SG.P
'Lebare$_i$ said that he$_i$ hit him$_j$.' or 'Lebare$_i$ said that he$_j$ hit him$_i$.'

- {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*
    but 1sNOM royal   be.1sPRES **RELsM.ACC** if.not ask.2sPRES drop.pACC

    non feres.   [Plaut. *Rud.* 431]
    NEG bear.2sFUT

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

- 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 dḗ   me   epéskhe   légo-nt-a*
   often   PTCL 1s**ACC** 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. *egṑ   eréō   hōs eû epistá-men-os.*
   1s**NOM** speak.1sFUT PTCL well understand-IPFV.MED.PTCP-**NOM.s**
   'I will speak out because I understand it well.' (Herod. *Hist.* IX 42)

Selector

- {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

- {none, shared, gapped, deleted, required, …}

  - shared: can't ever be overt (e.g. w/ infinitives)

  - gapped: can't be overt under coreference (e.g. control)

  - 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:

	Switch	Marking of RT	Selector Scope	Selected	Arg treatment
Kâte *-râ* etc.	=	H	all	{S,A}	none
Kâte *-me* etc.	≠	H	all	{S,A}	none
Igbo è-	≠	H	all	{S,A} (?)	none
Greek *part. coni.*	=	H	split	{S,A,p-P}-{X$_{[\alpha case]}$}	shared
Warlpiri *-kara*	=	H	split	{S,A,p-P}-{S,A,p-P}	shared
Warlpiri *-kura*	=	H	split	{S,A,p-P}-{P}	shared
Warlpiri *-rlarni*	=	H	split	{S,A,p-P}-{G}	shared
Dyirbal *-ŋura*	=	H	split	{S,P,p-A}-{A}	none
Gokana *-ee*	=	H	controller only	{A$_{info}$,P$_{info}$}	none
Attic Greek *sp^h-*	=	D	controller only	{S$_{info,\ subj}$,A$_{info,subj}$}	NA
Babungo Log	=	D	controller only	{A$_{info}$}	NA
Yupik *-ani* etc.	=	H	split	{A}-{S,A}	none
Yupik *-miniu* etc.	=	H	split	{P}-{S,A}	none
Latin Rel. Anschl.	=	D	none	NA	NA

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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)

- 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-ōn   sùn kraug-ę̂*]
     out PTCL DEM.GENsM faster   proceed-IP-**GEN**pM with shout-DATs
   apò toû   automátou   drómos   e-géne-to
   from ART.GENsM spontaneity.GENs run.NOMs PST-become-3sIMPERF.MED
   toîs   stratṓt-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. [*asthenḗsa-nt-os aut-oû*] *oudépote ap-é-leip-e   tòn*
    feeble-IP-**GEN**sM 3-**GEN**sM never   away-PST-leave-3sIPFV ART.ACCsM
   pápp-on.
   grandfather-ACCs
   'When he$_i$ was sick, he would never leave his grandfather$_i$.' (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=kurrarringka kurri-kurri-ja*   [∅ *wirrka-jarrba-ntha wangarr-inaba-ntha*].
   lot=AUX:3p>1nsPT   watch-RED-IND   dance-PRIOR-DAT   corroborree-ABL-**DAT**
   'A big mob watched us dancing the corroborree.'

A common pathway of development

Absolute constructions > difference trackers (and thereby an equipollent system) through pragmatic competition with *part. coni.* constructions (identity trackers):

- Warlpiri dative
- Yuman comitative ('associative')
- Muskogean accusative
- Uto-Aztecan accusative (*-kV*) (reconstructed as identical with the proto-DS marker by Jacobsen 1983…)

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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