



Reflexivity without reflexives: What does it tell us?

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The current lay of the land

- Challenges to the consensus (UG, the role of hierarchical structure in language)
- Cross-linguistic variation: Where is the unity in the diversity?
- Data-driven surface based approaches
 - A free for all market of ideas (fashion, “easy” arguments, half-truths – e.g. Evans & Levinson 2009, Frank, Bod & Christiansen 2012)
- Way to go: take the challenges seriously
 - Achilles heel of data driven approaches: structure dependent cross-linguistic generalizations.
 - Cross-linguistic variation: Find the unity in the diversity.



Responses

Establish generalizations depending on hierarchy

Pesetsky (2013):

Identical, crucially hierarchical conditions govern agreement mismatches in Russian and Lebanese Arabic.

Biberauer, Holmberg & Roberts (to appear)

The Final over Final Constraint: A head-initial category cannot be the immediate structural complement of a head-final category within the same extended projection.



Our contribution: Binding and Reflexivity

Prima facie impression:

- Immense cross-linguistic variation in the expression of reflexivity:
 - self-reflexives
 - bodypart reflexives
 - clitics
 - verbal reflexives
 - affixes
 - doubled pronominals
 - simplex reflexives
 - simple pronominals
 - detransitivization, ...

Hard to reconcile with macro-universals as in canonical binding theory



Two types of approaches

Exotification (Levinson 2000, E&L 2009, L&E 2010)

Language is a bio-cultural phenomenon, and its manifestations can be as diverse as human culture can be diverse.

Bilingualistic ('humanistic')

Language is a bio-cultural phenomenon, and under its diversity of expression we have to look for **commonalities** reflecting our shared human nature.

Resolving the issue requires:

- Detailed investigation of 'problematic' cases.
- Breakdown into basic factors:
 - What is contributed by general mechanisms?
 - What is contributed by language particular morpho-syntactic properties?



The Puzzle of Khanty

Khanty is reported to allow locally bound pronominals (Nikolaeva 1995):

- (1) Utlitexo_i tuvet_{i/k} išək-s-əlle.
teacher he.ACC praise-PST-SG.3SG
The teacher praised himself / him.

The **question** is then:

- Why is local binding of the pronoun *tuvet* allowed?

Structure of the presentation:

- Theoretical background
- Detailed analysis of the relevant aspects of the structure of Khanty



What is reflexivity and what makes it special?

What is reflexivity? Intuitively:

- One argument of a predicate binds another argument of that predicate.

Binding (Reinhart 2006):

A-binding

- α binds β iff α is the sister of a λ -predicate whose operator binds β
- Alice was sitting next to her sister
- Alice (λx (x was sitting [next to x' s sister]))
Rendering *her* as x (rather than some other alphabetic variant) expresses the bound variable (BV) construal of *her*.

What makes reflexive predicates special?

- The need to keep apart (two) occurrences of the same linguistic object in a local domain.



Inability to Distinguish Indistinguishables (IDI)

Consider the following structure

- (2) a. DP V Pronoun
b. *Alice haatte zich. (Dutch)
Alice hated SE

➤ “Brute Force” Reflexivization is prohibited.

LF representation of binding:

- (3) a. Alice (λx [_{haatte} [θ_1, θ_2] x x]) + zich
↓
b. Alice (λx [_{haatte} [θ_1, θ_2] x]) + zich
 $\theta_1? \theta_2?$



IDI and its effects

IDI:

In a representation without order and hierarchy the two occurrences of x are indistinguishable \rightarrow identified \rightarrow mismatch between Θ -structure and formal arity \rightarrow indeterminacy \rightarrow *

The problem in handling identicals in a local domain is a general property of C_{HL} , also manifested in the Obligatory Contour Principle (Leben 1973) and the antilocality condition on movement (Abels 2003).

- \rightarrow There is a general problem expressing reflexive predicates in the prima facie most straightforward way.
- \rightarrow Languages may be expected to employ special means to express reflexivity.



Reflexivity cross-linguistically

General observation: Languages do indeed employ many special strategies to license reflexivity.

We see simplex anaphors, self-anaphors, bodypart reflexives, special clitics, verbal reflexives, affixes, (doubled) pronominals, detransitivization, ...

Heine and Miyashita (2008: 172): “reflexivity and reciprocity are universal concepts in so far as all languages can be expected to have some grammaticalized expression for both.”

Prima facie exceptions exist: among pidgins and creoles, as well as in Malayo-Polynesian languages, especially the Oceanic languages.

But:

Moyse-Faurie (2008: 107): Oceanic languages are in fact no exception to Heine and Miyashita’s statement and “offer a large spectrum of morpho-syntactic devices to mark coreference”.



Research Strategy

Strong hypothesis:

- Reflexivity must be licensed to avoid the effect of IDI

Needed:

- Analysis of conditions that allow expressing reflexivity while avoiding IDI effects
- Detailed investigation of the ‘fine structure’ of languages that prima facie allow IDI violations.
 - Specifically: languages allowing coargument-bound pronominals
 - For Old English, Frisian, see Reuland (2011)
- This strategy will then be applied to Khanty



Licensing strategies

- The issue: How to obtain a reflexive interpretation while avoiding Brute Force Reflexivization.
- Logically one may conceive of two strategies:
 - (I) An operation enabling the two roles to be assigned to the one remaining argument after valence reduction.
 - (II) Protection: Making the two arguments formally distinct, but allowing (a suitable approximation of) a reflexive interpretation.



Strategy I: Bundling of theta-roles

- The Theta System (Reinhart 2002, Reinhart & Siloni 2005) presents a general theory of operations on argument structure, one of which is Bundling of Θ -roles. The Bundling operation reduces the internal argument of a two-place predicate and combines the internal role (theme) and the external role (agent) into a composite agent-theme role.

(4) Bundling:

a. $V_{ACC}(\theta_1, \theta_2) \rightarrow R_s(V)(\theta_{1,2})$

(where $\theta_{1,2}$ stands for the Bundling of θ_1 and θ_2)

b. $V[\text{Agent}]_1[\text{Theme}]_2 \rightarrow V[\text{Agent-Theme}]_1$



Strategy II: Protection

- The other way of avoiding IDI: Keeping the two arguments formally distinct by adding complexity to one argument (generally, the object argument).
- The pronoun can be protected through embedding it in a complex NP structure. Cross-linguistically this often happens through a SELF-element, a body part noun or a doubled pronoun:

(5) Tsakhur, North Caucasian (Toldova 1999)

rasul^y-e wudž-e wudž yaramališ-a?-u.
Rasul-ERG Refl.1-ERG Refl.1.ABS wound-1.do-PF
Rasul wounded himself.

- As a result the bound pronoun, i.e. the variable, is protected:

(6) Instead of $V[x, x]$, use $V[x, [\text{Morph } x]]$ interpreted as $V(x, f(x))$,
where $|f(x)| \approx |x|$



Tegi Khanty: Grammar sketch I

- Northern Khanty (also known as Ostyak) is a Uralic language, spoken in the Khanty-Mansijsk autonomous district in North-West Siberia. The variety reported here is spoken in the village of Tegi.
- The structure is SOV coupled with a relatively free word order (Nikolaeva 1999a).
- The sentence structure is highly dependent on the structure of the discourse and passive is widely used to preserve the topic of the discourse.
- The nominal system has three cases (Nominative, Dative, and Locative), personal pronouns also distinguish three cases (Nominative, Dative, and Accusative).
- The language distinguishes three numbers: singular, dual and plural. The pronominal system has three persons: 1st, 2nd and 3rd.



Tegi Khanty: Grammar sketch II

- In the verbal domain there are two synthetic tenses – past and nonpast, and an analytical future tense created with the auxiliary verb *pitti* 'start'. The language has a rich system of aspectual markings and affixes reflecting changes in argument structure such as causativisation, and detransitivisation.
- Khanty distinguishes two types of verbal agreement: **obligatory subject agreement** and **optional object agreement**.
- Objects that trigger agreement on the verb usually have a special status with respect to the information structure of the sentence and differ in their syntactic behavior from objects that do not trigger agreement.
- Such objects tend to be associated with old information, while objects that do not trigger agreement tend to express new information (see Nikolaeva, 1999b, for discussion).



Strategies in Tegi Khanty I: Valence reduction

Tegi Khanty has valence reduction as a strategy to license reflexivity, using the suffix *-ij(l)-* as in (7):

- (7) a. *luoxətti* 'wash' – *luoxətiti* / *luoxətijłti* 'wash oneself'
- b. As'i n'avrem luoxit-əl.
father child wash-NPST.3SG
The father washes the child.
- c. Łuv luoxət-ij-il.
S/he wash-DETR-NPST.3SG
He washes.
- d. *Pet'a n'avrem luoxət-ij-s.
Petja child wash-DETR-PST.3SG
Int: Petja washes the child.



Valence reduction

- There are certain limitations to the use of the suffix *-ij(l)-*: it can be used only with a limited amount of verbs: it is available with the *wash*-type verbs, but not with subject-experiencer verbs like *know*, *remember*, *trust*.

(8) a. *nuomtĩ* 'remember' – **nuomtĩĩ*

b. *Pet'a-jən łuveł nuom-ł-əłłe.*

Petja-2SG he.ACC remember-NPST-3SG.SG

Petja remembers himself.

- One of the ways to show that Bundling reduces the internal argument of a two-place predicate is the wax museum context of Jackendoff (1992).



Proxy-readings as a test

- In English the only visible difference between the transitive verb *wash* and its reflexive counterpart is the absence of the direct object.
- (9) a. {Upon a visit to the wax museum,} Ringo started washing himself. (^{OK}Ringo, ^{OK}Ringo's statue)
- b. {Upon a visit to the wax museum,} Ringo started washing (^{OK}Ringo, *Ringo's statue)
- (9b) indicates that the reflexive *wash* is intransitive.
 - If the verb undergoes reduction and bundling of its agent and theme roles, it has no object argument and thus there is no argument to assign a proxy-interpretation to.



Proxy-readings in Tegi Khanty

- The same applies to affixal reflexives in Tegi Khanty: no object argument is projected, no proxy interpretation can be assigned.

(10) *Gorbachev came to the museum and saw a monument to himself.*

- a. Łuv luoxit-i-s.
he wash-DETR-PST.3SG
He washed. (^{OK}Gorbachev, *the monument)
- b. Łuv łuveł łuoxit-s-əlle.
he he.ACC wash-PST-SG.3SG
He washed himself. (^{OK}Gorbachev, ^{OK}the monument)



Strategies in Tegi Khanty II: The Puzzle

Why does Khanty allow locally bound pronominals?

- (11) Utlitexo_i huvel_{i/k} išək-s-əlle.
teacher he.ACC praise-PST-SG.3SG
The teacher praised himself / him.

Are these elements perhaps a special type of (logophoric) pronoun? No evidence for that.

1. There is no other pronominal paradigm
2. They don't show the properties of logophors.



Is it a logophor?

The pronoun *ŕuv* is not logophoric in nature, i.e.,

- it is not restricted to reportive contexts, and
- its antecedent is not limited to the individual whose words or thoughts are transmitted in the reported context in which the pronoun occurs (see Clements 1975).

- (12) Maša_m jast-əs Ivan-a_i što ŕuv_{i/m} Boris
Masha say-PST.3SG Ivan-DAT that s/he Boris
išək-ŕ-əŕe.
praise-NPST-SG.3SG
Masha says to Ivan that s/he praises Boris.



Is it binding?

- Non-referential antecedent *nemχojat* ‘no one’:

(13) *Nemχojat_i luve_{i/k} ānt išək-t-ətte.*
no.one he.ACC NEG praise-NPST-SG.3SG
No one praises himself / him.

- Is *nemχojat* truly non-referential? -- Yes. (Heim test, (Heim 1982)):

(14) a. *Pəχleŋki vuontə-s-le ar. Ari-ti (ɫuv) pitəɫ?*
boy learn-PST-SG.3SG song sing-INF he start-NPST.3SG
The boy learnt the song. Will he sing?

b. *Nemχojat ar ānt vuont-əs. *Ari-ti ɫuv pitəɫ?*
no.one song NEG learn-PST.3SG sing-INF he start-NPST.3SG
Int.: No one learnt the song. Will he sing?

- *Nemχojat* ‘no one’ is not an individual denoting expression.
- Yes, it is binding!



Anything special?

(15) a. Object agreement - bound/disjoint reading

Utltitex_{o_i} łuveł_{i/j} išək-s-əlle.

teacher he.ACC praise-PST-SG.3SG

The teacher praised himself.

b. No object agreement - no bound reading

Utltitex_{o_i} łuveł*_{i/j} išək-s.

teacher he.ACC praise-PST.3SG

The teacher praised him.

- Yes, there is something special! **Object Agreement**, but what does it do?



Tegi Khanty: Verbal agreement I

Person	Number					
	SG		DU		PL	
1	iřak-s-	əm	iřak-s-	əmən	iřak-s-	uv
2	iřak-s-	ən	iřak-s-	ətən	iřak-s-	əti
3	iřak-s		iřak-s-	əŋən	iřak-s-	ət

Table 1: Subject agreement in Tegi Khanty, past tense



Tegi Khanty: Verbal agreement I

Person	Number					
	SG		DU		PL	
1	iřak-s-	əm	iřak-s-	əmən	iřak-s-	uv
2	iřak-s-	ən	iřak-s-	ətən	iřak-s-	əti
3	iřak-s		iřak-s-	əŋən	iřak-s-	ət

Table 1: Subject agreement in Tegi Khanty, past tense



Tegi Khanty: Verbal agreement II

		Object					
Subject		SG		PL			
SG	1	iřak-s-		em	iřak-s-	əł-	am
	2	iřak-s-		en	iřak-s-	əł-	ən
	3	iřak-s-	əłti		iřak-s-	əłti	
DU	1	iřak-s-		emən	iřak-s-	əł-	amən
	2	iřak-s-		əłən	iřak-s-	əł-	łən
	3	iřak-s-		əŋən	iřak-s-	əł-	łən
PL	1	iřak-s-		ev	iřak-s-	əł-	əv
	2	iřak-s-		əłən	iřak-s-	əł-	łən
	3	iřak-s-		əł	iřak-s-	əł-	əł

Table 2: Object agreement in Tegi Khanty, past tense

Tegi Khanty: Verbal agreement II

		Object					
Subject		SG			PL		
SG	1	iřak-s-		em	iřak-s-	əʃ-	am
	2	iřak-s-		en	iřak-s-	əʃ-	ən
	3	iřak-s-	əʃti		iřak-s-	əʃti	
DU	1	iřak-s-		emən	iřak-s-	əʃ-	amən
	2	iřak-s-		əʃən	iřak-s-	əʃ-	ʃən
	3	iřak-s-		əŋən	iřak-s-	əʃ-	ʃən
PL	1	iřak-s-		ev	iřak-s-	əʃ-	əv
	2	iřak-s-		əʃən	iřak-s-	əʃ-	ʃən
	3	iřak-s-		əʃ	iřak-s-	əʃ-	əʃ

Table 2: Object agreement in Tegi Khanty, past tense

The distribution of locally bound pronominals

Coargument domain, factors to consider:

- (a) IDI Protection
- (b) Conditions on chains

Illustration: Dutch-Frisian contrast

(16) *Jan waste zich/*hem*

(17) *Jan waske him* (Fr.)

(18) *Jan haatte zichzelf/*zich*

(19) *Jan hate himsels/*him* (Fr.)

Contrast *zich/hem* chain condition effect (Reuland 2011)

Question: How do protection and chain formation work in Tegi Khanty?



Towards strategy II: The mechanics of chain formation

General idea:

- Identity of variables in LF can be encoded in syntax by identification of ϕ -feature bundles
- Identification of ϕ -feature bundles is effected by valuation under Agree

Implementation: Pesetsky & Torrego (2004), Reuland (2011)

Needed for being visible to Agree:

Unvalued formal feature (such as structural Case)

Condition on identification of ϕ -feature bundles must be met:

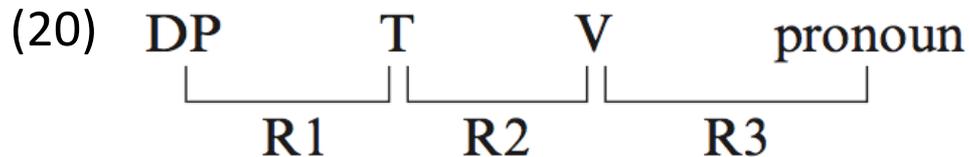
Principle of Recoverability of Deletion (PRD, no non-matching features, no loss of information)

Violation of PRD → Derivation is cancelled (Chomsky 1995).



Chain formation: A simplified example I

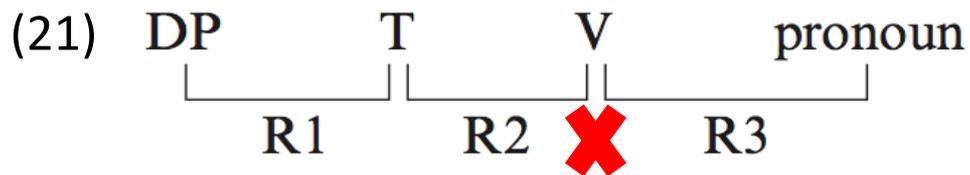
- In Dutch a ϕ -feature chain can be formed between DP and the pronoun based on R1, R2 and R3, provided the pronoun is ϕ -feature deficient (=zich).



- R1 stands for subject-verb agreement,
 - R2 stands for the verb-tense dependency, and
 - R3 for the structural Case dependency between the verb and the object.
- If the pronoun is fully specified for ϕ -features, i.e. = *hem*, PRD is violated and the derivation cancelled → assigning a BV interpretation at LF bypassing syntax is ruled out.

Chain formation: A simplified example II

- In Frisian the conditions for a ϕ -feature chain between DP and the pronoun are not met since the pronoun does not carry structural Case
→ is invisible for probing.



- R1 stands for subject-verb agreement,
 - R2 stands for the verb-tense dependency, and
 - R3 for the (*structural) Case dependency between a verb and the object.
- The derivation is not ‘attempted’ → PRD is not violated → no derivation is cancelled → interpretation by a BV construal at LF is permitted (though not required).

Summary of chain effects

- Anaphoric dependencies subject to *Economy* (Reuland 2001, 2011):

(22) Syntax < Variable Binding < Coreference

- A chain must be formed between an anaphor and its antecedent if it *can* be formed.
- A violation of PRD entails cancellation of the derivation.
- If “no chain can be formed”, this does not entail “no binding”, it only entails “no encoding of the binding relation in narrow syntax”.



Towards strategy II: Protection and chains in Tegi Khanty

- Locally bound third person pronominals in Tegi Khanty could potentially lead to a violation of
 - IDI
 - constraints on chain-formation.
- To explain the Khanty anaphoric system it must be established that
 1. no chain is formed between the subject and the locally bound third person pronominal
 2. the bound variable is protected.
- Crucial factor: object agreement
 - No object agreement → *tuvet* is **not** locally bound
 - Object agreement → *tuvet* **may** be locally bound
 - *Object agreement* *i. prevents formation of a chain*
 - ii. protects the object variable.*



Chain formation: The “subject-object path” in Tegi Khanty

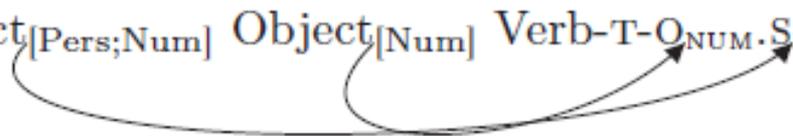
In Tegi Khanty the conditions for the formation of a ϕ -feature chain between the subject and *tuvet* are not met.

- Informally speaking, the object agreement intervenes between the T-system (with subject agreement being its exponent) and the pronoun, preventing formation of an Agreement chain.
- When T comes into play, object agreement will already have checked any syntactic property of the pronoun (e. g. structural Case) that would make it visible for probing.
- Hence, the pronoun *tuvet* and the subject cannot form an agreement chain (as in Frisian but for a different reason on the micro-level), the derivation will not be cancelled, and the 3rd person pronominal can (in principle) be variable bound at the C-I interface.

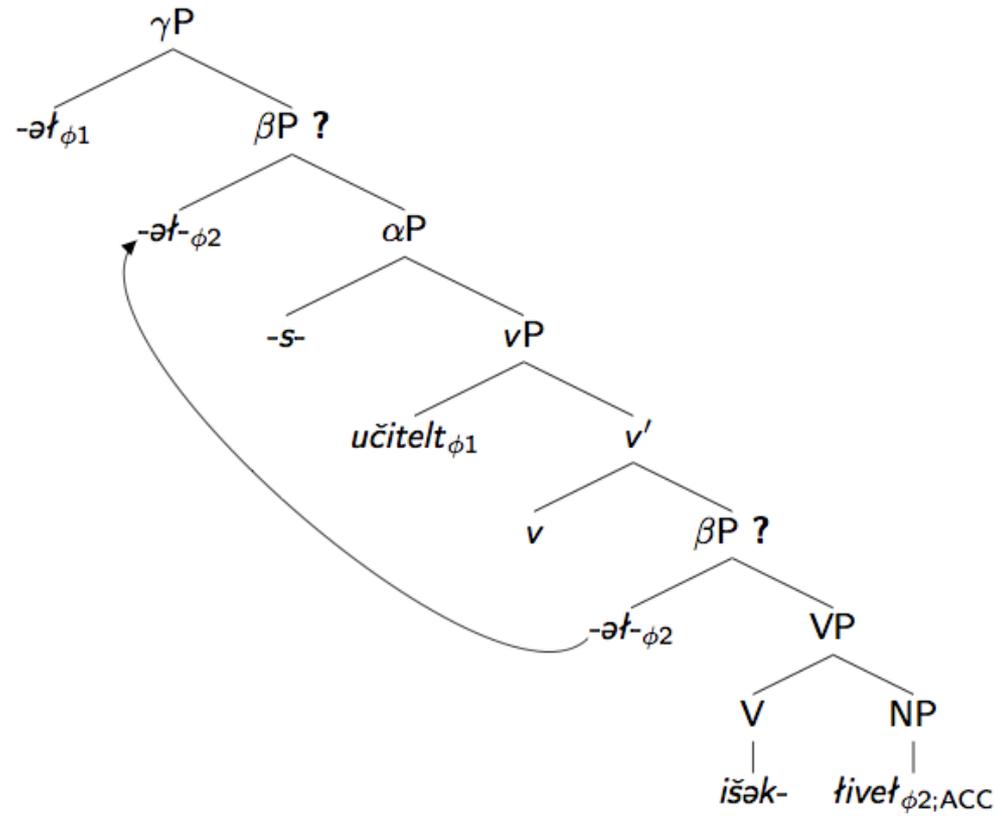
(23)

a. Učitel- t_i livel $_{i/k}$ išək-s-əł-əł.
teacher-PL they.ACC praise-PST-PL-3PL
The teachers praised them(selves).

b. Subject $_{[Pers;Num]}$ Object $_{[Num]}$ Verb-T-O $_{NUM}$ ·S $_{PERS;NUM}$



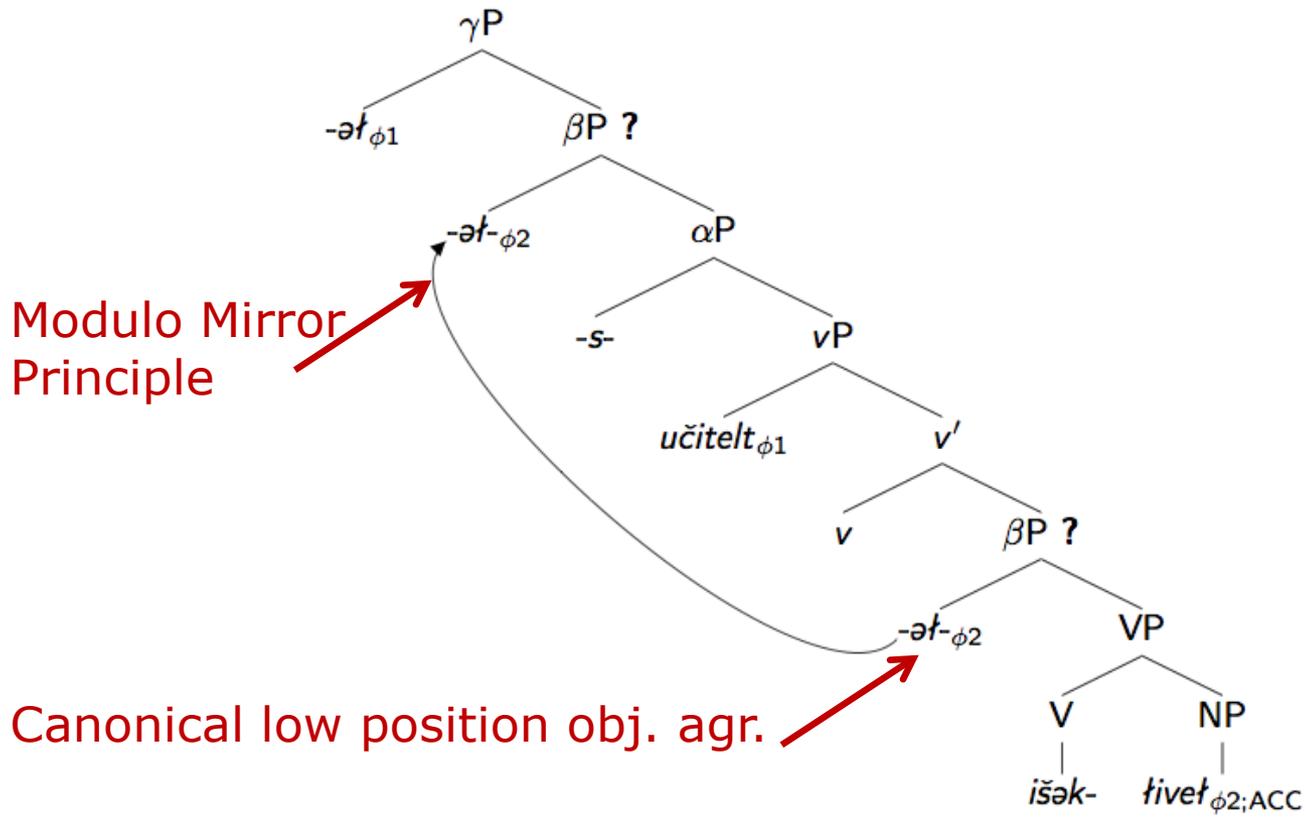
Strategy II: Chain formation: Object Agr intervenes



γ - subject agreement
 β - object agreement
 α - tense marker



Strategy II: Chain formation: Object Agr intervenes



γ - subject agreement
 β - object agreement
 α - tense marker



Strategy II: Object Agr and protection I

- Object agreement is crucial for licensing object drop, which in isolation does not license reflexivity.

(24) One autumn day a man went to the forest and suddenly saw a bear in the lake caught up in the ice.
S'ałta keł-ən metš-əs-łe, vuti-šek tał-s-əłle,
then rope-LOC tie-PST-SG.3SG bank-COMP drag-PST-SG.3SG
χun-əł-a nuχ perət-s-əłle.
belly-3SG-DAT up turn-PST-SG.3SG
*Then (he) tied (it/*himself) with a rope, dragged (it/*himself) to the bank of the lake and turned (it/*himself) over.*

1. Object agreement licenses a null object pronoun.
 2. The overt *łuveł* forms a constituent with the null object.
- The combination of these two factors creates complexity. *łuveł* serves as a protection for the null object pronoun.



Strategy II: Object Agr and protection II

- *ʔuvet* has an independently established use as an intensifier (note that as an intensifier it should be stressable, hence in this capacity it cannot be null).

(25) Jeʔp škola puš-s-ə(t) K. ʔuv joʔtis.
new school open-PST-3PL K. she come-PST.3SG
{LC: Komarova is the governor of the Khanty-Mansijsk Autonomous District.} *When they were opening the new school, Komarova herself came.*

- Thus, the structure of (11) under its reflexive interpretation is (28), with \emptyset licensed by object agreement:

(26) Utʔitexo_i [ʔuveʔ_i \emptyset] iʂək-s-əlle.
teacher he.ACC \emptyset praise-PST-SG.3SG
The teacher praised himself.



Pronoun doubling

- Independent evidence for the possibility of doubling is that Tegi Khanty speakers also use a reflexive strategy with overt doubling as in *tuv tuvet*:

- (27) a. Vas'a-jən Maša-jən par-s-əŋe ɬuveɬ_{v/*m} ɬap-ti.
Vasja-2SG Masha-2SG ask-PST-SG.3SG he.ACC feed-INF
Vasja asked Masha to feed him.
- b. Vas'a-jən Maša-jən par-s-əlle ɬuv ɬuveɬ_{m/*v} ɬapti.
Vasja-2SG Masha-2SG ask-PST-SG.3SG he he.ACC feed-INF
Vasja asked Masha to feed herself.

- tuv tuvet* is always bound by the subject within the same simple clause, but is not limited to co-argument positions:

- (28) Nemxojat ɬuv ɬuv vörŋaɬa änt potərt-əs.
no.one he he with NEG tell-PST.3SG
No one said anything about himself.



Pronoun doubling II

- Such speakers select the doubled form *tuv tuvet* as the locally bound object of subject experiencer (*know*-type) verbs. It is allowed but not required for agent-theme verbs:

- (29) a. Maša-jən_m Pet'a-jəna_p nöt-s. Pa Pet'a-jən-a
Masha-2SG Petja-2SG-DAT help-PST.3SG and Petja-2SG-DAT
nöt-əm veraln tuv tuveļa_{m/*p} evəlt-ļ.
help-PFT.PART after he he.ACC trust-NPST.3SG
Masha helped Petja. After (she) helped Petja, she trusts herself.
- b. Maša-jən_m Pet'a-jən-a_p nöt-s. Pa Pet'a-jən-a
Masha-2SG Petja-2SG-DAT help-PST.3SG and Petja-2SG-DAT
nöt-əm veraln tuveļa_{p/?m} evəlt-ļ.
help-PFT.PART after he he.ACC trust-NPST.3SG
Masha helped Petja. After (she) helped Petja, she trusts him.



Tegi Khanty and the choice among theories

- Pronominals can be locally bound in Tegi Khanty, iff the verb is marked for object agreement.

Does this array of facts allow us to choose between theories?

- Canonical BT
- Competition based approaches:
 - pronominals can be bound if there is no more morpho-syntactically dedicated competitor (Safir 2004);
 - pronominals can be bound if there is no more pragmatically dedicated competitor (Levinson 2000);
- Semantic approaches: the fact that pronominals cannot be locally bound follows from properties of the interpretation function (Schlenker 2005)
 - None of these approaches have anything to say about the interplay between object agreement and pronominals, as the relevant factor does not reside in the bound element itself.



Conclusions

Like all languages studied in sufficient depth so far, Tegi Khanty has been shown to require licensing reflexivity of predicates (along the lines of Reuland 2011).

Like many languages it employs both a valency reduction with bundling and a protection strategy.

It obeys conditions on chain formation and economy along the lines of Reuland (2011).

Most importantly, we showed that, as a language, Tegi Khanty despite its initially puzzling property of allowing locally bound pronominals and the fact that it is spoken by people with an intriguing, though rapidly vanishing culture, is no more exotic than our neighbor Frisian.



Thank you!

Comments and questions?



Universiteit Utrecht

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