# Uyghur Reflexive Binding is not Agree

Madelaine O'Reilly-Brown (Stanford University)
morbrown@stanford.edu

## 1. Long-distance binding: a puzzle for binding theory

- Many Turkic languages have a reflexive anaphor that can either be bound by a clausemate antecedent or by a remote antecedent

(1) a. Tursun$_i$ [ Xemit-ning$_j$ öz-i-ni$_{i/j}$ ur-idighan-liq-i]-gha ishin-i-du (Uyghur)
Tursun Xemit-GEN self-3-ACC believe-IMPF-COMP-3-DAT believe-NPST-3
'Tursun$_i$ believes that Xemit$_j$ will hit self$_{i/j}$.'

b. Dursun$_i$ [ Hamit-in$_j$ kendi-sin-i$_{i/j}$ vur-acağ-in]-a inan-ıyor (Turkish)
Dursun Hamit-GEN self-3SG-ACC shoot-IMPF-3SG-DAT believe-PRS.PROG-3SG
'Dursun$_i$ believes that Hamit$_j$ will hit self$_{i/j}$.' (Major and Özkan 2018:12)

- The Uyghur and Turkish reflexive anaphors in (1) can be bound by either the local subject or the long-distance (LD) matrix subject
  - The local binding pattern is reminiscent of Condition A anaphors like English 'self' pronouns
  - However, the availability of binding by the subject of the matrix clause is not captured by any of the binding conditions as formulated in, e.g., Chomsky 1981
- It is common in Turkic and typologically similar languages like Mongolian (Gong and Despic 2024) for reflexives to bear a suffix reflecting the phi-features of the binder
- This morphological fact could be taken as support for an approach in which binding is established via Agree (Kratzer 2009, Bhatia and Poole 2016, Ivan and Mirrazi 2019, a.o.)
  - In Mandarin (areal contact with Uyghur and Mongolic languages) – Giblin 2015: Mandarin LD reflexive *ziji* is syntactically bound via agreement
  - In Turkic – Paparounas and Akkuş 2023: in Turkish, binding of reflexive anaphors feeds agreement in configurations in which agreement is otherwise unavailable

**This talk:**

- Focuses on the Uyghur reflexive anaphor in (1-a)
- Explores a novel binding pattern wherein long-distance binding appears to be parasitic on the availability of local binding

**Contribution:**

- Presents evidence that Agree, while required to syntactically license the Uyghur reflexive, does not determine binding relations at LF

## 2. The Uyghur reflexive: the basics

- Uyghur (unlike Turkish) has only one reflexive anaphor[1]
- It can be decomposed into the morpheme *öz*, meaning 'self', and an agreement suffix from the possessive agreement paradigm; some of its forms are given below, along with possessive DPs for comparison:

(2) a. öz-**em**
self-**1SG**
'myself'

b. kitap-**im**
book-**1SG**
'my book'

(3) a. öz-**eng**
self-**2SG**
'yourself'

b. kitap-**ing**
book-**2SG**
'your book'

(4) a. öz-**i**
self-**3**
'him/herself'

b. kitap-**i**
book-**3**
'his/her/their book'

- The reflexive may only be bound by a noun whose phi-features match those expressed by the possessive suffix

(5) men$_i$ Amine-ge$_j$ öz-i-ni$_{j/*i}$ eynek-te kör-set-t-im

I Amine-DAT self-3-ACC mirror-DAT show-CAUS-PST-1SG
'I$_i$ showed Amine$_j$ self$_{j/*i}$ in the mirror.'

- (5) also demonstrates that reflexive is not subject-oriented
- The reflexive can be locally bound by any DP with matching phi-features that c-commands it

(6) Meryem$_i$ Hesen-ge$_j$ [öz-i-ning$_{i/j}$ sowghit-i-ni]$_{DO}$ ber-d-i

Meryem Hesen-DAT self-3-GEN gift-3-ACC give-PST-3
'Meryem$_i$ gave Hesen$_j$ self's$_{i/j}$ gift.'

- Further, overt movement can feed and bleed binding
  - Scrambling the direct object containing the reflexive in (6) over the indirect object bleeds binding by the indirect object (7)

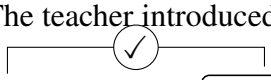
[1] Unless otherwise indicated, all data were collected with the help of three native speaker consultants. I thank them for sharing their language with me.

(7) 
Meryem$_i$ [öz-i-ning$_{i/*j}$ sowghit-i-ni]$_{DO}$ Hesen-ge$_j$ t$_{DO}$ ber-d-i

Meryem self-3-GEN gift-3-ACC Hesen-DAT give-PST-3
'Meryem$_i$ gave self's$_{i/*j}$ gift to Hesen$_j$.'

- In direct object position, the reflexive can be bound by the subject across a more local indirect object

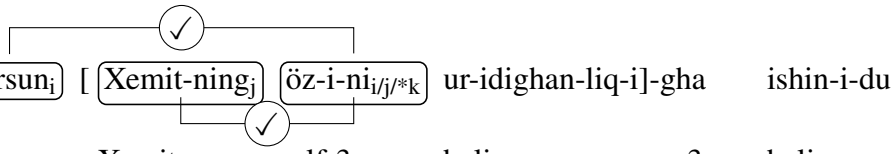
(8) a. 
oqutquchi sanga öz-i-ni tonushtur-d-i
teacher you.DAT self-3-ACC introduce-PST-3
'The teacher introduced him/herself to you.'

b. 
men Hesen-ge öz-em-ni tonushtur-d-im
I Hesen-DAT self-1SG-ACC introduce-PST-1SG
'I introduced myself to Hesen.'

## 3. Long-distance binding

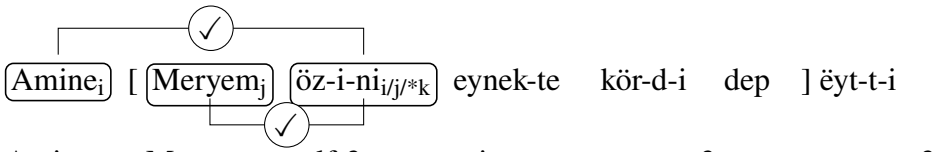
### *3.1. Preliminary facts*

- The reflexive can be bound by a c-commanding antecedent outside of its local clause, but not by an extrasentential antecedent[2]

(9) 
Tursun$_i$ [ Xemit-ning$_j$ öz-i-ni$_{i/j/*k}$ ur-idighan-liq-i]-gha ishin-i-du

Tursun Xemit-GEN self-3-ACC believe-IMPF-COMP-3-DAT believe-NPST-3
'Tursun$_i$ believes that Xemit$_j$ will hit self$_{i/j/*k}$.'

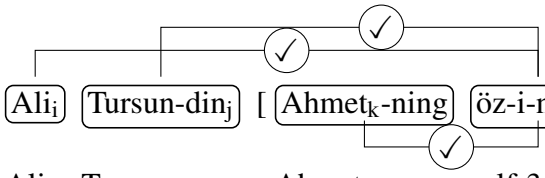
- Following Asarina (2011), I analyze the embedded clause type in (9) as a nominalized CP
- The same facts hold when the embedded clause is finite

(10) 
Amine$_i$ [ Meryem$_j$ öz-i-ni$_{i/j/*k}$ eynek-te kör-d-i dep ] ëyt-t-i

Amine Meryem self-3-ACC mirror-LOC see-PST-3 COMP say-PST-3
'Amine$_i$ said that Meryem$_j$ saw self$_{i/j/*k}$ in the mirror.'

- LD-binding of the reflexive by the matrix subject thus appears to cross at least three phrase boundaries in both (9) and (10)
- Like local binding, LD binding is not subject oriented

[2]LD binding can be shown to be semantic (variable) binding, rather than accidental coreference. Additional details can be found in the Appendix.



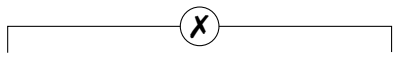
(11) Ali$_i$ Tursun-din$_j$ [ Ahmet$_k$-ning öz-i-ni$_{i/j/k}$ ur-idighan-liq-i-ni ] angli-d-i

Ali Tursun-ABL Ahmet-GEN self-3-ACC hit-IMPF-COMP-3-ACC hear-PST-3

'Ali$_i$ heard from Tursun$_j$ that Ahmet$_k$ will hit self$_{i/j/k}$.' (Major and Özkan 2018:16)

### *3.2. The crucial observation*

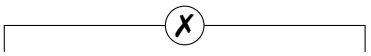
- Descriptively, LD binding appears to be parasitic on local binding



(12) ??Meryem tünügün [ së-ning öz-i-ni kör-gen-lik-ing-ni ] dë-d-i

Meryem yesterday you-GEN self-3-ACC see-ASP-COMP-2SG-ACC say-PST-3

Intended: 'Yesterday, Meryem$_i$ said that you saw self$_i$.'

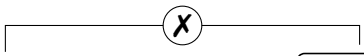


(13) *Xemit [ së-ning manga [öz-i-ning kitab-i-ni]$_{DO}$ ber-gen-lik-ing-ge ] ishin-i-du

Xemit you-GEN I.DAT self-3-GEN book-3-ACC give-ASP-COMP-2SG-DAT believe-NPST-3

Intended: 'Xemit$_i$ believes that you gave me self$_i$'s book.'

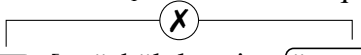
- In both (12) and (13), there is no local third person binder for the third person reflexive
  - LD binding by the matrix third person subject is also unavailable
- At first glance, (12) and (13) resemble the person-conditioned intervention effects attested for Mandarin LD reflexive *ziji* in Cole and Sung 1994 and others
  - LD binding of Mandarin *ziji* is blocked by intervening **1st** and **2nd** person DPs
- However, blocking configurations like (12) and (13) also occur with attempted binding of 1st/2nd person reflexives across 3rd person subjects



(14) a. *men [ pashi-lar-ning öz-em-ni yaxshi kör-gen-lik-i-gha ] öch i-d-im

I mosquito-PL-GEN self-1SG-ACC good see-ASP-COMP-3-DAT hate AUX-PST-1SG

Intended: 'I$_i$ hated that mosquitoes liked self$_i$.'



b. *sen [ müshük-ler-ning öz-eng-ni yaxshi kör-gen-lik-i-ni ] bil-i-sen

you cat-PL-GEN self-2SG-ACC good see-ASP-COMP-3-ACC know-NPST-2SG

Intended: 'You$_i$ know that cats liked self$_i$.'

- In fact, binding a third person reflexive across a 1st/2nd person subject is possible as long as the local clause contains a potential third person binder

(15) Meryem$_i$ [ më-ning ertis-ke$_k$ öz-i-ni$_{i/k}$ eynek-te kör-set-ken-lik-im-ni ] dë-d-i

Meryem I-GEN actor-DAT self-3-ACC mirror-DAT see-CAUS-ASP-COMP-1SG-ACC say-PST-3

'Meryem$_i$ said that I showed {the actress}$_k$ self$_{i/k}$ in the mirror.'

(16) Xemit$_i$ [ së-ning Tursun-gha$_k$ [öz-i-ning$_{i/k}$ kitab-i-ni]$_{DO}$ ber-gen-lik-ing-ge ]
Xemit you-GEN Tursun-DAT self-3-GEN book-3-ACC give-ASP-COMP-2SG-DAT
ishin-i-du
believe-NPST-3
'Xemit$_i$ believes that you gave Tursun$_k$ self$_{i/k}$'s book.'

- Scrambling the reflexive in the blocking configurations in (12) - (14) over the embedded subject feeds binding by the matrix subject[3]

(17) Meryem tünügün [ [öz-i-ni ]$_{DO}$ së-ning t$_{DO}$ kör-gen-lik-ing-ni ] dë-d-i
Meryem yesterday self-3-ACC you-GEN see-ASP-COMP-2SG-ACC say-PST-3
'Yesterday, Meryem$_i$ said that you saw self$_i$.'

(18) Xemit [ [öz-i-ning kitab-i-ni]$_{DO}$ së-ning manga t$_{DO}$ ber-gen-lik-ing-ge ] ishin-i-du
Xemit self-3-GEN book-3-ACC you-GEN I.DAT give-ASP-COMP-2SG-DAT believe-NPST-3
'Xemit$_i$ believes that you gave me self$_i$'s book.'

(19) a. ?*pro$_{1sg}$* [ [öz-em-ni ]$_{DO}$ pashi-lar-ning t$_{DO}$ yaxshi kör-gen-lik-i-gha ] öch i-d-im
*pro* self-1SG-ACC mosquito-PL-GEN good see-ASP-COMP-3-DAT hate AUX-PST-1SG
'I$_i$ hated that mosquitoes liked self$_i$.'

b. ?*pro$_{2sg}$* [ [öz-eng-ni ]$_{DO}$ müshük-ler-ning t$_{DO}$ yaxshi kör-gen-lik-i-ni ] bil-i-sen
*pro* self-2SG-ACC cat-PL-GEN good see-ASP-COMP-3-ACC know-NPST-2SG
'You$_i$ know that cats liked self$_i$.'

[3]The examples in (19) are judged to be somewhat marked. Consultants indicated that the scrambled word order is associated with information structural effects and that (19) in particular require specific contextual support to be felicitously uttered. A better understanding of the discourse properties of this type of scrambling is a desideratum of future work.

## 4. Analysis

Fact one: the reflexive requires a clausemate antecedent with matching phi-features

(20) *sen öz-i-ni eynek-te kör-d-ing
you self-3-ACC mirror-LOC see-PST-2SG
Intended: 'You saw yourself in the mirror.'

- The degraded status of (20) is explained if the reflexive needs to Agree for phi-features prior to spell-out

Fact two: the reflexive can be bound long-distance by an antecedent outside of its spell-out domain

(21) Meryem$_i$ [ më-ning ertis-ke$_k$ öz-i-ni$_{i/k}$ eynek-te kör-set-ken-lik-im-ni ] dë-d-i
Meryem I-GEN actor-DAT self-3-ACC mirror-DAT see-CAUS-ASP-COMP-1SG-ACC say-PST-3
'Meryem$_i$ said that I showed {the actress}$_k$ self$_{i/k}$ in the mirror.'

- Any potential Agree dependency between the third person reflexive in embedded direct object position and the 3SG matrix subject would both violate Minimality by skipping the more local 3SG indirect object, as well as cross three phase boundaries and reach into a spelled-out phase
- This suggests that Agree is not responsible for LD binding in (21)

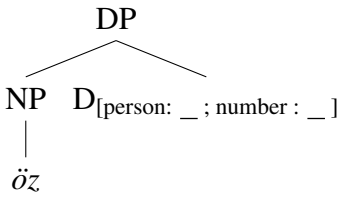
I argue:

1. The reflexive must Agree prior to spell-out in order to acquire phi-features and be pronounced
2. This Agree dependency is invisible to LF; the reflexive may be bound by any c-commanding antecedent with matching phi-features

### *4.1. The role of Agree*

- I propose that the Uyghur reflexive has unvalued [person, number] features hosted in D

(22) Structure of the Uyghur reflexive




- The reflexive must participate in Reverse Agree (Wurmbrand 2014) in order to value its phi-features

(23) Reverse Agree:
A feature F: _ on $\alpha$ is valued by a feature F: val on $\beta$, iff $\beta$ c-commands $\alpha$.
(Wurmbrand 2014)

- Following Wurmbrand's (2017) account of Germanic fake indexicals, I propose that Reverse Agree may take place between two DPs
- The probe on D is relativized for person
  - This is designed to account for the fact that the reflexive does not obligatorily Agree with the most local c-commanding DP
  - In (24), the reflexive skips the more local indirect object, *Hesen*, to Agree with the 1SG subject



(24) men Hesen-ge öz-em-ni tonushtur-d-im
I Hesen-DAT self-1SG-ACC introduce-PST-1SG
'I introduced myself to Hesen.'

- If the reflexive simply had unvalued person and number features, we would expect it to Reverse Agree with the closer 3SG indirect object, *Hesen*, in (24)
  - That would wrongly predict that the reflexive could only ever surface with the third person suffix, *-i*, and that (24) is ineffable
  - Thus, I claim that the reflexive in (24) has *u*val [SPKR]
  - A reflexive which Agrees for third person features bears a *u*val [-PART] probe, and so on
- Finally, Agree must take place prior to spell-out
  - Assuming the weak PIC (Chomsky 2001), a reflexive in direct object position must have Agreed by the time its local CP is merged

### *4.2. The mechanism of binding*

- I have claimed that the Uyghur reflexive obligatorily participates in Agree
- I also argue that, in Uyghur, this Agree dependency is invisible to the interpretive component for the purposes of binding
- I propose that the reflexive is a variable at LF and that any c-commanding DP with matching phi-features may introduce a lambda operator that binds the variable introduced by the reflexive[4]
  - Thus, I argue that anaphor binding in Uyghur occurs in much the same way as pronoun binding

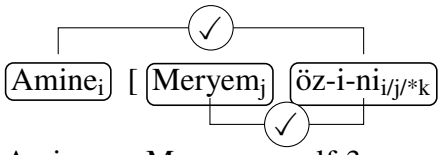
[4]Major and Özkan (2018) discuss LD binding of the third person Uyghur reflexive and argue that it exhibits a logophoric antecedence pattern. I do not discuss those facts here, but suggest that a recent proposal in Baker and Ikawa 2024 for Japanese LD anaphors and Ibibio logophors that accounts for their logophoric antecedence patterns in terms of the theta role of the antecedent is a promising avenue for capturing the Uyghur facts.

- Unlike Condition B pronouns, the Uyghur reflexive *must* be bound. What forces this?
- A possibility: the difference could be due to the different referential properties of anaphors and pronouns
- Only pronouns may independently refer in Uyghur, while anaphors are referentially dependent; the latter are unable to receive a denotation in the absence of a binder

## 5. Deriving the binding patterns

### *5.1. Scenario one: both local and LD binding available*

- When the phi-features of the reflexive match those of both a local and a long-distance antecedent, the reflexive may be bound by either



(25) Amine$_i$ [ Meryem$_j$ öz-i-ni$_{i/j/*k}$ eynek-te kör-d-i dep ] ëyt-t-i

Amine Meryem self-3-ACC mirror-LOC see-PST-3 COMP say-PST-3
'Amine$_i$ said that Meryem$_j$ saw self$_{i/j/*k}$ in the mirror.'

Derivational steps:

1. The reflexive enters the derivation with unvalued phi-features
   - The reflexive must Agree before spellout of its local CP
   - The only Agree target is the local third person subject, *Meryem*
2. The reflexive Agrees with the local subject, is valued for third person singular features, and will be realized as *öz-i*
3. (a) Local binding: at LF, a lambda operator is merged below the local third person subject, *Meryem*, and binds the reflexive
   (b) LD binding: at LF, a lambda operator is merged below the matrix third person subject, *Amine*, and binds the reflexive

### *5.2. Scenario two: LD binding blocked*

- In (26), there is no local binder and LD binding of the reflexive is unavailable



(26) ??Meryem tünügün [ së-ning öz-i-ni kör-gen-lik-ing-ni ] dë-d-i
Meryem yesterday you-GEN self-3-ACC see-ASP-LIQ-2SG-ACC say-PST-3
Intended: 'Yesterday, Meryem$_i$ said that you saw self$_i$.'

Derivational steps:

1. The reflexive enters the derivation with unvalued phi-features

- The reflexive must have its phi-features valued before the embedded nominalized CP is spelled out in order to be pronounced
- The only Agree target within the reflexive's local CP is the c-commanding 2SG subject

2. The reflexive Agrees with the local subject, is valued for second person singular features, and will be realized as *öz-eng*

The upshot: (26) cannot be generated

### *5.3. Scenario three: scrambling feeds binding*

- Scrambling the reflexive can feed binding, as (27), a minimal pair with the illicit example (26), shows

(27) Meryem tünügün [ [öz-i-ni ]$_{DO}$ së-ning t$_{DO}$ kör-gen-lik-ing-ni ] dë-d-i
Meryem yesterday self-3-ACC you-GEN see-ASP-LIQ-2SG-ACC say-PST-3
'Yesterday, Meryem$_i$ said that you saw self$_i$.'

Derivational steps:

1. The reflexive enters the derivation with unvalued phi-features
2. The reflexive does not Agree with the local 2SG subject
3. The reflexive scrambles to the edge of the embedded nominalized CP, thus avoiding spellout
4. The reflexive Agrees with the matrix third person subject, *Meryem*, is valued for third person singular features, and will be realized as *öz-i*
5. At LF, a lambda operator is merged below the matrix third person subject, *Meryem*, and binds the reflexive

## 6. Conclusion

- I have argued that the Uyghur reflexive Agrees for phi-features, but that Agree is not involved in establishing binding at LF
  - Evidence for the role of Agree comes from the fact that the reflexive requires a local c-commanding DP with matching phi-features
  - At the same time, the reflexive may be LD-bound by a DP with which it cannot have Agreed
- Instead, I argue that c-command by a DP with matching phi-features at LF is sufficient to license binding
- A mechanism of binding that does not involve Agree is independently needed to account for bound readings of pronouns
- Paparounas and Akkuş (2023) argue that, in Turkish, Agree is involved in binding *argument* anaphors, but not anaphors in adjunct positions

  - They propose that anaphors in non-argument positions are bound via c-command at LF, in the same way as bound pronouns

- I have presented novel data from Uyghur which aligns with their claim that anaphor binding may obtain without Agree between the anaphor and its binder

- Further work is needed to answer the question of what forces binding of the Uyghur reflexive and other (LD) anaphors that do not obligatorily Agree with their antecedent

  - I have suggested that obligatory binding is a consequence of referential defectiveness, but it remains to be seen how that can be cashed out in the structure and/or semantic denotation of obligatorily bound anaphors

**References**

Asarina, Alevtina. 2011. Case in Uyghur and Beyond. Doctoral Dissertation, Massachusetts Institute of Technology.

Baker, Mark, and Shiori Ikawa. 2024. Control theory and the relationship between logophoric pronouns and logophoric uses of anaphors. *Natural Language and Linguistic Theory* 42:897—954.

Bhatia, Sakshi, and Ethan Poole. 2016. Deriving subject and antisubject orientation. Presented at the sixth meeting of the Formal Approaches to South Asian Linguistics conference.

Chomsky, Noam. 1981. *Lectures on government and binding*. Foris.

Chomsky, Noam. 2001. Derivation by phase. *MIT Occasional Papers in Linguistics* .

Cole, Peter, and Li-May Sung. 1994. Head movement and long-distance reflexives. *Linguistic Inquiry* 25.

Giblin, Iain. 2015. Agreement restrictions in Mandarin long-distance binding. Doctoral Dissertation, Massachusetts Institute of Technology.

Gong, Mia, and Miloje Despic. 2024. On the Nature of Reflexive Possessive Agreement in Mongolian: from Nominals to Clauses. In *The Proceedings of the Workshop on Altaic Formal Linguistics*.

Ivan, Rodica, and Zahra Mirrazi. 2019. Minimal pronouns & T-Agreement effects. Talk presented at the 42nd meeting of the Generative Linguistics in the Old World Conference.

Kratzer, Angelika. 2009. Making a pronoun: Fake indexicals as windows into the properties of pronouns. *Linguistic Inquiry* 40:187–237.

Major, Travis, and Sözen Özkan. 2018. Anaphora in two Turkic languages: Condition A is not enough. In *Proceedings of Turkish, Turkic, and Languages of Turkey 2. IULC Working Papers 18 (2)*.

Paparounas, Lefteris, and Faruk Akkuş. 2023. Anaphora and agreement in the Turkish DP: Delimiting binding-through-Agree. *Natural Language & Linguistic Theory* 42:633–700.

Wurmbrand, Susi. 2014. The Merge Condition: A syntactic approach to selection. In *Minimalism and Beyond: Radicalizing the interfaces*, 139—177. Amsterdam: John Benjamins.

Wurmbrand, Susi. 2017. Feature sharing or how I value my son. In *A Pesky set: Papers for David Pesetsky*. Cambridge: MIT Press.

# Appendix

**LD binding is semantic binding**

- The relationship between the reflexive and its antecedent is demonstrably semantic binding, rather than accidental coreference
- Firstly, the antecedent to the reflexive must c-command it, a prerequisite for syntactic and semantic binding

(28) Trump-ning$_i$ bayanatchi-si$_j$ [ yaponiye-ning bash ministir-i öz-i$_{*i/j}$ bilen ete
Trump-GEN spokesman-3 Japan-GEN prime minister-3 self-3 with tomorrow
körüsh-idighan-liq-i-ni ] ëlan qil-d-i
meet-ASP-LIQ-3-ACC announcement do-PST-3
'Trump's$_i$ spokesman$_j$ announced that the Prime Minister of Japan will meet with self$_{*i/j}$ tomorrow'

- In (28), the possessor of the matrix subject, *Trump*, does not c-command the reflexive, and hence cannot bind it
- Further, the reflexive exclusively gives rise to bound-variable readings with quantified antecedents

(29) Her bir oqughuchi [ bu oqutquchi-ning öz-i-ni yaxshi kör-gen-lik-i-ni ] bil-i-du
Every one student this teacher-GEN self-3-ACC good see-ASP-LIQ-3-ACC know-NPST-3
$\forall x$(student($x$) $\rightarrow$ ($x$ knows that the teacher likes $x$))
Unavailable: $\forall x$(student($x$) $\rightarrow$ ($x$ knows that the teacher likes him/her/them))