NEG-RAISING
THE CASE OF PERSIAN

Zahra Mirrazi & Ali Darzi

University of Massachusetts, Amherst
University of Tehran

April 28, 2017
Certain negated predicates (e.g. think, believe, want) imply a reading in which the negation is interpreted in the embedded clause. For example, (1a) implies (1b).

(1)  
   a. I don’t think she’ll come.  
   b. I think she won’t come.

(2)  
   a. She doesn’t believe unicorns exist.  
   b. She believes unicorns don’t exist.
Introduction

Most other predicates do not have such readings, as shown in (3) and (4) below. (3a) and (4a) do not infer (3b) and (4b):

(3) a. I didn’t say she’ll come.
    b. I said she won’t come.

(4) a. She doesn’t claim unicorns exist.
    b. She claim unicorns don’t exist.
Introduction

Terminology

- Predicates that have such readings: *Neg-Raising predicates*.
- Those that do not have such readings: *non-Neg-Raising predicates*.
- Readings invoked by Neg-Raising predicates where negation is interpreted the embedded clause: *Neg-Raising readings*.
Introduction

Two Approaches

- **Syntactic account**: movement of negation (Fillmore 1963, Horn 1971 and Collins & Postal 2014)
- **Semantic-pragmatic account**: Neg-Raising predicates come with excluded middle presupposition (Bartch 1973, Horn 1989, Gajewski 2005, 2007 and Homer 2012, among many others)
Introdution

Syntactic Account

- Negation is base-generated in the embedded clause and then raises to the higher clause via syntactic movement.
- The lowest copy of \textit{NEG} is semantically interpreted and the highest copy of \textit{NEG} is phonologically realized.

(5)  

\begin{align*}
\text{(a)} & \quad \text{I } \textit{NEG} \text{ think she’ll } \langle \text{NEG} \rangle \text{ come.}
\end{align*}
**Introduction**

**Semantic Account**

- Neg-Raising predicates like think \( p \) presupposes that either \( p \) is thought, or not-\( p \).
- This presupposition, together with the asserted negation on NRPs, gives rise to *Neg-Raising reading*.

\[(6)\] Assertion: \( \neg \text{NRP}(S) \)

Presupposition: \( \text{NRP}(S) \lor \text{NRP}(\neg S) \) (Gajewski 2005:14)

Therefore: \( \text{NRP}(\neg S) \)

\[(7)\] Assertion: I don’t think that she’ll come.

Presupposition: I think that she’ll come or I think that she won’t come.

Therefore: I think that she won’t come.
The arguments against the semantic approach come from:

- Section 2: NPI Licensing
- Section 3: Progressive Aspect
- Section 4: Island Effect
- Section 5: Low Scope Negation
Negated *Neg-Raising predicates* are able to license so-called Strong NPIs (e.g., until, in years) in their complements.

(8) a. Bill doesn’t think Mary will leave *until* tomorrow.
    b. Mary doesn’t believe Bill has left the country *in years.*
    (Gajewski 2005:13)
A negation above a non-Neg-Raising predicate (e.g., claim, regret, know) cannot license until/in years.

(9) a. *Bill didn’t claim/regret/know that Mary would arrive until tomorrow.
   b. *Mary didn’t claim/regret/know that Bill had left the country in years.
   (Gajewski 2005:13)
NPI Licensing

- The licensing of NPI depends on the logical properties of the environment in which an NPI occurs, as opposed to c-commanding licensers. (Gajewski 2005, 2007; Zwarts 1996, among others)

(10) Strength of Negation (Zwarts 1998)

<table>
<thead>
<tr>
<th>(i)</th>
<th>$f(X) \lor f(Y) \Rightarrow f(X \land Y)$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(ii)</td>
<td>$f(X \lor Y) \Rightarrow f(X) \land f(Y)$</td>
</tr>
<tr>
<td>(iii)</td>
<td>$f(X) \land f(Y) \Rightarrow f(X \lor Y)$</td>
</tr>
<tr>
<td>(iv)</td>
<td>$f(X \land Y) \Rightarrow f(X) \lor f(Y)$</td>
</tr>
</tbody>
</table>

- Downward Entailment
- Anti-Additive
- Antimorphic
Gajewski (2007) proposes that negated *Neg-Raising predicates* provide Anti-Additive environment.

That’s why negated they license Strong NPI.

(11) \( \text{not } \text{NPR}(P)(x) \text{ and not } \text{NPR}(Q)(x) \implies \text{not } \text{NRP}(P \lor Q)(x) \)  
(Gajewski 2005:13)
Examples (12) and (13) shows the contrast between Neg-Raising predicates and non-Neg-Raising predicates in terms of providing Anti-Additivity.

(12) John doesn’t think Mary left and John doesn’t think Bill left. ⇒ John doesn’t think Mary left or Bill left

(13) John isn’t certain that Mary left and John isn’t certain that Bill left. ̸⇒ John isn’t certain that Mary left or Bill left. (Gajewski 2005:13)
NPI Licensing

▶ Under syntactic approach, NPIs needs a clause-mate negation to be licensed. (Lakoff 1969, Progovac 1994)

▶ The interaction of NPIs and Neg-Raising predicates is pointed to as an argument in favor of the syntactic theory of Neg-Raising.

▶ The negation occurring above a Neg-Raising predicates is base-generated in the embedded clause, as a clausemate with until and in years.

(14) a. Bill does \( \text{NEG} \) think Mary will \(<\text{NEG}>\) leave \textbf{until} tomorrow.
b. Mary does \( \text{NEG} \) believe Bill has \(<\text{NEG}>\) left the country \textbf{in years}. 
Some NPIs like *aslan* and *abadan* in Persian which seem to need a stronger negative environment than Anti-Additivity.

Examples in (15) and (16) show that the Anti-Additive contexts fail to license such NPIs.

(15) *eddeye kami aslan(abadan) dars xundan.
group-EZ few-INDF at-all lesson studied-3PL
‘few people studied their lessons at all.’

(16) *hameye kasayi ke aslan(abadan)
all-EZ person-PL-INDF that at-all
didanesh, dustesh darand.
see.PST-3PL-her, like-her have-3PL
‘all people who have ever seen her, like her.’
These NPIs are only licensed in an Anti-Morphic context which can be provided by *not* or *without*.

(17) Sara **aslan(abadan)** dars naxund.  
Sara at-all lesson NEG-studied

‘Sara didn’t study her lessons at all.’

(18) Bedoone in-ke **aslan(abadan)** dars xunde  
Without this-that at-all lesson studied-PERF
bashe, dar emtehan sherkat kard.  
be-3SG in exam participate did

‘She participated in exam without studying at all.’
Persian Super Strong npi

- (19) shows that negated *Neg-Raising predicates* do not provide Anti-Morphic context.

\[(19) \quad \text{not} \ NRP(p \land q)(x) \not\iff \text{not} \ NPR\ p(x) \lor \text{not} \ NPR\ q(x)\]

John doesn’t think Mary left and Bill left \(\not\iff\) John doesn’t think Mary left or John doesn’t think Bill left.

- However, *aslan* can still be licensed in the complement of a negated *Neg-Raising predicate*.

\[(20) \quad \text{doost nadaram} \quad \text{in} \ \text{ettefagh aslan(abadan)}\]
\[\text{like} \quad \text{NEG-have-1SG this event} \quad \text{at-all biofte.} \]
\[\text{SUB-fall-3SG} \]

‘I don’t like that this will happen at all.’
Persian Progressive Aspect

One of the puzzles of Persian grammar is the incompatibility of Progressive Aspect with a clause-mate negation as shown in (21).

(21) Man (*na)daram shir (*ne)mixoram
I NEG-have.1SG milk NEG-IMPF-eat-1SG
‘I am not drinking milk.’
The example in (22) demonstrates that Progressive Aspect can tolerate the existence of negation in the matrix clause.

(22) Man nagoftam daram dars mixunam.
     I NEG-said-1SG have-1SG lesson IMPF-study-1SG
     ‘I didn’t say that I’m studying.’
Progressive aspect is not felicitous under negated *Neg-Raising predicates.*

(23) *Man fekr nakonam Ali dare dars mixune IMPF-study-3SG*  
*I didn’t think that Ali is studying.*
Persian Progressive Aspect

- Ungrammaticality of Progressive Aspect is not related to Anti-Additive environment they appear in.
- Examples in (24) and (25) show that Progressive Aspect is perfectly fine in Anti-Additive contexts.

(24) eddeye kami daran dars mixunan.
group-EZ few-INDF have-3PL lesson IMPF-study-3PL
‘few people are studying their lessons at all.’

(25) hameye kasayi ke darand
all-EZ person-PL-INDF that have-3PL
mibinanesh, dustesh darand.
IMPF-see.PST-3-her, like-her have-3PL
‘all people who are watching her, like her.’
If we consider Progressive Aspect in Persian as an instance of PPI, it has to be a Super Strong PPI which is only sensitive to Anti-Morphic environment.

We saw that negated Neg-Raising predicates do not provide Anti-Morphic environment.
Collins and Postal (2014) support a syntactic treatment of Neg-Raising by showing that this phenomenon is subject to Island constraints.

(26) a. *I don’t believe the rumor that Tom has found the solution yet.
    b. *I don’t think Tom has found the solution yet and is a reliable chap.
    (Collins & Postal 2014:103)
**Island Effect**

- Persian data also show the same sensitivity to island constraints.

(27) *Man in raftar ke **hič-vaqt** ba-haš dargir I this behavior that any-time with-him quarrel beši ro pišnehad nemikonam. **SUB-get-2SG ro suggest NEG-IMPF-do-1SG** I don’t suggest the behavior that you ever quarrel with him.

(28) *Man fekr nemikonam Nima maqale ro I thought **NEG-IMPF-do-1SG Nima article ra** xunde va **hičči nevešt-e.** read-PERF and anything wrote-PERF I don’t think Nima has read the article and has written anything.
Some might argue that in these constructions the NPI is no longer in the domain of Anti-Additive operator and that’s why they cannot be licensed.

Neg-Raising predicates in Persian can take as their complement an embedded proposition which is syntactically in form of a complex NP.

(30) shows that these constructions are still Anti-Additive with respect to their complement propositions.
**Island Effect**

\[(29) \ \text{not } \text{npr} (P)(x) \text{ and not } \text{npr} (Q)(x) \implies \text{not nrp}(P \lor Q)(x)\]

\[(30) \ \text{Zahra in } \text{ke } \text{Ali bere } \text{ro doost nadare } \land \text{Zahra this that } \text{Ali subgo-3sg ro like } \text{neg-have-3sg } \land \text{Zahra in } \text{ke } \text{Ehsan bere } \text{ro doost} \text{Zahra this that } \text{Ehsan subgo-3sg ro like nadare } \implies \text{Zahra in } \text{ke } \text{Ali bere } \lor \text{in neg-have-3sg } \implies \text{Zahra this that } \text{Ali subgo-3sg } \lor \text{this ke Ehsan bere } \text{ro doost nadare that Ehsan subgo-3sg ro like neg-have-3sg}

\text{Zahra doesn’t like that } \text{Ali leaves and } \text{Zahra doesn’t like that Ehsan leaves } \Rightarrow \text{Zahra doesn’t like that } \text{Ali leaves or that Ehsan leaves.}
The data in (31) shows that being in an Anti-Additive context of negated *Neg-Raising predicts* still cannot rescue *aslan* which is trapped in an island.

(31) *oonə in ke Ali *aslan*(abadan) be mehmoonι
They this that Ali at-all to party
biyad ro doost nadaran.
SUB-come-PST.3SG ra like NEG-have-3PL
‘They don’t like that Ali would come to the party.’
**Low Scope Negation**

- Based on the formula of the Excluded Middle Presupposition, negation must take a wide scope over the embedded proposition.

\[(32)\] Excluded Middle Presupposition: \( \text{NRP} (P) \lor \text{NRP} (\neg P) \)

- The data in (33) shows that negation can have a narrow scope with respect to the indefinite object *ye ketab* "a book".
**Low Scope Negation**

**Scenario:** Someone tells me that Ali has to read 5 books for his exam. I don’t have any idea what books he has to read. But I know that it take 45 minute to 1 hour for Ali to read a book. I learn that Ali has started reading books 3 and a half hours ago. Considering Ali’s speed in reading a book, I know that there is at least one book that he didn’t have time to read.

(I don’t think that Ali read a book.) (meaning: I think there is a book that Ali didn’t read.)

(33)  fek  nemikonam  Ali ye ketabo  xunde
thought NEG-IMPF-did-1SG Ali a  book-ra studied
bashe.
SUB.be-3SG

‘I don’t think that Ali read a book.’ (meaning: I think there is a book that Ali didn’t read.)
Low Scope Negation

- The indefinite has a *de dicto* (non-specific and opaque) reading with respect to the attitude verb. So, it has to remain under the scope of attitude verb.

- The low scope of negation is not because the indefinite obligatorily has a narrow scope with respect to the negation. The sentence in (34) is ambiguous.

(34) Ali ye ketabo naxund. NEG > a book; a book >
Ali a book-ra NEG-studied
NEG

Ali didn’t read a book.
Conclusion

▶ The semantic approach does not predict Super Strong NPIs which need Anti-Morphic environment to be licensed under *Neg-Raising predicates*.

▶ The semantic approach does not predict Super Strong PPIs which are sensitive to Anti-Morphic environment to be ungrammatical under *Neg-Raising predicates*.

▶ A purely semantic phenomenon is not expected to be subject to syntactic constraints.

▶ The low scope negation cannot be accounted for by the excluded middle presupposition.
Thank You!