The Semantics of RĀ:
Let’s be more specific!

Masoud Jasbi
Stanford University
Definiteness = existence presup + uniqueness presup.
• Definiteness = existence presup + uniqueness presup.
• In Farsi, Rā provides the existence presupposition.
• Definiteness = existence presup + uniqueness presup.
• In Farsi, Rā provides the existence presupposition.
• The uniqueness presupposition is provided by the absence of indefinite markers.
Snapshot

- Definiteness = existence presup + uniqueness presup.
- In Farsi, Rā provides the existence presupposition.
- The uniqueness presupposition is provided by the absence of indefinite markers.
- Rā’s existence presupposition is compatible with indefinites.
Previously on RĀ . . .
1. **Specific**
   - Epistemic
   - Scopal

2. **Definite**

3. **Existentially Presupposed**
   - Topical (secondary)  
     - (Dabir-Moghaddam, 1992; Dalrymple and Nikolaeva, 2011)
   - Identifiable
     - (Shokouhi and Kipka, 2003)
   - Partitively Specific
     - (Karimi, 1999, 2003)
   - Existentially Presupposed
     - (Ghomeshi, 1996)
• Define some semantic primitives: **EXISTENCE, UNIQUENESS, and COMMON GROUND.**
To-Do’s!

- Define some semantic primitives: **EXISTENCE**, **UNIQUENESS**, and **COMMON GROUND**.
- Define **specific**, **definite**, and **existentially presupposed** using the primitives.

4
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- Show the problems with the **specificity** hypothesis.
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Defining the Primitives

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(Stalnaker, 1978)
### Definition

A nominal implies **EXISTENCE** if it denotes a nonempty set ($|\langle NP \rangle| \geq 1$).

### Definition

A nominal implies **UNIQUENESS** if it denotes a singleton set ($|\langle NP \rangle| = 1$).
Defining the Primitives

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A nominal implies **UNIQUENESS** if it denotes a singleton set ($|\llbracket NP \rrbracket| = 1$).

Definition
**COMMON GROUND** is the mutually recognized shared information between the speaker(s) and the addressee(s).  

(Stalnaker, 1978)
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A nominal implies **EXISTENCE** if it denotes a nonempty set ($|[[NP]]| \geq 1$).

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Definition
**COMMON GROUND** is the mutually recognized shared information between the speaker(s) and the addressee(s). (Stalnaker, 1978)

Definition
An implication is **PRESUPPOSITIONAL** if it is entailed or implied by the **COMMON GROUND**.
To-Do’s!

- Define some semantic primitives: **existence, uniqueness, and common ground**.
- Define specific, definite, and existentially presupposed using the primitives.
- Map the hypothesis space.
- Show the problems with the specificity hypothesis.
- Show the problems with the definiteness hypothesis.
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<td>A nominal that implies the <em>existence</em> and <em>uniqueness</em> of its descriptive content is <strong>SPECIFIC</strong>.</td>
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(Russell, 1905; Strawson, 1950)
### Definition
A nominal that implies the **existence** and **uniqueness** of its descriptive content is **SPECIFIC**.

### Definition
A nominal that **presupposes** the **existence** and **uniqueness** of its descriptive content is **DEFINITE**.

(Russell, 1905; Strawson, 1950)
Definition
A nominal that implies the existence and uniqueness of its descriptive content is **SPECIFIC**.

Definition
A nominal that presupposes the existence and uniqueness of its descriptive content is **DEFinite**.  
(Russell, 1905; Strawson, 1950)

Definition
A nominal that presupposes the existence of its descriptive content is **EXISTENTIALY PRESUPPOSED**.
To-Do’s!

- Define some semantic primitives: **EXISTENCE, UNIQUENESS, and COMMON GROUND**.
- Define specific, definite, and existentially presupposed using the primitives.
- Map the hypothesis space.
- Show the problems with the **specificity** hypothesis.
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- Provide more data for the **presuppositional** hypothesis.
- Provide a compositional account of definites and simple indefinites.
### Hypothesis Space

| \(||NP||| = \) | 0 | 1 | 2+ |
|----------------|---|---|----|
| **Common Ground Status** | **Presupposed** | | | |
|                     | **At-issue** | | | |
|                | | | | |

- **Definite**: Specific
- **Indefinite**: Existentially Presupposed
Which hypothesis best covers the rā data?
• Define some semantic primitives: \textsc{Existence}, \textsc{Uniqueness}, and \textsc{Common Ground}.
• Define \textit{specific}, \textit{definite}, and \textit{existentially presupposed} using the primitives.
• Map the hypothesis space.
• Show the problems with the specificity hypothesis.
• Show the problems with the \textit{definiteness} hypothesis.
• Provide more data for the \textit{presuppositional} hypothesis.
• Provide a compositional account of defines and simple indefinites.
Types of Specificity (Farkas, 1994)

- **Specific** := Unique, fixed referent.

1. Epistemic: the speaker has a fixed referent in mind. (Fodor and Sag, 1982)
2. Scopal: the referent is fixed with respect to other semantic operators (wide scope).

Neither work for $\bar{r}$. 12
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   (wide scope).

• Neither work for rā.
Epistemic Specificity

- $\text{Rā}$ appears on nominals that are not epistemically specific.
  
  \[(\text{Rā} \not\rightarrow \text{Epistemically Specific})\]
• Rā appears on nominals that are not epistemically specific. (Rā \not\implies\text{Epistemically Specific})

**Example**

(1) Context: My three-year-old cousin takes my phone and accidentally deletes a picture. I see that my pics are 99 instead of 100 but I don’t know which picture is deleted:

ne-mi-dun-am kodum aks-[o] in bache pāk karde neg-MI-know-1.SG which pic-OM this kid clean do.PST.3.SG

“I don’t know which picture this kid has deleted.”
Epistemic Specificity

- Rā appears on nominals that are not epistemically specific. 
  \( Rā \not\Rightarrow \text{Epistemically Specific} \)

**Example**

(2) **Context:** There are some plates on the table.

\[
\begin{align*}
\text{ye boshqāb-} & \quad \text{be-de} \\
\text{ID plate-OM} & \quad \text{give}
\end{align*}
\]

“Give me a plate!”
Epistemic Specificity

- Epistemically specific referents can appear without $R\bar{a}$. 
  (Epistemically Specific $\neq R\bar{a}$)
• Epistemically specific referents can appear without Rā.
  (Epistemically Specific \( \not\rightarrow \) Rā)

Example

(3) diruz ye xune did-im tu Fereshteh
yesterday ID house see.PST-3.PL in Fereshteh
“We saw a house in Fereshteh yesterday.”
Scopal Specificity

- Rā appears on nominals that are not scopally specific (are not wide scope).
  \((\text{Rā} \not\rightarrow \text{Scopally Specific})\)
Scopal Specificity

- $\mathcal{R}_a$ appears on nominals that are not scopally specific (are not wide scope).
  $(\mathcal{R}_a \not\Rightarrow \text{Scopally Specific})$

### Example

(4) Context: Dance Class; Equal number of girls and boys. Boys have to choose partners.

```
har pesar-i ye doxtar-[o] entexāb kard
each boy-IC ID girl-OM choose do.PST-3.PL
```

“Every boy chose a girl.” $(\forall > \exists)$
Scopal Specificity

- Rā appears on nominals that are not scopally specific (are not wide scope).
  \( \text{Rā} \not\rightarrow \text{Scopally Specific} \)

**Example**

(5) Context: Maryam has three job offers. She has to pick one by tomorrow.

\[
\begin{align*}
\text{mi-xād} & \quad \text{ye kār-}[] \quad \text{tā} \quad \text{fardā} \quad \text{qabul kon-e} \quad \text{vali} \\
\text{MI-want3.SG} & \quad \text{ID} \quad \text{job-OM} \quad \text{until tomorrow accept do.PST-3.PL} \quad \text{but} \\
\text{hanu ne-mi-dun-e} & \quad \text{kodum-o} \\
\text{yet} & \quad \text{NEG-MI-know-3.SG} \quad \text{which-OM}
\end{align*}
\]

“She wants to accept a job by tomorrow but she still doesn’t know which” \((\text{WANT} > \exists)\)
Scopal Specificity

- Scopally specific referents can appear without Rā.
  \[\text{(Scopally Specific } \not\Rightarrow \text{ Rā)}\]

**Example**

(6) Context: A Boring Restaurant where everyone always orders burgers. The waiter says:

\[
\begin{array}{l}
\text{injā hāme hamishe } ye \text{ qazā sefāresh midan} \\
\text{here each boy-IC ID girl choose do.PST-3.PL} \\
\text{“Everyone always orders the same food here.” } (\exists > \forall > \forall)
\end{array}
\]
• Generally, hard to find a correlation between scope and object marking.

**Example**

(7) Context: Dance Class.

```
hame-ye pesar-ā ye doxtar-[ ][ ] dust dār-an
all-EZ boy-PL ID girl-OM friend have.PST-3.PL
```

“All the boys love some girl.” (∀ > ∃)

“There is a girl that all the boys love.” (∃ > ∀)
## Hypothesis Space

<table>
<thead>
<tr>
<th></th>
<th></th>
<th>0</th>
<th>1</th>
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<td>Common Ground Status</td>
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To-Do’s!

- Define some semantic primitives: EXISTENCE, UNIQUENESS, and COMMON GROUND.
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Example

(8) Context_{E^+ U^+}: There is a room. Ali goes in. There is a mouse.
Example

(8) Context_{E+U+}: There is a room. Ali goes in. There is a mouse.

a. mush-[o] mi-bin-e
   mouse-OM MI-see-3.SG
   “He sees the mouse.”

b. # ye mush-[o] mi-bin-e
   ID mouse-OM MI-see-3.SG
   “He sees a mouse.”
Definiteness

Example

(8) Context_{E+U+}: There is a room. Ali goes in. There is a mouse.

a. mush-[b] mi-bin-e
   mouse-OM MI-see-3.SG
   “He sees the mouse.”

b. # ye mush-[b] mi-bin-e
   ID mouse-OM MI-see-3.SG
   “He sees a mouse.”

- φ-NP-rā presupposes uniqueness.
## Definiteness

**Example**

(9) Context$_{E^+U^-}$: There is a room. Ali goes in. There are two mice.
Definiteness

Example

(9) Context_{E^+ U^-}: There is a room. Ali goes in. There are two mice.

a. # mush- o mi-bin-e
   mouse-OM MI-see-3.SG
   “He sees the mouse.”

b. ye mush- o mi-bin-e
   ID mouse-OM MI-see-3.SG
   “He sees a mouse.”
Definiteness

Example

(9) Context_{E+U-} : There is a room. Ali goes in. There are two mice.

a. \# mush-\[\text{O}\] mi-bin-e
   mouse-OM MI-see-3.SG
   “He sees the mouse.”

b. ye mush-\[\text{O}\] mi-bin-e
   ID mouse-OM MI-see-3.SG
   “He sees a mouse.”

- φ-NP-rā presupposes uniqueness.
- ye-NP-rā does not presuppose uniqueness.
Definiteness

Example

(9) Context\textsubscript{E+U-}: There is a room. Ali goes in. There are two mice.

a. \# mush-\textcircled{0} mi-bin-e
   mouse-OM MI-see-3.SG
   “He sees the mouse.”

b. ye mush-\textcircled{0} mi-bin-e
   ID mouse-OM MI-see-3.SG
   “He sees a mouse.”

- \textasciitilde\text{NP}-\text{rā} presupposes uniqueness.
- ye-NP-\text{rā} does not presuppose uniqueness.
- Since definites presuppose existence AND uniqueness, rā cannot be a definiteness marker.
Definiteness

Example

(9) Context_{E+U-}: There is a room. Ali goes in. There are two mice.

  a. # mush-[o] mi-bin-e
     mouse-OM MI-see-3.SG
     “He sees the mouse.”
  b. ye mush-[o] mi-bin-e
     ID mouse-OM MI-see-3.SG
     “He sees a mouse.”

• φ-NP-rā presupposes uniqueness.
• ye-NP-rā does not presuppose uniqueness.
• Since definites presuppose existence AND uniqueness, rā cannot be a definiteness marker.
• Rā can presuppose existence and be half of definiteness!
### Hypothesis Space

| Common Ground Status | $|\|NP\|| = 0 | 1 | 2+ |
|----------------------|---------|---|----|
| Presupposed          |         |   |     |
| At-issue             |         |   |     |

- **Definite**
- **Existentially Presupposed**
- **Specific**
- **Indefinite**
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• Define some semantic primitives: **EXISTENCE, UNIQUENESS, and COMMON GROUND**.
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## Presupposed Existence

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Presupposed Existence

Example

Context \( E^+ U^- \): There is a room. Ali goes in. There are two mice.

(10) a.  
\[
\text{# ye mush mi-bin-e} \\
\text{ID mouse MI-see-3.SG} \\
\text{“He sees a mouse.”}
\]

b.  
\[
\text{ye mush-} \underline{o} \text{ mi-bin-e} \\
\text{ID mouse-OM MI-see-3.SG} \\
\text{“He sees a mouse.”}
\]
Presupposed Existence

Example

Context \( E^{−U^{−}} \): There is a room. Ali goes in.

\( (11) \) a. ye mush mi-bin-e 3.SG

"He sees a mouse."

\( b. \) ye mush- o mouse- mi-bin-e 3.SG

"He sees a mouse."

\( r \bar{a} \) presupposes the existence of its descriptive content.
Presupposed Existence

Example
Context$_{E-U}$: There is a room. Ali goes in.

(11) a. ye mush mi-bin-e
ID mouse MI-see-3.SG
“He sees a mouse.”

b. # ye mush-[\(\square\)] mi-bin-e
ID mouse-OM MI-see-3.SG
“He sees a mouse.”
Presupposed Existence

Example

Context $E-U$: There is a room. Ali goes in.

(11) a. ye mush mi-bin-e
    ID mouse MI-see-3.SG
    “He sees a mouse.”

b. # ye mush-[o] mi-bin-e
    ID mouse-OM MI-see-3.SG
    “He sees a mouse.”

• rā presupposes the existence of its descriptive content.
• Explicitly denying the existence presupposition results in infelicity.
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**Example**

(12) Ali emruz kār-i na-dāsht vāse hamin kār-i anjām
Ali today work-IC NEG-have.PST for this work-IC finish
na-dād
NEG-give.PST.3SG

“Today Ali didn’t have anything to do so he didn’t do anything.”
• Explicitly denying the existence presupposition results in infelicity.

Example

(13) # Ali emruz kār-i na-dāsht vāse hamin kār-i-[ro]
    Ali today work-IC NEG-have.PST for this work-IC-OM
    anjām na-dād
    finish NEG-give.3SG

    “Today Ali didn’t have anything to do so he didn’t do anything.”
• Explicitly denying the existence presupposition results in infelicity.

Example

(14) Ali emruz xeyli kār dāsht vali kār-i-[ro] anjām
Ali today very work have.PST but work-IC-OM finish
na-dād
NEG-give.3SG

“Alli had a lot of work to do but he didn’t do any of them.”
Example

(15) a. Ali Saburi mi-shnās-i?
   Ali Saburi MI-know-2SG
   “Do you know anyone named Ali Saburi?”

   b. Ali Saburi-[ro] mi-shnās-i?
      Ali Saburi-OM MI-know-2SG
      “Do you know Ali Saburi?”
To-Do’s!

- Define some semantic primitives: **EXISTENCE, UNIQUENESS, and COMMON GROUND**.
- Define **specific**, **definite**, and **existentially presupposed** using the primitives.
- Map the hypothesis space.
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- Provide more data for the **presuppositional** hypothesis.
- **Provide a compositional account of definites and simple indefinites.**
Lexical Entry for Rā

\[ rā \sim \lambda P[\lambda x[\partial[|P| \geq 1] \land P(x)]] \]
Deriving a Definite

$$\text{EAT}(\lambda x [\text{PEAR}(x)]) (SP)$$

$$\lambda y [\text{EAT}(\lambda x [\text{PEAR}(x)])(y)]$$

$$\lambda y \lambda x \text{EAT}(x)(y)$$

$$\lambda x [\partial [\text{PEAR} \geq 1] \land \text{PEAR}(x)]$$

$$\lambda P [\lambda x [\partial [P \geq 1] \land P(x)]]$$

$$\text{goläbi}$$

$$\text{ro}$$
Deriving a Rā-marked Indefinite

\[
\lambda Q[\exists x[\partial[|\text{PEAR}| \geq 1] \land \text{PEAR}(x) \land Q(x)]]
\]
Deriving a Rā-marked Indefinite

\[
\lambda Q[\exists x[\partial[|\text{PEAR}| \geq 1] \land \text{PEAR}(x) \land Q(x)]]
\]

\[
\lambda x[\partial[|\text{PEAR}| \geq 1] \land \text{PEAR}(x)]
\]

\[
\lambda \lambda y[\text{EAT}(x)(y)]
\]

\[
\lambda P \lambda Q[\exists x[P(x) \land Q(x)]]
\]

\[
\lambda P[\lambda x[\partial[|P| \geq 1] \land P(x)]]
\]

\[
\text{golābi}
\]

\[
\text{ro}
\]

\[
\text{xordam}
\]
Deriving a Rā-marked Indefinite

\[
\exists x \left[ \varnothing \left[ |\text{PEAR}| \geq 1 \right] \land \text{PEAR}(x) \land \text{EAT}(x)(\text{SP})(x) \right]
\]

\[
\lambda Q \left[ \exists x \left[ \varnothing \left[ |\text{PEAR}| \geq 1 \right] \land \text{PEAR}(x) \land Q(x) \right] \right]
\]

\[
\lambda P \lambda Q \left[ \exists x \left[ P(x) \land Q(x) \right] \right]
\]

\[
\lambda t \left[ \text{EAT}(t)(\text{SP}) \right]
\]

\[
\lambda P \left[ \lambda x \left[ \varnothing \left[ |P| \geq 1 \right] \land P(x) \right] \right]
\]

\[
\lambda y \left[ \text{EAT}(t)(y) \right]
\]

\[
\varnothing \left[ |\text{PEAR}| \geq 1 \right] \land \text{PEAR}(x)
\]

\[
\text{EAT}(x)(\text{SP})(x)
\]

\[
\text{man} \quad \text{t} \quad \lambda x \lambda y \left[ \text{EAT}(x)(y) \right]
\]

\[
\text{xordam}
\]
Conclusion
• The semantic contribution of rā is best described as an existential presupposition.

• To avoid confusion, it might be better to not use the term “specificity” for rā.

• Rā’s existence presupposition provides half of definiteness.

• The other half is provided by the absence of indefinite marking.

• Rā’s existence presupposition is compatible with indefinites.
Thank You!

- Special thanks to:
  - Cleo Condoravdi for continued help and support with this project.
  - James Collins, Paul Kiparsky, Eve Clark, and Chris Potts.
Example

(16) a. ye mard-o yā zan-o barā in kār moarefī kon-id ID man-OM or woman-OM for this job introduce do-2.PL “Introduce a man or a woman for this job.”


