1 PINs and their Anaphoric Uptake

1.1 Pseudo-Incorporated Nominals (PINs)

Morphological (true) and syntactic (pseudo) incorporation:

- Morphological integration of a nominal head \( N \) into a transitive verb (cf. Mithun 1984, Baker 1996, ...)
- Syntactic integration of an NP with a transitive verb, thereby filling an argument slot, but syntactically closer than “regular” object (cf. Massam 2001, ...)
- Example: Hungarian; Farkas & de Swart 2003

\[
\begin{align*}
\text{(1) a. } & \text{ Mari } \textit{ olvas egy hosszú verset,} \quad \text{ indefinite, non-incorporated} \\
& \text{ Mari read a long poem.ACC} \\
& \text{ 'Mary is reading a long poem.'} \\
\text{ b. } & \text{ Mari hosszú verset olvas.} \quad \text{ pseudo-incorporated:} \\
& \text{ Mari long poem.ACC read} \\
& \text{ 'Mary is reading a long poem / long poems.'} \\
\end{align*}
\]


\[
\begin{align*}
\text{(2) a. } & \text{ Leili yek sīb(-rā) khaerid.} \quad \text{ indefinite, non-incorporated} \\
& \text{ Leili an apple-(acc) bought.3SG} \\
& \text{ 'Leili bought an apple.'} \\
\text{ b. } & \text{ Leili sīb khaerid.} \quad \text{ pseudo-incorporated} \\
& \text{ Leili apple bought-3SG} \\
& \text{ 'Leili bought an apple / appes.'} \\
\end{align*}
\]
1.2 PINs and Anaphora

Common claim: (Pseudo)-incorporated nominals cannot be taken up by anaphora.

But: uptake by anaphora is possible in certain cases, cf.
- van Geenhoven 1998, West Greenlandic – Massam 2001, Niuean,
- Asudeh & Mikkelsen 2000, Danish – Dayal 2011, Hindi,
- Mithun 2010, Kapampangan – Farkas & de Swart 2003, Hungarian

Farkas & de Swart 2003: discourse translucency, for null anaphora

(3) Jánosi, betegét, vizsgált a rendelőben.
   ‘Janos, patient,examined in the office.’

a. ??∅, Túl sulyosnak találta őt, és beutáltatta ∅, a korházba.
   pr. too severe.DAT find he,ACC and intern.CAUSE.PAST pro, the hospital.in

b. ✓∅, Túl sulyosnak találta ∅, és beutáltatta ∅, a korházba.
   pr. too severe.DAT find.PAST pro and intern.CAUSE.PAST pro, the hospital.in
   ‘He, found him, too sick and sent him to hospital.’

But possible also with overt pronouns (cf. Yanovich 2008):

(4) A bátyám házat, vett a múlt héten. Egész vagyont adott érte.
   ‘The brother house-bought last week. He spent a fortune for it.’

2 Existing Proposals

2.1 Farkas & de Swart 2013: Thematic Arguments

Representation in terms of Discourse Representation Theory (Kamp & Reyle 1994) here illustrated with Persian data

(5) \( K_0 + [\text{Leili [yek sib] khaerid}] = [x_1, x_2 | x_1 = \text{LEILI, APPLE(x_2), BUY(x_1, x_2)}] \), two DRs introduced: \( x_1, x_2 \)

(6) \( K_0 + [\text{Leili [sib khaerid]}] = [x_1 | x_1 = \text{LEILI, APPLE(x_2), BUY(x_1, x_2)}] \), just one DR introduced: \( x_1 \)

\( x_2 \): thematic argument

Interpretation of thematic arguments:

(7) A function \( f \) verifies a condition of the form \( P(x_1, \ldots, x_n) \) relative to a model \( \langle A, \mathcal{F} \rangle \) iff there is a sequence \( \langle a_1, \ldots, a_n \rangle \in A_n \), such that \( \langle a_1, \ldots, a_n \rangle \in \mathcal{F} \), and if \( x_i \) is a discourse referent, \( a_i = f(x_i) \)

and if \( x_i \) is a thematic argument, \( a_i \) is some element in \( A \).

Introduction of DR for anaphoric uptake of thematic arguments:

(8) If a suitable discourse referent cannot be found in \( K \) for an anaphoric expression, introduce a new DR \( x_i \) and add a condition of the form \( x_i = x \), where \( x \) is a thematic argument that is part of a condition \( P(x_1, \ldots, x_i, \ldots x_n) \) in the conditions of \( K \) or a DRS that is superordinate to \( K \).
(9) \( f \) verifies the condition \( x_j = x_i \), with a preceding condition \( P(x_1, \ldots, x_i, \ldots, x_n) \), iff \( f \) maps \( x_j \) onto an individual \( a_i \) that is the \( i \)-th element of an \( n \)-tuple \( \langle a_1, \ldots, a_i, \ldots, a_n \rangle \) that verifies the condition \( P(x_1, \ldots, x_i, \ldots, x_n) \).

Example:

(10) \( K, + [\text{Majnoon khord}=\emptyset] \)

\[
\begin{aligned}
  & x_1 | x_1 = \text{LEILI, APPLE}(x_2), \text{BUY}(x_1, x_2) \\
  & x_3 \quad x_4 | x_3 = \text{MAJNOON}, x_4 = x_2, \text{EAT}(x_3, x_4)
\end{aligned}
\]

true w.r.t. \( f \) and a model \( \langle A, [] \rangle \)

iff – \( f(x_1) = [\text{LEILI}] \),
– there is an \( a_2 \) such that \( a_2 \in A \) with \( a_2 \in [\text{APPLE}] \),
– there is a sequence \( \langle a_1, a_2 \rangle \in AxA \) with \( f(x_1) = a_1 \) and \( \langle a_1, a_2 \rangle \in [\text{BUY}] \)
– \( f(x_3) = [\text{MAJNOON}] \),
– \( f \) maps \( x_4 \) to \( a_2 \),
– \( \langle f(x_3), f(x_4) \rangle \in [\text{EAT}] \)

Problems:

\mitem{Non-compositional rule:}
\( a_2 \) is bound by existential quantifier “there is a...”, hence not accessible from outside.

\mitem{Yanovich 2008:}
the rule does not guarantee binding between the individual that is an apple and the individual that Majnoon ate, as \( a_2 \) is bound by two independent quantifiers “there is...”

2.2 Modarresi 2015: Number-neutral DRs

\mitem{Pseudo-incorporated NPs introduce number-neutral DRs (such DRs already stipulated in Kamp & Reyle 1994).}

\mitem{Overt pronouns are marked for number, hence expect number-marked DRs}
Covert pronouns: not marked for number, hence do not expect number-marked DRs

(11) \( \text{Leilis } \xi_2 \text{ khærid. Majnoon khord- } /-?\text{esh}/ -?\text{eshoon.} \)

\( \text{Leili apple bought.3SG Majnoon ate-pro/-it/-them} \)
‘Leili bought apple(s). Majnoon ate it / them.’

\[
\begin{aligned}
  & [x_1 \xi_2 | x = \text{LEILI, APPLE/S}(\xi_2), \text{BUY}(x_1, \xi_2) \\
  & x_3 | x_3 = \text{MAJNOON, ATE}(x_3, \xi_2)]
\end{aligned}
\]
\( \xi_2 \): number-neutral DR

\mitem{If world knowledge suggests atomic or sum interpretation of number-neutral DR, singular or plural overt pronouns are possible.}

(12) a. \( \text{Leili apartman khærid. Gheimat-esh bala bood.} \)
atomic interpretation

\( \text{Leili apartment bought.3SG. Price-its high was.3SG} \)
‘Leili bought apartment(s). Its price was high.’

b. \( \text{Leili havij khærid. Majnoon khord-eshoon.} \)
sum interpretation

\( \text{Leili carrot bought.3SG. Majnoon ate-them.} \)
‘Leili bought carrot(s). Majnoon ate them.’

Problems:

\mitem{Why are pseudo-incorporated NPs interpreted as number neutral?}

\mitem{Anaphoric uptake always more complex than with non-incorporated antecedent.}
3 A New E-Type Analysis of PINs

3.1 E-type pronouns

Pronouns with quantifier antecedents, no c-command (Evans 1980; Nouwen subm.)

(13) Few congressmen admire Kennedy, and they are very junior. Evans 1980

‘There are (only) few congressmen that admire Kennedy, and the congressmen that admire Kennedy are very junior.’

Maximality effect with the pronoun interpretation, lacking with indefinites (Heim 1990):

(14) a. A wine glass broke last night. It was very expensive.
    (o.k. if several wine glasses broke last night, and only one was expensive.)
    b. At least three wine glasses broke last night. They were very expensive.
    (all the wine glasses that broke last night were very expensive).

♦ Descriptive theory of pronouns (Neale 1990, Heim 1990, Elbourne 2005),
♦ but descriptive approaches are not required for E-type strategies (Nouwen subm.)

3.2 E-type pronouns in DRT

DRT (Kamp & Reyle 1993, Hardt 2003): abstraction and summation over DRSs

(15) John beats most donkeys he owns. They complain.

\[
\begin{align*}
\text{[ } x_1 & \mid x_1 = \text{JOHN}, \ [ x_2 & \mid \text{DONKEY}(x_2), \ \text{OWN}(x_1,x_2)] \langle \text{MOST } x_2 \rangle \ [ \mid \text{BEAT}(x_1,x_2)] \\
\xi_3 & \mid \xi_3 = \sum x_2 \ [ x_2 \mid \text{DONKEY}(x_2), \ \text{OWN}(x_1,x_2), \ \text{BEAT}(x_1,x_2)]
\end{align*}
\]

Abstraction and Summation rule:
♦ Given a triggering configuration with a duplex condition \(K_1 \langle \text{Q} \rangle K_2\) in a DRS \(K\),
  – form the union \(K' = K_1 \cup K_2\),
  – choose a DR \(x\) from \(K'\), add new DR \(\xi\) to \(K'\), add condition \(\xi = \sum x K'\)
♦ \(\sum x K'\) relative to assignment \(g\), model \(M = \langle A, \emptyset \rangle\) is the sum of all \(a \in A\)
  such that there is an extension \(g'\) of \(g\) with \(g'(x) = a\) where \(K'\) true w.r.t. \(g'\) and \(M\)

Notice:
♦ DRs that are introduced in embedded DRSs become available as antecedents
♦ the choice of singular / plural pronoun depends on whether \(\xi\) is atomic or not
♦ Maximality effect arises by the interpretation of summation, \(\Sigma\)
♦ reference to DRSs \(K_1, K_2\) is itself an anaphoric process (SDRT, Asher & Lascarides)
3.3 PINs as dependent definites under existential closure

Basic assumptions for incorporated nominals:

- Existential quantifiers with narrow scope in DRT
  -- Condition \( \exists K \) is true w.r.t. assignment \( g \), model \( M \)
    iff there is an extension \( g' \) of \( g \) such that \( K \) is true w.r.t. \( g', M \).
  -- Implicit in negation, disjunction, quantifier conditions: \( \neg \exists K \), \( \exists K \lor \exists K' \), \( K \rightarrow \exists K' \)
- Existential Closure EC scoping over vP (Diesing 1991)
- EC ranges over event variable of the verb
- Nominals within vP are dependent definites relative to the event variable of the verb

Example:

(16) \( K_0 + [p \text{ Leili} EC_2 [p t_1 sib \text{ kharid}_2 ]] \)  
    \( = [x_1 \, | \, x_1=\text{LEILI}, \exists[e_2 x_3 \, | \, x_3 = \text{APPLE-OF(e_2)}, \text{BUY}(x_1, x_3, e_2)]] \)
    \( = K_1 \)

where \( \text{BUY}(x_1, x_3, e_2) \): \( e_2 \) is an buying event, with \( x_1 \) the buyer, \( x_3 \) the object bought
\( \text{APPLE-OF(e_2)} \) is the unique apple of \( e_2 \)

3.4 Anaphoric uptake of PINs by E-type strategy

(17) \( K_1 + [p \text{ Majnoon} EC_5 [p t_4 t_6 \text{ khord-∅}]] \)  
    \( = [x_1 \, | \, x_1=\text{LEILI}, \exists[e_2 x_3 \, | \, x_3 = \text{APPLE-OF(e_2)}, \text{BUY}(x_1, x_3, e_2)]] \)
    \( x_4 \xi_6 \, | \, x_4=\text{MAJNOON}, \xi_6 = \Sigma x_3[e_2 x_3 \, | \, x_3 = \text{APPLE-OF(e_2)}, \text{BUY}(x_1, x_3, e_2)], \text{Abstraction, Summation} \)
    \( \exists[e_5 \, | \, \text{EAT}(x_4, \xi_6, e_5) \] \)

- Pronominal interpreted as E-type pronoun, requiring abstraction/summation
- Covert pronoun has no number feature, ideally relating to the number-neutral DR \( \xi_6 \)
- If world knowledge suggests atomic/sum individual, singular/plural pronouns o.k.
- Anaphoric uptake more complex w.r.t. cases in which a DR is already introduced; hence if speaker intends to take up a DR, non-incorporated NPs are better.
4 Consequences and Further Observations

4.1 Number Neutrality

Number neutral interpretation of singular PINs predicted:

✦ (16) is compatible with there being multiple events of Leili buying an apple.

But then: Why are regular indefinites not interpreted as number neutral?

(18) \[ K_0 + [\text{Leili}_1 \text{EC}_2 [\text{yek sīb}_3 \text{kharīd}] \]

\[ \text{Leili an apple bought.3SG} \]

✦ yek ‘a/one’ introduces \( \#(x_3) = 1 \), excludes alternatives \( \#(x_3) > 1 \) by scalar implicature.

✦ With PINs, there is no scalar alternative to EC

4.2 Maximality Effect with anaphoric uptake of PINs

Due to summation in (17) we expect maximality effect, cf. Yanovich 2008

(19) \[ \text{Ali khaneh darad.} \]

\[ \# \text{Khane-ye-digari ham dard ke ejareh mideh.} \]

‘Ali has house(s). He also has another house that he rents.’ (EZ: ezafe linker)

(20) \[ \text{Ali yek khaneh darad. Khane-ye-digari ham dard ke ejareh mideh.} \]

‘Ali has a house. He also has another house that he rents.’

4.3 Avoidance of collective predication

✦ If PINs were semantically number neutral, collective predicates should be possible.

✦ Present theory: PINs are singular \( \rightarrow \) no collective predicates (cf. Dayal 2011, 2015)

(21) \[ \text{diruz Sara } ^\text{yest}\text{arg-e-khoshk} / \text{arg-ha-ye-khoshk jam.kard} \]

‘Yesterday Sara collected dry leave / dry leaves.’

But: bare singulars possible in habitual sentences:

(22) \[ \text{Ali tambr jam-mi-konad} \]

‘Ali collects stamps.’, ’Ali is a stamp collector.’

Explanation as generic quantification:

(23) \[ [x_1 | x_1 = \text{ALI}, \]

\[ [\text{SUITABLE } t] \Rightarrow \exists [e_2, x_3 | e_2 \text{ in } t, x_3 = \text{STAMP-OF}(e_2) \land \text{ADD TO-COLLECTION}(x_1, x_3, e_2)] \]

‘Ali habitually adds a stamp to his collection.’
4.4 Plural nominals

Current theory predicts:

- In non-collective predication, plurality with incorporated nominals has no effect, as incorporation results in a number-neutral interpretation.

Findings (cf. Modarresi 2014):

- Plural-marked incorporated nominals lead to specialized interpretations.

(24) *Maryam ketāb-ha khand-ad.*

Maryam book-PL read-3SG

‘Maryam has read (many) different books at different occasions.’

Nominal plural possibly indicating a multitude of events:

(25) \[ x_1 | x_1 = \text{MARYAM}, \exists [E_2, X_3 | X_3 = \text{BOOKS-OF}(E_2), \text{READ}(x_1, X_3, E_2)] \]

Cumulative interpretations (cf. Krifka 1994):

- When \( x = \text{BOOK-OF}(e) \), \( x' = \text{BOOK-OF}(e') \), then \( x \oplus x' = \text{BOOKS-OF}(e \oplus e') \)

- When \( \text{READ}(y, x, e) \), \( \text{READ}(y, x', e') \), then \( \text{READ}(y, x \oplus x', e \oplus e') \)

- Reference to collective events \( E \) suggest: Their parts are spatio-temporally distinct.

5 Additional Issues related to Persian

5.1 Accusative-marked bare nominals

Assumption (Modarresi 2015):

- *ra* marking is a morphological reflex of an object scrambling out of vP
  (Movement of an object NP into a initial focus position does not require *ra*-marking)

- (Scrambling of subjects has similar effects, but this is marked only prosodically)

*ra*-marking of bare NP results in definite interpretation:

(26) \[ \text{Leili}_1 \text{sīb-rā}_3 \text{EC}_2 [vP t_1 t_3 \text{kharid}] \]

Leili apple-ACC bought-3SG

‘Leili bought the apple.’

- Recall: we have interpreted bare NPs as *definites* w.r.t. an event: \( \text{APPLE-OF}(e) \)

- Outside of vP, \( e \) cannot be dependent on the event \( e_2 \) introduced by EC, it must depend on a salient event given in the previous discourse or situation.

- Generates *definite reading*: the apple given in previous discourse or in the situation

- Predicts: *No number neutrality*, singular interpretation

- Observe: We have a *uniform interpretation of bare NPs as definites* (for Persian)
Examples for rā-marked bare nominal:

(27) a. tooye sabad miveh bood. Leili sīb-rā bardasht.
    There were fruits in the basket. Leili took the apple
    
    b. [x₁ x₂ x₃ x₄ x₅ | BASKET(x₁), FRUITS(ξ₂), IN(x₁,ξ₂), x₃=LEILI, x₄=APPLE-OF(ξ₂), ∃[e₅ | TAKE(x₃,x₄,e₅)]]
    'the apple of the fruits'

(28) a. tooye sabad yek sīb(-i) va yek golabi(-i) bood. Leili sīb-rā bardasht.
    There was apple and a pear in the basket. Leili took the apple.
    
    b. [x₁ x₂ x₃ x₄ X₅ | BASKET(x₁), APPLE(x₂), PEAR(x₃), X₄=x₂⊕x₃, IN(x₁,ξ₂), x₆=LEILI, x₇=APPLE-OF(X₄), ∃[e₈ | TAKE(x₆,x₇,e₈)]]
    'the apple of the sum individual of an apple and a pear'

    There was an apple in the basket. Leili took the apple.
    
    b. [x₁ x₂ x₃ x₄ | BASKET(x₁), APPLE(x₂), IN(x₁,ξ₂), x₃=LEILI, x₄=APPLE-OF(x₂), ∃[e₅ | TAKE(x₃,x₄,e₅)]]
    'the apple of the apple'

5.2 A closer look at yek-marked indefinites

(30) K₀₊ [IP Leili₁ EC₂[vp t₁ [NP yek sīb] kharid]]
    Leili an apple bought.3SG
    Two possible readings, (31) and (32):
    (31) [x₁ | x₁ = LEILI, ∃[e₂ x₃ | APPLE(X₃), #(X₃)=1, BUY(x₁,x₃,e₂)]]
    ◆ No relation of x₃ to e₂
    ◆ Compatible with more than one apple being bought by Leili
    ◆ Anaphoric uptake by abstraction and sum formation would refer
      to all the apples that were bought by Leili, just as with bare nominals
    ◆ The number information of yek 'a / one' would be irrelevant in this case,
      hence this reading is blocked by the form with bare nominal.
    (32) [x₁ x₃ | x₁ = LEILI, APPLE(x₃), #(x₃)=1, ∃[e₂ | BUY(x₁,x₃,e₂)]]
    ◆ Indefinite NP not dependent on e₃, allows for wide scope w.r.t. EC
    ◆ This is known to be possible with indefinites in general, cf. “specific” reading of:
    (33) If you see a black dog, then be careful, it will bite you!
        [x₁ | BLACK-DOG(x₁), [e₂ | SEE(YOU, x₁, e₂)] ⇒ [e₃ | e₁<e₃, BITE(x₁,YOU,e₃)]
    ◆ Notice: x₃ is singular discourse referent, can only be targeted by singular pronouns.
5.3 Accusative marking of singular indefinite nominals

rā-marking of yek-marked nouns also indicates scrambling out of vP

\[(Leili_1 \ [yek \ sīb-rā]_3) \ \text{EC}_2 \ [v_p \ t_1 \ t_3 \ kharīd]\]

Leili an apple-ACC bought-3SG

‘Leili bought an apple.’

◆ possible, but disfavored in the current case

◆ reason: wide-scope indefinite reading can be achieved without rā, cf. Error: Reference source not found.

◆ but scrambling out of vP essential to guarantee wide scope w.r.t. other quantifiers

\[(yek \ ketab-rā \ har \ daneshjoo-i \ bayad \ be-khoon-ad)\]

a book-RA each student-i must SUBJ-read-3SG

‘Each student must read a certain book.’

5.4 i-marked nouns

Another way of expressing indefiniteness in Persian: i-marking

\[\text{a. } [p \ Mæn_1 \ EC \ [v_p \ t_1 \ roobah-i \ did-æm]]\]

I fox-INDEF saw-1SG

‘I saw a fox (not: foxes)’

c. \[\text{b. } [p \ Mæn_1 \ roobah-i-rā₂ \ EC \ [v_p \ did-æm]]\]

I fox-INDEF-ACC saw-1SG

‘I saw a certain fox.’

◆ i-marking: restrictive selection out of a kind or plurality (Windfuhr 1987)


\[\text{37) } [p \ Leili_1 \ \text{EC}_2 \ [v_p \ t_1 \ sīb-i \ kharīd]]\]

\[x_1 (F) x_3 | x_1=\text{LEILI}, \exists e_2 | x_3 = F(\text{APPLE}), \text{EAT}(x_1,x_3,e_2)]\]

◆ F(APPLE) ∈ [APPLE]

◆ as with other referring expressions, discourse referent x₃ introduced in higher box, hence easily accessible for anaphoric uptake

◆ no dependency on on event of existential closure e₂, hence no number neutrality

Situation is more complex, as combination yek + i is possible as well: yek sīb-i
5.5 Iterative readings and modal subordination

The durative marker mi can express progressivity or imperfective readings:

(38) har-rooz sobh Maryam sib mi-kharad.
    everyday morning Maryam apple DUR-buy.3SG
    'Every morning Maryam buys apples.'

\[ [x_1 | x_1=MARYAM, [t_2 | MORNING(t_2)] \Rightarrow \exists [e_3 x_4 | x_2=APPLE-OF(e_3), AT(t_2,e_3) BUY(x_1,x_4,e_3)] ]\]

Uptake of discourse referents by modal subordination (Roberts 1989):

\* Combination of antecedent boxes forms antecedent of next clause.

\* Abstraction and summation of DR of incorporated nominal.

(39) K₁ + Ab-e-shoon ro mi-girad.
    water-of-them ra DUR.take.3SG.
    'She makes juice of them.'

\[ [ \ldots, [t_2 x_5 | MORNING(t_2), x_5=\sum x_4 [e_3 x_4 | x_2=APPLE-OF(e_3), AT(t_2,e_3) BUY(x_1,x_4,e_3)] ] \Rightarrow \exists [e_6, x_7 | JUICE(x_7), MAKE-OF(x_7, x_5, e_6)] ]\]

6 Weak Definites

6.1 Weak definites analyzed as PINs

Weak definites (Poesio 1994, Carlson e.a. 2006, Schwarz 2013):

(40) Every accident victim was taken to the hospital. (possibly different hospitals)

Proposal: WDs are situation-dependent definites under existential closure, just as PINs

(41) Mary took John to the hospital.

\[ [x_1 x_2 | x_1=MARY, x_2=JOHN, [e_3 x_4 | x_4=HOSPITAL-OF(e_3), TAKE-TO(x_1,x_2,x_4,e_3)] ]\]

6.2 Predictions

\* Number-neutral interpretations: See (40)

\* Maximality effect of anaphoric uptake.

(42) Every victim was taken to the hospital. They declared a state of emergency.

\[ [ | [x_1 | VICTIM(x_1)] \Rightarrow \exists[e_2 x_3 | x_3=HOSPITAL-OF(e_2), TAKE-TO(x_1,x_3,e_4)], X_4 | X_4=\sum x_3[x_1 e_2 x_3 | VICTIM(x_1), HOSPITAL-OF(e_2), TAKE-TO(x_1,x_3,e_4)], [e_5 | DECLARE-EMERGENCY(X_4,e_5)] ]\]

'the hospitals to which the victims were taken declared a state of emergency'

\* No collective predicates with weak definites:

(43) The accident victims gathered at the hospital. (the same hospital)
6.3 Institutionalized Meanings

WDs have institutionalized meaning (Asudeh & Mikkelsen 2001, ..., Klein e.a. 2013)

(44) a. The hurricane victims were taken to the hospital. (weak or regular definite)
   b. The hurricane victims were taken to the church. (only regular definite)

Narrow-scope, event-dependent definites lead easily to institutionalized reading:

(45) [e₂ x₃ | HOSPITAL-OF(e₂), VICTIMS(X₁), TAKEN-TO(X₁,x₃,e₂)]

♦ presupposes that for e₂ there is a unique hospital
♦ hence events like e₂ are categorized as belonging to hospital-events
♦ similar to idiomatic expressions, but with transparent combination of lexical items

Why is institutionalization of readings less prominent for Persian PINs?
♦ Persian allows a clear differentiation for EC-internal/external interpretation due to rā
♦ English: internal reading (a) needs support by idiomatization, in contrast to (b).

(46) a. [ John EC [went to the hospital ]]  b. [ John EC [went] [to the hospital] ]

7 References

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Representation in terms of Discourse Representation Theory (Kamp & Reyle 1994) here illustrated with Persian data

\[(47) K_0 + [\text{Leili [yek sib] khærid}] = [x_1 \mid x_1 = \text{LEILI, APPLE}(x_2), \text{BUY}(x_1, x_2)], \text{two DRs introduced: } x_1, x_2\]

\[(48) K_0 + [\text{Leili [sib khærid]}] = [x_1 \mid x_1 = \text{LEILI, APPLE}(x_2), \text{BUY}(x_1, x_2)] \text{ just one DR introduced: } x_1 \]

**x_2:** thematic argument

Interpretation of thematic arguments by existential quantification.

Anaphoric uptake:

\[(49) K_1 + [\text{Majnoon khord}=\emptyset] = [x_1 \mid x_1 = \text{LEILI, APPLE}(x_2), \text{BUY}(x_1, x_2), x_3 \mid x_3 = \text{MAJNOON, } x_4 = X_2, \text{EAT}(x_3, x_4)]\]

Problems:

- Non-compositional rule:
  - a_2 is bound by existential quantifier “there is a...”, hence not accessible from outside.
- The rule does not guarantee binding between the individual that is an apple and the individual that Majnoon ate, as a_2 is bound by two independent quantifiers “there is...” (Yanovich 2008)
2.2 Modarresi 2015: Number-neutral DRs

- Pseudo-incorporated NPs introduce number-neutral DRs (such DRs already stipulated in Kamp & Reyle 1994).
- Overt pronouns are marked for number, hence expect number-marked DRs
  Covert pronouns: not marked for number, hence do not expect number-marked DRs

(50) \textit{Leili sib khærid. Majnoon khord-\textipa{\textandchar} /-\textipa{\textandchar}esh/ -\textipa{\textandchar}eshoon.}
  \textit{Leili apple bought.3SG Majnoon ate-pro/-it/-them}
  \textit{‘Leili bought apple(s). Majnoon ate it / them.’}

\[ [x_1 \xi_2 | x = \text{LEILI, APPLE/S(\xi_2)}, \text{BUY}(x_1, \xi_2)] \\
[x_3 | x_3 = \text{MAJNOON, ATE(x_3, \xi_2)}] \]
\( \xi_2 \): number-neutral DR

- If world knowledge suggests atomic or sum interpretation of number-neutral DR, singular or plural overt pronouns are possible.

(51) a. \textit{Leili apartman khærid. Gheimat-\textipa{\textandchar}esh bala bood.}
  \textit{Leili appartament bought.3SG. Price-its high was.3SG}
  \textit{‘Leili bought appartament(s). Its price was high.’}

b. \textit{Leili havij khærid. Majnoon khord-\textipa{\textandchar}eshoon.}
  \textit{Leili carrot bought.3SG. Majnoon ate-them.}
  \textit{‘Leili bought carrot(s). Majnoon ate them.’}

Problems:

- Why are pseudo-incorporated NPs interpreted as number neutral?
- Anaphoric uptake always more complex than with non-incorporated antecedent.