Indefinite-interrogative affinity

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Introduction

- Indefinite-interrogative affinity:
  1. Indefinites and interrogative pronouns are identical (Type 1)
  2. Indefinites (and universals) are derived from interrogative pronouns (Type 2)
- Indefinite-interrogative affinity in inquisitive semantics
Indeterminate pronouns in Japanese

Questions in Yucatec Maya
Indeterminate pronouns in Japanese

Questions in Yucatec Maya
Interrogative ⇒ Indefinite

Japanese

<table>
<thead>
<tr>
<th>Person</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>dare…no</td>
<td>dare-ka</td>
<td>dare…-mo</td>
<td></td>
</tr>
<tr>
<td>‘who’</td>
<td>‘someone’</td>
<td>‘everyone’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thing</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>nani…no</td>
<td>nani-ka</td>
<td>nani…-mo</td>
<td></td>
</tr>
<tr>
<td>‘what’</td>
<td>‘something’</td>
<td>‘everything’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Place</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>doko…no</td>
<td>doko-ka</td>
<td>doko…-mo</td>
<td></td>
</tr>
<tr>
<td>‘where’</td>
<td>‘somewhere’</td>
<td>‘everywhere’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Time</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>iitu…no</td>
<td>iitu-ka</td>
<td>iitu…-mo</td>
<td></td>
</tr>
<tr>
<td>‘when’</td>
<td>‘sometime’</td>
<td>‘everytime’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Det.</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>dono N…no</td>
<td>dono N-ka</td>
<td>dono N…-mo</td>
<td></td>
</tr>
<tr>
<td>‘which N’</td>
<td>‘some N’</td>
<td>‘every N’</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Partitive</th>
<th>Interrogative</th>
<th>Indefinite</th>
<th>Universal</th>
</tr>
</thead>
<tbody>
<tr>
<td>dore…no</td>
<td>dore-ka</td>
<td>dore…-mo</td>
<td></td>
</tr>
<tr>
<td>‘which one’</td>
<td>‘one of them’</td>
<td>‘everything’</td>
<td></td>
</tr>
</tbody>
</table>
Paradigm, Japanese

\[
\text{indet} (+ \text{ no}) \Rightarrow \text{wh-word}
\]
\[
\text{indet} + \text{ ka} \Rightarrow \text{indefinite}
\]
\[
\text{indet} + \text{ mo} \Rightarrow \text{universal}
\]
Indeterminates, observation 1

mo/ka must have indet in its scope

Yatsushiro (2001)

(1) Dare-no hahaoya-ka
   Someone’s mother

(2) Dare-no hahaoya-mo
   Everyone’s mothers

(3) Taroo-no hahaoya-mo paraii-ni kita
   Taro-Gen mother-mo party-Loc came
   ‘Taro’s mother also came to the party.’

(4) *Taroo-no hahaoya-ka-ga paraii-ni kita
   Taro-Gen mother-ka-Nom party-Loc came
Indeterminates, observation 2

position of *mo/ka* signals scope
Ohno (1989), Nishigauchi (1990)

(5)  
[Dare-*mo*-no hahaoya]-ga paatii-ni kita.
Ind-mo-Gen  mother-Nom party-Loc came
‘The mother of everybody came to the party.’

(6)  
[Dare-no hahaoya]-*mo* paatii-ni kita.
Ind-Gen  mother-mo  party-Loc came
‘For every x, x’s mother came to the party.’

(assuming single children) ‘there [are] as many mothers as there are people in the discourse’ Yatsushiro, 2001
Indeterminates, observation 3

ka/mo binds unselectively

\[ \text{[ INDET}_x \text{ INDET}_y R(x, y) \text{-mo} \]
\[ \forall x \forall y[R(x, y)], \text{ not } \forall x ? y[R(x, y)], \text{ not } ? x \forall y[R(x, y)] \]

A-was Q want to know
‘Yoko wonders whether for every topic x, every year y, the paper that Taro wrote on x in y got an A.’
*‘Yoko wonders for which year y, for every topic x, the paper that Taro wrote on x in y got an A.’

Shimoyama (2006)
(8) Relating biconditionals and implications

a. \( D \Rightarrow D' := \lambda k. \forall k' (Dkk' \rightarrow D'kk') \)

b. \( D \leftrightarrow D' := \lambda k. ([|D \Rightarrow D']; [|D' \Rightarrow D])kk \)

c. \( Dk := \{ k' | Dkk' \} \)

d. \( D \Rightarrow D' := \lambda k. \text{EVERY}(Dk, D'k) \)

Unselective quantification:

(9) a. (always) if \( \sim \rightarrow \lambda p_t \lambda q_t. p \Rightarrow (p; [| \sim [| \sim (q)]]) \)

b. \( \sim D := \lambda k_c. \neg \exists k_c' (Dkk') \)

c. \( \sim [| \sim D ] := \lambda k_c. \exists k_c' (Dkk') \)

d. (Always) If a farmer has a donkey, he beats it.

e. cf. the old denotation of conditional: if \( \sim \rightarrow \sim \lambda p_t \lambda q_t \lambda k. \forall k' (pkk' \rightarrow \exists l(qk'l)) \)
Example with mo

(10) [Dare-no okaasan]-mo odotta.  
who-GEN mother-mo danced. 
‘All the mothers of the people danced.’

(11) a. mo ⇝ \( \lambda P \lambda Q. P(i)(\lambda i \lambda v. [|]) \Rightarrow P(i)(\lambda i \lambda v.[| \sim [| \sim (Q(i)(v))]]) 

b. of ⇝ \( \lambda Q_{sset} \lambda v_e. Q(i)(\lambda i_s \lambda v'_e.[|of_{et}{i, v, v'}]])) 

c. who\(^n\) ⇝ \( \lambda P_{set}.[u_n|person{\{i, u_n\}}]; P(i)(u_n) \)

d. ka ⇝ \( \lambda P \lambda Q. P(i)(\lambda i \lambda v. Q(i)(v)) \)
Indeterminates, observations

- ka/mo binds unselectively

Follows from lexical semantics

(12)  

\[
\text{a. } \text{mo} \leadsto \lambda P \lambda Q. P(i)(\lambda i \lambda v.[|]) \Rightarrow P(i)(\lambda i \lambda v.[| \sim [| \sim (Q(i)(v))]]) \\
\text{b. } D \Rightarrow D' := \lambda k. \forall k' (Dkk' \rightarrow D'kk')
\]
Indeterminates, observations

- **ka/mo** binds unselectively

(13) Dono-gakusei-ga kai-ta ronbun-mo taitei which-student-NOM write-past paper-MO mostly omoshiro-katta interesting-past

‘for most of the people who wrote a paper, a/the paper they wrote was interesting.’

Nishigauchi (1986)

Follows if **mo** is an unselective binder whose force is decided by (silent) adverbs
Indeterminates, observations

position of \textit{mo/ka} signals scope
Ohno (1989), Nishigauchi (1990)

(14) \[ \text{[Dare-mo-no hahaoya]-ga paatii-ni kita.} \]
\text{Ind-mo-Gen mother-Nom party-Loc came}
\text{‘The mother of everybody came to the party.’}
\[ [u_1|mother\{i, u_1\}]; ([u_2|person\{i, u_2\}] \Rightarrow [u_2|person\{i, u_2 \sim \text{of}\{i, u_1, u_2\}\}]); [\text{came}\{i, u_1\}] \]

(15) \[ \text{[Dare-no hahaoya]-mo paatii-ni kita.} \]
\text{Ind-Gen mother-mo party-Loc came}
\text{‘For every x, x’s mother came to the party.’}
Indeterminates, observations

mo/ka must have indet in its scope

Yatsushiro (2001)

(16) Dare-no hahaoya-ka
Someone’s mother

(17) Dare-no hahaoya-mo
Everyone’s mothers

(18) Taroo-no hahaoya-mo paraii-ni kita
Taro-Gen mother-mo party-Loc came
‘Taro’s mother also came to the party.’

(19) *Taroo-no hahaoya-ka-ga paraii-ni kita
Taro-Gen mother-ka-Nom party-Loc came
Indeterminates, an open issue

(20) {{{Dono-kyoku-o hiita] sorisuto]-mo] what-piece-ACC played soloist-MO (ensoukai-noato-de) atsumatta. (recital-GEN-after) gathered ‘Soloists who played whatever piece gathered (after the recital).’

Yamashina and Tancredi (2005)

(21) a. *Every soloist gathered after the recital. 
b. All the soloists gathered after the recital.
Indeterminates, an open issue

(22) a. Every farmer who owns a donkey beats it. (strong)
b. Every person who has a dime will put it in the meter. (weak)

(23) [Dare-no okaasan]-mo talked to him/her. who-GEN mother-mo talked to him/her.
‘All the mothers talked to (all?some?) of their kids.’
Indeterminates, an open issue

(22) a. Every farmer who owns a donkey beats it. (strong)
   b. Every person who has a dime will put it in the meter. (weak)

(23) [Dare-no okaasan]-mo talked to him/her. who-GEN mother-mo talked to him/her.
    ‘All the mothers talked to (all?some?) of their kids.’

We predict only the strong (all) reading
Indeterminate pronouns in Japanese

Questions in Yucatec Maya
Yucatec Maya

No interrogative morphology

- Indefinite + focus $\rightarrow$ wh-question
- Disjunction + focus $\rightarrow$ alternative question
(24) a. There are two trees in the yard: a mango tree and a papaya tree.
   b. There are three trees in the yard: a mango tree, a papaya tree, and an orange tree.

(25) [le kuul maangooj wáa le kuul puut]F t-u ch’ak-aj Juan
    Def plant mango Or Def plant papaya Pfv-A.3 chop-Status Juan
    ‘Was it the mango tree or the papaya tree that Juan chopped?
    (a)’
    ‘It was the mango tree or the papaya tree that Juan chopped.
    (b)’
(26)  Addressee and speaker agree one of the two people (Juan and Daniel) drank the soda.
(27)  #It was Juan or Daniel who drank the soda.
Inquisitive semantics

(28) a. \([R(t_1, \ldots, t_n)] := \wp(|R(t_1, \ldots, t_n)|)\)
b. \([\neg \phi] := [\phi]^* = \{s|s \cap t = \emptyset \text{ for all } t \in P\}\)
c. \([\phi \land \psi] := [\phi] \cap [\psi]\)
d. \([\phi \lor \psi] := [\phi] \cup [\psi]\)
e. \([\exists x. \phi(x)] := \bigcup_{d \in D}[\phi(d')]\)
f. \([\forall x. \phi(x)] := \bigcap_{d \in D}[\phi(d')]\)
g. \(!\phi = \neg\neg\phi = \wp(\text{info}(\phi))\)
Inquisitive semantics, examples

\[ \phi(a) \land \phi(b) \]

\[ \phi(a) \lor \phi(b) \]

\[ \exists x. \phi(x) \]

\[ !\exists x. \phi(x) \]
AnderBois

Two assumptions:

- Cleft in YM:
  It was A who P.
  $\exists x. P(x)$

- 2 dimensions: inquisitiveness & informativeness
  inquisitive + uninformative (relative to presupposition)
  $\rightarrow$ question

- $\phi$ is informative relative to presupposition $\psi$ iff
  $\bigcup \phi \subset (W \cap \bigcup \psi)$
  $\bigcup \phi \neq \emptyset$
Yucatec Maya

(29) a. There are two trees in the yard: a mango tree and a papaya tree.
    b. There are three trees in the yard: a mango tree, a papaya tree, and an orange tree.

(30) [le kuul maangooj wáa le kuul puut] F t-u ch’ak-aj Juan Def plant mango Or Def plant papaya Pfv-A.3 chop-Status Juan ‘Was it the mango tree or the papaya tree that Juan chopped?
    (a)’ ‘It was the mango tree or the papaya tree that Juan chopped.
    (b)’
Yucatec Maya

(31) [le kuul maangooj wáa le kuul puut]₇ t-u ch’ak-aj Juan Def plant mango Or Def plant papaya Pfv-A.3 chop-Status Juan ‘Was it the mango tree or the papaya tree that Juan chopped? (2 trees)’

Presupposition of (31) $\phi(a) \lor \phi(b)$
Yucatec Maya

(32) [le kuul maangooj wáa le kuul puut]F t-u ch’ak-aj Juan Def plant mango Or Def plant papaya Pfv-A.3 chop-Status Juan ‘It was the mango tree or the papaya tree that Juan chopped.

(3 trees)’

Presupposition of (32) $\phi(a) \lor \phi(b)$
(33) a. Who drank the soda?
    b. #Somebody.

Wh-questions accompanied by existential presupposition
Yucatec Maya, wh-questions

(34)  [máax]_{F}  uk’ le sa’-o’
someone/who drink.Agent.Focus
‘Who drank the atole?’

Presupposition: !∃x.ϕ(x)
Assertion: ∃x.ϕ(x)
Loose ends – English

(35)  Addressee and speaker agree one of the two people (Juan and Daniel) drank the soda.

(36)  #It was Juan or Daniel who drank the soda.

Presupposition of (36) \( \phi(a) \lor \phi(b) \)
Comparison – AnderBois vs. Haida

Parallelism:
- Indefinite semantics – the source of “wh-meaning” in wh-questions:
  alternatives in AnderBois
  lambda-bound variables in functions in Haida

Advantages, AnderBois:
- Relation between disjunctions and alternative questions in Yucatec Maya captured
- Focus indispensable for questions in AnderBois
Comparison – AnderBois vs. Haida

Parallelism:

- Indefinite semantics – the source of “wh-meaning” in wh-questions:
  alternatives in AnderBois
  lambda-bound variables in functions in Haida

Advantages, Haida:

- Dynamic treatment of questions
- Japanese indeterminate phrases accounted for, including the universal flavor of *mo*