Dynamic and Compositional Aspects of Interrogatives : The Specific vs. Generic Duality of Wh-words and French Interrogative-based Conditionals

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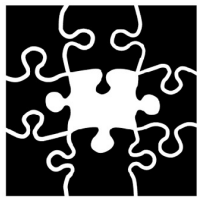

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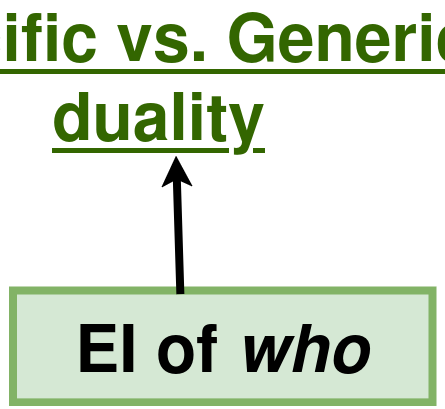
Questions :

- What is the **status of the EI** of *who*-questions
- When is it triggered ? / **What triggers it ?**

The Specific vs. Generic theory



The Specific vs. Generic theory

ELLIOTT, NICOLAE et SAUERLAND 2022 : *who* is type-flexible

- To account for MALDONADO 2020
- who_e ranges over individuals
- $who_{\langle et \rangle t}$ ranges over generalized quantifiers

A weak and volatile EI

Arguments in favor of an existential presupposition :

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- Negative responses are truth-conditional answers

(7) Hafida and Anna believe that nobody cheated at Hamida's exam, and so, they agree on who cheated. (FITZPATRICK 2005)

Dependent on semantic environments

Some environments **license free-choice** items, e.g. *any* :

(8) a. *Mary read any book yesterday.
b. When she was young, Mary used to read any comic book. (habitual)
c. Tomorrow, we'll take advantage of any situation. (future)
d. Any student knows that. (generic)

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In these environments, the **EI seems weaker** :

(9) a. What do you usually read when you relax ? (habitual)
b. What will you read during that meditation retreat ? (future)
c. What did you read when you were relaxing yesterday ?

(10) a. What do Dutch people eat for dessert ? (generic)
b. What did Guido eat for dessert ?

Weak islands

Some wh-words cannot escape **weak islands** :

(11) a. Which car are you wondering how to fix ?
b. *How are you wondering whether to fix my car ?

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Weak island constraint stronger with free-choice environments :

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c. ?What do Dutch people wonder whether to eat ? (generic)

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Pragmatics of responder cancellation :

- How would the negative response *"Nobody"* be taken ?
- SITUATION A : as non-cooperative, the asker need to revise their sentence
- SITUATION B : as cooperative, helps the asker to achieve his goal

Interim summary

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Idea : **two readings**

- a specific reading who_S : with an existential presupposition
- a generic reading who_G : with no existential presupposition

Focus movement in Mongolian

Mongolian SOV with **in situ questions** (ONEA et GUNTSETSEG 2011) :

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- (15) acceptable as a **general question** with no salient event
- (16) only felicitous with a **specific individual in mind**, e.g.

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Similar focus movement in Ngamo (West Chadic) (GRUBIC 2015)
⇒ **S/G ambiguity grammatically mediated in some languages**

Epistemic determiners

Determiners and pronouns sensitive to the knowledge of the speaker :

(18) a. Gianni walked into the classroom and addressed a certain boy.
b. Gianni est entré dans la classe et s'est adressé à un garçon quelconque.
'*Gianni walked into the classroom and addressed a (random) boy.*'

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Speaker identification : (VON HEUSINGER 2002)

- $[\![(18\text{-a})]\!]$ = there exists an individual *d* identified in some way (e.g. by his name) such that Gianni addressed *d*
- $[\![(18\text{-b})]\!]$ = Gianni addresses a boy that is not / cannot be identified by the speaker

Wh-words are epistemic pronouns

Same duality for *who/what* :

(19) a. Who^u was sitting here ? (She$_u$ forgot her bag.)
b. Someone was sitting here. I would like to know her name.

Identification methods :

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- who_S comes equipped with an extra identification method $f : s \to e$
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(20) a. What do you usually do in the weekend ?
b. #You usually do things during the weekend. I would like to know those things.
c. If you usually do things in the weekend, **whatever it is**, could you share with me examples of these things.

Domain effects

An additional property :

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Consistent with observations :

(21) a. What do Dutch people eat for dessert ?
b. What did you do during your weekend ?

Consequence of the semantic ambiguity

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But who_G can always be reinterpreted :

- Responder cancelability

Question types

Existential presupposition with exam and echo questions :

(22) a. PROF. A: When did the Belgian monarchy end ?
b. STUDENT B: I don't know.
c. PROF. A: Never. Belgium is still a monarchy.
d. STUDENT B: Wait a minute, that was a trick question !

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Bias towards negative answer in rhetorical and reflexive questions : (MARI et GIANNAKIDOU 2021)

(24) a. Which sane human being would ever vote for Prof. Jones ?
b. Qui a bien pu ouvrir la porte ?
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Hypothesis :

- who_S puts a (higher) social pressure to answer than who_G

Back on weak islands

(25) a. Who were you wondering whether to visit on your vacation ?
b. ?What do Dutch people wonder whether to eat ? (generic)

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- Specific wh-words can escape (CINQUE 1990 ; RIZZI 1990)
- Wide, not well-behaved domains have a harder time escaping weak islands (SZABOLCSI et ZWARTS 1993)

Consequence :

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Redeeming (25-b) :

(26) a. What is it that Dutch people wonder whether to eat at breakfast ? (cleft)
b. According to a Dutch study conducted in 2025, what do Dutch people wonder whether to eat at breakfast ? (exam question)
c. Sorry, WHAT do Dutch people wonder whether to eat at breakfast ? (echo)

Conclusion on the EI of simplex wh-questions

The existential inference of simplex wh-question is :

- weak and unstable
- weaker in free-choice-licensing environments
- depends on pragmatic factors

Motivations for a **specific vs. generic semantic ambiguity** :

- Focus movement in Mongolian and Ngamo
- Referential vs. attributive readings of non-interrogative wh-items
- Anaphoric properties of wh-words

This duality explains :

- Weak NPIs in questions
- Variation of answer expectation to different kinds of questions
- Weak islands

Summary of the duality properties

Property	who_S	who_G
Referent Identification	specific	generic
Presuppositional	yes (existential)	no
Open to negative answers	no	yes
Anaphoric relation	matrix	modal subordination
Domain	narrow	wide
Favoring environments	/	habitual, future, generic
Sensitivity to interveners	no	yes (weak islands at least)
Can be focused	yes	no
Trace licensing weak NPIs	no	yes
Associated question types	exam, echo	rhetorical, reflexive

A rare interrogative structure

(27) des jeunes des jeûnes effectivement c'était le petit piège ça peut être paronyme ou homonyme [suivant comment vous le prononcez] (CIENSFO)
'*French words "jeune" and "jeûne" can be paronymous or homonymous [depending on how you pronounce "jeûne"].*'

Corpus study

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- `frTenTen2023` : web written (23 billion words)

An embedded interrogative

An **embedded interrogative** :

- accepts *comment* and *qui*
- multiple wh-words

(28) a. le consentement [. . .] a varié dans le temps [en fonction de [qui devait consentir] et [à quoi]] (CIENSFO)
'*Consent has varied over time depending on who had to consent and to what.*'

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b. le sexisme [...] [suivant [quel type de sexisme]] y a eu des des des associations qu'étaient pas très fortes (CIENSFO)
'*Sexism, depending on what type of sexism, there were associations that weren't very strong.*'

An adverbial modifier clause

Adverbial modifier clause :

- can be put before or after the main clause
- weak syntactic dependence on the verb (not governed) (BLANCHE-BENVENISTE et al. 1990)
- *selon*, *suivant*, *en fonction de*

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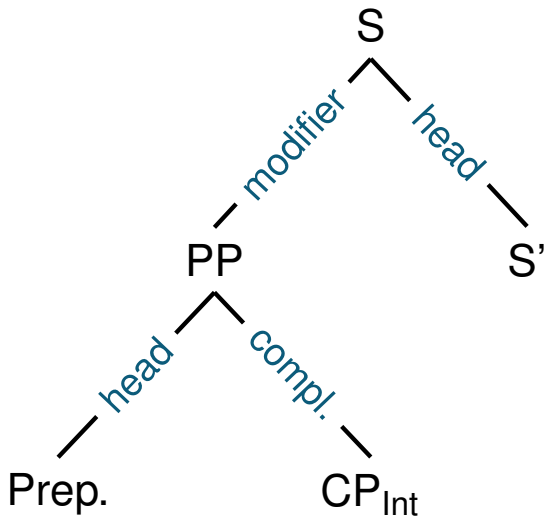
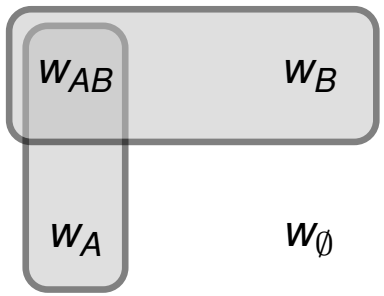
- weak syntactic dependence on the verb (not governed) (BLANCHE-BENVENISTE et al. 1990)
- *selon*, *suivant*, *en fonction de*
- rare because non-standard (and maybe more complex)



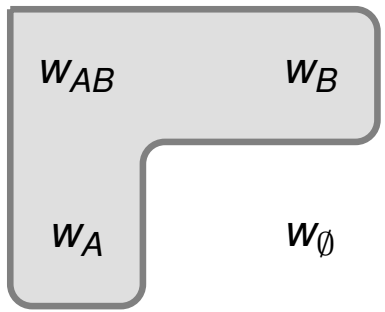
Inquisitive semantics

Propositions $p : (st)t$ denote declaratives and interrogative uniformly

- **Assertive** : $|\text{ALT}(p)| = 1$
- **Inquisitive** : $|\text{ALT}(p)| > 1$



inquisitive : ⟦A or B⟧



assertive : !⟦A or B⟧

Dependency statements

(29) a. '*[$_B$ French words "jeune" and "jeûne" can be paronymous or homonymous] depending on [$_A$ how you pronounce "jeûne"].*' (CIENSFO)

b. **antecedent** : A_1 = /ʒœn/, A_2 =/ʒøn/

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(31) a. *B* depends on *A* iff. there exists a function $f : \text{ALT}(A) \to \text{ALT}(B)$ s.t.

(i) **conditional dependency :**
for all $w \in M$ and $p \in \text{ALT}(A)$, if $w \in p$ then $w \in f(p)$, and

(ii) **non-triviality :**
f is not constant on M

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- Using a **modal base** *M* (THEILER, ROELOFSEN et ALONI 2019)

(30) According to Dutch law, one's income tax rate depends on one's age.

(31) a. *B* depends on *A* iff. there exists a function $f : \text{ALT}(A) \to \text{ALT}(B)$ s.t.

(i) **conditional dependency :**
for all $w \in M$ and $p \in \text{ALT}(A)$, if $w \in p$ then $w \in f(p)$, and

(ii) **non-triviality :**
f is not constant on M

Non-triviality **blocks assertive arguments** :

(32) *That the light is on depends on whether the switch is up.

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b. Cet effort n'est pas le même selon [$_A$ qu'on est héritier ou que l'on a que sa force de travail]. (frTenTen)
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- declarative CP disjunction → **disjunction creates inquisitiveness**

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Compositional problem for consequents

Problem more widespread for consequents :

(34) a. des jeunes des jeûnes [...] [$_B$ ça peut être paronyme **ou** homonyme] suivant comment vous le prononcez

b. parce que on projette le fait que selon comment une personne parle [$_B$ elle aurait elle aurait **une certaine** identité sociale] (CIENSFO)
'*We project the fact that depending on how a person speaks, they would have a certain social identity.*'

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(i) e.g. $B_1 =$ they would be a professor, $B_2 =$ they would be an entrepreneur,...

In Inquisitive Semantics : **disjunction and indefinites** raise alternatives

Free association with focus

SELON sensitive to lexical and scale alternatives :

(35) a. déjà suivant comment se passe le premier tour [$_B$ je vais peut-être arrêter] (CIENSFO)
'*Depending on how the first round goes, I might stop.*'
(i) $B_1 =$ I will maybe stop, $B_2 =$ I will maybe continue

b. [$_B$ elles comptent pour beaucoup dans les prédictions des astrologues] selon de quelle planète il s'agit (CIENSFO)
'*They play a major role in astrologers' predictions, depending on which planet is involved.*'
(i) $B_1 =$ planet x plays a major role, $B_2 =$ planet x plays a minor role

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Free association with focus : (BEAVER 2008)

- the alternatives build the implicit modal base $M = \bigcup \text{ALT}(B)$
- the modality is quantifying over the (locally) asserted consequent alternative : *maybe*$(M, [\![\text{I will stop}]\!])$

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Other interesting cases : e.g. inquisitive IbCs

(36) a. Selon les âges, [$_B$ combien d'œufs peut-on consommer] ? (frTenTen)
'*At different ages, how many eggs can you eat ?*'

⇒ **Need for corpus studies in formal semantic !**

Conclusion

French Interrogative-based Conditionals :

- Discovered interrogative position
- Requires compositional flexibility : declarative vs. assertive / inquisitive

$\Rightarrow$ **New insights on the contribution of alternatives**

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Thank you !

The type-flexibility hypothesis

(37) a. A: What is Mary required to read ? (SPECTOR 2008)
b. B: Ulysses or Madame Bovary.
(i) **NARROW SCOPE DISJUNCTION :**
She is requires to read one book. This book can be Ulysses or Madame Bovary. (free-choice)
(ii) WIDE SCOPE DISJUNCTION :
She is required to read Ulysses or she is required to read Madame Bovary. (ignorance)

→ *what* is ranging over upward-entailing generalized quantifiers

ELLIOTT, NICOLAE et SAUERLAND 2022 : using DAYAL 1996

- who_e leads to an existential presupposition
- $who_{\langle et \rangle t}$ **includes constant GQs : no existential presupposition**

Data in Ngamo

Background marker *=i* puts the following constituent in focus

(38) a. Dimza esha lo?
Dimza call.PFV who

b. Dimza esha=i lo?
Dimza call.PFV=BM who
'*Who did Dimza call?*'

- With *=i*, "the speaker is specific about the person that Dimza called, and the speaker knows that he has called somebody" (GRUBIC 2015)

Referential vs. attributive

Some attributive readings of (in)definites **don't trigger an EI** :

(39) a. A golden coin was given to the sailors who captured a pirate. (referential)
$\rightsquigarrow$ Some sailors captured a pirate.

b. A golden coin will be given to the sailors who capture a pirate. (attributive)
$\not\rightsquigarrow$ Some sailors will capture a pirate.

Same for free-relatives based on wh-items :

(40) a. I ordered what John ordered for dessert. (referential)
$\rightsquigarrow$ John ordered something for dessert.

b. John will read whatever Bill assigns. (attributive : free-choice)
$\not\rightsquigarrow$ Bill will assign something.

VON HEUSINGER 2002 : specific vs. non-specific readings
$\Rightarrow$ **S/G ambiguity in non-interrogative wh-items**

Generic anaphora to a wh-word

Wh-words introduce discourse referents :

(41) a. A: Who^u went to the party ? And what did they$_u$ bring as a present ?
(van Rooij 1998)
b. A: Who^u knows how to model free choice effects in questions ?
c. B: I don't know, but that$_u$ person would probably work at ILLC.
d. #I don't know, but that$_u$ person works at ILLC.

Default modal subordination

- Probably linked to the *modal behavior* of free-choice / generic items (Dayal 1998)

Specific reference to wh-words

Specific questions make the wh-referent accessible :

(42) a. Who^u was sitting here ? She$_u$ forgot her$_u$ bag.
b. Which^u writer won the Nobel Prize in Literature in 1969 ? To give you a hint, he$_u$ is Irish. (HAIDA 2007)

Some wh-word used as deictic :

(43) What$_u$ were you talking about ?

- Pointing signs for interrogative words

⇒ **Specific and Generic readings have different dynamic effects**

Negative answers with null individuals

Negative responses are truth-conditional answers
What negative answers ?

- Duží et al. 2015 : as the negation of positive answers / the EI

Issue with quantified questions :

(44)
a. A: What did every student read ?
b. B: John read Ulysses, Anne read Moby Dick, and Tijn read Madame Bovary.
c. EI : *Every student read something.*
d. B: #Some student read nothing.
e. B: John read Ulysses, Anne read Moby Dick, and Tijn read nothing.
f. Every student read nothing.

Better model :

- Any negative answer allows for the null individual $\star$ in the domain of the wh-word
- f : **student** $\rightarrow$ **book** $\cup \{\star\}$ such that $f(a) = \star$ for at least one $a \in$ **student**

NPIs in questions : the common picture

Weak NPIs are licensed in wh-questions :

(45) a. Who has ever been to Paris ?
b. John wonders who has ever been to Paris.

Scope effects :

(46) a. What$_i$ did anybody say t_i at the semantics seminar ? (rhetorical only)
b. *Who read the book which has any missing pages ?

HAN et SIEGEL 1996 : NPI licensed iff the negative answer licenses it

(47) a. Nobody has ever been to Paris.
b. *Anybody said nothing at the semantics seminar.

Correct prediction for *be surprised* :

- *be surprised* blocks negative answers

  (48) *It surprises John who, if anybody, went to Paris this year.

- *be surprised* does not license NPIs

(49) *It surprised John who has ever been to Paris.

Puzzle with NPIs

But :

(50) a. SITUATION: *Each student said which movies they thought merited their success. Mary is an outstanding student and knows a lot about movies. However, this time, she mentioned very bad or controversial movies. Therefore, John is surprised that Mary, in particular, mentioned these movies.*
b. It surprises John [which movies]$_i$ Mary$_F$ thinks [t_i have any merit].

Established (Mongolian/Ngamo) :

- *who*$_S$ is / can be focused
- *who*$_G$ is not focused
- *be surprised* is focus-sensitive

Hypothesis :

- **The trace of *which*$_G$ *movies* licenses weak NPIs**

Prediction : NPIs bad in specific questions

(51) a. SITUATION: *John cooked 20 cookies. Now there are only 19 cookies left.*
b. JOHN #Who took any cookie(s) ?

A pragmatic ambiguity ?

Instead of a semantic ambiguity : maybe a pragmatic effect

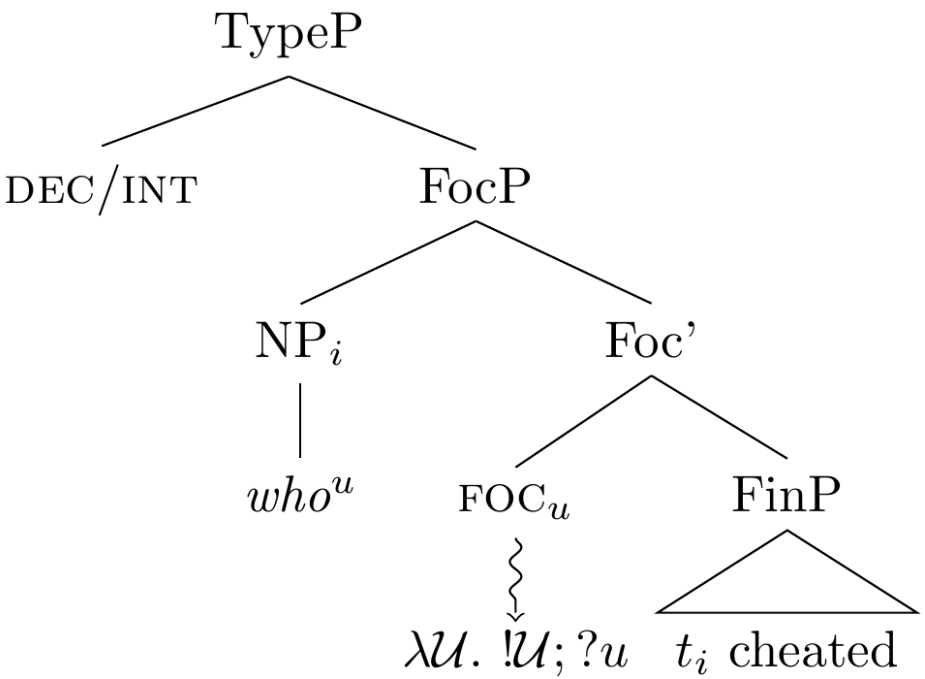
- DEKKER 1998 : any attributive description can get a referential reading
- who_G as default, and possible **referential anchoring** (VON HEUSINGER 2002)

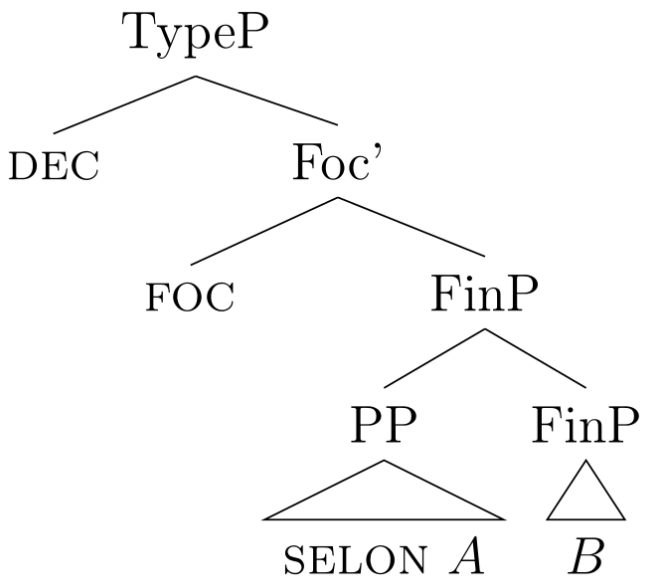
What about spontaneous triggering ?

- Pragmatic tendency to avoid null individuals (LANDMAN 2011)
- Maybe some kind of **neglect-zero-individual**
- Assuming that the asker has a referent in mind

(52) SITUATION: *There are no lemons on this table.*
#Less than three lemons on this table are ripe.

Logical forms





Inquisitive IbCs

- interrogative consequent B : **inquisitive IbC**

(53) a. Selon les âges, [$_B$ combien d'œufs peut-on consommer] ? (frTenTen)
b. Before the age of 1 : half an egg a day, for example. Up to the age of 10 : one egg a day.