Mention-some questions[1]

1. What is mention-some?

1.1. Mention-some questions and mention-some answers

- **Mention-all (MA) questions**: questions that do not admit MS answers.

  Most *wh*-questions admit only exhaustive answers. A non-exhaustive answer needs to be ignorance-marked, otherwise it gives rise to an undesired exclusive inference.

  (1) Who went to the party.
  (*w: only John and Mary went to the party.*)
  a. John and Mary.
  b. John did .../ $\rightsquigarrow$ *I don't know who else did.*
  L H* L-H%
  c. # John did.\ $\rightsquigarrow$ *Only John did.*
  H* L-L%

- **Mention-some (MS) questions**: questions that admit MS answers.

  $\diamond$-questions (namely, questions with an existential priority modal) admit also non-exhaustive answers (Groenendijk and Stokhof 1984b), as in (2a). Crucially, while being non-exhaustive, (2a) doesn't need to be ignorance-marked, called a "MS answer."

  (2) Who can chair the committee?
  (*w: only John and Mary can chair; single-chair only.*)
  a. John can.\ $\not\rightsquigarrow$ *Only John can chair.*
  b. John and Mary.\
  c. John or Mary.\

1.2. Ways of blocking mention-some

- **MS readings can be blocked by exhaustive conversational goals and grammatical factors.**

– First, MS is blocked if the conversational goal explicitly or implicitly requests an exhaustive answer.

  (3) (*Context: When making the final decision of a job search, the committee decided to consider only candidates who can teach Experimental Semantics or Field Methods.*)
  Chair: "Who can teach Experimental Semantics?"
  Assistant: "John can.\" $\rightsquigarrow$ *Among the candidates, only John can teach Exp Semantics.*

– Second, MS is blocked if the *wh*-complement is singular-marked or numeral-modified.

  (4) a. Which candidate can teach Morphology?
  $\rightsquigarrow$ *Only one of the candidates can teach Morphology.*

[1] This handout is based on Xiang (2016: chapter 3).

b. Which two candidates can teach Morphology?
   ⇝ *Only two of the candidates can teach Morphology.*

The above questions presuppose **uniqueness** — they each can have only one true answer, and therefore there is no room for mention-some.

– Third, MS is blocked when an **exhaustivity marker** appears above the ◇-modal.

(5) English *all* (Texan/Southern English)
   a. Who **all** can teach Introduction to Linguistics?
   b. Where **all** can we get coffee around here?

(6) German *alles*
   a. Wer kann **alles** Einführung in die Sprachwissenschaft unterrichten?
      who can all introduction into the linguistics teach
      'Who all can teach Introduction to Linguistics?'
   b. Wo kann ich hier **überall** Kaffee bekommen?
      where can I here everywhere coffee get
      'Where all can we get coffee around here?'

(7) Mandarin *dou*
   a. **Dou** shui keyi jiao yuyanxue jichu?
      DOU who can teach linguistics introduction
      'Who all can teach Introduction to Linguistics?'
   b. Zai fujin women **dou** keyi zai nali mai dao kafei?
      at near we DOU can at where buy get coffee
      'Where all can we get coffee around here?'

1.3. Grammatical/Non-pragmatic characteristics of mention-some

- First, with the same conversational goal, the presence of a ◇-modal significantly increases the acceptance of non-exhaustive/MS readings. (Xiang and Cremers 2017, details omitted.)
- Second, the ◇-modal licenses MS-readings in various *wh*-constructions.

(8) **Indirect questions**
   a. Jack knows who arrived.
      ⇝ *For* **every** *individual x, if x arrived, Jack knows that x arrived.*
   b. Jack knows who can chair the committee.
      ⇝ *For* **some** *individual x s.t. x can chair the committee, Jack knows that x can chair.*

(9) **Free relatives**
   a. John ate what Mary cooked for him.
      ⇝ *John ate* **everything** *that Mary cooked for him.*
   b. John went to where he could get help.
      ⇝ *John went to* **some** *place where he could get help.*

(10) **Mandarin *wh*-conditionals** (Liu 2016)
   a. Ni qu-guo nar, wo jiu qu nar.
      you go-EXP where, I JIU go where
      'Where you have been to, I will go where.'
      Intended: 'I will go to **every** place where you have been to.'

b. Nar neng mai-dao jiu, wo jiu qu nar.
where can buy-reach liquor, I JIU go where
'Where I can buy liquor, I will go where.'
Intended: 'I will go to **some** place where I can buy liquor.'

(11) **Question-Answer clauses in ASL** (Caponigro and Davidson 2011, Davidson et al. 2008))

a. (*w: John bought a book, a CD, and a DVD.*)

i. Signer A: JOHN BUY WHAT? Signer B: #BOOK.
'John bought what?' 'Book.'

ii. JOHN BUY WHAT, # BOOK.
'What John bought is a book.'

b. (*w: There are two coffee places nearby, Starbucks and Peet's.*)

i. Signer A: CAN FIND COFFEE WHERE? Signer B: STARBUCKS.
'Where can you find coffee?' 'Starbucks.'

ii. CAN FIND COFFEE WHERE, STARBUCKS.
'You can find coffee at Starbucks.'

- Third, **mention-some = mention-one**, namely, each MS answer specifies only one option.

– In answering a matrix MS-question, mention-few answers (i.e., answers that names multiple options) yield an exclusive inference if not ignorance-marked.

(12) Who can chair the committee?

a. Andy.\ $\not\rightsquigarrow$ *Only Andy can chair.*
b. Andy and Billy.\ $\rightsquigarrow$ *Only Andy and Billy can chair.*
c. Andy or Billy.\ $\rightsquigarrow$ *Only Andy and Billy can chair.*

Compare: partial answers of matrix MA-questions can be mention-few.

(13) Who is in your committee, for example?

a. Andy. $\not\rightsquigarrow$ *Only Andy is in my committee.*
b. Andy and Billy. $\not\rightsquigarrow$ *Only Andy and Billy are in my committee.*

– Indirect MS-questions cannot take non-exhaustive mention-few readings, even if mention-few answers suffice for the conversational goal.

(14) (*Context: The dean wants to meet with 3 eligible committee chair candidates.*)
John knows who can chair the committee.

a. ✓ $\exists x$ [x can chair $\wedge$ J knows that x can chair] MS
b. ✓ $\forall x$ [x can chair $\rightarrow$ J knows that x can chair] MA
c. ✗ $\exists xyz$ [xyz each can chair $\wedge$ J knows that xyz each can chair] MF

– A sample truth value judgment task (p.c. with Seth Cable):

Scenario	
Norvin says to us, "On my exam, you'll have to name ... multiple *wh*-fronting."	
1. one language that has ...	TRUE
2. all languages that have ...	?TRUE
3. three language that have ...	FALSE
Test sentence: "Norvin said that we'll have to know where we can find multiple *wh*-fronting."	

- **Discussion:** The following questions are also called MS questions in some literature, because they admit non-exhaustive answers. Do they have the characteristics of MS that we just saw in section 1.2 and 1.3?

  (15) Who came to the party, **for example**? EX-question

  (16) Who did **one of the professors** vote for? ∃-question

2. Approaches of mention-some

- Two competing views of mention-some
  - **The pragmatic view**: (pursued by pragmatic and post-structural approaches)
    MS is a pragmatic phenomenon. (In absence of an exhaustivity-marker,) the distribution of MS is determined exclusively by pragmatics.
  - **The semantic view**: (pursued by structural approaches)
    MS is a semantic phenomenon. The distribution of MS is primarily determined by the grammatical structure of the logical form (esp., the presence of a ◇-modal), while pragmatics can sometimes block MS.

	Pragmatic	*Post-structural*	*Structural*
MS is semantically licensed	No	Yes	Yes
MS is grammatically restricted	No	No	Yes

Table 1: Summary of current lines of approaches on mention-some

2.1. Pragmatic approaches (Groenendijk and Stokhof 1984a; Van Rooy 2004)

- Complete answers must be exhaustive. MS answers are partial answers that are sufficient for the conversational goal behind the question.

  (17) Where can we get coffee?
  - a. to find a place to get some coffee. MS
  - b. to investigate the local coffee market. MA

  (18) Who knows Python?
  - a. to find someone to help with a Python problem. MS
  - b. to know the programming skills of the candidates. MA

  A common criticism against pragmatic approaches: pragmatics cannot predict the availability of mention-some in embeddings. In responding to this criticism, Ginzburg (1995), Lahiri (2002), and Van Rooij and Schulz (2004) build contextual parameters into question denotations and encode sensitivity to the question goals.

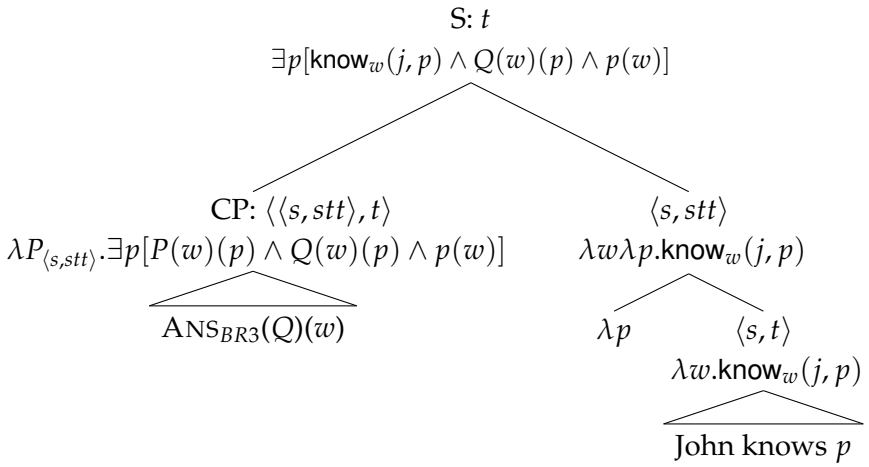
2.2. Post-structural approaches (Beck and Rullmann 1999; George 2011: chapter 2)

- MS reading is semantically licensed. (Hence, they are traditionally called "semantic approaches.") The distribution of MS is mainly restricted by pragmatic factors. MS and MA are two independent readings derived via different operations outside the question nucleus.
- **Beck & Rullmann (1999): Selection of answerhood**
  - The root denotation of a question is unambiguously the Hamblin-Karttunen intension Q (i.e., a function that maps a world to the Karttunen set in this world).
  - Q can be operated by different answerhood-operators, yielding different readings.

(19) a. $\text{ANS}_{BR1}(Q)(w) = \bigcap\{p : Q(w)(p) \wedge p(w)\}$ (for MA)
b. $\text{ANS}_{BR3}(Q)(w) = \lambda P_{\langle s,stt\rangle}.\exists p[P(w)(p) \wedge Q(w)(p) \wedge p(w)]$ (for MS)

Since the operation for MS is always grammatically available, the distribution of MS can only be restricted by pragmatics.

(20) John knows Q_{MS}.



Discussion: Which type of non-exhaustive readings is predicted by B&R (1999)? What characteristics of MS can and cannot be captured by B&R (1999)?

(21) a. Who can chair the committee?
b. Who are in your committee, for example?
c. Who did one of your students vote for?

- **George (2011: chapter 2): Optional presence of a strengthening operator**

– Question formation has two steps:

1. an abstract formation which denotes the intension of a lambda abstract *Abs*;
2. a question-formation operator **Q** produces a set of possible answers via .

– Answerhood is unambiguously existential. The MS/MA ambiguity comes from the absence/presence of a strengthening operator **X** in between *Abs* and **Q**.

– Without the **X**-operator, question formation yields a Hamblin set. Existential answerhood returns MS/WE. (This view yields a non-trivial assumption that MS and WE are the same reading.)

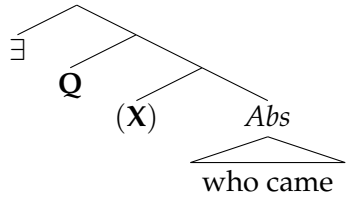
– When the **X**-operator is present between *Abs* and **Q**, question formation yields a set of exhaustified propositions of the form "only the individuals in β came". Existential answerhood returns SE.

(22) Who came?

a. $[\![Abs]\!] = \lambda x[\mathsf{people}_@(x) \wedge \mathsf{came}_w(x)]$

b. $[\![\mathbf{Q}]\!] = \lambda\alpha_{\langle s,\tau t\rangle}\lambda p_{st}\exists\beta_\tau(p = \lambda w.\alpha(w)(\beta))$

c. $[\![\mathbf{X}]\!] = \lambda\gamma_\tau\lambda\delta_\tau(\delta = \gamma)$



(23) a. Without **X**: mention-some (= weakly exhaustive)

$$[\![\mathbf{Q}(Abs)]\!] = \lambda p_{\langle s,t\rangle}\exists\beta_e[p = \lambda w[\mathsf{people}_@(\beta) \wedge \mathsf{came}_w(\beta)]]$$
$$= \{\lambda w[\mathsf{people}_@(\beta) \wedge \mathsf{came}_w(\beta)] : \beta \in D_e\}$$
$$= \{\mathsf{came}(\beta) \mid \beta \in \mathsf{people}_@\}$$

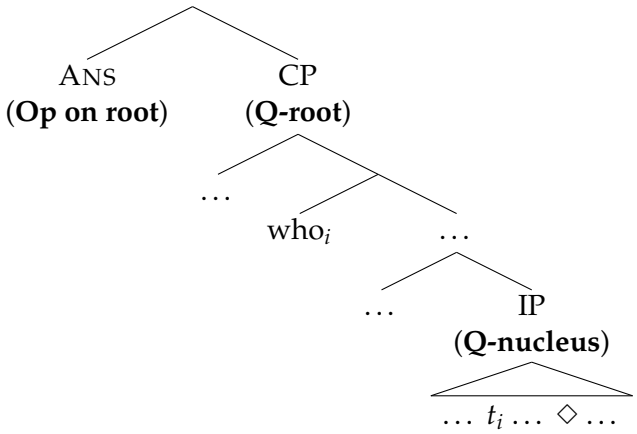
b. With **X**: strongly exhaustive

$$[\![\mathbf{Q}(\mathbf{X}(Abs))]\!] = \lambda p_{\langle s,t\rangle}\exists\beta_{\langle e,t\rangle}[p = \lambda w\lambda x[\mathsf{people}_@(x) \wedge \mathsf{came}_w(x) = \beta]]$$
$$= \{\lambda w\lambda x[\mathsf{people}_@(x) \wedge \mathsf{came}_w(x) = \beta] \mid \beta \in D_{\langle e,t\rangle}\}$$

2.3. Structural approaches (Fox 2013; Xiang 2016: chapter 3)

- MS/MA-answers are uniformly possible complete answers, derived by a single answerhood. The MS/MA ambiguity is a result of a structural variation within the question nucleus.[2]

(24)



☞ Only structural approaches predict a grammatical relation between MS and ◇-modal.

[2] George (2011: chap. 6) proposes the first structural treatment of MS/MA ambiguity. Nevertheless, this treatment relies on QR and only applies to ∃-questions, while ∃-questions have different semantic characteristics compared with ◇-questions.

2.3.1 Fox (2013): MS/MA ambiguity as scope ambiguity of distributivity

- A true answer is complete as long as it is **maximally informative** (MaxI), namely, not asymmetrically entailed by any of the true answers. A question takes a MS reading iff it can have **multiple** MaxI true answers.

(25) $\text{ANS}_{Fox}(Q)(w) = \{p \mid w \in p \in Q \wedge \forall q[w \in q \in Q \rightarrow q \not\subset p]\}$

Discussion: Assume that $f(a)$ and $f(b)$ are semantically independent. For each of the following answer space, consider whether it could have multiple MaxI true members.

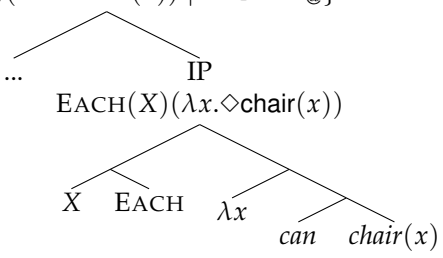
$f(a) \wedge f(b)$	$\Box[f(a) \wedge f(b)]$	$O[f(a) \wedge f(b)]$	$\Diamond[f(a) \wedge f(b)]$
$f(a)$ $f(b)$	$\Box f(a)$ $\Box f(b)$	$Of(a)$ $Of(b)$	$\Diamond f(a)$ $\Diamond f(b)$

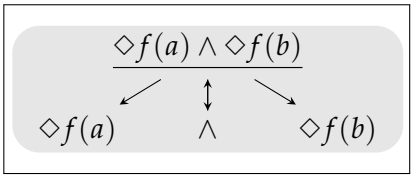
- The MS/MA ambiguity comes from the **scope ambiguity of distributivity**.
  - The *wh*-trace X has a phrase mate EACH which distributes over the atomic subparts of X.
  - In a $\Diamond$-question, the phrase [X EACH] flexibly takes scope above or below the $\Diamond$-modal.
  - When distributivity takes scope below a $\Diamond$-modal, the answer space is not closed under conjunction, and it is possible to have multiple MaxI true answers, yielding MS.

(26) Who can chair the committee?
(*w: only A and B can chair the committee; single-chair only.*)

a. Global distributivity (MA)

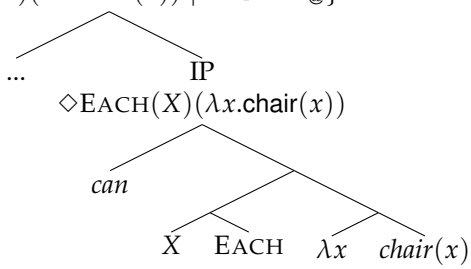
$\{\text{EACH}(X)(\lambda x.\Diamond \mathsf{chair}(x)) \mid X \in \mathsf{man}_@\}$

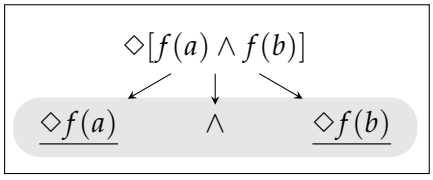




b. Local distributivity (MS)

$\{\Diamond\text{EACH}(X)(\lambda x.\mathsf{chair}(x)) \mid X \in \mathsf{man}_@\}$





- This approach is supported by observations with the particle *alles* in Austrian German: the presence of *alles* above the existential modal blocks MS.

(27) a. Was **alles** kann ich mit 3 Euro kaufen?
What alles can I with 3 Euro buy
'What are all the things that I can buy for €3.' (*alles* $>$ $\Diamond$ $>$ *with €3*: MA)

b. Was kann ich **alles** mit 3 Euro kaufen?
What can I all with 3 Euro buy
'What is a set of items s.t. with €3 I can buy them all?' ($\Diamond$ $>$ *with €3* $>$ *alles*: MS)

- **Problems**

1. In certain cases, good MS answers are predicted to be partial answers.

(28) Who can serve on the committee?
(*The committee can be made up of Andy+Billy; it also can be made of Andy+Billy+Cindy.*)
a. Andy and Billy. $\Diamond[\mathsf{serve}(a) \wedge \mathsf{serve}(b)]$ (predicted to be partial) $\Uparrow \Downarrow$
b. Andy, Billy, and Cindy. $\Diamond[\mathsf{serve}(a) \wedge \mathsf{serve}(b) \wedge \mathsf{serve}(c)]$ (predicted to be MA)

2. Cannot extend to questions with collective predicates.

(29) Who can form a team?

3. The weakened notion of completeness sacrifices the merits of Dayal's uniqueness requirement.

2.3.2 Xiang (2016: chapter 2)

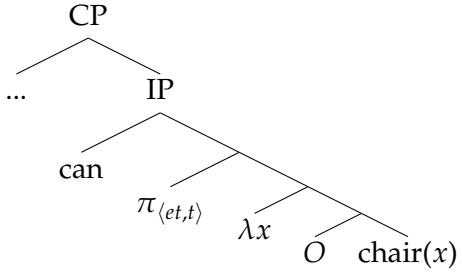
- Two ways of getting the MS/MA ambiguity:

(30) Who can chair the committee?
(*w: only Andy and Billy can chair the committee; single-chair only.*)
a. Andy.
b. Andy and Billy.
c. Andy or Billy.

– MS versus conjunctive MA: Scope ambiguity of a higher-order *wh*-trace
– MS versus disjunctive MA: Presence/absence of a covert O_{DOU}-operator

- **Deriving MS readings: local exhaustification + IP-internal QR**

(31) Who can chair the committee?



$Q = \{\Diamond[\pi(\lambda x.O[\mathsf{chair}(x)])] : \pi$ is a boolean conjunction/disjunction over $\mathsf{people}_@\}$

(*w: only Andy and Billy can chair the committee; single-chair only.*)

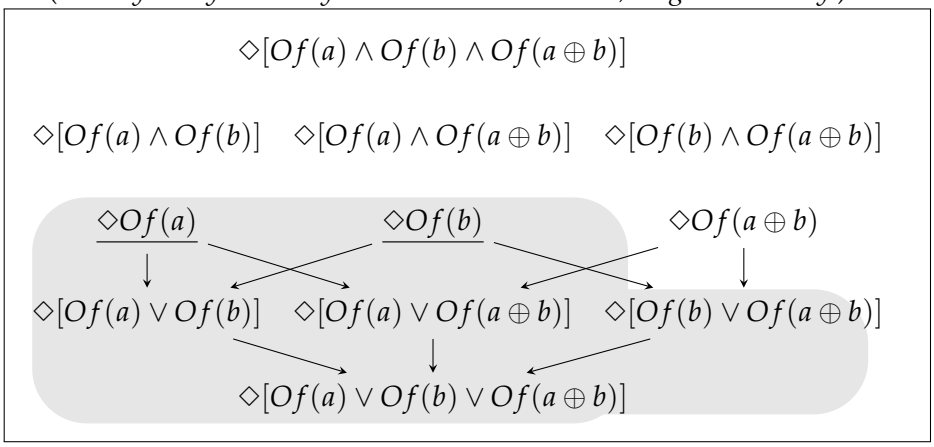


Figure 1: Full answer space of (31)

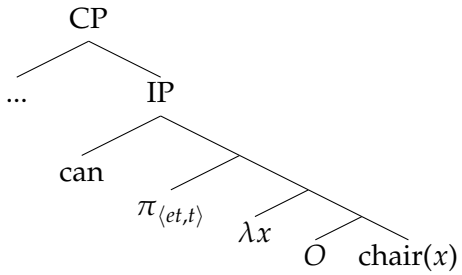
Predictions:

1. Individual answers are all semantically independent.
   ⇒ Every individual answer is potentially complete. (Problem 1 with Fox is solved)
2. Conjunctive answers are all contradictory, while disjunctive answers are all partial.
   ⇒ Only individual answers can serve as MS answers. Hence, mention-some = mention-one.
3. Having ◇-modal above *O* ensures the individual answers not to be mutually exclusive.
   ⇒ The presence of a ◇-modal is mandatory for getting MS.

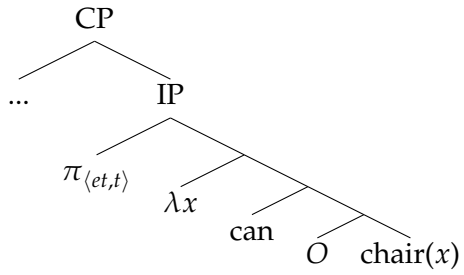
(32) a. $\Diamond O[f(a \oplus b \oplus c)] \wedge \Diamond O[f(a \oplus b)] \neq \bot$
b. $O[f(a \oplus b \oplus c)] \wedge O[f(a \oplus b)] = \bot$
c. $\Box O[f(a \oplus b \oplus c)] \wedge \Box O[f(a \oplus b)] = \bot$

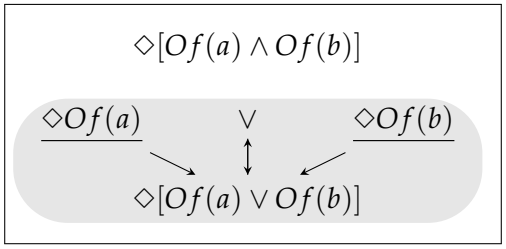
- **Conjunctive MA** arises iff the higher-order *wh*-trace scopes above the ◇-modal. This analysis easily extends to questions with a collective predicate.

(33) a.

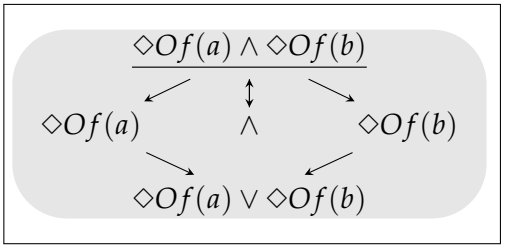


b.





$\Diamond \gg \pi$: MS



$\pi \gg \Diamond$: conjunctive MA

- **Disjunctive MA** arises when a covert DOU-operator is associated with the higher-order *wh*-trace.

– Mandarin particle *dou* triggers free choice effect when associated with a pre-verbal disjunction, and forces exhaustive readings when associated with a *wh*-phrase in a question.

(34) a. [Yuehan huozhe Mali] **dou** keyi jiao jichu hanyu
John or Mary DOU can teach intro Chinese
Intended: 'Both John and Mary can teach Intro Chinese.'

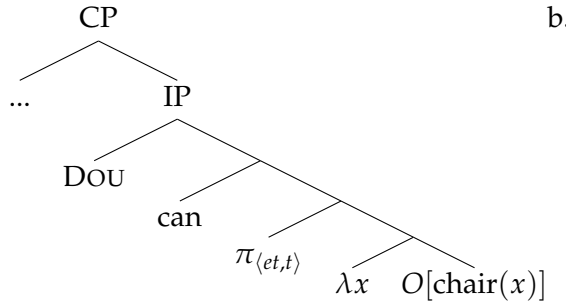
b. **Dou** [shei] keyi jiao jichu hanyu?
DOU who can teach Intro Chinese
'Who can teach Intro Chinese?' (MA only)

– Xiang (2016, Accepted) defines *dou* as a pre-exhaustification exhaustifier over sub-alternatives. Sub-alternatives for disjunctions and conjunctions and the dis/con-juncts.

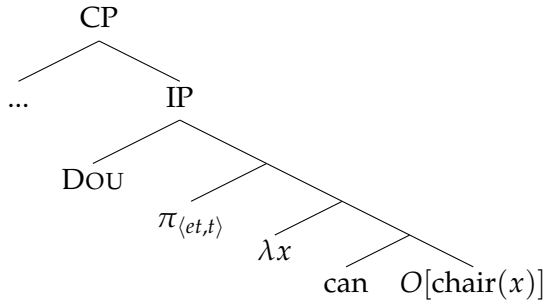
(35) $[\![\text{dou}_C]\!] = \lambda p \lambda w : \exists q \in \text{SUB}(p, C).p(w) = 1 \wedge \forall q \in \text{SUB}(p, C)[O_C(q)(w) = 0]$

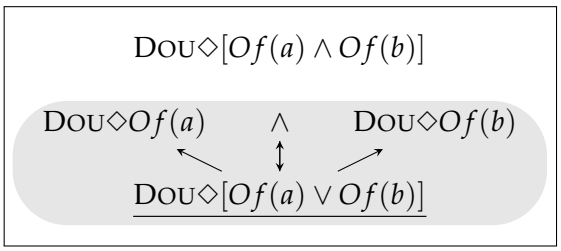
– In questions, DOU strengthens disjunctive answers into free choice statements, making the answer space closed under conjunction.

(36) a.

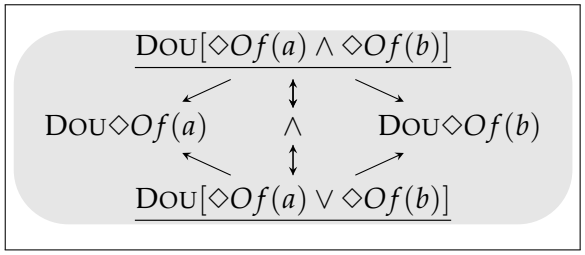


b.





With DOU ($\Diamond \gg \pi$): disjunctive MA



With DOU ($\pi \gg \Diamond$): disjunctive/conjunctive MA

(37) $\text{DOU}\Diamond[Of(a) \vee Of(b)]$
$= \Diamond[Of(a) \vee Of(b)] \wedge \neg O\Diamond Of(a) \wedge \neg O\Diamond Of(b)$
$= \Diamond[Of(a) \vee Of(b)] \wedge [\Diamond Of(a) \rightarrow \Diamond Of(b)] \wedge [\Diamond Of(b) \rightarrow \Diamond Of(a)]$
$= \Diamond[Of(a) \vee Of(b)] \wedge [\Diamond Of(a) \leftrightarrow \Diamond Of(b)]$
$= \Diamond Of(a) \wedge \Diamond Of(b)$

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