'Even' questions and context

DGfS Context workshop

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Quantifier domain restrictions

Big picture question:

- What representations and mechanisms underly operator domain restriction? (Westerstahl 1984; von Fintel 1994; Recanati 1996; Stanley and Szabó 2000; Martí 2003, many others)

(1) I talked to the class. Everyone is going to the party.
⇒ Everyone (in the class) is going to the party.

(2) The light is on, so Alfonso must be there. He always turns off the light.
⇒ He always (when he leaves) turns off the light.

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Even questions

(3) A: Everyone is going to the party.
B: Even Alfonso?

(4) A: The weather is always nice here.
B: Even in January? / Even when it rains?

(5) A: Alfonso might go to the party.
B: Even if he has an exam tomorrow?

Function of an *even* question

"Even" questions ask about the generality of an prior domain restriction. *Antecedent domain restriction* from operator in prior utterance.

(6) A: *Everyone* is going to the party.
B: Even Alfonso?

(7) A: Alfonso *might* go to the party.
B: Even if he has an exam tomorrow?

- What is the right compositional analysis?
- What can we learn about domain restriction?

Function of an *even* question

Function: question a domain restriction in prior discourse.

Q: does this characterize the analysis?

Main claims

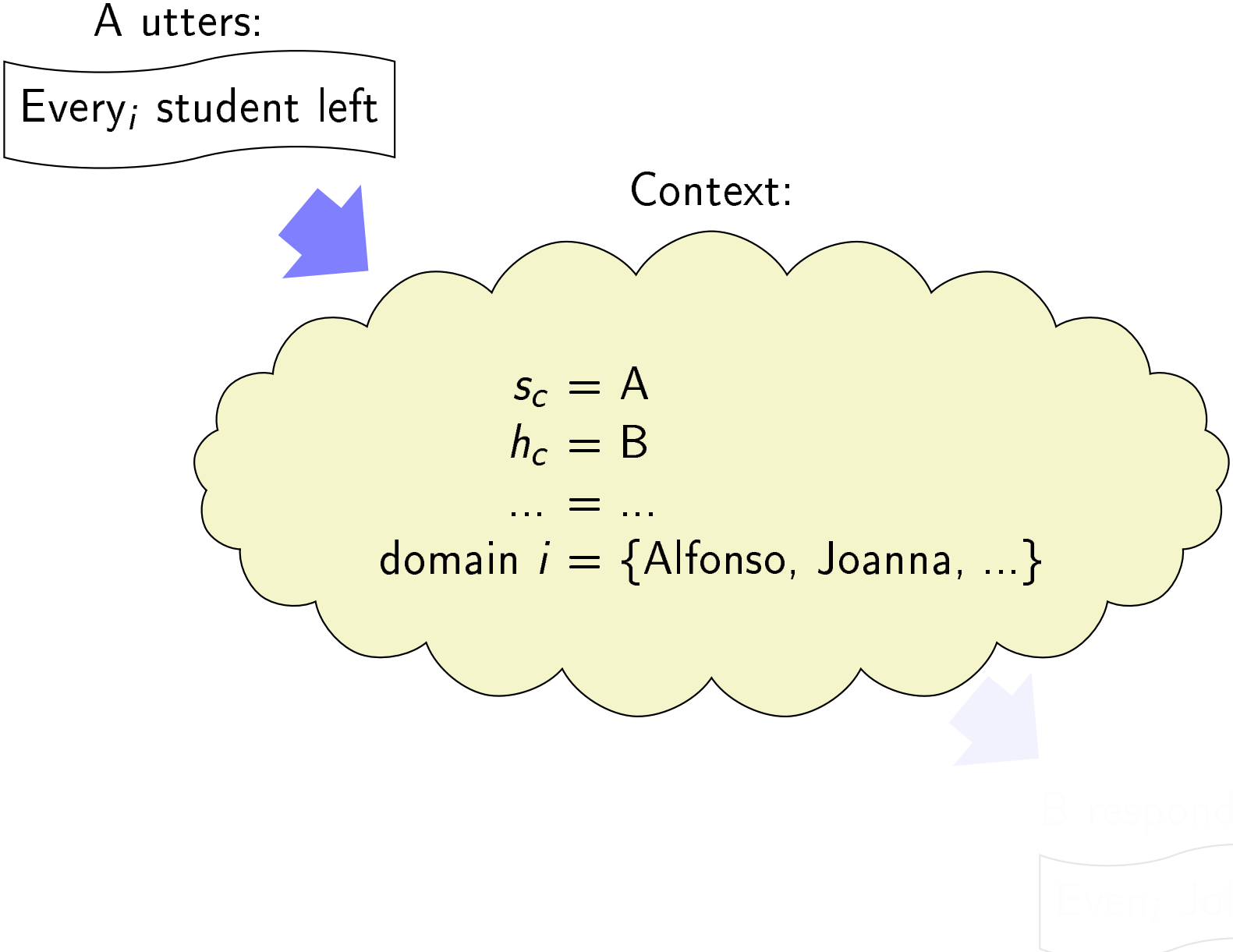
1. "Even" questions have only an indirect relationship with the antecedent domain.
2. Interaction mediated by context-set-type contextual representation. Question is about domain because "even"-question indirectly highlights uncertainty about content of domain.
3. "Even" questions are fragment-like rising declaratives; compositionally interpreted as full sentences.

A domain-variable coreference analysis

A utters:

Every$_i$ student left

A domain-variable coreference analysis



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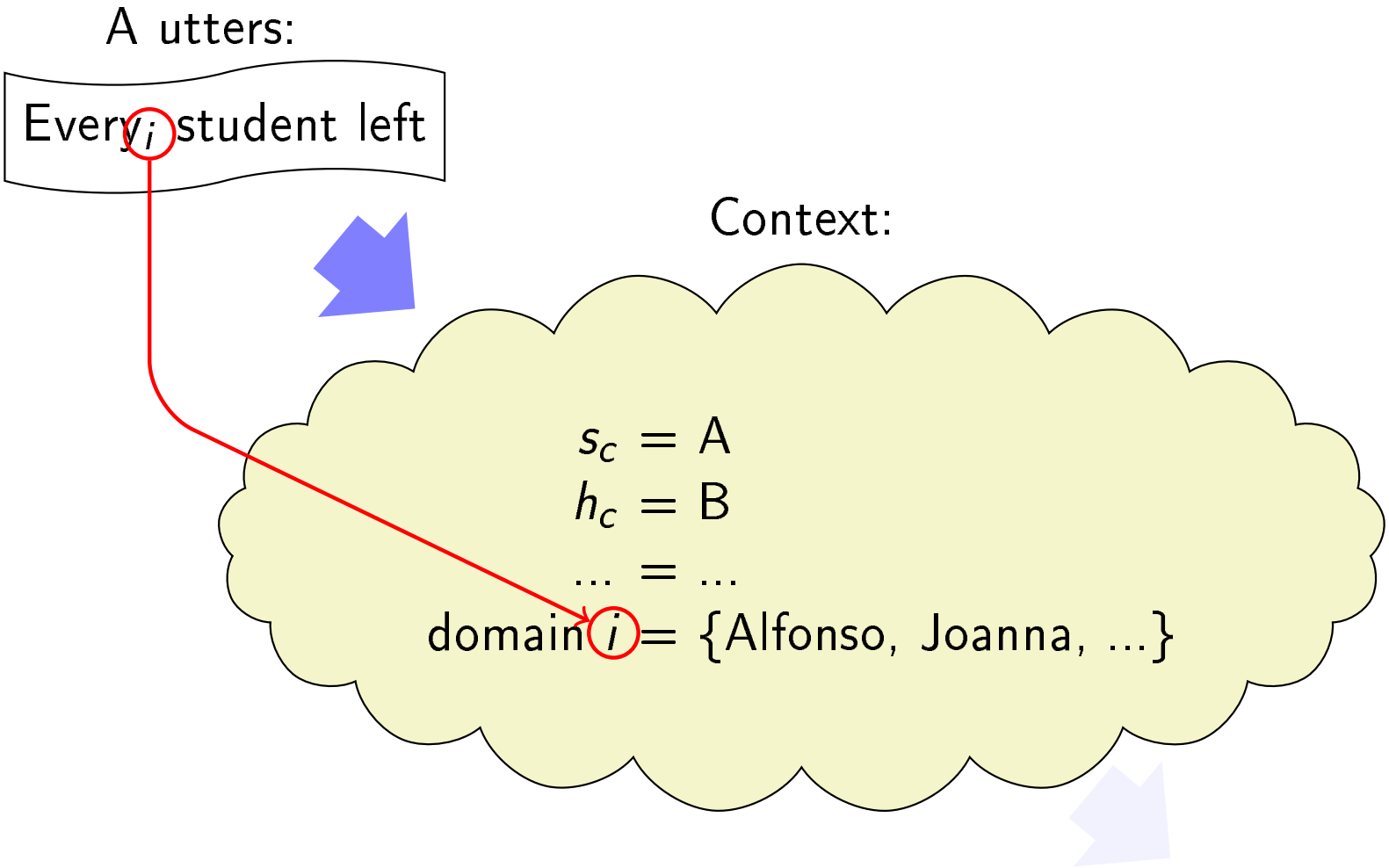

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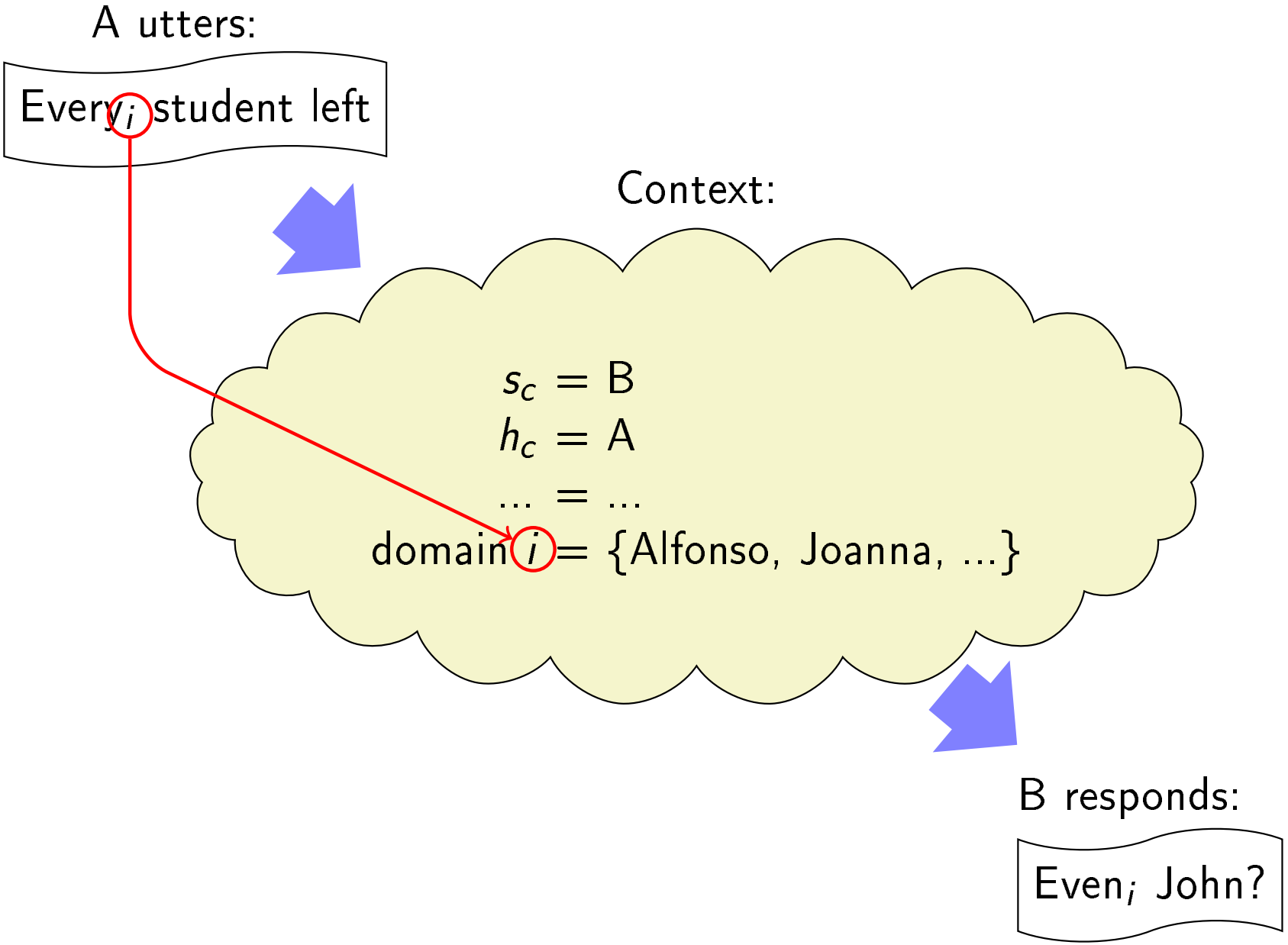

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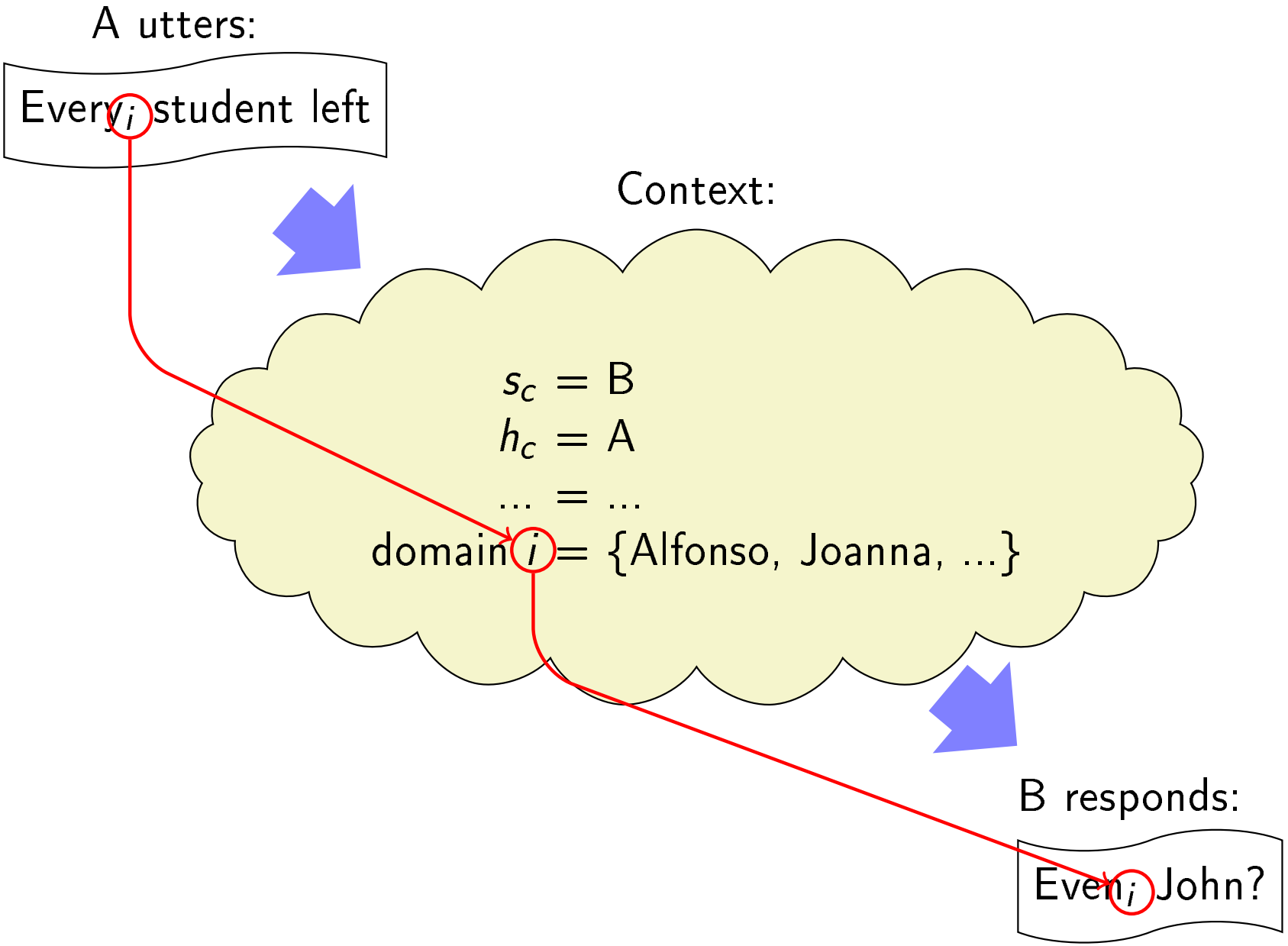

A domain-variable analysis (implementation)

Assume Hamblin-style representation of questions as sets of propositions ≈ possible answers.

(8) $[\![\text{everyone}_i]\!]^{h,w} = \lambda P_{\langle et\rangle} . \lambda Q_{\langle et\rangle} . (P \cap h(i)(w)) \subseteq Q$

- h is assignment function – assume can return objects of various types.
- Domains for D-quantifiers are variables of type ⟨s⟨et⟩⟩ (Stanley and Szabó, 2000).
- $h(i)(w)$ is the domain i at world w (a set of individuals).

(9) $[\![\text{Even}_i\ \alpha?]\!]^{h,w} = \left\{ \begin{array}{l} \lambda w' . [\![\alpha]\!]^{h,w'} \in h(i)(w'), \\ \lambda w' . [\![\alpha]\!]^{h,w'} \notin h(i)(w') \end{array} \right\}$

Presupposes: $[\![\alpha]\!]^h$ is the least likely(/etc) element on some salient scale.

Paraphrase: *is even α in domain i?*

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(10) $[\![\text{Even}_i\ \text{Alfonso?}]\!]^{h,w} = \left\{ \begin{array}{l} \lambda w'.\,\text{Alfonso} \in h(i)(w'), \\ \lambda w'.\,\text{Alfonso} \notin h(i)(w') \end{array} \right\}$

Presupposes: Alfonso is the least likely(/etc) element on some salient scale.

Paraphrase: *is even Alfonso in domain i?*

Domain variables: problem 1

- While this *resembles* the standard account of "even", it is *not* the standard account.
  - Not propositional. Not focus sensitive.
- Entry based on Guerzoni 2003 p. 55 (based in turn on Karttunen and Peters 1979; Rooth 1985; Wilkinson 1996, etc.):

(11) $[\![\text{even}]\!]^w = \lambda C_{\langle\langle st\rangle t\rangle} . \lambda p_{\langle st\rangle} . p(w)$ defined only if:

a. $p \in C$

b. $\forall q \in C : q \neq p \rightarrow q >^w_{\text{likely}} p$ (likelihood)

c. $\exists q \in C : q \neq p \wedge q(w) = 1$ (existence)

- C is a set of (propositional) focus alternatives.
- Unified account?

Domain variables: problem 2

- Cross-categoriality: nearly any XP can appear as α.

  (12) A: Everything that happened surprised me. B: Even that Alfonso showed up?

  (13) A: Alfonso went everywhere. B: Even to the park?

  (14) A: Alfonso is going to the party. B: Even though it's at Joanna's?

- Possible to extend toy account for some data...but desirable?
- Cross-categoriality of attachment for standard "even" explained by focus sensitivity.

Domain variable coreference: problem 2′

- Related: syntactic type of XP determined by antecedent domain. XP used to restrict domain in full sentence.

  (15) A: Alfonso might go. B: Even if Joanna is there?

  (16) A: Alfonso might go. B: #Even Joanna is there?

- *Not* predicted – all we should need to restrict the domain of "might" is a proposition.
- Temporal QAdv ⇒ "when"/"before""etc/"
- "everywhere" ⇒ path PP.
- Exception: Quantified DP ⇒ referential DP. (Not NP.)
- Matching of syntactic clause type?

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Domain variables: problem 3

- Interaction with non-universal quantifiers:

  (17) A: Someone / many people are going to the party.
  B: # Even Alfonso?

- Not predicted: question meaning should be coherent.

  (18) Paraphrase: are you including even Alfonso when you make that claim?

- (Caveat: DP-specific.)

Domain variables: problem 3

- Interaction with negative quantifiers:

(19) A: No one is going to the party.
B: # Even Alfonso?
B′: ✓ Not even Alfonso?

- Not predicted: what would negation even be doing?
- Coherent question meaning also predicted.

Domain variables: problem 3′

- Full responses with "even" follow the same patterns:

(20) A: Someone is going to the party.
B: # Is even Alfonso going to the party?

(21) A: Noone is going to the party.
B: # Is even Alfonso going to the party?
B′: Is even Alfonso not going to the party?

- Evidence for a unified "even"? Connectivity effect?

Even questions without coreference

Proposal: "even" questions are non-sententials

- In particular: elliptical (Merchant, 2004; Arregi, 2010).
  - Focused constituent moves to left periphery, remainder elided.

(22) [[Even John]$_i$ ~~[[Q] t_i is going to the party]]~~?

- Standard account of "even" usable – can exploit covert syntactic structure.
- Type of question: rising declarative. (Not straightforward polar question.)
- Problem data follows from ellipsis analysis.

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Connectivity effects 1: matching XPs

- Syntactic matching effects between XPs and the antecedent domain type are expected.
- XP has to be licensed by syntax of full clause.
  - E.g. "if" shows up because its source is a normal adjunct in a partly elided full sentence.

(23) A: Alfonso might go to the party.
B: Even if Joanna is there?

(24) [Even if Joanna is there]$_i$ ~~[[Q] t_i Alfonso might go to the party]~~?

- Clausal modifer XPs analogous to sprouting (Chung et al., 1995).
- Also expected: lack of prejacent NPs.

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Connectivity effects 2: matching polarity

- Polarity matching effects expected: without negation, question is positive:

(25) No one is going to the party.

(26) B: # Even Alfonso is going to the party?
B′: # Even Alfonso? ~~[t is going to the party]~~

(27) B: Not even Alfonso is going to the party?
B′: Not even Alfonso? ~~[t is going to the party]~~

- Asker attributes positive claim to askee (rising declarative).
- Impossible LF for "Even Alfonso?" given (25):

(28) Even Alfonso? ~~[is not going to the party]~~

Universal-only constraint

- Follows from ellipsis analysis + assumption that "even" questions are 'rising declaratives', not polar Qs per se.
- Gunlogson 2001, 2008: rising declaratives propose/licensed by a possible hearer commitment. (Or a non-speaker commitment.)
- Only universals, given certainty about domain, must commit antecedent utterer to prejacent.

(29) A: Someone went to the talk.
B: Only one person?

- A curiosity:

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Doing without coreference: the antecedent

- How to derive interaction with antecedent? Direct coreference no longer possible. I.e. how to make "even" question about domain?
- Basic idea: "even" question addresses (public) uncertainty about what is in a domain.
  - "Even"-question would work out to be vacuous under public certainty about the domain.
  - So, askee infers that asker does not accept certainty about domain.
- Analysis is neutral on question of domain variables in general.

Doing without coreference: version 1

(Temporarily assume domain variable in antecedent)

(31) $[\![\text{Everyone}_i \text{ is going to the party}]\!]^h =$
$\lambda w . \forall x \in h(i)(w) : x \text{ is going to the party in } w$

(32) $[\![\text{(Even) Alfonso is going to the party?}]\!] =$
$\left\{ \begin{array}{l} \lambda w' . \text{Alfonso is going in } w', \\ \lambda w' . \neg \text{Alfonso is going in } w' \end{array} \right\}$
(presuppositions: ... (see earlier))

- "Even"-question will be non-vacuous only for assignments where the value of i is contingent after antecedent!
  - I.e. vacuous if antecedent eliminates all worlds in one alternative.
  - Effect: signal speaker uncertainty about $h(i)$.
  - Follows without stipulation from ellipsis account.

Doing without coreference

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- Starting (toy) context set of w_1, w_2, w_3.
- Constant domain (epistemic certainty):
  - Assume $h(i)(w) = \{A, J, H\}$ for all w.
  - At w_1, A,J,H go to the party. At w_2, w_3, A&H go.
  - Universal claim about i eliminates w_2, w_3, leaving only w_1. But now the remaining worlds already determine answer to question. Alfonso goes.
- Contingent domain (epistemic uncertainty):
  - Assume $h(i)(w) = \{A, J, H\}$ at w_1, w_2, and $\{J, H\}$ at w_3.
  - Question is no longer vacuous – it is resolved by determining which domain we were working with!

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Doing without coreference: version 2

- Do we need to assume intensional domains (objects of type $\langle s\langle et\rangle\rangle$)?
- No. Assume domain variables of type $\langle et\rangle$...
- No world argument $\Rightarrow$ "even"-question is vacuous (resolved by the input context).
- Rawlins (to appear): certain types of vacuous questions are generally used to signal that asker does not accept askee's view of the common ground.
- Vacuous questions trigger *conversational backoff*: public context backed off of universal claim at all worlds.
- Cf.

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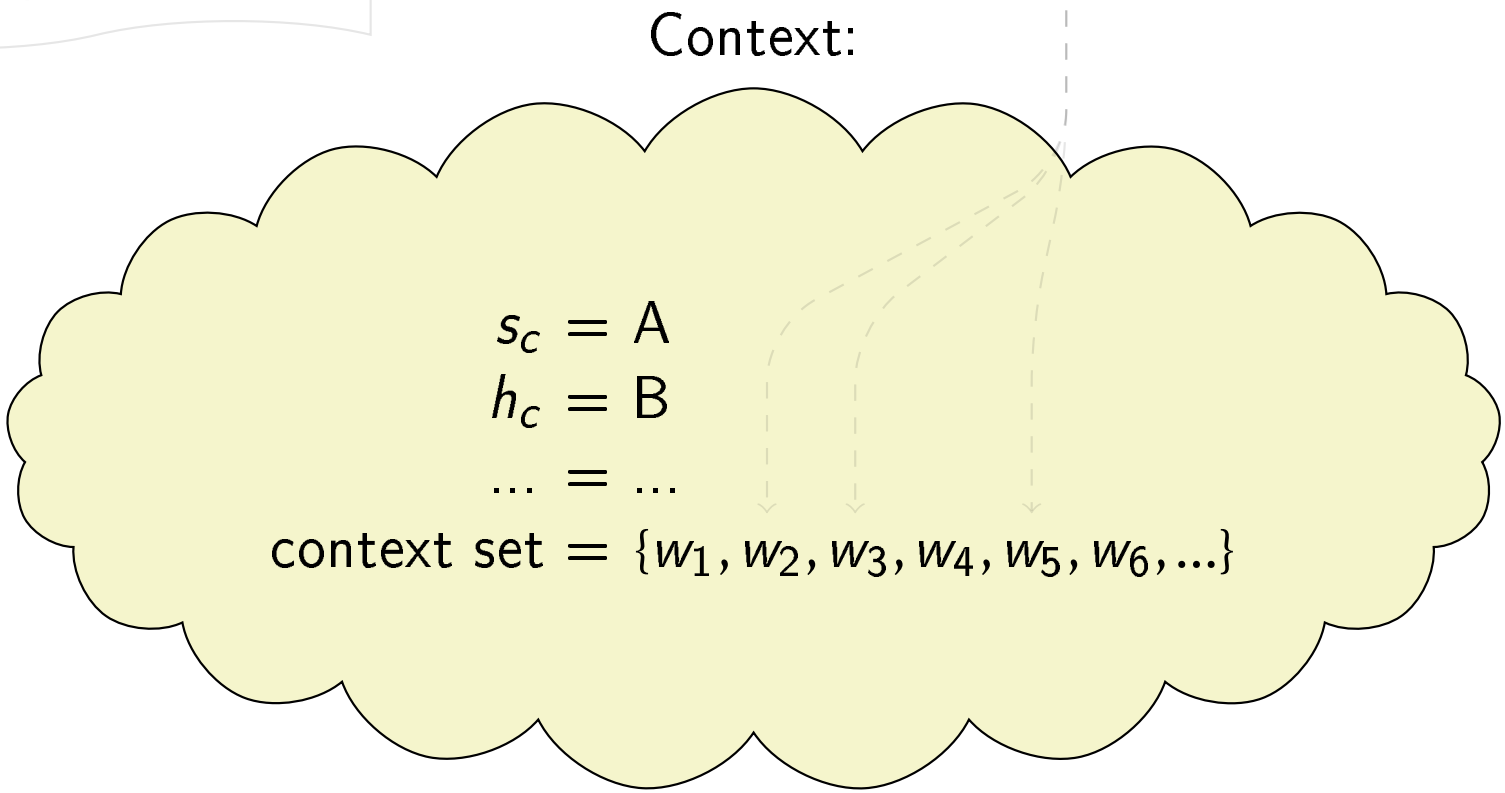
(35) A: Alfonso is going to the party. B: What if Joanna is there?

Doing without coreference: version 2′

- Do we need to assume domain variables at all?
- No, as long as some process delivers update to context set that represents the effect of domain restriction. (Free enrichment, etc.)
- 'Domain' for "even"-question determined entirely by worlds eliminated by (potentially enriched) antecedent utterance.

Indirect coreference



Indirect coreference

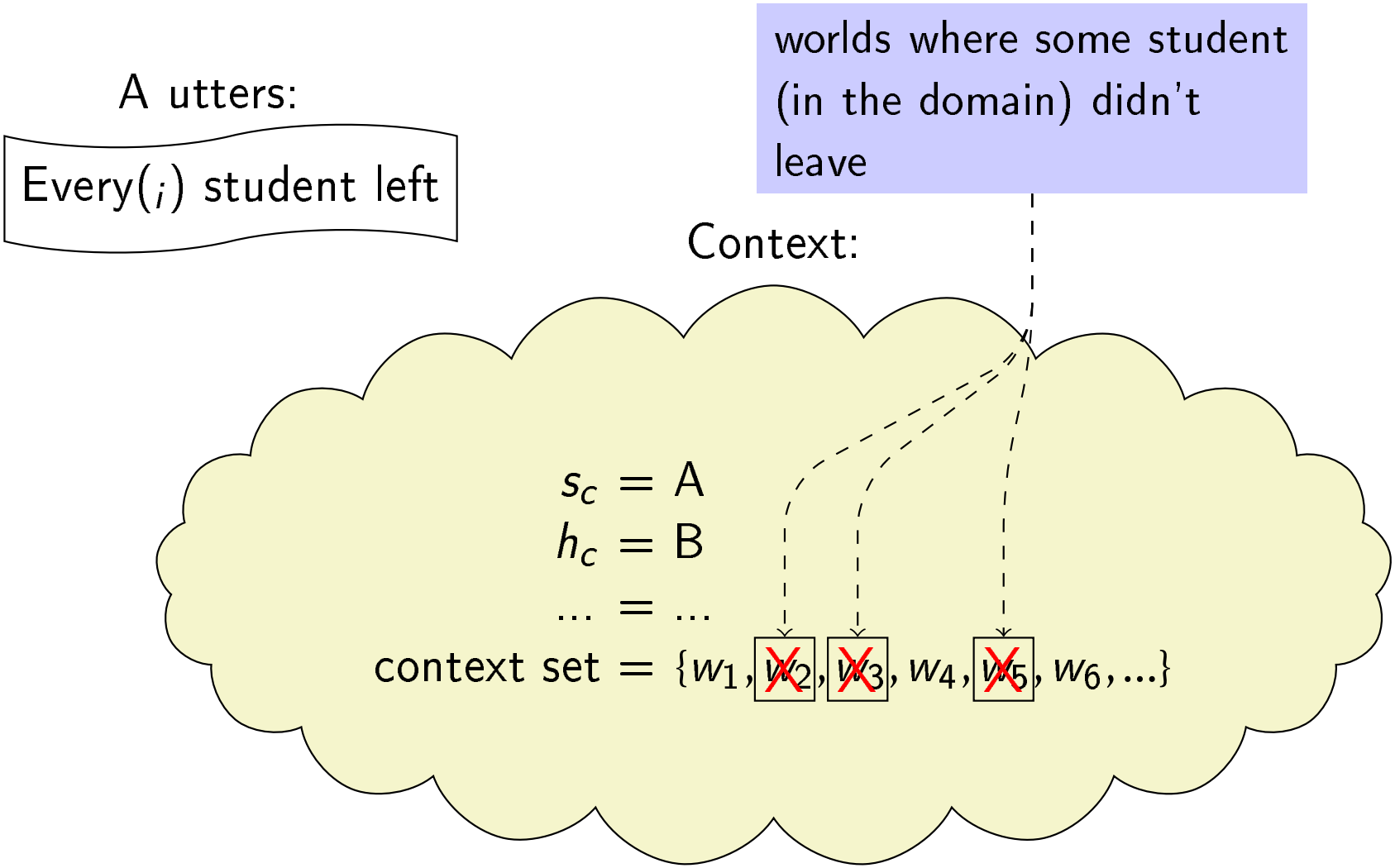
A utters:

Every($_i$) student left

Context:

s_c = A
h_c = B
... = ...
context set = $\{w_1, w_2, w_3, w_4, w_5, w_6, ...\}$

Indirect coreference



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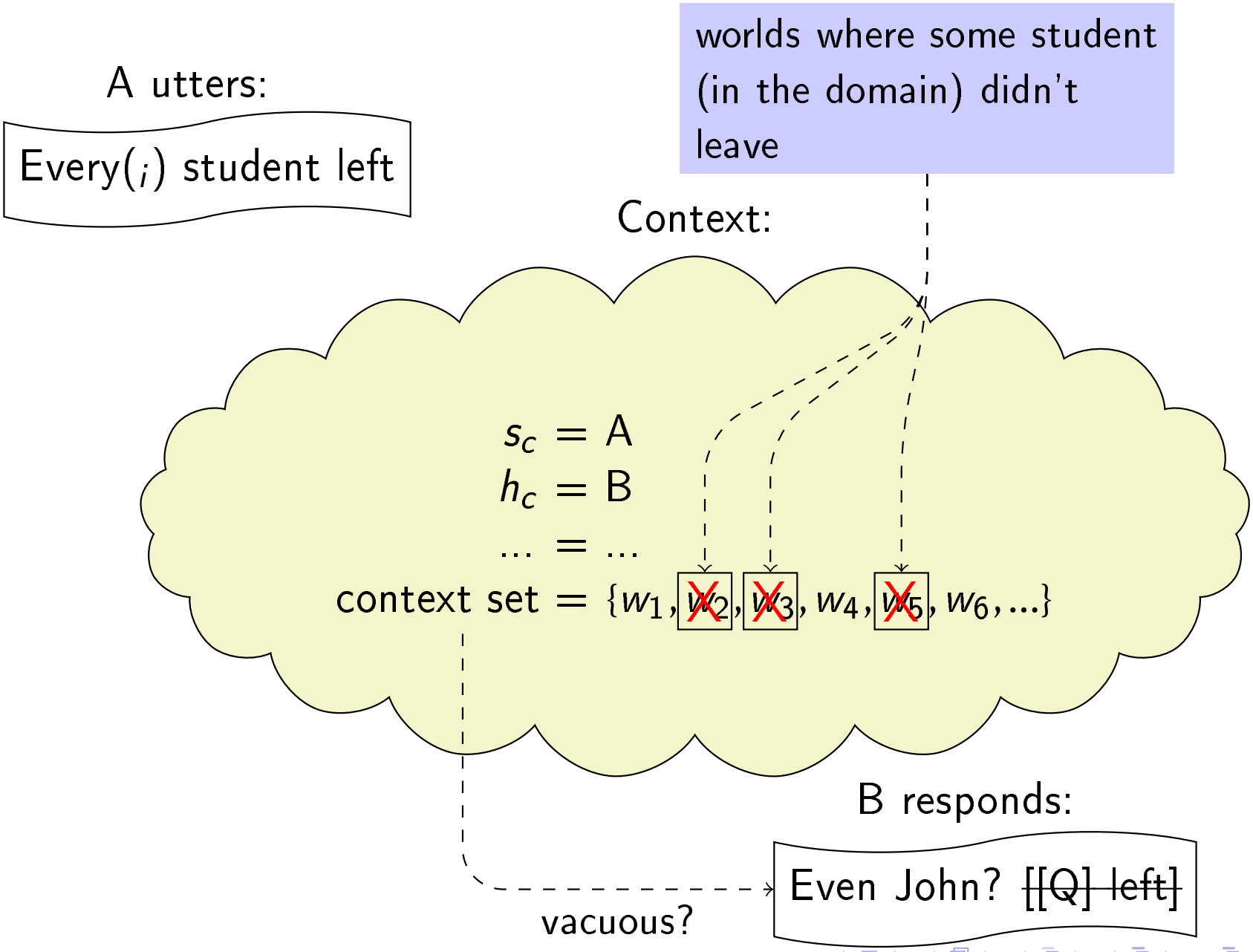

Computation of focus alternatives

Recall presupposition: prejacent proposition is the least likely(/etc.) on some scale of alternative propositions.

- Relationship between scalar focus alternatives and antecedent domain?
- Claim: scalar alternatives computed from the form of the "even"-question (LF) itself, via givenness (Schwarzschild, 1999).
- Relationship still indirect. (Cf. Moxey and Sanford 1986; Devlin 1997)

Unresolved issue: role of scalar alternatives in licensing "even" questions?

Conclusions

- Representation of domains in "even"-questions is indirect.
  - No domain variables required in contextual representation.
  - Instead, information about possibilities – Stalnaker-style context set.
  - Contextualist commitment still required!
- What does it mean that the function is so divorced from the analysis?
  - Suggestive: sets of individuals are not the right representation of quantifier domains in the first place.
  - Replacement theory? Austinian topic situations (Recanati 1996; Kratzer 2004 etc.).

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Challenge question

Quine: to be is to be the value of a variable.

Is there a similar construction in some language that does interact directly with domains?

Possible candidate (Rawlins, 2010):

(36) A: No one / everyone is going to the party.
B: What about Alfonso?

However, "What about" questions have functions that apparently aren't domain-related at all.

(37) A: Who should we invite?
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