Exh and only don't really compete – they just answer different questions[1]

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What can make sentences bad?

- Sentences can be syntactically ill-formed.

(1) * Ed told Jo that he likes **herself**.

- Sentences can be contradictory, or tautological.

(2) a. # It's raining and it's **not** raining.
b. # It's raining or it's **not** raining.

- Sentences may out-of-the-blue contradict standard assumptions or expectations.

(3) ?? Jo will bring her alligator to the LSA.

What is oddness?

- Sentences sometimes feel off despite being informative, and perfectly "reasonable" is terms of what they implicitly assume.

(4) # Jo studied in Paris or in France.
Conveys: Jo studied in France.

- Oddness seems to come from **how** information is provided, rather than from its content.

A new approach

- In my dissertation, I capture cases that challenge standard Redundancy-based approaches to oddness.
- The central claim is that many cases of oddness can be explained by considering that **a good sentence has to be a good answer to a good question.**
- I formalize this longstanding intuition by proposing a compositional model of implicit questions, sensitive to the degree of specificity conveyed by sentences.
- Under that view, sentences are proposals to update beliefs, but also suggest ways to **hierarchically organize such beliefs**.

Roadmap

1. Define how implicit questions are compositionally evoked by assertions, and show why this is an independent desideratum.
2. Capture three structurally and truth-conditionally similar sentences, which display different degrees of oddness, and as such challenge Redundancy-based approaches.
3. Sketch how this can be extended to capture other cases discussed in the dissertation.
4. Discuss how implicit questions could help outside the domain of prototypically "redundant" sentences (looking beyond the dissertation).

Odd assertions and odd questions

Assertions and questions

- Assertions typically denotes propositions (sets of worlds), questions sets of propositions.
- Assertions update the set of our shared beliefs (the **Context Set**, a "big" set of worlds), by intersection.
- Questions partition the Context Set into cells.

Standard question semantics

- Questions have been traditionally understood as the set of their possible answers, i.e. as relevant alternatives.

(5) $[\![\text{Who did the readings?}]\!] = \{\text{Jo, Ed, Al, Jo+Ed, Jo+Al ...}\}$

- Alternatives are not necessarily exclusive: if Jo and Al did the readings, then Jo did.
- Alternatives are "congruent" with the question in the following sense.

(6) Question-Answer Congruence. An answer to a question can be derived from it by replacing the *wh*-word with a relevant alternative of suitable type.

Standard question pragmatics

- A conversation's Context Set (**CS**) is the set of worlds compatible with the premises of that conversation.
- Questions induce a partition of the CS: just group together the worlds of the CS that agree on all alternatives that constitute the question.
- We will work with examples for which alternatives are exhaustive and mutually exclusive, s.t. these alternatives and the partition they induce are essentially the same.

Constraints on question-answer pairs

- It is widely accepted that the pairs formed by overt questions and answers are subject to constraints.
- We have already seen Question-Answer Congruence; another, related constraint is Relevance

  (7) Relevance (**Lewis1988**). An answer is relevant to a question if it corresponds to a union of cells.

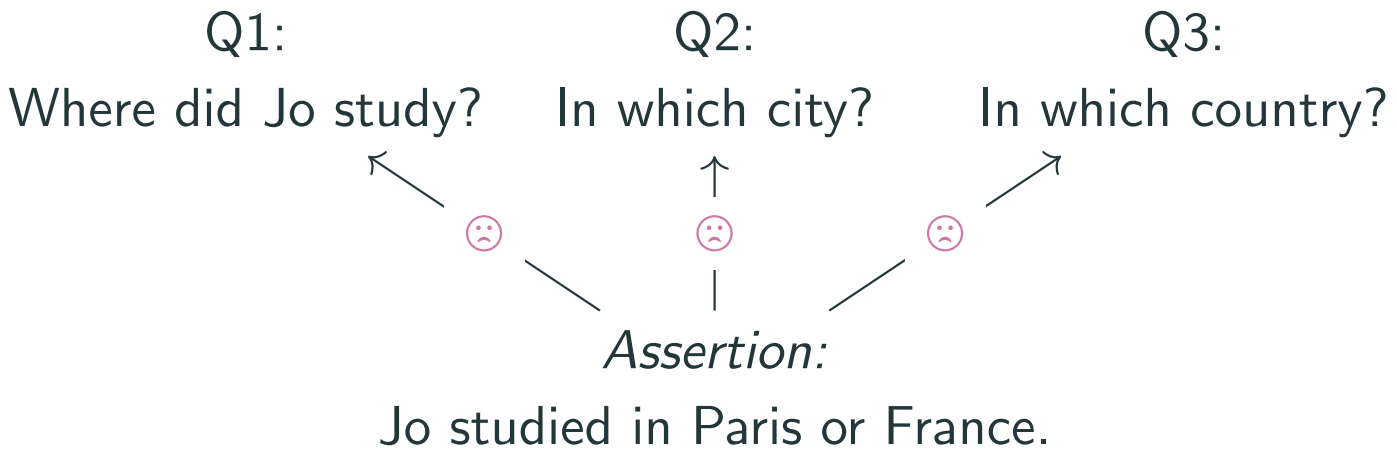
- The idea that similar constraints are at play beyond overt QA pairs, has been around for a long time, but the exact linking between assertion and question is poorly understood.

Oddness as question-answer incongruence

- Recall oddness seems to arise from how information is conveyed, rather than from its content.
- I will submit that the way we speak is fundamentally influenced by which question we are trying to address.
- Oddness then arises from the interaction between declarative sentences and the question(s) they are trying to address.
- **An odd sentence is a sentence that only gives rise to odd questions.**

Taking a (seemingly) different route

- Sentences have to be good answers to good questions: a sentence compatible with no well-formed question is odd.
- The pragmatic module must then be sensitive to (at least):[1] sentence meanings along with their "compatible" questions.
- Oddness then arises from the interaction between sentences and their "compatible" questions.



[1] We'll see that sentence structure (i.e. LFs) are also needed to get a broader range of Redundancy-effects.

Assertions and their implicit questions

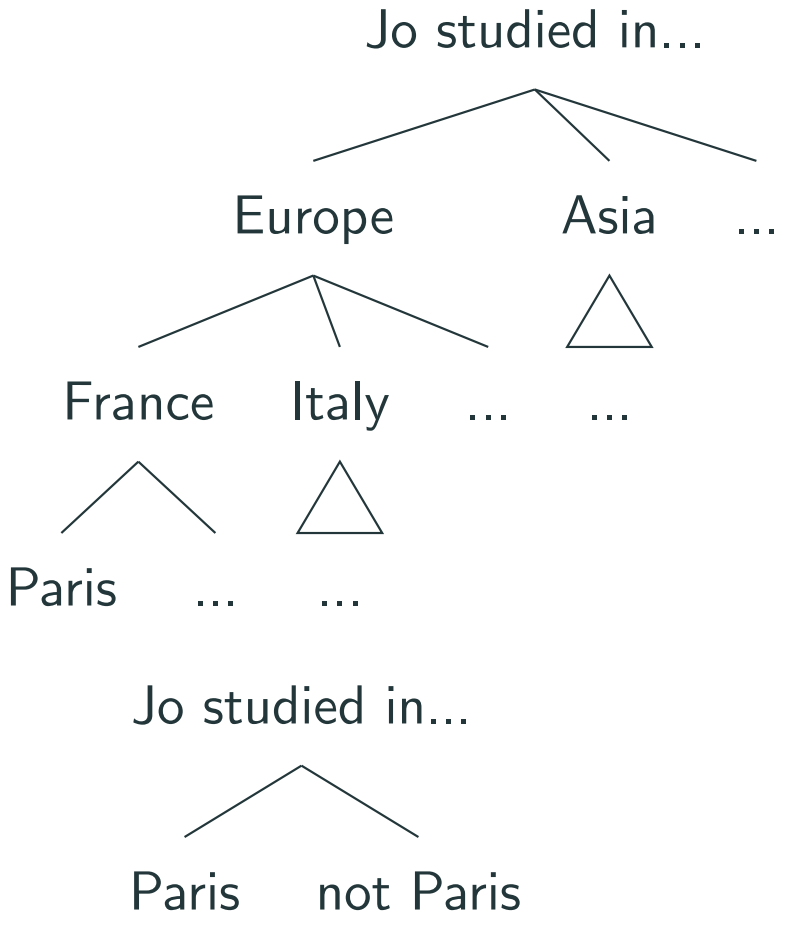
- What are questions "compatible" with assertions?
- Let's consider the following interpretation of Question-Answer Congruence:

(6′) Question-Answer Congruence. A question evoked by an assertion can be derived from it by replacing the focus-bearing element (if any) with the relevant *wh*-word, or by adding the ?-operator, turning the assertion into a polar question.

- A sentence like *Jo studied in Paris*, then evokes questions likes *Did Jo study in Paris?*, *Where did Jo study?*, or *In which city did Jo study?*

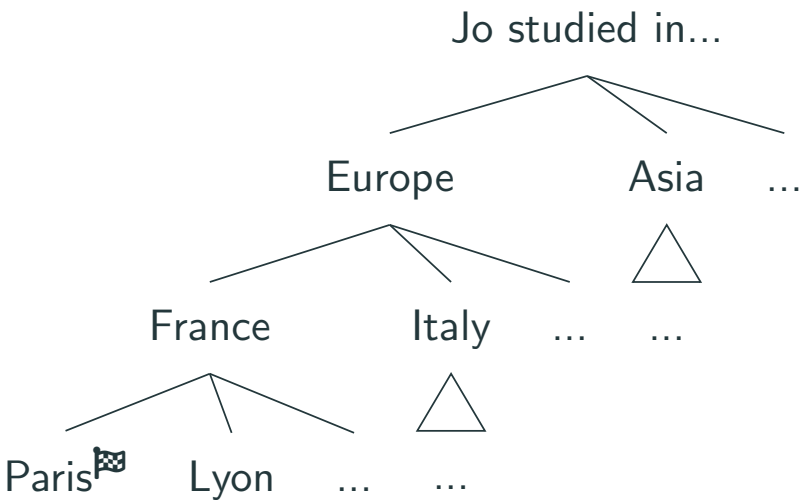
Questions as trees

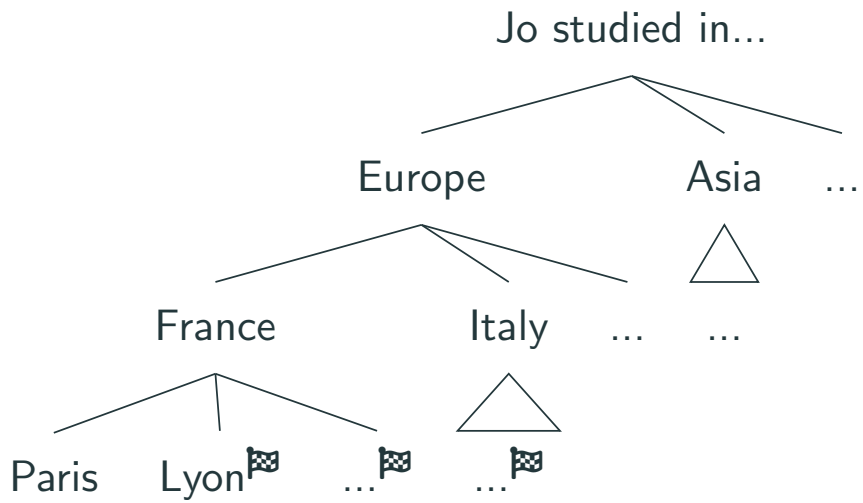
- We submit that implicit questions are evoked by sentences compositionally.
- We also take question to be trees (=recursive partitions) instead of partitions.
- This allows for more expressivity, and more transparency between sentence structure and question structure.



Flagging Questions Trees

- When a simple assertion evokes an implicit question tree, leaves entailing the assertion get flagged.
- Negating an assertion flips the flags.

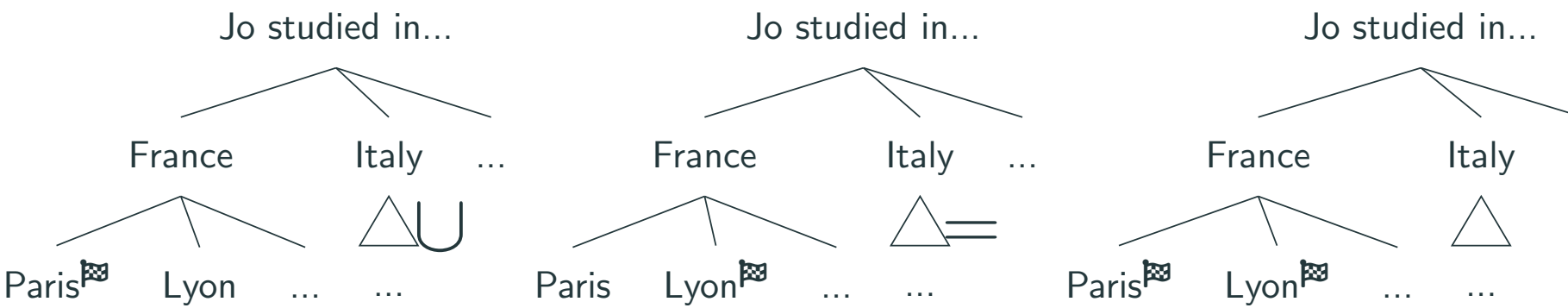




- What is the effect of complex operations, e.g. disjunctions and conditionals, on these trees?

Disjoining Questions Trees

- Disjunction merges the trees evoked by the disjuncts, retaining only those that are well-formed partitions.



A Redundancy Case Study

A challenging dataset

- "Double" disjunctions featuring the same disjunct twice are obviously odd.

(8) # Jo studied in Paris, or in Paris or Lyon. $p \vee (p \vee q)$

- More intriguing is the contrast in (9). (9a) and (9b) can be both related to (8) *via* the equivalence $p \vee q \equiv \neg p \rightarrow q \equiv \neg q \rightarrow p$; called *or*-to-*if* tautology.

(9) a. Jo studied in Paris, or if not in Paris then Lyon.
$p \vee (\neg p \rightarrow q)$

b. # Jo studied in Paris, or if not in Lyon then Paris.
$p \vee (\neg q \rightarrow p)$

- Earlier REDUNDANCY-based approaches do not predict any contrast in (9).[2]

[2] Other approaches do, but at the cost of mispredicting Hurford Disjunctions.

Core Intuitions

(8) # Jo studied in Paris, or in Paris or Lyon. $p^{\blacksquare} \vee (p^{\blacksquare} \vee q)$

(9) a. Jo studied in Paris, or if not in Paris then Lyon.
$p^{\blacksquare} \vee (\neg p \rightarrow q)$

b. # Jo studied in Paris, or if not in Lyon then Paris.
$p^{\blacksquare} \vee (\neg q \rightarrow p^{\blacksquare})$

- The "double" disjunction in (8) flags *Paris* twice: REDUNDANT!
- In (9a) **p**'s second occurrence is in the antecedent of a conditional: not flagged, so not REDUNDANT!
- In (9b) **p**'s second occurrence is in the consequent of a conditional: **p** gets flagged twice, so REDUNDANT!

Q-Non-Redundancy

- To capture the idea that multiple "flagging" is bad, we rephrase Non-Redundancy at the level of LF-question pairs.

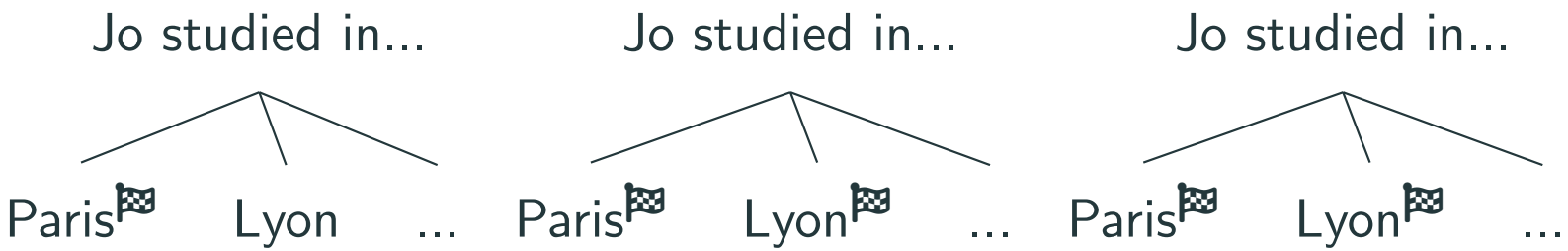
(10) Q-Non-Redundancy. If an LF X evokes a question-tree T, and a formal simplification of X also evokes T (flagged nodes included), then T is odd given X.

(11) Sentence Oddness. If any question-tree evoked by an LF X is odd given X, then X is odd *simpliciter*.

- The "double" disjunction in (8) is odd because whatever tree it evokes is evoked by $p \vee q$=*Paris or Lyon*.
- (9a) is *not* odd because one of the trees it evokes is different from all the ones evoked by (9a)'s simplifications.
- In (9b) is odd, because whatever tree it evokes is evoked by p=*Paris*.

The "double" disjunction in (8)

- Recall questions evoked by disjunctions are well-formed unions of the disjuncts' question-trees.
- A question-tree for p$\vee$q must then be about both **p**and **q**.
- Further disjoining with **p**, does not do anything.



- So, (8)'s only question-tree, is also evoked by p$\vee$q, and thus (8) is odd due to Q-Redundancy.

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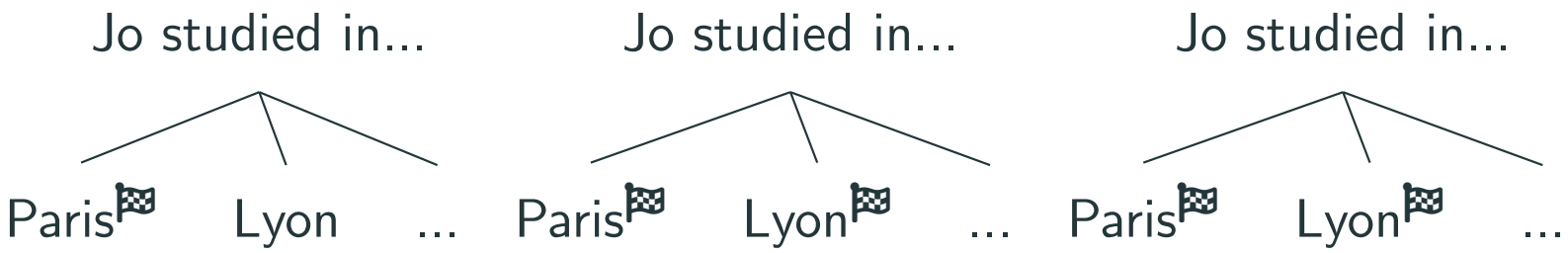

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Spooky action at a distance

To Redundancy and Beyond

Selected references i

Appendix