Non-Canonical Questions?

Jonathan Ginzburg

U Paris Cité

HPSG 2025, Lisbon

Introduction

- Much recent work on non-canonical questions.
- M. Jourdain's perspective: Non-canonical? Form? Use?
- Dialogical perspective on meaning, grammar
- Motivation for heretical version of HPSG—HPSG$_{TTR}$ [1]

[1] J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press; R. Cooper (2023). *From Perception to Communication: a Theory of Types for Action and Meaning*. Oxford University Press.

Talk Plan

- A rough corpus study: some parameters of canonicity
- Brief remarks on canonical/non-canonical distinction: what is missing in mainstream work?
- Capturing canonicity: dialogical perspective
- Three case studies:
  —declarative questions
  —reprise fragments
  —self-addressed questions

Some parameters of canonicity

A rough corpus study I

- Common sense assumption: A canonical question in English is asked by A, who does not know an answer that *resolves* the question, to B, who possibly knows it, using either a unary wh–interrogative with a dislocated wh-phrase as initial phrase or a polar interrogative involving a subject–auxiliary inversion structure.
- These forms in such a contextual configuration constitute a large majority in casual exchange between educated adult speakers of English.
- Corpus data: the first conversation that takes place in the London-Lund corpus [2]:
  —30 wh-question utterances,
  ——26 are unary wh–qs with a dislocated wh-phrase,
  ———20 of these are uttered in the canonical contextual circumstances.

A rough corpus study II

- 20 polar-question utterances
  —15 subj–aux-inv structures:

(1) a. B: Why does he want to come from Lower Netherhall to Bards? (LL, 1:1:23:3540)
  b. A: Where did you hear that? (LL,1:1:34:5290)
  c. How do you get on with this fellow Hart? (LL, 1:1:6710400)
  d. Have you met our man Yoolet yet? (LL, 1:1:36:5570)
  e. Do you know anything definite about him? (LL, 1:1:16:2530)

[2] J. Svartvik and R. Quirk (1980). *A Corpus of English Conversation*. CWK Gleerup.

A rough corpus study I

- Exceptions:
  4 ‘what about’ questions which introduce an individual *topic* [3], which a subsequent question elaborates on, — The ‘what about’ questions are not addressed as such—the subsequent question is uttered by the same speaker:

  (2) a. What about for next year? Is there a continuation grant or anything?
  (LL,1:2:41:6690)

  b. What about you uh Crispin? How far were you um um banking on this?
  (LL,1:2:52:8510)

[3] L. McNally (1998). “On recent formal analyses of topic”. In: *The Tbilisi symposium on language, logic, and computation: Selected papers*. Stanford, CA: CSLI Publications; E. Vallduvı (2016). “Information Structure”. In: *The Cambridge Handbook of Semantics*. Ed. by M. Aloni and P. Dekker. Cambridge University Press.

A rough corpus study I

- Another instance of a question without turn change in this sample are three *rhetorical* questions:

  (3) B: Why should they not use the words of the original if they're making a summary? Some of the best summaries are.
  A: yes (LL,1:1:62:9640)

- The remaining three wh–questions are self-addressed, within–utterance questions, where in (4a) A immediately answers it, whereas in (4b) B offers a partial answer and his intended original description:

A rough corpus study II

(4) a. A: it may take a hell of a long time to come if he puts it into the diplomatic bag as um what's his name Mickey Cohn did. (LL,1:1:6:860)

b. B: where he doesn't mention I notice that he spent two years as
A: yes that's riight
B director of dhi laeng uh what do you call
A: no
B: it dhi you know, the thing that Arthur Delaney started in Kuwait, the
A: oh yes
B: Afghan teaching unit (LL, 1:2a:1210710:1)

A rough corpus study III

- In our random sample, the exceptional cases as far as polar question cases involve three cases.
  1. ‘polar questions’ (one positive, one negative) posed via declaratives

     (5) a. A: um you heard anything about this?
     B: nothing at all yet.
     A: um you’ve not heard Peel mentioned in this connexion?
     B: Well Nightingale mentioned it casually to me that Peel might try for it.
     (LL,1:1:16:2480)
  2. the sample contains three instances of disjunctive questions— disjunctions containing pairs of polar questions and in one case a polar question and a wh-question.
  3. Finally, it contains a non-sentential polar question:

A rough corpus study IV

(6) B: This is what I heard just before I came away.
A: Really?
B: yes. (LL,1:2:22:3510)

Some parameters of canonicity

1. Turn change: who gets the turn after the question is posed?
   Canonical: addressee of the query
2. Possession of the answer: Which, if any, of the interlocutors knows the answer to the question?
   Canonical: the querier does not.
3. Expectation of an answer ('rhetoricity'): is there expectation that an answer will be provided?
   Canonical: there is an expectation.
4. Sentential/non-sentential: is the form of the question sentential or not?
   Canonical: sentential
5. Bias: is there an expectation concerning the resolving answer to the question?
   Canonical: a defeasible bias for a positive resolution (see below).

The mainstream canonical non-canonical distinction

The mainstream canonical non-canonical distinction

- Standard canonical non-canonical distinction—Farkas, 2020 et seq[4]
- linguistic devices weakening/eliminating 'illocutionary defaults': Eckert 2022—self-addressed questions and particles [5]
- Restricted notion of interaction/context
  —No notion of setting: Case study 1: epistemic parameter
  —perfect communication: Reprise Fragments
  —non-incremental: Self-addressed questions
- Deriving the range of questions (non-canonical?) from the structure of context.

[4] D. Farkas (2020). "Canonical and non-canonical questions". In: *University of California at Santa Cruz. Available online: https://semanticsarchive. net/Archive/WU2ZjIwM/questions. pdf (accessed on 6 July 2022)*.

[5] R. Eckardt (2020). "Conjectural questions: The case of German verb-final wohl questions". In: *Semantics and pragmatics*.

Canonical queries

Capturing canonicity

- Asked by A, who does not know the answer: we need to posit an illocutionary predicate ‘ask’.
- This allows us to place conditions on the querier and the expected answerer.
- These need to be stated as conditions on A’s and B’s cognitive states. Where to state this? As a *conversational rule.*

Dialogue Gameboards

- Context in KoS [6]
- instead of a single context, analysis is formulated at a level of cognitive states, one per conversational participant.
- Each state has a private part and a part where publicized information is kept track of:

$$\begin{bmatrix} \text{dialoguegameboard} : \text{DGBtype} \\ \text{private} : \text{Private} \end{bmatrix}$$

- Our focus is on understanding the structure of the publicized part, the dialogue gameboard (DGB).

[6] J. Ginzburg (1994). "An Update Semantics for Dialogue". In: *Proceedings of the 1st International Workshop on Computational Semantics*. Ed. by H. Bunt. ITK, Tilburg University; S. Larsson (2002). "Issue based Dialogue Management". PhD thesis. Gothenburg University; M. Purver (2006). "CLARIE: Handling Clarification Requests in a Dialogue System". In: *Research on Language & Computation*; R. Fernández (2006). "Non-Sentential Utterances in Dialogue: Classification, Resolution and Use". PhD thesis. King's College, London; J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press.

Dialogue Gameboards I

- The simplest view of what this should consist of, going back to Montague (1974), is one which specifies the existence of a speaker, addressing an addressee at a particular time.
- One can represent that as follows:

$$\begin{bmatrix} \text{spkr} & : \textit{Ind} \\ \text{addr} & : \textit{Ind} \\ \text{u-time} & : \textit{Time} \\ c_{\text{utt}} & : \text{addressing(spkr,addr,u-time)} \end{bmatrix}$$

Dialogue Gameboards I

- A really crucial point about the assumption that the DGB is not a shared entity (in other words rejecting talk of *the* context) is that there can be differences across participants in their view of the interaction.
- And this can be externalized in terms of clarification interaction, which can apply even to apparently shared information:

  (7) a. (On the phone) A: Who's calling?
  b. (In traffic) A (cyclist): Are you honking at me?

- Call it an *Interactive Stance*.

Dialogue Gameboards II

- Since Montague and Kaplan there has been realization that the scope of publicized information is quite a bit wider than speaker, addressee, time.
- Here we restrict attention to those components of context which are directly relevant for questioning, omitting three dimensions that are crucial in a more general account.

Dialogue Gameboards III

-

DGBType =$_{def}$

spkr : Ind	*turn*
addr : Ind	*owner-*
utt-time : Time	*ship*
c-utt : addressing(spkr,addr,utt-time)	
Facts : Set(Proposition)	*shared assumptions*
~~VisSit~~ : [InAttention : Ind]	*visual field*
~~Pending : list(locutionary Proposition)~~	*ungrounded utts*
Moves : list(illocutionaryProposition)	*grounded utts*
QUD : poset(Question)	*qs under disc*
~~Mood : Appraisal~~	*emotional stance*

Conversational Rules I

- We characterize dialogue regularities in terms of *conversational rules*.
- Conversational rules are mappings between two cognitive states the *precond(ition)s* and the *effects*.
- Notationwise a conversational rule will be specified as in (8a). We will often notate such a mapping as in (8b):

(8) a. $r: \begin{bmatrix} \dots \\ \text{dgb1} : \text{DGB} \\ \dots \end{bmatrix} \mapsto \begin{bmatrix} \dots \\ \text{dgb2} : \text{DGB} \\ \dots \end{bmatrix}$

b. $\begin{bmatrix} \text{pre(conds)} : \text{RType} \\ \text{effects} : \text{RType} \end{bmatrix}$

Conversational Rules II

- (9) is a rule indicating the effect of the LatestMove (the most recent move) being a query or an assertion on MaxQUD (the maximal element of QUD—the current question under discussion, aka. the *discourse topic*):

(9) Assert/Ask QUD-incrementation: given a proposition *p* (question *q*) and Assert(A,B,p) (Ask(A,B,q)) being the LatestMove, one can update QUD with *p*? (*q*) as MaxQUD.

$$\begin{bmatrix} \text{precond} : \begin{bmatrix} p & : & \text{Prop} \\ \text{LatestMove} = \text{Assert}(\text{spkr},\text{addr},p) & : & \text{IllocProp} \end{bmatrix} \\ \text{effects} \quad : \begin{bmatrix} \text{QUD} = \langle p?, \text{pre.QUD} \rangle & : & \text{poset}(\text{Question}) \end{bmatrix} \end{bmatrix}$$

Questions in TTR I

- Propositions in TTR: construed as typing relations between records (situations) and record types (situation types), or Austinian propositions (Austin, 1961; Barwise and Etchemendy, 1987); more formally:

(10) a. Propositions are records of type

$$\text{Prop} = \begin{bmatrix} \text{sit} & : \mathit{Rec} \\ \text{sit-type} & : \mathit{RecType} \end{bmatrix}.$$

b. $\text{p} = \begin{bmatrix} \text{sit} & = s \\ \text{sit-type} & = T \end{bmatrix}$ is true iff $p.sit : p.sit\text{-}type$ i.e., $s : T$ —the situation s is of the type T.

Questions in TTR II

- Questions: records comprising two fields, a situation and a function (Ginzburg, Cooper, and Fernando, 2014).
- The role of *wh*-words on this view is to specify the domains of these functions.
- in the case of polar questions there is no restriction, hence the function component of such a question is a constant function.
- (11) exemplifies this for a unary 'who' question and a polar question:

(11) a. *Who* = $\begin{bmatrix} x_1 : Ind \\ \text{c1} : \text{person}(x_1) \end{bmatrix}$;

b. *Whether* = $[\,]$

Questions in TTR III

c. ‘Who runs?’ $\mapsto$

$$\begin{bmatrix} \text{sit} = r_1 \\ \text{abstr} = f\!:\!\mathit{Who}(\left[\text{c} : \text{run}(r_1.x_1)\right]) \end{bmatrix};$$

d. ‘Whether Bo runs?’ $\mapsto$

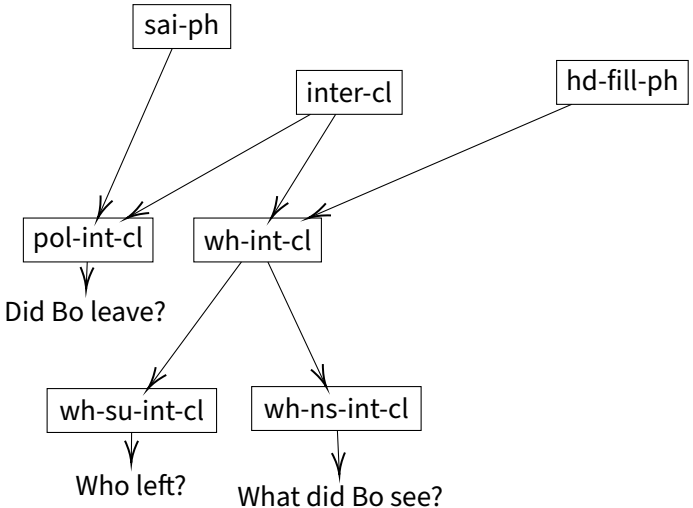
$$\begin{bmatrix} \text{sit} = r_1 \\ \text{abstr} = f\!:\!\mathit{Whether}(\left[\text{c} : \text{run}(\text{b})\right]) \end{bmatrix}$$

Grammar

- As far as grammar goes, I assume a *dialogue constructivist* approach, on which see (Ginzburg and Miller, 2019; Lücking, Ginzburg, and Cooper, 2021; Müller, 2021)[7]
- A grammar that accommodates both constructional idiosyncrasy and type–driven inheritance, as well as significant interfacing with dialogical context.
- This is crucial both for systematically capturing a wide range of constructions and, arguably, important for explaining their acquisition (Ginzburg and Kolliakou, 2018).
- Our initial view of the notion of interrogative construction, the type *inter-cl*, is given in below

[7] J. Ginzburg and P. Miller (2019). "Ellipsis in HPSG". In: *The Oxford Handbook of Ellipsis*. Ed. by J. van Craenenbroeck and T. Temmerman. Oxford University Press; A. Lücking, J. Ginzburg, and R. Cooper (2021). "Grammar in Dialogue". In: *Head-Driven Phrase Structure Grammar: The handbook*. Ed. by A. Abeillé, R. Borsley, and S. Müller. Language Science Press; S. Müller (2021). "HPSG and construction grammar". In: *Head-Driven Phrase Structure Grammar: The handbook*.

Type Hierarchy for canonical questions



Capturing canonicity: bias and presupposition I

- How to state *A doesn't know an answer to the question*.
- Of course, even in the canonical case a querier will often (believe they) know *some* answer to the question.
- What they don't know is an answer that *resolves* the question.
- Indeed in [8], I argued that in queries what the querier is after is frequently not directly encoded in the question, but can involve a distinct *goal*.

(12) a. When is the train leaving? (Goal: catch the train)
b. A: Who is coming to the party? (Goal: are any of A's teachers coming?)

Capturing canonicity: bias and presupposition II

- This means relativizing to goals and A's belief state.

$$\left[\begin{array}{l} \text{tcs}=\left[\begin{array}{l}\text{dgb} : \text{DGBType}\\ \text{private} : \text{Private}\end{array}\right] : \text{TCS} \\ \text{A} = \text{dgb.spkr} : \text{IND} \\ \text{A.pre} : \left[\begin{array}{l}\text{Private} : \left[\begin{array}{l}\text{q} : \text{Question}\\ \text{beliefs} : \text{Prop}\\ \text{g} = \text{Max(Agenda)} : \text{Goal}\\ \text{c1} : \neg \mathit{Resolve}(\mathit{beliefs}, q, g)\end{array}\right]\end{array}\right] \\ \text{A.effects} : \left[\begin{array}{l}\text{LatestMove.hd-dtr} : \text{inter-cl}\\ \text{c2} : = \text{(LatestMove.hd-dtr.cont, Ask(spkr,addr,q))}\end{array}\right] \end{array}\right]$$

Capturing canonicity: bias and presupposition III

- This automatically derives a weak presupposition for questions. For wh-questions not knowing a resolving answer, in particular means that a negatively resolving answer is not known, so the existence of a witness for the queried predicate is possible. And given a querier's experience this will *ceteris paribus* boost their belief in the positive resolution of a question.
- How to capture B's perogative to answer? By obligatory turn change, as specified in (13b).
- This specifies that if the latest move was a question q by A, the next move can be either a question or proposition r, restricted to be q–specific, as per (13a). This rule is our version of Grice's relevance maxim.

Capturing canonicity: bias and presupposition IV

(13) a. Given r : *Question* $\vee$ *Prop*, q : *Question*, *dgb* : *DGBType*, QSpecific(r, q, dgb) iff *DirectAns*$(r, q) \vee$ *IndirectAns*$(r, q, dgb) \vee$ *Depend*(q, r)

b.
$$\begin{bmatrix} \text{precond} : & \begin{bmatrix} \text{LatestMove.hd-dtr} : \text{inter-cl} \\ \text{c2} : = (\text{LatestMove.hd-dtr.cont}, \text{Ask(spkr,addr,q)}) \end{bmatrix} \\ \text{effects} : & \begin{bmatrix} \text{spkr=precond.addr} : \text{Ind} \\ \text{addr=precond.spkr} : \text{Ind} \\ \text{r} : \text{Question} \vee \text{Prop} \\ \text{R: IllocRel} \\ \text{LatestMove.cont} = \text{R(spkr,addr,r)} : \text{IllocProp} \end{bmatrix} \end{bmatrix}$$

[8] J. Ginzburg (1995). "Resolving Questions, I". In: *Linguistics and Philosophy*.

Non-canonical settings

Non-canonical settings

- The two rules, (12,13), along with the earlier (9), are the basis for capturing the notion of a canonical question.
- But, even for canonical *forms* we can have non-canonical *settings*: exam questions, interrogation questions, discussion questions.
- One way to capture this is take seriously variation in interaction patterns across distinct social settings.

Non-canonical settings

- Ginzburg and Wong(2024)[9] formalize the Wittgenstein/Bakhtin notion of a *language game* classified by *conversational types*. These are specified in terms of their starting and end states, and distinctive conversational rules, formally as in (14):

(14) a. A conversational type G is a 4-tuple ⟨ConvRules, InitState, FinState, $\mathcal{G}$⟩, where ConvRules is a set of conversational rules, and $\mathcal{G}$ is a grammar.

b. ConvType := $\begin{bmatrix} \text{ConvRules: set(ConversationalRule)} \\ \text{InitState: RecType} \\ \text{FinState: RecType} \\ \mathcal{G} : \text{set(RecType)} \end{bmatrix}$

[9] J. Ginzburg and K.-C. Wong (2024). "Language games and their types". In: *Linguistics and Philosophy*.

Non-canonical settings I

- This is exemplified with respect to the conversational type of a classroom in (15).
- Classroom interaction is a subtype of the class of controlled conversational types, specified in (15a). The participants always involve a chair and the addressee role is plural; the conversational rules involved are listed in (15a), whereas (15b) specifies that the first move is a greeting by the chair and the last move similarly.
- One characterizing feature of interaction in a classroom is asymmetric greeting and parting—the class is started and ended by the teacher, who serves as the 'chair' of the conversation.

Non-canonical settings II

- These are captured by the specification of the type Controlled (which also covers interactions like debate, formal meeting etc); what one needs to specify, apart from the teacher relationship between chair and other participants is that there are no specific issues that characterize this conversational type, but a variety of questions will be discussed.

Non-canonical settings III

(15) a. ControlledRuleSet = { Controlled QSPEC, ControlledGreeting, QUD update rules, CCURs … }

b. Controlled :=

$$\left[\begin{array}{l} \text{participants} : \text{InteractionGroup} \mathbin{\dot{\wedge}} \left[\begin{array}{l} \text{A} : \text{Ind} \\ \text{B} : \text{set(Ind)} \\ c_{part} : \text{Chair(A, B)} \end{array}\right] \\ \text{ConvRules} : \text{set(ConversationalRule)} \\ c_{rules} : \text{ConvRules} \supseteq \text{ControlledRuleSet} \\ \text{FinState} : \\ \text{InteractionGroup} \mathbin{\dot{\wedge}} \text{dgb}_{fin} \mathbin{\dot{\wedge}} \left[\begin{array}{l} c_{spkr} : \text{member}(\text{spkr}, \{\text{A, B}\}) \\ c_{addr} : \text{member}(\text{addr}, \{\text{A, B}\}) \wedge \text{spkr} \neq \text{addr} \\ c_{time} : \text{address}(\text{spkr}, \text{addr}, t_{fin}) \end{array}\right] \mathbin{\dot{\wedge}} \\ \left[\text{Moves} = \langle \text{Greet(A, B)}, \ \ldots, \text{Part(A, B)} \rangle\right] \end{array}\right]$$

Non-canonical settings IV

c. **Classroom** :=
Controlled $\wedge$ $\begin{bmatrix} \text{participants} : \left[c_{part} : \text{Teacher}(A, B) \right] \\ \text{QNUD} : \text{poset}(\text{Question}) \end{bmatrix}$

- This gives us a powerful means to capture precisely distinct dialogical behaviour in a fine-grained way. Thus, for instance, we can posit variants of the rules above, with the following specifications:
  - Exams: querier knows a resolving answer.
  - Lecture: querier keeps the turn.

Non-canonical settings V

- Once we bring in the notion of a language game, this undermines our notion of a canonical query, not yet at the (grammatical) level of utterance types, but at the interactional level.
- It requires us to recognize that all activity takes place within one type of language game or another.
- Of course, some are more clearly defined than others (e.g., buying in a bakery or participating in a lecture) as opposed to what one might call *free/casual conversation*, occurring e.g., when meeting friends/colleagues casually.

Non-canonical settings VI

- In such a setting, it is probably the case that what we have identified as the canonical query setting—query ignorant, expecting response from addressee—is a common case, but it is by no means holds invariably:

(16)

A(1): When I think of women politicians, I don't think I can name a single compassionate one: Indira Gandhi, Golda Meir,...
B(2): Well, but who's your role model?
A(3): Petra Kelly.
B(4): That proves my point, doesn't it?

Non-canonical settings VII

- For this type of interaction, we might want to transfer the 'ignorance' condition to the dialogue gameboard and make it a condition on FACTS, the set of shared assumptions of the participants, as originally proposed in [10]:

  (17) Question Introduction Appropriateness Condition (QIAC):
  A question q_1 can be introduced into QUD by A only if there does not exist a fact τ such that $\tau \in$ *FACTS* and τ resolves q_1

- Similarly, with regards to turn change, we might wish to *underspecify* this, to allow for both the original querier and addressee to respond. This leads to the following specification:

Non-canonical settings VIII

(18) a. Given r : *Question* $\vee$ *Prop*, q : *Question*, dgb : *DGBType*, QSpecific(r, q, dgb) iff *DirectAns*$(r, q) \vee$ *IndirectAns*$(r, q, dgb) \vee$ *Depend*(q, r)

b. QSPEC $=$

$$\begin{bmatrix} \text{pre} : \left[\text{QUD} = \left\langle \text{q}, \text{Q} \right\rangle : \textit{poset}(\textit{Question}) \right] \\ \text{effects} : \begin{bmatrix} \text{spkr} = \text{pre.spkr} \vee \text{pre.addr} : \textit{Ind} \\ \text{addr} : \textit{Ind} \\ \text{c}_{\text{addr}} : \neq(\text{addr},\text{spkr}) \\ \text{p} : \textit{Prop} \vee \textit{Question} \\ \text{c1} : \text{QSpecific(p,q,pre)} \end{bmatrix} \end{bmatrix}$$

[10] J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press.

Case study 1: epistemic parameter

Declarative Questions I

- We start by considering this class of constructions that is relatively infrequent, but is distinctive, and is particularly prominent in quizzes and the like, though by no means restricted to such uses:

(19) a. India's Gir Forest is home to Asia's last population of which cats?
b. The Höfner 500/1 Violin Bass was whose trademark instrument?
c. What fashion retailer is Lithuania's first tech "unicorn" company?
d. Kakheti and Kartli are wine regions in which country?
e. Richard Nixon was obsessed with which 1970 war film? https://www.theguardian.com/lifeandstyle/2024/mar/30/what-links-marketa-vondrousova-with-boris-becker-the-saturday-quiz

Declarative Questions II

- It is reasonably clear that in uses such as these there *is* an existential presupposition—a negative universal in such cases seems, for the most part, like a trick question.
- This conclusion is not self evident, nonetheless. (20) seems reasonable (to my ears), relating as it does to a famous fact (the most prolific scorer in English history who did not get an opportunity to play in the 1966 World Cup):

(20) Quizmaster: Jimmy Greaves scored how many goals in the 1966 World Cup? B: Don't know. Quizmaster: Zero/He did not score any—he was injured initially and then was not selected.

Declarative Questions III

- One could capture this generalization within a conversational rule, one that imposes an existential presupposition on wh–questions asked in such situations.
- Indeed this type of use is an ‘exam type’ query, as discussed earlier (one where the speaker knows the (resolving) answer and there is reasonable uncertainty about whether the addressee knows it.
- Including such a specification within a conversational rule is justified, in part, because canonical wh–interrogatives used in such contexts seem to carry similar presuppositions.

Declarative Questions IV

- However, the question arises whether in addition to this the direct wh *in situ* clauses carry such a bias *grammatically*—they are after all not restricted to quizmaster uses, and such uses utilize them.
- The data, however, does not support the existence of such a presupposition, at least not very clearly.
- (21a) is a classic example due to Bolinger (1978), where the querier is clearly dubious about the existence of a positive answer; similar comments apply to (21b):

  (21) a. A: We're going to buy a large house soon. B: And you're going to pay for that with what?

Declarative Questions V

b. A: The proposal will likely be approved. B: Really? It's going to be supported by whom? / Who is going to support it?

- One might be tempted to think that, like sluices, such questions have a QUD presupposition, that the existential presupposition is *under discussion*.
- This would explain why such questions seem to have a biassed feel to them. Cases which seem to fit well such a description are the examples in (22), all taken from [11]:

(22) a. A: Well anyway I'm leaving. B: You're leaving when?

b. A: My friends they saw everything. B: Yeah they saw what?

c. A: I'm going to send the sourdough bread to the Southern bakery and the croissants to Barringers. B: I see, and the bagels you're going to send where?

[11] J. Ginzburg and I. A. Sag (2000). *Interrogative Investigations: the form, meaning and use of English Interrogatives*. CSLI Publications.

A problem?

- Problem:for quizmaster uses there is no prior discussion, nor ostensibly any obvious feeling of accommodation, but the construction is favoured for such uses.
- Fix:
  —quizmaster questions get their existential presupposition from the conversational type, — direct in situ clauses carry the QUD presupposition.
- This former as a stronger condition takes precedence over the constructionally derived condition.

Analysis I

- As far as their constructional representation goes, I adopt the analysis of Ginzburg and Sag (2000).
- On the other hand, just as with the reprise-clause specification, one also allows for abstraction over an empty set of domains.
- This allows for ‘declarative polars’—polar questions whose overt syntax is declarative. analyzed these clauses as built from a root declarative clause which can become a question by abstracting over a (possibly empty) set of wh-phrase domains:

Analysis II

(23) *dir-is-int-cl* [12]

$$\begin{bmatrix} \text{cat} = v : \text{syncat} \\ \text{dgb-params} : \begin{bmatrix} \text{max-qud=?hd-dtr.cont} : \text{Question} \end{bmatrix} \\ \text{cont} = \lambda : \textit{quest\_dom}.\text{p} : \text{Question} \end{bmatrix}$$

$$\Big|$$

$$\text{hd-dtr} : \begin{bmatrix} \text{cont} = \text{p} : \text{Prop} \\ \text{quest\_dom} : \text{set(RecType)} \end{bmatrix}$$

[12] J. Ginzburg and I. A. Sag (2000). *Interrogative Investigations: the form, meaning and use of English Interrogatives*. CSLI Publications.

Case study 2: Reprise Fragments

Reprise Fragments I

- (24) George: you always had er er say every foot he had with a piece of spunyarn in the wire Anon: Spunyarn? George: Spunyarn, yes. Anon: What's spunyarn? George: Well that's like er tarred rope. (BNC, H5G)
- Such questions are biassed because they always have an antecedent utterance which grounds the existential presupposition.
- In order to analyze them, we need two basic enrichments of our view of questions and of interaction:
  —we need an enrichment of the type *inter-cl* and
  —we need an enrichment of the dialogue gameboard to ensure their coherence.

Reprise Fragments II

- One consequence of integrating such utterances is the need for a *distributed* approach to context, where the semantic options for distinct participants can vary at certain points [13].
- This rules out accounts where all semantic rules are assumed to apply to the common ground, made prominent in the view of QUD due to Roberts, 1996 or in the framework of Farkas [14].
- It is one of the motivations for postulating distinct dialogue gameboards across the participants.

[13] J. Ginzburg (1997). "On some semantic consequences of turn taking". In: *Proc. of the Munich Workshop on Formal Semantics and Pragmatics of Dialogue. University of Munich*.

[14] D. Farkas and K. Bruce (2010). "On Reacting to Assertions and Polar Questions". In: *Journal of Semantics*.

Reprise Fragments I

- A more profound challenge is that the analysis/generation of metacommunicative utterances requires access to the entire sign associated with the prior utterance.
- This is for two main reasons. On the one hand, any constituent, certainly down to the word level can be the object of an acknowledgement and a clarification response, as exemplified for clarification responses in (25).

(25) a. [George] Galloway [MP] is recorded reassuring his Excellency [Uday Hussein] that 'I'd like you to know we are with you 'til the end.' Who did he mean by 'we'? Who did he mean by 'you'? And what 'end' did he have in mind? He hasn't said. (From a report in the *Cambridge Varsity* by Jon Swaine, 17 February 2006)

Reprise Fragments II

b. Is The War Salvageable? That depends on what we mean by 'the war' and what we mean by 'salvage'. (Andrew Sullivan's Blog *The Daily Dish*, Sept, 2007)

- Moreover, as discussed in detail in [15], there are a variety of parallelism constraints relating to the form of such utterances that require reference to the non-semantic representation of the utterance:

(26) a. A: Do you fear him? B: Fear? (=What do you mean by 'fear' or Are you asking if I *fear* him) / #Afraid? / What do you mean 'afraid'?

b. A: Are you afraid of him? B: Afraid? (=What do you mean by "afraid"? or Are you asking if I am *afraid* of him) / #Fear?/What do you mean 'fear'?

Reprise Fragments III

- This issue, first discussed in some detail in [16], rules out the lion's share of logic–based frameworks where reasoning about coherence operates solely at the level of content, e.g., SDRT (see e.g., [17]).

[15] J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press.

[16] J. Ginzburg and R. Cooper (2004). "Clarification, Ellipsis, and the Nature of Contextual Updates". In: *Linguistics and Philosophy*.

[17] N. Asher and A. Lascarides (2003). *Logics of Conversation*. Cambridge University Press.

Reprise Fragments

- In order to accommodate this class of utterances, it is crucial that the cognitive states keep track of the utterance associated with the question.
- In KoS this is handled via the field PENDING whose type (*LocProp*) is a record with two fields, one instantiated by an utterance token u, the other by an utterance type T_u (the sign classifying u); this allows *inter alia* access to the individual constituents of an utterance.
- It also requires a grammar that where reference is made to both types and tokens simultanously—HPSG$_{TTR}$ [18]

[18] J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press; R. Cooper (2023). *From Perception to Communication: a Theory of Types for Action and Meaning*. Oxford University Press.

Reprise Fragments I

- This leads to the following modified architecture for DGBs: they include the field Pending consisting of ungrounded utterances:

(27) $DGBType \mapsto$

$$\begin{bmatrix} \text{spkr} & : Ind \\ \text{addr} & : Ind \\ \text{utt-time} & : Time \\ \text{c-utt} & : \text{addressing(spkr,addr,utt-time)} \\ \text{facts} & : Set(Prop) \\ \text{pending} & : List(LocProp) \\ \text{moves} & : List(IllocProp) \\ \text{qud} & : poset(Question) \end{bmatrix}$$

Reprise Fragments II

- Ginzburg and Cooper (2004), Purver (2004) [19] show how to account for the main classes of CRs using rules of the form in (28)
- here '$CQ^i(u0)$' is one of the three types of clarification question (repetition, confirmation, intended content) specified with respect to $u0$.

(28)

$$\begin{bmatrix} \text{pre} : \begin{bmatrix} \text{MaxPENDING} = \begin{bmatrix} \text{sit} = \text{u} \\ \text{sit-type} = T_u \end{bmatrix} : \text{LocProp} \\ \text{A} = \text{u.dgb-params.spkr} : \text{IND} \\ \text{u0} : \text{sign} \\ \text{c1} : \text{Member(u0,u.constits)} \end{bmatrix} \\ \text{effects} : \begin{bmatrix} \text{MaxQUD} = CQ^i(u0) : \text{Question} \\ \text{LatestMove} : \text{LocProp} \\ \text{c1: CoPropositional(LatestMove.cont,MaxQUD)} \end{bmatrix} \end{bmatrix}$$

Reprise Fragments III

[19] J. Ginzburg and R. Cooper (2004). “Clarification, Ellipsis, and the Nature of Contextual Updates”. In: *Linguistics and Philosophy*; M. Purver (2004). “The Theory and Use of Clarification in Dialogue”. PhD thesis. King’s College, London; J. Ginzburg (2012). *The Interactive Stance: Meaning for Conversation*. Oxford University Press.

Reprise Fragments I

- To exemplify:

(29) a. Confirmation: $CQ^{i}(u0) = \lambda x$ u.cont(u1.dgb-param $\rightsquigarrow$ x) (Parameter focussing)

b. A: Did Bo leave, clarifying the sub-utterance 'Bo' $\rightsquigarrow \lambda x Ask, A?Leave(x)$

c. Intended content: $CQ^{i}(u0) = \lambda x$Mean(A,u0,x) (Parameter identification)

d. A: Did Bo leave, clarifying the sub-utterance 'Bo' $\rightsquigarrow \lambda x Mean(A, `Bo', x)$

- As we noted earlier, reprise fragments are inherently ambiguous between a confirmation and an *intended content* reading—to which we now restrict attention.

Reprise Fragments II

- Pretheoretically, this reading involves a certain complexity because the fragment is not being used in its standard semantic way (referentially, as in A's utterance in (30a) or predicatively, as in A's utterance in (30b).), neither is it *pure quotation* [20], as in (30c):

  (30) a. A: Did Bo kowtow? B: Bo? (= 'Who are you referring using the utterance 'Bo')
  b. A: Did Bo kowtow? B: kowtow? (= 'What action do you mean using the utterance 'kowtow')
  c. 'Bo' is a noun.

- The analysis proposed by Ginzburg, 2012 for this class of reprise fragments involves two components:

Reprise Fragments III

1. A construction *utt-ana-ph* that enables deixis to the repaired constituent under the constraint of segmental phonological parallelism. This is needed for other 'quotative' utterances such as (31):

   (31) a. A: Bo is coming. B: Who do you mean 'Bo'?
   b. D: I have a Geordie accident. J: 'accident' that's funny.

2. evocation of the clarification question accommodated via (29b).

- These two components get reified into a single construction *qud-anaph-int-cl*:

(32) a. *qud-anaph-int-cl*
b. **Constituency**: S $\rightarrow$ utt-ana-ph, where the segmental phonology of utt-ana-ph is identical to MaxQUD's focus establishing constituent.

Reprise Fragments IV

c. **Context**: via (29b), MaxQUD is accommodated.
d. **Content** = MaxQUD.question
e. Input utterance: A: Did Bo leave?
f. Context assuming the reference of 'Bo' cannot be fully resolved: MAX-QUD: ?x.mean(A,x,'bo') (*Who$_i$ is A referring to as 'Bo'*);
g. Content of Bo? = MAX-QUD.question (=Who$_i$ is A referring to using the utterance 'Bo'?)

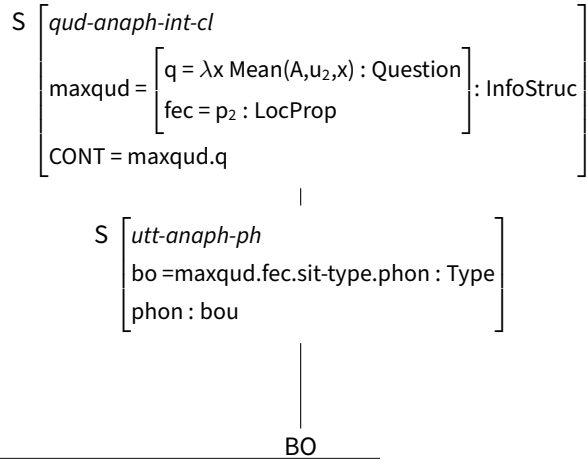
(33) *qud-anaph-int-cl* = $\begin{bmatrix} \text{MAX-QUD} : \text{InfoStruc} \\ \text{cont=max-qud.q:Question} \\ \text{hd-dtr: } \textit{utt-anaph-ph} \end{bmatrix}$

Reprise Fragments V

- Given this, we can offer the following analysis of (34):

  (34) A: Is Bo here? B: Bo?

Reprise Fragments VI



[20] P. De Brabanter (2010). "The semantics and pragmatics of hybrid quotations". In: *Language and Linguistics Compass*.

Case study 3: Self-Addressed Questions

Self-Addressed Questions I

- We saw how to capture certain turn-taking patterns associated with questions,
  —associating this with conversational rules, either highly general ones (like QSPEC, our formalisation of Gricean relevance) or
  —conversation type specific ones (associated with examining, lecturing, or quizzes).
- Self-answering is entirely routine and captured via turn-change underspecification in QSPEC.
- Thus, in (35a) the most natural follow up is (35b), as licensed by QSPEC. But (35c), though in the circumstances potentially a bit rude on B's part, is certainly possible, equally licensed by QSPEC.

Self-Addressed Questions II

(35) a. A: In such circumstances I can only ask myself: who is my favourite pianist?
b. And of course the answer is Glenn Gould.
c. B: Let me guess …

- To close today—a class of questions which takes turn–specification to the other extreme, namely *self-addressed questions (SAQs)* used in self-repair, exemplified in (36)

(36) a. Yeah well well that's part of the how shall I say it that's part of the experience I think. (sw4421A-ms98-a-0036)
b. I know and it's kind of um what's the word I want I don't it's just, to me it's just frightening you know.(sw2944B-ms98-a-0109)

Self-Addressed Questions III

c. Oh I know especially if you get, what is it, Seclor I think that that just about breaks the bank right there. (sw2292B-ms98-a-0018)
d. They're they're trying to get uh God what's his name what's that black man's name uh. (sw3507B-ms98-a-0013)
e. And uh when was it a couple weeks ago I was asked to go to uh jury duty. (sw2380B-ms98-a-0005)

- As Tian, Maruyama, and Ginzburg (2017)[21] show, such questions far from being exotic are quite pervasive cross-linguistically (they discuss English, Japanese, and Chinese).

[21] Y. Tian, T. Maruyama, and J. Ginzburg (2017). "Self Addressed Questions and Filled Pauses: A Cross-linguistic Investigation". In: *Journal of psycholinguistic research*.

Self-Addressed Questions I

- Lots of tricky aspects to a fully precise analysis of such questions.
- For now, I restrict attention to one aspect—explication of the coherence of such questions: how are they licensed *within* an utterance more or less (with some caveats) at any point?
- a direct consequences of the account we sketched above for clarification questions, with one fundamental refinement, **the possibility of grounding/clarification be allowed not at each turn boundary, but at a latency which is minimally word-by-word.**

Self-Addressed Questions II

- Needed to explicate the potential for the gamut of self-repair utterances, which, as already discussed in [22], can occur also with such latency.
- Relatedly, various non-verbal signals such as laughter and manual gestures can be inserted more or less with equal latency and potentially modify semantic content:

  (37) a. A: She's his best (laugh) friend.
  b. A: (makes silencing gesture) B: Don't (makes silencing gesture) me.

- This applies also to verbal parentheticals such as those in (38):

  (38) a. A: Who…B: What are you going to ask me now?
  b. A: Which student…B: In what class?

[22] J. Ginzburg, R. Fernández, and D. Schlangen (2014). "Disfluencies as Intra-Utterance Dialogue Moves". In: *Semantics and Pragmatics*.

Self-Addressed Questions I

- In order to develop such an account the most concrete consequence is the need to modify Pending to store not merely *completed* utterances, but utterances *in progress*.
- This, in turn, means that at all junctures where interlocutors are monitoring the utterancee there are three options,

(39) a. Ground: continue [23].
b. Predict: stop/interrupt, since content is predictable.
c. (Self)Clarify: generate a clarification request given lack of expected utterance.

- Technically, this is implemented by adopting the predictive principle of incremental interpretation in (40).

Self-Addressed Questions II

- If one projects that the currently pending utterance (the preconditions in (40)) will continue in a certain way (pending.proj in (40)), then one can actually use this prediction to update one's DGB,
  — update LatestMove with the projected move;
  — trigger an update of QUD:

(40) *Utterance Projection*

$$\begin{bmatrix} \text{preconds} : \left[\text{pending.sit-type.proj} = a : \textit{Type} \right] \\ \text{effects} : \begin{bmatrix} e1 : \textit{Sign} \\ \text{LatestMove} = \begin{bmatrix} \text{sit} = e1 \\ \text{sit-type} = a \end{bmatrix} : \textit{LocProp} \end{bmatrix} \end{bmatrix}$$

Self-Addressed Questions III

- This requires also a move to a grammatical framework which provides for incremental syntax and semantics (as discussed in e.g., [24]).
- I will not detail such a move here, for which see [25].

[23] W. J. Levelt (1983). “Monitoring and Self-Repair in Speech”. In: *Cognition*.

[24] R. Kempson et al. (2016). “Language as Mechanisms for Interaction”. In: *Theoretical Linguistics*.

[25] J. Ginzburg, R. Cooper, J. Hough, et al. (2020). “Incrementality and HPSG: Why not”. In: *Constraint-based syntax and semantics: Papers in honor of Danièle Godard. CSLI Publications*. CSLI Publications.

Self-Addressed Questions I

- What we need is a means of enabling at any point in the speech stream the emergence of a question about what is still to come in the current utterance.

(41) Forward Looking Utterance Rule:

$$\left[\begin{array}{l} \text{preconds} = \left[\begin{array}{l} \text{spkr} : \mathit{Ind} \\ \text{addr} : \mathit{Ind} \\ \text{pending.sit-type} : \left[\begin{array}{l} \text{fnd} : \mathit{Sign} \\ \text{req}: \mathit{Sign} \end{array}\right] \end{array}\right] \\ \text{effects} = \mathit{TurnUnderspec} \left[\begin{array}{l} \text{MaxQud} = \\ \left[\begin{array}{l} \text{q} = \lambda x{:}\mathit{Ind} \,.\, \text{MeanNextUtt}(r^{*}.\text{spkr}, r^{*}.\text{fnd}, x) \\ \text{fec} = \{\,\} \end{array}\right] : \mathit{InfoStruc} \\ \text{LatestMove} : \mathit{LocProp} \\ \text{c2: Copropositional}(\text{LatestMove}^{\mathit{content}}, \text{MaxQud}) \end{array}\right] \end{array}\right]$$

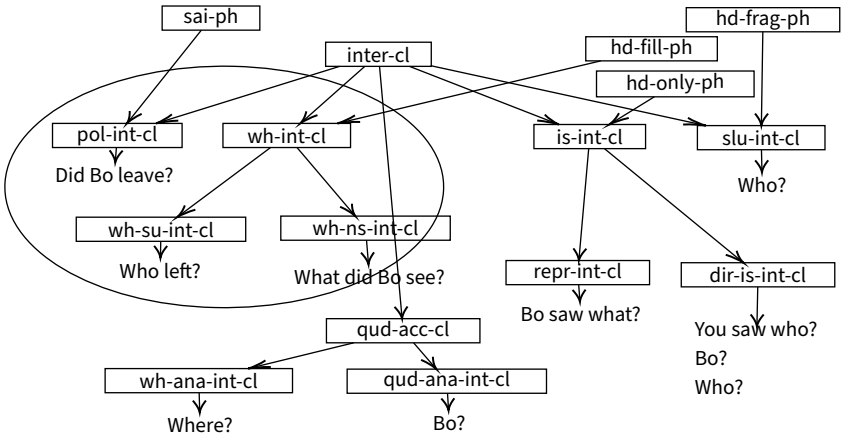
Self-Addressed Questions II

- A consequence of (41), is that it offers the potential to explain cases like (36). In the aftermath of a filled pause an issue along the lines of the one we have *posited* as the *effect* of the conversational rule (41) actually gets uttered.
- On our account such utterances are licensed because these questions are co-propositional with the issue 'what did A mean to say after u0?'.
- This suggests that a different range of such questions will occur depending on the identity of (the syntactic/semantic type of) u0.
- This expectation is met, as discussed in Tian, Maruyama, and Ginzburg, 2017, who also discuss cross-linguistic variation with self addressed questions in English, Chinese, and Japanese.

Conclusions I

- Capturing the wide range of actually occurring question types requires a framework that integrates grammar and interaction in a tight way.
- Reopens the issue of what is “Canonical” and “Non-canonical”: e.g., reprise fragments and mid–utterance SAQs are highly frequent, representing pervasive aspects of interaction.

Type Hierarchy



Thank you for your attention!