

$$\left[ \begin{array}{l} \text{PRE} : [\text{QUD}=\langle \rangle : \text{poset}(\text{Question})] \\ \text{EFFECTS} : \text{TurnUnderspec} \wedge_{\text{merge}} \left[ \begin{array}{l} \text{R} : \text{ABSEMObj} \\ \text{R} : \text{ILLOCREL} \\ \text{LATESTMOVE}=\text{R}(\text{SPKR},\text{ADDR},\text{R}) : \text{ILLOCPROP} \end{array} \right] \end{array} \right]$$

- QSPEC:

$$\left[ \begin{array}{l} \text{PRE} : [\text{QUD}=\langle \text{Q},\text{Q} \rangle : \text{poset}(\text{Question})] \\ \text{EFFECTS} : \text{TurnUnderspec} \wedge_{\text{merge}} \left[ \begin{array}{l} \text{R} : \text{ABSEMObj} \\ \text{R} : \text{ILLOCREL} \\ \text{LATESTMOVE}=\text{R}(\text{SPKR},\text{ADDR},\text{R}) : \text{ILLOCPROP} \\ \text{C1} : \text{QSPECIFIC}(\text{R},\text{Q}) \end{array} \right] \end{array} \right]$$

- Ask QUD-incrementation:

$$\left[ \begin{array}{l} \text{PRE} : \left[ \begin{array}{l} \text{Q} : \text{Question} \\ \text{LATESTMOVE}=\text{ASK}(\text{SPKR},\text{ADDR},\text{Q}) : \text{IllocProp} \end{array} \right] \\ \text{EFFECTS} : [\text{QUD}=\langle \text{Q},\text{PRE.QUD} \rangle : \text{poset}(\text{Question})] \end{array} \right]$$

- Assert QUD-incrementation:

$$\left[ \begin{array}{l} \text{PRE} : \left[ \begin{array}{l} \text{P} : \text{Proposition} \\ \text{LATESTMOVE}=\text{ASSERT}(\text{SPKR},\text{ADDR},\text{P}) : \text{IllocProp} \end{array} \right] \\ \text{EFFECTS} : [\text{QUD}=\langle \text{P?},\text{PRE.QUD} \rangle : \text{poset}(\text{Question})] \end{array} \right]$$

- Accept:

$$\left[ \begin{array}{l} \text{PRE} : \left[ \begin{array}{l} \text{SPKR} : \text{Ind} \\ \text{ADDR} : \text{Ind} \\ \text{P} : \text{Prop} \\ \text{LATESTMOVE}=\text{ASSERT}(\text{SPKR},\text{ADDR},\text{P}) : \text{IllocProp} \\ \text{QUD}=\langle \text{P?},\text{SUBQUD} \rangle : \text{poset}(\text{Question}) \end{array} \right] \\ \text{EFFECTS} : \left[ \begin{array}{l} \text{SPKR}=\text{PRE.ADDR} : \text{Ind} \\ \text{ADDR}=\text{PRE.SPKR} : \text{Ind} \\ \text{LATESTMOVE}=\text{ACCEPT}(\text{SPKR},\text{ADDR},\text{P}) : \text{IllocProp} \end{array} \right] \end{array} \right]$$

- Fact update/QUD-downdate (simplified):

$$\begin{array}{l}
 - \left[ \begin{array}{l} \text{PRE} : \left[ \begin{array}{ll} Q & : \text{Question} \\ P & : \text{Prop} \\ \text{LATESTMOVE}=\text{ACCEPT}(\text{SPKR},\text{ADDR},P) & : \text{IllocProp} \\ \text{QUD}=\langle Q,\text{SUBQUD} \rangle & : \text{poset}(\text{Question}) \\ \text{QBG} & : \text{Qspecific}(p,q) \end{array} \right] \\ \text{EFFECTS} : \left[ \begin{array}{l} \text{FACTS}=\text{PRE.FACTS} \cup \{P\} : \text{Set}(\text{Prop}) \\ \text{QUD}=\text{PRE.QUD} \setminus \{Q\} \end{array} \right] \end{array} \right] \\
 \\
 - \left[ \begin{array}{l} \text{PRE} : \left[ \begin{array}{ll} P & : \text{Prop} \\ \text{LATESTMOVE}=\text{ACCEPT}(\text{SPKR},\text{ADDR},P) & : \text{IllocProp} \\ \text{QUD}=\langle P?,\text{SUBQUD} \rangle & : \text{poset}(\text{Question}) \end{array} \right] \\ \text{EFFECTS} : \left[ \begin{array}{l} \text{FACTS}=\text{PRE.FACTS} \cup \{P\} : \text{Set}(\text{Prop}) \\ \text{QUD}=\text{PRE.QUD} \setminus \{P?\} \end{array} \right] \end{array} \right]
 \end{array}$$

Having dialogue game boards and conversational rules at one's disposal, we can apply KoS' analytical tools to the dialogue example from (8) above. We make the following simplifying assumptions: if the  $n$ th move is an assertion, we refer to the asserted proposition in terms of " $p(n)$ ". The corresponding question *whether*  $p(n)$  is notated " $p?(n)$ ". If the  $n$ th move is a question, we refer to the question in terms of " $q(n)$ ". Additionally, we assume that subsentential utterances project to Austinian propositions by resolving elliptical expressions in context in terms of their missing semantic constituents which are available as the contents of the maximal elements in QUD (that is, they are addressable via the path QUD.FIRST.CONT; cf. Ginzburg 2012).

Turn	DGB dynamics	Utterance / Conversational rule(s)
init.	$  \left[ \begin{array}{ll} \text{PARTICIPANTS} & = \{A,B\} \\ \text{MOVES} & = \langle \quad \rangle \\ \text{QUD} & = \langle \quad \rangle \\ \text{FACTS} & = \text{cg}0 \end{array} \right]  $	—
1.	$  \left[ \begin{array}{ll} \text{SPKR} & = A \\ \text{ADDR} & = B \\ \text{MOVES} & = \langle \text{ASSERT}(A,B,P(1)) \rangle \\ \text{QUD} & = \langle P?(1) \rangle \\ \text{FACTS} & = \text{cg}0 \end{array} \right]  $	<p>"I've been at university."</p> <p>Free Speech + Assert QUD-incrementation</p>