

Logic and Conversation

Assignment 3

Please return the assignment in pdf by email to: floris.roelofsen@gmail.com
Due date: Monday 19/11

1 Inquisitive meanings

1. Prove that for any two propositions A and B :
 $A \subseteq B$ if and only if
(i) A is at least as informative as B and
(ii) A is at least as inquisitive as the restriction of B to $\text{info}(A)$.
2. Show that the notion of issues in InqB is more general than the notion of issues in a partition semantics of questions such as the one employed in the Logic of Interrogation. That is, show (i) that every partition of a state s corresponds to an issue over s in the sense of InqB , and (ii) that some issues over a state s in the sense of InqB do not correspond to partitions.
3. Bonus: can you think of questions in natural language that express non-partitional issues?

2 Inquisitive algebra

1. Prove fact 6 in the lecture notes.
2. Prove fact 7 in the lecture notes.
3. For any set of states S , let S^\downarrow denote the downward closure of S , i.e.:

$$S^\downarrow = \{s \mid s \subseteq s' \text{ for some } s' \in S\}$$

Suppose the set of all worlds is $W = \{w_1, w_2, w_3, w_4\}$, and let:

- $A = \{\{w_1, w_2\}\}^\downarrow$
- $B = \{\{w_1, w_3\}, \{w_2, w_4\}\}^\downarrow$

Compute $A \Rightarrow B$. Depict A , B , and $A \Rightarrow B$ using the kind of pictures used in the lecture notes and in class. If you are using latex, you can find a template for drawing such pictures at:

<https://sites.google.com/site/inquisitivesemantics/documents/pictures.tex>