24.973 Advanced Semantics
Spring 2009

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Homework 1

(1) \([\text{believe}]^w = \lambda p \lambda x. B(x)(w) = p\)
   \[\Rightarrow\text{Prove that} \ ('\text{John believes it's raining and John believes it's windy}') \text{is a contradiction}\]

(2) \([\text{believe}]^w = \lambda p \lambda x. B(x)(w) \cap p \neq \{\}\]
   \[\Rightarrow\text{Igor's comment…}\]

Class 17.02

(3) Three separate issues
   a. existence presupposition
      \[\Rightarrow "\text{Frege is famous" / "Frege is smoking"}\]
   b. intersective vs. restrictive adjectives
      \[\Rightarrow "\text{pink elephant" / "small elephant"}\]
   c. subject position vs. predicate position
      \[\Rightarrow "\text{John thinks the man is a woman"}\]

Class 18.02

(4) \(\gamma\text{modal }\gamma\text{ talks about the actual world}
   \\(\gamma\text{John must leave} =\\) the actual world \(w_0\) is such that the Ashdown regulations as written in \(w_0\) implies that John leaves

(5) \([\text{must } p]^w = 1 \text{ iff } w \text{ is such that BLACK\_BOX}(w) \subseteq p\]
   \([\text{may } p]^w = 1 \text{ iff } w \text{ is such that BLACK\_BOX}(w) \cap p \neq \{\}\]
   \[\Rightarrow\text{the context supplies the content of BLACK\_BOX}\]

(6) context & assignment function
   \([[[\text{must } f] \text{ John leave}]^{w,g} = 1 \text{ iff } w \text{ is such that } [f]^{w,g}(w) \subseteq [\lambda w'. [\text{John leave}]^w]\]

(7) What we know when we speak
   • the content of \(g\)
   • the intension of \(\gamma\text{must}^\gamma, \gamma\text{John}^\gamma, \gamma\text{leave}^\gamma\)

(8) context = subpart of the real world
    what's wrong with the following?
    \([[[\text{must } p] q]^w = 1 \text{ iff } w \text{ is such that } p = \{\ldots\} \text{ and } p \rightarrow q\]

(9) \([\text{John might have to leave}]^{w,g} = 1 \text{ iff…}\)