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Compositional Semantics
Heinrich Heine University
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Extra credit assignment!

1. Using TN, NN, FA, and PM, and lexical entries as similar as possible to the ones that Heim and Kratzer give, compute the truth conditions for the following sentences and show how you derived them:

   (a) Rick Perry is conservative.
   [S [NP [N Rick Perry]] [VP [V is] [A conservative]]]

   (b) Rick Perry is proud of Texas.
   [S [NP [N Rick Perry]] [VP [V is] [A proud [PP [P of] [NP [N Texas]]]]]]

   (c) The governor of Texas is a conservative Republican.
   [S [NP [D The] [N [N governor] [PP [P of] [N Texas]]]] [VP [V is] [D a] [N [A conservative] [N Republican]]]]

2. Richard Montague suggested that proper names like *Rick Perry* could be viewed either as individuals (type e) or a functions like this:
   $\lambda P \in D_{\langle e,t \rangle}.P(\text{Rick Perry}) = 1$
   What type is this function?

3. Using this denotation for *Rick Perry*, analyze the truth conditions of *Rick Perry smokes*.

4. Montague also proposed to analyze *every man* like this:
   $\lambda P \in D_{\langle e,t \rangle}.\forall x[\mathbf{man}(x) \rightarrow P(x)]$
   What type is this function?

5. Montague's analysis of *the man* was like this:
   $\lambda P \in D_{\langle e,t \rangle}.[\exists x[\forall y[\mathbf{man}(y) \rightarrow y = x] \wedge P(x)]]$
   What type is this function?

6. Another possible analysis of *the man* is like this:
   $\lambda x.[\mathbf{man}(x) \wedge \forall y[\mathbf{man}(y) \rightarrow y = x]]$
   What type is this function?

7. Given that our lexical entry for *is* requires an input of type $\langle e, t \rangle$, which of the two lexical entries given above would be a better lexical entry for *the* to use in a sentence like *Rick Perry is the governor of Texas*?

8. Montague gives the definition of *a man* like this:
   $\lambda P.[\exists x[\mathbf{man}(x) \wedge P(x)]]$
   What type is this function?

9. What is the type of *a man* when *a* is analyzed "vacuously," as the identity function?

10. Which analysis of *a man* would work better for analyzing a sentence like *A man smokes*? Why?