According to the alternative semantics for focus, the semantic reflex of intonational focus is a second semantic value, which in the case of a sentence is a set of propositions. We examine a range of semantic and pragmatic applications of the theory, and extract a unitary principle specifying how the focus semantic value interacts with semantic and pragmatic processes. A strong version of the theory has the effect of making lexical or construction-specific stipulation of a focus-related effect in association-with-focus constructions impossible. Furthermore, while focus has a uniform import, the sources of meaning differences in association with focus are various.

1. Alternative Semantics for Focus

The semantic component of a grammar associates abstract objects, model-theoretic semantic values, with the phrases of a syntactic description. Let us assume that the semantic value of a sentence is a proposition (for instance as constructed in possible world semantics) and that the semantic value of a proper name is an element of a domain of individuals $E$. In tree (1), where each phrase is annotated with a semantic value, like$(m, s)$ is a proposition, and $m$ and $s$ are individuals. We derive the semantic values of the nonterminal nodes compositionally by assuming that like is a two-place function from individuals to propositions, and stipulating a semantic rule of function application for the VP and S nodes.

(1)

```
S:like(m, s)
  NP:m
  VP:λx[like(x, s)]
    Mary
    V:λy[λx[like(x, y)]]
      likes
      NP:s
      Sue
```
I use the notation \([ \cdot ]^o\) for semantic values, so that for instance \([\text{Mary}]^o\) is \(m\).

The idea of alternative semantics is to take semantic account of focus by adding an additional semantic value. Informally, the focus semantic value for a phrase of category \(S\) is the set of propositions obtainable from the ordinary semantic value by making a substitution in the position corresponding to the focused phrase. For instance, the focus semantic value for the sentence \([s \ [\text{Mary}], \text{likes Sue}]\) is the set of propositions of the form \(\text{\`x likes Sue}\), while the focus semantic value for \([s \ \text{Mary likes [Sue]},\] \) is the set of propositions of the form \(\text{\`Mary likes y}\). This is stated in a more precise way using set abstraction notation:

\[
(2) \quad \begin{align*}
\text{a.}\quad & [s \ [\text{Mary}], \text{likes Sue}]^f = \{\text{like(x, s)} | x \in E\}, \text{ where } E \text{ is the domain of individuals.} \\
\text{b.}\quad & [s \ \text{Mary likes [Sue]},\] \] = \{\text{like(m, y)} | y \in E\}
\end{align*}
\]

In general, \([\alpha]^f\) is the focus semantic value for the phrase \(\alpha\), in contrast to the ordinary semantic value \([\alpha]^o\). At an intuitive level, we think of the focus semantic value of a sentence as a set of alternatives from which the ordinary semantic value is drawn, or a set of propositions which potentially contrast with the ordinary semantic value. As I define things, the ordinary semantic value is always an element of the focus semantic value.

There are several proposals on how to derive \([\cdot]^f\). Rooth (1985) gives a recursive definition using the notion of the image of a semantic function operating on a subset of its domain, while Kratzer (1991) introduces a distinguished set of focus variables in terms of which substitution instances are defined. It is relevant here that the definitions give focus semantic values for phrases other than \(S\). Again, it is perhaps simplest to think of these as sets of substitution instances. If we give the \(N^r\) \([N, \text{American}, \text{farmer}]\) an intersective semantics, so that its ordinary semantic value is

\[
\lambda x[\text{American}(x) \land \text{farmer}(x)]
\]

(the function which maps an individual \(x\) to the proposition that \(x\) is both American and a farmer), then its focus semantic value is the set of properties of the form \(\text{\`P farmer}\), where \(P\) is an intersective modifier: