Compositional Semantics
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1 Two Simple Examples

We begin with the following example sentence:

(1) Midge grins.

What we write in Figures 1 and 2 as

$$[\![\text{Midge grins}]\!]$$

is called the "semantic value" (written "SVal(Midge grins)") in Section 1.3.4 of your text. *Semantic value* is a theory neutral term that means whatever your particular semantic theory is using as the semantics of an expression today.

In the first example, Figure 1, we compute the semantics using only extensions, so the semantic value is always an extension.

In the next example, Figure 2, we compute the semantics using intensions. Here we use

$$[\![\text{Midge grins}]\!]$$

for the intension of *Midge grins* and we use

$$[\![\text{Midge grins}]\!]^w$$

for the result of looking up the value of $[\![\text{Midge grins}]\!]$ at world w. So for example, given the intension computed for the sentence at the top of the tree, we have:

$$[\![\text{Midge grins}]\!]^{w_4} = \text{false}.$$

2 Exercises

1. Construct the tree showing the compositional semantic treatment for the following sentence:

   (2) Midge grins and Biff frowns.

   Give an extensional treatment using the extensions in Figure 1 and use the following extension for *frowns*:

   $$[\![[_{\mathrm{V}} \text{ frowns }]]\!] = \{\text{Biff}, \text{Sue}, \text{Alice}\}$$

   Assume

   $$[\![[_{\mathrm{Name}} \text{ Biff }]]\!] = \text{ Biff}$$

   For the compositional semantic treatment of *and*, see Section 1.3.4 of our text, especially rule (38), p.23, and tree (39). Note that the treatment is syncategorematic. Be sure and compute what the extension of the complete sentence is; that is, be sure and determine whether the sentence is true or false with the given extensions.

2. Now construct the tree giving an intensional treatment and using the intensions in Figure 2. Again, give *and* a syncategorematic treatment. Use the following intension for *frowns*:

   $[\![[_{\mathrm{V}} \text{ frowns }]]\!] =$

w_1	{Ned, Hugh, Lisa}
w_2	{Hugh, Tom, Mandy}
w_3	{Fred, Biff, Alice}
w_4	{Biff, Sue, Alice}

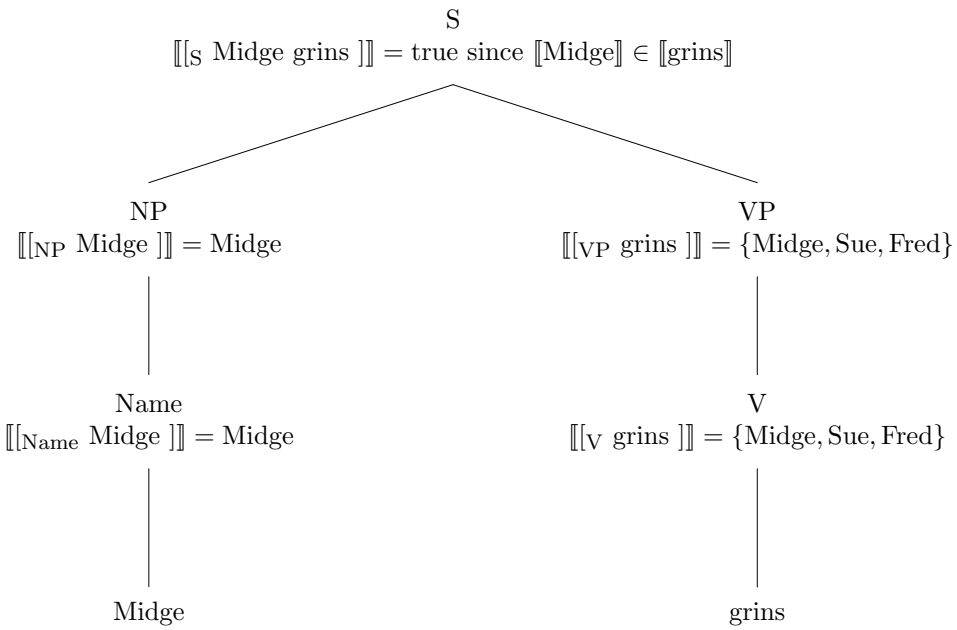

Figure 1: This tree uses only extensions

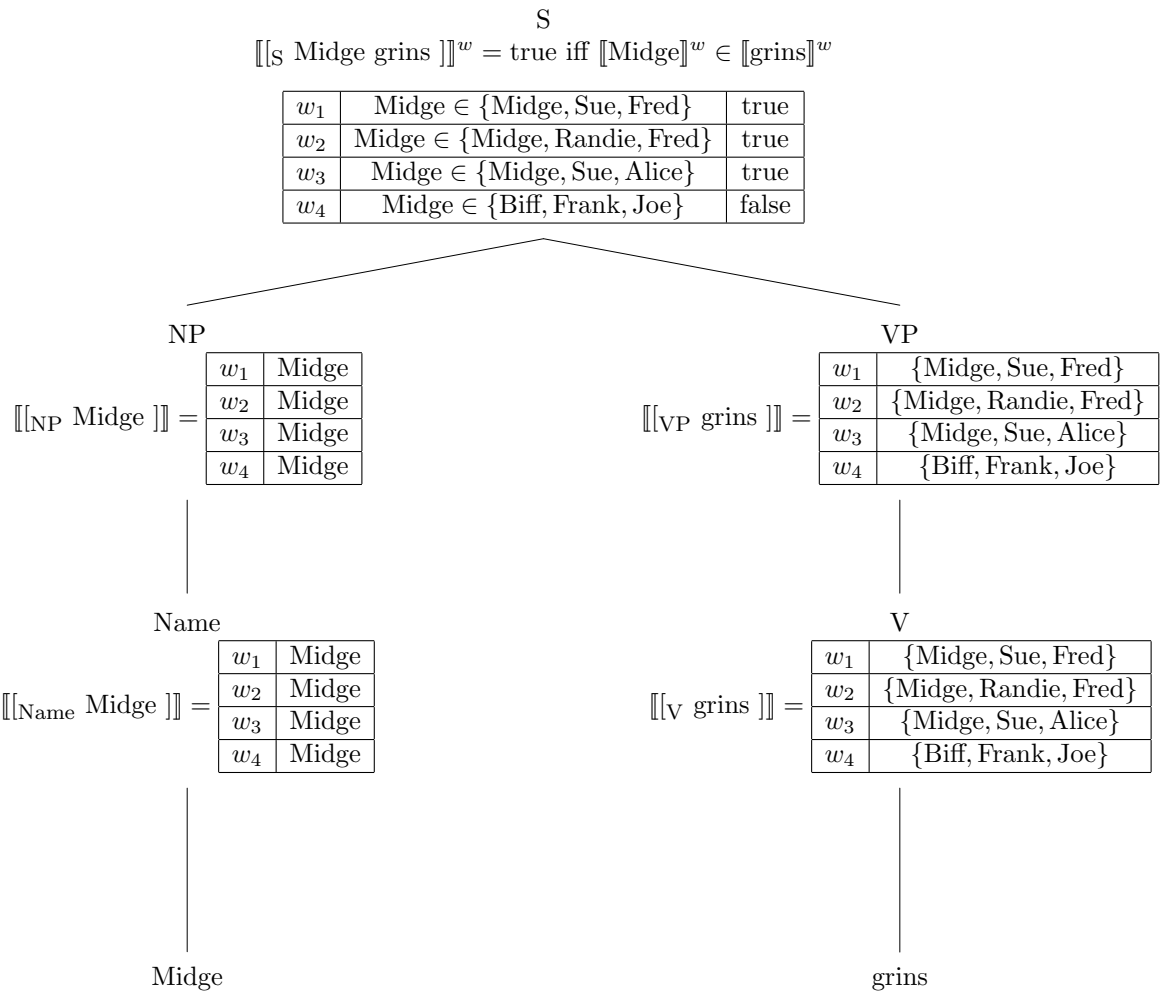

Figure 2: This tree uses intensions