F19 Exercise

Course in Semantics · Ling 531 / 731

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Key

1. Distinguish a variable from a constant.

A variable's denotation changes with respect to the assigment, while the denotation of a constant is the same for all assignments (*i.e.*, no matter which assignment we use.)

2. Explain why we need to split the TN rule into LT and PR.

The TN rule says that an interpretable node's meaning is specified in the lexicon. So for *mayor*, the meaning of the word is fully supplied by its lexical entry. This cannot be the case for *her*, because the context must supply what's missing. So we need to split TN into a rule for the words like *mayor* (LT), and one for words like *her* (PR).

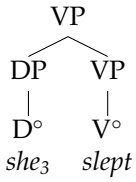
3. Given the following assignment, fill in the chart.

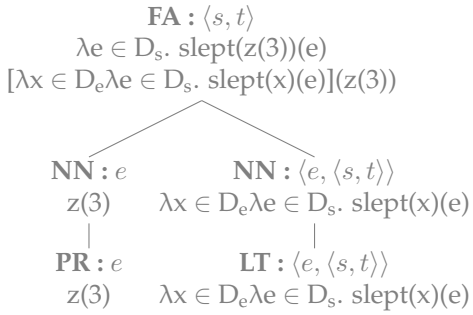
$$r = \begin{bmatrix} 2 & \rightarrow & \text{Gene} \\ 3 & \rightarrow & \text{Barry} \\ 163 & \rightarrow & \text{Ellen} \\ 75 & \rightarrow & \text{Roberto} \end{bmatrix}$$

denotation	value	extension
$[\![x_2]\!]^r$	r(2)	Gene
$[\![x_{163}]\!]^r$	r(163)	Ellen
$[\![y_{75}]\!]^r$	r(75)	Robert
$[\![y_3]\!]^r$	r(3)	Barry

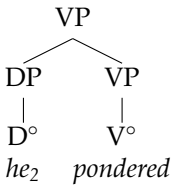
4. Compose the following phrase structures. Assume assignment z.

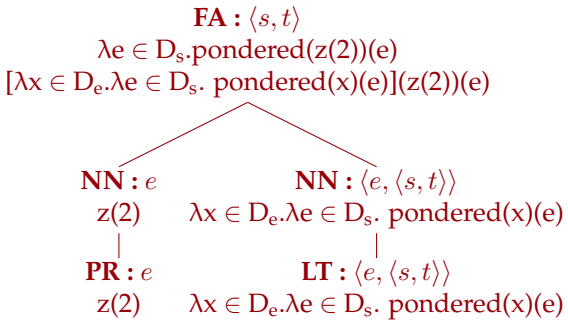
1.



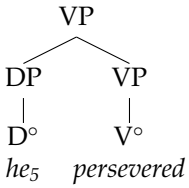


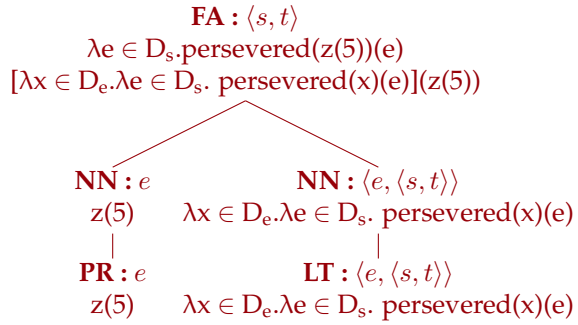
2.





3.





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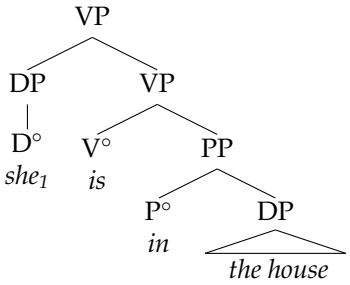
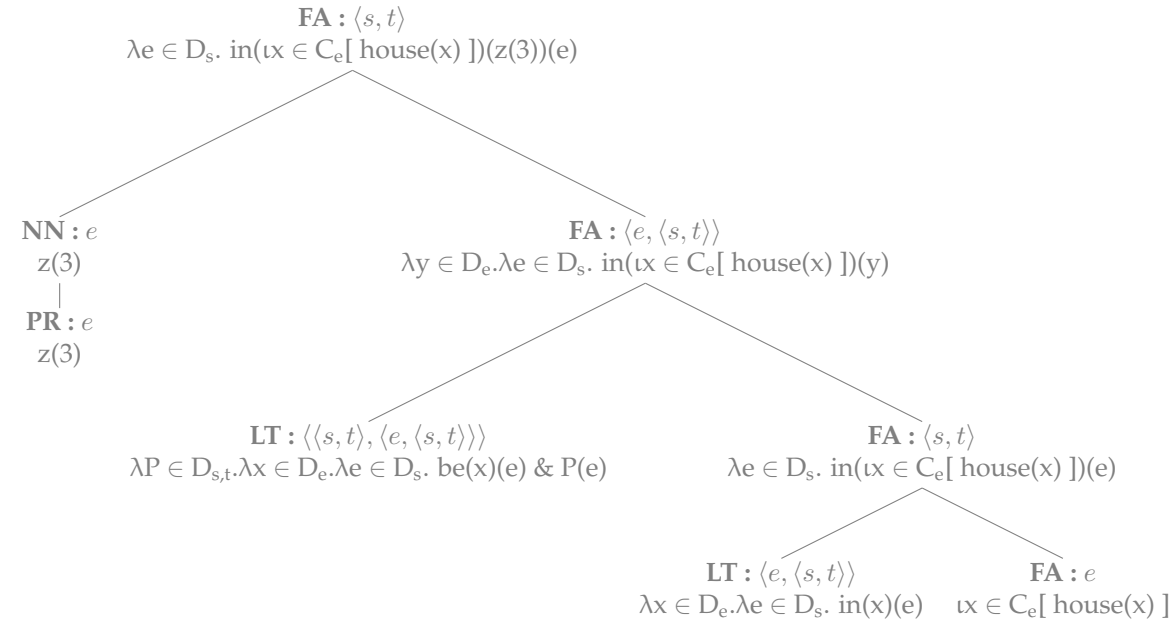


Assume that *in* is of type $\langle e, \langle s, t\rangle\rangle$; given event e and place x, it equals 1 if and only if e takes place in x. Further assume that $[\![\, is \,]\!]$ combines with this property of events to give a new relation.



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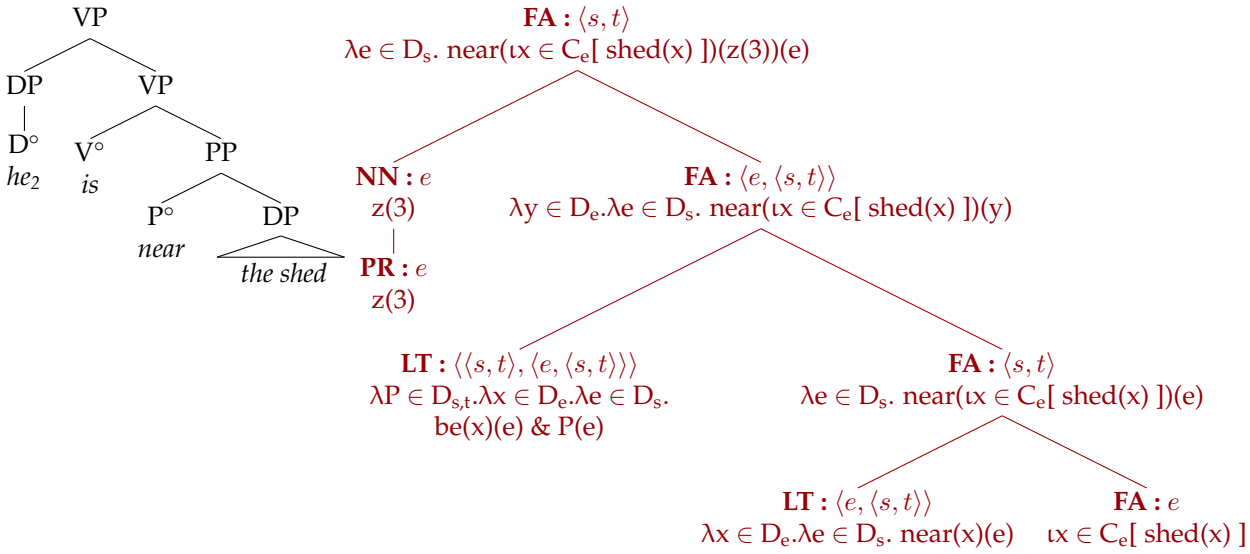
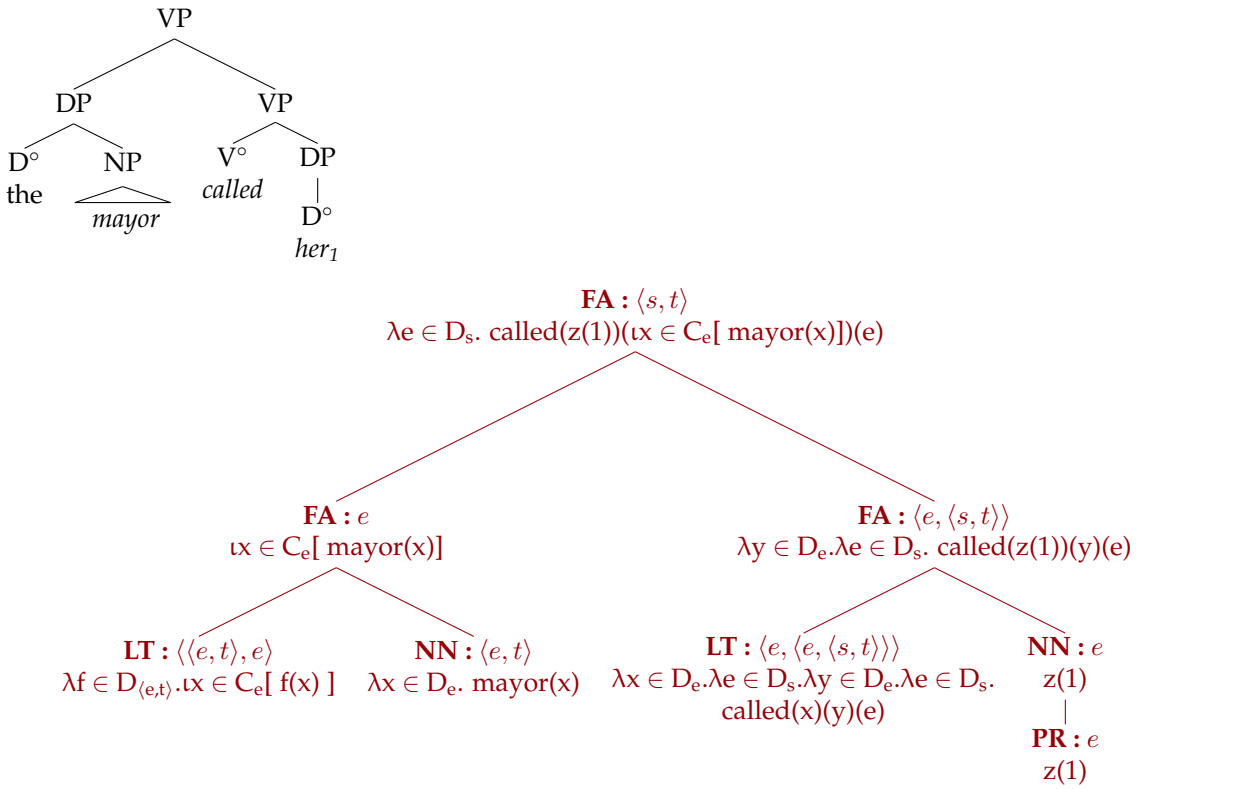
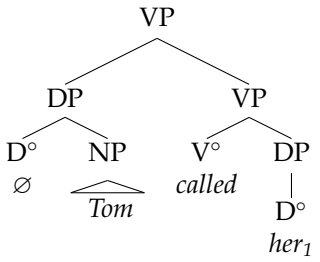
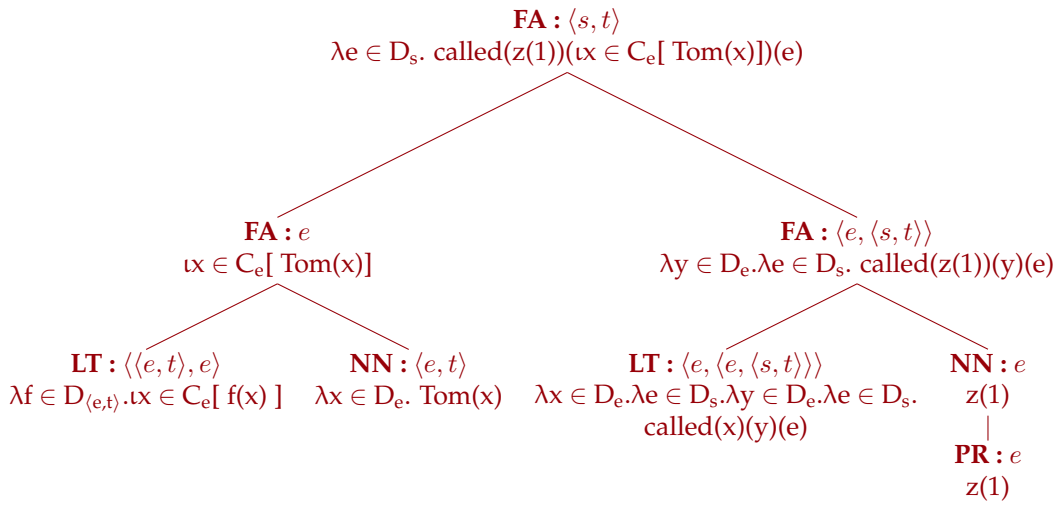

VP
DP
VP
D°
he2
V°
is
PP
P°
near
DP
the shed
FA : ⟨s, t⟩
λe ∈ Ds. near(ιx ∈ Ce[shed(x)])(z(3))(e)
NN : e
z(3)
PR : e
z(3)
FA : ⟨e, ⟨s, t⟩⟩
λy ∈ De.λe ∈ Ds. near(ιx ∈ Ce[shed(x)])(y)
LT : ⟨⟨s, t⟩, ⟨e, ⟨s, t⟩⟩⟩
λP ∈ Ds,t.λx ∈ De.λe ∈ Ds.
be(x)(e) & P(e)
FA : ⟨s, t⟩
λe ∈ Ds. near(ιx ∈ Ce[shed(x)])(e)
LT : ⟨e, ⟨s, t⟩⟩
λx ∈ De.λe ∈ Ds. near(x)(e)
FA : e
ιx ∈ Ce[shed(x)]

6.

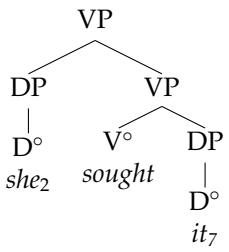

VP
DP
VP
D°
the
NP
mayor
V°
called
DP
D°
her1
FA : ⟨s, t⟩
λe ∈ Ds. called(z(1))(ιx ∈ Ce[mayor(x)])(e)
FA : e
ιx ∈ Ce[mayor(x)]
FA : ⟨e, ⟨s, t⟩⟩
λy ∈ De.λe ∈ Ds. called(z(1))(y)(e)
LT : ⟨⟨e, t⟩, e⟩
λf ∈ D⟨e,t⟩.ιx ∈ Ce[f(x)]
NN : ⟨e, t⟩
λx ∈ De. mayor(x)
LT : ⟨e, ⟨e, ⟨s, t⟩⟩⟩
λx ∈ De.λe ∈ Ds.λy ∈ De.λe ∈ Ds.
called(x)(y)(e)
NN : e
z(1)
PR : e
z(1)

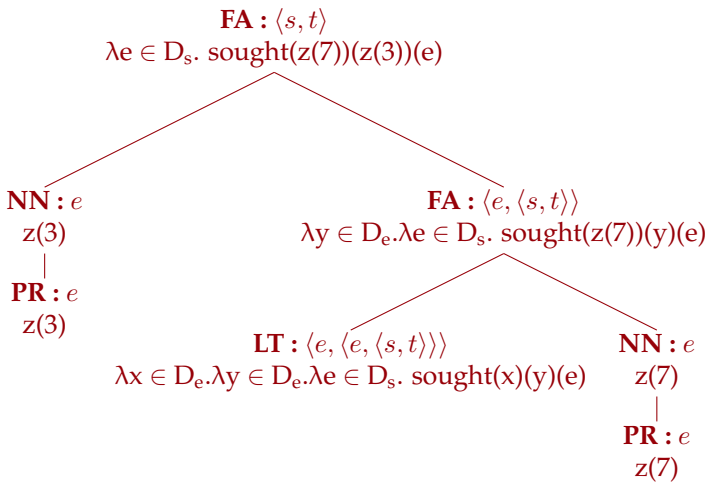
7.


VP
DP
VP
D°
∅
NP
Tom
V°
called
DP
D°
her1


FA : ⟨s, t⟩
λe ∈ D_s. called(z(1))(ιx ∈ C_e[Tom(x)])(e)
FA : e
ιx ∈ C_e[Tom(x)]
FA : ⟨e, ⟨s, t⟩⟩
λy ∈ D_e.λe ∈ D_s. called(z(1))(y)(e)
LT : ⟨⟨e, t⟩, e⟩
λf ∈ D_⟨e,t⟩.ιx ∈ C_e[f(x)]
NN : ⟨e, t⟩
λx ∈ D_e. Tom(x)
LT : ⟨e, ⟨e, ⟨s, t⟩⟩⟩
λx ∈ D_e.λe ∈ D_s.λy ∈ D_e.λe ∈ D_s.
called(x)(y)(e)
NN : e
z(1)
PR : e
z(1)

8.


VP
DP
VP
D°
she2
V°
sought
DP
D°
it7


FA : ⟨s, t⟩
λe ∈ D_s. sought(z(7))(z(3))(e)
NN : e
z(3)
PR : e
z(3)
FA : ⟨e, ⟨s, t⟩⟩
λy ∈ D_e.λe ∈ D_s. sought(z(7))(y)(e)
LT : ⟨e, ⟨e, ⟨s, t⟩⟩⟩
λx ∈ D_e.λy ∈ D_e.λe ∈ D_s. sought(x)(y)(e)
NN : e
z(7)
PR : e
z(7)