

Gramática Categorical: Eliminação de $\backslash$ e de $/$

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1 Eliminação de $\backslash$

- regra:

$$Y : \alpha \quad + \quad Y \backslash X : \phi \quad \Rightarrow \quad X : (\phi \ \alpha)$$

(Baseado em [1, p. 153].)

- permite desenhar a seguinte parte de um diagrama:

$$\frac{Y : \alpha \quad Y \backslash X : \phi}{X : (\phi \ \alpha)} E \backslash$$

2 Eliminação de $/$

- regra:

$$X/Y : \phi \quad + \quad Y : \alpha \quad \Rightarrow \quad X : (\phi \ \alpha)$$

(Baseado em [1, p. 153].)

- permite desenhar a seguinte parte de um diagrama:

$$\frac{X/Y : \phi \quad Y : \alpha}{X : (\phi \ \alpha)} E/$$

3 Exemplos

3.1 “Pedro corre”

- inserção lexical:

$$\boxed{\frac{\text{Pedro}}{N : p}^L \quad \frac{\text{corre}}{N \backslash S : C}^L}$$

- eliminação de $\backslash$:

$$\begin{array}{ccccccc} N & : & p & & N & \backslash & S & : & C \\ \downarrow & | & \downarrow & & \downarrow & | & \downarrow & | & \downarrow \\ \boxed{Y & : & \alpha & + & Y & \backslash & X & : & \phi} \Rightarrow X & : & (& \phi & \alpha &) \\ \underbrace{\quad \quad \quad} & & & & & & \downarrow & | & | & \downarrow & \downarrow & | \\ & = & & & & & S & : & (& C & p &) \end{array}$$

- completando “Pedro corre”:

$$\boxed{\begin{array}{c} \text{Pedro} \qquad \text{corre} \\ \hline N : p \qquad N \backslash S : C \quad L \\ \hline S : (C \ p) \quad E \backslash \end{array}}$$

- equivalente a:

$$\begin{array}{c} S : (C \ p) \\ \diagdown \quad \diagup \\ SN : p \quad SV : C \\ \diagup \quad \diagdown \quad \diagup \quad \diagdown \\ \text{Pedro} \quad \text{corre} \end{array}$$

3.2 “Arthur ama Claudia”

- inserção lexical:

$$\boxed{\begin{array}{ccc} \text{Arthur} & \text{ama} & \text{Claudia} \\ \hline N : a & (N \backslash S) / N : A & N : c \end{array} L}$$

- eliminação de $/$:

$$\begin{array}{ccccccc} \underbrace{(N \backslash S)} & / & N & : & A & & N & : & c \\ \downarrow & | & \downarrow & | & \downarrow & & \downarrow & | & \downarrow \\ \boxed{X & / & Y & : & \phi & + & Y & : & \alpha} \Rightarrow X & : & (& \phi & \alpha &) \\ & & \underbrace{\quad \quad \quad} & & & & \downarrow & | & | & \downarrow & \downarrow & | \\ & & = & & & & \underbrace{N \backslash S} & : & (& A & c &) \end{array}$$

- completando “ama Claudia”:

$$\boxed{
 \begin{array}{c}
 \text{Arthur} \quad \text{ama} \quad \text{Claudia} \\
 \hline
 \frac{N : a}{L} \quad \frac{(N \backslash S) / N : A}{L} \quad \frac{N : c}{L} \\
 \hline
 N \backslash S : (A \ c) \quad E/
 \end{array}
 }$$

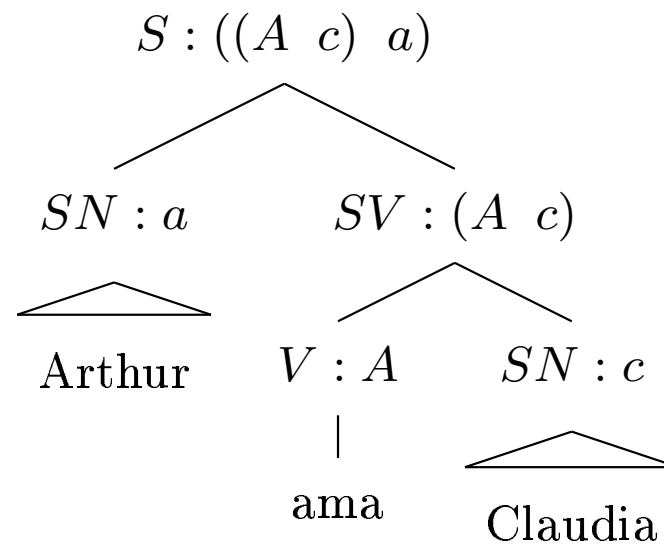
- eliminação de $\backslash$:

$$\begin{array}{c}
 N : a \quad N \backslash S : \underbrace{(A \ c)} \\
 \downarrow \quad | \quad \downarrow \quad \downarrow \quad | \quad \downarrow \quad | \quad \downarrow \\
 \boxed{Y : \alpha + Y \backslash X : \phi} \Rightarrow X : (\phi \ \alpha) \\
 \underbrace{\quad \quad \quad} \quad \quad \quad \downarrow \quad | \quad | \quad \downarrow \quad \downarrow \quad | \\
 = \quad \quad \quad S : (\underbrace{(A \ c)} \ a)
 \end{array}$$

- completando “Arthur ama Claudia”:

$$\begin{array}{c}
 \text{Arthur} \quad \text{ama} \quad \text{Claudia} \\
 \hline
 \frac{N : a}{N : a}^L \quad \frac{(N \backslash S) / N : A}{(N \backslash S) / N : A}^L \quad \frac{N : c}{N : c}^L \\
 \hline
 \frac{(N \backslash S) / N : A \quad N : c}{N \backslash S : (A \ c)}^{E/} \\
 \hline
 \frac{N \backslash S : (A \ c) \quad N : a}{S : ((A \ c) \ a)}^{E\backslash}
 \end{array}$$

- equivalente a:



3.3 “Pedro odeia Grosbilda”

- inserção lexical:

$$\boxed{\begin{array}{ccc} \text{Pedro} & \text{odeia} & \text{Grosbilda} \\ \hline N : p & (N \backslash S) / N : O & N : g \end{array}}^L$$

- eliminação de $/$:

$$\begin{array}{ccccccc} \underbrace{(N \backslash S)} & / & N & : & O & & N & : & g \\ \downarrow & | & \downarrow & | & \downarrow & & \downarrow & | & \downarrow \\ \boxed{X & / & Y & : & \phi & + & Y & : & \alpha} \Rightarrow X & : & (& \phi & \alpha &) \\ & & \underbrace{\quad \quad \quad} & & & & \downarrow & | & | & \downarrow & \downarrow & | \\ & & = & & & & \underbrace{N \backslash S} & : & (& O & g &) \end{array}$$

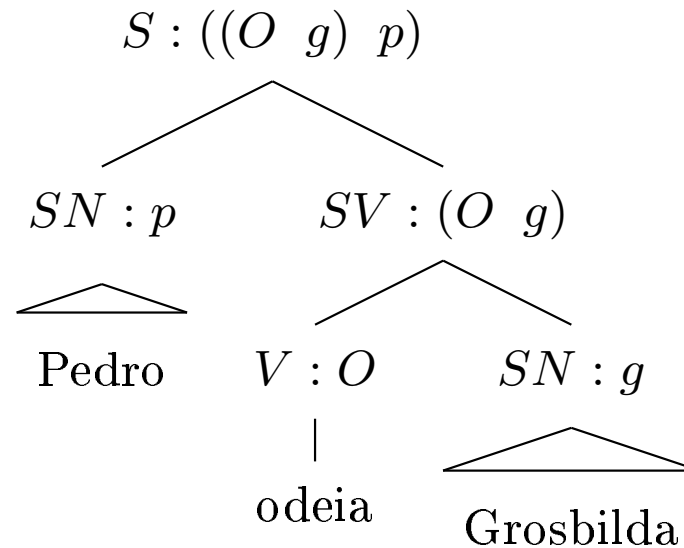
- $$\frac{\frac{\text{Pedro}}{N:p}^L \quad \frac{\text{odeia}}{(N \setminus S)/N:O}^L \quad \frac{\text{Grosbilda}}{N:g}^L}{N \setminus S:(O \ g)}^{E/}$$

- $$\begin{array}{ccccccc}
N & : & p & & N & \setminus & S & : & \underbrace{(O \ g)} \\
\downarrow & | & \downarrow & & \downarrow & | & \downarrow & | & \downarrow \\
\boxed{Y} & : & \alpha & + & Y & \setminus & X & : & \phi & \Rightarrow & X & : & (& \phi & \alpha &) \\
| & & & & | & & & & & & \downarrow & | & | & \downarrow & \downarrow & | \\
\hline
& & & & & & & & & & & & & S & : & (& \underbrace{(O \ g)} & p &)
\end{array}$$

- completando “Pedro odeia Grosbilda”:

$$\begin{array}{c}
 \text{Pedro} \quad \text{odeia} \quad \text{Grosbilda} \\
 \hline
 \frac{N : p}{N : p}^L \quad \frac{\frac{\text{odeia}}{(N \backslash S) / N : O}^L}{N \backslash S : (O \ g)}^L \quad \frac{\text{Grosbilda}}{N : g}^L \\
 \hline
 \frac{\frac{\frac{\text{Pedro}}{N : p}^L \quad \frac{\frac{\text{odeia}}{(N \backslash S) / N : O}^L}{N \backslash S : (O \ g)}^L}{N \backslash S : (O \ g)}^L \quad \frac{\text{Grosbilda}}{N : g}^L}{S : ((O \ g) \ p)}^{E/} \\
 \hline
 S : ((O \ g) \ p)
 \end{array}$$

- equivalente a:



Referências

- [1] Bob Carpenter. *Type-Logical Semantics*. The MIT Press, Cambridge, MA, 1997.