Logic and Language: Exercise (Week 6)

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1 Syntax

1.1

First, we define the rules of *rightward extraction* $\widehat{\alpha}_{\diamond}^{r}$, $\widehat{\sigma}_{\diamond}^{r}$:

$$\frac{f : A \otimes (B \otimes \Diamond C) \to D}{\widehat{\alpha}_{\diamond}^{r} f : (A \otimes B) \otimes \Diamond C \to D} \qquad\qquad \frac{f : (A \otimes \Diamond C) \otimes B \to D}{\widehat{\sigma}_{\diamond}^{r} f : (A \otimes B) \otimes \Diamond C \to D}$$

We can now proceed with the derivation of

$$n \otimes ((n\backslash n)/(s/\Diamond\Box np)) \otimes ((np/n) \otimes n) \otimes ((np\backslash s)/np)) \to n$$

as follows: