

# Key idea: Double the grades

**Graded Comonads:**

$$\Gamma_1, x :_s A, \Gamma_2 \vdash t : B$$


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$$\Gamma_1, x : \frac{\Delta}{s} A, \Gamma_2 \vdash t : B$$

where  $\Delta : \text{Vars.} \rightarrow \mathcal{R}$  is called a usage map.