

# (Simplified) Bounded Linear Logic

$$\frac{\Gamma_1, \Gamma_2 \vdash B}{\Gamma_1, !_0 A, \Gamma_2 \vdash B} W$$

$$\frac{\Gamma_1, !_{p_1} A, !_{p_2} A, \Gamma_2 \vdash B}{\Gamma_1, !_{p_1 + p_2} A, \Gamma_2 \vdash B} C$$

$$\frac{!_{\vec{p}} \Gamma \vdash B}{!_{p*} \vec{p} \Gamma \vdash !_p B} P$$

$$\frac{\Gamma, A \vdash B}{\Gamma, !_1 A \vdash B} D$$

# (Simplified) Bounded Linear Logic

$$\frac{\Gamma_1, \Gamma_2 \vdash B}{\Gamma_1, !_0 A, \Gamma_2 \vdash B} W$$

$$\frac{\Gamma_1, !_{p_1} A, !_{p_2} A, \Gamma_2 \vdash B}{\Gamma_1, !_{p_1 + p_2} A, \Gamma_2 \vdash B} C$$

**The precursor to graded comonads.**

$$\frac{!_{\vec{p}} \Gamma \vdash B}{!_{p*} \vec{p} \Gamma \vdash !_p B} P$$

$$\frac{\Gamma, A \vdash B}{\Gamma, !_1 A \vdash B} D$$