

Semântica Operacional Estruturada do CCS

$$\frac{}{a.p \xrightarrow{a} p} \text{ (act)}$$

$$\frac{p \xrightarrow{a} p'}{p + q \xrightarrow{a} p'} \text{ (sum - l)}$$

$$\frac{q \xrightarrow{a} q'}{p + q \xrightarrow{a} q'} \text{ (sum - r)}$$

$$\frac{p \xrightarrow{a} p'}{p \mid q \xrightarrow{a} p' \mid q} \text{ (par - l)}$$

$$\frac{q \xrightarrow{a} q'}{p \mid q \xrightarrow{a} p \mid q'} \text{ (par - r)}$$

$$\frac{p \xrightarrow{a} p' \quad q \xrightarrow{\bar{a}} q'}{p \mid q \xrightarrow{\tau} p' \mid q'} \text{ (react)}$$

$$\frac{p \xrightarrow{a} p'}{p \setminus \{k\} \xrightarrow{a} p \setminus \{k\}} \text{ (res) (if } a \notin \{k, \bar{k}\})$$

$$\frac{p \xrightarrow{a} p'}{p[f] \xrightarrow{f(a)} p'[f]} \text{ (rel) (f relabelling function)}$$

$$\frac{p \xrightarrow{a} p'}{k \xrightarrow{a} p'} \text{ (con) } k =^{df} p$$

Cálculo Equacional

$$\frac{}{\Phi \vdash_{\Sigma} t = t} \text{ (reflexivity)}$$

$$\frac{}{\Phi \vdash_{\Sigma} t_1 = t_2}, t_1 = t_2 \in \Phi \text{ (axioms)}$$

$$\frac{\Phi \vdash_{\Sigma} t_1 = t_2}{\Phi \vdash_{\Sigma} t_2 = t_1} \text{ (symmetry)}$$

$$\frac{\Phi \vdash_{\Sigma} t_1 = t_2 \quad \Phi \vdash_{\Sigma} t_2 = t_3}{\Phi \vdash_{\Sigma} t_1 = t_3} \text{ (transitivity)}$$

$$\frac{\Phi \vdash_{\Sigma} t_1 = t'_1 \quad \cdots \quad \Phi \vdash_{\Sigma} t_n = t'_n}{\Phi \vdash_{\Sigma} f(t_1, \dots, t_n) = f(t'_1, \dots, t'_n)}, f : s_1 \times \cdots \times s_n \rightarrow s \in \Sigma \text{ (congruence)}$$

$$\frac{\Phi \vdash_{\Sigma} t_1 = t_2}{\Phi \vdash_{\Sigma} \sigma(t_1) = \sigma(t_2)}, \sigma : X \rightarrow \mathbb{T}(\Sigma, X) \text{ (replacement)}$$