

$$x : \forall \bar{a}. A \in \Gamma \quad \frac{}{\Gamma \vdash x : A[\bar{B}/\bar{a}]} \text{ (TVar)}$$

$$\frac{\Gamma \vdash M : B \rightarrow A \quad \Gamma \vdash N : B}{\Gamma \vdash MN : A} \text{ (TApp)}$$

$$x \notin \text{dom } \Gamma \quad \frac{\Gamma \cup \{x : B\} \vdash M : A}{\Gamma \vdash \lambda x. M : B \rightarrow A} \text{ (TAbs)}$$

### **Theorem (The Subformula Property)**

*Suppose  $\Gamma$  assigns only monotypes to its subjects and suppose  $M$  is in  $\beta$ -normal form and  $\Gamma \vdash M : A$ . Then the derivation of this judgement is unique and all of the types mentioned in the derivation are substrings of the types mentioned in the conclusion.*

