TODO: Explain that we implicitly carry around a derivation in the denotation

- Denotation for each typing relation derivation
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  - (Unit) $\frac{}{[\![\Gamma \vdash \texttt{()} : \texttt{Unit}]\!]_M = [\![\texttt{()}]\!]_M \circ \langle\rangle_\Gamma : \Gamma \to [\![\texttt{Unit}]\!]_M}$
  - (Const) $\frac{}{[\![\Gamma \vdash \texttt{C}^A : A]\!]_M = [\![\texttt{C}^A]\!]_M \circ \langle\rangle_\Gamma : \Gamma \to [\![A]\!]_M}$
  - (True) $\frac{}{[\![\Gamma \vdash \texttt{true} : \texttt{Bool}]\!]_M = [\![\texttt{true}]\!]_M \circ \langle\rangle_\Gamma : \Gamma \to [\![\texttt{Bool}]\!]_M}$
  - (False) $\frac{}{[\![\Gamma \vdash \texttt{false} : \texttt{Bool}]\!]_M = [\![\texttt{false}]\!]_M \circ \langle\rangle_\Gamma : \Gamma \to [\![\texttt{Bool}]\!]_M}$
  - (Lambda) $\frac{f = [\![\Gamma, x : A]\!]_M C \texttt{M}_\epsilon B : \Gamma \times A \to T_\epsilon B}{[\![\Gamma \vdash \lambda x : A.C : A \to \texttt{M}_\epsilon B]\!]_M = \texttt{cur}(f) : \Gamma \to (T_\epsilon B)^A}$
  - (Return) $\frac{f = [\![\Gamma \vdash v : A]\!]_M}{[\![\Gamma \vdash \texttt{return} v : \texttt{M}_{\texttt{1}} A]\!]_M = \eta_A \circ f}$
  - (Subtype) $\frac{f = [\![\Gamma \vdash v : A]\!]_M : \Gamma \to A g = [\![A \leq: B]\!]_M}{[\![\Gamma \vdash v : B]\!]_M = g \circ f : \Gamma \to B}$
  - (Subeffect) $\frac{f = [\![\Gamma \vdash c : \texttt{M}_{\epsilon_1} A]\!]_M : \Gamma \to T_{\epsilon_1} A g = [\![A \leq: B]\!]_M h = [\![\epsilon_1 \leq \epsilon_2]\!]}{[\![\Gamma \vdash C : \texttt{M}_{\epsilon_2} B]\!]_M = h_B \circ T_{\epsilon_1} g \circ f}$
  - (If) $\frac{f = [\![\Gamma \vdash v : \texttt{Bool}]\!]_M g = [\![\Gamma \vdash C_1 : \texttt{M}_\epsilon A]\!]_M h = [\![\Gamma \vdash C_2 : \texttt{M}_\epsilon A]\!]_M}{[\![\Gamma \vdash \texttt{if}_{\epsilon, A} v \texttt{then} C_1 \texttt{else} C_2 : \texttt{M}_\epsilon A]\!]_M = \texttt{If}_{\texttt{M}_\epsilon B} \circ \langle f, \langle g, h \rangle \rangle : \Gamma \to T_\epsilon A}$
  - (Bind) $\frac{f = [\![\Gamma \vdash C_1 : \texttt{M}_{\epsilon_1} A : \Gamma \to T_{\epsilon_1} A g = [\![\Gamma, x : A \vdash C_2 : \texttt{M}_{\epsilon_2} B]\!]_M]\!]_M : \Gamma \times A \to T_{\epsilon_2} B}{[\![\Gamma \vdash \texttt{do} x \leftarrow C_1 \texttt{in} C_2 : \texttt{M}_{\epsilon_1 \cdot \epsilon_2}]\!]_M = \mu_{\epsilon_1, \epsilon_2, B} \circ T_{\epsilon_1} g \circ \texttt{t}_{\Gamma, A, \epsilon_1} \circ \left\langle \texttt{Id}_\Gamma, f \right\rangle : \Gamma \to T_{\epsilon_1 \cdot \epsilon_2} B}$
- Denotations of Types
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  - **TODO: Fill in from notebook**
  - For each ground type $g \in \gamma$
  - morphism $[\![A \leq: B]\!]_M : [\![A]\!]_M \to [\![B]\!]_M$ for each $A \leq: B$
  - Natural Transformation $[\![\epsilon_1 \leq \epsilon_2]\!] : T_{\epsilon_1} \to T_{\epsilon_2}$ for each $\epsilon_1 \leq \epsilon_2$