$$\frac{A, \Gamma \vdash \Delta, B}{\Gamma \vdash \Delta, A \to B}$$

$$\frac{\Gamma \vdash \Delta, A \qquad \Gamma \vdash \Delta, B}{\Gamma \vdash \Delta, A \wedge B} \qquad\qquad \frac{A, B, \Gamma \vdash \Delta}{A \wedge B, \Gamma \vdash \Delta}$$

$$\frac{\Gamma \vdash \Delta, A}{\Gamma \vdash \Delta, \forall x A}$$

$$\frac{\Gamma \vdash \Delta}{\Gamma \vdash \Delta, \bot}$$

$$\frac{A, \Gamma \vdash \Delta \qquad B, \Gamma \vdash \Delta}{A \vee B, \Gamma \vdash \Delta}$$

$$(A, \Gamma) \vee (B, \Gamma)$$

$$\mathcal{A} \underset{G}{\overset{F}{\leftrightarrows}} \mathcal{B}$$

$$\varphi_A : FGA \to A \qquad \gamma_B : B \to GFB$$

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triangular equations:

$$\begin{tikzcd} FB \arrow[d, "F\gamma_B"] \\ FGFB \arrow[d, "\varphi_{FB}"] \\ FB \end{tikzcd} \qquad \begin{tikzcd} GA \arrow[d, "\gamma_{GA}"] \\ GFGA \arrow[d, "G\varphi_A"] \\ GA \end{tikzcd}$$

$$\varphi_{FB} \circ F\gamma_B = 1_{FB} \qquad G\varphi_A \circ \gamma_{GA} = 1_{GA}$$

$$\mathrm{Hom}_{\mathcal{A}}(FB, A) \cong \mathrm{Hom}_{\mathcal{B}}(B, GA)$$

$$\mathrm{Hom}(C,A)\times\mathrm{Hom}(C,B) \cong \mathrm{Hom}(C, A\times B)$$

$$\mathrm{Hom}((C,C),(A,B))$$

$$\mathrm{Hom}(A\times C, D) \cong \mathrm{Hom}(C, D^A)$$

$$\begin{tikzcd}
\mathcal{C} \arrow[r, "H"'] & \mathcal{C}[x] \arrow[l, shift right=2, "A\times_"'] \arrow[l, shift left=2, "_^{A}"]
\end{tikzcd}
\qquad x : T \to A$$

$$\begin{tikzcd}
\mathcal{C} \arrow[r, shift right, "H"'] & \mathcal{C}[x] \arrow[l, shift right, "A\times_"'] \arrow[r, shift right, "_^{A}"'] & \mathcal{C} \arrow[l, shift right, "H"']
\end{tikzcd}$$

Lambek 1974

K.D. "Deductive completeness" BSL 1996

"Abstraction and application in adjunction" (arXiv)