$$A \in \overline{\mathcal{P}O \sqcup X} \xrightarrow[\text{equiv}]{} \overline{\mathcal{P}O \sqcup X}/\sim \ni \overline{A} \text{ Boole Alg}$$

$$A \sim B \Leftrightarrow \overline{A} = \overline{B} \Leftrightarrow 1 = \begin{cases} \overline{A \rightarrow B} \\ \overline{B \rightarrow A} \end{cases} \Leftrightarrow \text{ ableitbar } \overline{\overline{\mathcal{P}O \sqcup X}} \ni \begin{cases} A \rightarrow B \\ B \rightarrow A \end{cases}$$

$$\overline{A} \leqslant \overline{B} \Leftrightarrow \overline{A \rightarrow B} = 1 \Leftrightarrow \underline{A \rightarrow B} \text{ ableitbar}$$

$$\overline{A} = 1 \Leftrightarrow A \in \overline{\overline{\mathcal{P}O \sqcup X}} \text{ ableitbar}$$

$$\overline{A} \leqslant \overline{B} \Rightarrow \overline{\gamma \bigcirc A} \leqslant \overline{\gamma \bigcirc B}$$

$$A \sim B \Rightarrow \gamma \bigcirc A \sim \gamma \bigcirc B$$

$$\text{Ableitung } A_1|\cdots|A_n|\underline{A \rightarrow B}$$

$$R_1 \ni \underline{A \rightarrow B}|\overline{\gamma \bigcirc \underline{A \rightarrow B}}$$

$$\Rightarrow \text{ Ableitung } A_1|\cdots|A_n|\underline{A \rightarrow B}|\overline{\gamma \bigcirc \underline{A \rightarrow B}} = \underline{\gamma \bigcirc A} \rightarrow \underline{\gamma \bigcirc B}$$

$$\overline{\bigwedge_x A} \;\overset{=}{\underset{\inf}{=}}\; \bigwedge_{t \,\neq\, x} \overline{\iota_x^t \bigcirc A}: \quad \overline{\bigvee_x A} \;\overset{=}{\underset{\sup}{=}}\; \bigvee_{t \,\neq\, x} \overline{\iota_x^t \bigcirc A}$$

$$\overline{\bigwedge_x A} \to \overline{\iota_x^t \bigcirc A} \in R_0 \;\Rightarrow\; \text{unt Schranke } \overline{\bigwedge_x A} \leqslant \overline{\iota_x^t \bigcirc A}$$

$$\text{unt Schranke } \overline{B} \leqslant \overline{\iota_x^t \bigcirc A} \;\Rightarrow\; \bigwedge_{t \,\neq\, x} \overline{B \to \underline{\iota_x^t \bigcirc A}} \in \overline{\overline{\mathcal{PO} \cup X}}$$

$$x \neq y \in X \llcorner \underline{\lfloor A\rfloor \cup \lfloor B\rfloor} \Rightarrow y \neq x \Rightarrow \overline{B \to \underline{\iota_x^y \bigcirc A}} \in \overline{\overline{\mathcal{PO} \cup X}} \Rightarrow \text{ Abl } A_1 |\!\cdot\!\cdot| A_n | \overline{B \to \underline{\iota_x^y \bigcirc A}}$$

$$\overline{B \to \underline{\iota_x^y \bigcirc A}} | \overline{B \to \bigwedge_x A} \in R_1 \;\Rightarrow\; \text{Abl } A_1 |\!\cdot\!\cdot| A_n | \overline{B \to \underline{\iota_x^y \bigcirc A}} | \overline{B \to \bigwedge_x A}$$

$$\Rightarrow \overline{B \to \bigwedge_x A} \in \overline{\overline{\mathcal{PO} \cup X}} \Rightarrow \overline{B} \leqslant \overline{\bigwedge_x A} \text{ grosste unt Schranke}$$

$$\overline{\bigvee_x A} \to \overline{\bigwedge_x \bar{A}} \in R_0 \ni \overline{\bigwedge_x \bar{A}} \to \overline{\bigvee_x A}$$

$$\Rightarrow \overline{\bigvee_x A} = \overline{\neg \bigwedge_x \bar{A}} = \neg \overline{\bigwedge_x \bar{A}} = \neg \bigwedge_{t \,\neq\, x} \overline{\iota_x^t \bigcirc \bar{A}} = \bigvee_{t \,\neq\, x} \overline{\neg \underline{\iota_x^t \bigcirc \bar{A}}} = \bigvee_{t \,\neq\, x} \overline{\iota_x^t \bigcirc \underline{\neg \bar{A}}} = \bigvee_{t \,\neq\, x} \overline{\iota_x^t \bigcirc A}$$