$$(\mathbf{f} \mathbin{\overset{\circ}{\underset{9}{}}} \mathbf{g}) \colon \mathbf{A}^{\mathrm{op}} \times \mathbf{C} \to_{\mathbf{Pos}} \mathbf{Bool},$$

$$\langle a^*, c \rangle \mapsto \bigvee_{b \in \mathbf{B}} \mathbf{f}(a^*, b) \wedge \mathbf{g}(b^*, c).$$