$$\mathbf{d} \preceq \mathbf{e} \preceq \mathbf{g} \equiv (\mathbf{d} \mathbin{\mathring{,}} \mathbf{e}) \preceq \mathbf{g}$$

$$\equiv \mathbf{d} \preceq (\mathbf{e} \mathbin{\mathring{,}} \mathbf{g})$$