

**Lemma.** There is a *contravariant functor*  $\Pi_r : \mathbf{DP} \rightarrow \mathbf{LPos}$  which maps:

1. An object (poset) of  $\mathbf{DP}$  to the same object (poset) in  $\mathbf{LPos}$ .
2. A morphism  $\text{dp} \in \text{Hom}_{\mathbf{DP}}(\mathbf{F}; \mathbf{R})$  to the morphism  $g \in \text{Hom}_{\mathbf{LPos}}(\mathbf{R}; \mathbf{F})$ ,  
where:

$$g : \mathbf{R} \rightarrow \mathcal{L}\mathbf{F}$$

$$r \mapsto \{f \in \mathbf{F} \mid \text{dp}(f, r) = \top\}.$$