

# Functors & pretopologies

Let  $\alpha$  be a pretopology, so  $\alpha$  is a function  $\mathcal{U} \rightarrow \mathfrak{F}(\mathcal{U})$ . Then there exists a functor  $f$  such that

$$\langle f \rangle^* X = \bigsqcup \{ \alpha(x) \mid x \in X \}$$

(the join is taken on the lattice of filters).

So functors are a generalization of pretopologies.