

**Definition.** Let  $\mathcal{O}, \mathcal{P}$  be operads. A *functor* between operads  $F : \mathcal{O} \rightarrow \mathcal{P}$  is composed of:

1. A function  $F_{\text{ob}} : \text{Ob}_{\mathcal{O}} \rightarrow \text{Ob}_{\mathcal{P}}$ ;
2. A function  $F_{\text{mor}} : \text{Hom}_{\mathcal{O}}([X_1, \dots, X_n]; Y) \rightarrow \text{Hom}_{\mathcal{P}}([F_{\text{ob}}(X_1), \dots, F_{\text{ob}}(X_n)]; F_{\text{ob}}(Y))$ .

These constituents must satisfy conditions which encode compatibility with the composition operations and with identity morphisms; these conditions are analogous to the ones in the definition of a functor between categories.