Definition (Semi-functor)**.** Given two semi-categories $\mathbf{C}$ and $\mathbf{D}$, a *semi-functor* $F : \mathbf{C} \to \mathbf{D}$ from $\mathbf{C}$ to $\mathbf{D}$ is defined by the following data and conditions.

Data:

i) A map

$$F_{\mathrm{ob}} : \mathrm{Ob}_{\mathbf{C}} \to \mathrm{Ob}_{\mathbf{D}}.$$

ii) For every pair of objects X, Y of $\mathbf{C}$ a map

$$F_{\mathrm{mor}} : \mathrm{Hom}_{\mathbf{C}}(X;Y) \to \mathrm{Hom}_{\mathbf{D}}(F_{\mathrm{ob}}(X);F_{\mathrm{ob}}(Y))$$

Conditions:

1. It holds that

$$\frac{f : X \to_{\mathbf{C}} Y \quad g : Y \to_{\mathbf{C}} Z}{F_{\mathrm{mor}}(f \fatsemi g) = F_{\mathrm{mor}}(f) \fatsemi F_{\mathrm{mor}}(g)}.$$