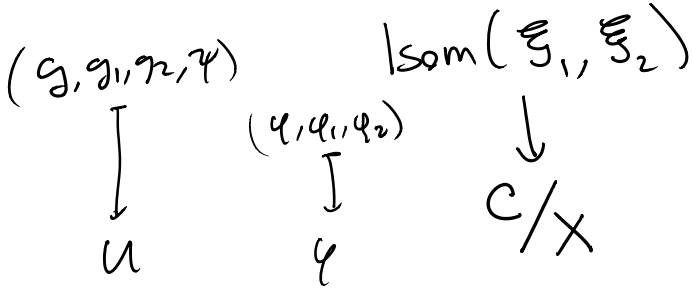


Addendum 1: The Isom presheaf

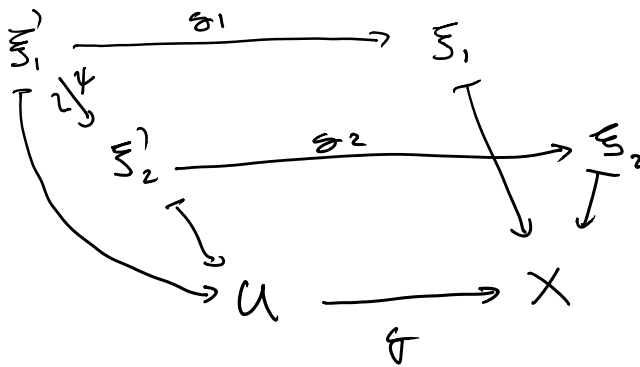
Thursday, September 18, 2014 8:59 AM

F
↓P
C

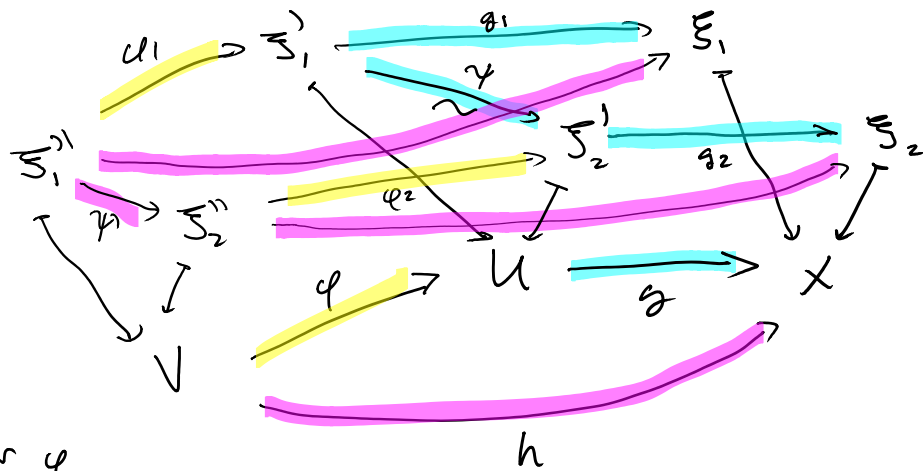
choose $X \in C$ $\xi_1, \xi_2 \in F(X)$
 $p(\xi_i) = X$



Objects:
 (g, g_1, g_2, ψ)
 $g: U \rightarrow X$ g_i cart. arrows above g



morphisms $(\phi, \phi_1, \phi_2) : (h, h_1, h_2, \psi) \rightarrow (g, g_1, g_2, \psi)$



cart. arrows
 ϕ_1, ϕ_2 over ϕ
 s.t. diagram commutes

know: these arrows ϕ_1, ϕ_2 cart are unique!

arrows upstairs by γ share arrows in \mathcal{C} are unique!

$\Rightarrow \text{Isom}(\xi_1, \xi_2) (U \xrightarrow{\alpha} X)$ all morphisms are identity morphisms
is a set!

$\Rightarrow \text{Isom}$ is a category fibred in sets \rightarrow presheaf!
 \square