

Notes on Reyes/Reyes/Zolfaghari's book

“Generic figures and their glueings: A constructive approach to functor categories”

(Polimetrica, 2004).

<https://reyes-reyes.com/2004/06/01/generic-figures-and-their-glueings-a-constructive-approach-t>

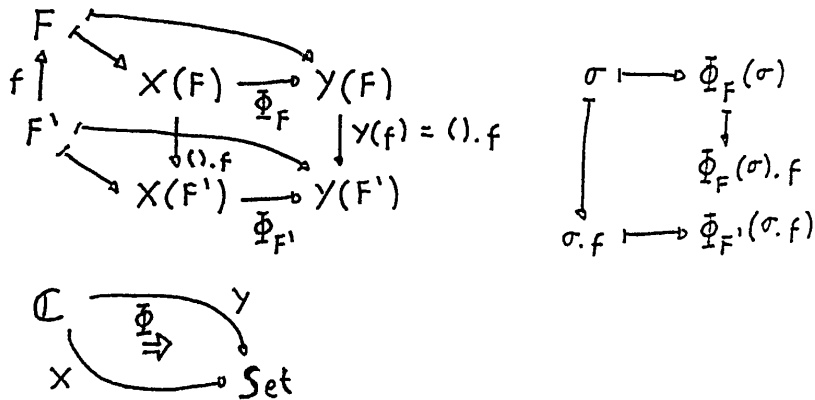
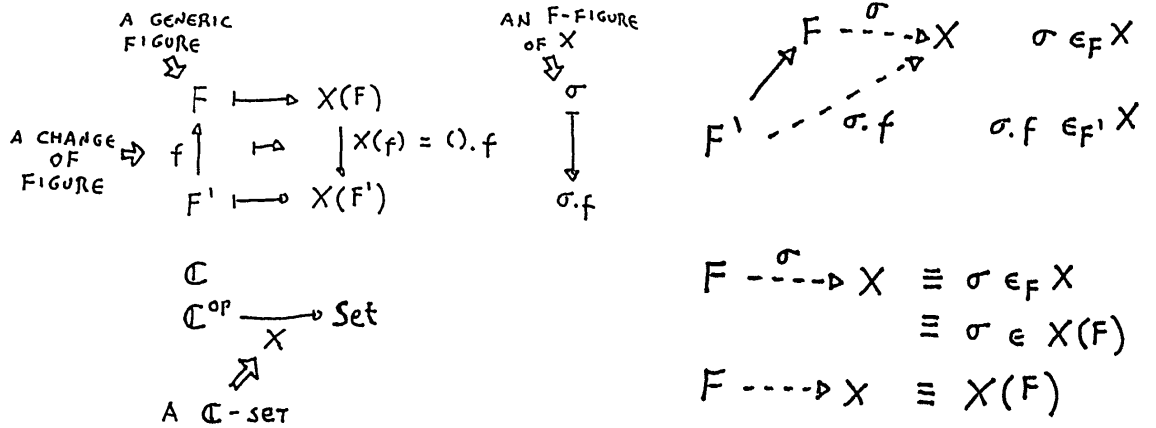
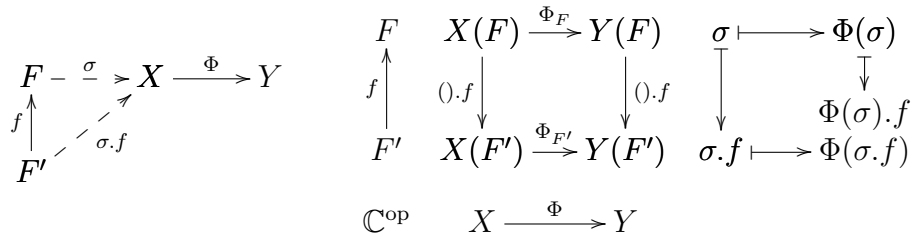
<https://marieetgonzalo.files.wordpress.com/2004/06/generic-figures.pdf>

These notes are at:

<http://angg.twu.net/LATEX/2020genericfigures.pdf>

# 1. The category of $\mathbb{C}$ -Sets

(Page 12):



## 1.1. Examples of $\mathbb{C}$ -Sets

$$\text{WHEN } \mathbb{C} = \mathbb{1} = \left( p \varnothing 1p \right)$$

$$\text{WHEN } \mathbb{C} = \mathbb{2} = \left( \begin{array}{c} p \varnothing 1p \\ s \varnothing 1s \end{array} \right)$$

$$\text{WHEN } \mathbb{C} = \left( \begin{array}{c} L \\ v \uparrow \\ \vee \end{array} \right)$$

(Page 18):

$$\frac{V \dashrightarrow X}{a, b, c} \quad \text{means} \quad X(V) = \{a, b, c\}$$

## 2.2. Yoneda lemma

(Page 29):

$$\frac{F' \dashrightarrow h_F}{F' \longrightarrow F} \quad h_F(F') = (\_ \rightarrow F)(F') \cong (F' \rightarrow F)$$

(Page 35):

$$\frac{F \dashrightarrow X}{h_F \longrightarrow X} \quad X(F) \cong (\_ \rightarrow F) \rightarrow X$$

$$\begin{array}{ccc} & & 1 \\ & & \downarrow \lceil \sigma^{-1} \\ F & \longrightarrow & X(F) \\ \uparrow & & \downarrow \\ F' & \longrightarrow & X(F') \\ \mathbb{C}^{\text{op}} & \xrightarrow{X} & \mathbf{Set} \\ (\_ \rightarrow F) & \longrightarrow & (1 \rightarrow X \_) \\ & \searrow & \updownarrow \\ & & X \end{array}$$