

Definition (Bartels-Douglas-Henriques):
A coherent 2-category object in a 2-category consists of the following:

0-stuff: (Objects)

- C_0
- C_1
- ⊖ C_2

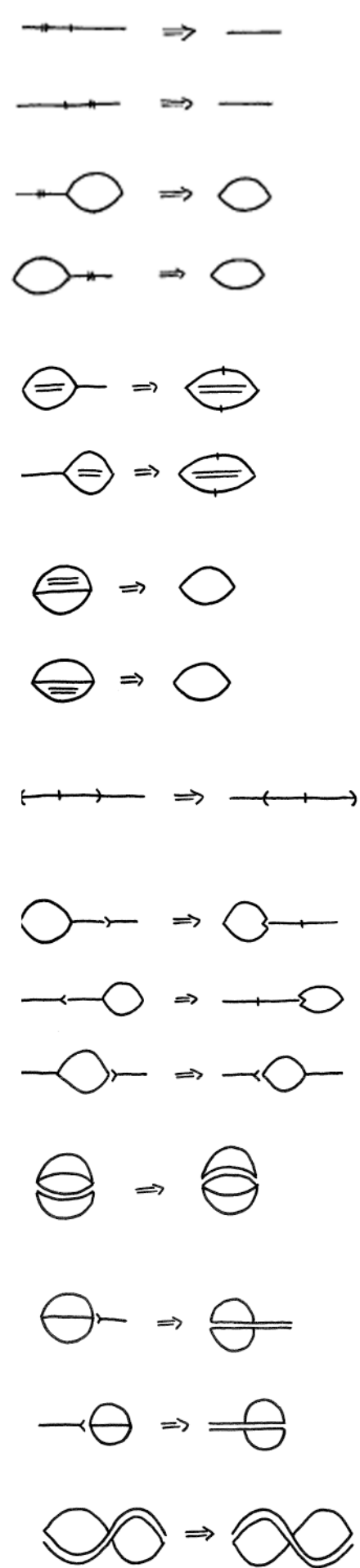
Face maps $C_0 \xleftarrow{s} C_1 \xleftarrow{t} C_2$
such that $st=ss$, $tt=ts$ strictly,
and such that $C_1 \xrightarrow{s+t} C_0 \times C_0$
and $C_2 \xrightarrow{s+t} C_1 \times_{C_0} C_1$ are fibrations.

1-stuff: (Arrows)

- $\rightarrow C_0 \xrightarrow{a} C_1$
- $\rightarrow C_1 \times_{C_0} C_1 \xrightarrow{m} C_1$
- $\ominus C_1 \xrightarrow{h} C_2$
- $\ominus C_2 \times_{C_1} C_2 \xrightarrow{m} C_2$
- $\ominus C_2 \times_{C_0} C_1 \xrightarrow{m} C_2$
- $\ominus C_1 \times_{C_0} C_2 \xrightarrow{m} C_2$

These commute strictly with the appropriate source and target maps.

2-stuff (Invertible 2-arrows)



3-stuff: (Equations)

