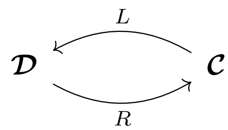
Consider an adjunction $L \dashv R$

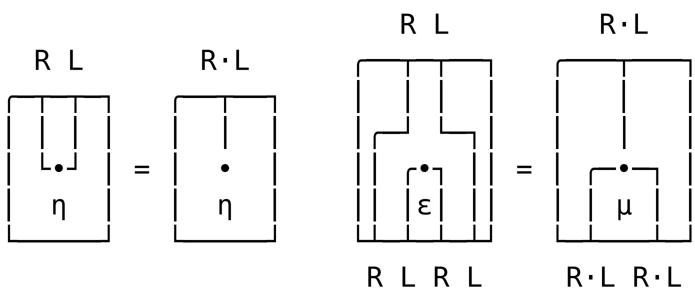


with unit $\eta : \mathbf{1}_{\mathcal{C}} \Rightarrow R \circ L$ and counit $\epsilon : L \circ R \Rightarrow \mathbf{1}_{\mathcal{D}}$, the functors

$$R \circ L : \mathcal{C} \to \mathcal{C}$$
$$L \circ R : \mathcal{D} \to \mathcal{D}$$

define

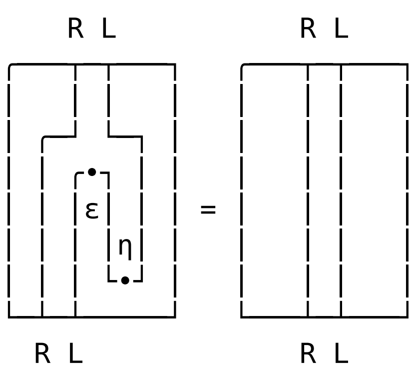
- a monad $(R \circ L, \eta, R \circ \epsilon \circ L)$



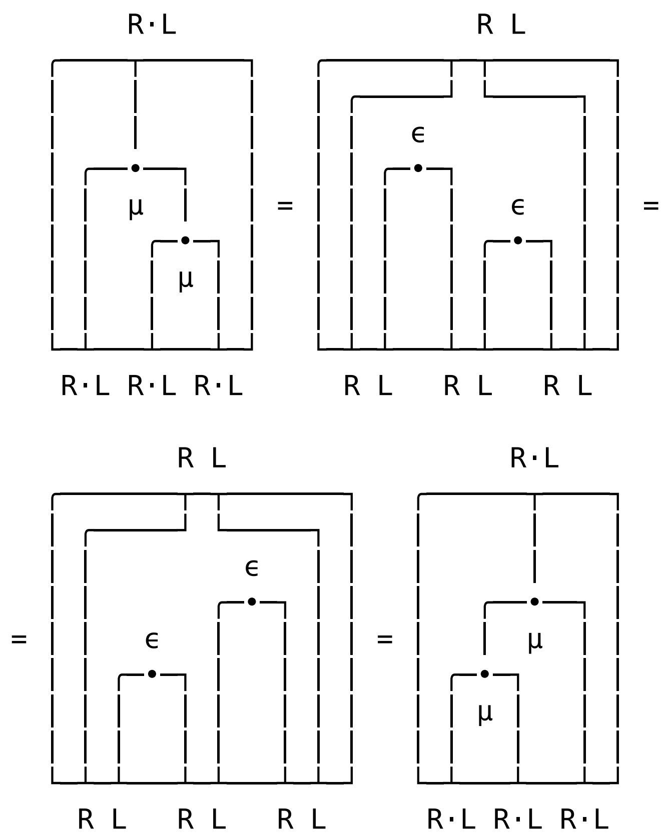
- a comonad $(L \circ R, \epsilon, L \circ \eta \circ R)$

we have to check the (co)monad laws

- left and right unitality law follows from the snake equalities



- associativity follows from the interchange law



The converse is also true: for any (co)monad there are many adjunctions that generate it.

See [1] and also

- Category Theory III 3.1, Adjunctions and monads - YouTube
- Category Theory III 3.2, Monad Algebras - YouTube

[1] D. Marsden, *Category Theory Using String Diagrams*, (2014).