Exercise [16.19]

The set $\left(A^B\right)^C$ comprises all mappings *F* from *C* to the set of mappings *f: B* $\rightarrow$ A, i.e.

$$\left(A^B\right)^C = \left\{F_c \middle| \; c \in C,\, F_c \in \left\{ f : B \rightarrow A \middle| \; \forall b \in B \quad f(b) = a \in A \right\}\right\}$$

The set $A^{B\times C}$ comprises all mappings ψ from *(B*$\times$*C)* to *A*, i.e.

$$A^{B\times C} = \left\{\psi : (B \times C) \rightarrow A \middle| \; \forall b \in B, c \in C \quad \psi(b,c) = a \in A\right\}$$

For any *c*$\in$*C* you can then identify $F_c \in \left(A^B\right)^C$ with $\psi(\cdot, c) \in A^{B\times C}$.