**Definition.** Let $\mathbf{A}$ and $\mathbf{B}$ be categories enriched in a symmetric monoidal category $\mathbf{V}$. Their *product* is a $\mathbf{V}$-enriched category $\mathbf{A} \times \mathbf{B}$ with:

1. $\mathrm{Ob}_{\mathbf{A} \times \mathbf{B}} := \mathrm{Ob}_{\mathbf{A}} \times \mathrm{Ob}_{\mathbf{B}}$;
2. $\mathrm{Hom}_{\mathbf{A} \times \mathbf{B}}(\langle X, Y \rangle; \langle X', Y' \rangle) := \mathrm{Hom}_{\mathbf{A}}(X; X') \otimes \mathrm{Hom}_{\mathbf{B}}(Y; Y')$, for two objects $\langle X, Y \rangle$ and $\langle X', Y' \rangle$ in $\mathrm{Ob}_{\mathbf{A} \times \mathbf{B}}$.