Definition (Semigroup contravariant action (preliminary version))
A *semigroup* ***contravariant*** *action* of a semigroup $\mathbf{S}$ on a set $\mathbf{A}$ is a map

$$\mathrm{Contravact} : \mathbf{A} \times \mathbf{S} \to \mathbf{A}$$

such that, for all $a \in \mathbf{A}$,

$$\mathrm{Contravact}(\mathrm{Contravact}(a, y), x) = \mathrm{Contravact}(a, x \fatsemi_{\mathbf{S}} y).$$