$$\mathrm{br}_{X,Y}{}^{\star} : X \otimes Y \xrightarrow{\ \ } _{\mathbf{Pos}} \mathcal{U}(Y \otimes X)$$

$$\langle x, y \rangle \mapsto \mathop{\uparrow} \{y\} \times \mathop{\uparrow} \{x\},$$