## 0.1 Attempting to encode the block operator

$$P = a.a, \quad Q = \tau.b.b$$

$$\rho_{f_1}(\partial_{H_1}[P||\mathrm{first}(\mathrm{next}^\infty)]) = a_{\mathrm{first}}.a \quad \text{ and } \quad \rho_{f_1}(\partial_{H_1}[Q||\mathrm{first}(\mathrm{next}^\infty)]) = \tau.b_{\mathrm{first}}.b$$

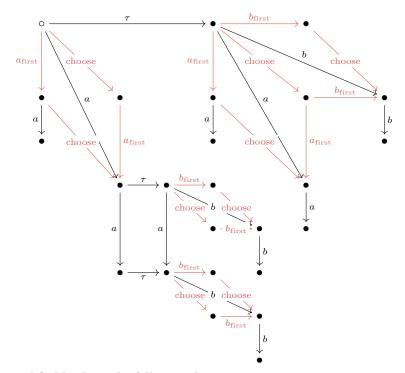
Define a new communication choose. Communications with choose:

$$\mathrm{choose}|a_{\mathrm{first}}=a$$

There is also no communication between  $a_{\rm first}$  and  $b_{\rm first}$  The graph of

$$\partial_{H_0}(\rho_{f_1}(\partial_{H_1}[P||\mathrm{first}(\mathrm{next}^\infty)])||\mathrm{choose}||\rho_{f_1}(\partial_{H_1}[Q||\mathrm{first}(\mathrm{next}^\infty)]))$$

is represented in the following diagram



Which when simplified leads to the following diagram:

