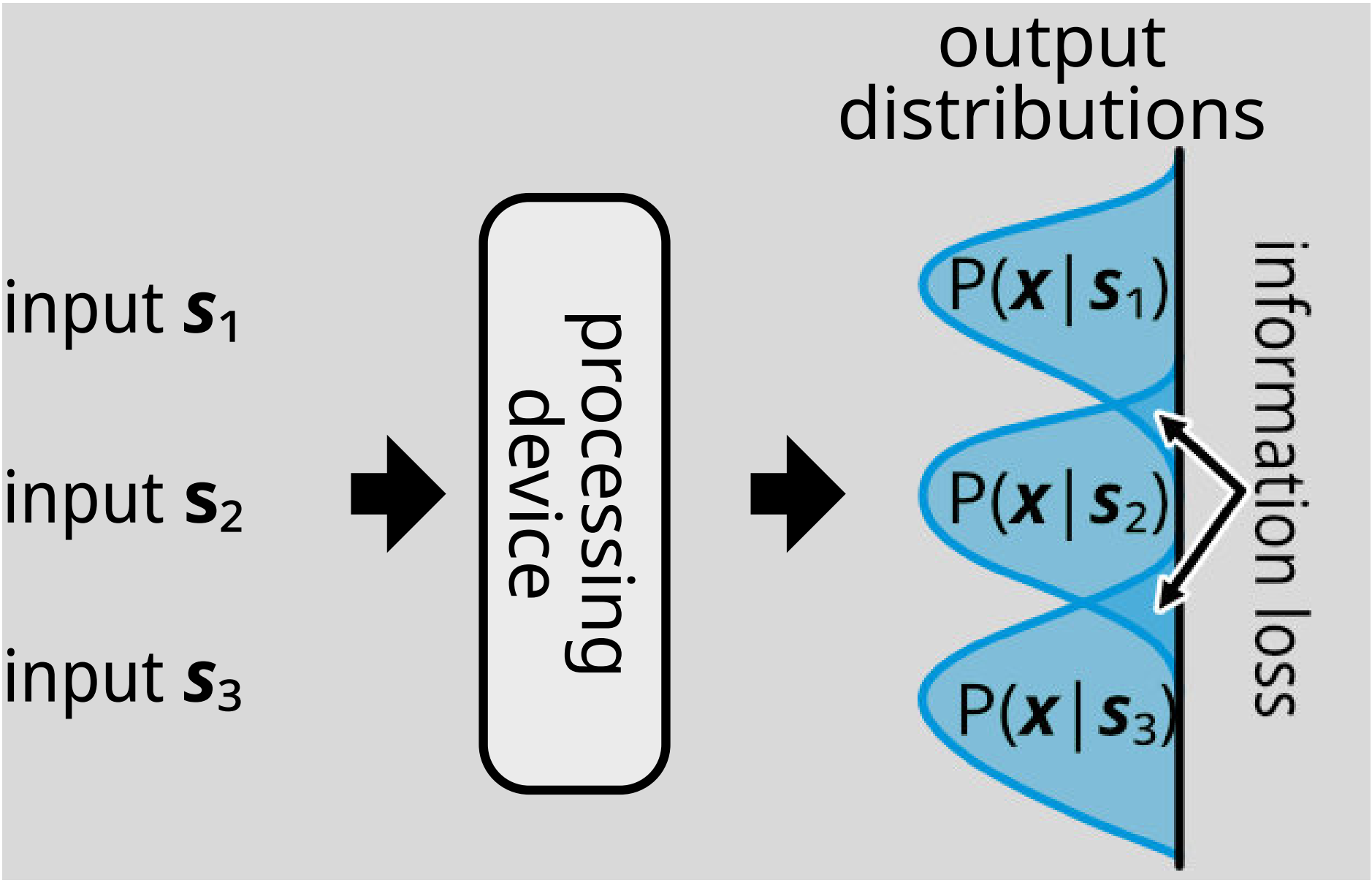
- Quantifies the quality of input-output relationships

- Depends on the distribution of output *and* input data

Mutual Information

4


output distributions
input s_1
input s_2
input s_3
processing device
$P(x|s_1)$
$P(x|s_2)$
$P(x|s_3)$
information loss

- However, it is a *static* quantity

$$\mathrm{I} = \sum_{s,x} \mathrm{P}(s,x) \log \frac{\mathrm{P}(s,x)}{\mathrm{P}(s)\mathrm{P}(x)}$$

Mutual Information

- Quantifies the quality of input-output relationships
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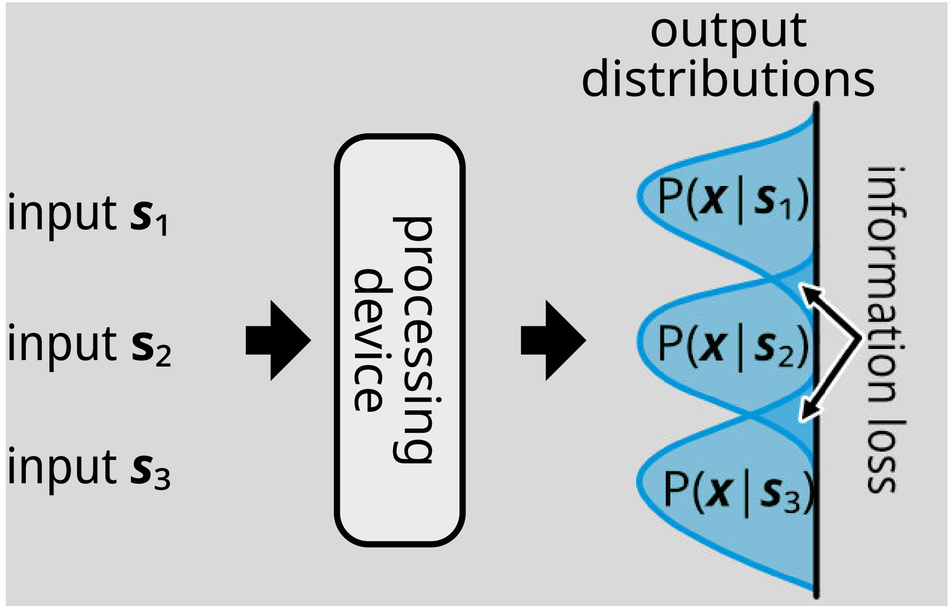

- However, it is a *static* quantity

Mutual Information

between Trajectories