The main equation

- **Given:** French (foreign) sentence f,

- **Find:** English translation e:

$$e^* = \operatorname*{argmax}_{e \in E} p(e|f) = \operatorname*{argmax}_{e \in E} \frac{p(f|e)p(e)}{p(f)} =$$

$$= \operatorname*{argmax}_{e \in E} p(e)p(f|e)$$

1993 Brown et al., "The mathematics of statistical machine translation"