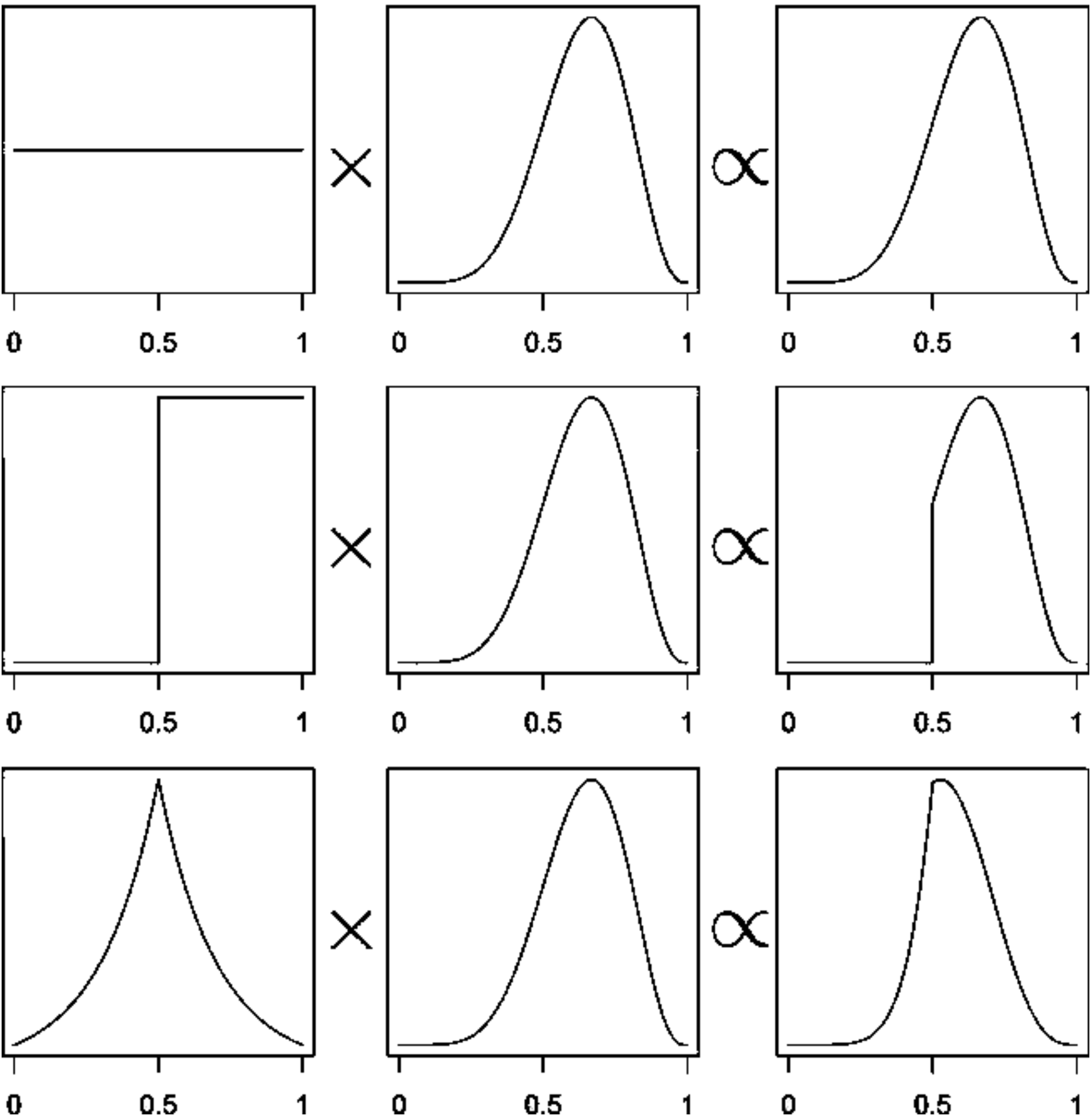
Prior × Likelihood ∝ Posterior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1

$$P(A \mid B) = \frac{P(B \mid A)P(A)}{P(B)}$$

- $P(\theta \mid y)$ represents our knowledge of parameters using probability.

- this representation fully encapsulates our beliefs.

- Includes all the uncertainty

- $P(\theta)$, the prior, can encode useful information:

- parameter scale, shared structure, permitted values…

- Isn't the MLE the best estimator? (depends on the criteria...)

- Sometimes... but not $\rho = f(\hat{\theta})$

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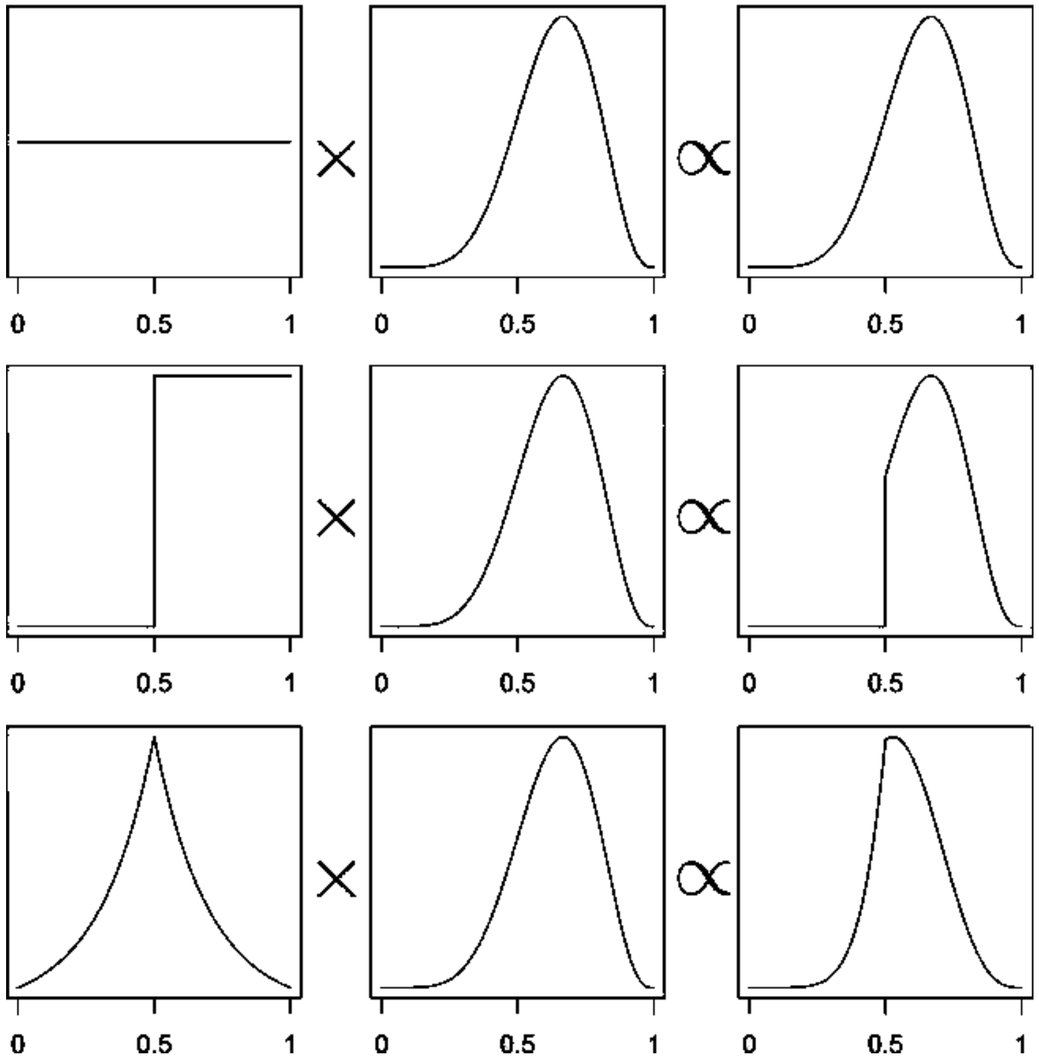


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# Using the posterior