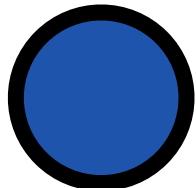
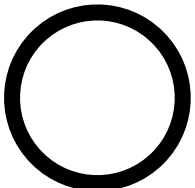
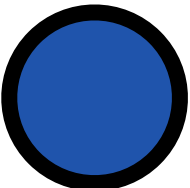
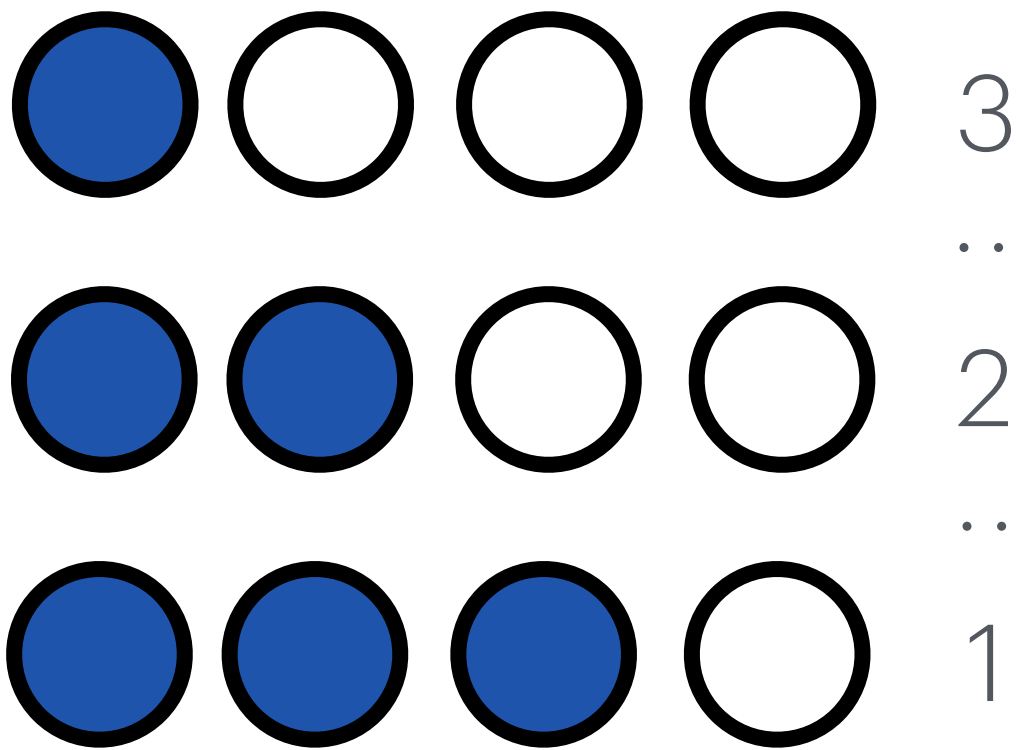

























# What if we get some information from the urn factory?

Our urn

Data:   

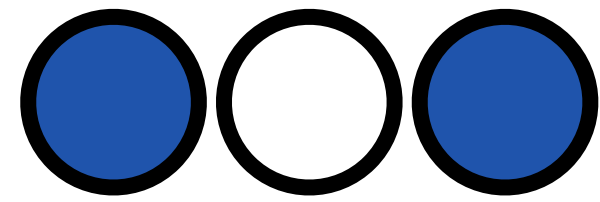
Proportions of urns  
from the factory:



Conjecture	   Prior count	Factory count	New count
[     ]	0	0	$0 \times 0 = 0$
[     ]	3	3	$3 \times 3 = 9$
[     ]	16	2	$16 \times 2 = 32$
[     ]	27	1	$27 \times 1 = 27$
[     ]	0	0	$0 \times 0 = 0$

New plausibilities is the product of the number of ways to produce the data under the conjectures by the prior information from the factory

# Bringing it all together



$$P(\theta = 0.25 \mid [B, W, B]) \propto P([B, W, B] \mid \theta = 0.25) \times P(\theta = 0.25)$$