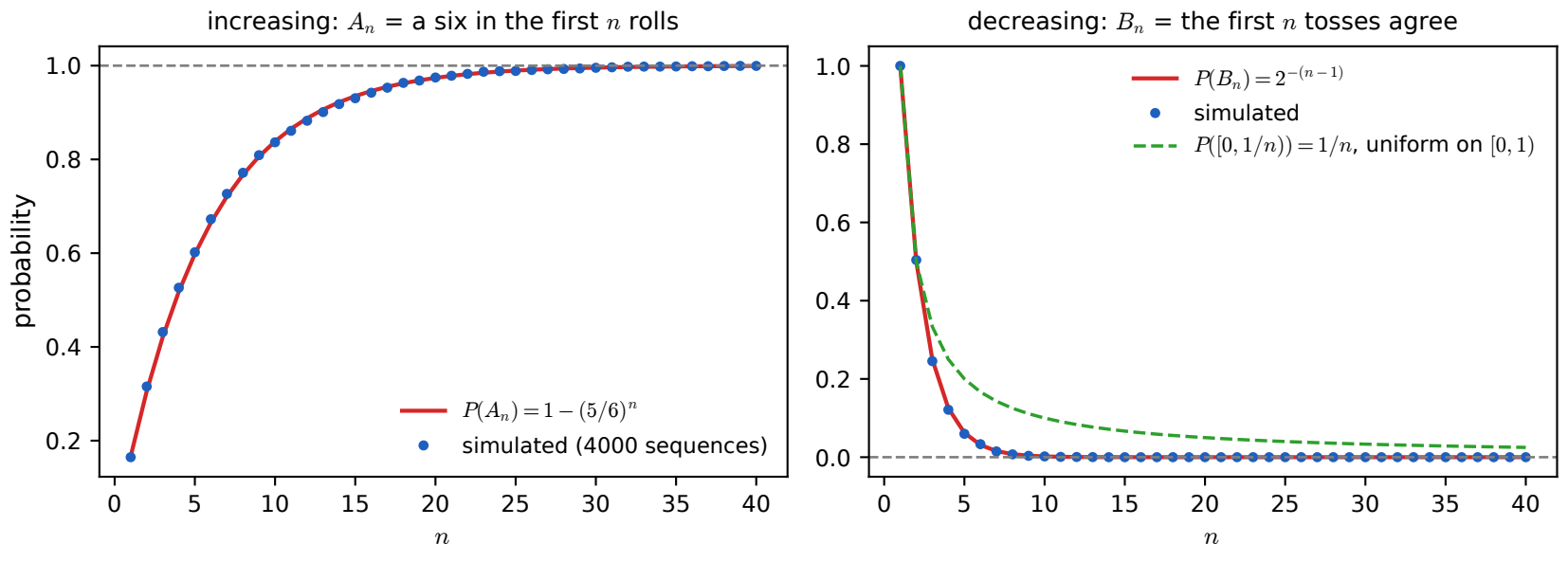

increasing: A_n = a six in the first n rolls
probability
1.0
0.8
0.6
0.4
0.2
0
5
10
15
20
25
30
35
40
n
$P(A_n) = 1 - (5/6)^n$
simulated (4000 sequences)
decreasing: B_n = the first n tosses agree
1.0
0.8
0.6
0.4
0.2
0.0
$P(B_n) = 2^{-(n-1)}$
simulated
$P([0, 1/n)) = 1/n$, uniform on $[0, 1)$