

Particle Markov chain Monte Carlo for Efficient Simulation - Erratum

The procedure described pages 52 and 53 after the conditional SMC algorithm to sample efficiently in the multinomial case is incorrect. Denoting $\mathcal{M}(a, \mathbf{b})$ the multinomial distribution, the correct approach to sample $\mathbf{A}_{n-1}^{-B_n^K} \sim r(\cdot | \mathbf{W}_{n-1}, A_{n-1}^{B_n^K})$ proceeds as follows.

- Sample $\mathbf{O}_{n-1} \sim \mathcal{M}(N-1, \mathbf{W}_{n-1})$ then set $O_{n-1}^{B_n^K} = O_{n-1}^{B_n^K} + 1$.
- Sample the indices of the $N-1$ 'free' offspring uniformly on the set $\{1, \dots, N\} \setminus \{B_{n-1}^K\}$.