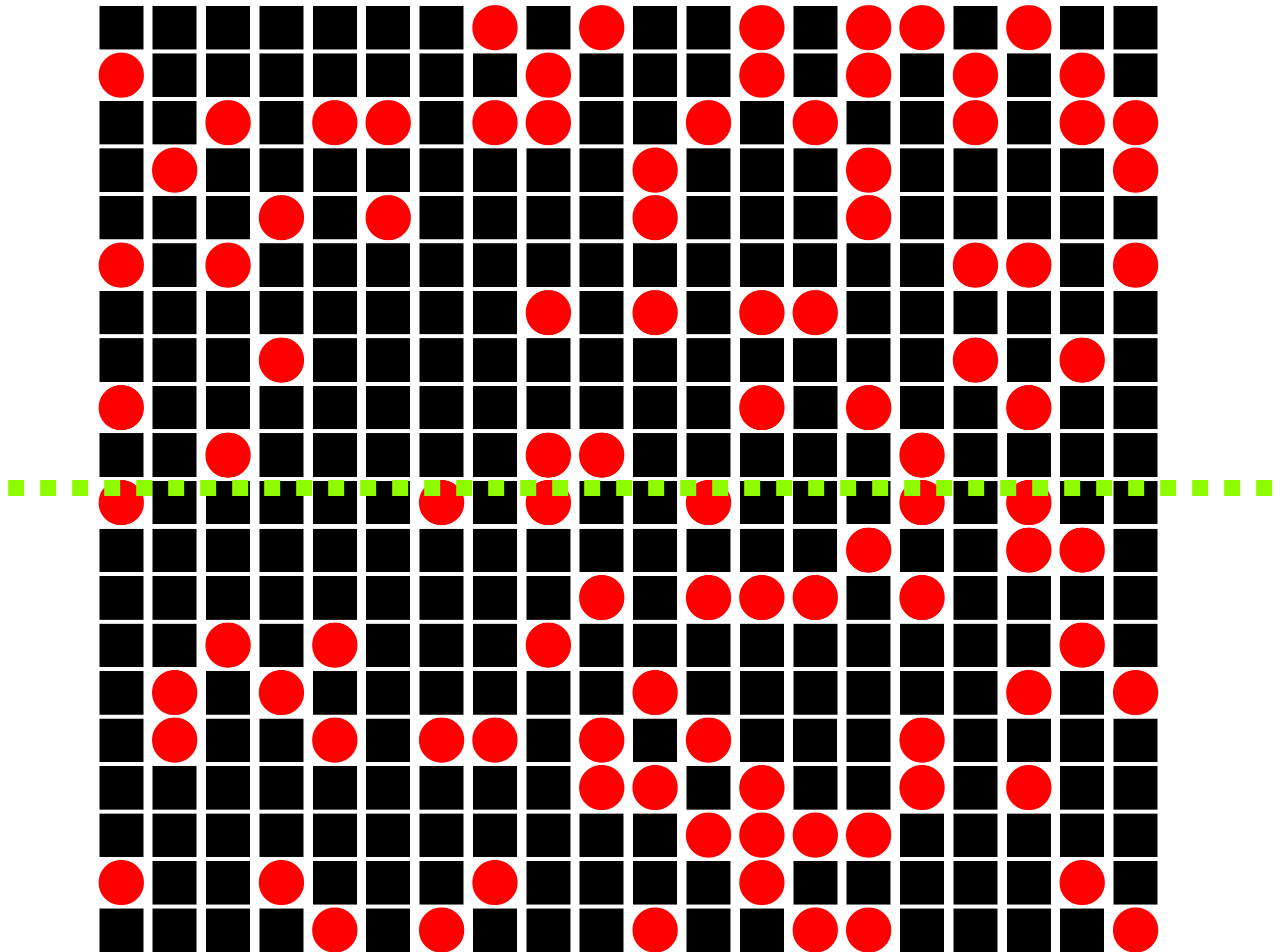# When the partition is removed the system thermalizes. This is irreversible

When the partition is removed the system hops exploring all configurations.

The probability is essentially zero that it will return to the partition $(E_1, E_2) = (80,20)\Delta$

The process is irreversible

Two particle phase space: the dot represents a micro state
To count the phase space we divide it in bins of size $h = \Delta x \Delta p$