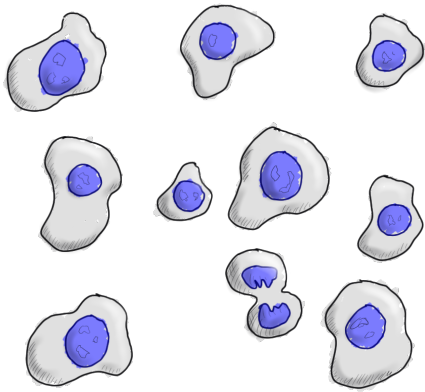


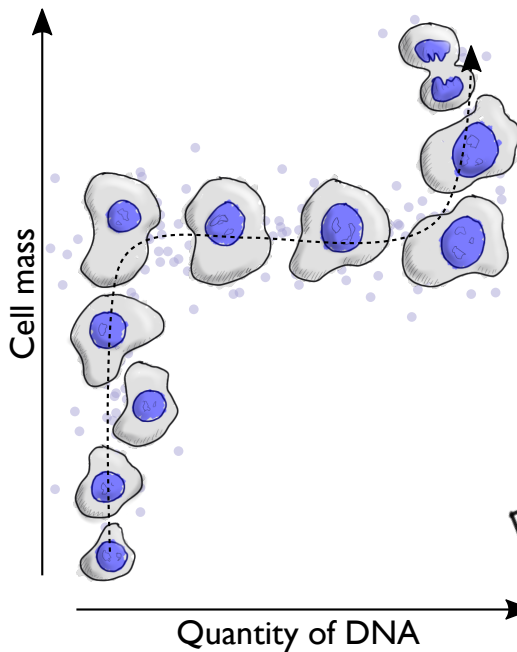
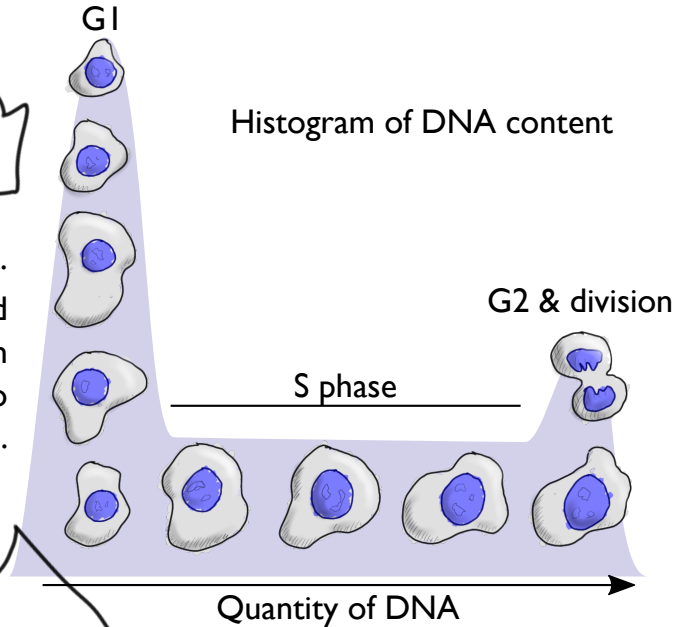
# Ergodic analysis (It's not as scary as it sounds!)



What's in a picture?

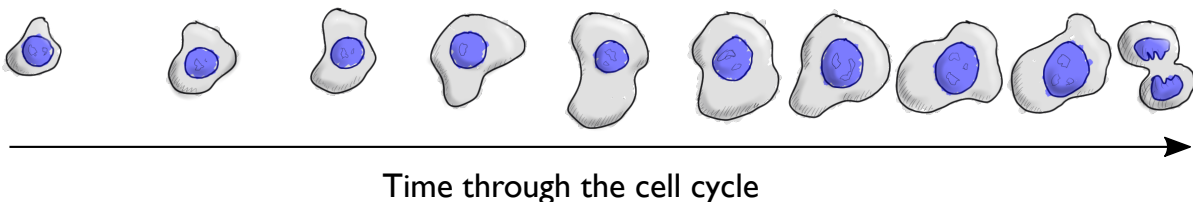
A snapshot of asynchronous growing cells has cells at all stages of the cell cycle. With the right analysis all of this cell cycle information can be extracted...

The classic analysis uses quantity of DNA. Little DNA in G1, lots of DNA in G2, and intermediate DNA in S phase. The proportion observed in each stage can be converted to time spent in that stage...



Using more variables allows a smarter analysis. Measuring two cell properties that change through the cell cycle lets you make a plot like this. There is a line through this data that corresponds to cell cycle progress. (Make sure you pick multiple properties that change at different times during the cell cycle!)

Apply the right equations and the density of points along the line can be converted to time through the cell cycle...



...and changes in cell properties through the cell cycle can be mapped precisely.

