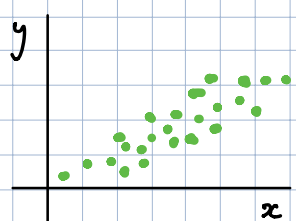


# My Understanding of "differential proportionality"

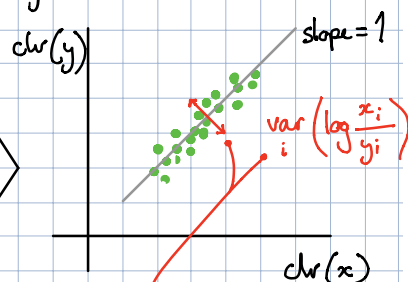
David Levell 14/3/17

- I see proportionality as a measure of pairwise association
- I think about the variance of the logarithm of a set of pairs of variables as



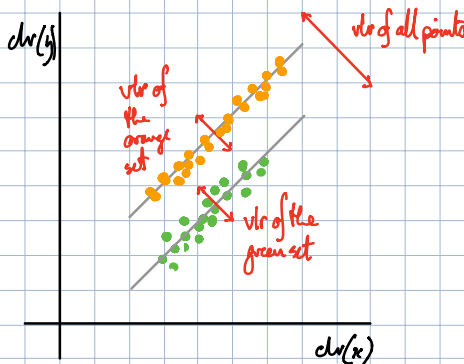
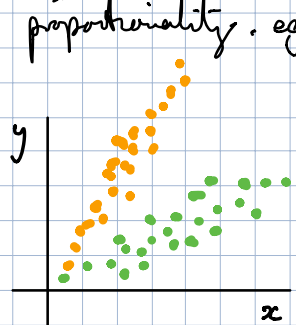
Here are some pairs on their natural scale

some logarithmic transformation, e.g.,  $\log$ ,  $\text{chr}$ ,  $\text{alr}$



corresponds to the spread of the distribution of points

- When I think about differential proportionality, I imagine two different sets of points, each with different underlying constants of proportionality. eg.



- My understanding of the statistical test you have proposed, Lomas, is that of 
$$\frac{\text{within group variance of log ratios}}{\text{total variance of log ratios}} \dots \text{or similar}$$

- Am I on the right track?

Cheers from Brisbane at midnight! David

