Source:

1 | his intro / background

1.1 | used to be very into econ

1.2 | worked at world bank bc he thought it was a good place to meet people who were interested in math and econ and help the world

1.3 | was sent to a country (forgot) during communism->capitalism transition and saw that the forced capitalist policies were not working

1.4 | went into management because that allowed him to actually help

1.5 | sante fe institute

1.5.1 | centeripece for a global movement to involve complexity in sciences accross disciplines

1.5.2 | from los alamos national labs

1.5.3 | 'universal relationships'

1.5.4 | lots of nobel prizes

1.5.5 | applications of graph theory and network theory, and lots of econ

1. understanding when societies are going to have a revolution, finiance, energy grid

2 | other related areas

2.1 | do individuals matter in history

2.2 | impacts on marketing based on faith studies?

3 | Overview

3.1 | this intersession is ”interdisciplinary fixing of economics”

4 | Warmup

4.1 | insectivora, macroscelidea avg mass vs avg BMR, guess avg bmr for pholidota given avg mass

4.1.1 | I just took the ratios and took a high and low

4.1.2 | a few strategies for solving the problem

1. look for a common ratio (assume 0 mass = 0 BMR)
2. fit a line
3. it’s actually not a linear relation, and the answer is relatively unexpected (much lower ratio)

4.2 | the monkey business illusion (ball passing -> miss other stuff)

4.2.1 | when you get attached to a tool, you miss loads of other things

5 | universality

5.1 | examples

5.1.1 | common limit theorem

1. lots of common processes produce gauseian distributions

   (a) thus, there is a ”universality” in the normal distribution

5.1.2 | other theorem? (something with gauss)

1. if things are often normal distributions, then statistics kind of works (because that’s what it’s all based on)

5.1.3 | all mamals average the same number of heartbeats

1. small animals have fast hearts and die sooner, vice versa

5.1.4 | metabolic rate (first warm up problem)

1. log log linear → constant rate of savings?
2. constant increase in efficiency
3. roughly 3/4 or 2/3 exponent
4. exponent can be derived by networks (circulatory system)

6 | complexity

6.1 | core

6.1.1 | taking a general tool and applying it elsewhere

6.2 | methodology

6.2.1 | start with a data rich domain and find the generative mechinism, then apply to the data sparse