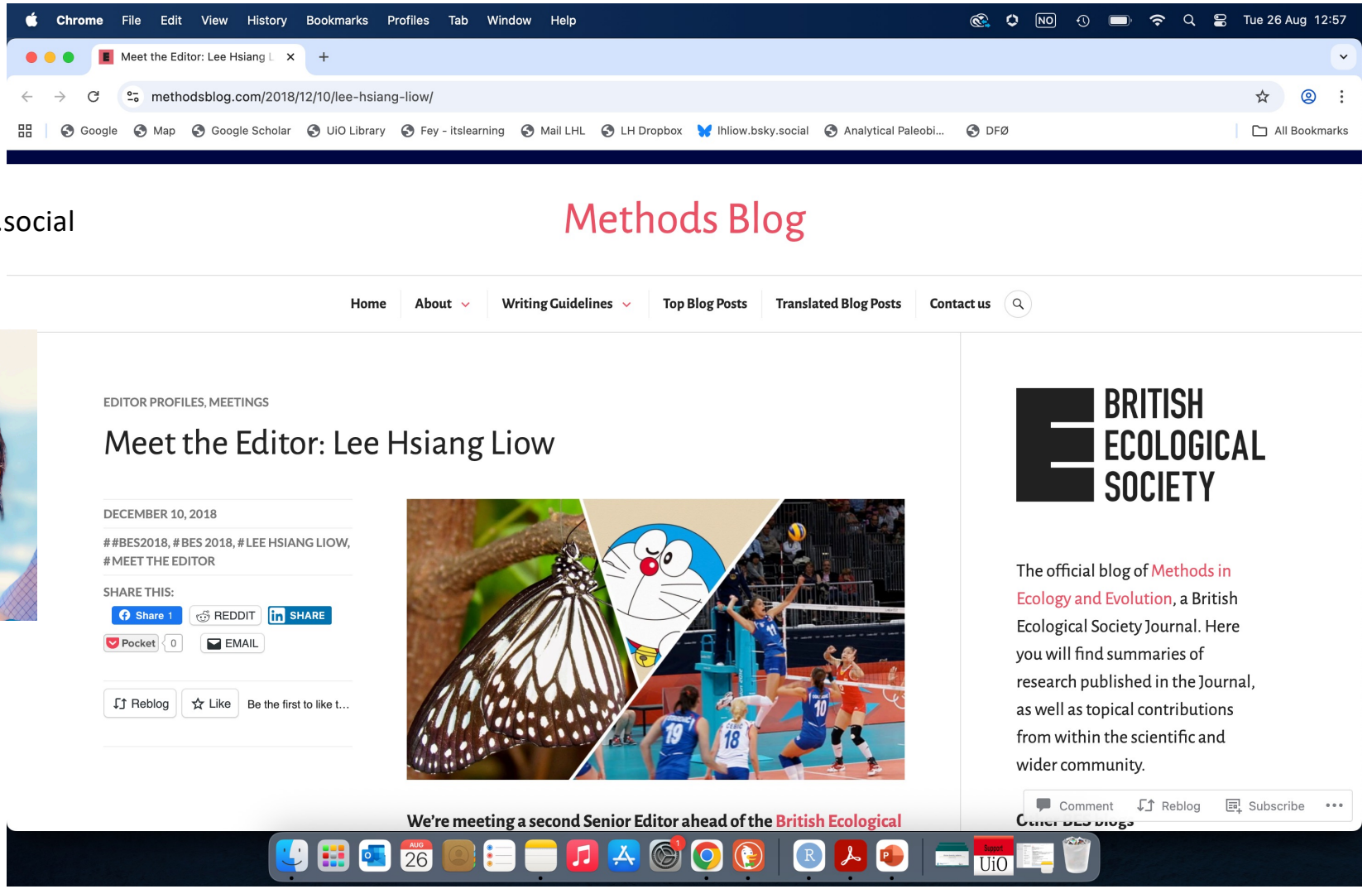
https://methodsblog.com/2018/12/10/lee-hsiang-liow/



https://18-35.travel/wp-content/uploads/2023/02/how-to-say-hello-in-different-languages-with-pronunciation.webp

Models and modelling

Lee Hsiang Liow

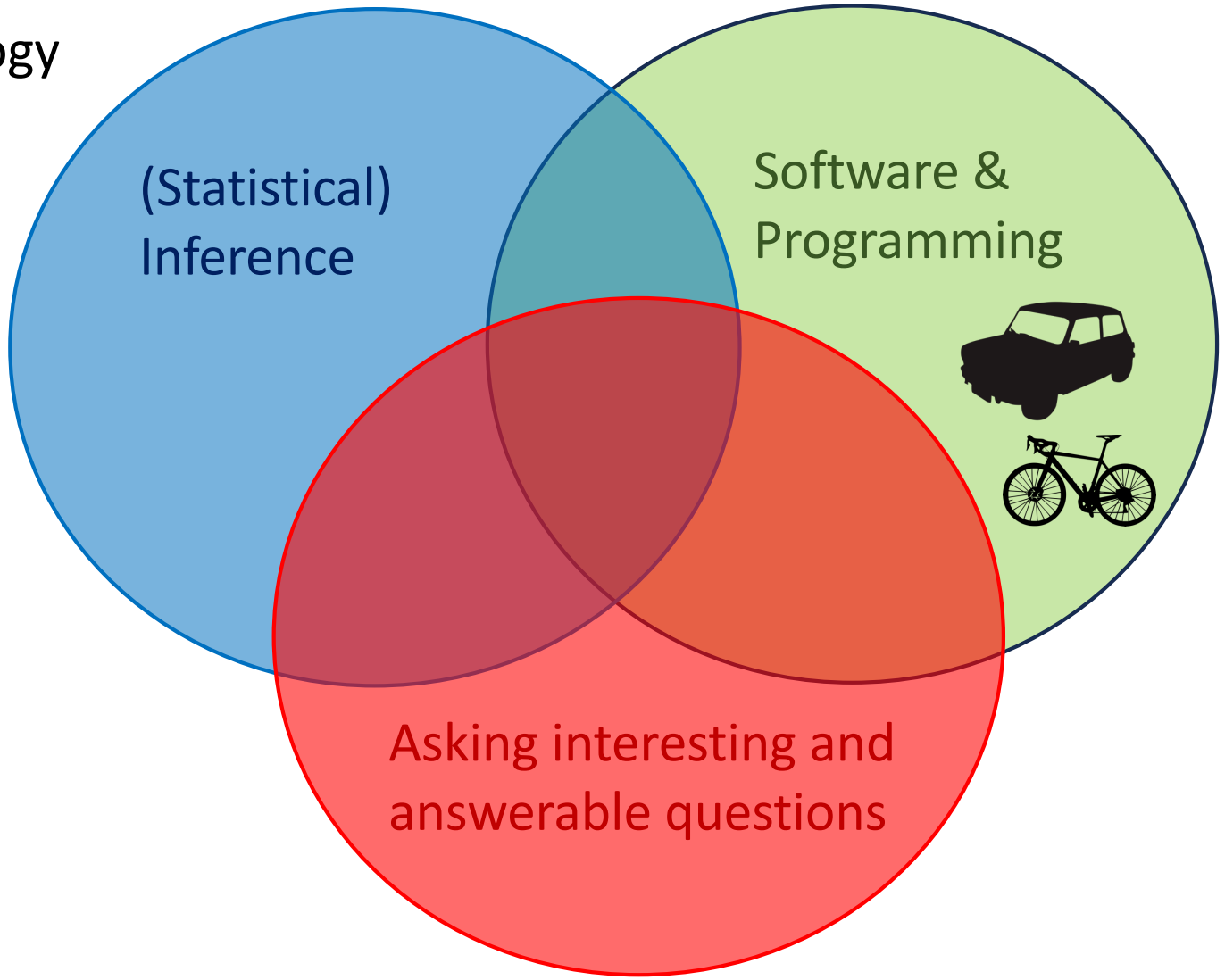
Natural History Museum and Centre for Planetary Habitability, University of Oslo, Norway

1.9.2025 (Monday)

https://driving-tests.org/wp-content/uploads/2012/05/leisure-trip.jpg

https://img.freepik.com/premium-photo/old-woman-enjoying-ride-bicycle_924070-1151.jpg

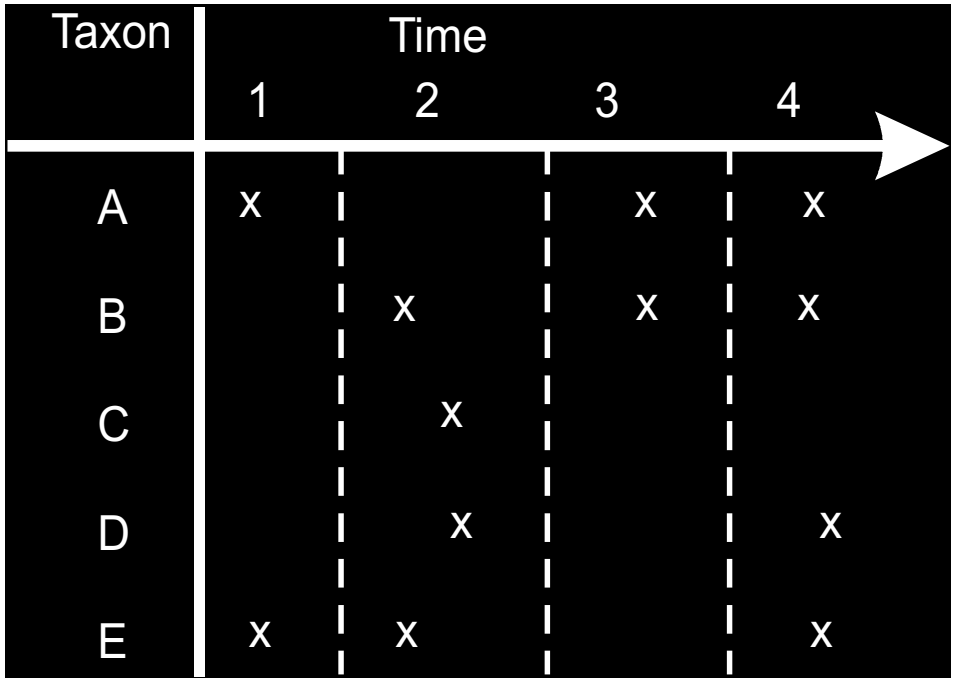
Paleobiology



https://www.penn.museum/img/homepage/reskin/mind-mood.jpg

From Kiessling's Day 3 slides

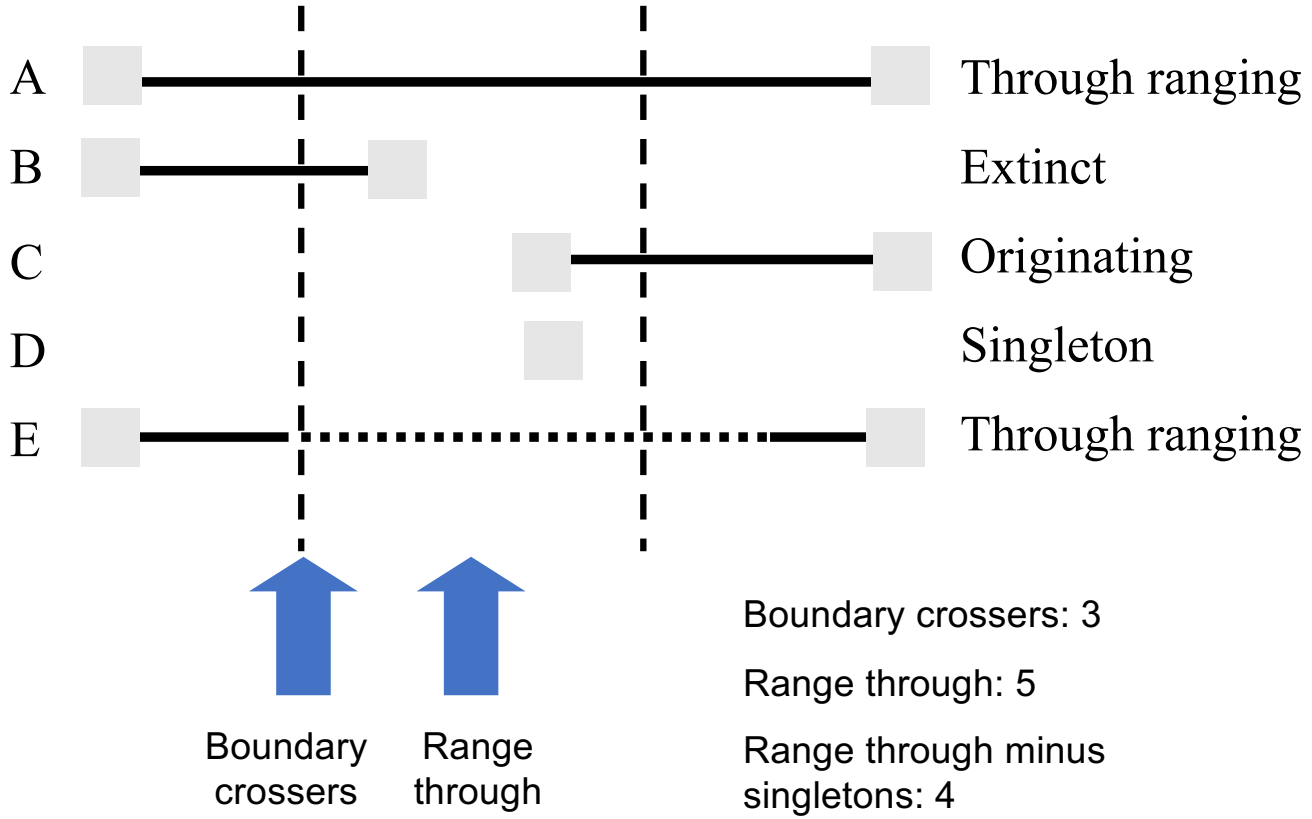
Measuring Diversity Through Time



Draw Diversity Curves: SIB, range through, range through minus singletons, boundary crossers

From Kiessling's Day 3 slides

Measuring Diversity



What is a model?
What is the use of a model?

All models are wrong

Some are useful

Different ones are useful under different circumstances

All have assumptions (they are hidden or unexplored sometimes)

What kinds of questions do we (paleobiologists) ask?

Some typical questions

- How does ecological/phylogenetic/taxonomic richness through time & space and why?
- How and why do different morphological forms evolve when they do?
- How slow/fast does evolution act?
- Can we predict evolution (extinction, speciation, changes in morphology/other phenotypics)

Assumptions assumptions assumptions

- We make assumptions and “quick” judgement everyday
- Should we do that in asking science questions?
- Do we want to know “the truth” or do we just want to plot or analyze some data without digging any deeper?
- Always (try!) think about data-generating processes (see Rachel et al. lecture notes!)