

19 Jan 2022

DOs - due Thurs.
(Teams channel)
OPTIONAL reading.

- mutualism/parasitism
- Bd stuff
- cpi models

COMBES' definition.
sloppy?

* OPERATIONAL - imagine a test

↳ mutualist = both species increase each other's fitness

↳ parasitism = host's fitness decreases, parasite's fitness increases

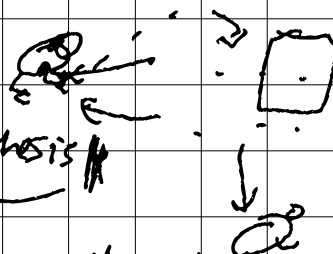
BATRACHOCHYTRIUM DENDROBATIDIS

"Bd" • "chytrid"

99+ % of chytrid fungi are harmless

[Joyce Longcore]

life cycle:



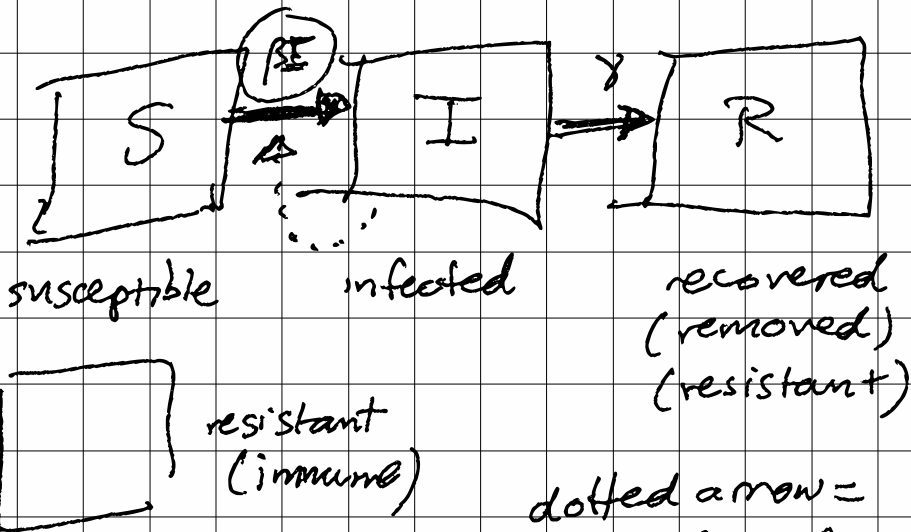
novel pathogen hypothesis

emerging pathogen hypothesis

museum specimen - Brazil 1894

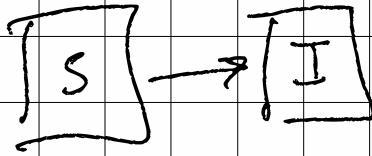
EPIDEMIC MODELS

- ecology/evolution/genetics ~
math + stats -
POPULATION LEVEL consequences
- COMPARTMENTAL 'box' models. ←
- microparasites

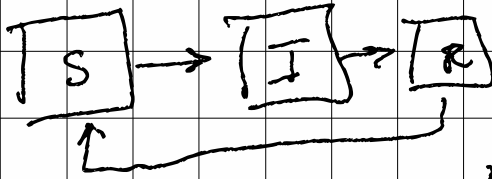


dotted arrow =
modification of
a per capita rate

ABSOLUTE/TOTAL
PER CAPITA *



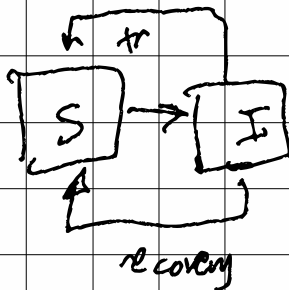
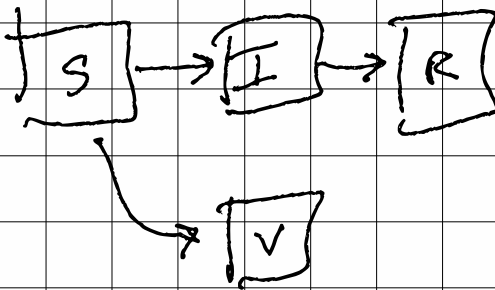
'SI' model
 short-lived hosts
 hosts without immunity
 crop diseases



SIRS model
 waning immunity

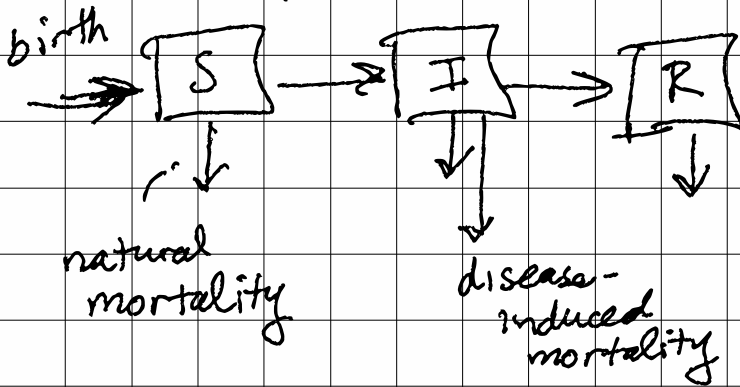
I = "infectious"
 "infective" } transmitting

SEIR : exposed



SIS : gonorrhea

vital dynamics

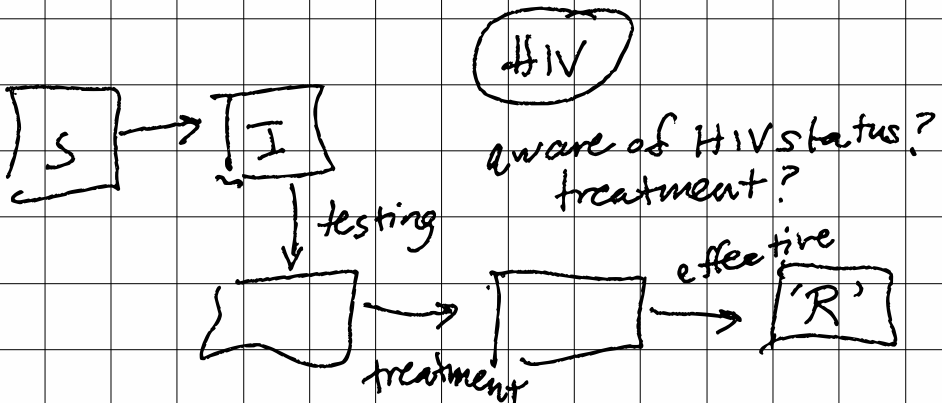


measles,
chicken pox

'childhood diseases'

influenza, small pox, HIV (endemic)

box model for malaria ???



Ebola

