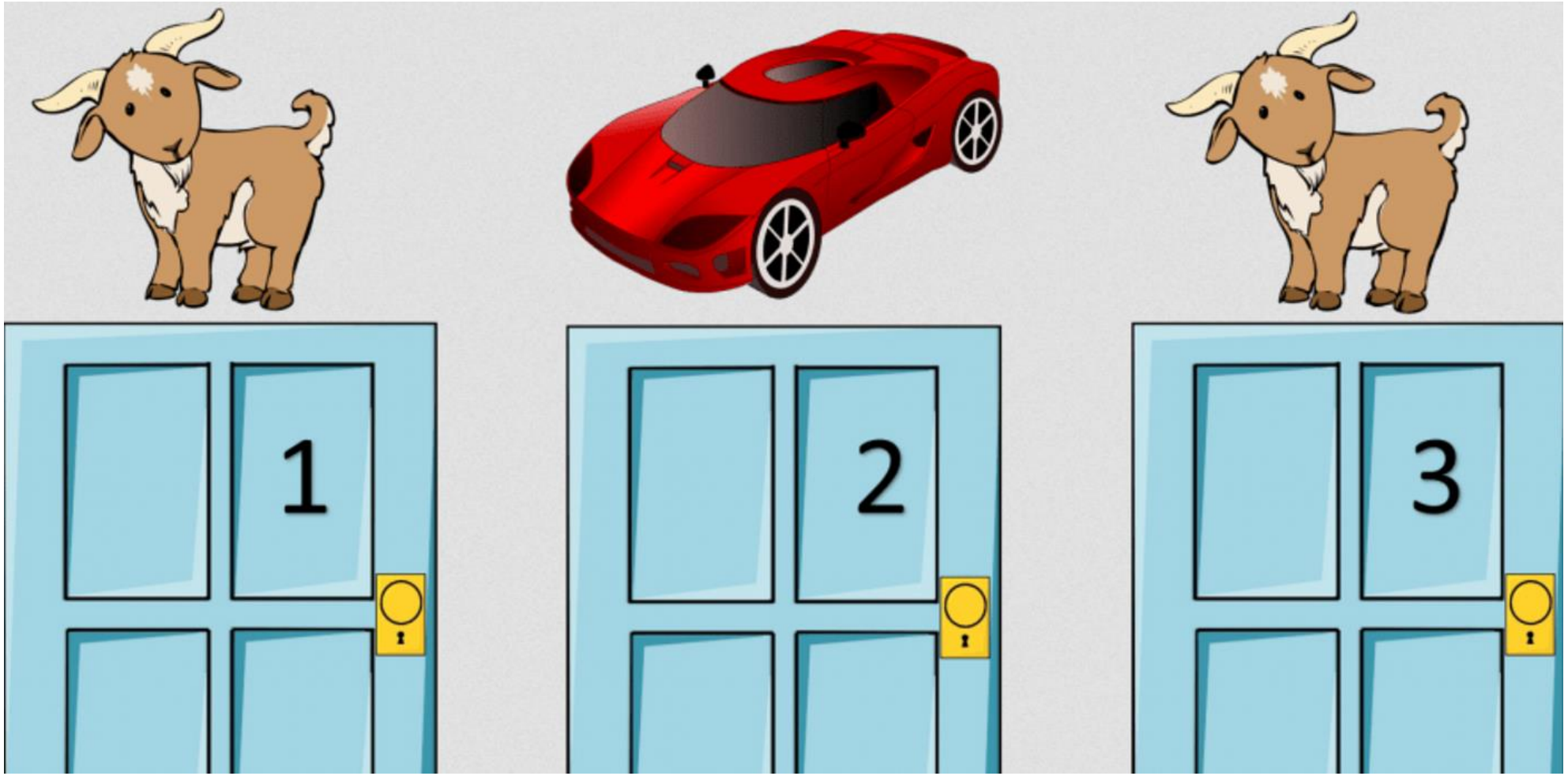
Mark attendance at ignite.byu.edu/cbe400/lectures

Guess a door. The host then opens one of the other doors, showing you a goat. Now, you can keep your original guess, or switch. Which should you do? Why?



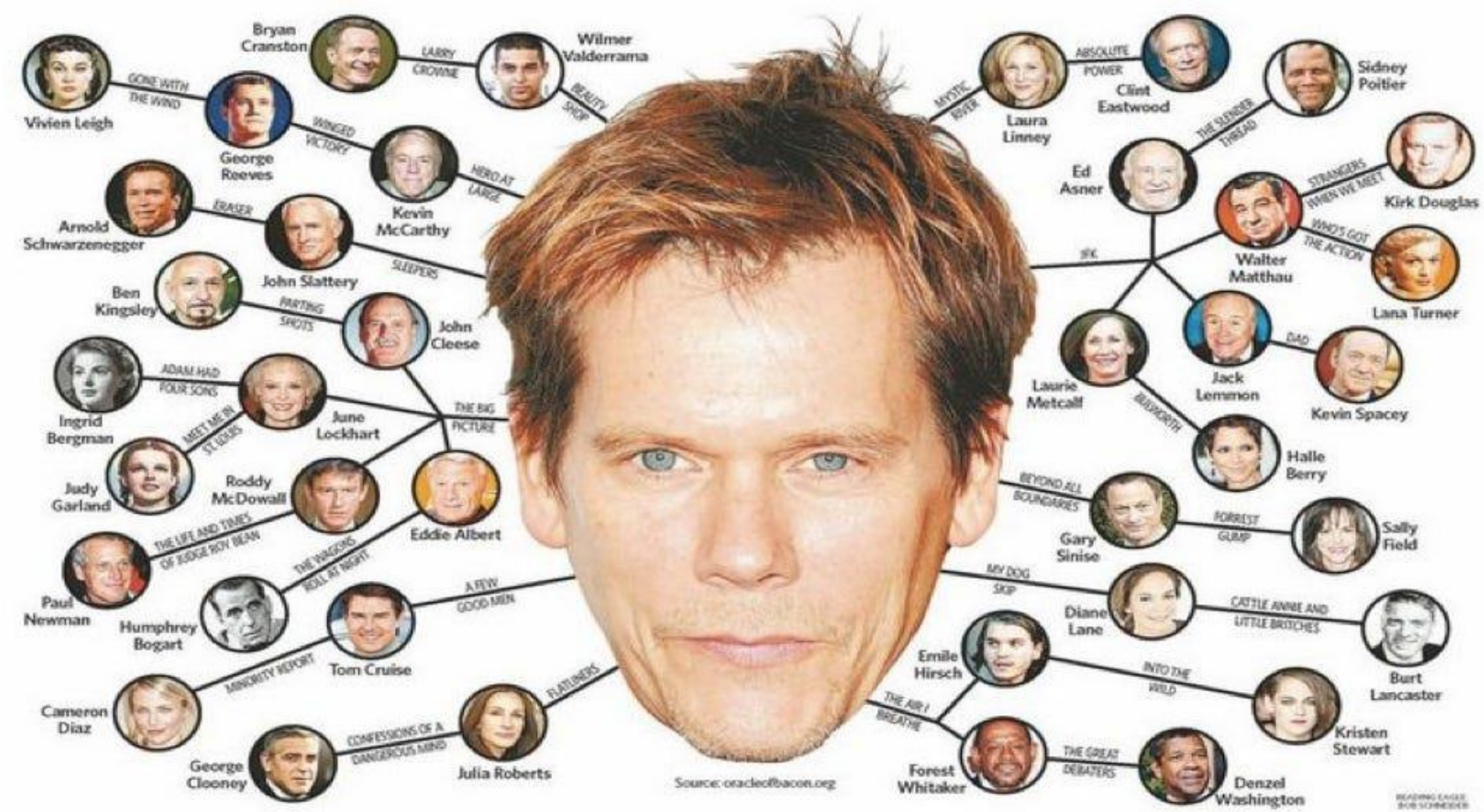
Show and Tell

Thomas
Chris
Ammon
Gwendolyn

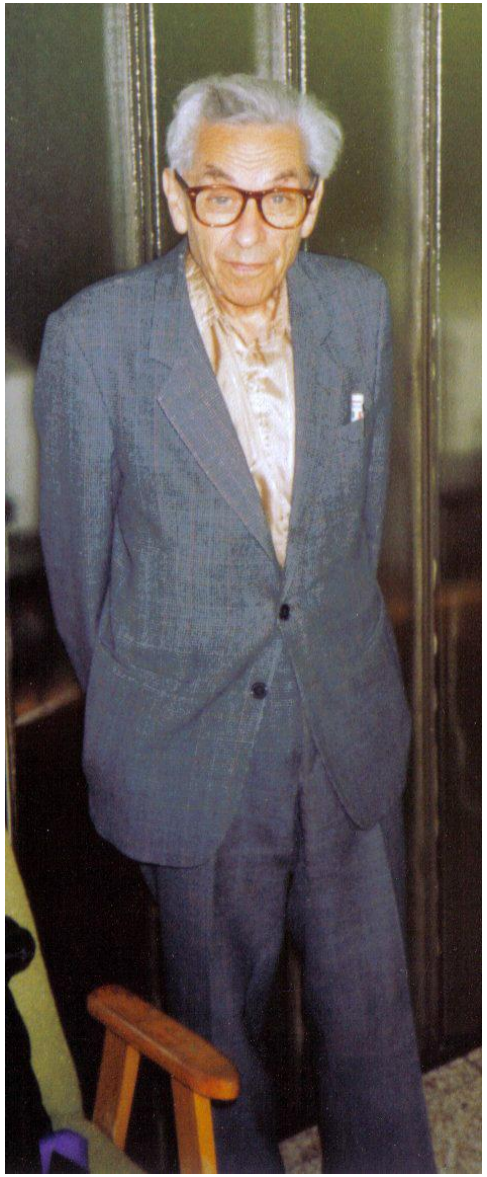
Next week: Taylor, Mackenzie, Ben R



Bacon number



Erdos Number



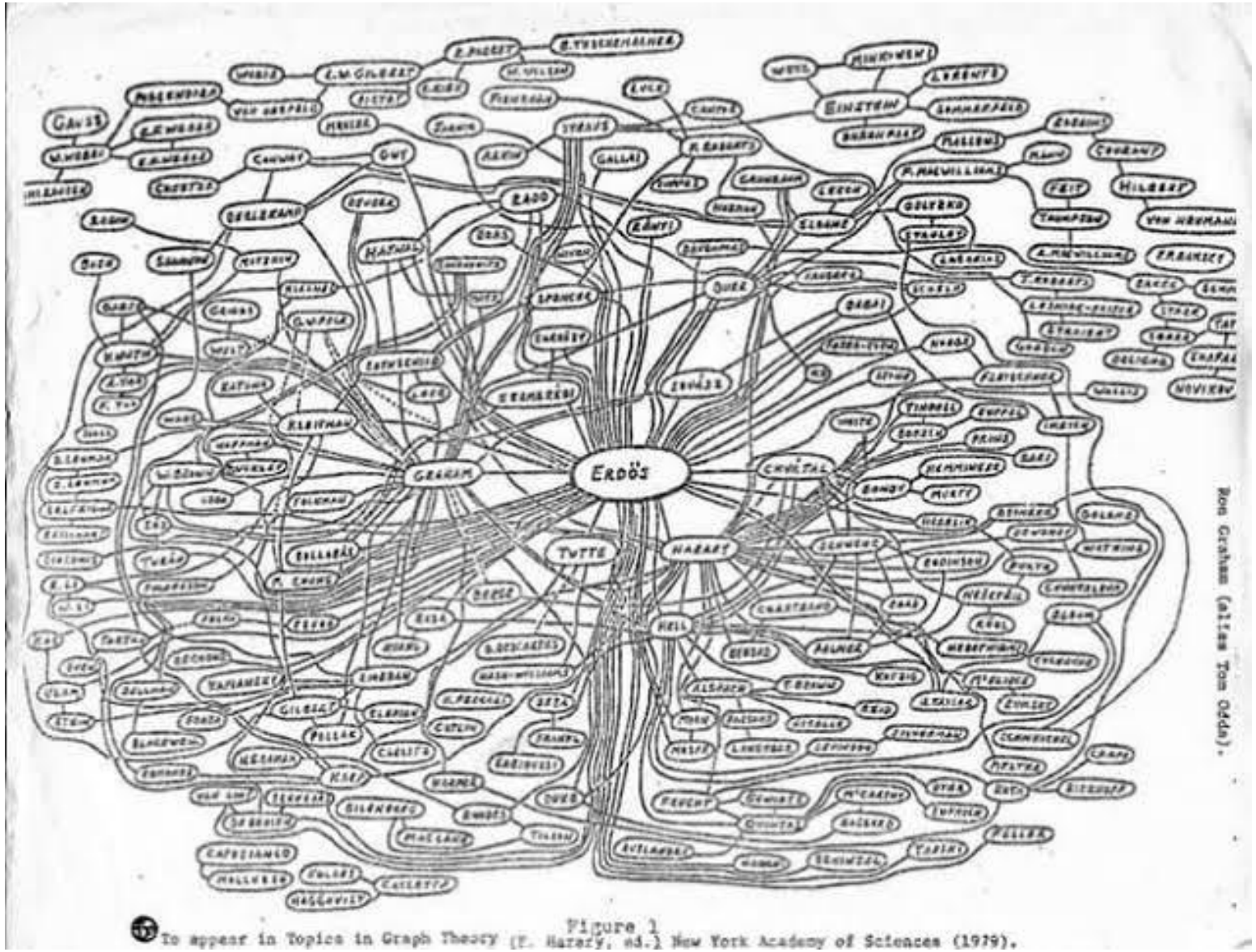
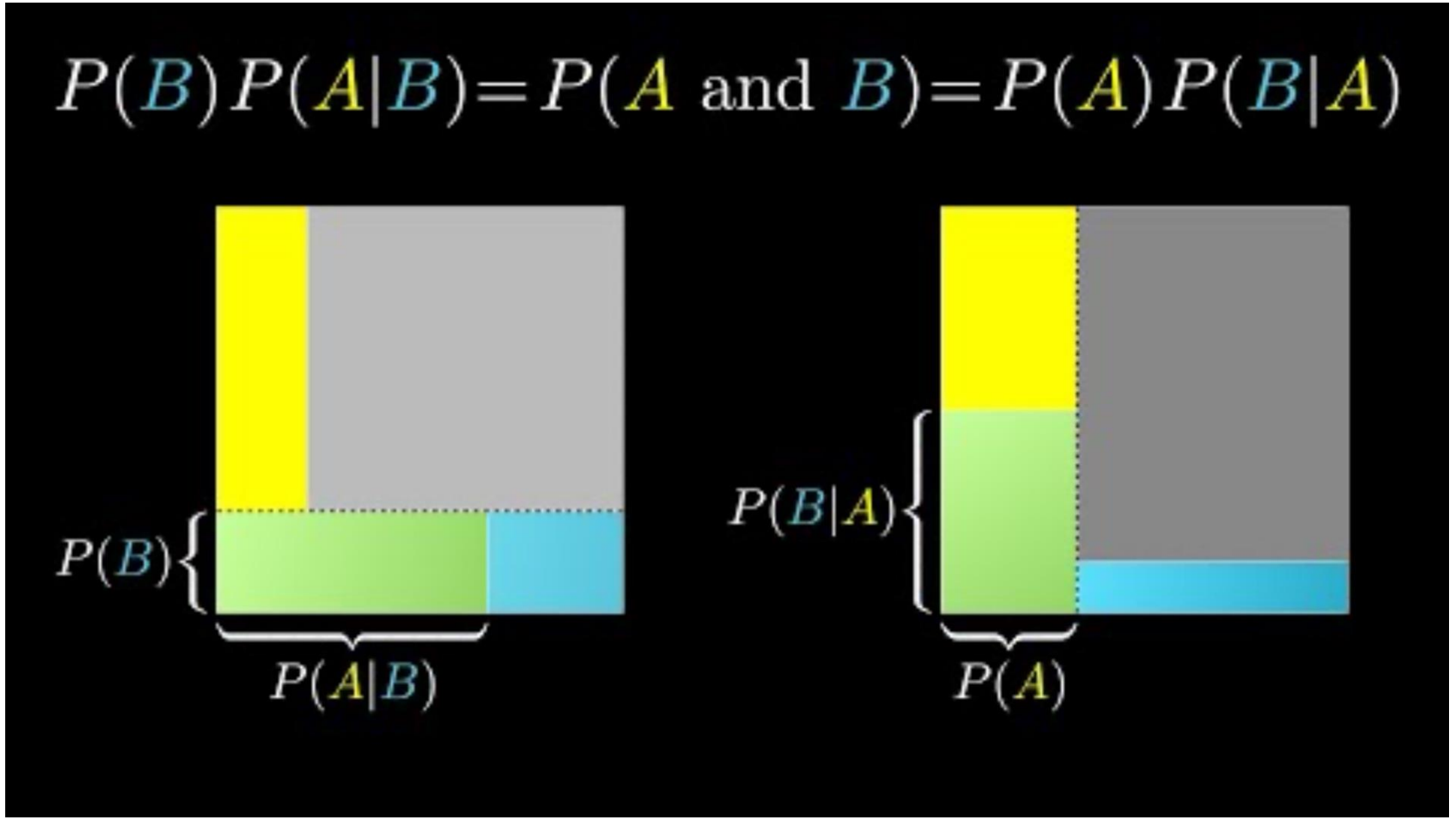


Figure 1
To appear in Topics in Graph Theory (F. Harary, ed.) New York Academy of Sciences (1979).

Bayes' Theorem

$$P(H, D) = P(H)P(D|H) = P(D)P(H|D)$$



Bayes' Theorem

$$P(H, D) = P(H)P(D|H) = P(D)P(H|D)$$

Posterior Prior Likelihood

$$P(H|D) = \frac{P(H)P(D|H)}{P(D)}$$

Normalizer

Monte Hall

- 3 Doors. The car is placed randomly
- We choose door A
- Data: Monty opens door B and there is no car there
- Hypothesis (3): car is behind door A; door B; door C
  - P(H) = 1/3 for each H (A, B, C)
- Likelihoods:
  - P(D|H=A) = ½; If the car is at A, he can choose B or C equally
  - P(D|H=B) = 0; If the car is at B, he won't choose B
  - P(D|H=C) = 1; If the car is at C, he has to choose B
- P(D) = sum numerators (so that P(H|D) is normalized)

H	Prior P(H)	Likelihood P(D|H)	P(H)P(D|H)	Posterior P(H|D)
A	1/3	1/2	1/6	1/3
B	1/3	0	0	0
C	1/3	1	1/3	2/3

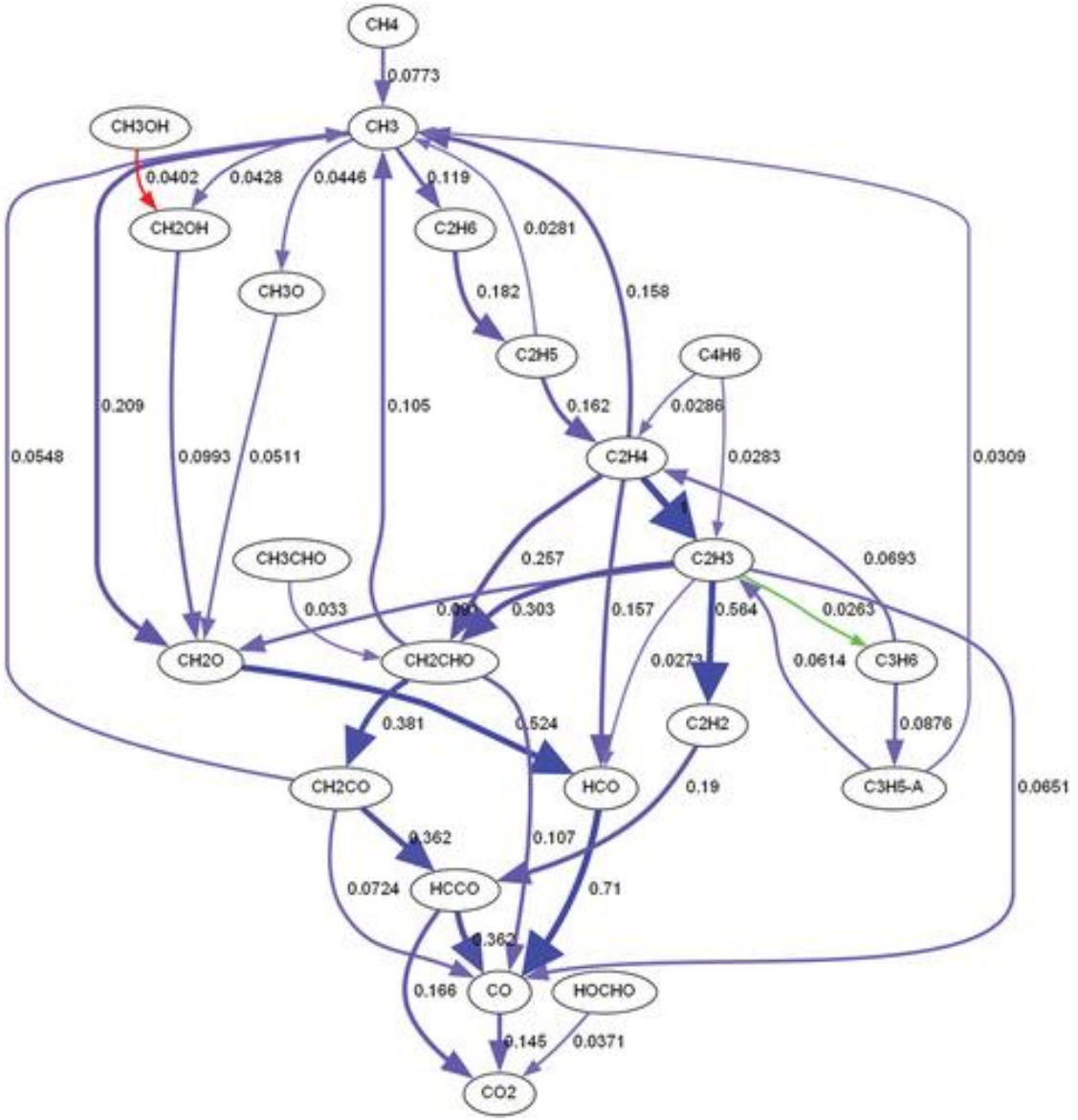
$$\sum = \frac{1}{2}$$

Recent Creatives

- Creativity requires practice
- What creative ideas have you had in the last week?
- Think, Pair, Share



Reaction path diagrams



Project Updates

- Sit with your project group
- Each group:
  - Give yourself a group name
  - What technical creative problem are you working on?
  - What other problems did you consider?

