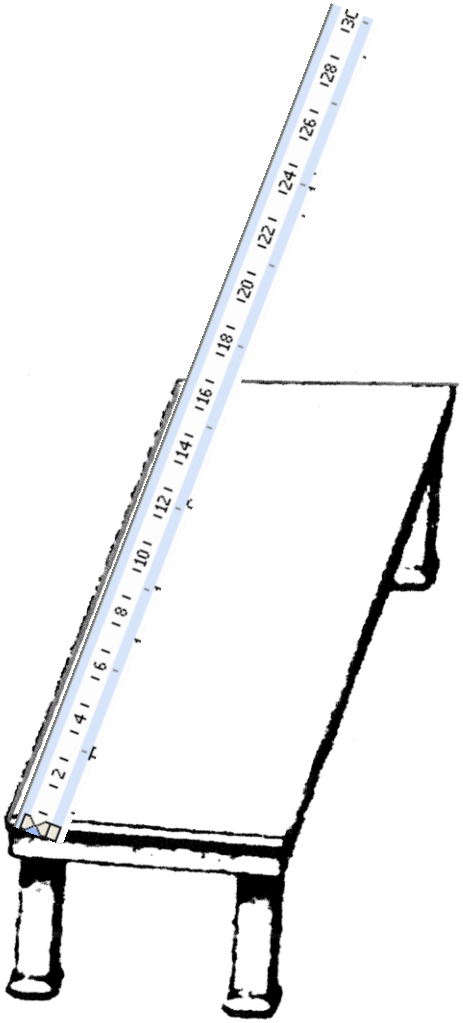
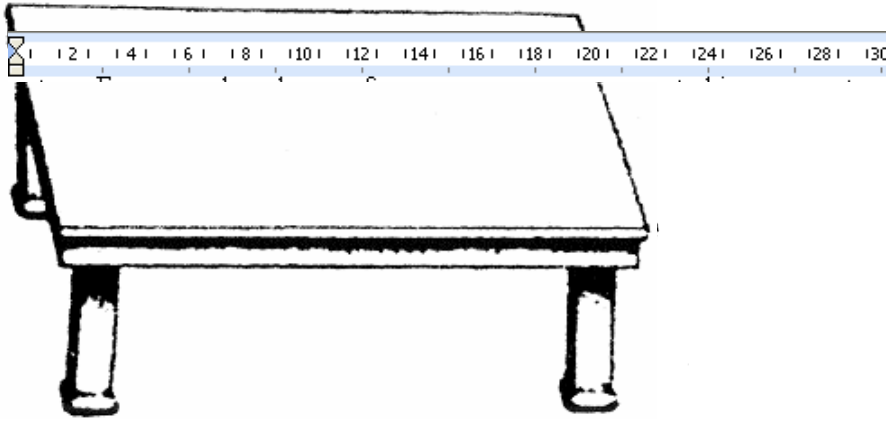
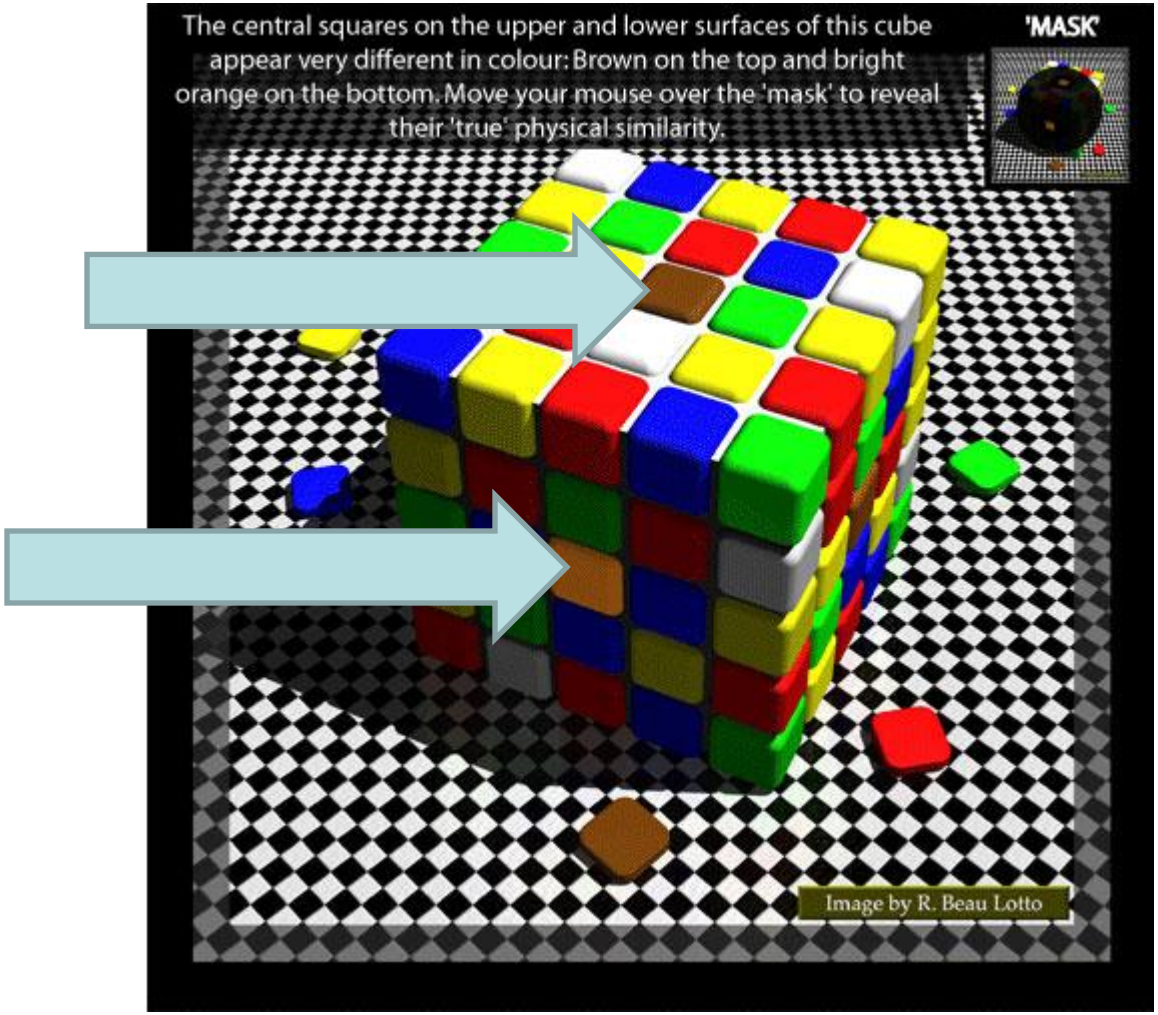
Which Desk is longer?



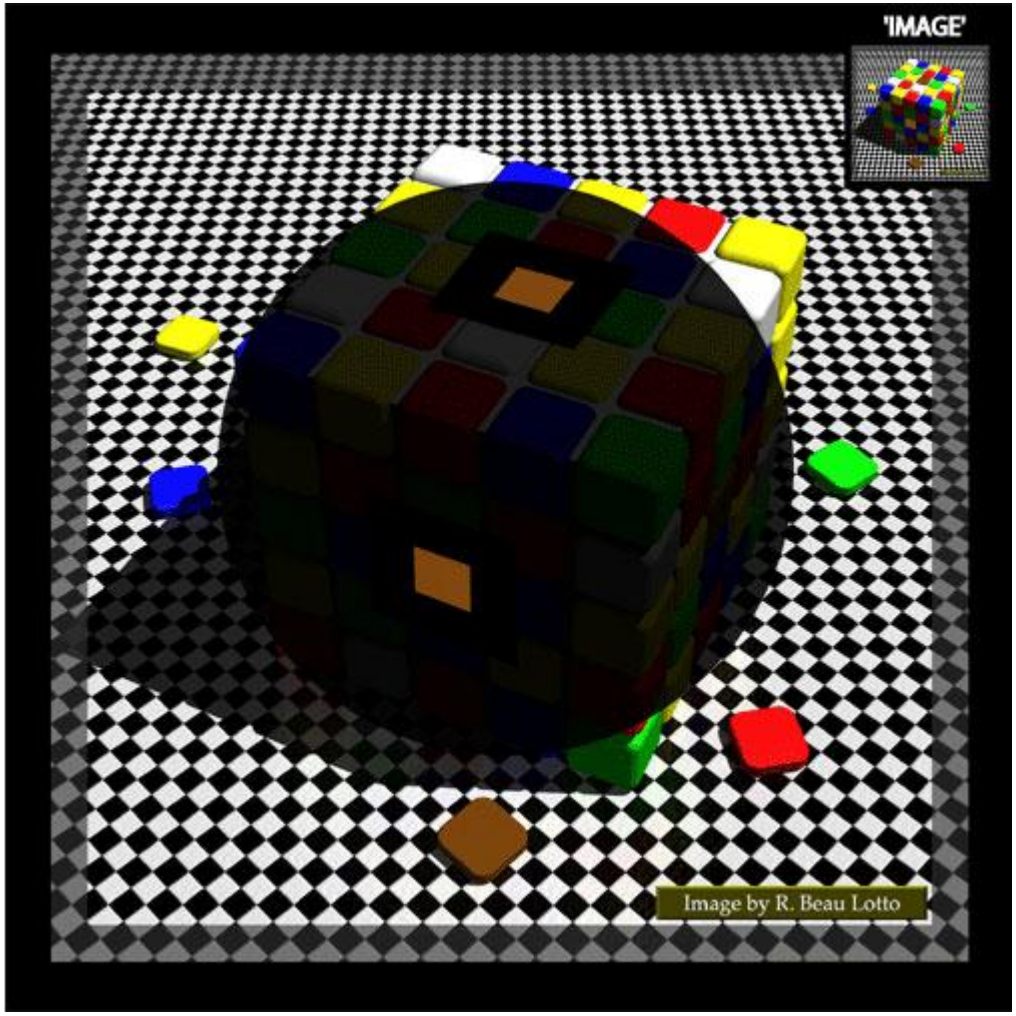


Which colors are the arrows pointing at?



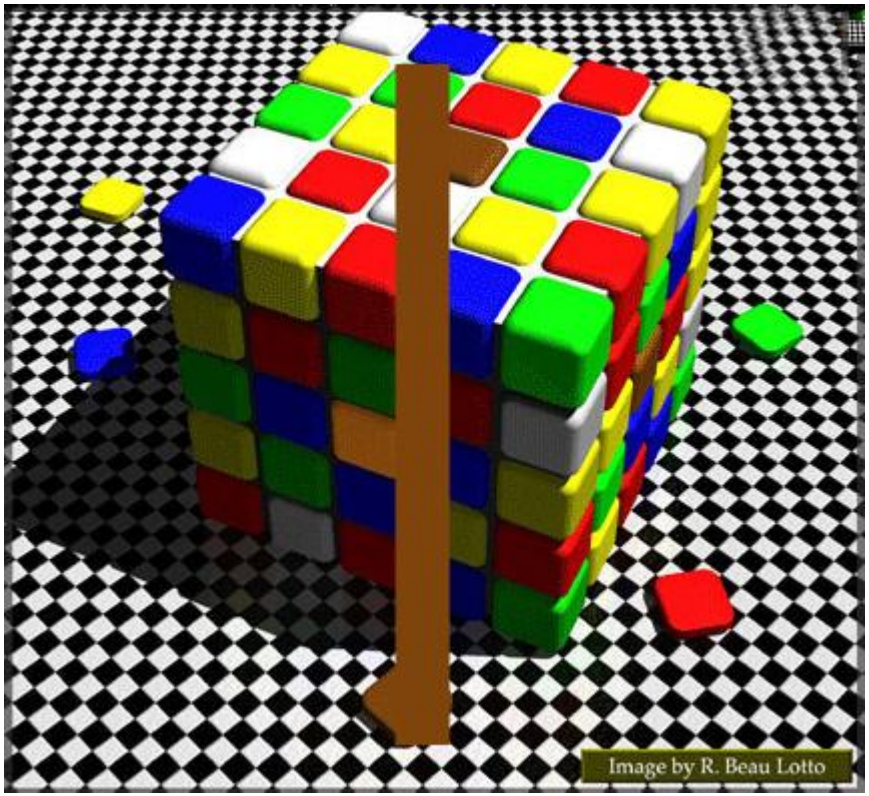
Adopted from Lottolab

Let’s remove the background colors



Adopted from Lottolab

Proof



Adopted from Lottolab

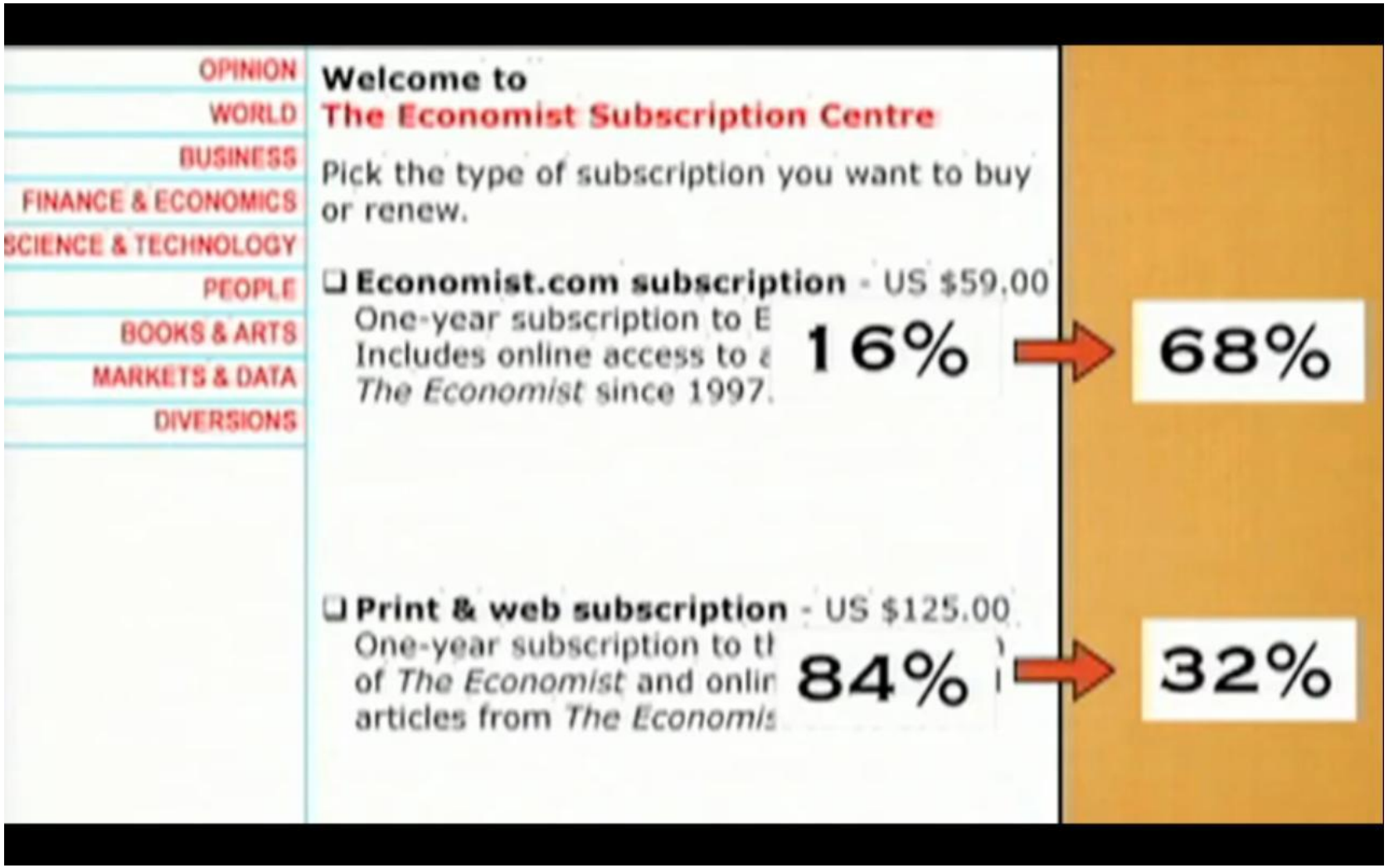
Which option would you choose?

Adopted from Dan Ariely

MIT Students

Adopted from Dan Ariely

MIT Students



Adopted from Dan Ariely

Problem 1

- The following ten corporations were ranked by Fortune magazine to be the largest 500 United States based firms according to sales revenues for 2003 :
  - Group A: Reebok International, Hilton Hotels, Starbucks, Radioshack, Hershey Foods
  - Group B : CoconoPhillips, American International Group, McKesson, AmerisourceBergen, The Altria Group

Which group of organizations (A or B) had the larger total sales revenues in 2003? How do you know?

Problem 2

- The best student in my MBA class used to write poetry and is rather shy and small in size. Do your best to guess -

What was the student's undergraduate major?

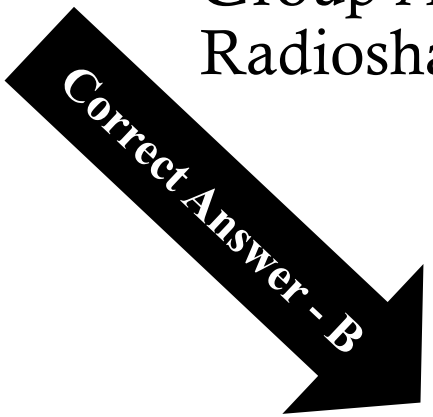
– A : Chinese studies

– B : Economics

Okay, take a minute to answer questions 1-2

Problem 1 – Availability Heuristic Bias

- The following ten corporations were ranked by Fortune magazine to be the largest 500 United States based firms according to sales revenues for 2003 :
  - Group A: Reebok International, Hilton Hotels, Starbucks, Radioshack, Hershey Foods



  - Group B : CoconoPhillips, American International Group, McKesson, AmerisourceBergen, The Altria Group

(All examples in this class adopted from "Judgment in Managerial Decision Making" book by Max Bazerman)

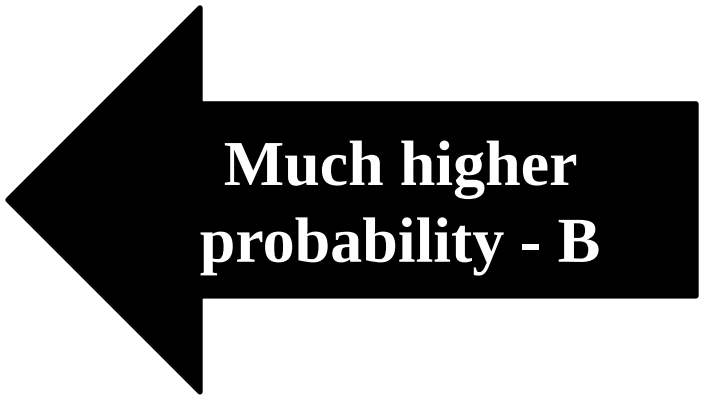
Problem 2 - Representative Heuristic Bias

- The best student in my MBA class used to write poetry and is rather shy and small in size. Do your best to guess -

What was the student's undergraduate major?

– A : Chinese studies

– B : Economics



Problem 3

- Please try to rank & estimate the following causes of death in the United States years 1990-2000 (rank from 1 to 5 ; total population : 300 million)

	Rank	**Estimated number of deaths 1990 to 2000**
Tobacco		
Poor diet and physical inactivity		
Motor vehicle accidents		
Firearms (guns)		
Illicit drug use		

Problem 4

- How many words include the pattern in 4 pages of a novel (~2000 words).

- Indicate your best estimate by choosing one of the following values:

0 1-2 3-4 5-7 8-10 11-15 16+

Problem 5

- Imagine that the United States is preparing for the outbreak of an unusual Asian disease that is expected to kill 600,000 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows.
  - Program 1
  - Program 2

- Which of the two programs would you favor?

Okay, take a few minutes to answer questions 3-5

Problem 3 – Ease of Recall **Bias**

- Please rank order the following causes of death in the United States between 1990 and 2000 (1 to 5)

	Rank	**Estimated number of deaths 1990 to 2000**
Tobacco	1	435,000
Poor diet and physical inactivity	2	400,000
Motor vehicle accidents	3	43,000
Firearms (guns)	4	29,000
Illicit drug use	5	17,000

Problem 4 – Version A

- In four pages of a novel (about 2,000 words), how many words would you expect to find that have the form _____ ing (seven-letter words that end with "ing")? Indicate your best estimate by choosing one of the following values:

0 1-2 3-4 5-7 8-10 11-15 16+

Problem 4 – Version B

- In four pages of a novel (about 2,000 words), how many words would you expect to find that have the form _____ n _ (seven-letter words that have the letter "n" in the sixth position)? Indicate your best estimate by choosing one of the following values:

0 1-2 3-4 5-7 8-10 11-15 16+

Problem 4 - Retreivability Bias

Most people perceive this as higher probability:

- form _____ ing (seven-letter words that end with "ing")?

But, ofcourse, this one has much higher probability :

- form _____ n _ (seven-letter words that have the letter "n" in the sixth position)?

Problem 5 – Version A - Gain

- Imagine that the United States is preparing for the outbreak of an unusual Asian disease that is expected to kill 600,000 people. Two alternative programs to combat the disease have been proposed. Assume that the exact scientific estimates of the consequences of the programs are as follows.
  - Program A: If Program A is adopted, 200,000 people will be saved.
  - Program B: If Program B is adopted, there is a one-third probability that 600,000 people will be saved and a two-thirds probability that no people will be saved.
- Which of the two programs would you favor?

Problem 5 – Version B - Loss

- Imagine that the United States is preparing tor the outbreak of an unusual Asian disease that is expected to kill 600,000 people. Two alternatives programs to combat the disease have been proposed. Assume that the scientific estimates or the consequences of the programs are as follows.
  - Program C· If Program C is adopted, 400,000 people will die.
  - Program D: If Program D is adopted, there is a one-third probability that no one will die and a two-thirds probability that 600,000 people will die.
- Which of the two programs would you favor?

Problem 5 – Prospect Theory – Framing effect

- People generally try to avoid risk.

- But, we are sensitive to context.
  Same situation, under framing of loss – people become risk takers.

Let's play a short game

- You can make money in class!
- We're going to do an auction of a $HK20 bill.

- You are free to participate or just watch the bidding of others.
- You are invited to call out bids in multiples of $1 until no further bidding occurs, at which point the highest bidder will pay the amount bid and win the $20.
- Rule : **second-highest bidder must also pay** the amount that he or she bid, although he or she will obviously not win the $20.

- For example, if Bill bid $3 and Jane bid $4, and bidding stopped, I would pay Jane $16 ($20 - $4) and Bill, the second-highest bidder, would pay me $3.