



Acceptance of evolution any why it's important

Mohamed Noor



History has a tendency to repeat itself...



- Scopes Monkey Trial (Tennessee, USA)
 - July 10, 1925, *Bethlehem Globe* “Evolution trial opened by prayer; Judge has a Bible”
 - July 21, 1925, *NY Times* “Scopes Guilty, Fined \$100, Scores Law... Bryan is Disappointed – Loses Chance to Examine Darrow and His Long-Prepared Speech Is Undelivered – His Evidence Is Expunged”



1925

History has a tendency to repeat itself...



2010's

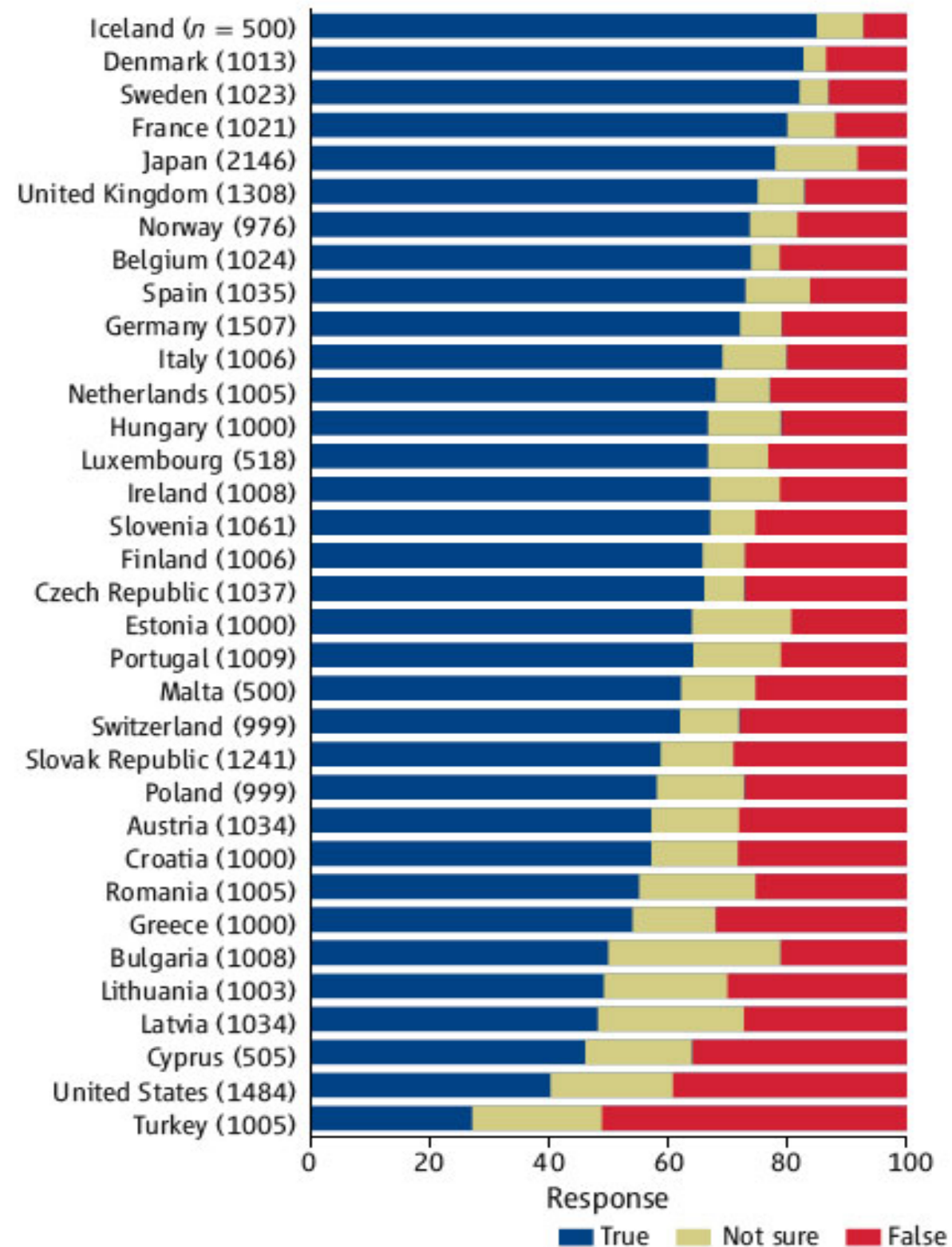
- Post-Scopes Monkey Trial
 - July 25, 2010, *Livingston Parish News* “Creation science genesis-- School system looks into teaching anti-evolution”
 - June 5, 2012, *Nature* “South Korea surrenders to creationist demands– Publishers set to remove examples of evolution from high-school textbooks”

June 6, 2012, *Associated Press* “Kansas headed for another debate over evolution”



Evolution 2005

- USA shows one of the highest rates of “disbelief” in evolution
- USA shows one of the lowest rates of “belief” that evolution has occurred

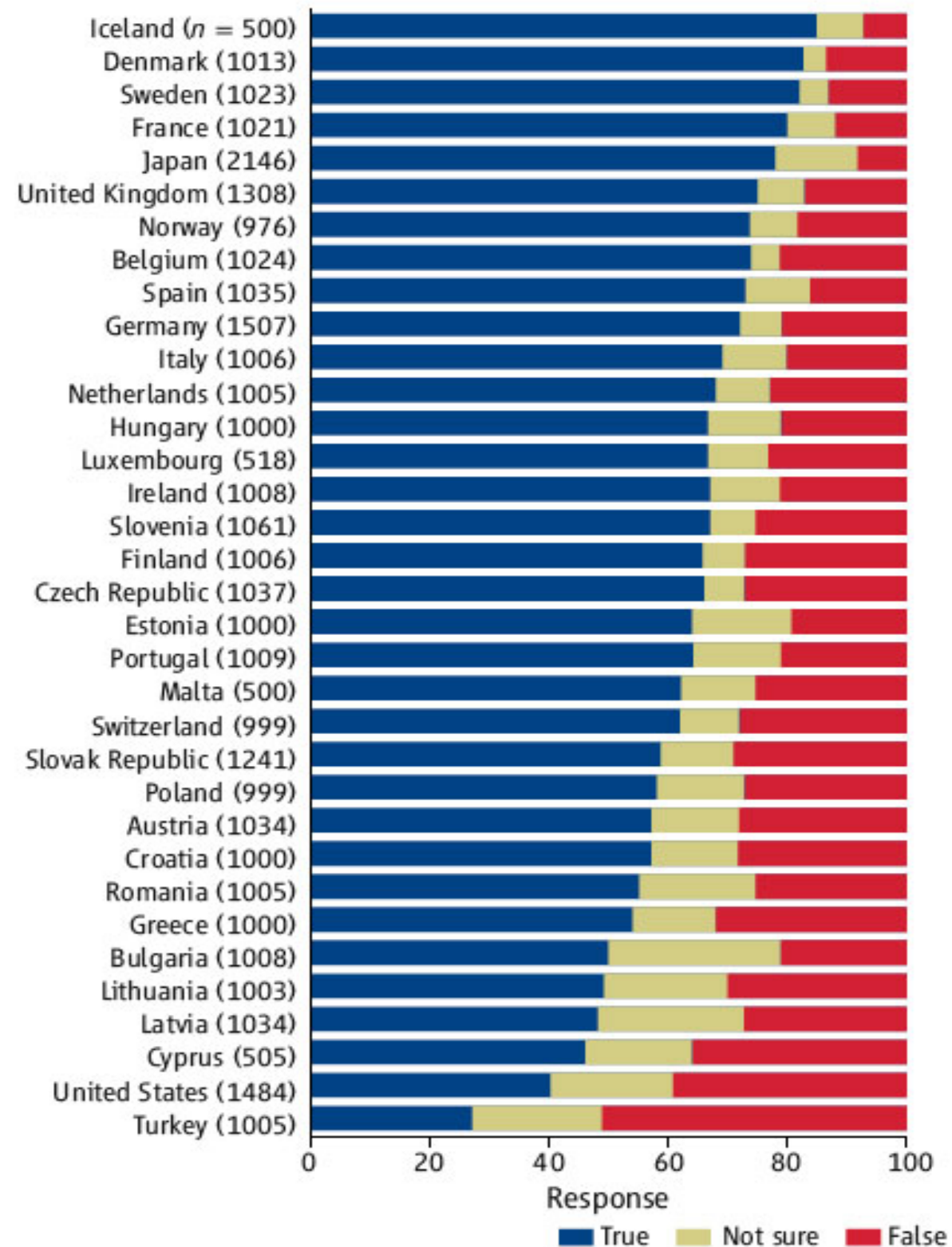


Public acceptance of evolution in 34 countries, 2005.

Evolution 2005

- USA shows one of the highest rates of “disbelief” in evolution
- USA shows one of the lowest rates of “belief” that evolution has occurred

2009: USA- 35%



Public acceptance of evolution in 34 countries, 2005.

Why are we still talking about this?

- **FACT:** Within the scientific community, there is **no debate** about the truth of evolution.
 - There is no “controversy” to teach
 - Debates are only about relative importance of different forces
- **FACT:** Evolution is a theory and a fact.



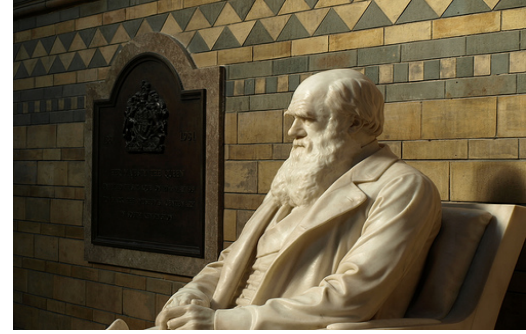
What is a scientific “theory”?



Theory-- what one or more hypotheses become once they have been verified and accepted as true.

Theory-- an explanation of a set of related observations or events based upon proven hypotheses and verified multiple times by detached groups of researchers.

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“Gravity is ‘just a theory’ ”

“Atoms- haven’t seen ‘em!”

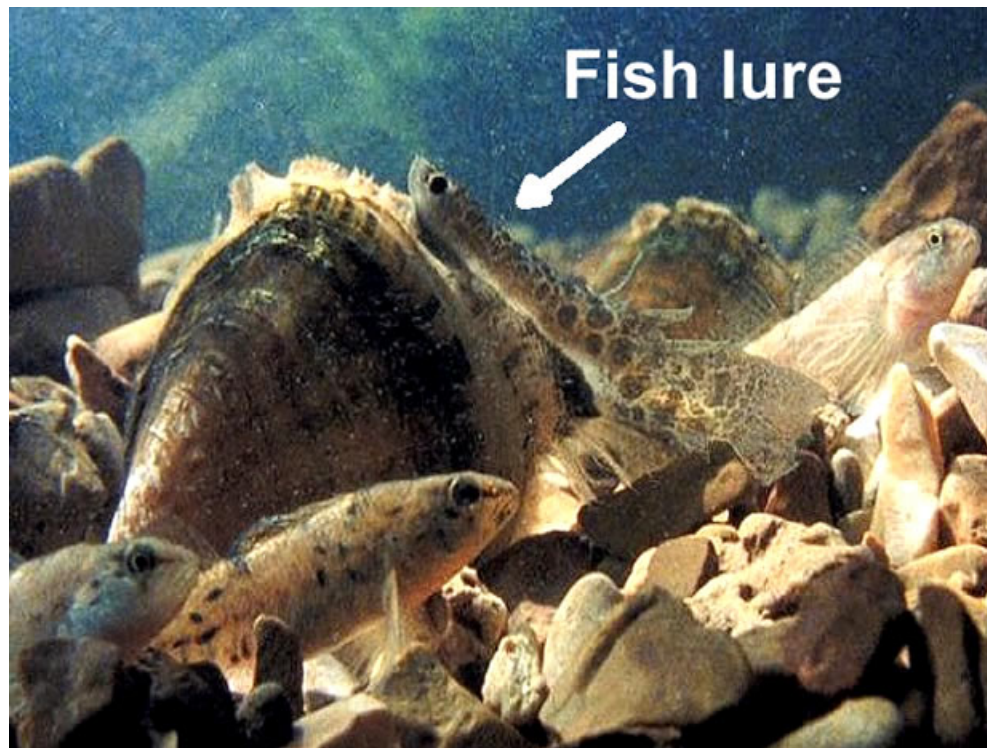
“Germs- bah, humbug!”

Appearance of “Design”

- Species “seem intricately and almost perfectly designed for living their lives.”

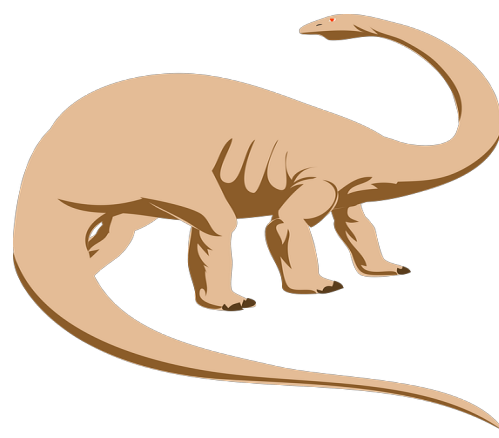
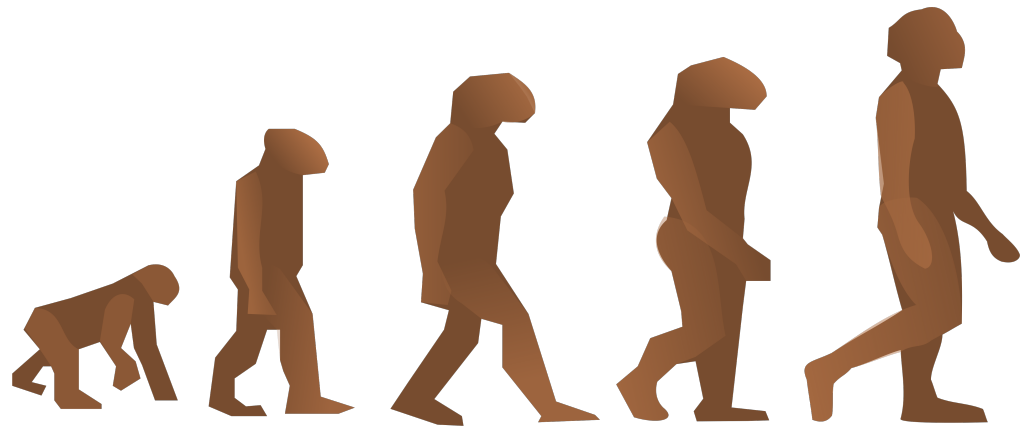
(Coyne Chapter 1, 1st sentence)

- Example: <http://www.youtube.com/watch?v=I0YTBj0WHkU>

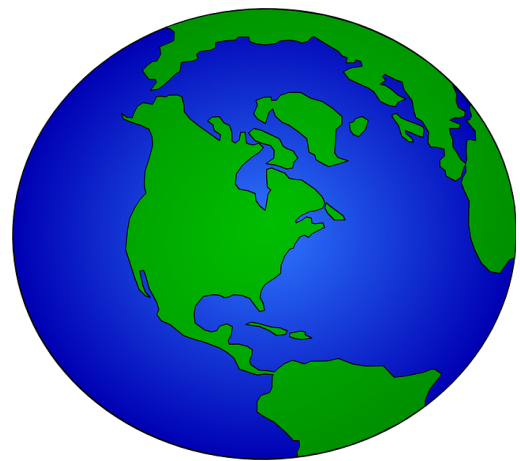


http://unionid.missouristate.edu/gallery/L_reeveiana/reeveiana-lure.jpg



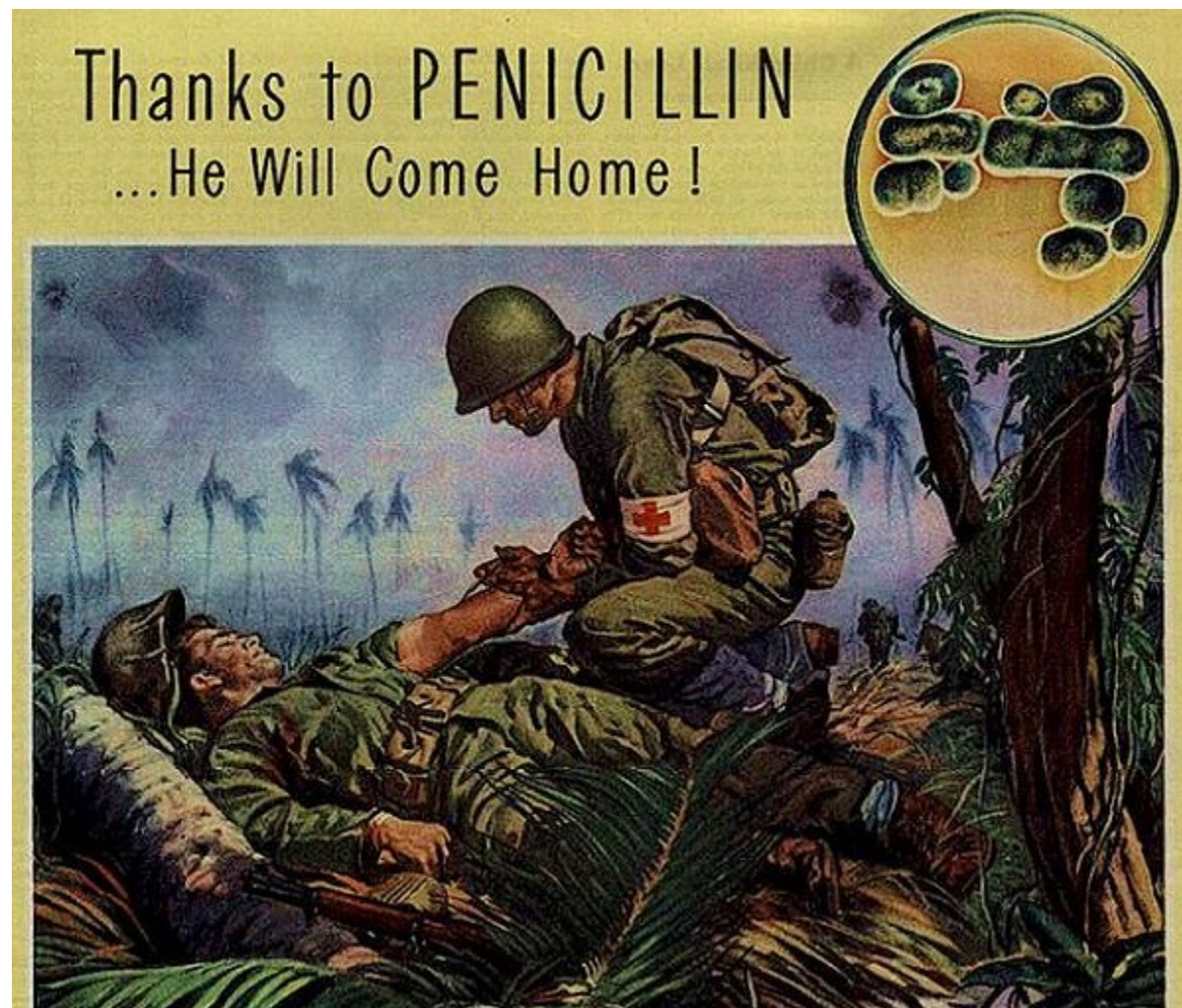


How does studying evolution help humanity?

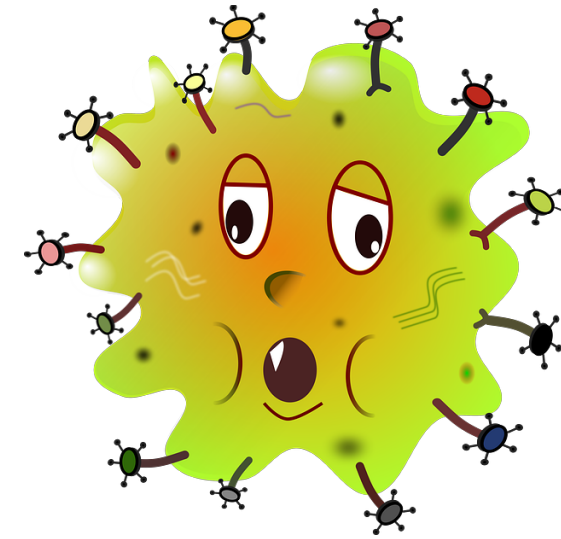


Medical application

- Antibiotic resistance
 - Penicillin mass-produced in 1943

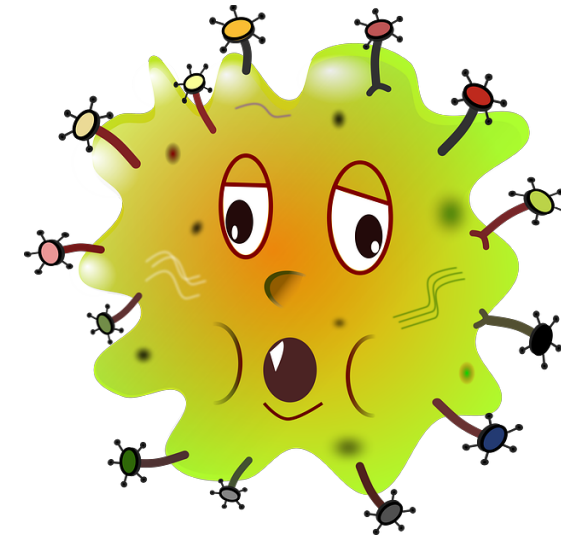


Credit: Research and Development Division, Schenley Laboratories, Inc., Lawrenceburg, Indiana



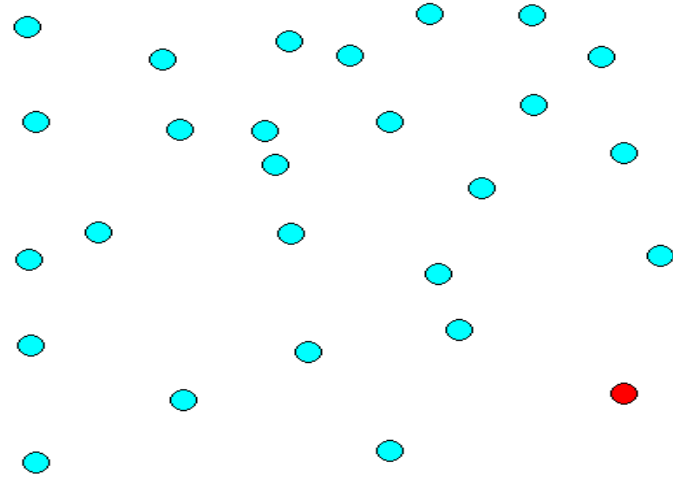
Medical application

- Antibiotic resistance
 - Penicillin mass-produced in 1943
 - First resistant staph strain found 1947
 - 1950: 40% of staph isolates resistant
 - 1960: 80% of staph isolates resistant
- How did this happen???



Basic evolutionary principle of *natural selection*

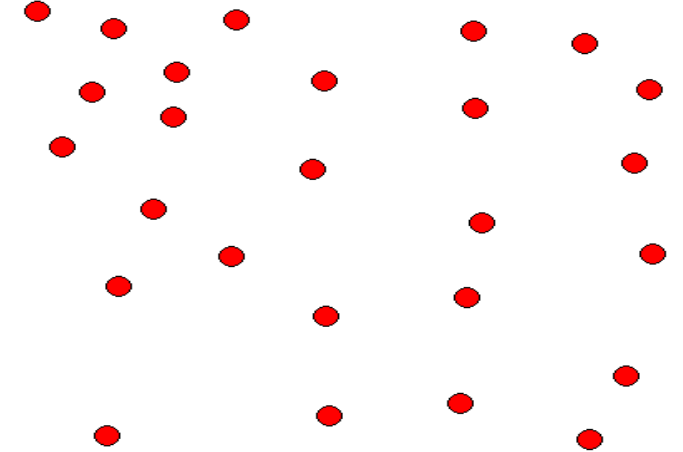
Original population



Antibiotic applied
(no competition for resistant strain)

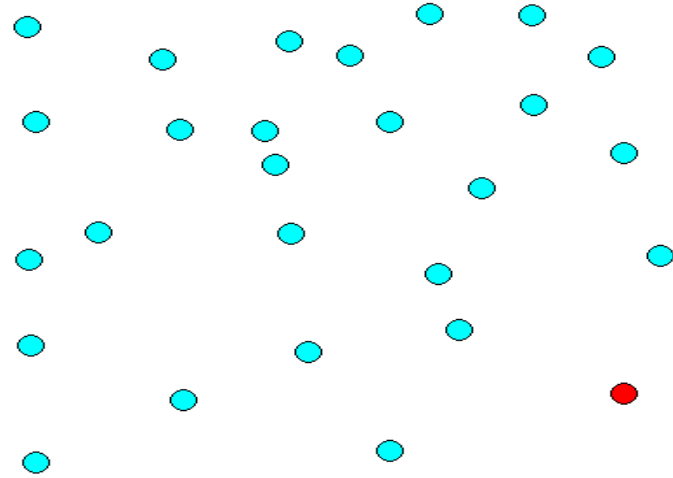


Resistant strain multiplied



Basic evolutionary principle of *natural selection*

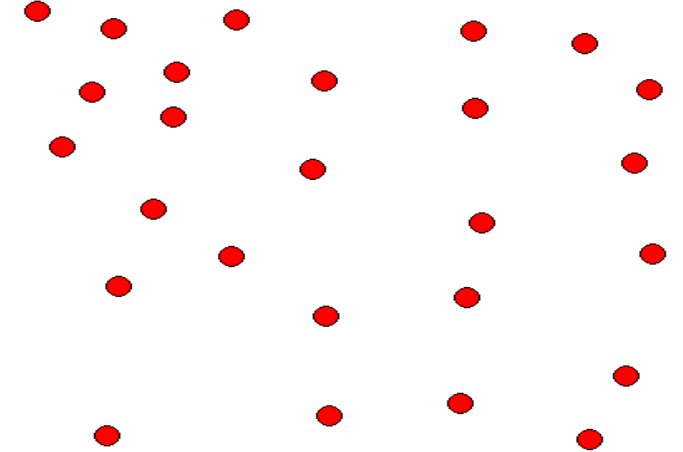
Original population



Antibiotic applied
(no competition for resistant strain)



Resistant strain multiplied



Lesson: antibiotics were (and often still are) overprescribed...

Another problem with antibiotics

- Humans have co-evolved with many bacteria
 - Synthesize our required vitamin K
 - Help us to resist invading organisms
- Antibiotics kill “the good stuff” too!



2011 study:

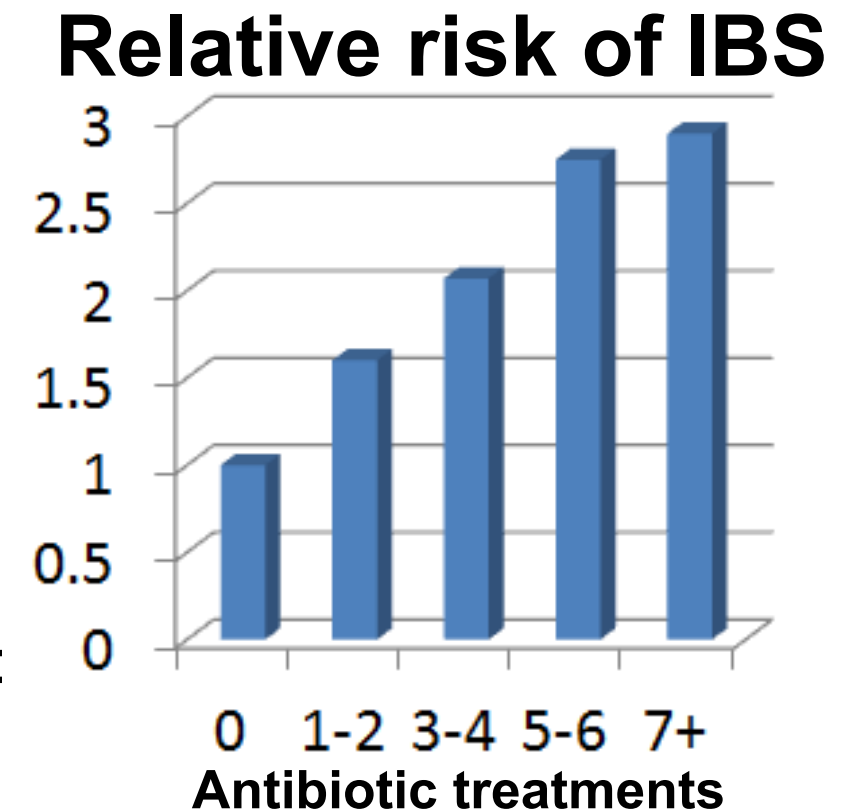


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