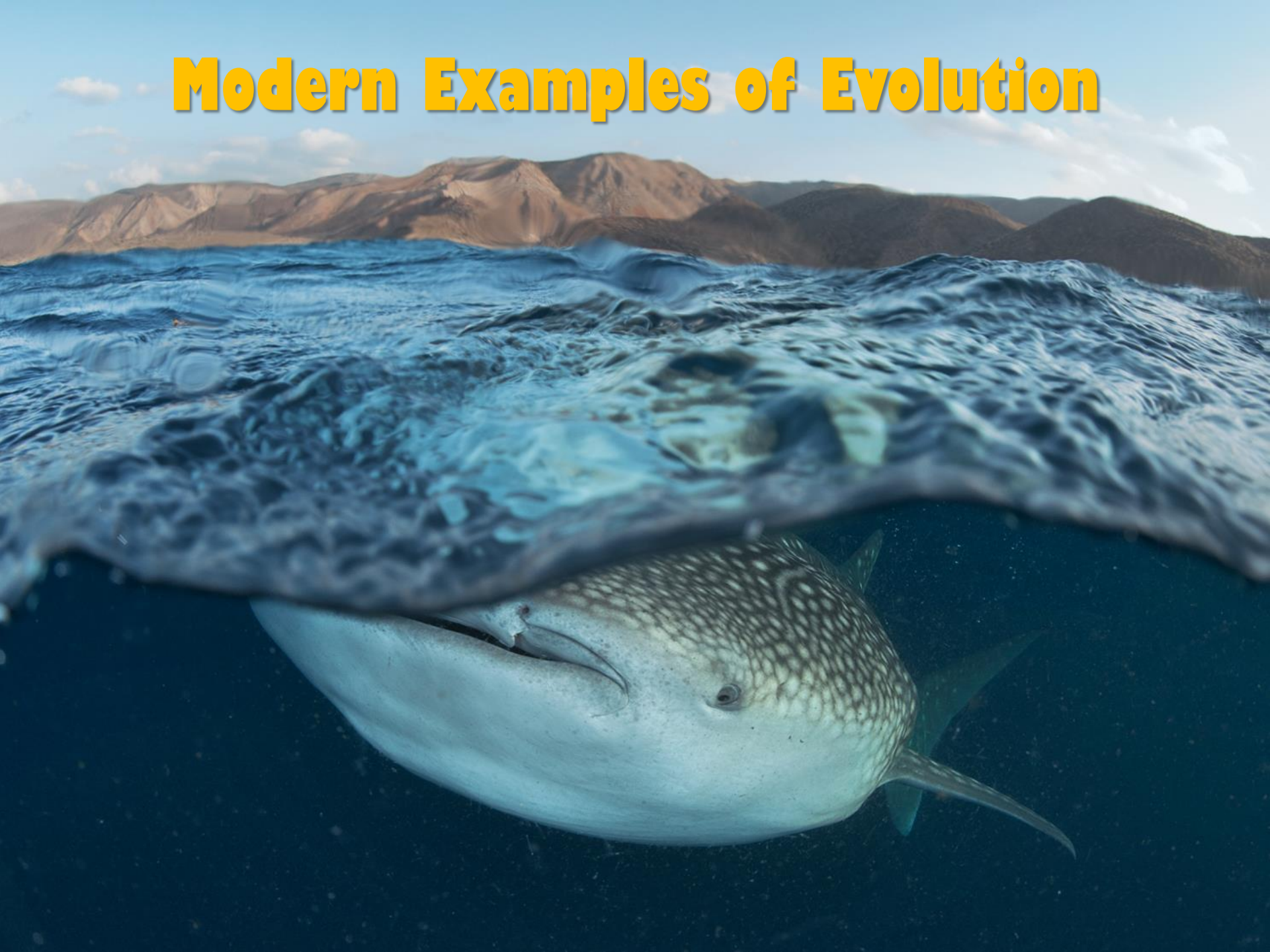
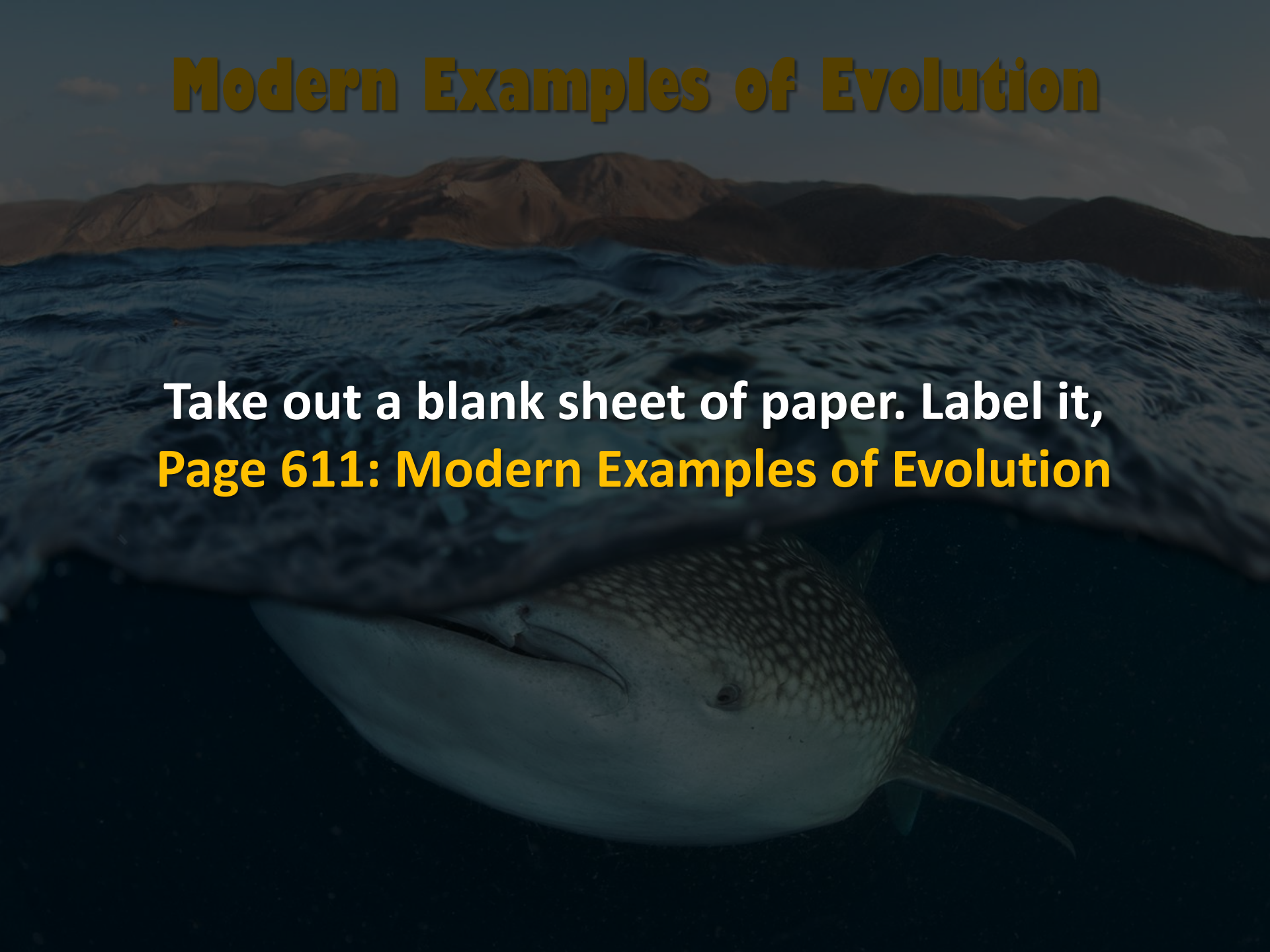
Modern Examples of Evolution



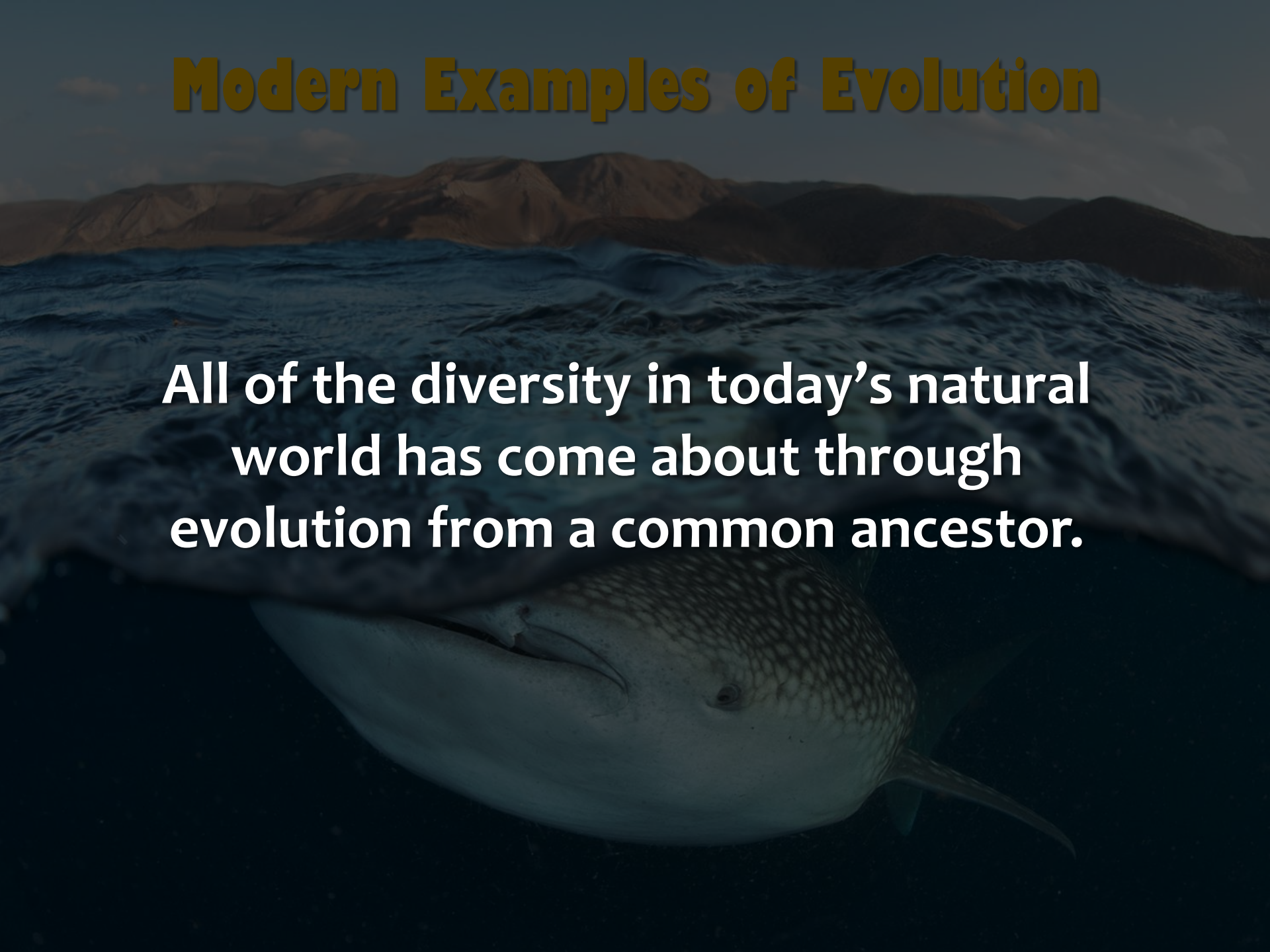
Modern Examples of Evolution



Take out a blank sheet of paper. Label it,

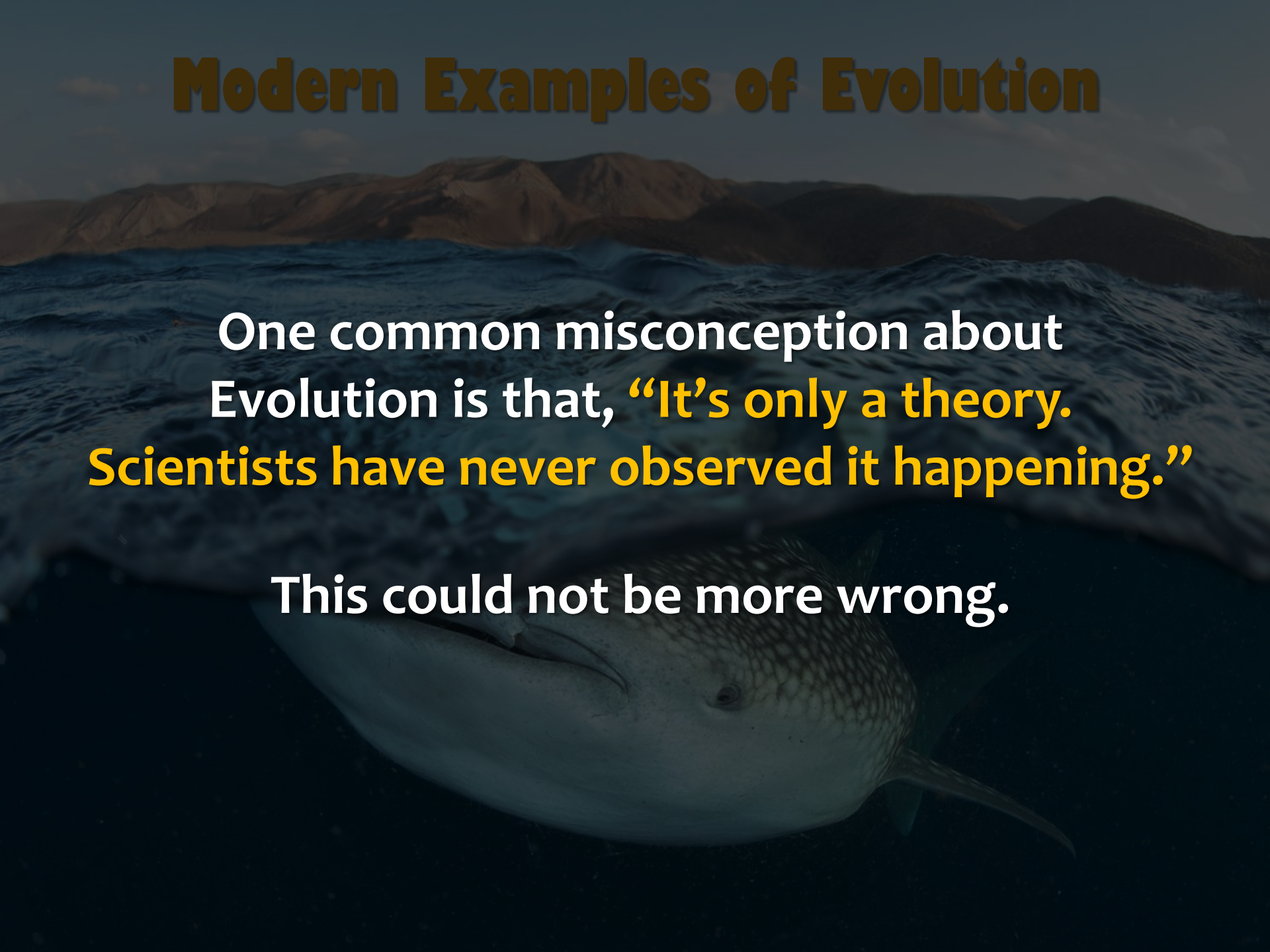
Page 611: Modern Examples of Evolution

Modern Examples of Evolution



All of the diversity in today's natural world has come about through evolution from a common ancestor.

Modern Examples of Evolution



One common misconception about Evolution is that, **"It's only a theory. Scientists have never observed it happening."**

This could not be more wrong.

Modern Examples of Evolution

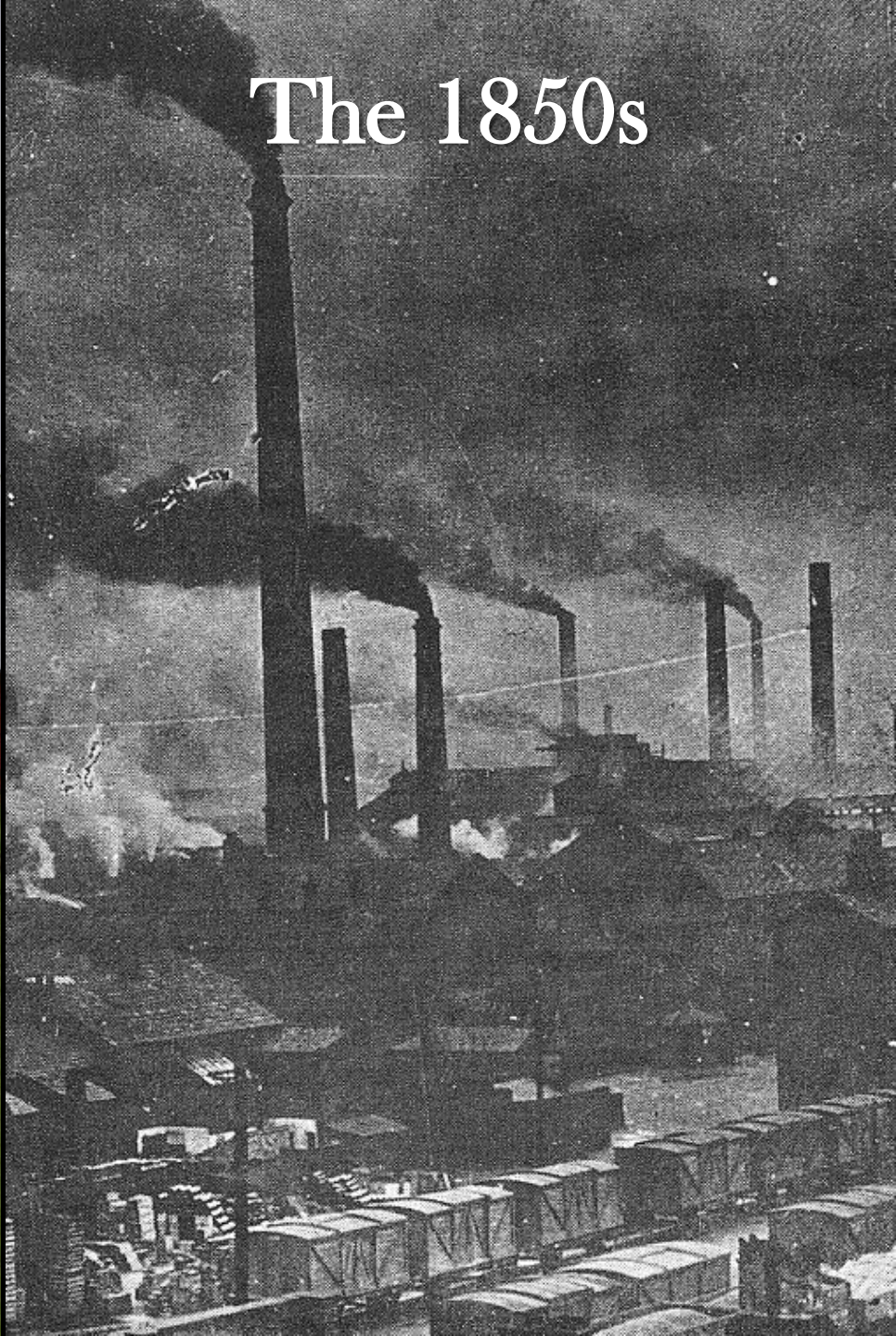
1. The Peppered Moth
2. Human Skin
3. Drug-Resistant Bacteria

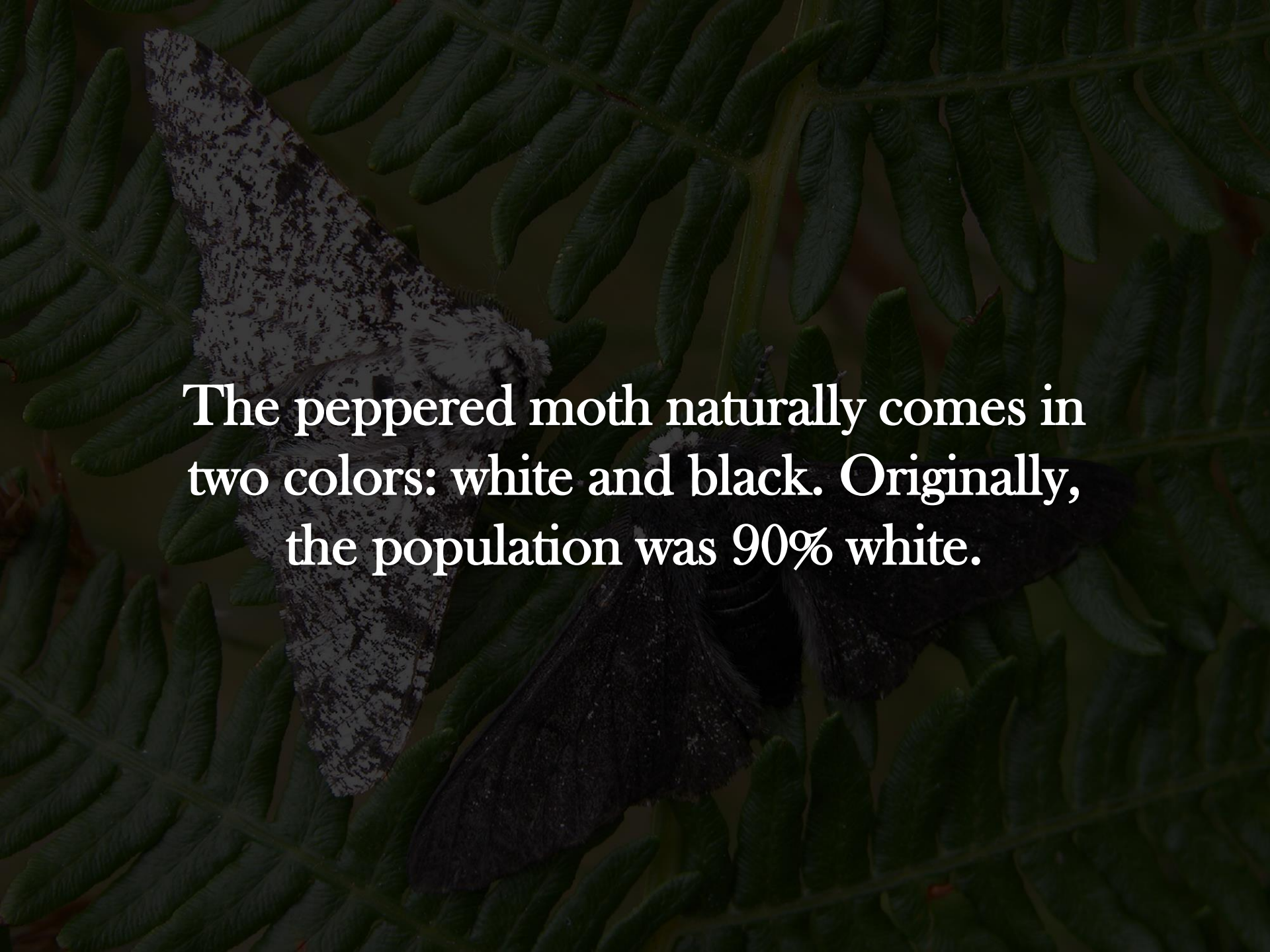
The Peppered Moth

The 1700s

The 1700s

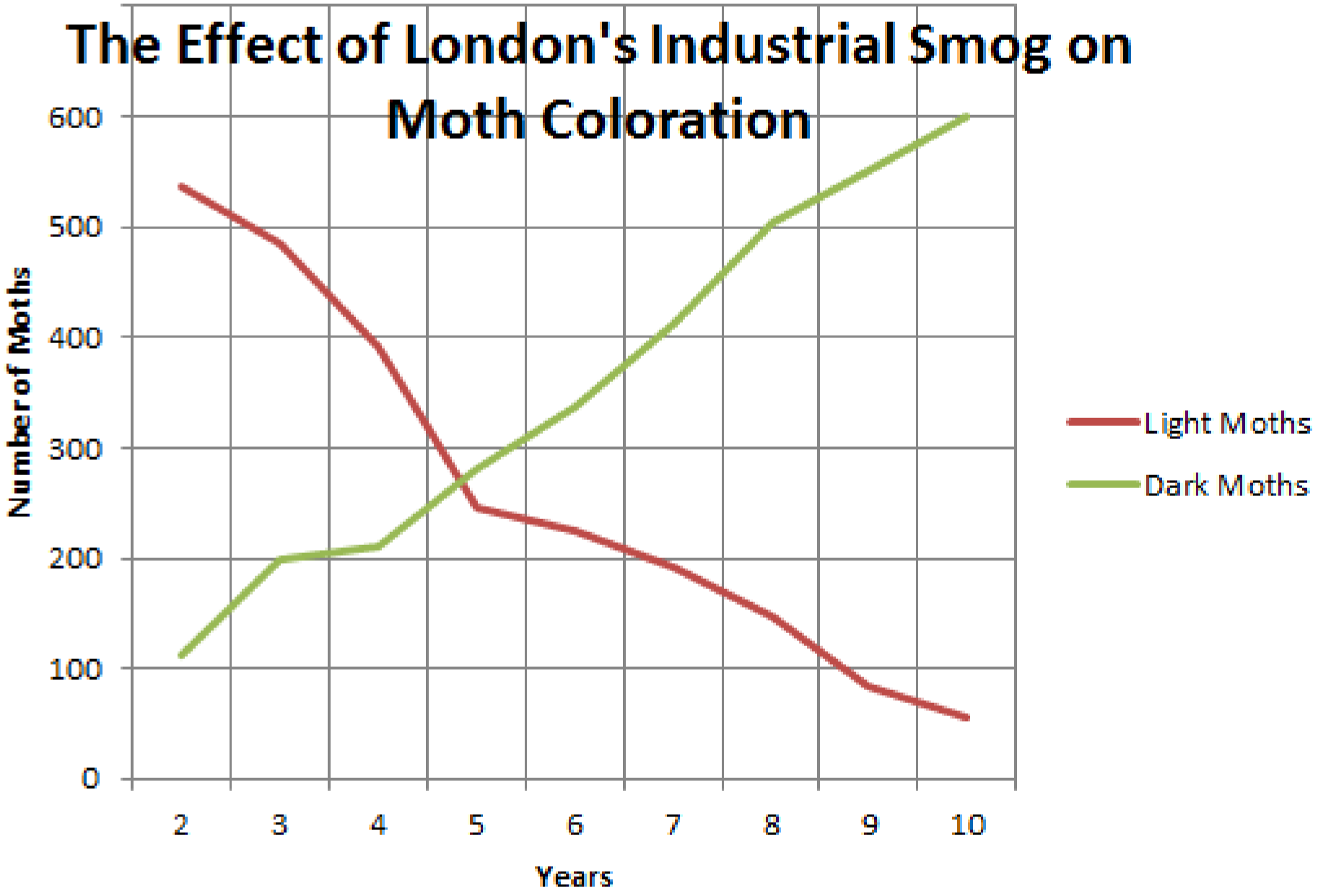
The 1850s

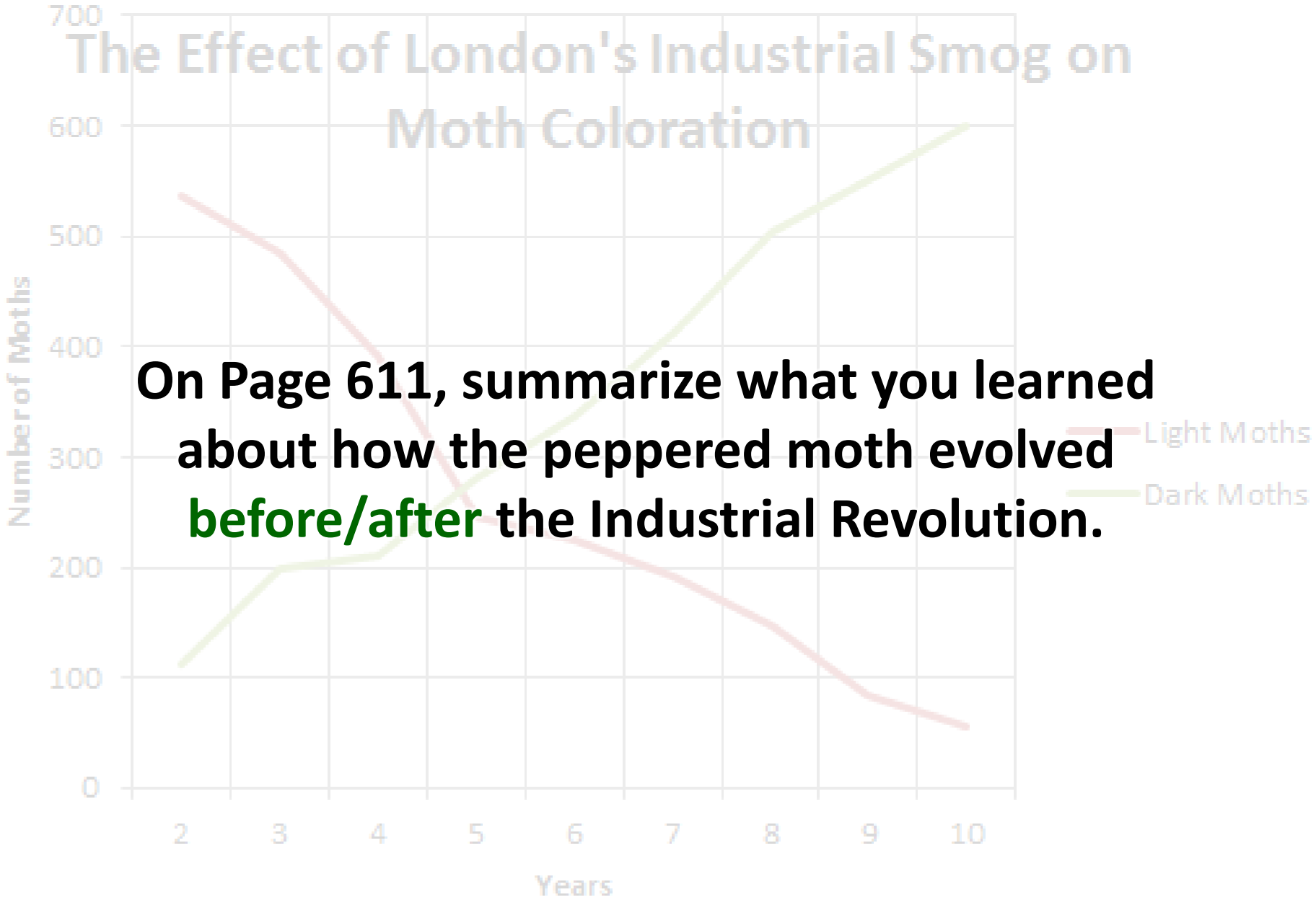



The peppered moth naturally comes in two colors: white and black. Originally, the population was 90% white.

The 1700s

The 1850s


The Effect of London's Industrial Smog on Moth Coloration
Number of Moths
600
500
400
300
200
100
0
2
3
4
5
6
7
8
9
10
Years
Light Moths
Dark Moths



On Page 611, summarize what you learned about how the peppered moth evolved before/after the Industrial Revolution.

Human Skin

Human skin tone varies naturally.

The good and bad about having light skin?

Good	Bad
better at capturing vitamin-D	easier to sun-burn

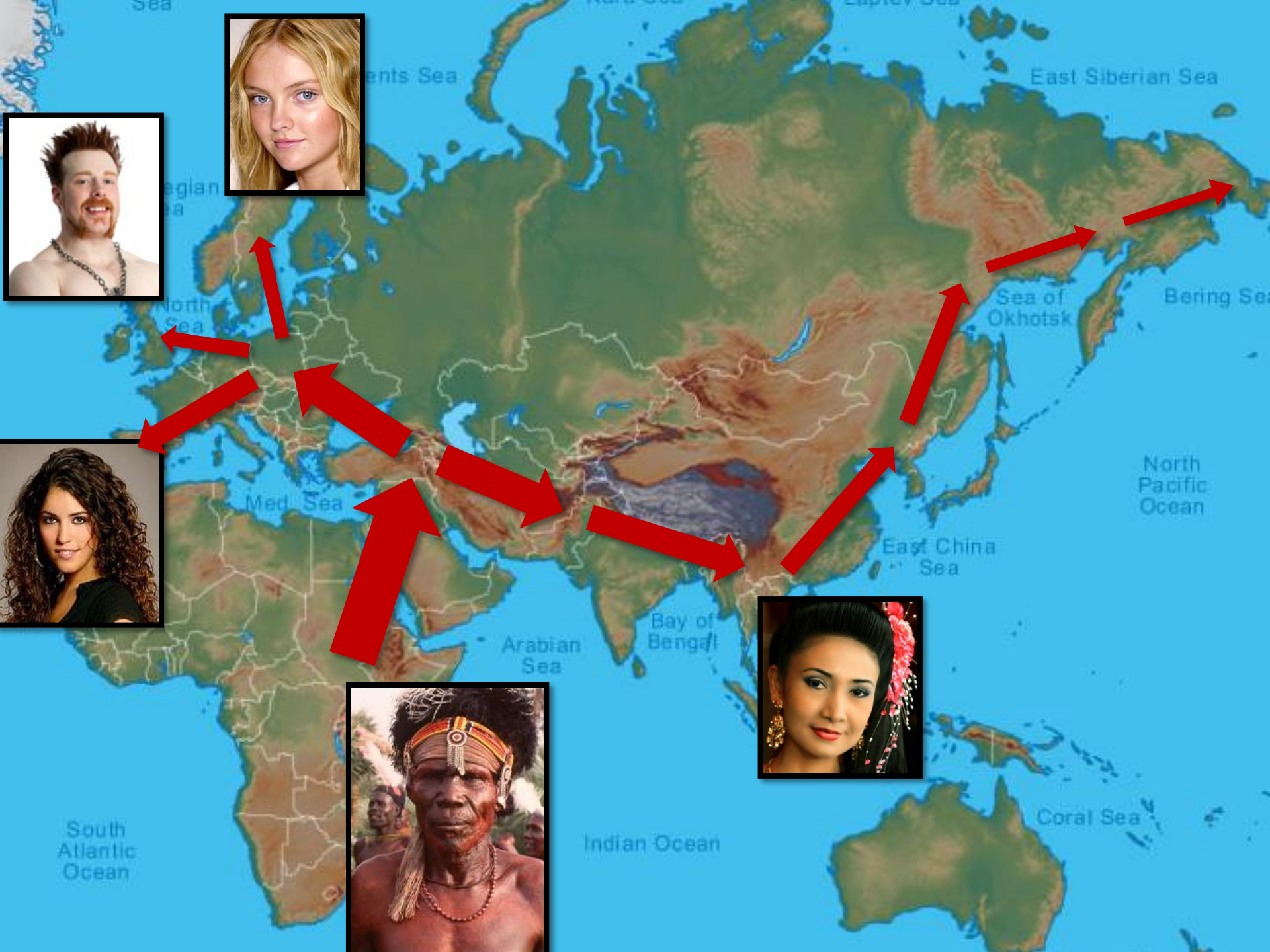
The good and bad about having dark skin?

Good	Bad
harder to sun-burn	worse at capturing vitamin-D


Winter
Summer

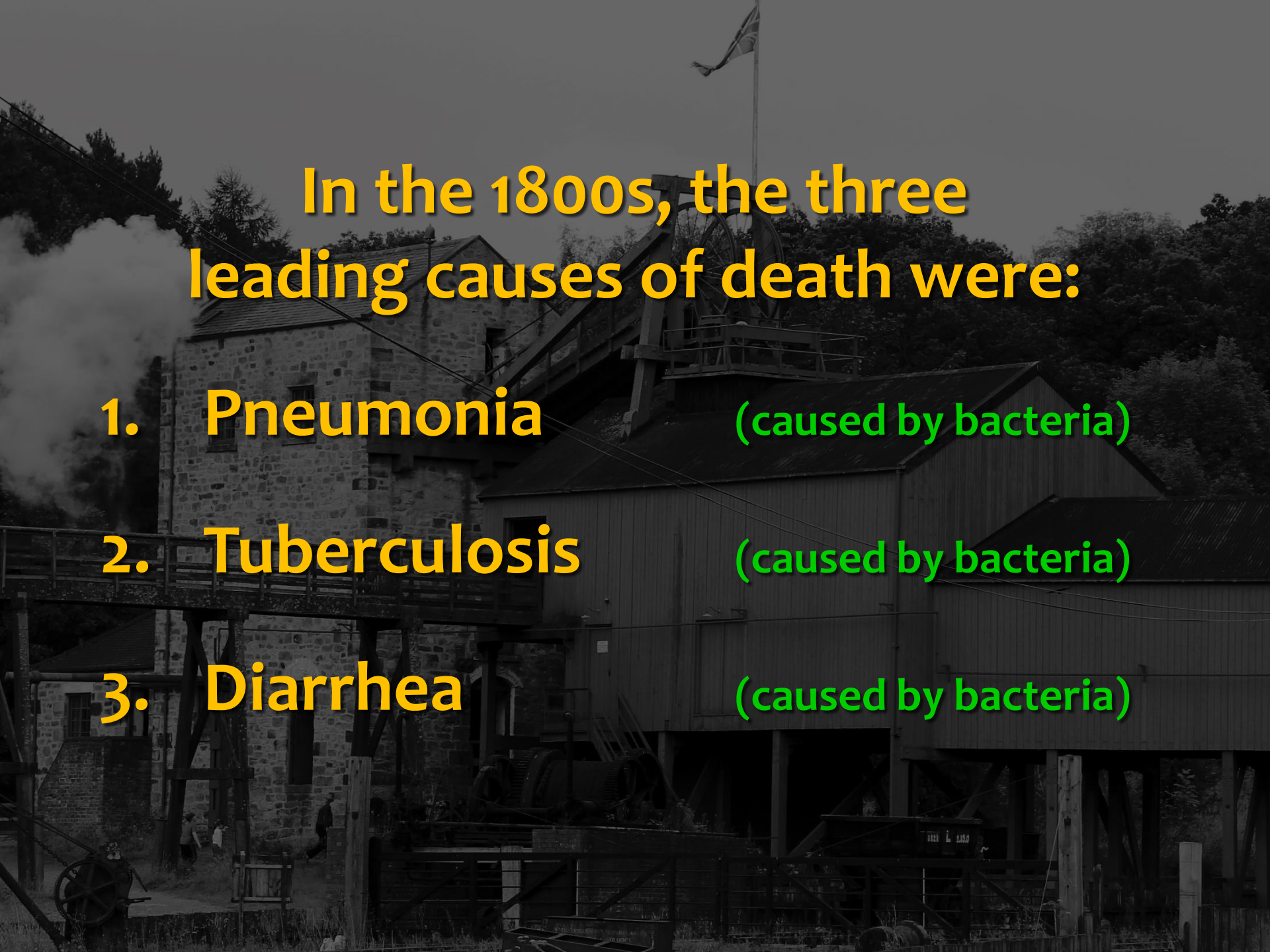
In an environment with a lot of sunlight dark-skinned people have an advantage.

In an environment without much sunlight light-skinned people have an advantage.


East Siberian Sea
Sea of Okhotsk
Bering Sea
North Pacific Ocean
East China Sea
Med. Sea
Arabian Sea
Bay of Bengal
Indian Ocean
South Atlantic Ocean
Coral Sea

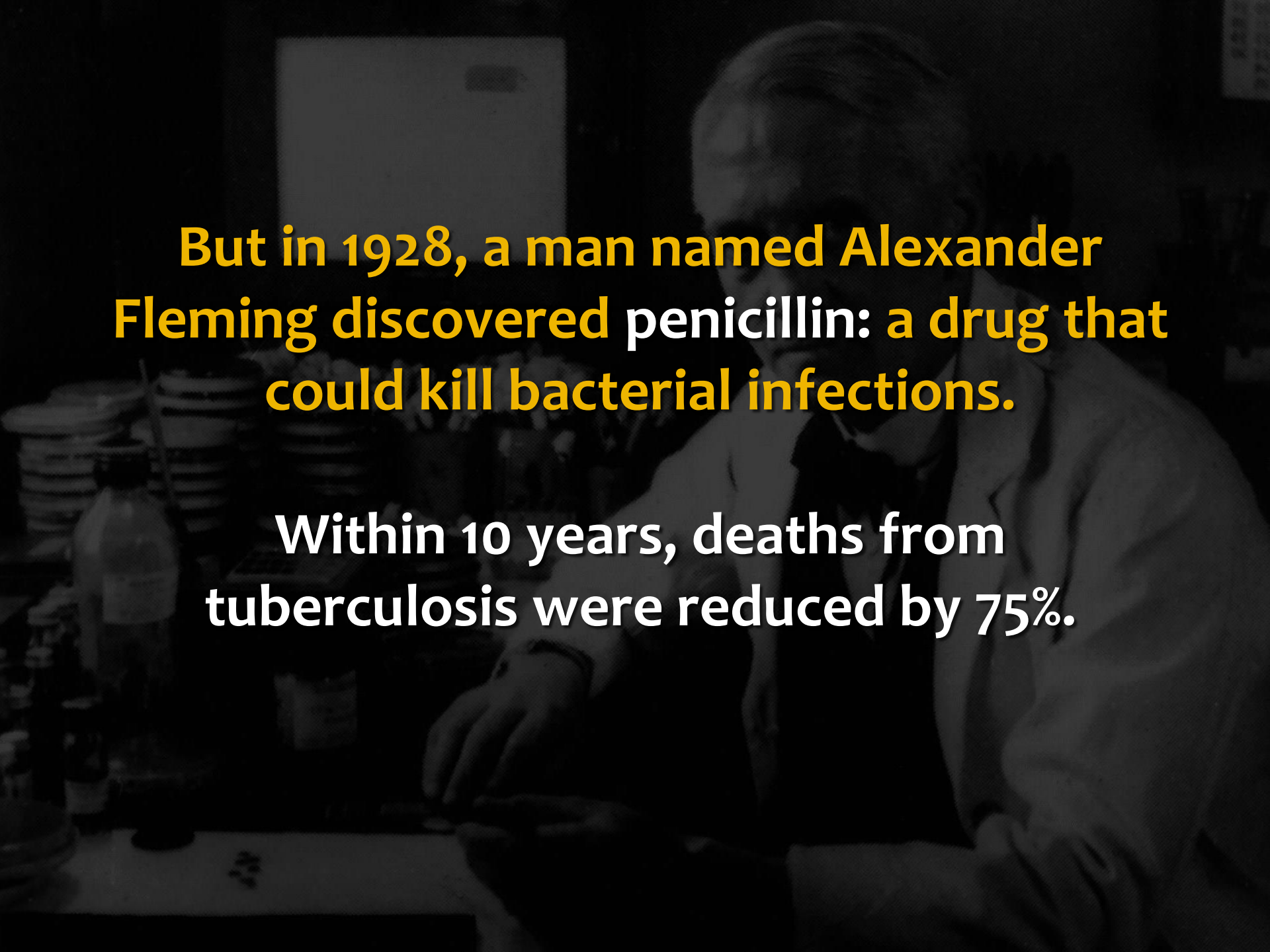
On Page 611, summarize what you learned about how human skin tone has evolved.

Drug-Resistant Bacteria



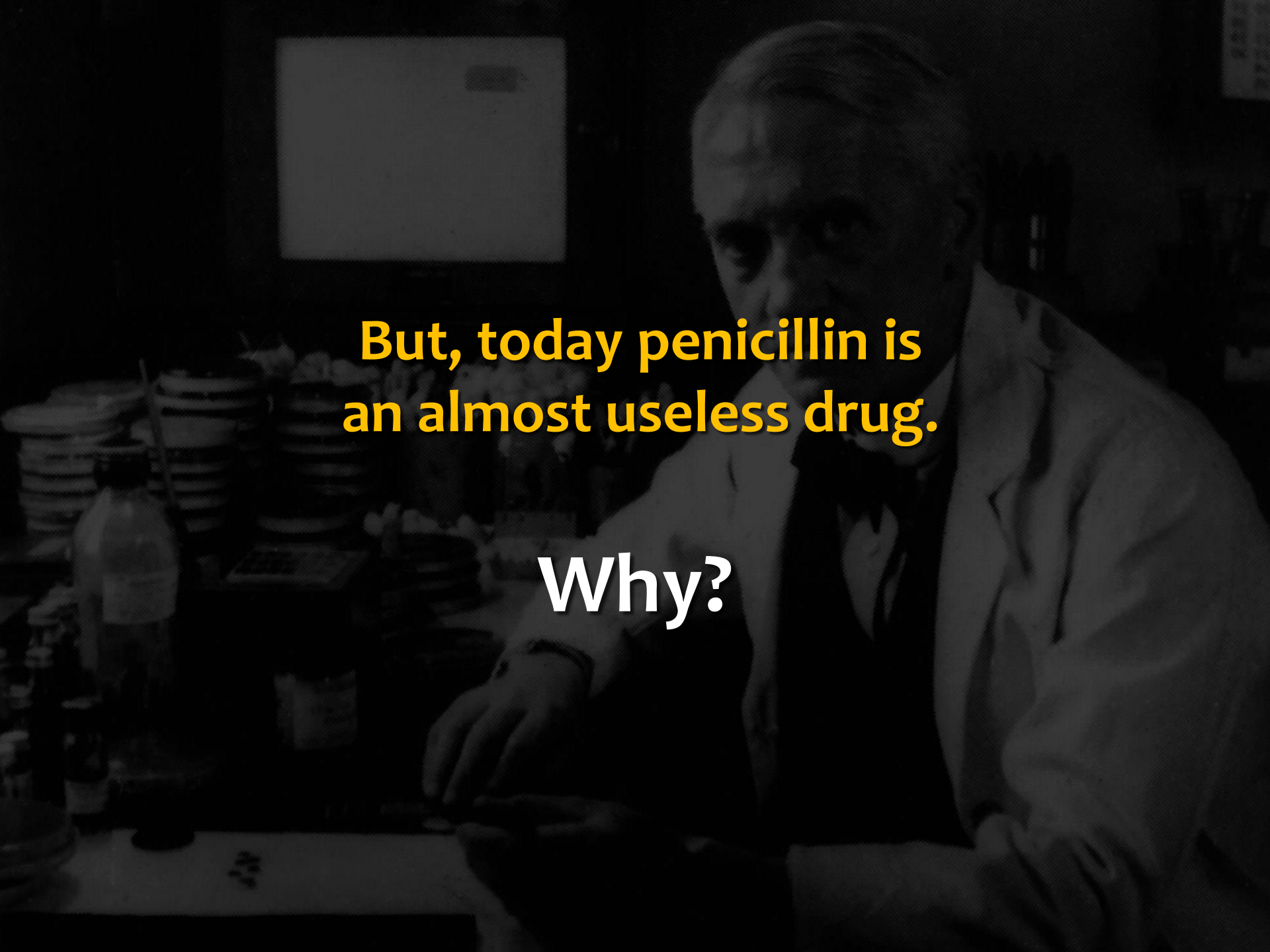
In the 1800s, the three leading causes of death were:

1. Pneumonia (caused by bacteria)
2. Tuberculosis (caused by bacteria)
3. Diarrhea (caused by bacteria)

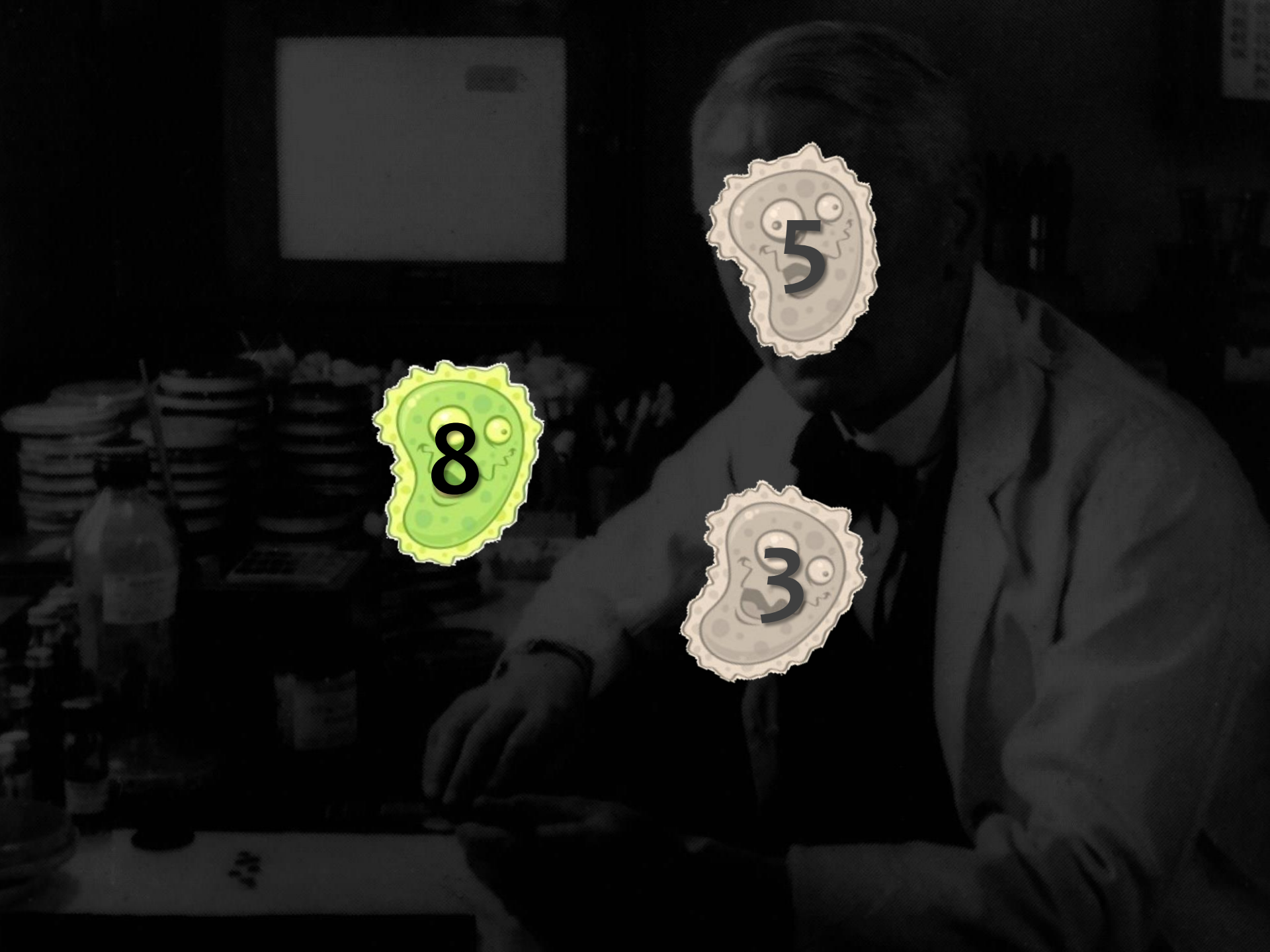


But in 1928, a man named Alexander Fleming discovered penicillin: a drug that could kill bacterial infections.

Within 10 years, deaths from tuberculosis were reduced by 75%.


But, today penicillin is
an almost useless drug.
Why?


5
8
3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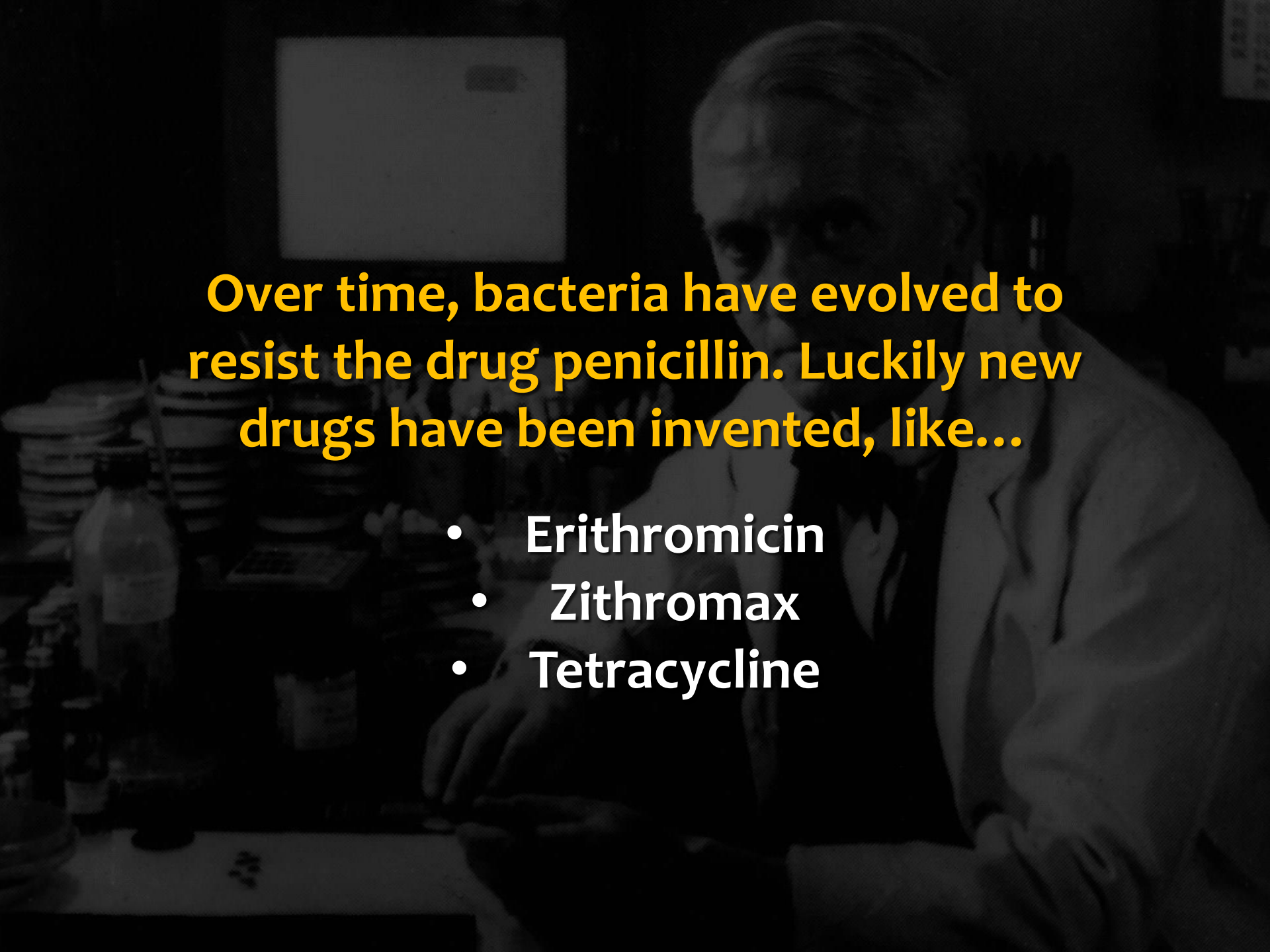
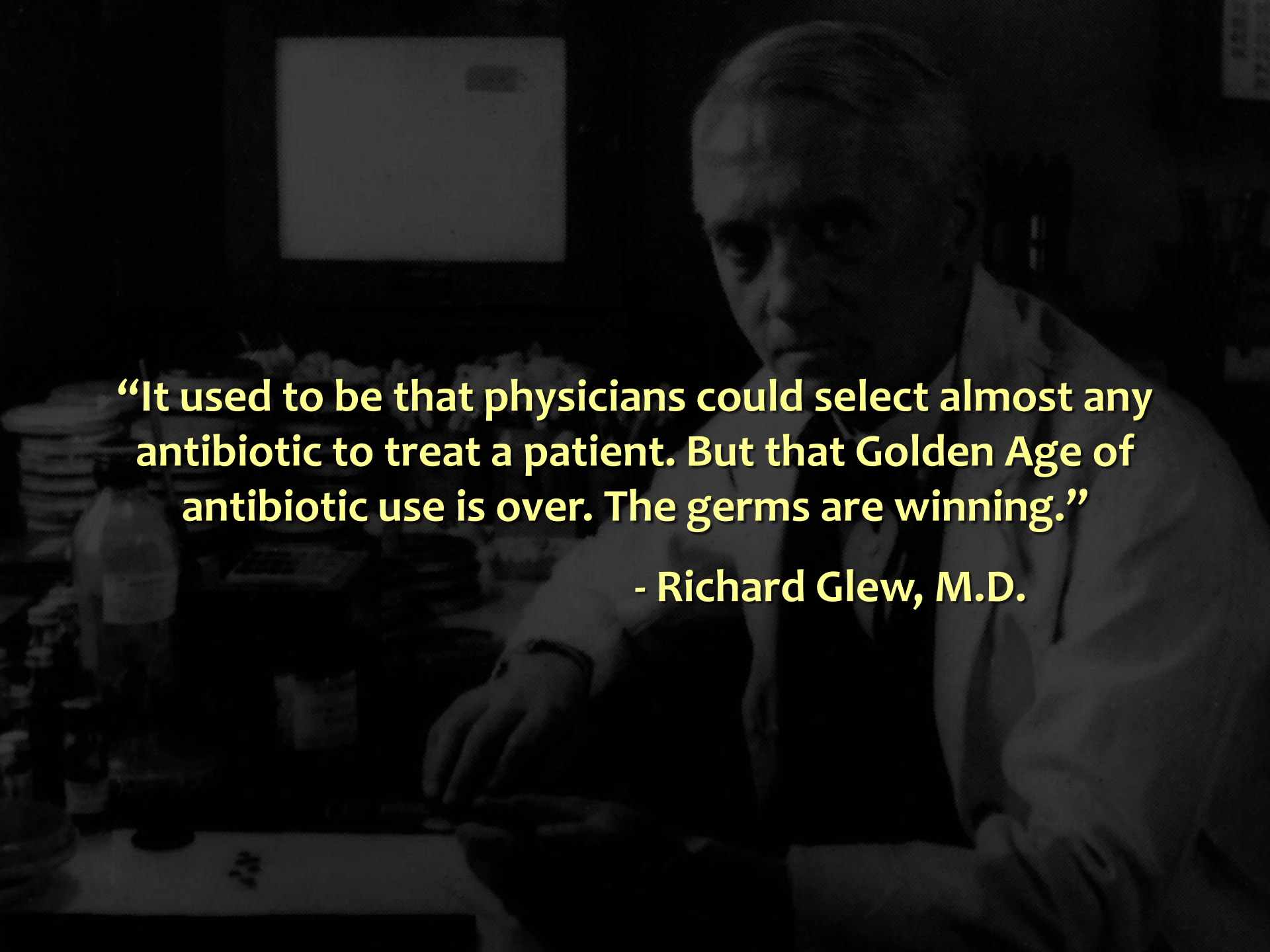
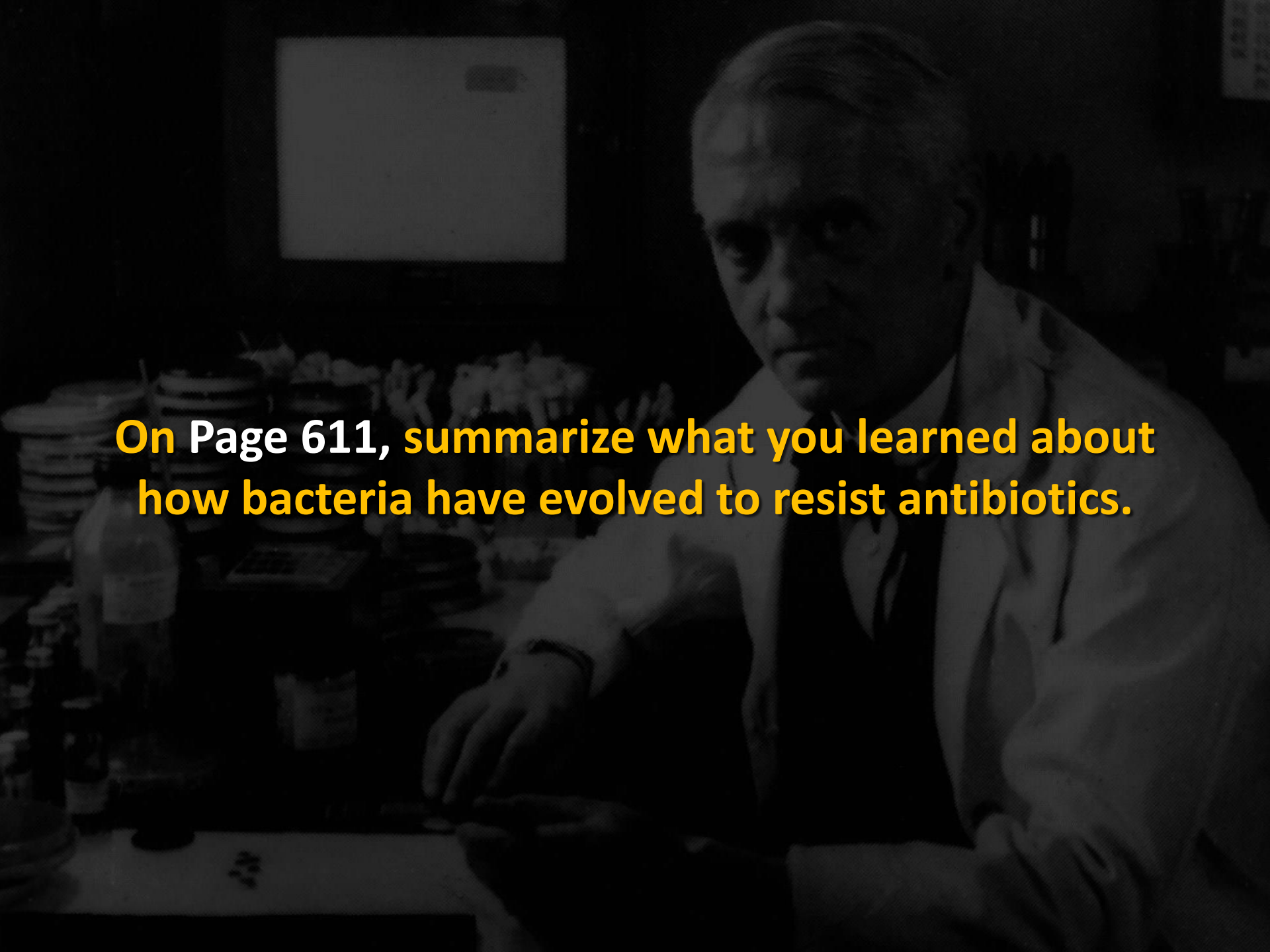


Over time, bacteria have evolved to resist the drug penicillin. Luckily new drugs have been invented, like…

- Erithromicin
- Zithromax
- Tetracycline


“It used to be that physicians could select almost any antibiotic to treat a patient. But that Golden Age of antibiotic use is over. The germs are winning.”
- Richard Glew, M.D.


On Page 611, summarize what you learned about how bacteria have evolved to resist antibiotics.