<u>Quote:</u> Within a few decades [of the invention of penicillin], however, penicillin lost much of its effectiveness, as have other, more current antibiotics. **The culprit is evolution.**

The widespread use of antibiotics has led to a process of **natural selection** that favors the emergence of resistance to these powerful drugs."

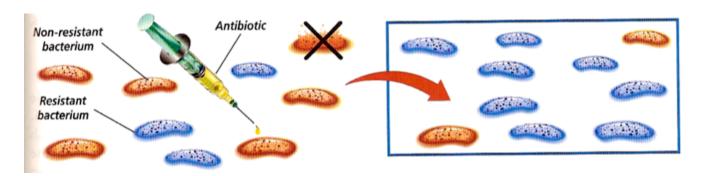
Question: What is the origin of the "superbugs"? Were the resistant strains already present in the population, which were multiplied after the non-resistant strains were destroyed by antibiotics?

Is this evolution, or merely **artificial selection** due to the application of antibiotics? Has any new genetic information been created? (no)

"Scientists at the University of Alberta have revived bacteria from members of the historic Franklin expedition that mysteriously perished in the Arctic nearly 150 years ago. Not only are the strains of bacteria almost certainly the oldest ever revived, three of them also happened to be **resistant to antibiotics."** See "Ancient Bacteria Revived," Sunday Herald September 16, 1990

"Resistance evolved [sic] because bacterial populations contained a few individuals with genes that enable them to destroy, inactivate, or eliminate antibiotics." [**They were already there**.]-- *Biology, the Dynamics of Life,* McGraw-Hill/Glencoe Science & National Geographic Society, p.1030

Graphic from Holt-Rinehart textbook showing original resistant bacteria surviving after application of antibiotics and dominating the surviving population.



What it says: "The development of bacteria resistant to antibiotics **is direct evidence for evolution** [sic]."

So antibiotic resistance is being used to falsely prove evolution from fish to philosophers, in spite of the admission that the <u>resistant strains</u> were already there.