

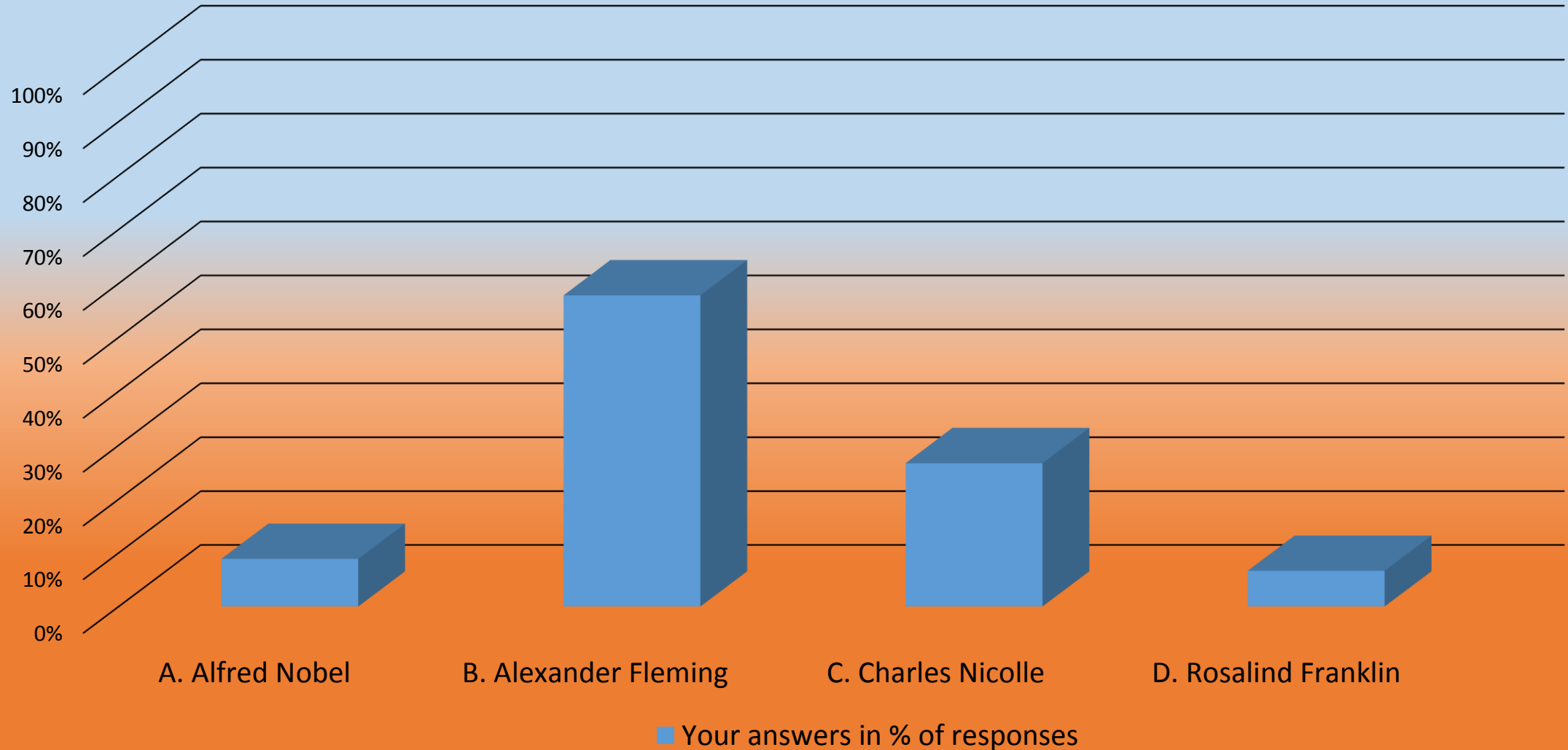
# Talking science Trivia Poll

The results are in!

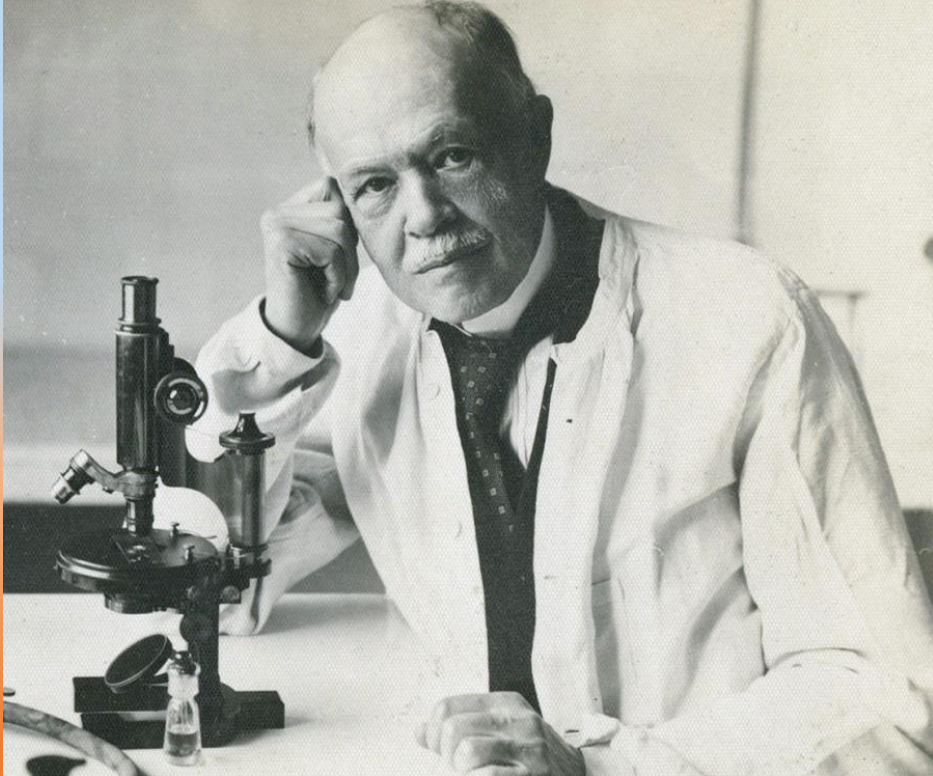
January 7, 2017

## Poll Results:

What scientist discovered that humans and animals could be infected with disease-causing microbes but not show any symptoms?



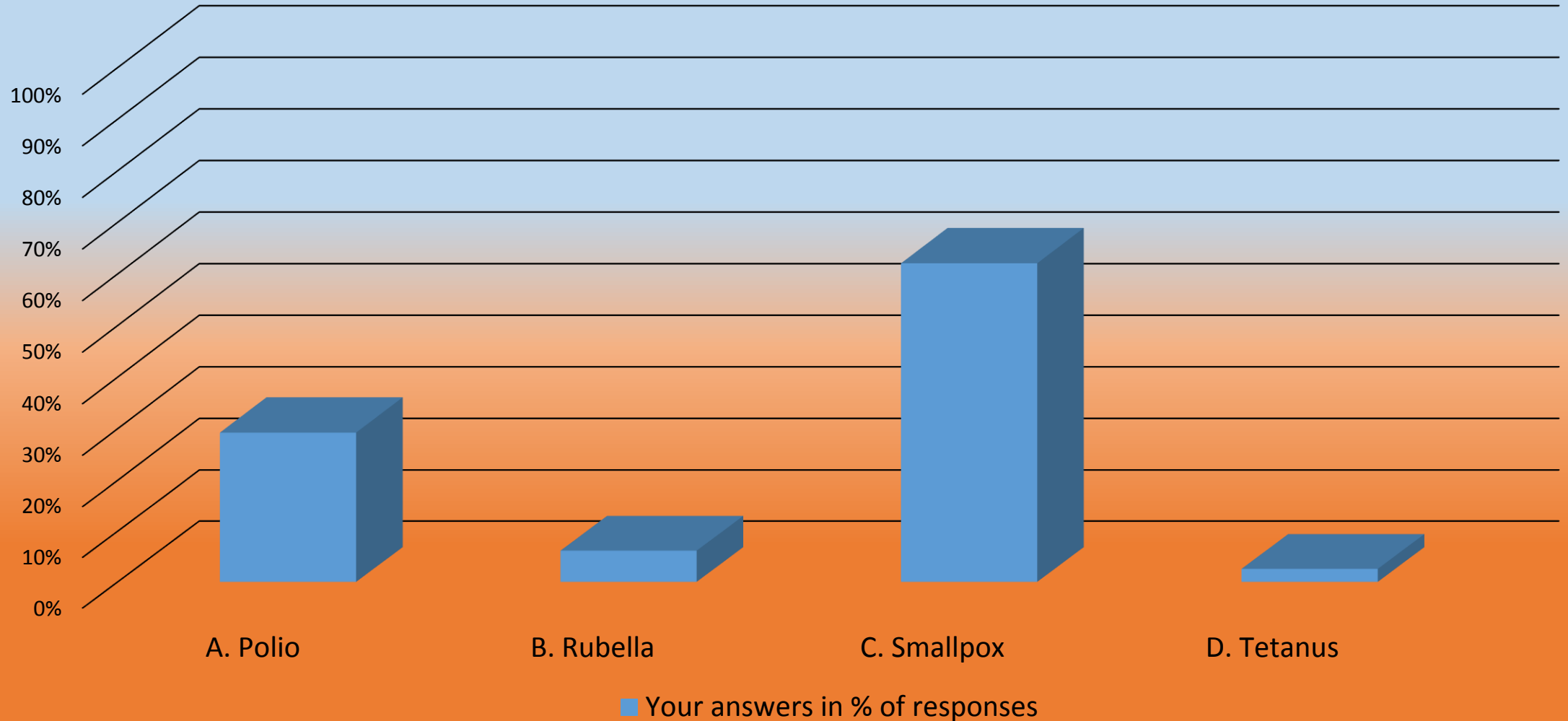
# Correct Answer: Charles Nicolle



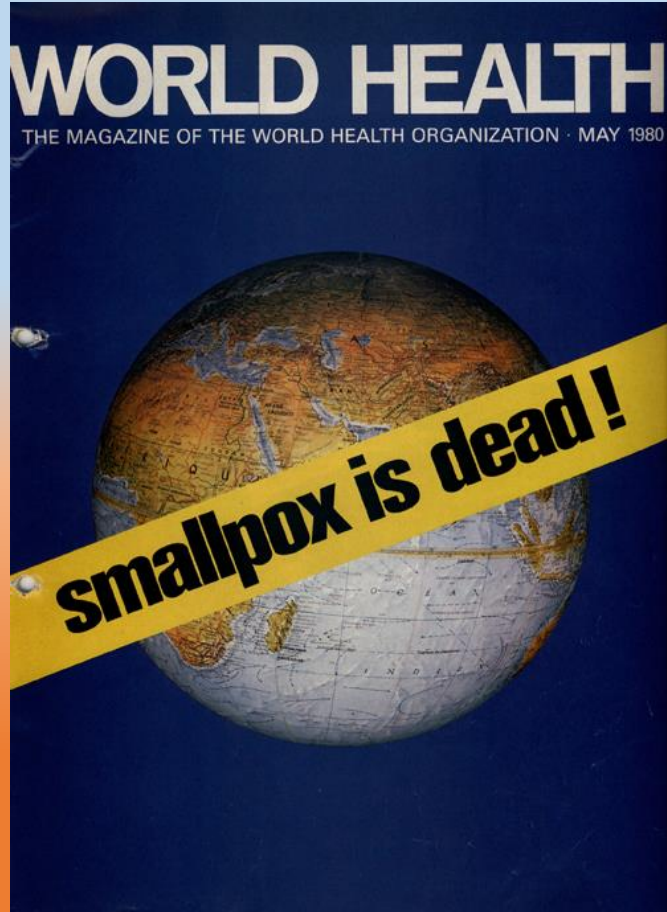
- This is called an asymptomatic infection
- In the early 1900s, Nicolle studied many different kinds of infectious diseases, such as diphtheria, malaria, and measles while in North Africa
- He was awarded the Nobel Prize for Physiology or Medicine in 1928 for identifying lice as the transmitter of typhus.

# Poll Results:

Which of these diseases has been completely eradicated in nature due to vaccines?



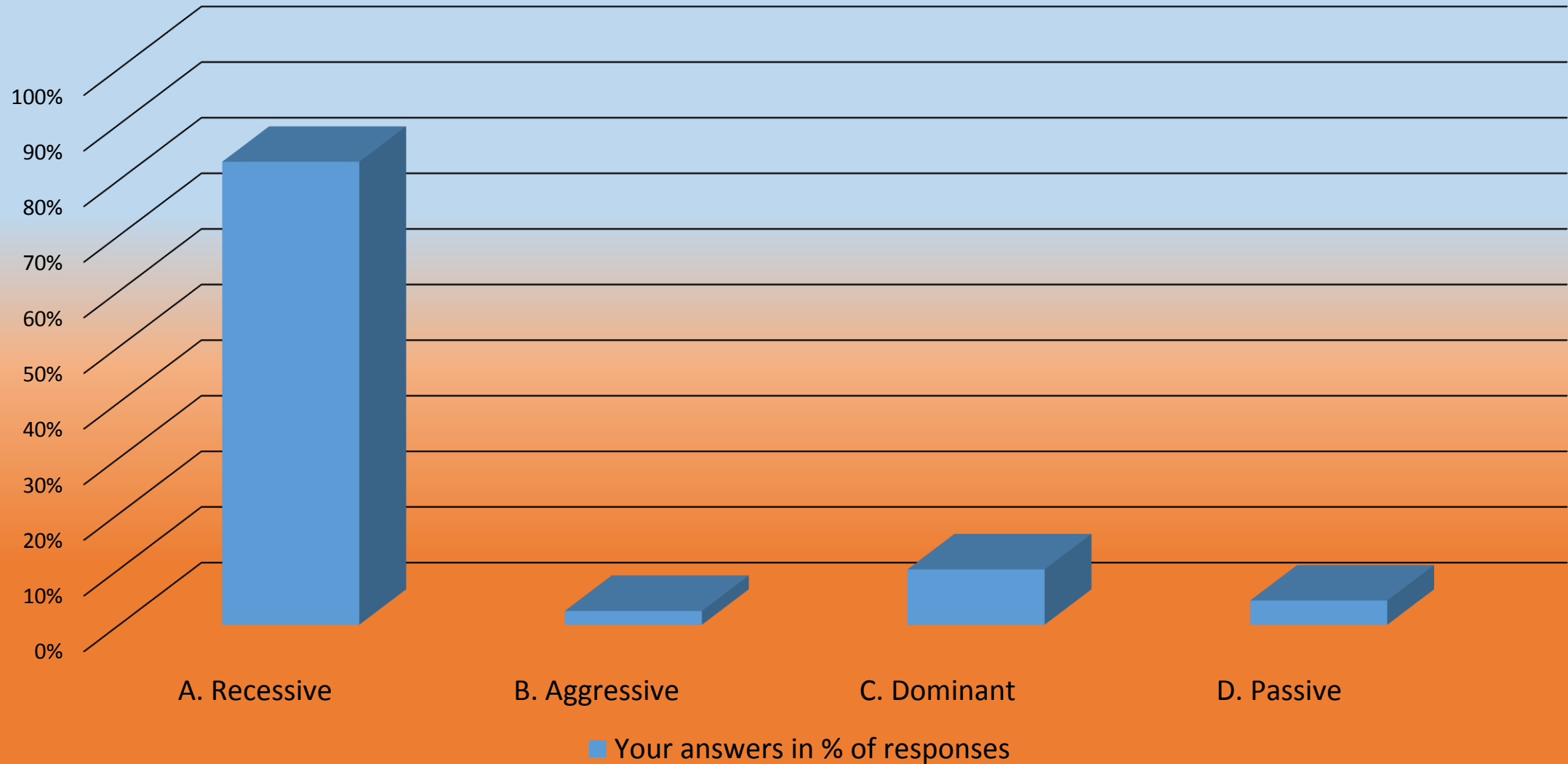
# Correct Answer: Smallpox



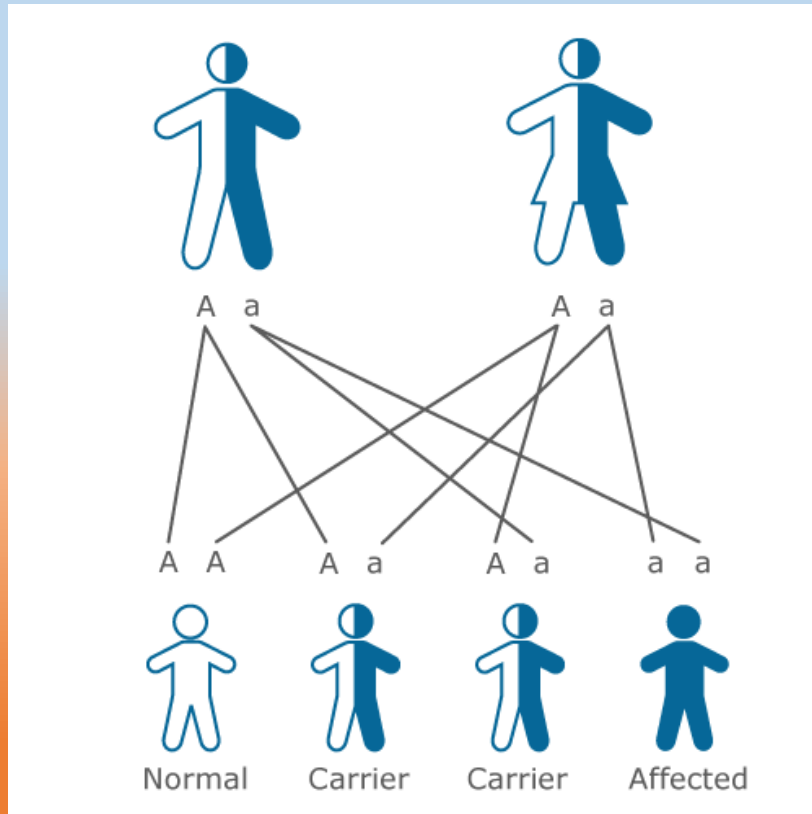
- Thanks to vaccination campaigns, smallpox was declared eradicated in 1980
- The last known natural case was in Somalia in 1977
- Thanks to vaccines, the incidence of polio, rubella, and tetanus have all been greatly reduced, but are not yet eliminated

## Poll Results:

When a person must inherit defective genes from both parents in order to have a particular genetic disease, the disease is considered:



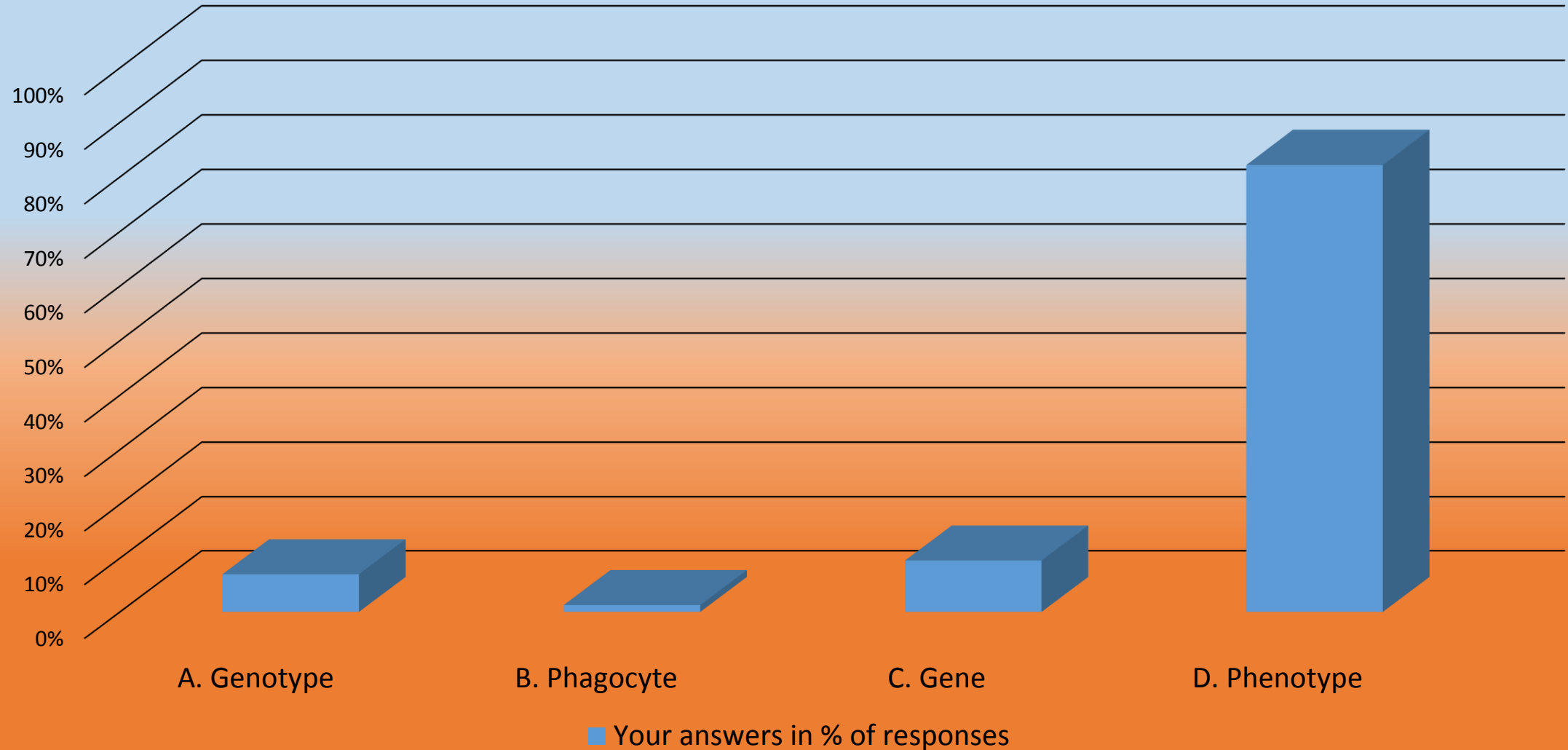
# Correct Answer: Recessive



- Recessive traits only show if both parents pass that gene on to the child
- Conversely, dominant traits need only one copy of that gene to be present
- Recessive diseases include cystic fibrosis, sickle cell anemia, and Tay Sachs disease, among others

## Poll Results:

The scientific word for an observable characteristic that can present in multiple forms, such as eye color or behavior, is:





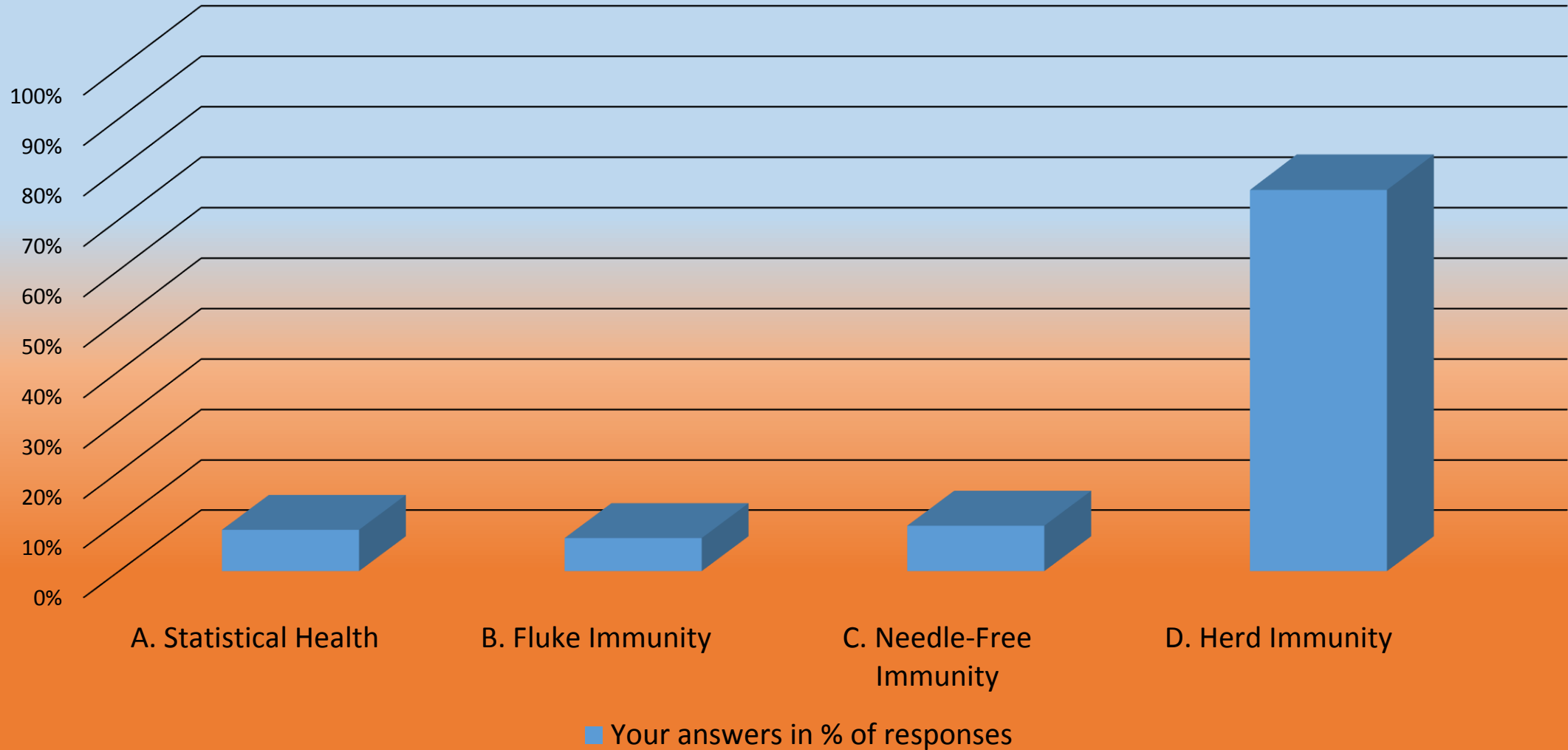
# Correct Answer: Phenotype



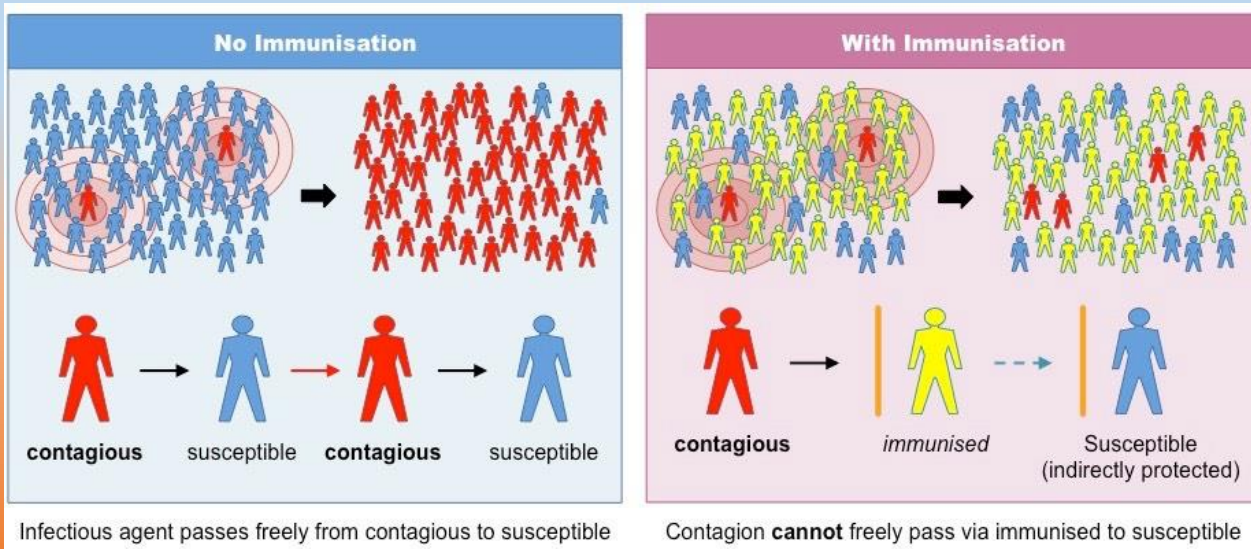
- Phenotype is the expression of an organism's genetic code
- Phenotype can be a pure expression of the genetic code or it can be altered by environmental factors
- For example, depending on what kind of food they eat, flamingos can be either pink or white

## Poll Results:

When an unvaccinated person isn't likely to get sick because a majority of people in their community have been vaccinated, it is called:



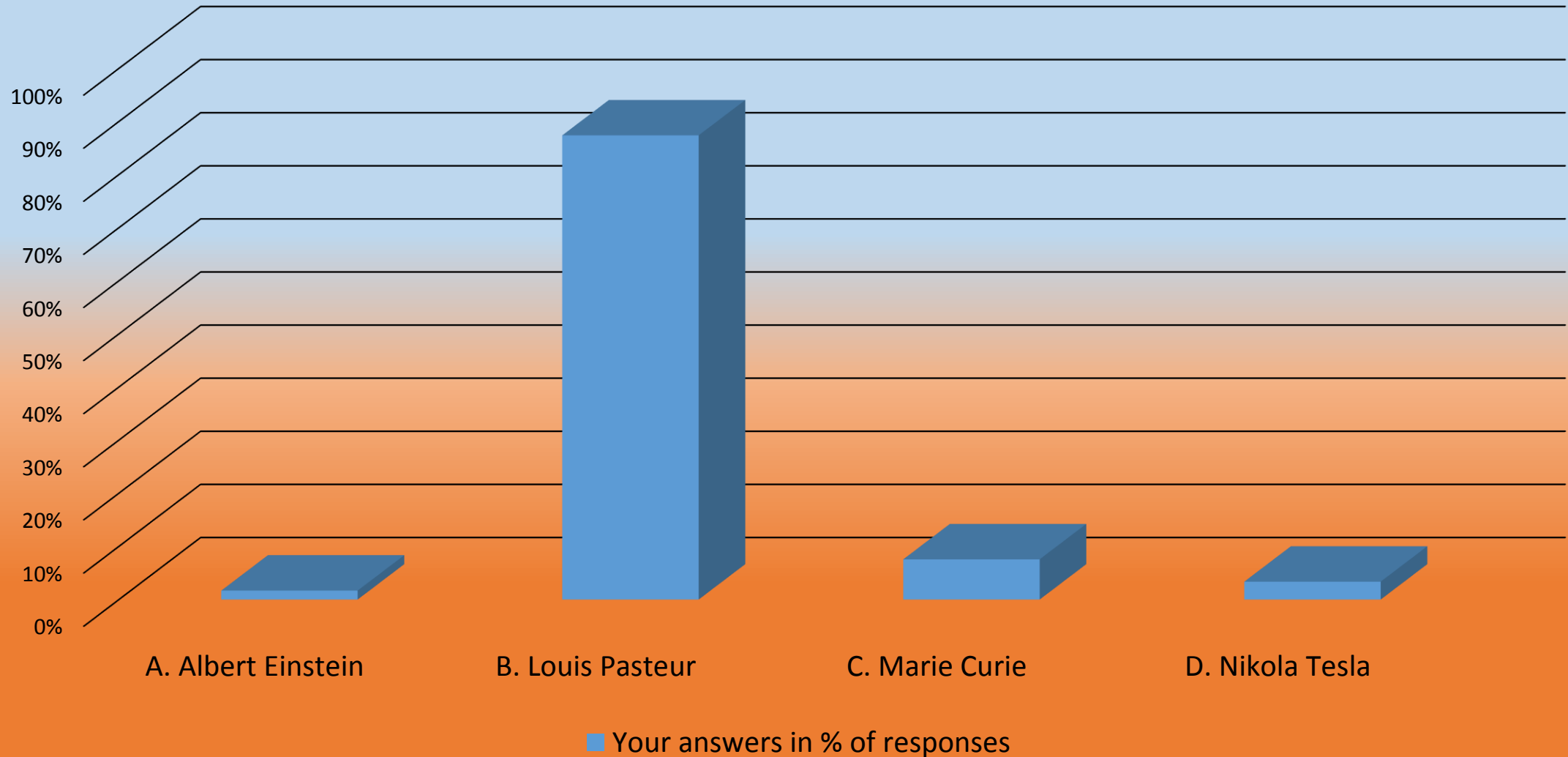
# Correct Answer: Herd Immunity



- Also known as Community Immunity
- When a critical portion of a community is immunized, a disease cannot spread quickly
- This makes it much harder for the disease to reach susceptible people
- Allows those who cannot receive vaccines, such as infants or those with compromised immune systems, to possibly avoid becoming infected

# Poll Results:

## Who proved that many diseases are caused by the actions of microorganisms?



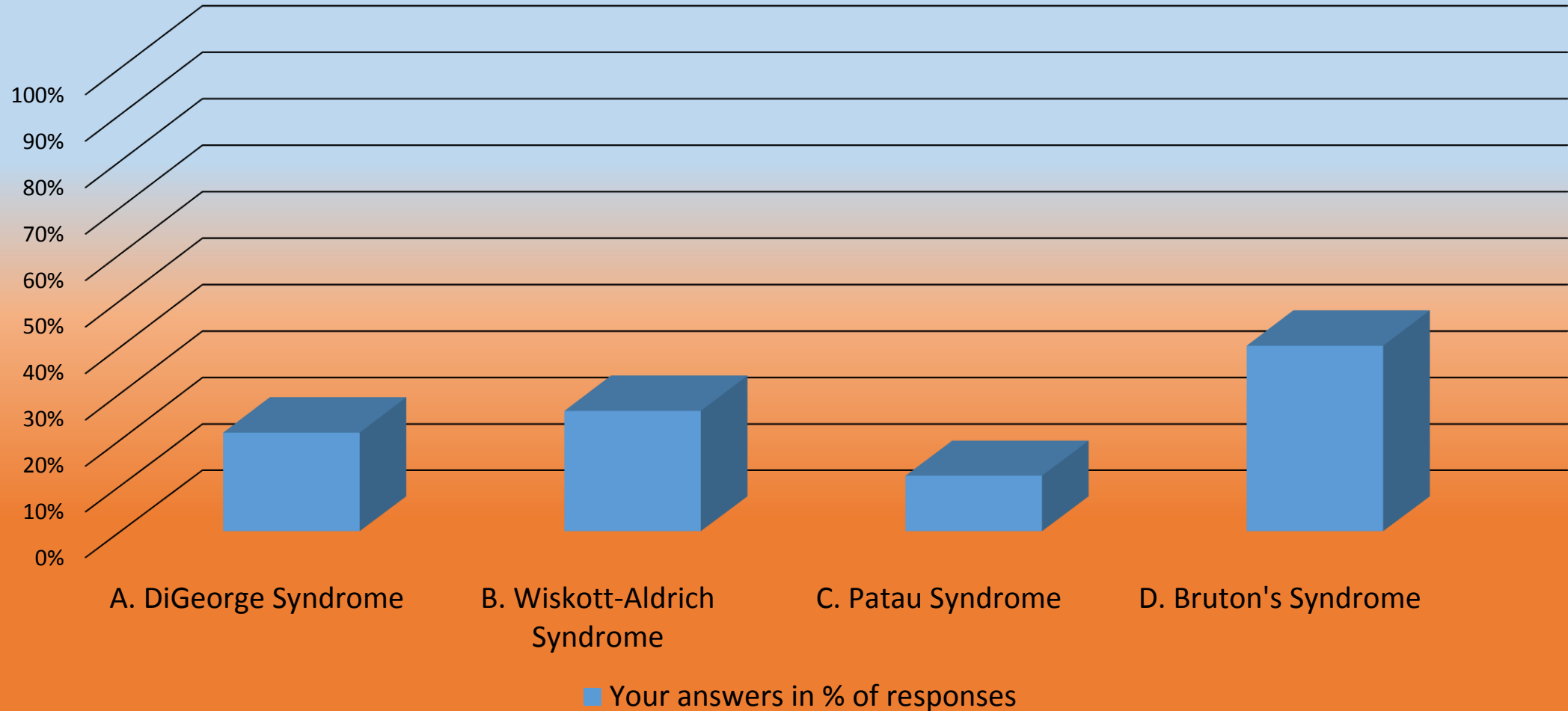
# Correct Answer: Louis Pasteur



- Not the first to hypothesize that microbes caused disease, but his research helped prove it
- Understanding that microorganisms were responsible for causing some drinks to sour, he developed a process of boiling and cooling liquid to rid it of microbes; later called Pasteurization
- Pasteur would go on to isolate disease-causing microbes and develop vaccines for several diseases, such as anthrax, cholera and TB

## Poll Results:

The first primary immunodeficiency to be discovered, agammaglobulinemia, is also known as \_\_\_\_\_, named after the military pediatrician who discovered it.



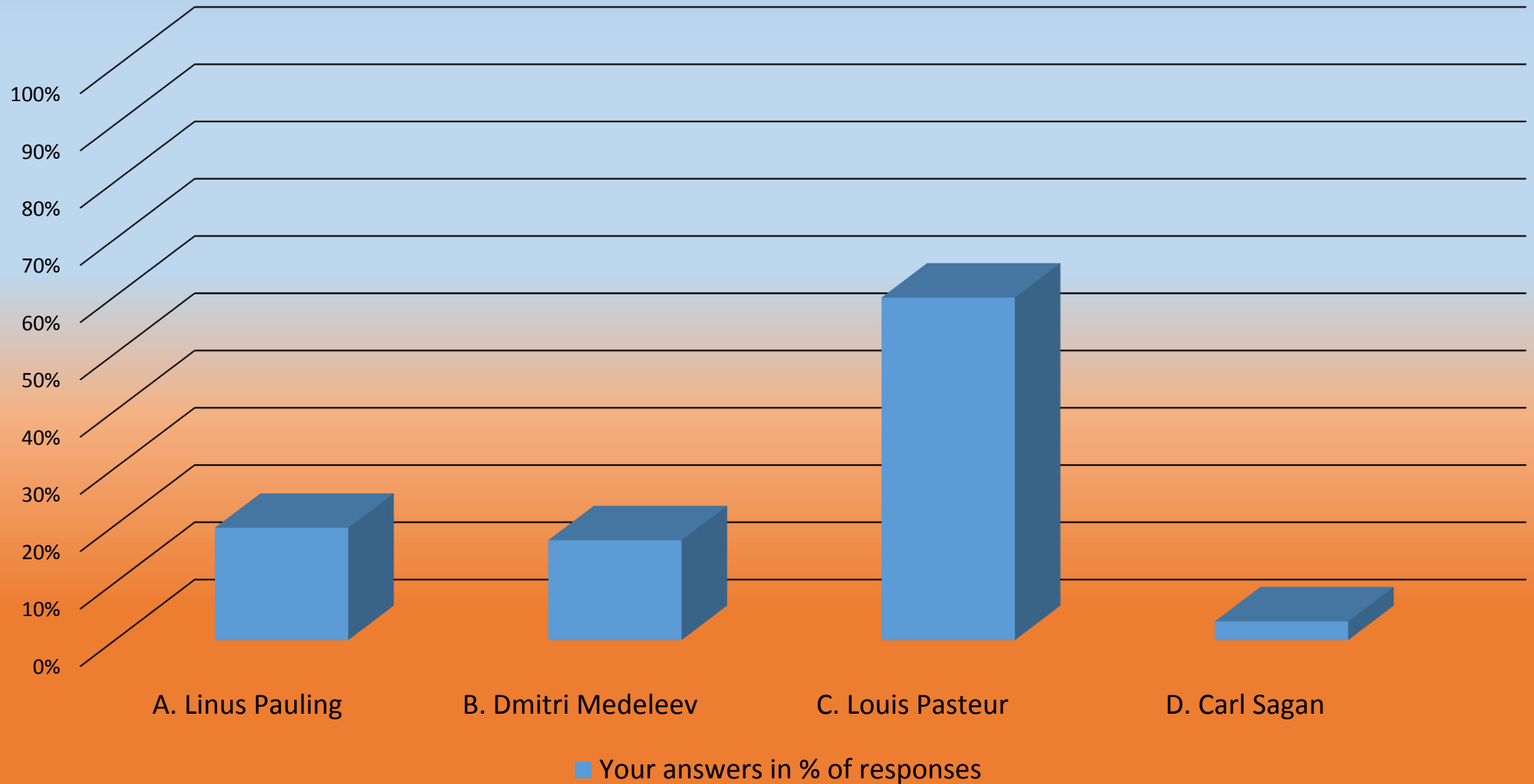
# Correct Answer: Bruton's Syndrome



- Ogden Carr Bruton was chief of pediatrics at Walter Reed Army Hospital in the 1950s
- There, he encountered an 8 year old boy with recurrent pneumonia
- Discovered the boy's body was unable to produce gamma globulin
- This condition is an immunodeficiency
- Today, the condition is referred to as Bruton's Syndrome

# Poll Results:

## Who invented the modern use of the term “vaccine?”





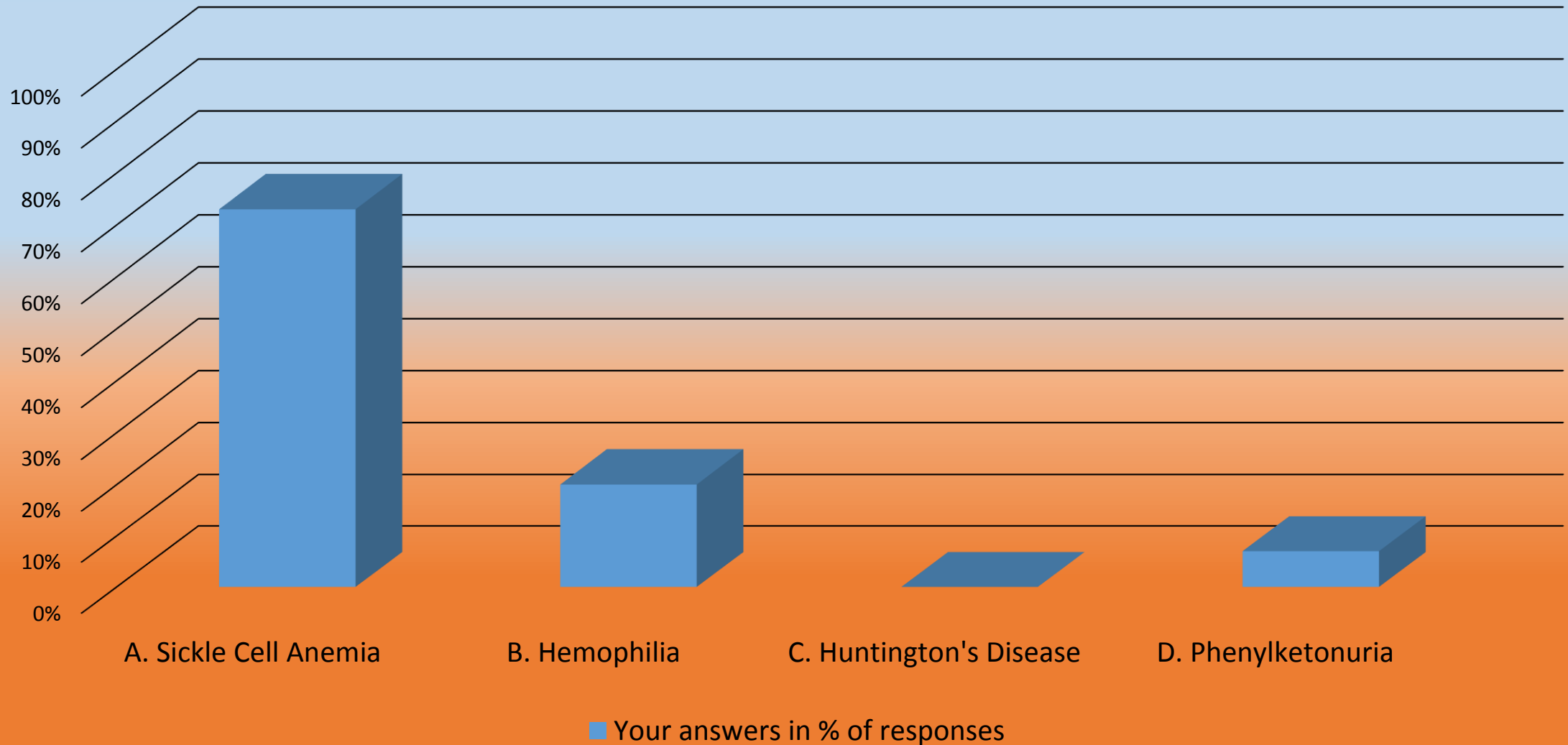
# Correct Answer: Louis Pasteur



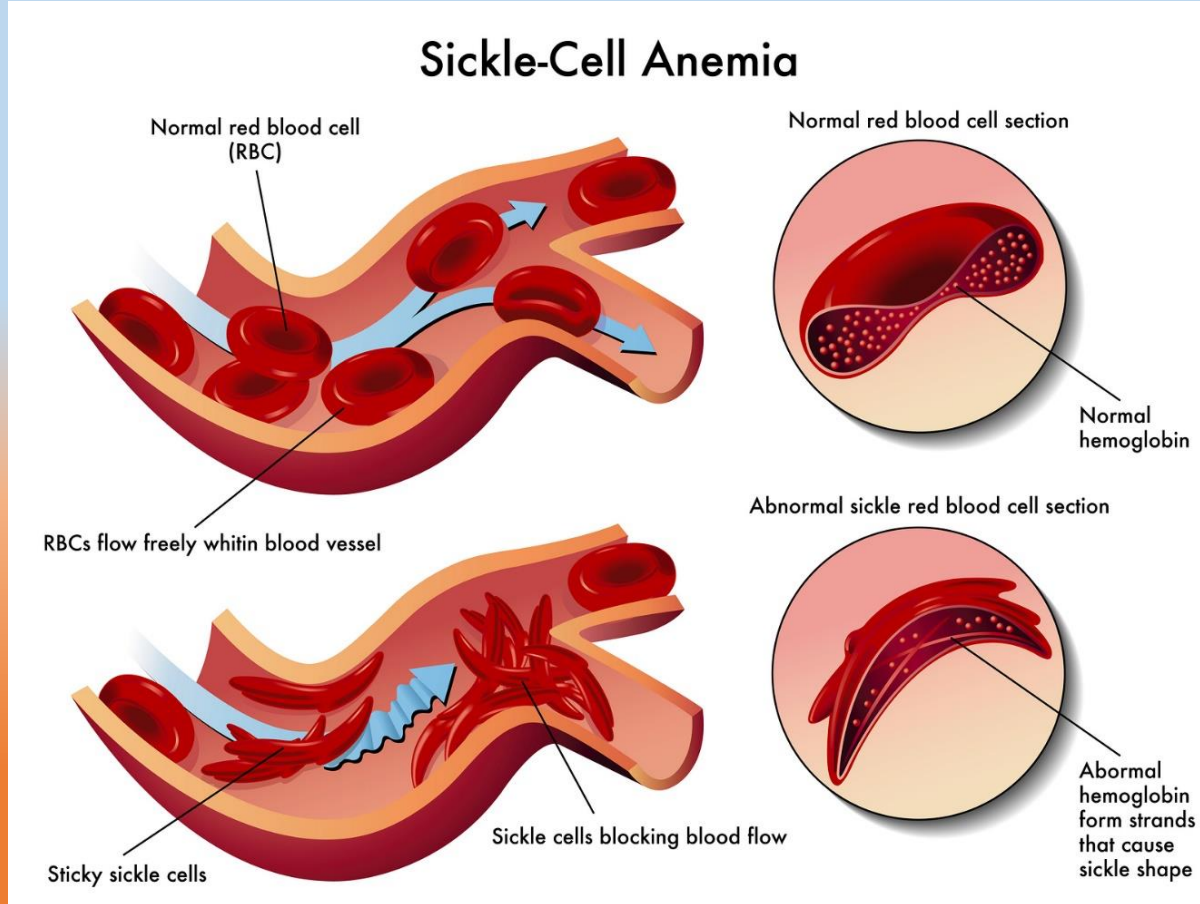
- The term originally came from the name of the cowpox virus (vaccinia), which was used to treat smallpox
- While developing a way to prevent rabies, Pasteur referred to his treatment as a “vaccine”
- Before then, the word vaccine had only referred to cowpox virus
- From that point forward, the term applied to all dead viruses used to prevent future infection

## Poll Results:

In 1954, Anthony Clifford Allison confirmed that people were resistant to malaria if they had the trait for what other disease?



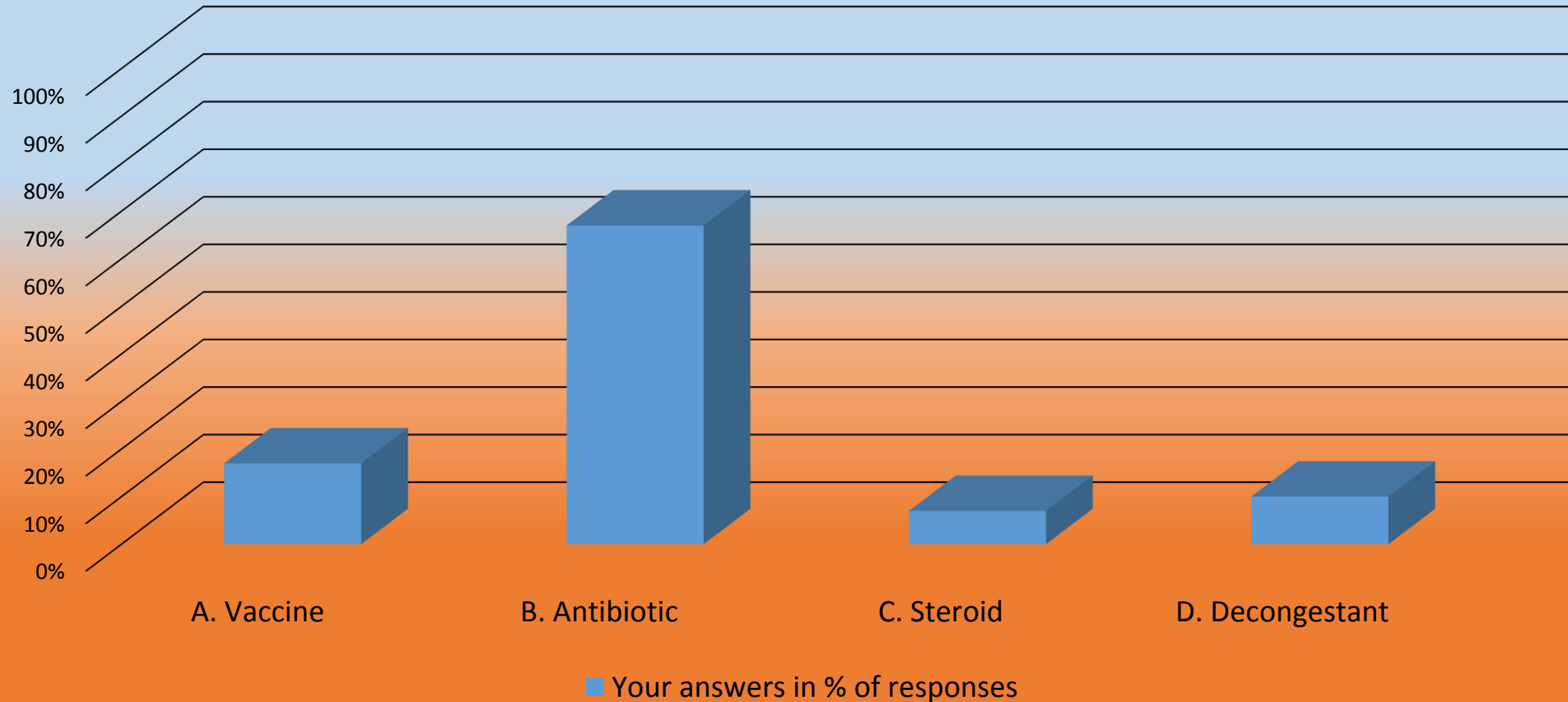
# Correct Answer: Sickle Cell Anemia



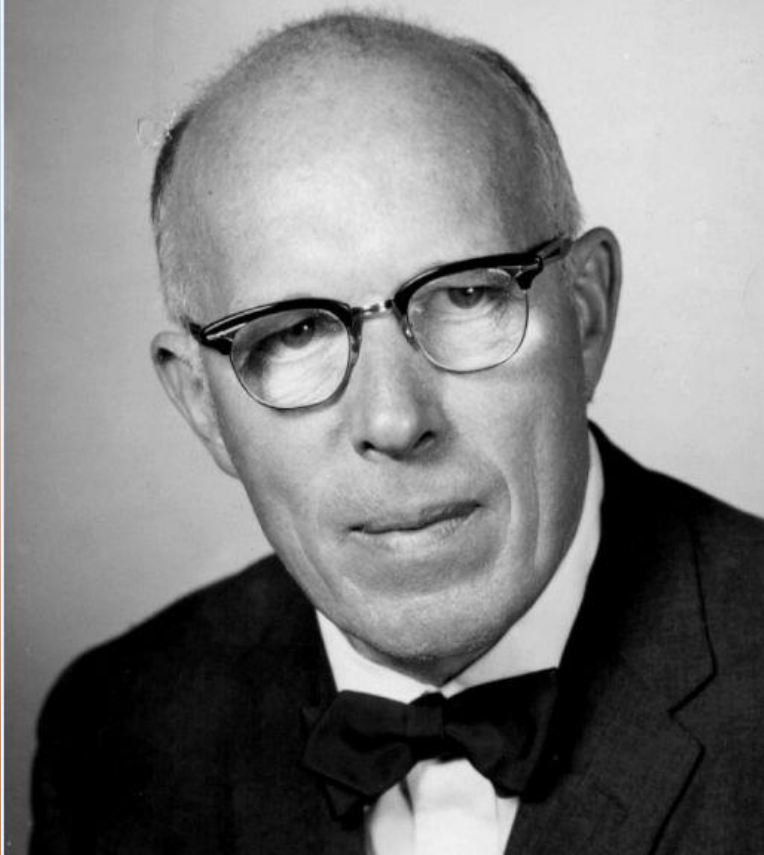
- Humans who are heterozygous for the sickle cell gene (have one copy) are relatively protected from the malaria disease
- Scientists believe that the trait for sickle cell remains common in malaria-endemic regions because it may help a person to survive in areas where there is a high risk of exposure to malaria

## Poll Results:

In 1940, Rockefeller University scientist René Dubos isolated microbes in soil that would led to the creation of the first commercially produced \_\_\_\_\_.



# Correct Answer: Antibiotic



- While working at Rockefeller, Dubos was able to isolate a substance called tyrothricin
- This antibacterial substance would lead to first commercially produced antibiotics
- His research stimulated interest in the area of antibiotics that would lead to major breakthroughs in the years following