

The scientific influence of individuals during 19-20th century and their impact on modern medicine.

There were many significant and life-saving medical discoveries in both the 19th and 20th century, most made by scientists. The research completed and theories published by scientists during this era are still reflected in modern medicine and medical practice today and have saved countless people from preventable death.

An example of a notable figure that has influenced the way modern medicine is practiced could be Louis Pasteur. In 1861 he put forward the Germ Theory; microbes in the air cause substances to rot and therefore the germs in the air cause disease. He realised this when he proved that food and wine spoiled from bacteria invisible to the naked eye rather than spontaneously generating. This has influenced protocols such as infection control, specifically transmission-based precautions, used for patients who may be infected or colonized with certain germs. He also inspired Lister, who later developed the antiseptic system in order to prevent infections from entering a wound during and after surgery. He additionally proved the link between germs and disease by 1865 which solidified his status as the father of modern immunology.

Another prominent individual could be Robert Koch, often referred to as the founder of bacteriology, who is renowned for his tuberculosis vaccination, in 1890, and identification of the anthrax disease cycle in 1876 and cholera bacteria in 1883. He discovered that specific germs caused specific diseases allowing for people to look for specific medicines to target their ailment. He also developed a method of growing bacteria in a petri dish on agar jelly and staining the bacteria so it was visible under a microscope. It helped doctors to understand that because it was bacteria causing symptoms of disease, it was bacteria that needed to be removed. Although Koch's identification did not make a big impact at the time, his research is still echoed today in theory and practice.

Another massively influential figure was Alexander Fleming, a Scottish physician and microbiologist, who is best known for his discovery of one of the world's most widely effective antibiotics, named penicillin, in 1928. This was discovered when he found mould growing in a culture/petri dish and procured an extract from the mould, naming its active agent penicillin. He is also held accountable for the discovery of Lysozyme, which plays an important role in providing protection against viruses, bacteria and fungi and is still used in medicine today. His discoveries were a major breakthrough, especially penicillin which meant, and still means, that curing serious illnesses is possible even if the patient already has the disease.

Other notable scientific and medical discoveries during this period include Ignaz Semmelweis discovering how to prevent puerperal fever in 1847, Emil von Behring discovering antitoxins and uses them to develop tetanus and diphtheria vaccines in 1890, Wilhelm Conrad Röntgen discovering the medical use of X-rays in medical imaging in 1895, Karl Landsteiner discovering the different human blood types in 1901, not to mention many others that have shaped, and will shape, medicine now.

Though this essay has been focused on the history of medicine and science, I think that the history of science is an intriguing subject that has much to offer, there is many thought-

provoking tangents that one could study. I think this would be a good subject for me to study because it is something I have a great interest in both science and history, the medical history of today's world is a broad and has an extensive range of people and discoveries to study. Science is a fundamental part of our world and society today, being able to understand and engage with content about how it came to play the role it does today would be a useful and interesting topic to study.