it towards relatively few outstanding ...
does not necessarily deal only with events of the past history is being made today as our knowledge grows with each discovery and each passing event In the history of science their importance depends upon the cumulative effect of several isolated discoveries.

Microbiology began with the knowledge of lenses and to combine them to produce magnifications great enough to see microbes. In 13th century Roger Bacon, Fracastorius (1483-1553) and von Plenciz (1762) postulated that disease is produced by invisible living creatures. Kircher (1658) a monk was the first man to ~~reg~~ recognise the significance of bacteria and other microbes in disease. In (1665) Robert Hooke described cells in a ~~p~~ piece of cork. Antony von Leeuwenhoek (1632-1723) was the first to see microscope. The term microbe was introduced in 1878 by a french surgeon charles Emmanuel sedillot.

[The discovery of microbes initiated interest in the origin of living things. Aristotle (384-322 B.C) thought that animals might originate spontaneously from the soil plants or other unlike animals but there were much challenge of the theory. Spallanzani (1729-1799) insisted that air was essential to the spontaneous production of microorganic beings. Franz Schulze (1815-1873) and Theodor Schwann (1810-82) ~~Schultze (1815-1873)~~ also challenged this theory. Pasteur (1822-1895) also opposed this theory followed by father finally John Tyndall (1820-1893) conducted experiment and proved that dust carries the germs] x

Before Pasteur germ theory of disease expressed von Plenciz (1762) was of the opinion that living growth organisms are not only the cause of disease but different germs were responsible for different diseases. Pasteur found that fermentation of fruits and grains resulting in alcohol was brought about by microbes.

established as Koch's postulate

Pure cultures bacteria postulate first obtained by Joseph Lister (1878) by serial dilutions in water. Koch devised a solid culture medium for the study of bacteria.

Pure culture technique is of great importance in the development of the science of micro biology. But this technique the agents of many infections and micro organisms responsible for fermentation, nitrogen fixation were isolated and developed.

The success of Pasteur and Koch brought fame and Pasteur institute was established in Paris in 1888. In this institute new bacteria were discovered daily and their disease producing capacity was proved by Koch's postulate.

Edwin Klebs and Frederick Loeffler discovered the diphtheria bacillus and produced its poison in laboratory. Kitasato cultivated Clostridium tetani and with von Behring made antitoxin for the treatment and prevention of Lockjaw. For this von Behring was awarded the Nobel Prize in Physiology and Medicine in 1901.

Elie Metchnikoff, described that leucocytes could eat disease producing bacteria in the body. He called these defenders against infection phagocytes (eating cells) and the process he called phagocytosis.

Paul Ehrlich explained immunity on basis of action certain soluble substances in the blood. Ehrlich made another important discovery that an organic arsenical would destroy the syphilis microbe in the body. This was the first chemotherapeutic substance scientifically discovered. The period from 1880 to 1900 was a golden time of microbiology.

The field of soil microbiology was opened in late 1800 by winogradsky, he showed the importance of bacteria in making plant food by atmospheric nitrogen and hence as animal food. The symbiotic relationship of bacteria was shown in 1888 by Hellriegel and wilfarth. A famous microbiologist in 1901, Beijerinck (1851 - 1931) found free living nitrogen fixing bacteria Azotobacter. Emil Christian Hansen (1842 - 1909) opened the way to industrial fermentation.

Late in 19th century a disease of tobacco plant which appears caused by a bacterium was discovered by Iwanowski, opened a new way - Plant pathology. He described a mottling disease of tobacco plant. Iwanowski demonstrated the viral nature of the suggestion, suspected agent of the plant disease. The transmission of viral disease of plants was suggested by Beijerinck (1898) and further Adam and Stanley (1907).

Wendell M Stanley and John H Northrop (1935) isolated the tobacco mosaic virus in crystalline form and were awarded the Nobel prize in chemistry in (1946).

Since 1900 microbiology has become a branch of biology. We know the importance of microorganisms in agriculture and their work in industry to bring about chemical changes.

The 1969 Nobel prize in physiology and medicine was shared by 3 Americans Max Delbruck, Alfred D Hershey and Salvador Luria. They studied bacteriophages ... processes in bacteriophages and helped to establish modern molecular biology.

In 1972 Gerald M Edelman and Rodney R Porter shared the nobel prize to the knowledge of the chemical structure of antibodies. Nobel prize holders [illegible] cancer virus particles in tumor cells. Palade and Duve developed the techniques for biochemical analysis of cells which led to their discoveries of ribosomes and lysosomes.

In 1975 Nobel prize in physiology and medicine was awarded to Renato Dulbecco, Howard M. Temin and David Baltimore. These three investigated aspects of molecular biology. This showed the occurrence of specific enzyme in RNA tumor virus particles which could make a DNA copy from RNA.

Thus it can be seen that the history of microbiology is an unfinished book. It will remain unfinished as long as there are talented men and women who are trained in fundamentals.

At last we can say that the golden era of microbiology Strain started about 1945 and continue today and will continue onward.

=