

invented Telescope in 1554 and used it to study heavenly bodies. He confirmed Copernicus's observation and established that universe was an open system (Church described Universe as a closed system maintained in motion by God) and earth was only a small part of it. Galileo was also charged of Heresy and not allowed to work on Astronomy anymore. Kepler from Germany explained with help of Mathematics how planets move around the sun. Newton continued the work of Kepler & established that all heavenly bodies move as per the Law of Gravity.

Vesalius through study of dissections of human body provided complete description of the anatomy of human body. Harvey in 1610 explained blood circulation. This helped in medical science. Innovations like use of Astrolabe and Compass and development of better ships which could sail in any direction irrespective of the wind direction helped in discovery of new lands at the end of 15th century. The Scientific revolution paved the way for a new movement called Enlightenment that began in 1600s and reached its height in mid 1700s. **Enlightenment** stressed on ideas of self-rule, basic human rights and democracy. It was the driving force behind movements for establishment of self-rule and democracy in Europe and elsewhere. Thus, we shall see that Enlightenment played a very important role in the American Revolution (1776), the French Revolution (1789) and the Russian Revolution (1905, 1917).

4.1.2. Reformation

- Alongside, the **16th Century also witnessed Reformation** which can be classified into Protestant Reformation & Catholic Reformation.
- **Protestant reformation (early 16th century)** was a movement against the practices and authority of the radical Catholic Church. It resulted in the rise of Protestantism and in their opposition, the Protestant leaders started setting up Protestant Churches in different countries of Europe. Under Martin Luther, a monk who opposed the Letters of Indulgence and other Church evils, the first Protestant Church was setup in Germany (from 1520-1545) under the King's support.
- The German rulers supported Luther due to political reasons as well. They desired freedom from authority of Pope and control on wealth of Monasteries. Soon after, the Protestant Reformation spread to rest of Europe.
- Nationalism also played a role as the people now despised the authority of Catholic Church located in Rome. In England, King Henry VII declared himself the head of the Church. Then the Queen Elizabeth I made the Church of England, the official church by declaring its independence from the Church in Rome and adopting some Reformation principles.
- Protestant churches adopted the use of language spoken by the people, rather than the elitist Latin. The Bible was translated into local languages. (This was similar to ascendance of local languages in place of Sanskrit during Indian Renaissance) The use of local languages further increased national consciousness & thus Renaissance and Reformation can said to be a precursor to nationalism in Europe.
- Reason was popularized as more important than Religion.
- By 17th century, half of Europe had setup their own Protestant Churches.
- **Catholic Reformation or Counter Reformation (late 16th century)**
 - This was a reform process initiated by the Catholic Church in response to the rising popularity of the Protestant Churches. In Spain, the reformers formed an organization of clergymen to work as "Soldiers of Jesus". The members of this organization came to be known as Jesuits and they went to France and Germany to win back followers. They also setup missions in India, China, Africa and America.
- After these reformations, religious wars began among the followers of both sects and many followers were killed on both the sides. The violence against Protestants in England resulted