

Examples of famous scientists being not quite correct

There is an old proverb saying: “To err is human”. The following examples confirm this proverb.

Claudius Ptolomaeus

Claudius Ptolomaeus lived in Alexandria (Egypt) from approximately 87–150 A.D.. Ptolomaeus believed in the geocentric universe, i.e. a universe in which the earth is located at the center. This misconception was subsequently corrected by Nicolaus Copernicus and Tycho de Brahe who introduced the heliocentric model of the solar system.



Claudius Ptolomaeus



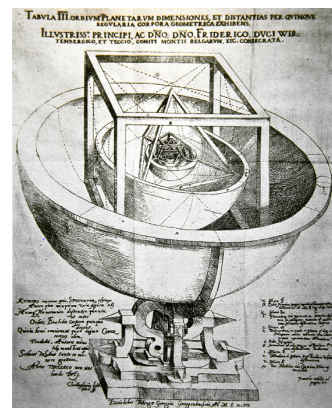
Geocentric universe

Johannes Kepler

Johannes Kepler, a well-known astronomer believed that the radii of the orbits of planets around the sun would be related to each other by the radii of nested spheres that are tangential to the planes or corner points of regular polyhedrons. He spend a considerable amount of time to identify the polyhedrons that best matched the radii of Venus, Earth, Mars, Jupiter, and Saturn.



Johannes Kepler



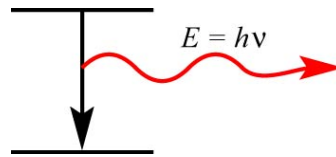
Kepler's model

Gottfried Wilhelm von Leibniz

“Natura non facit saltus”. This could be translated as “Natural processes do not jump” or “Physical variables are not discontinuous” or “Natural processes evolve continuously”. With the advent of quantum mechanics, this principle no longer holds true.



Gottfried Wilhelm von Leibniz



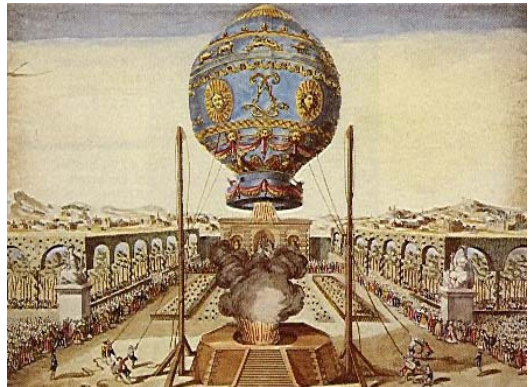
Emission of photon

Lord Kelvin

Lord Kelvin (to be exact Sir William Thomson, Baron Kelvin of Largs) believed that objects heavier than air would be incapable of flying. The Wright brothers proved him wrong.



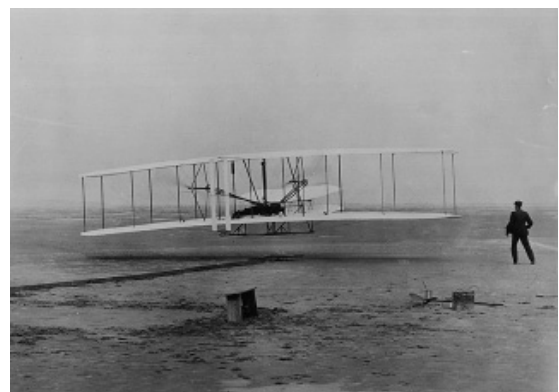
Lord Kelvin



Hot air balloon (1783)



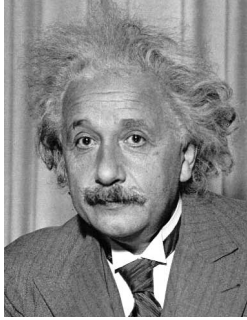
Otto Lilienthal's plane, 1894



Wright brothers' airplane (1903-1906)

Albert Einstein

Albert Einstein did not appreciate the Heisenberg uncertainty relation and expressed his doubts by the now famous words: “God does not play dice with the universe”.



Albert Einstein

$$\Delta x \Delta p \geq \hbar$$

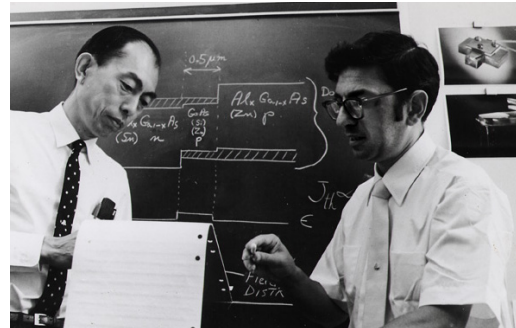
Uncertainty relation

Henry Kressel et al.

Henry Kressel, H. F. Lockwood, and M. Ettenberg considered the first demonstration of continuous-wave (cw) operation of a semiconductor laser as “unremarkable” due to the low power and supposedly limited usefulness of semiconductor lasers (H. Kressel, H. F. Lockwood, and M. Ettenberg *IEEE Spectrum* Volume **10**, page 59, 1973). The first cw operation of a semiconductor laser was demonstrated by Izuo Hayashi, Morton B. Panish, P. W. Foy, and S. Sumski, *Appl. Phys. Lett.* **17**, 109 (1970).



First cw GaAs laser on US penny



Izuo Hayashi and Mort Panish



Common applications of semiconductor lasers: CDs and fiber optic strands