

## Nanos gigantum humeris insidentes

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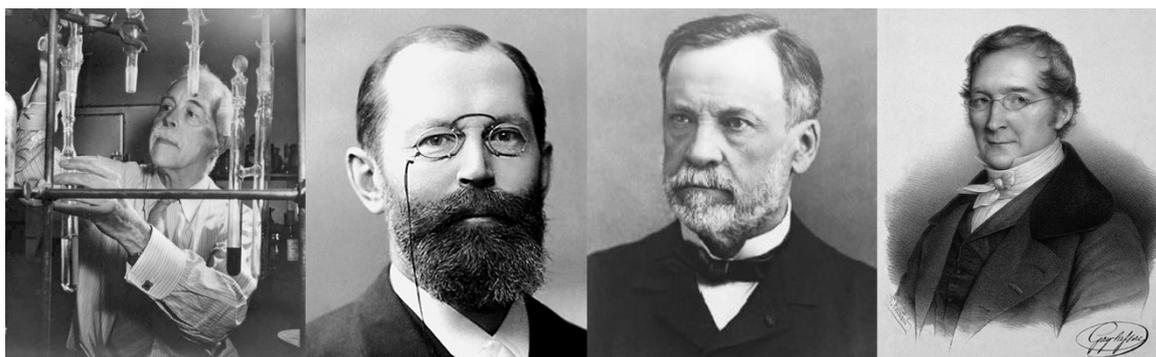
The title translation's "dwarfs stand on the shoulders of giants" means "discovering truth by building on previous discoveries". This concept is attributed to Bernard de Chartres (1080 - 1130). Its most familiar formulation is by Isaac Newton in 1675: "If I have seen further it is by standing on the shoulders of Giants."

Joseph Louis Gay-Lussac (6/12/1778 - 9/5/1850) is a French chemist and physicist. His work in physics and chemistry, in the continuity of Lavoisier and Newton, opened a path to the fundamental notions of atomic chemistry (Avogadro's number and molarity).

Louis Pasteur (27/12/1822 - 28/9/1895) was a French biologist, microbiologist, and chemist renowned for his breakthroughs in the causes and prevention of diseases (puerperal fever mortality reduction, first vaccines for rabies and anthrax). He made significant discoveries in chemistry, leading to the understanding of the structure of organic compounds and the molecular basis for chirality.

Emil Fischer (9/10/1852 - 15/7/1919) is a German chemist, winner of the 1902 Nobel Prize in Chemistry "in recognition of the extraordinary services [ ] on the synthesis of carbohydrates and purines". He discovered the Fischer esterification, developed the Fischer projection, and hypothesized lock and key mechanism of enzyme action.

Gilbert Newton Lewis (25/10/1875 - 23/3/1946) was an American physical chemist renowned for his major contributions on the covalent bond, valence bond and acid-base theories. He also contributed to chemical thermodynamics, photochemistry and isotope separation. In 1926 he coined the term "photon".



Nani gigantum humeris insidentes (Standing on the shoulders of giants)

### Bibliographic references:

[1] E. Fischer, G. N. Lewis, J-L. Gay-Lussac (2020), *Chem. Eur. J.* (26) 861-876.

[2] E. Fischer, L. Pasteur (2017), *Tetr. Asym.* (28) 1675-1685.