Lord Rayleigh

John William Strutt, 3rd Baron **Rayleigh**, OM, PC, PRS (/?re?li/; 12 November 1842 – 30 June 1919), was a British scientist who made extensive contributions to both theoretical and experimental physics. He spent all of his academic career at the University of Cambridge. Among many honours, he received the 1904 Nobel Prize in Physics "for his investigations of the densities of the most important gases and for his discovery of argon in connection with these studies." He served as President of the Royal Society from 1905 to 1908 and as Chancellor of the University of Cambridge from 1908 to 1919.

Rayleigh provided the first theoretical treatment of the elastic scattering of light by particles much smaller than the light's wavelength, a phenomenon now known as "Rayleigh scattering", which notably explains why the sky is blue. He studied and described transverse surface waves in solids, now known as "Rayleigh waves". He contributed extensively to fluid dynamics, with concepts such as the Rayleigh number (a dimensionless number associated with natural convection), Rayleigh flow, the Rayleigh–Taylor instability, and Rayleigh's criterion for the stability of Taylor–Couette flow. He also formulated the circulation theory of aerodynamic lift. In optics, **Rayleigh** proposed a well known criterion for angular resolution. His derivation of the Rayleigh–Jeans law for classical black-body radiation later played an important role in birth of quantum mechanics (see Ultraviolet catastrophe). Rayleigh's textbook The Theory of Sound (1877) is still used today by acousticians and engineers. Wikipedia, Rayleigh

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Hughes

On colours developing by the same laws as musical harmonies
—The physical properties of light and darkness briefly considered
—If the laws are correctly gained, harmonics of tones and of colours will agree
—Quotation from a lecture by Professor W. F. Barrett on the order of sonorous and luminous wave-lengths
—Fountain of musical harmonics, E root of B; in colours yellow and ultra-violet, being tints and shades of white and black
—All harmonics of sound and colour condense into a primo springing from the fountain
—Multequivalency of tones and colours
—Wünsch's views nearly one hundred years ago
—Clerk Maxwell's, **Lord Rayleigh**'s, and [Harmonies of Tones and Colours, Table of Contents1 - Harmonies]

The tones between the seven white notes of keyed instruments, and the tints and shades between the seven colours, cause the multequivalency of colours and of tones; consequently every colour, as every musical harmony, has the capability of ascending or descending, to and fro in circles, or advancing and retiring in musical clef. It is a curious coincidence that Wünsch, nearly one hundred years ago, believed in his discovery of the primary colours to be red, green, and violet; and in this scheme, red, answering to the note C, must necessarily be the first visible colour, followed by green and violet, but these not as primary colours, all colours in turn becoming primaries and secondaries in the development of the various harmonies. To gain facts by experiment, the colours must be exactly according to natural proportions—certain proportions producing white, and others black. In this scheme, green and red are shown to be a complementary pair, and therefore (as Clerk Maxwell has proved) red and green in right proportions would produce yellow. The same fact has been proved in **Lord Rayleigh**'s experiments with the spectroscope. Yellow and ultra-violet, [Harmonies of Tones and Colours, On Colours as Developed by the same Laws as Musical Harmonies3, page 20]