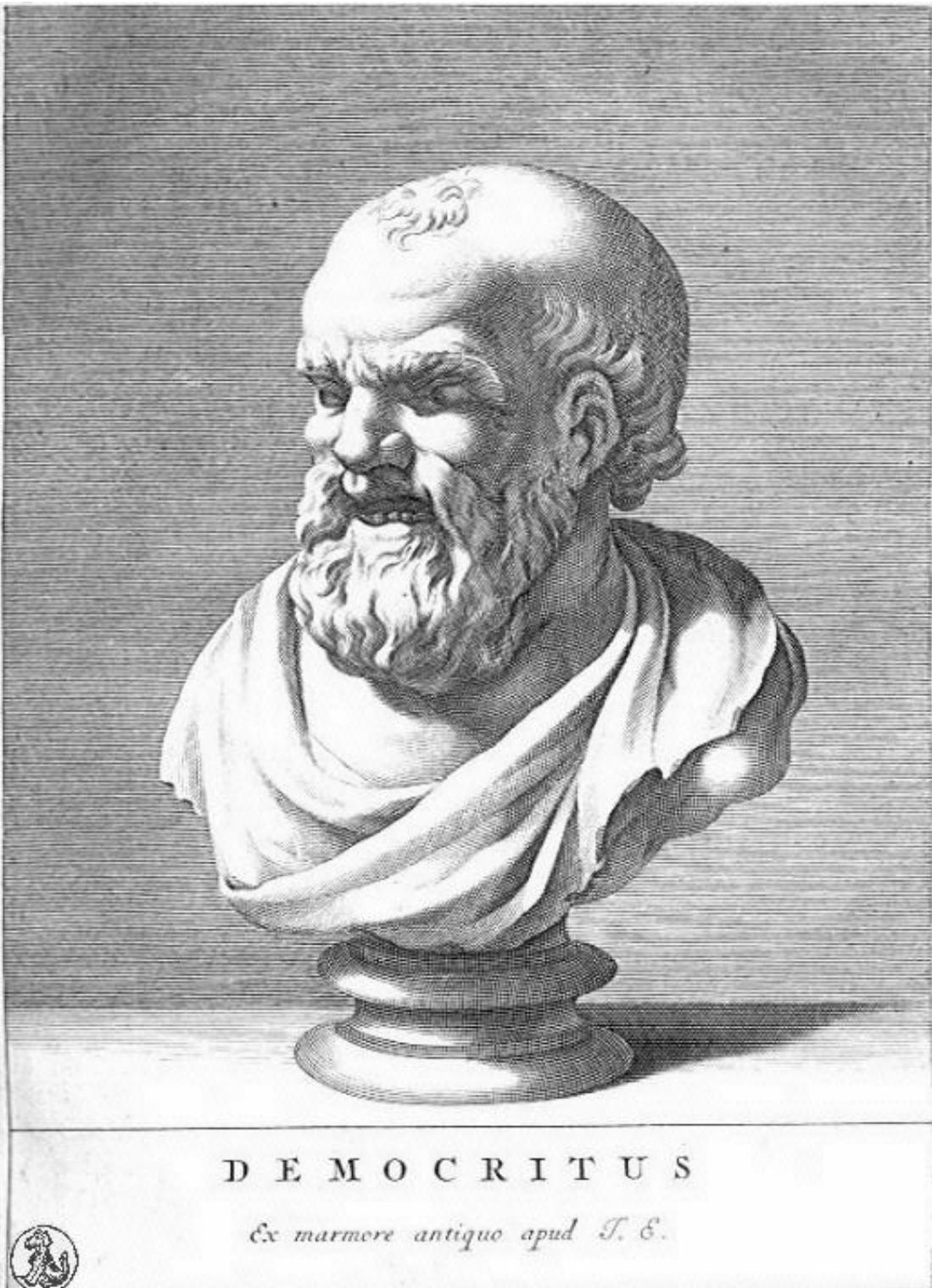


**Thales**  
“The first philosopher in  
the Greek tradition”  
(624-546 BC)



D E M O C R I T U S

*Ex marmore antiquo apud J. S.*

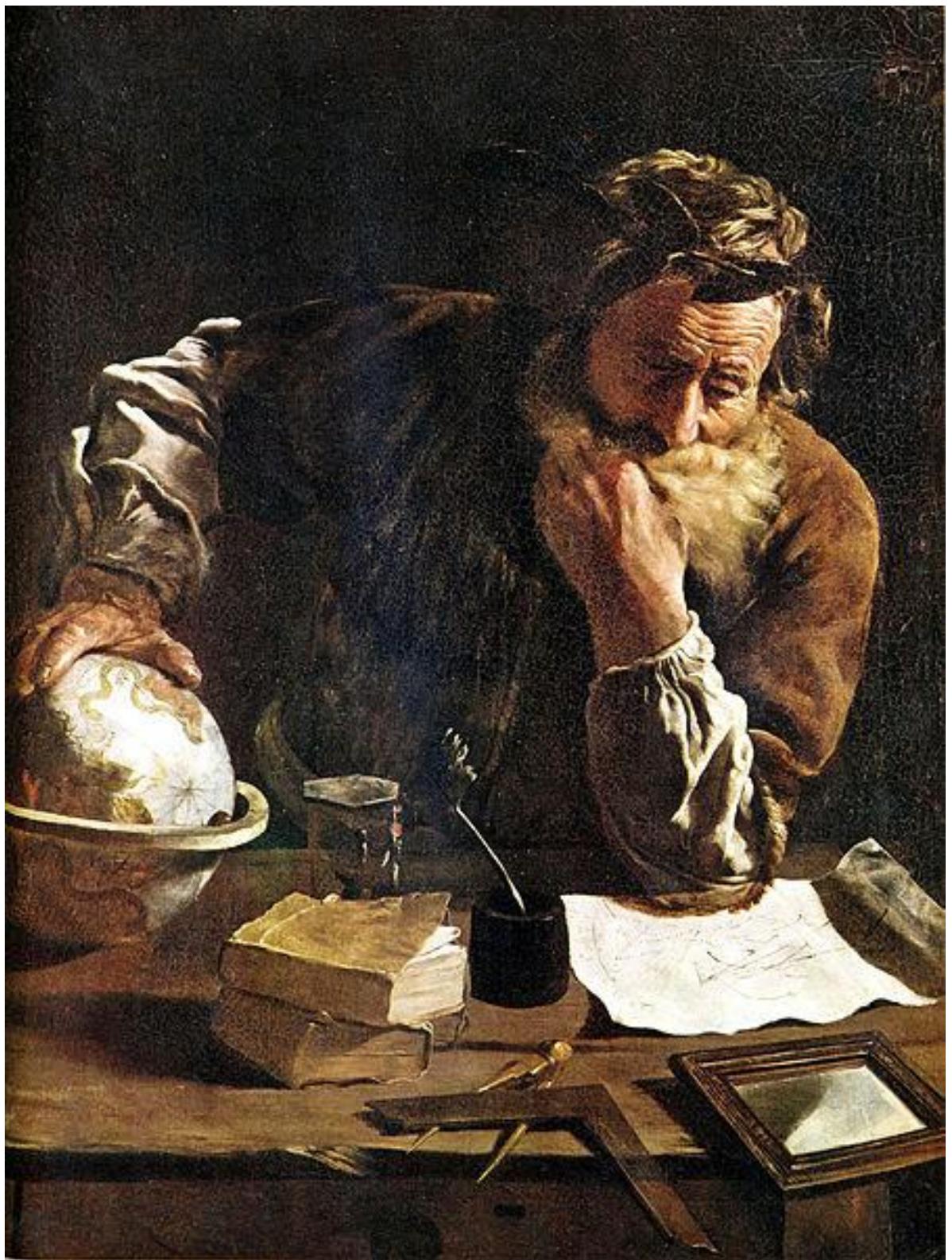


# Democritus (460 BC-370 BC)



# **Aristarchus of Samos**

## **(310-230 BC)**



# Archimedes

## (287-212 BC)

**IF**

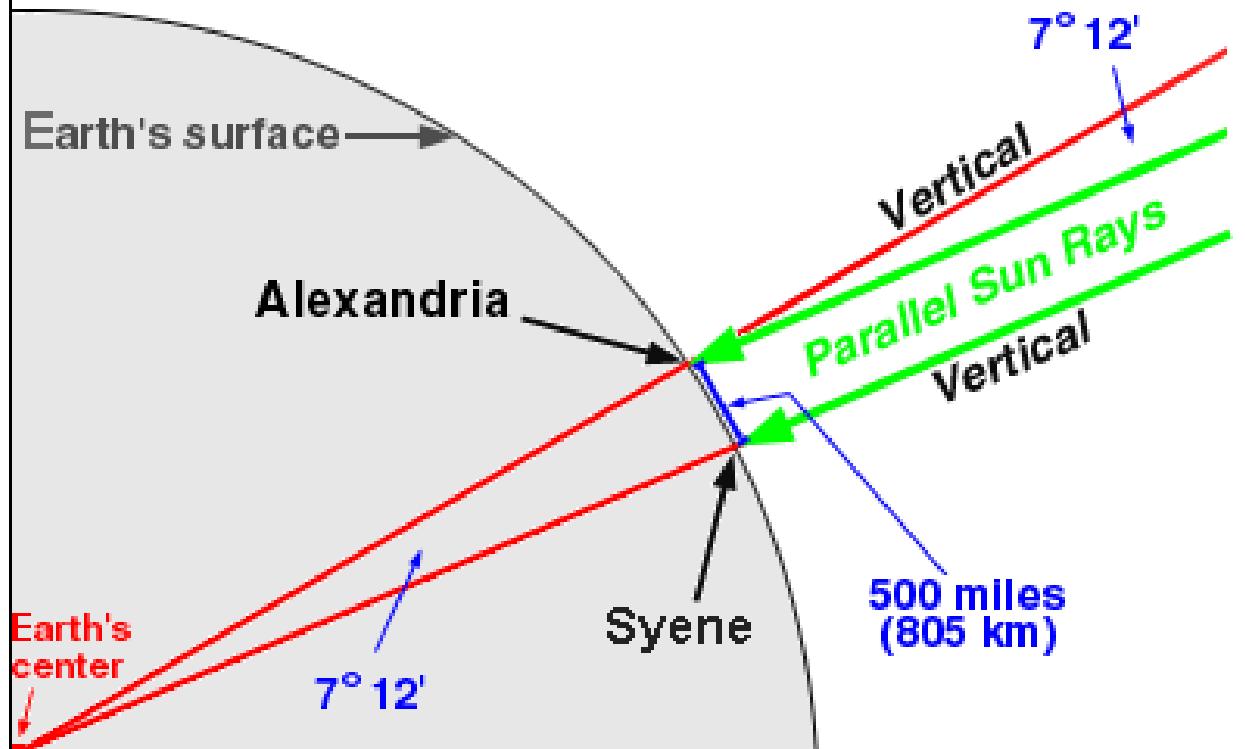
$$7^\circ 12' = 1/50 \text{ of a circle}$$

**THEN**

$$50 \times 500 = 25,000 \text{ miles}$$

or

$$50 \times 805 = 40,250 \text{ km}$$



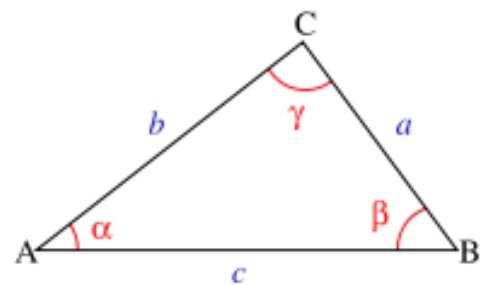
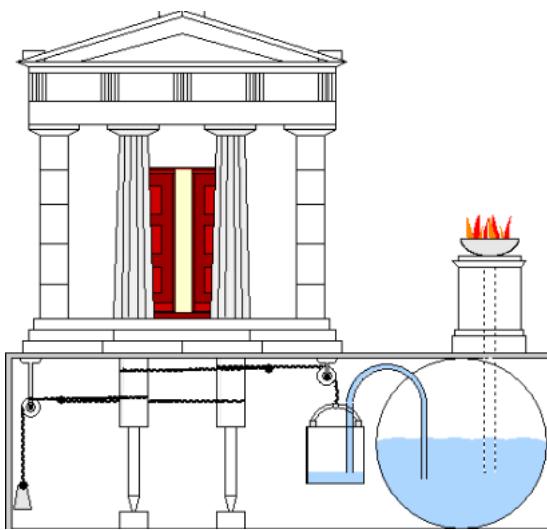
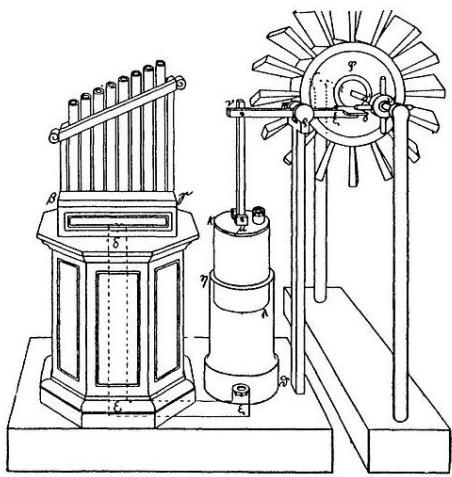
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

# Eratosthenes (276-194 BC)



# Hipparchus of Nicaea

## Founder of trigonometry (190-120 BC)



$$T = \sqrt{s(s-a)(s-b)(s-c)}$$

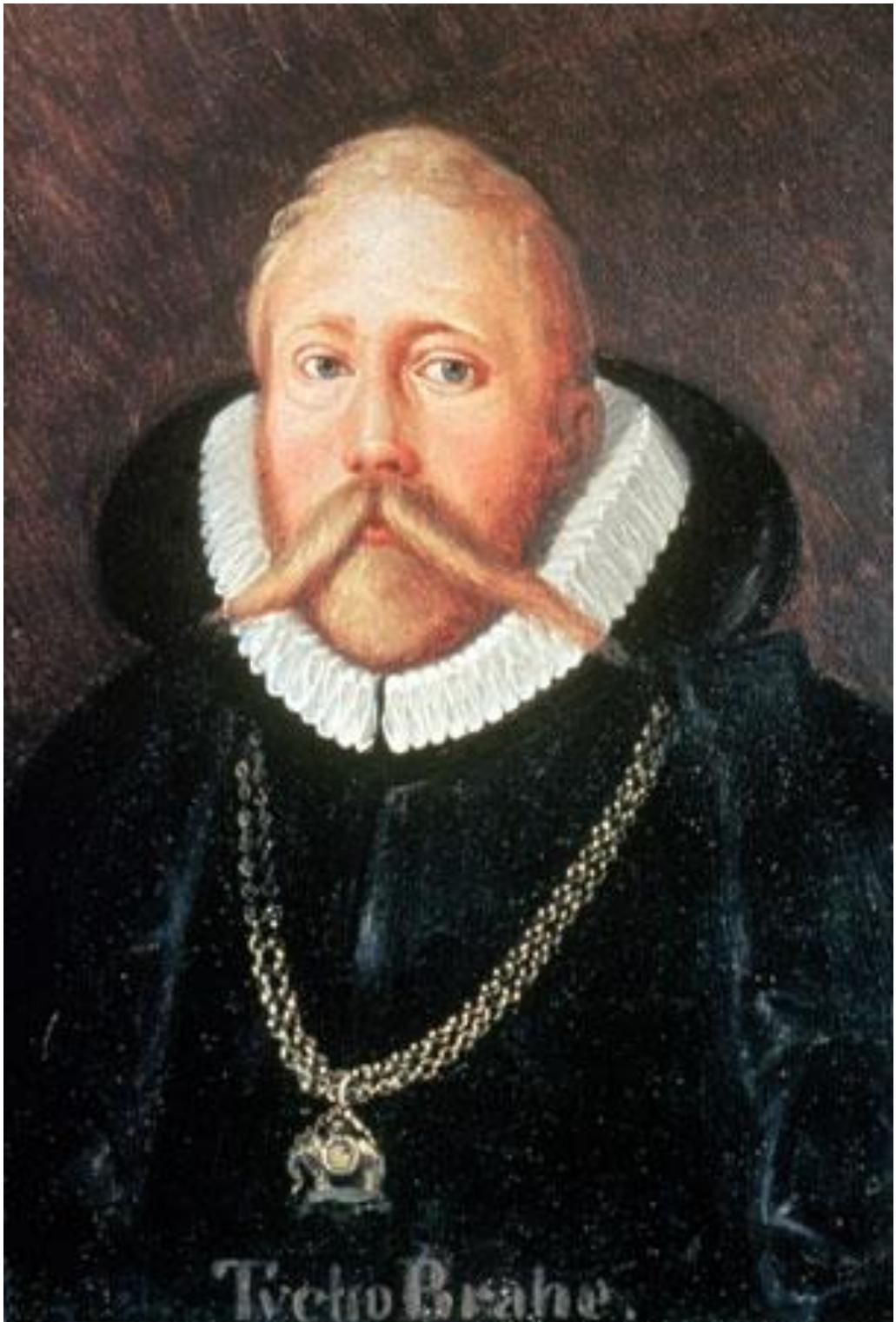
$$s = \frac{1}{2}(a+b+c)$$

# Heron of Alexandria

## (AD 10-70)



**Ptolemy**  
Author of the cosmological  
textbook the *Almagest*  
(AD 90-168)



**Tycho Ottesen Brahe**  
**(1546-1601)**



# Francis Bacon (1561-1626)



**Galileo Galilei**  
**(1564-1642)**



# **Johannes Kepler**

## Laws of elliptic planetary motion

### (1571-1630)



**Pierre de Fermat**  
Number theory, geometry,  
optics, probability  
(1601-1665)



EN VIRES CIT GALILÆVS ALTER  
*Anagr.*  
EVANGELISTA TORRICELLIVS  
Serenissimi M. Ducis Hetruriæ  
Mathem<sup>us</sup> & Philos<sup>us</sup>  
Obiit Anno Dom. MDCXLVII. Aet. XL

# Evangelista Torricelli

## (1608-1647)



**Blaise Pascal**  
Pascal's triangle,  
hydrodynamics,  
calculating machines  
(1623-1662)



*The Hon. Rob: Boyle  
Ob: 50 Dec: 1691.*

# Robert Boyle

## (1627-1691)



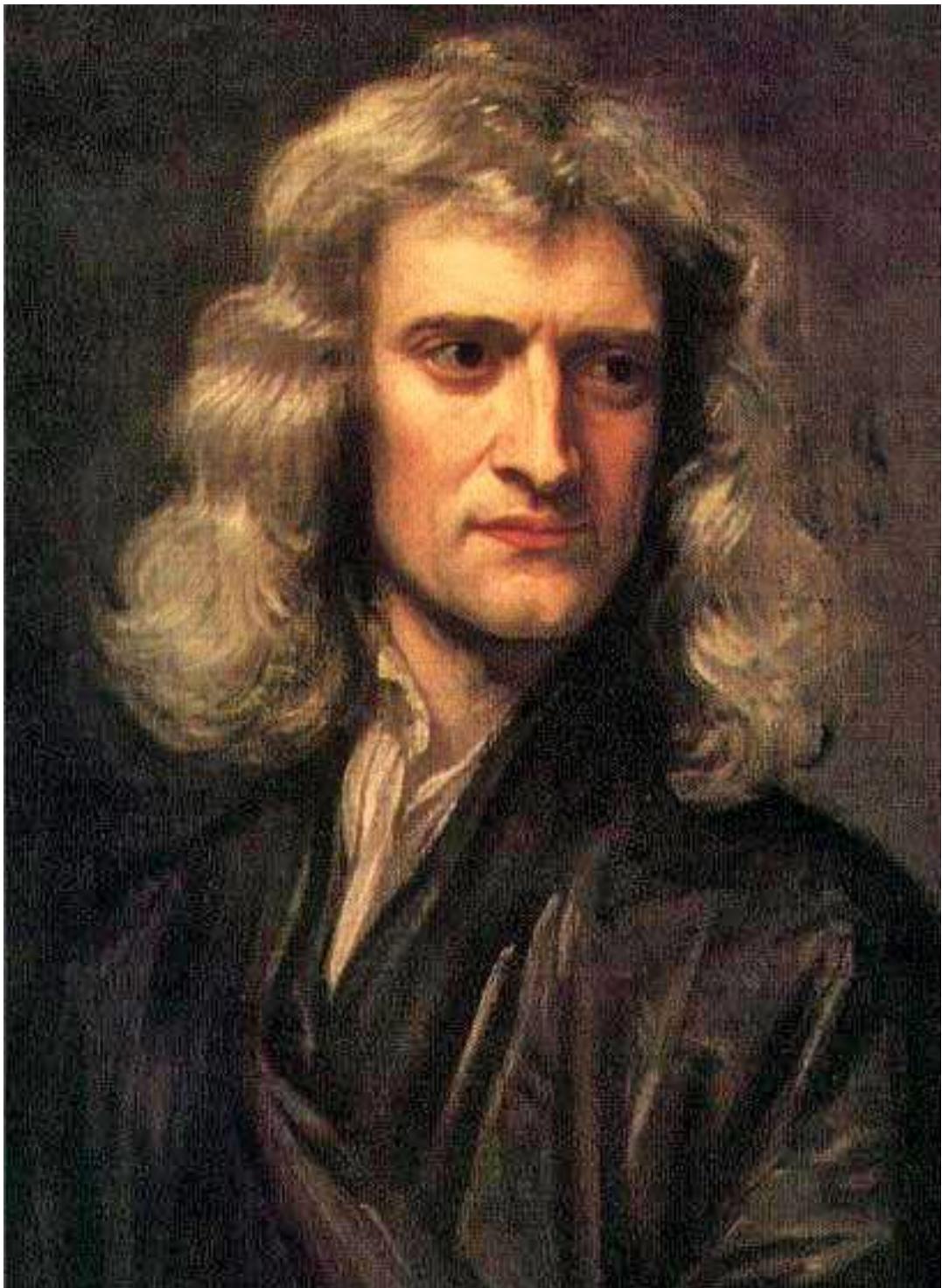
**Christiaan Huygens**  
**(1629-1695)**

ROBERT HOOKE  
1635 - 1703



# Robert Hooke (1635-1703)

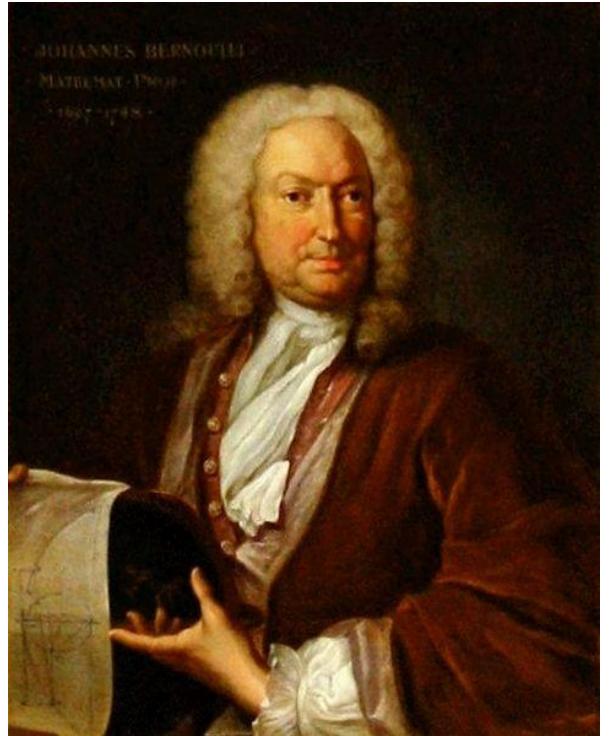




**Isaac Newton**  
Mechanics, gravity,  
calculus, optics, *Principia*  
(1643-1727)

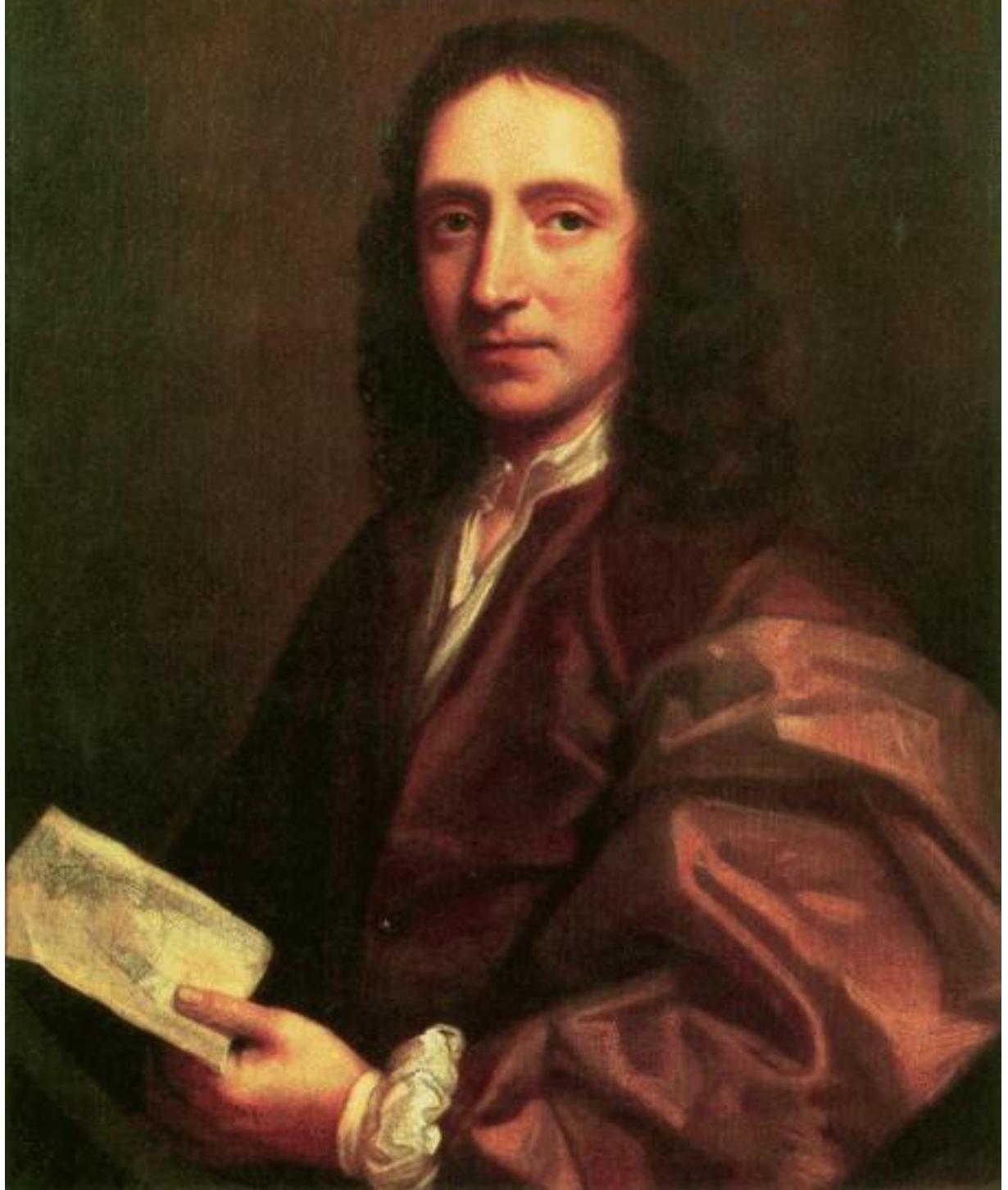


**Gottfried Leibnitz**  
Calculus, calculating  
machines, philosophy ...  
(1646-1716)

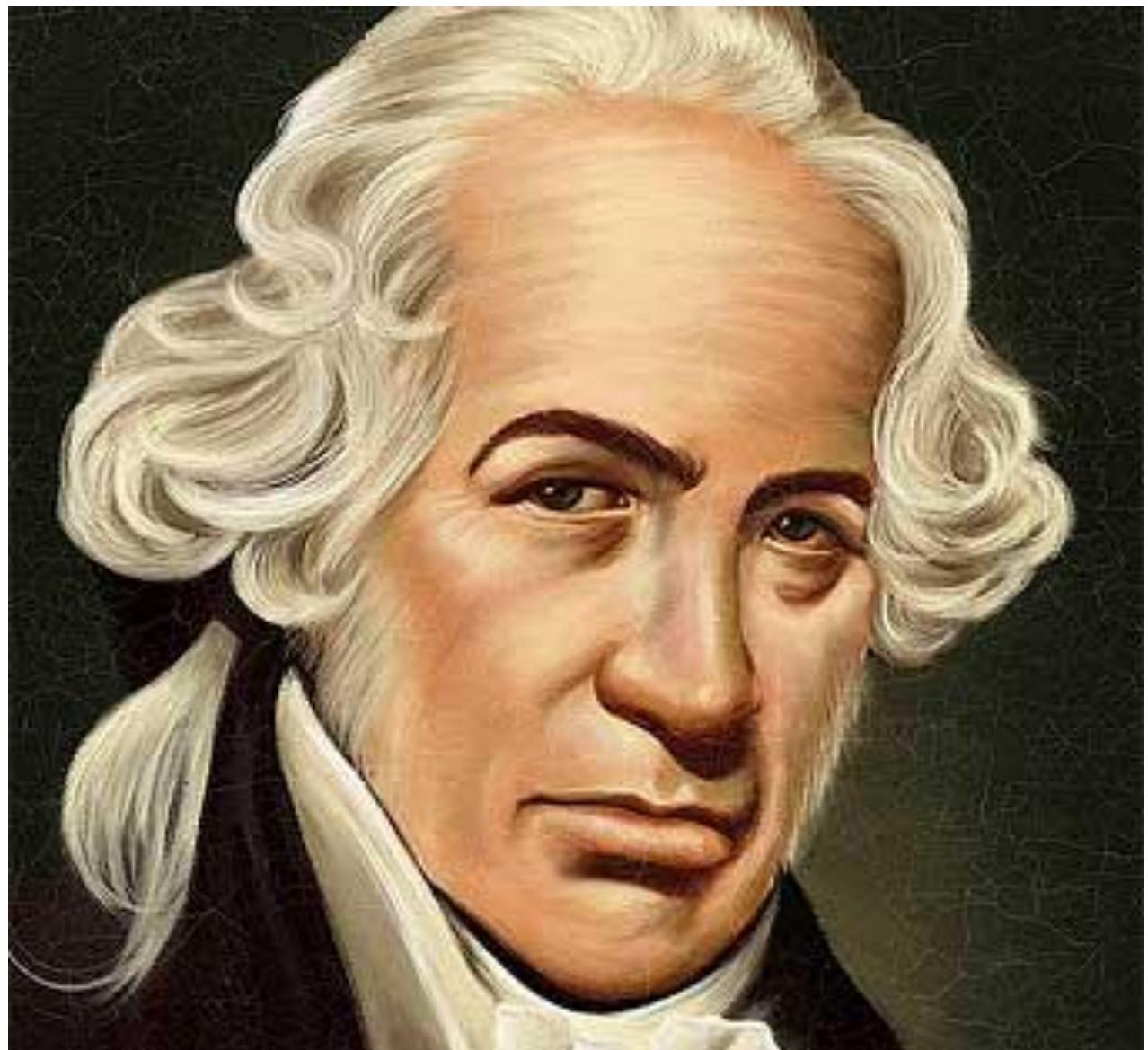


# The Bernoulli Family (1654-1789)

EDMVND. HALLEIVS LL.D.  
GEOM. PROF. SAVIL. & R.S. SECRET.



**Edmund Halley**  
**(1656-1742)**



# **Daniel Fahrenheit**

**(1686-1736)**



**Anders Celsius**  
**(1701-1744)**

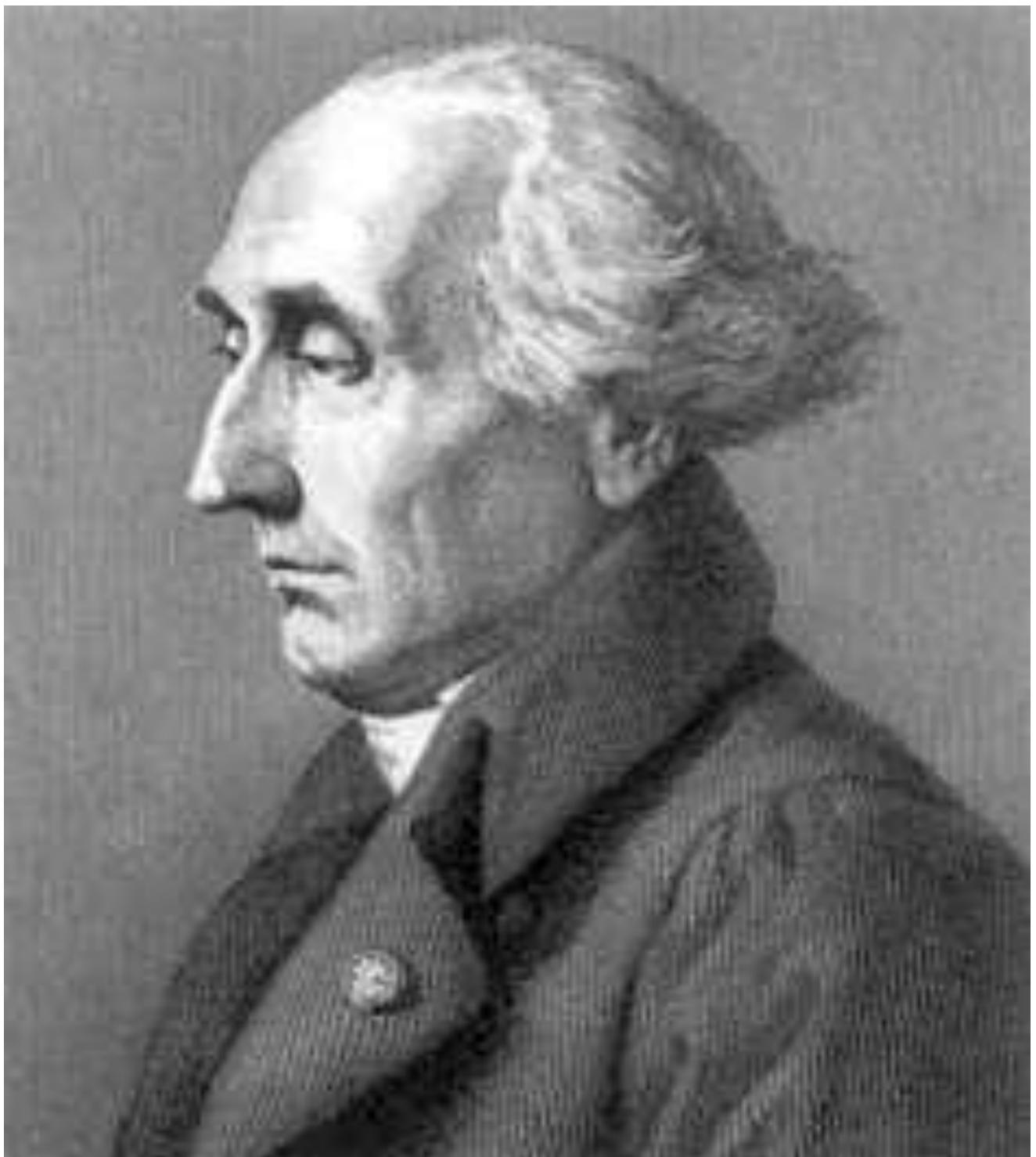


*H. Cavendish*

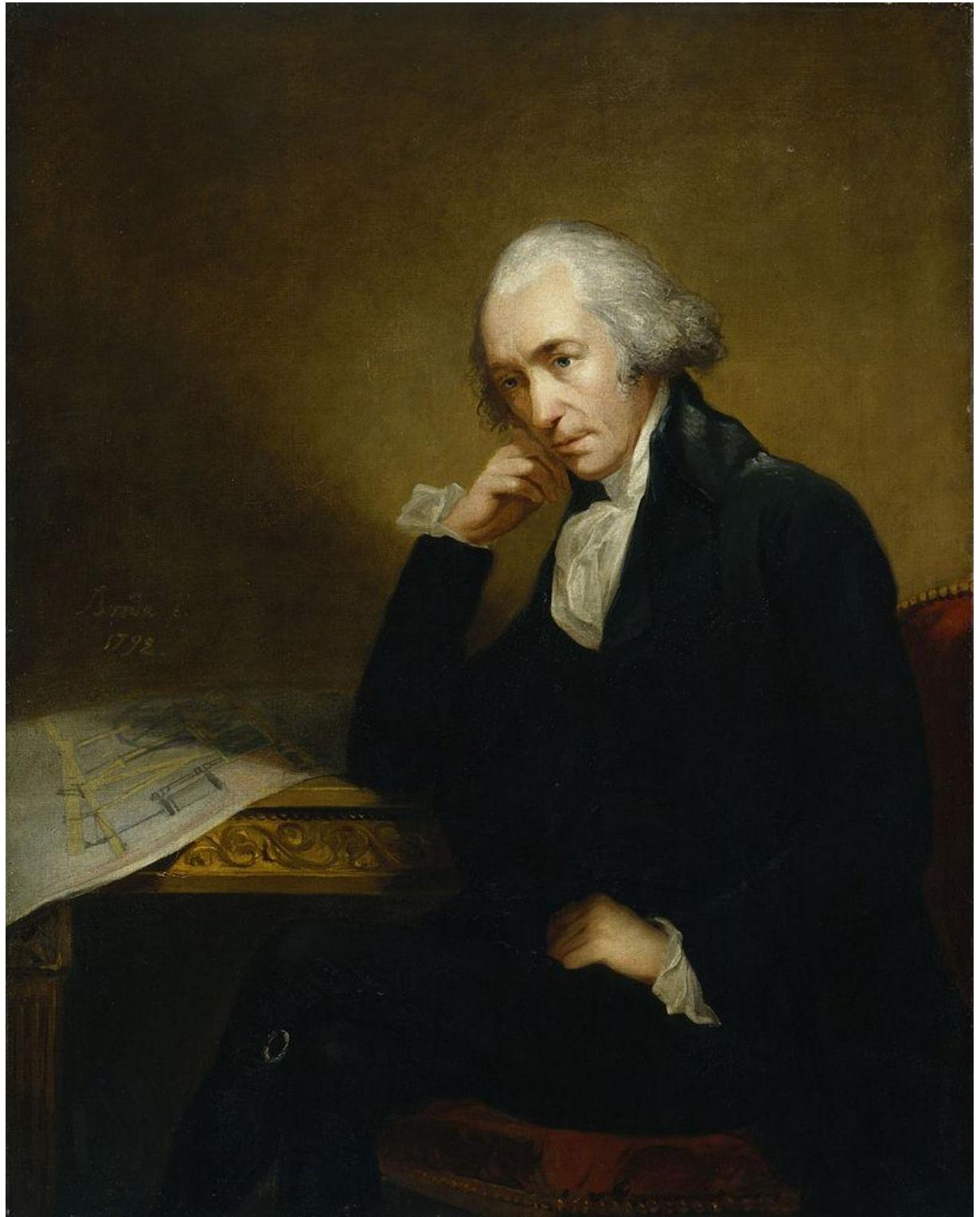
**Henry Cavendish**  
**(1731-1810)**



**Charles-Augustin de  
Coulomb**  
**(1736-1806)**



**Joseph Louis Lagrange**  
**(1736-1813)**



**James Watt**  
**(1736-1819)**



**William Herschel**  
**(1738-1822)**

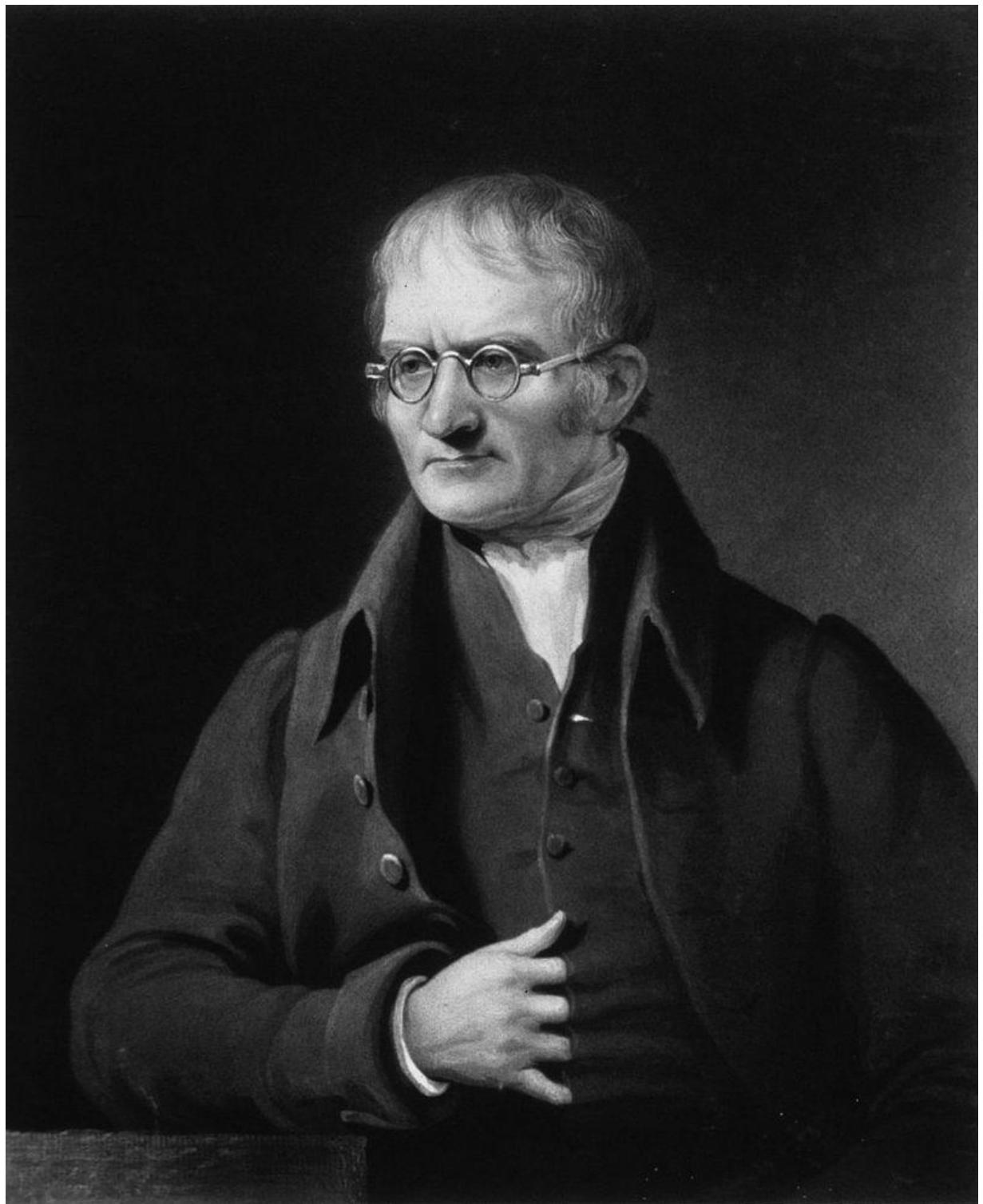


**Alessandro Volta**  
**(1745-1827)**



# Jacques Charles

## (1746-1823)



**John Dalton**  
**(1766-1844)**



# **Joseph Fourier**

## **(1768-1830)**



**Thomas Young**  
**(1773-1829)**



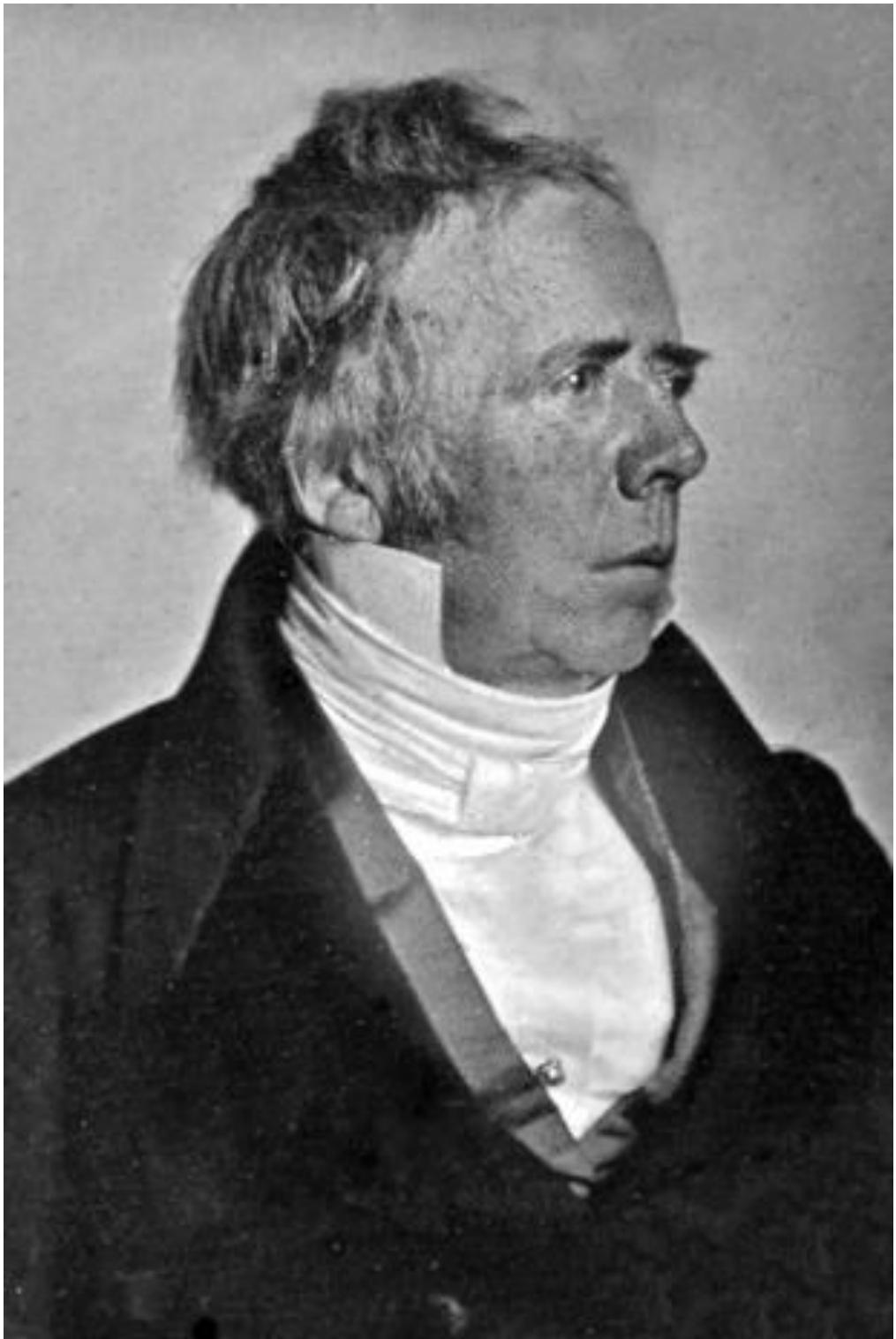
# André-Marie Ampère

## (1775-1836)



$$N_A = 6.02214179(30) \times 10^{23}$$

**Amedeo Avogadro**  
**(1776-1856)**



**Hans Christian Ørsted**  
**(1777-1851)**



# Carl Friedrich Gauss

(1777-1855)



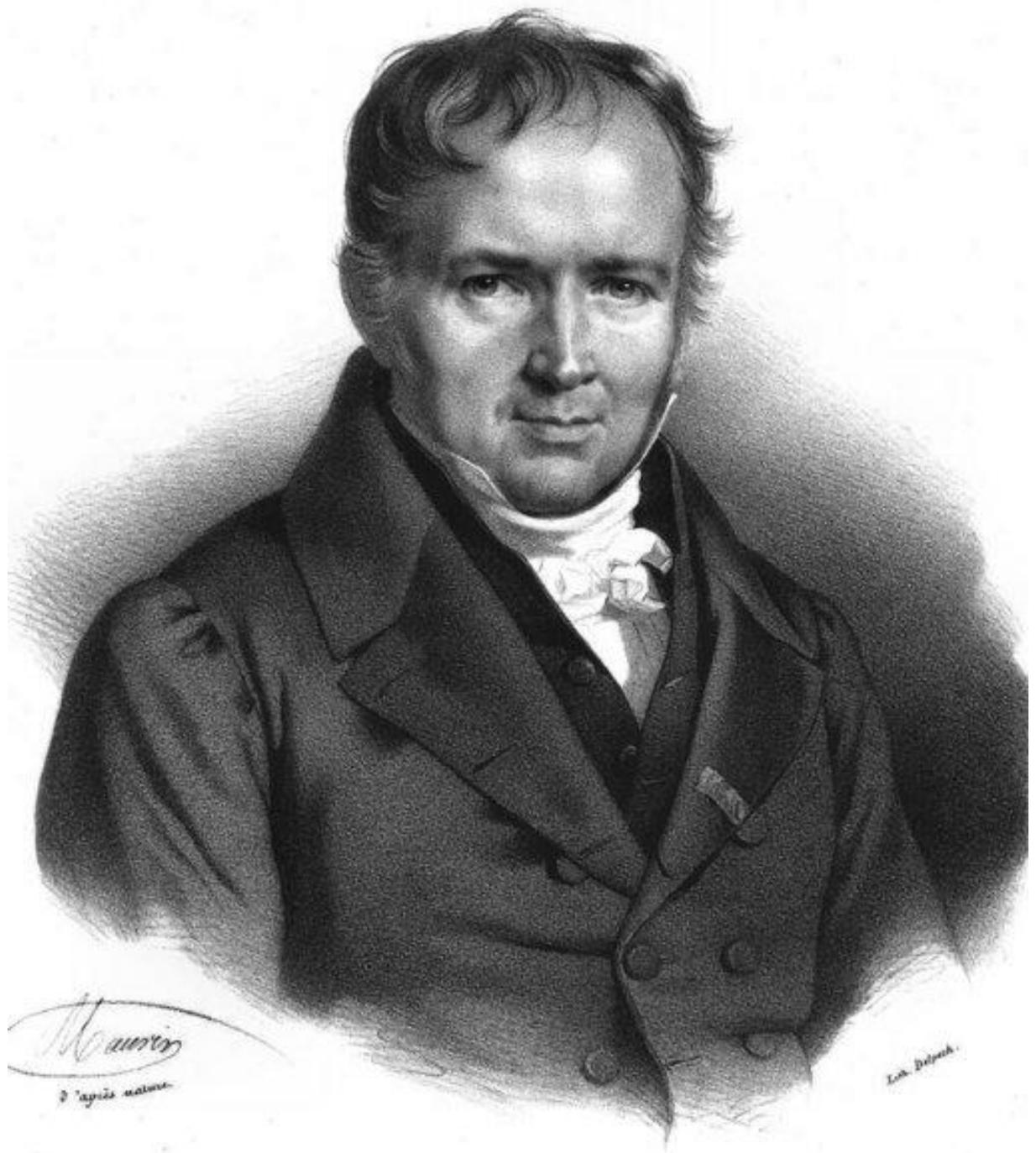
**Pierre Louis Dulong**  
**(1785-1838)**



**Augustin-Jean Fresnel**  
**(1788-1827)**



**Georg Simon Ohm**  
**(1789-1854)**



# Siméon Denis Poisson

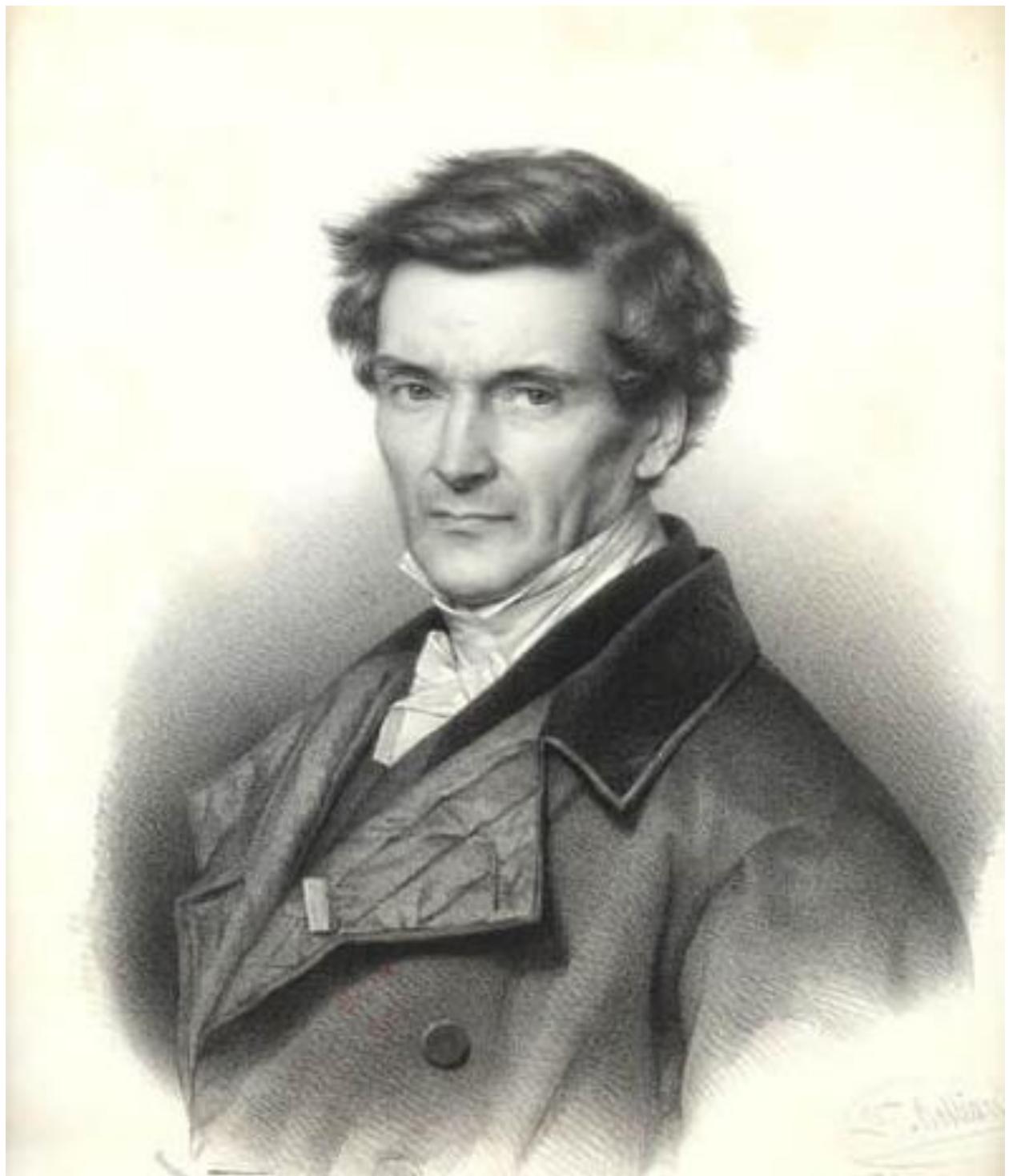
(1781-1840)



**Augustin-Louis Cauchy**  
**(1789-1857)**



**Michael Faraday**  
**(1791-1867)**



**Gaspard-Gustave de  
Coriolis**  
**(1792-1843)**



**Sadi Carnot**  
**(1796-1832)**



**Joseph Henry**  
**(1797-1878)**



**Benoît Clapeyron**  
**(1797-1878)**



**Charles Wheatstone**  
**(1802-1875)**



**Christian Doppler**  
**(1803-1853)**

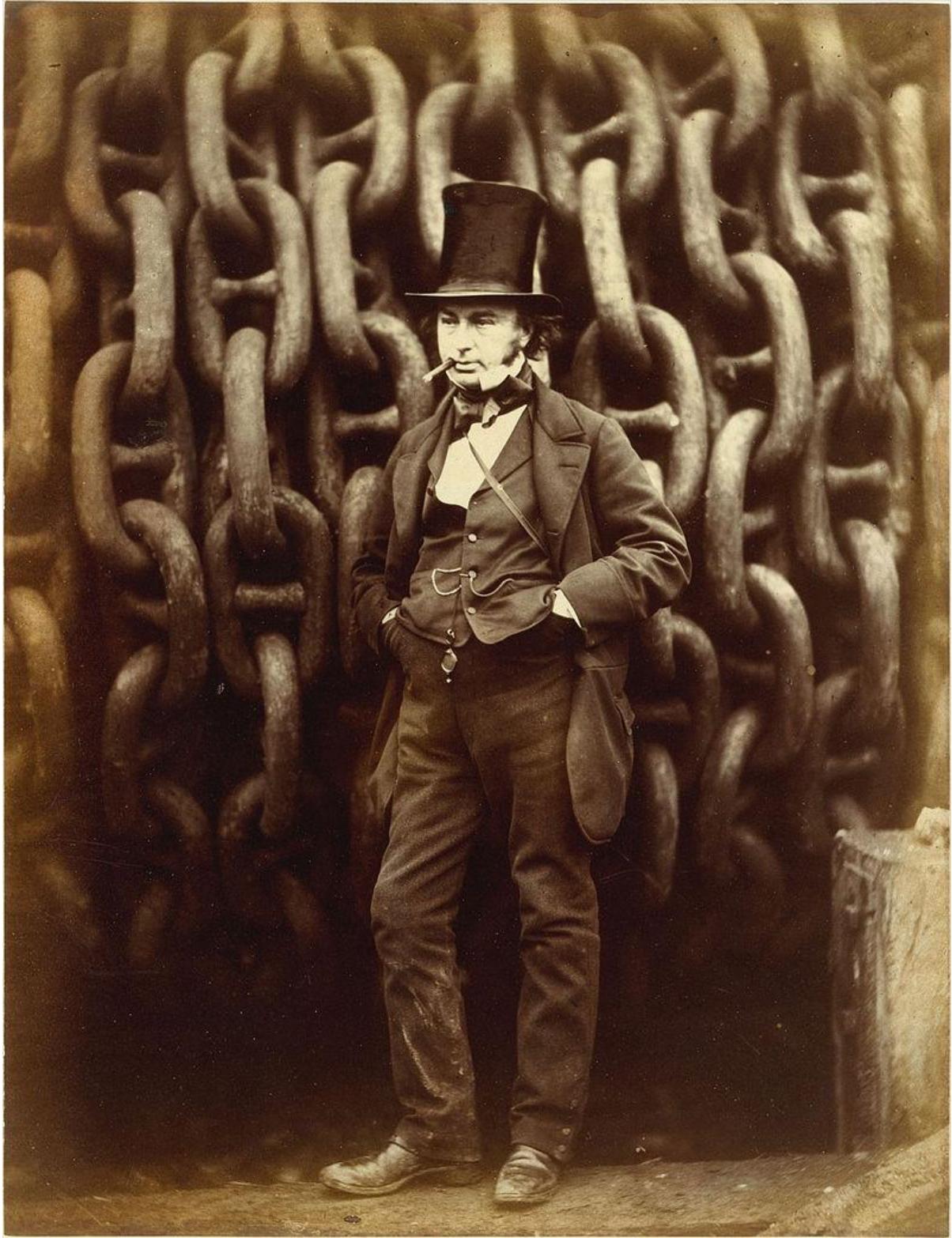


**Wilhelm Weber**  
**(1804-1891)**



$$i^2 = j^2 = k^2 = ijk = -1$$

**William Hamilton**  
Mechanics, quaternions  
(1805-1885)



**Isambard Kingdom  
Brunel  
(1806-1859)**



**William Froude**  
**(1810-1879)**



**James Joule**  
**(1818-1889)**



**Léon Foucault**  
**(1819-1868)**



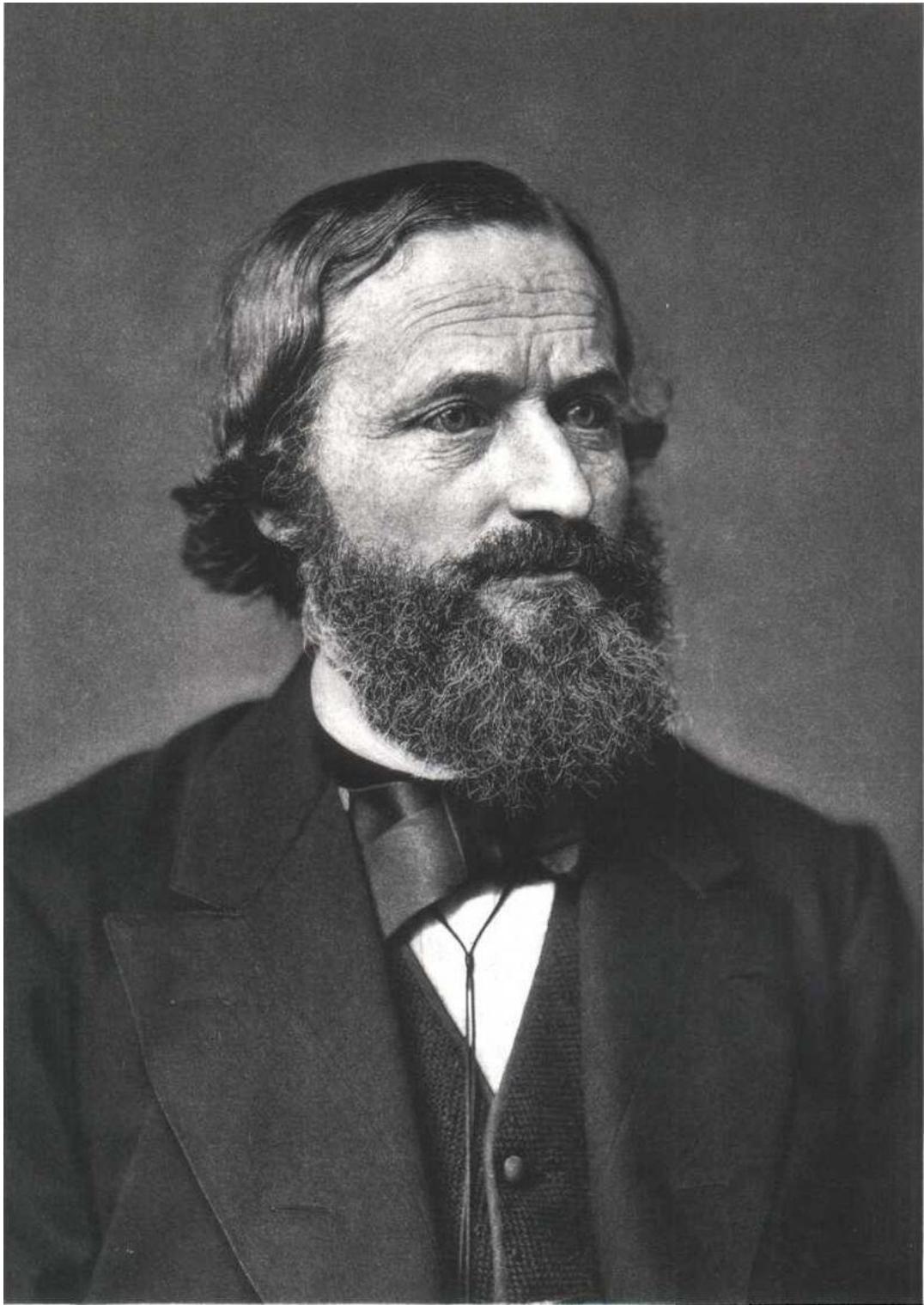
**George Gabriel Stokes**  
**(1819-1903)**



**Hermann von Helmholtz**  
**(1821-1894)**



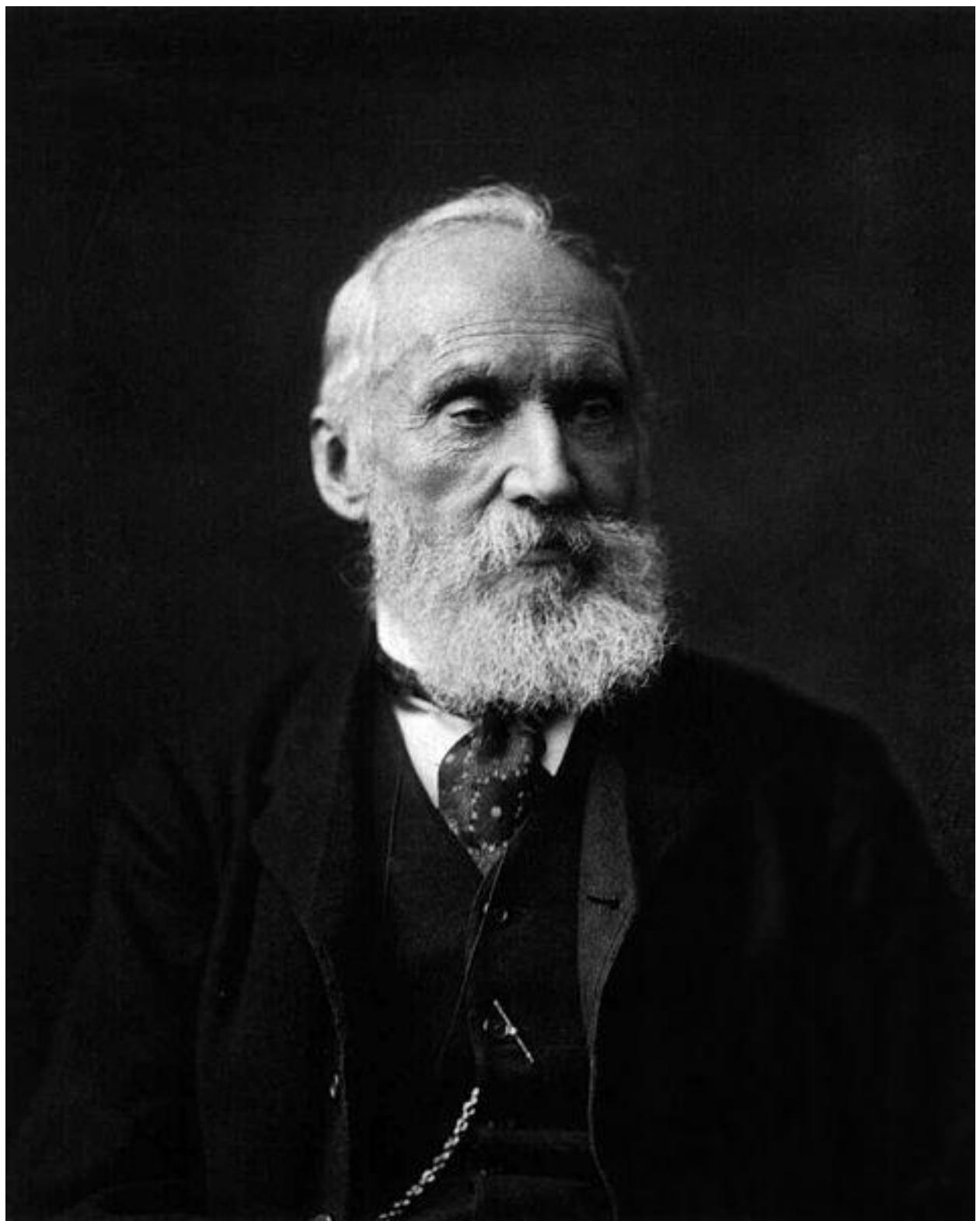
**Rudolf Clausius**  
**(1822-1888)**



**Gustav Kirchoff**  
**(1824-1887)**



**Johann Jakob Balmer**  
**(1825-1898)**



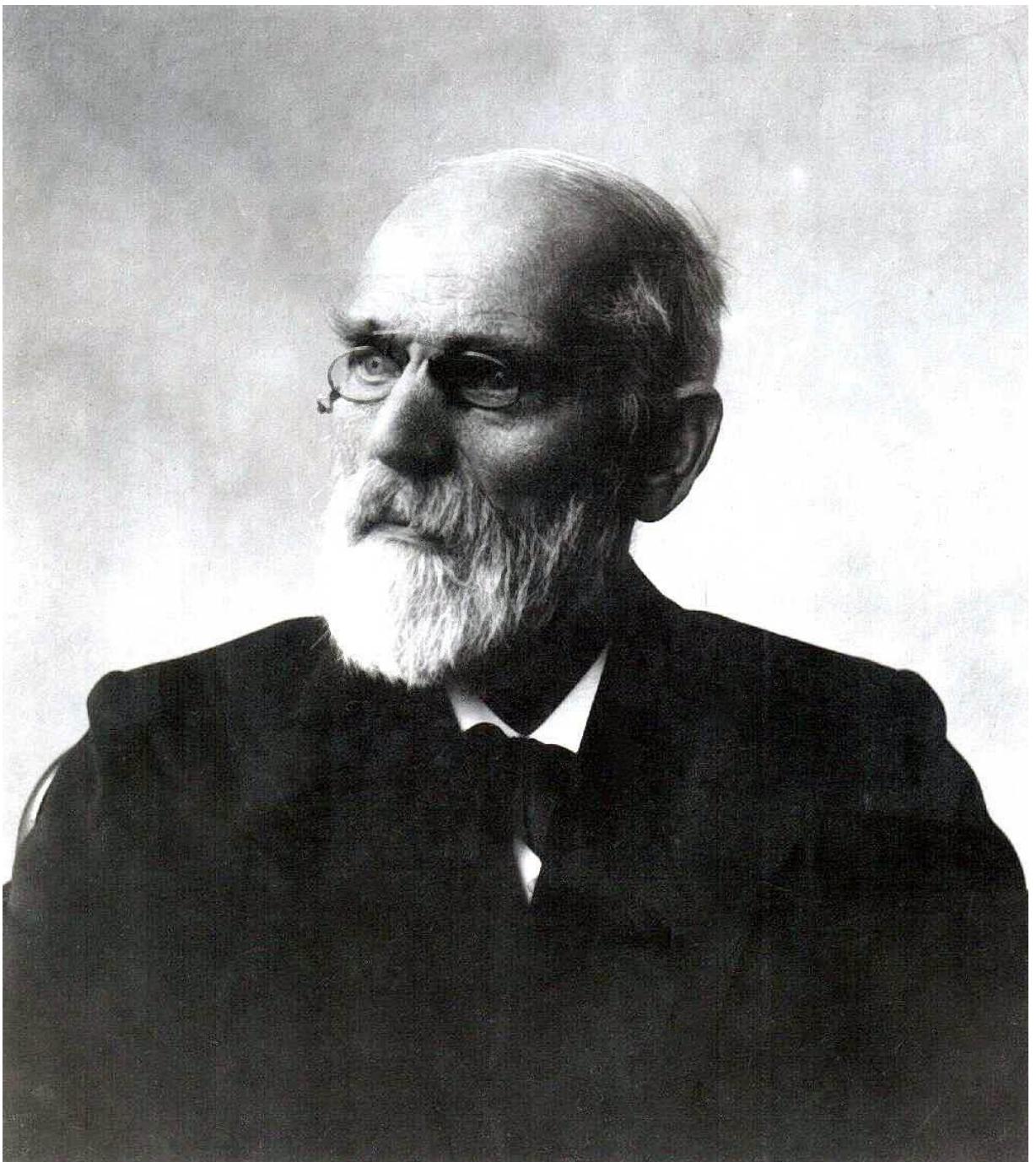
**Lord Kelvin**  
**(William Thompson)**  
**(1824-1907)**



**James Clerk Maxwell**  
**(1831-1879)**



**Nikolaus August Otto**  
**(1832-1891)**

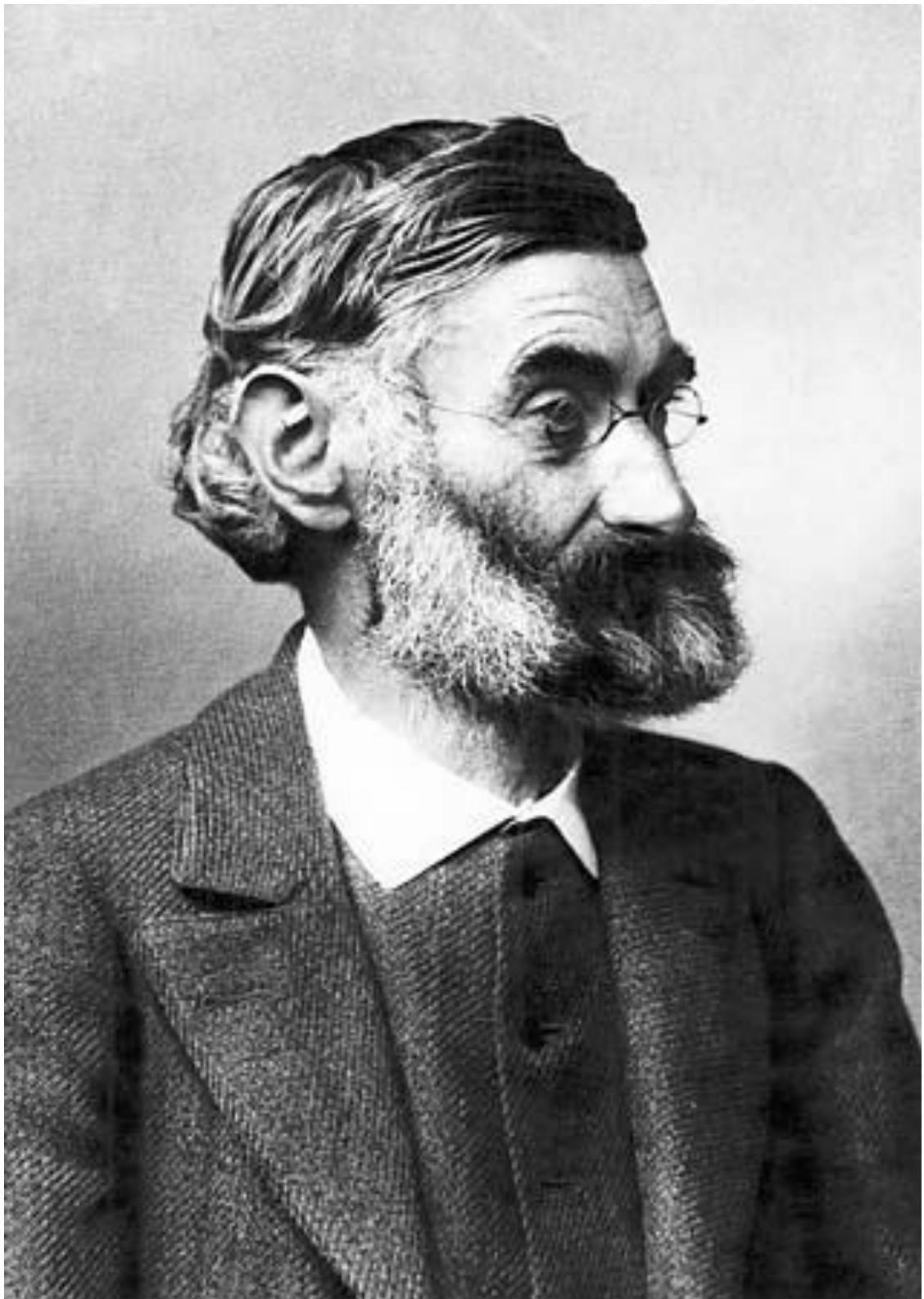


# **Johannes van der Waals**

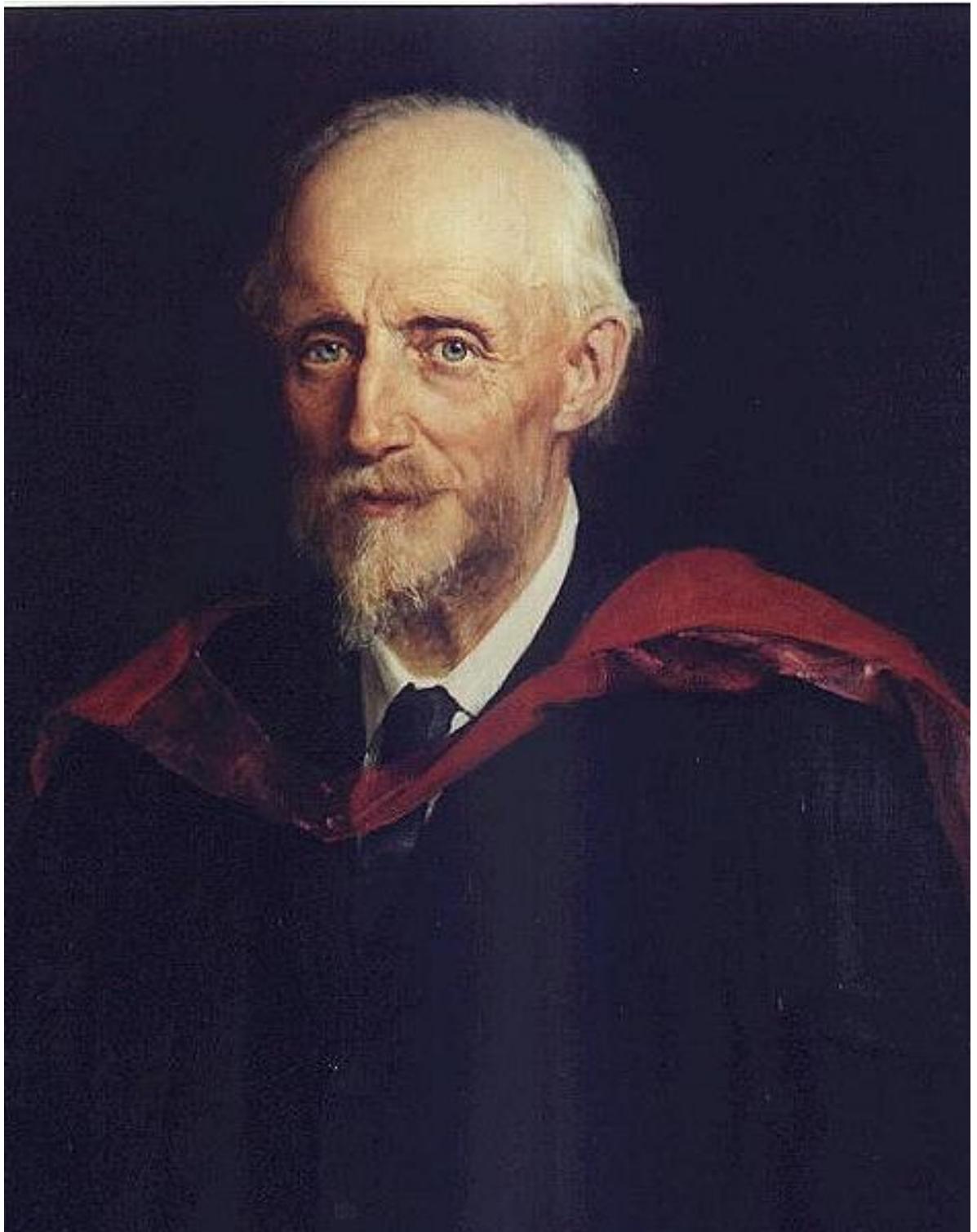
## **(1837-1923)**



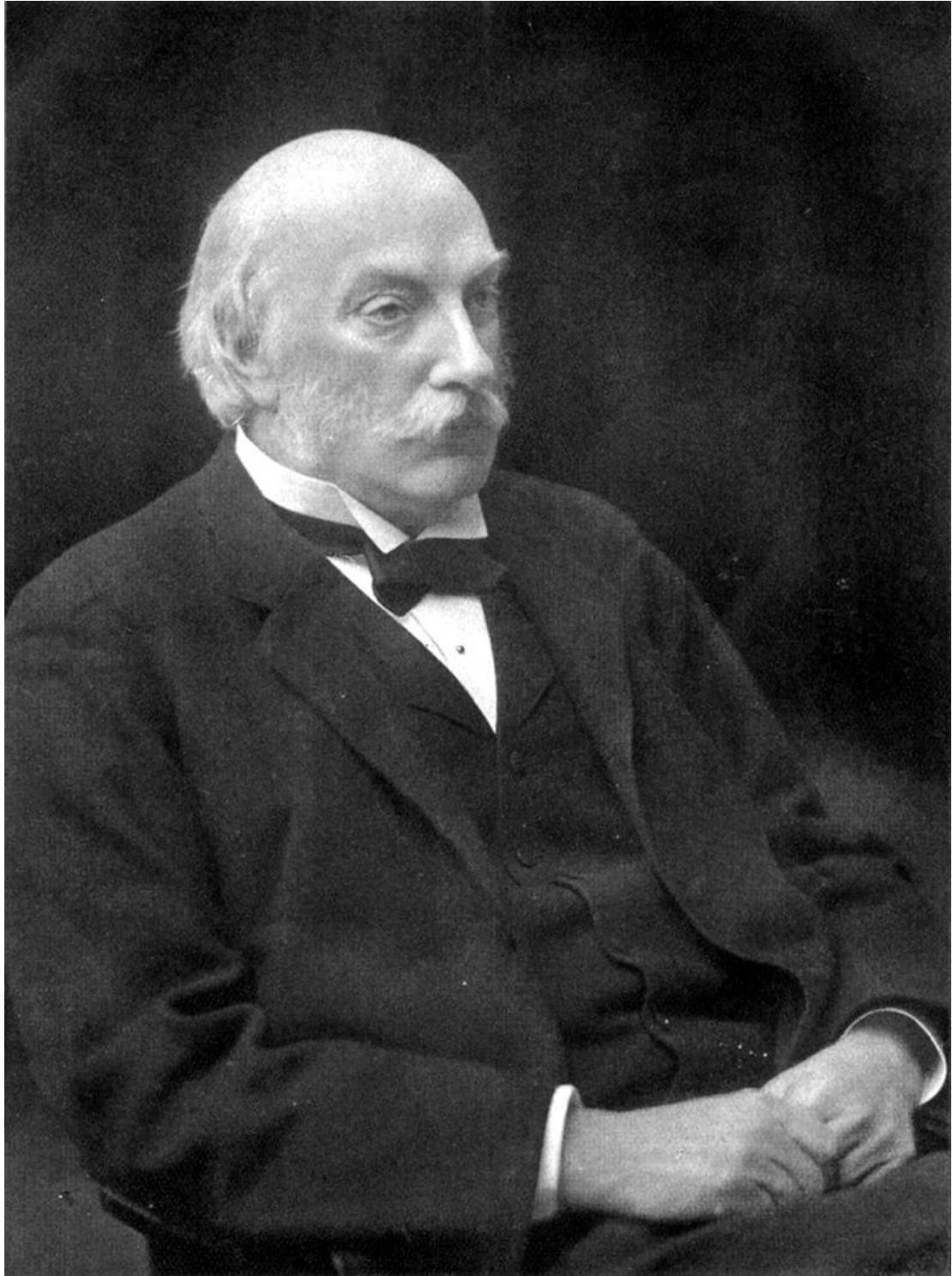
**Ernst Mach**  
**(1838-1916)**



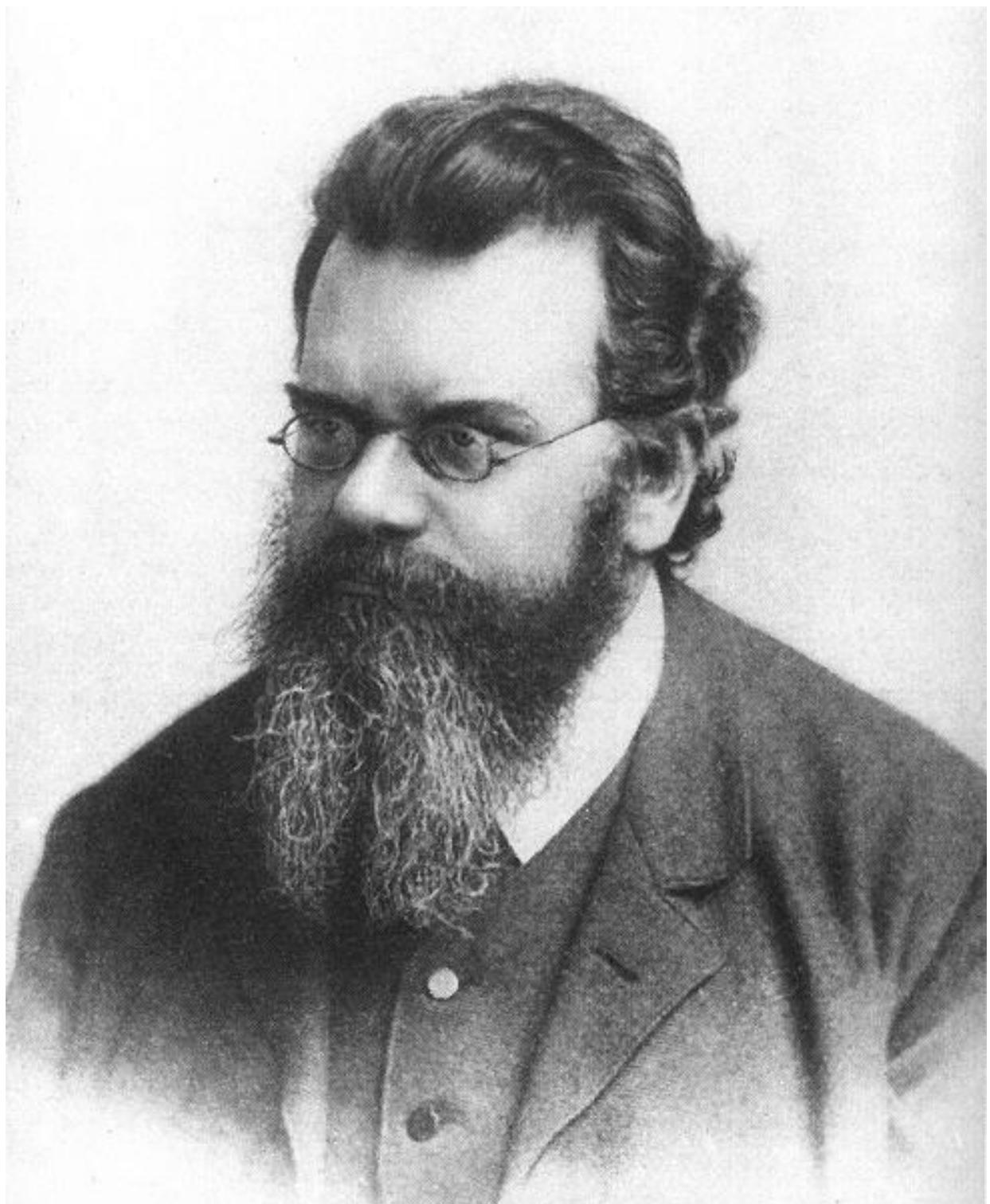
**Ernst Karl Abbe**  
**(1840-1905)**



**Osborne Reynolds**  
**(1842-1912)**



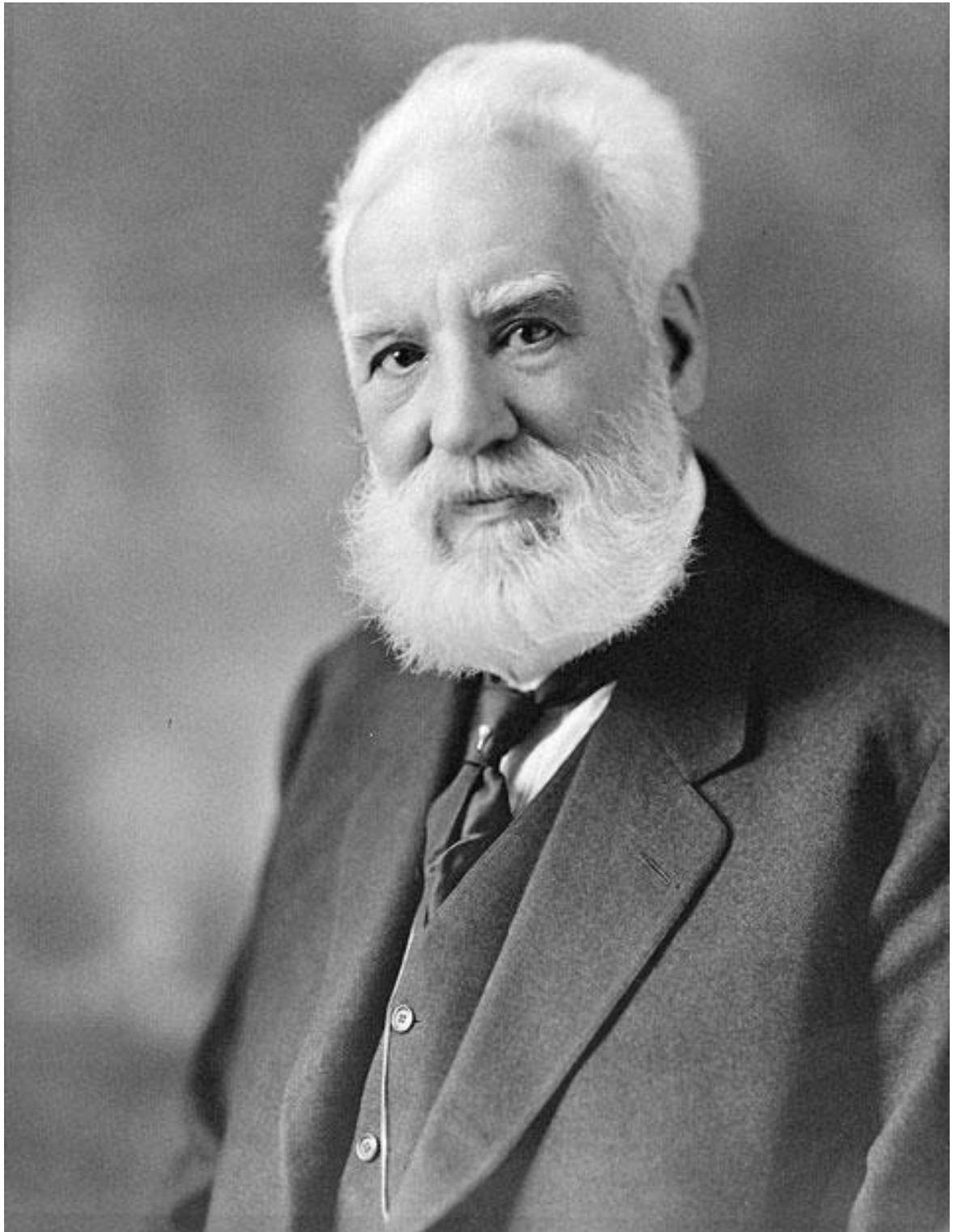
**Lord Rayleigh**  
**(John William Strutt)**  
**(1842-1919)**



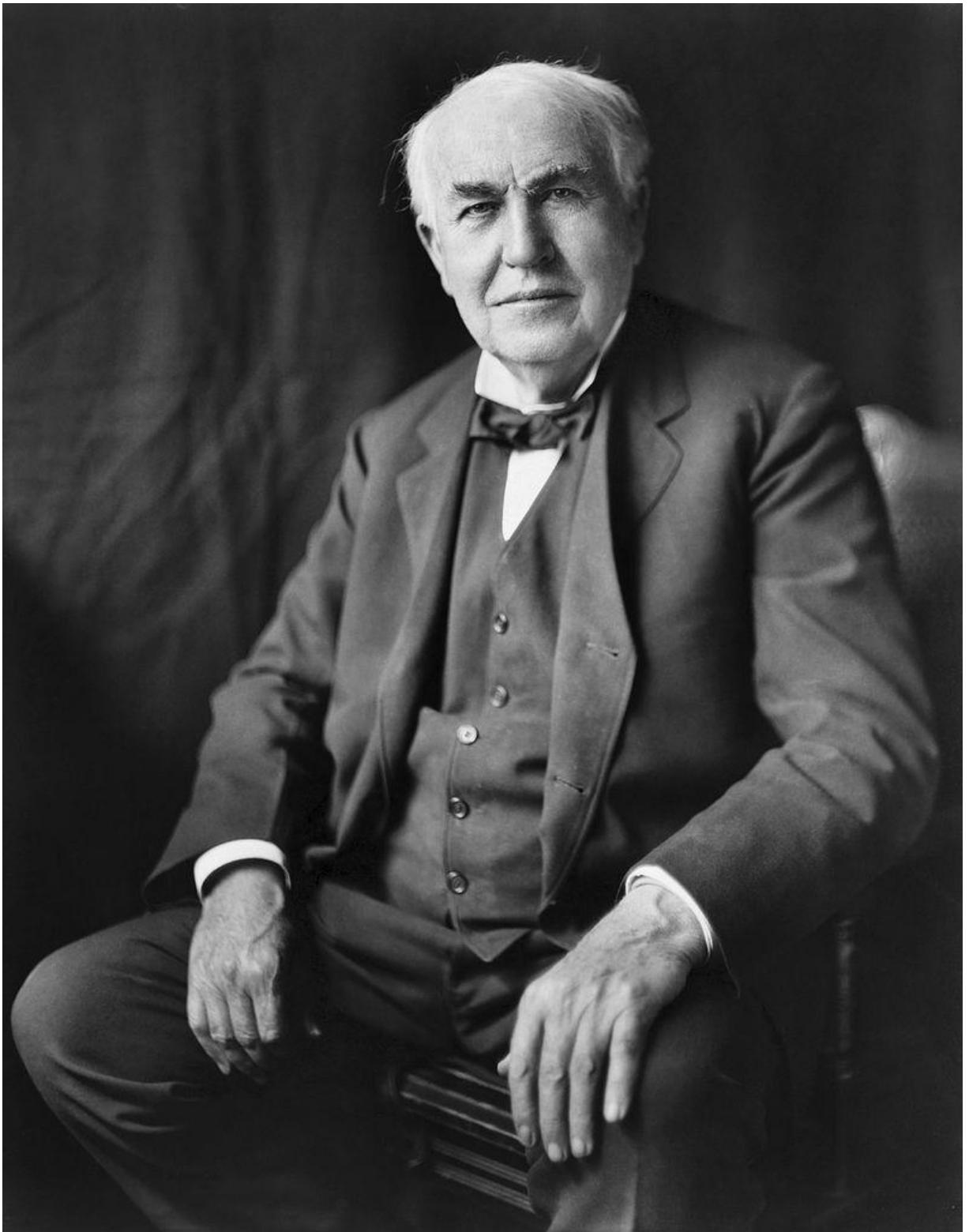
**Ludwig Boltzmann**  
**(1844-1906)**



**Wilhelm Röntgen**  
**(1845-1923)**



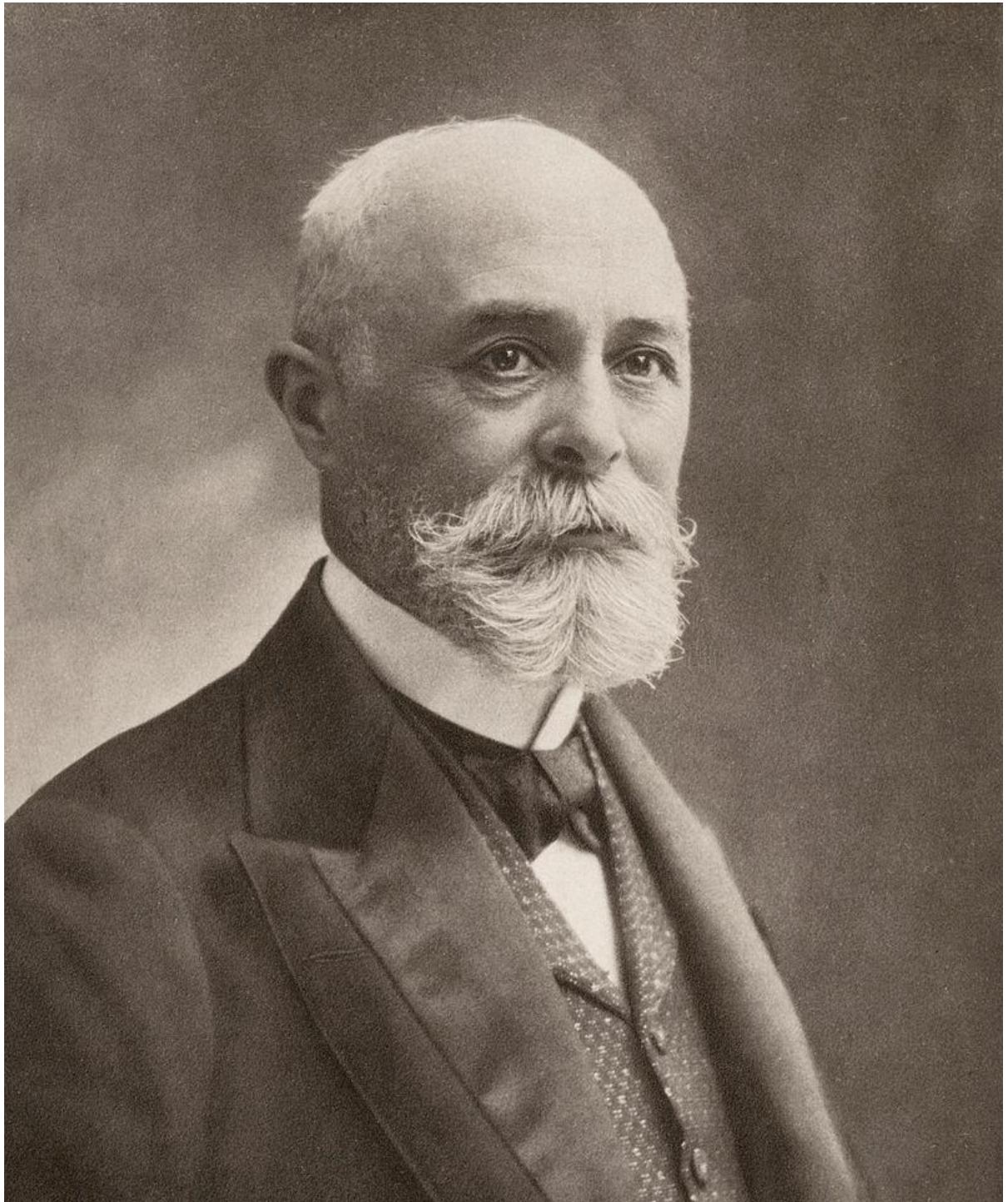
**Alexander Graham Bell**  
**(1847-1922)**



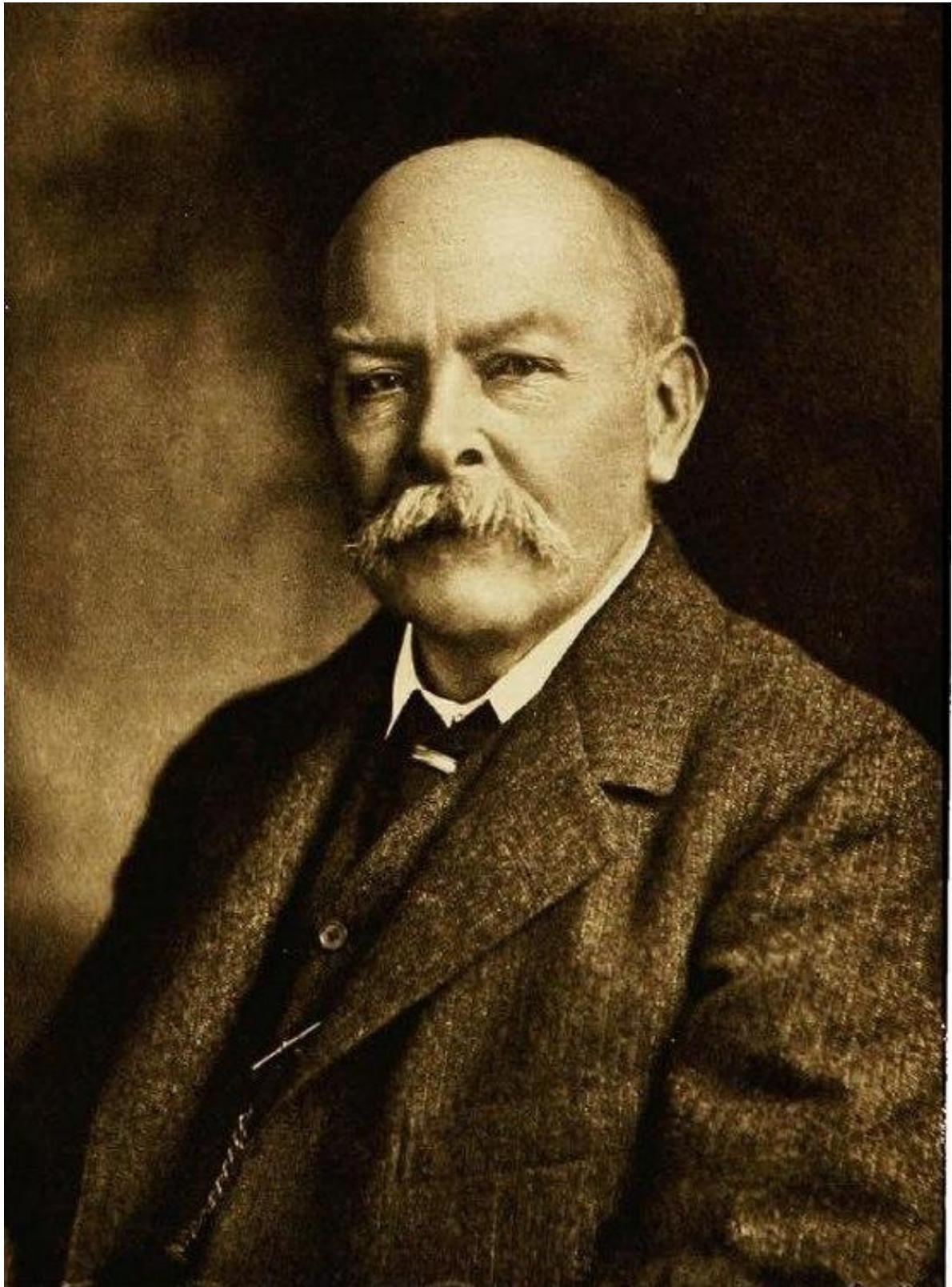
**Thomas Edison**  
**(1847-1931)**



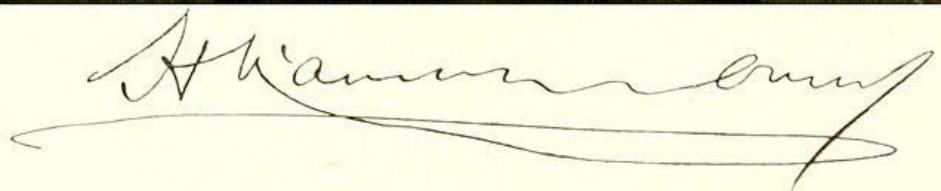
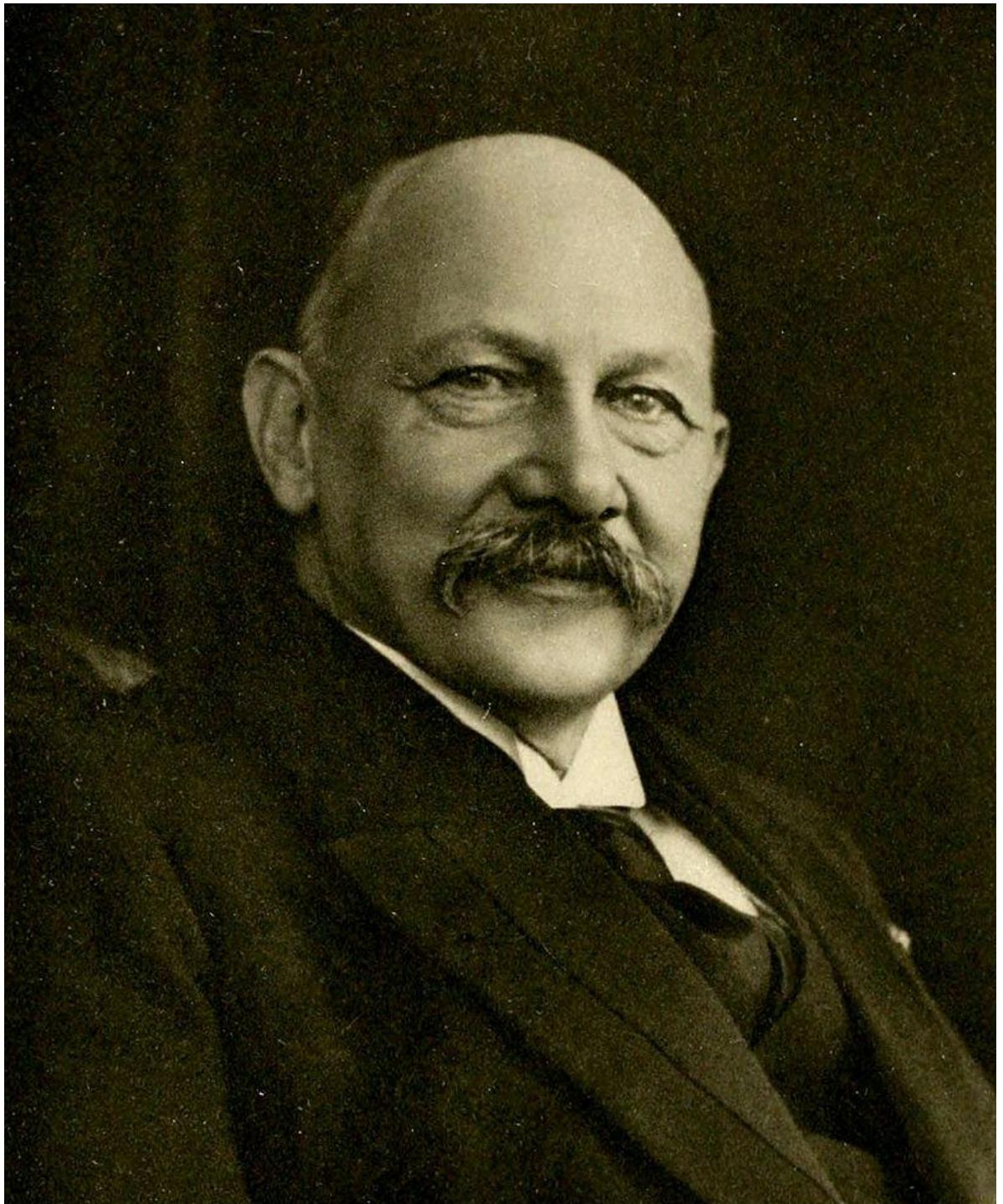
**Loránd Eötvös**  
**(1847-1931)**



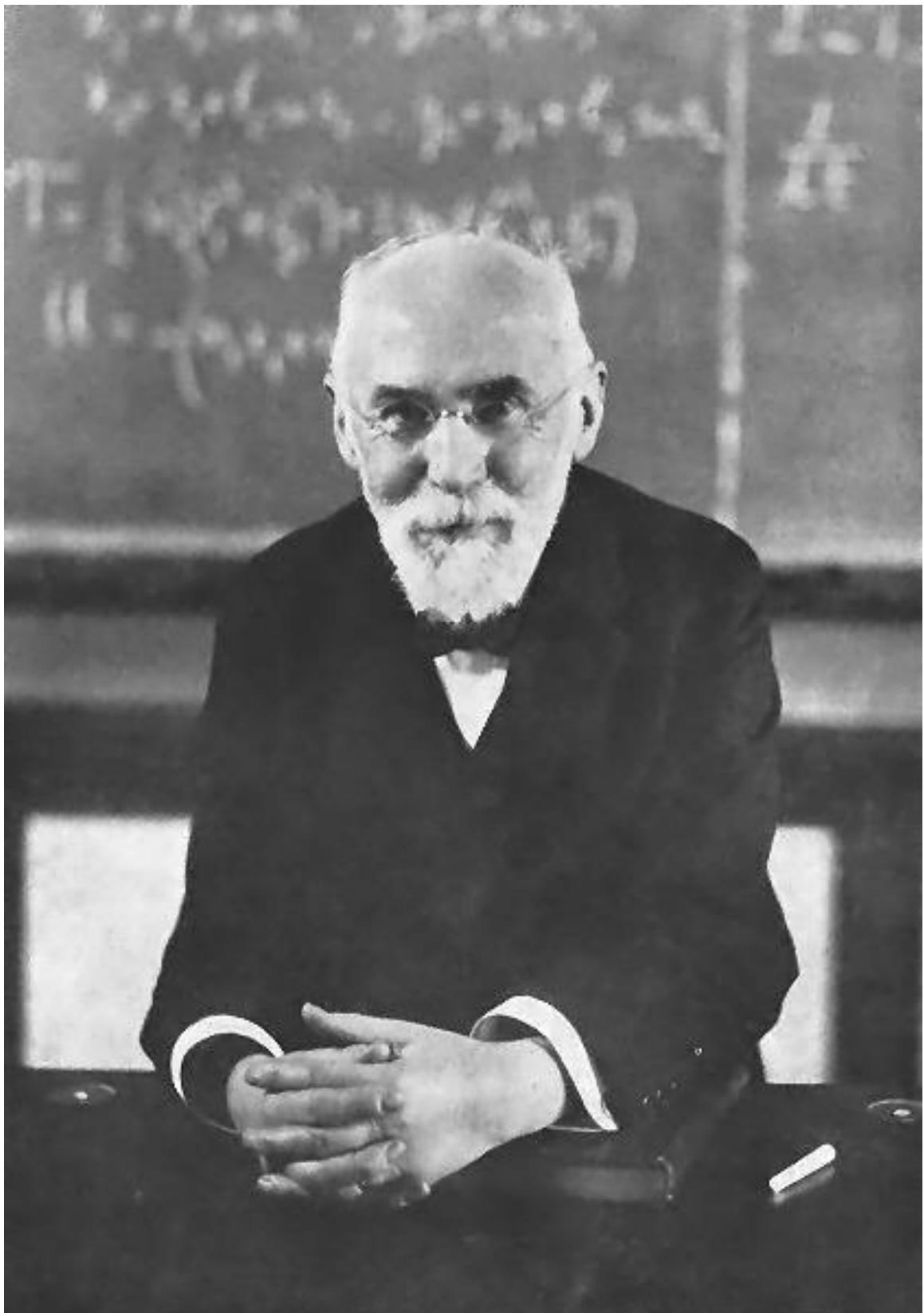
**Antoine Henri  
Becquerel  
(1852-1908)**



**John Henry Poynting**  
**(1852-1914)**

A handwritten signature in cursive script, which appears to read "Heike Kamerlingh Onnes". The signature is written in black ink on a light-colored, textured background.

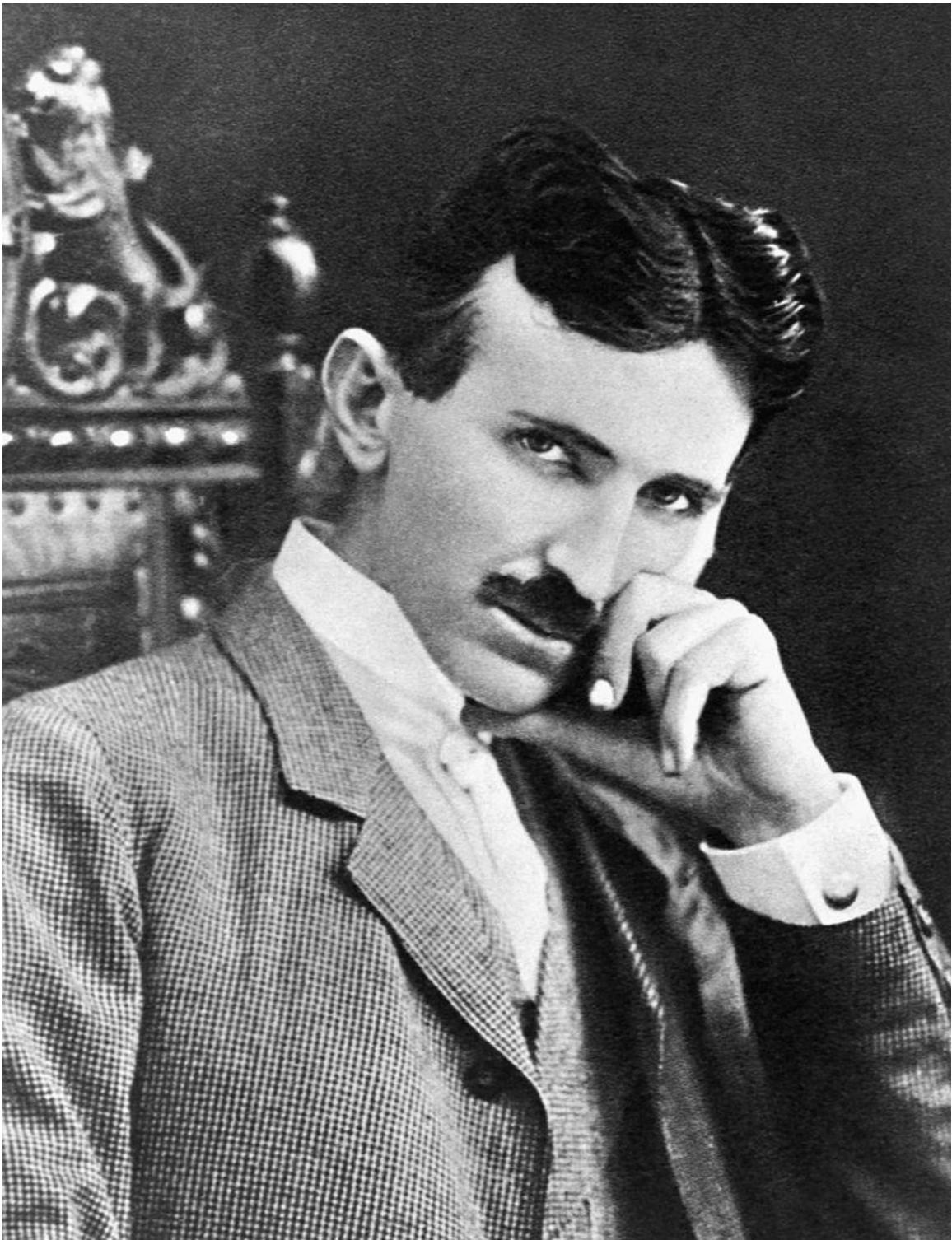
**Heike Kamerlingh Onnes**  
**(1853-1926)**



**Henrik Lorentz**  
**(1853-1928)**



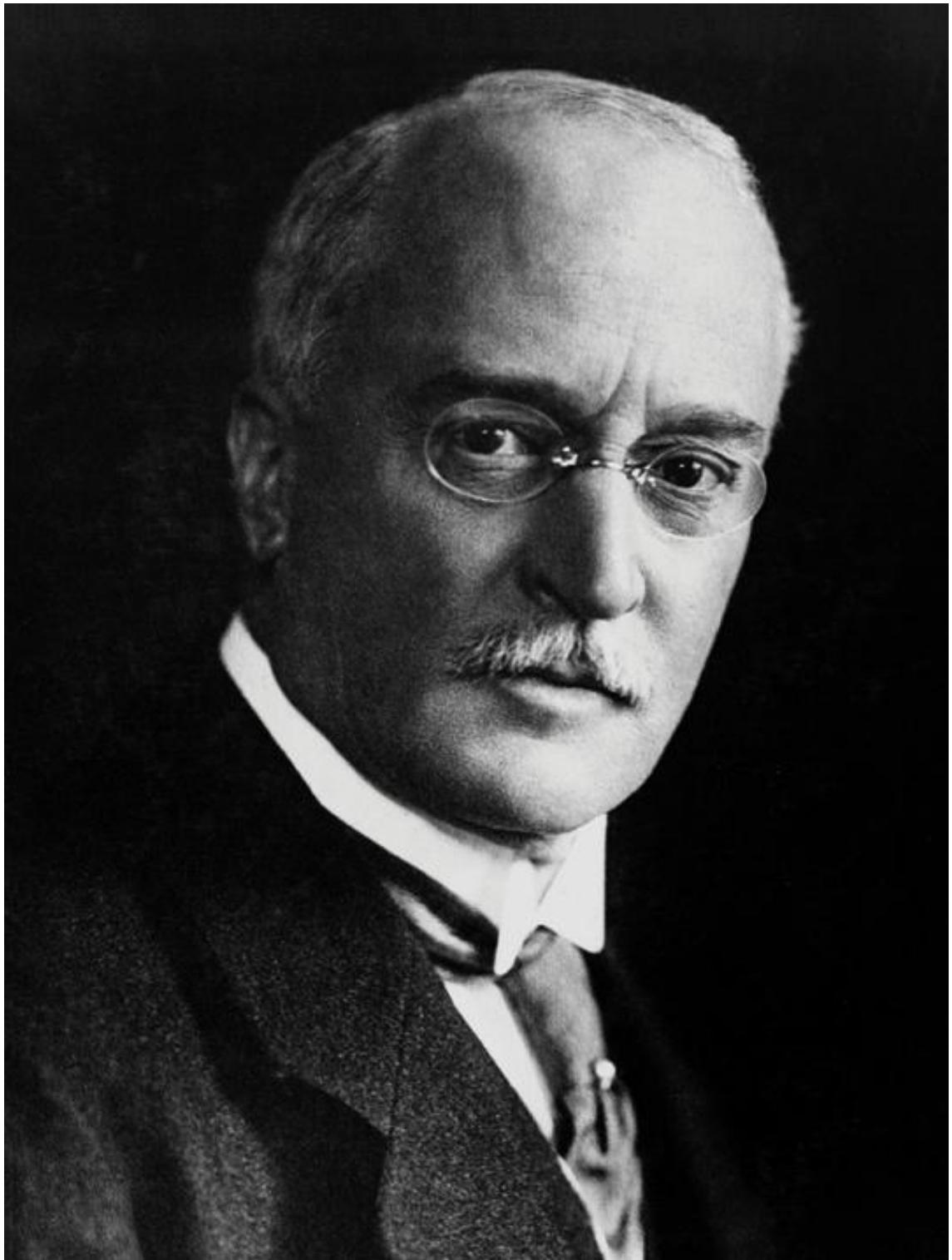
**Joseph John Thompson**  
**(1856-1940)**



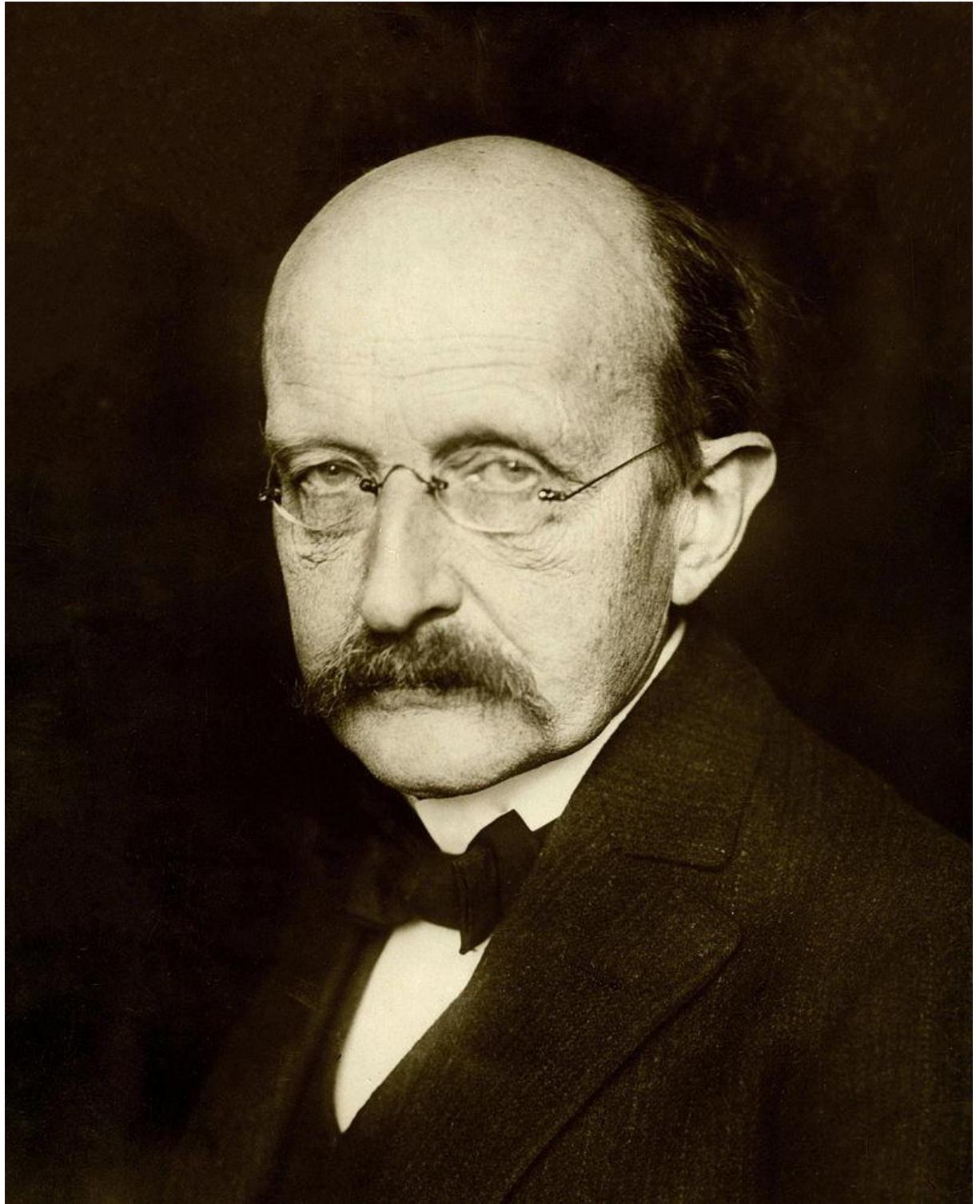
**Nikola Tesla**  
**(1856-1943)**



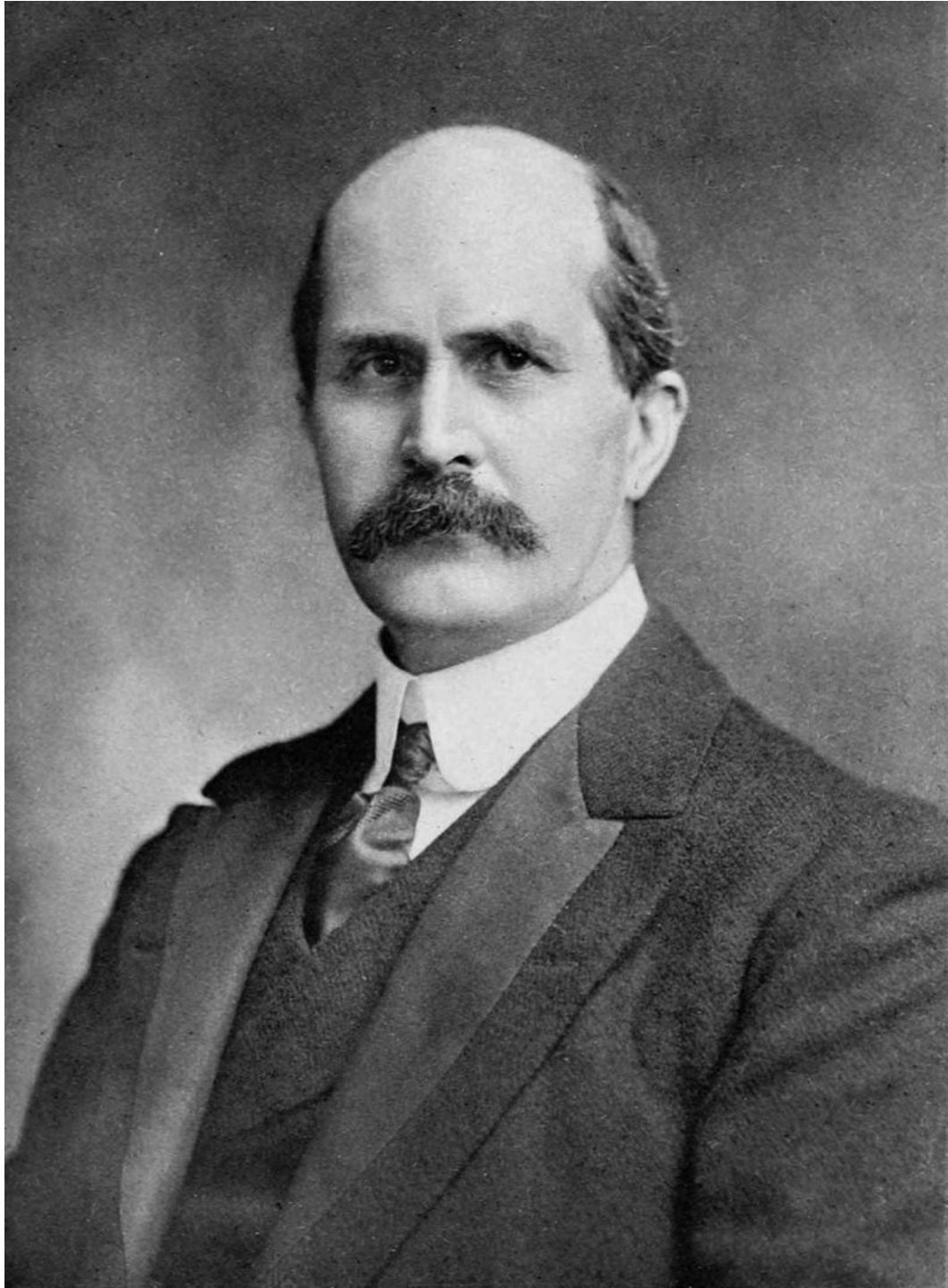
**Heinrich Hertz**  
**(1857-1894)**



**Rudolf Diesel**  
**(1858-1913)**



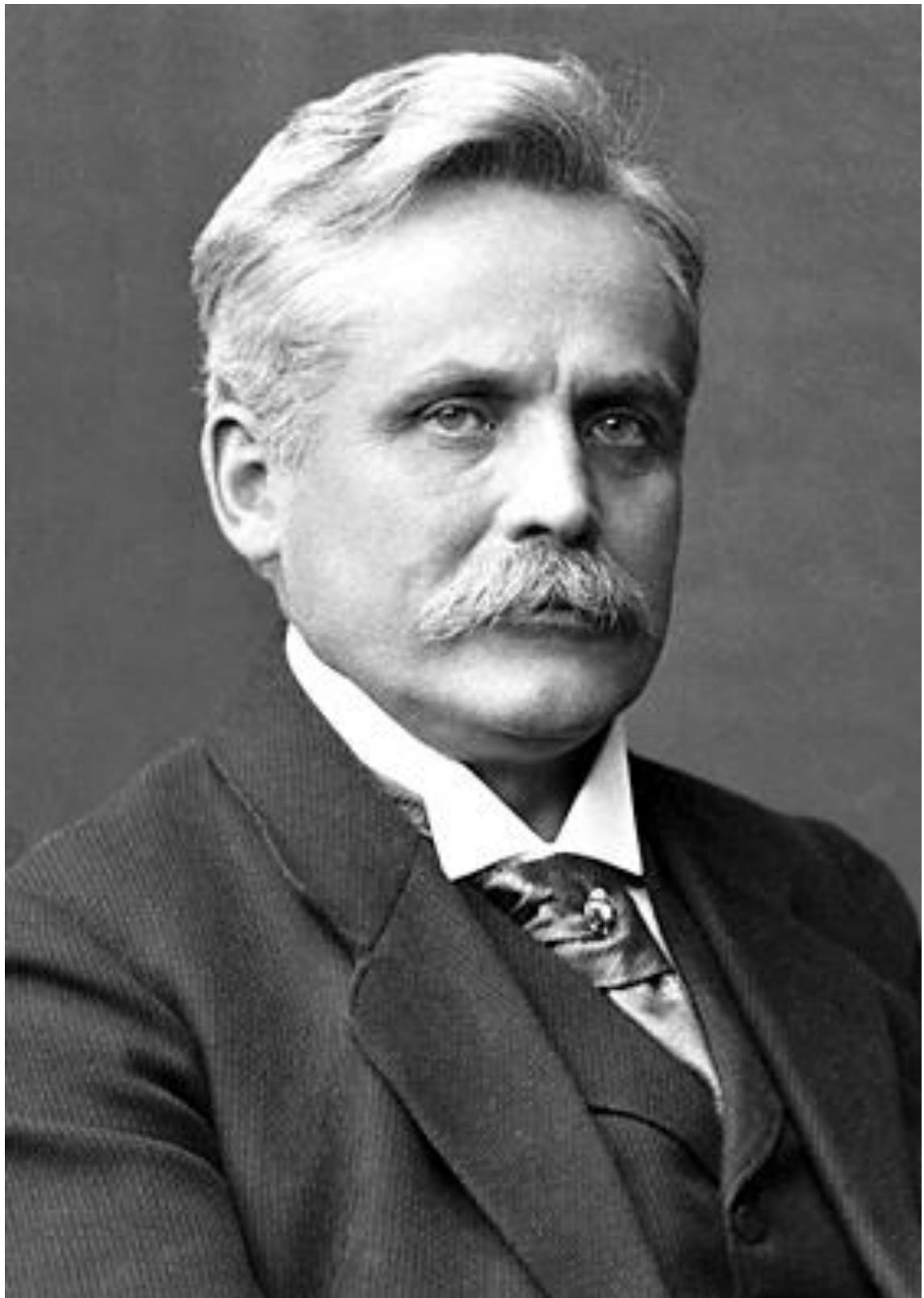
**Max Planck**  
**(1858-1947)**



POTOGRAV GEN. STAB. LIT. ANST.

W.H.Bragg

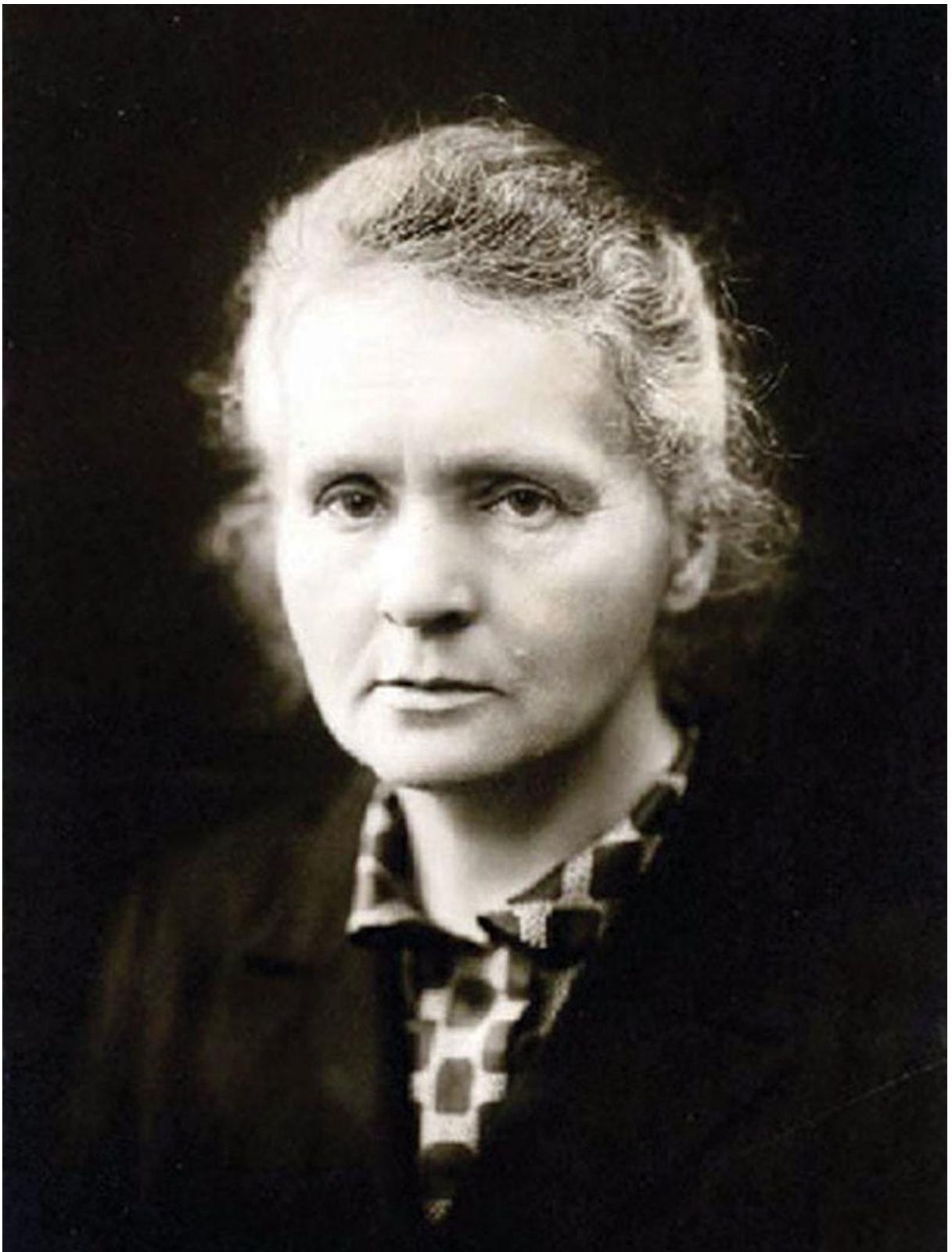
**William Henry Bragg**  
**(1862-1942)**



**Wilhelm Wien**  
**(1864-1928)**



**Pieter Zeeman**  
**(1865-1943)**



**Marie Curie**  
**(1867-1934)**



**Arnold Sommerfeld**  
**(1868-1951)**



**Robert Millikan**  
**(1868-1953)**



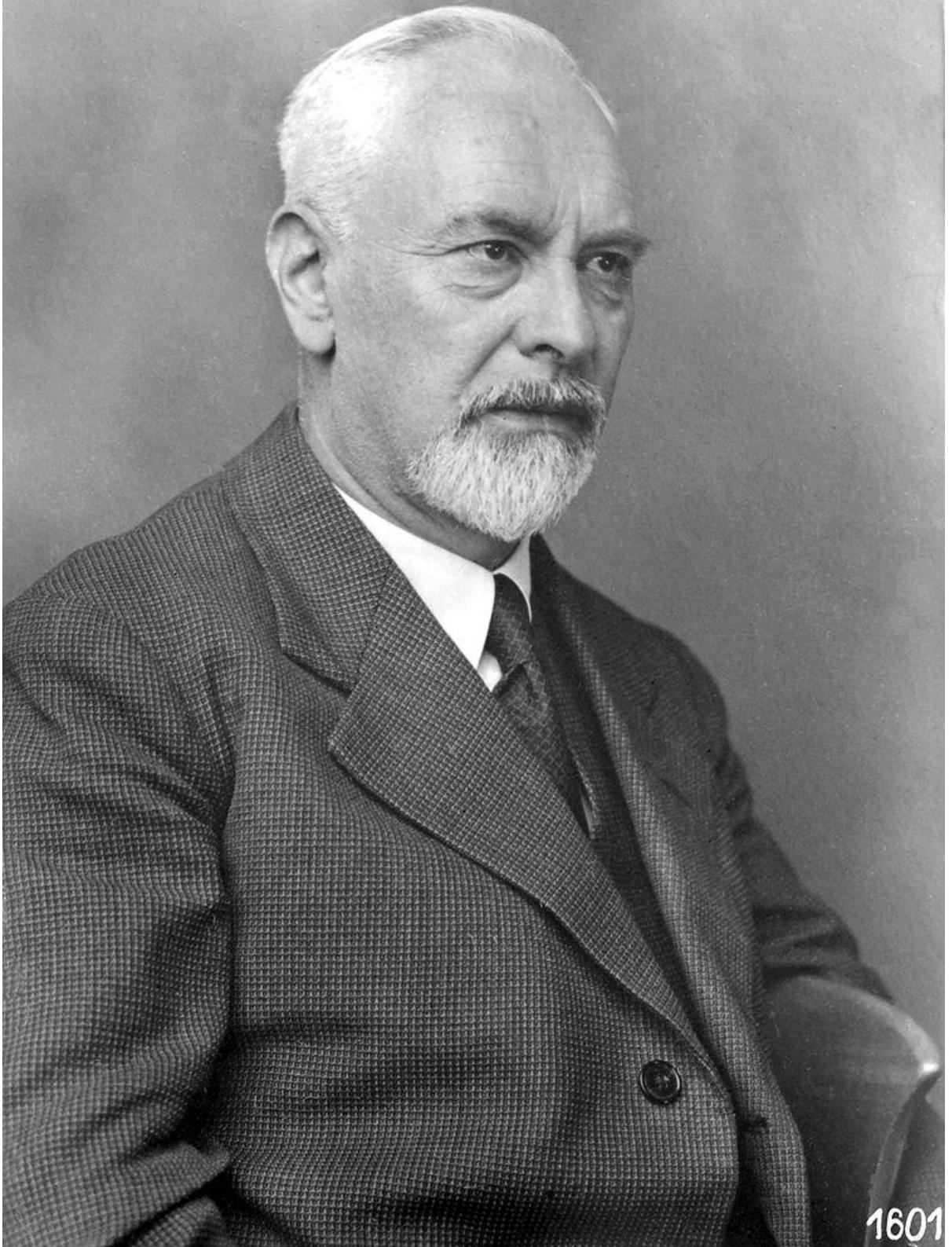
**Ernest Rutherford**  
**(1871-1937)**



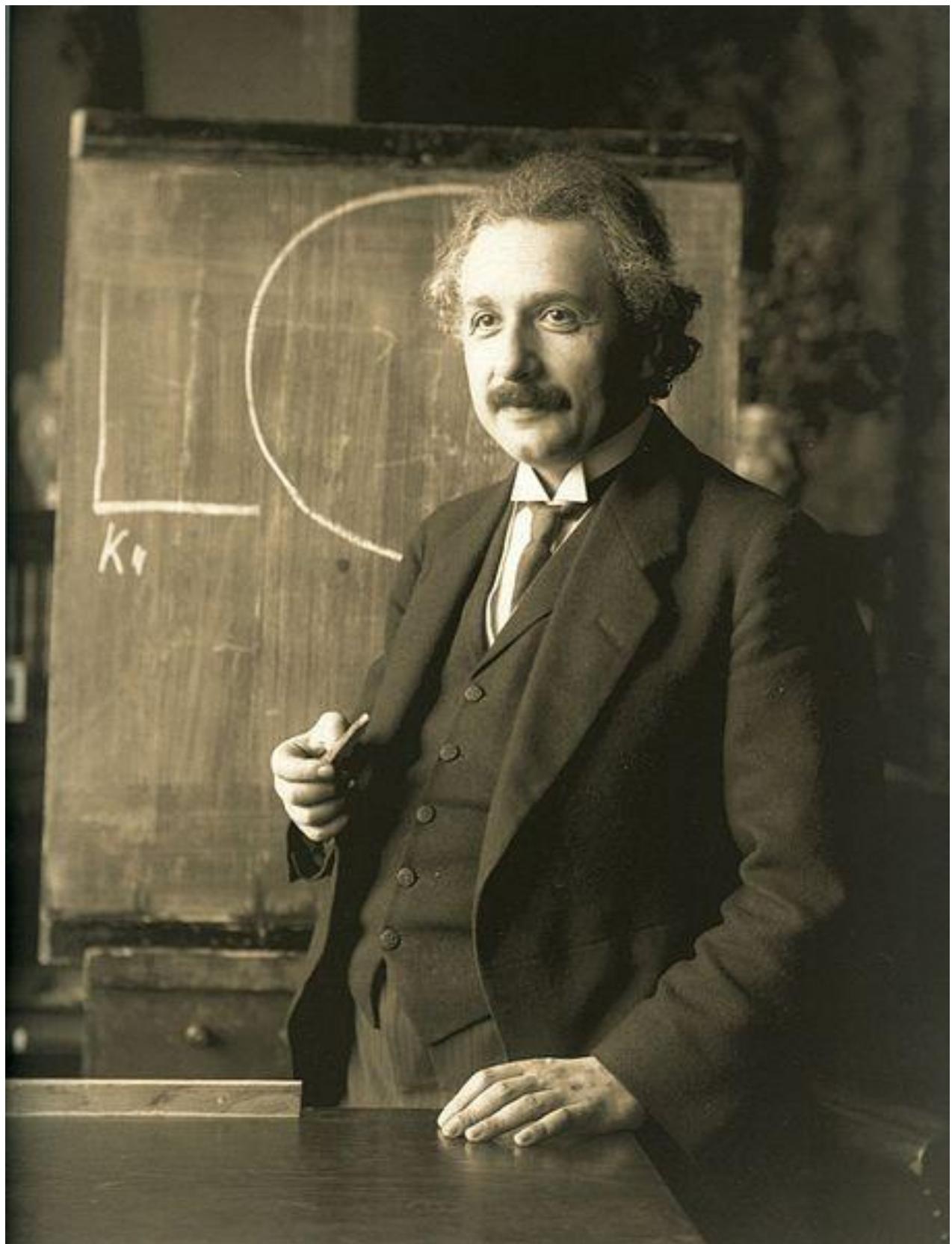
**Paul Langevin**  
**(1872-1946)**



**Guglielmo Marconi**  
**(1874-1937)**



**Ludwig Prandtl**  
**(1875-1953)**



**Albert Einstein**  
**(1879-1955)**



**Emmy Noether**  
**(1882-1935)**



**Arthur Eddington**  
**(1882-1944)**



**Robert H. Goddard**  
**(1882-1945)**



**Hans Geiger**  
**(1882-1945)**



**Max Born**  
**(1882-1970)**



**Hermann Weyl**  
**(1885-1955)**



**Niels Bohr**  
**(1885-1962)**



**Erwin Schrödinger**  
**(1887-1961)**



**Alexander Friedmann**  
**(1888-1925)**



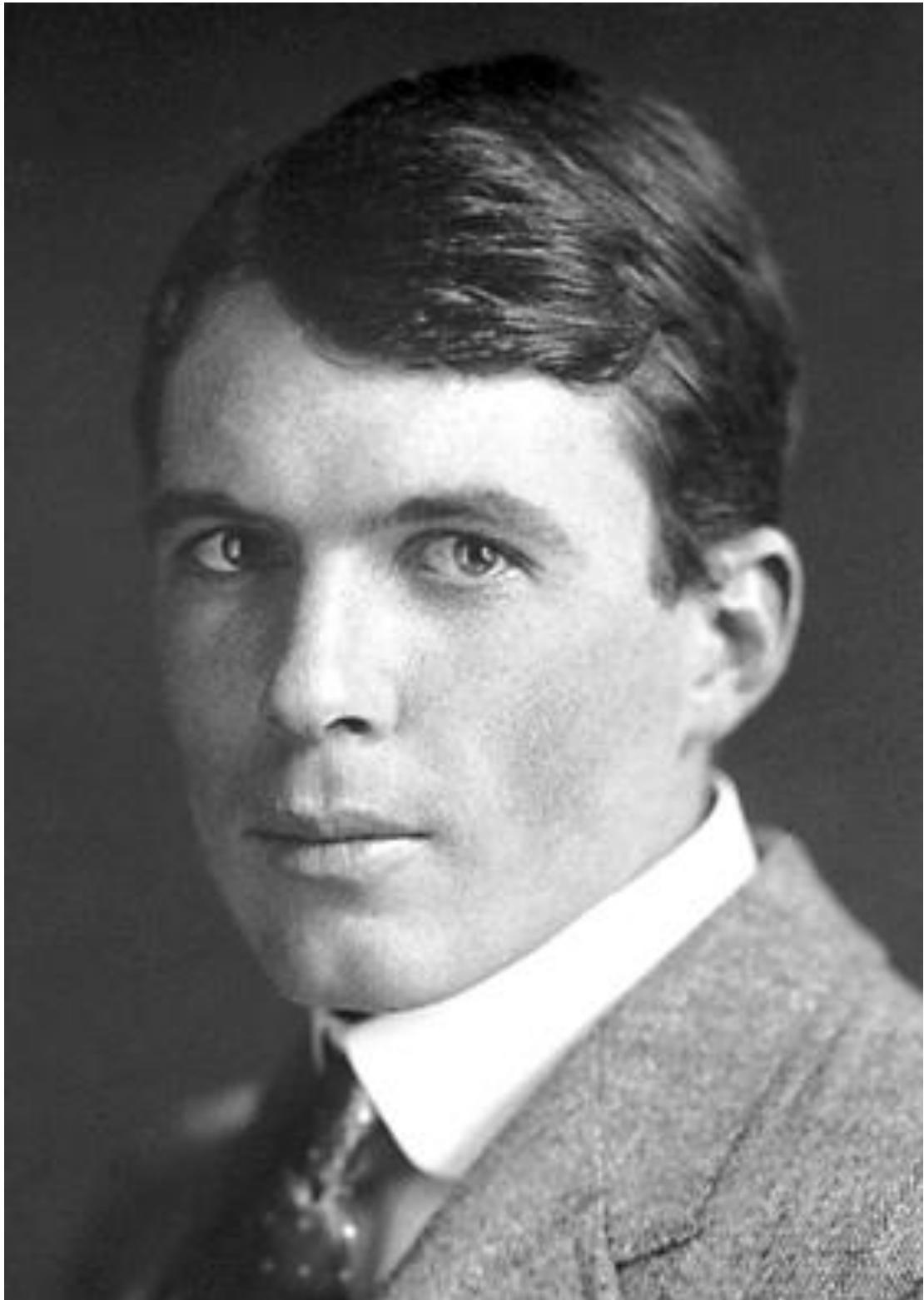
**C.V. Raman**  
**(1888-1970)**



**Edwin Hubble**  
**(1889-1953)**



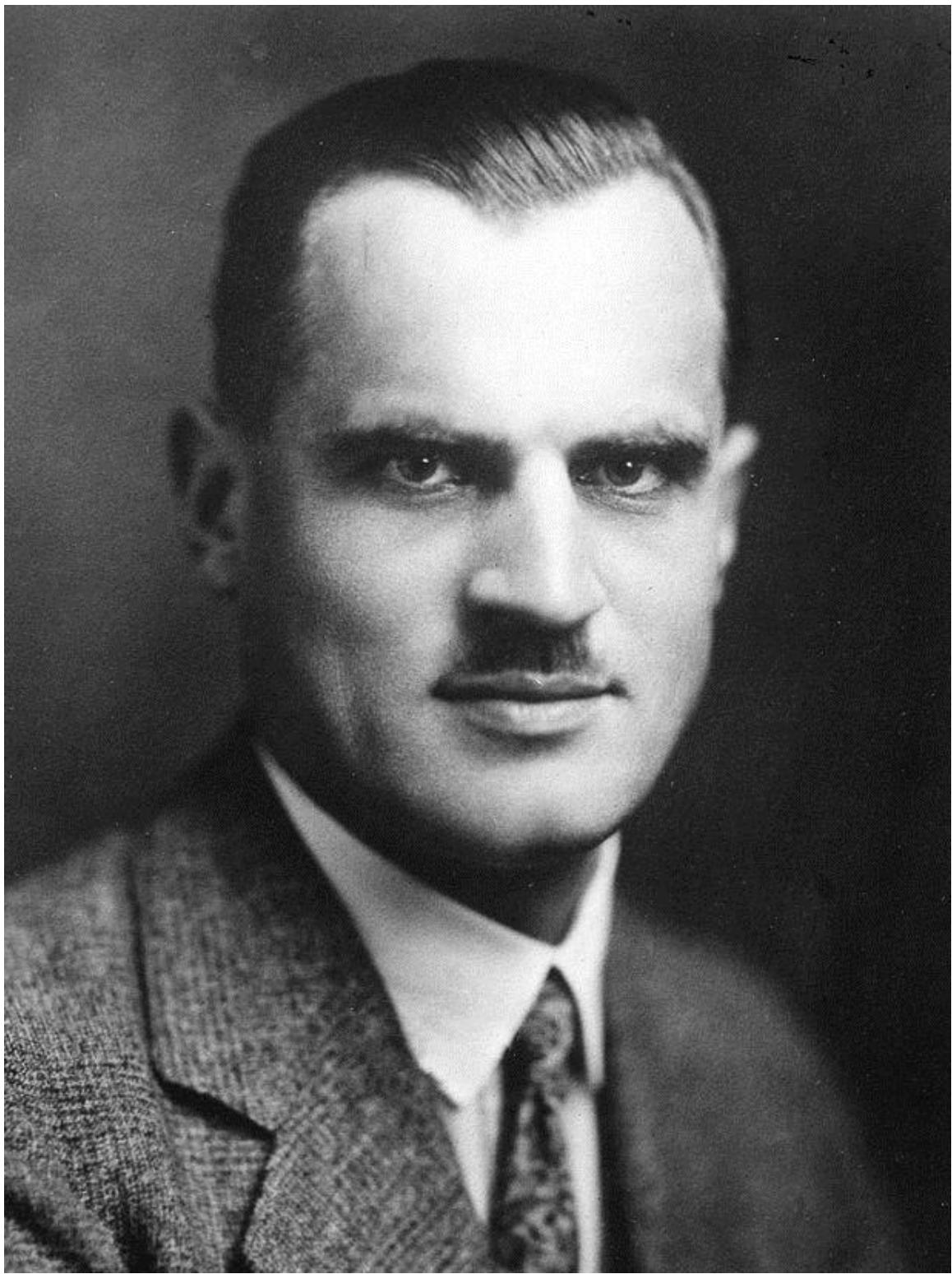
**Balthasar van der Pol**  
**(1889-1959)**



**William Lawrence Bragg**  
**(1890-1971)**



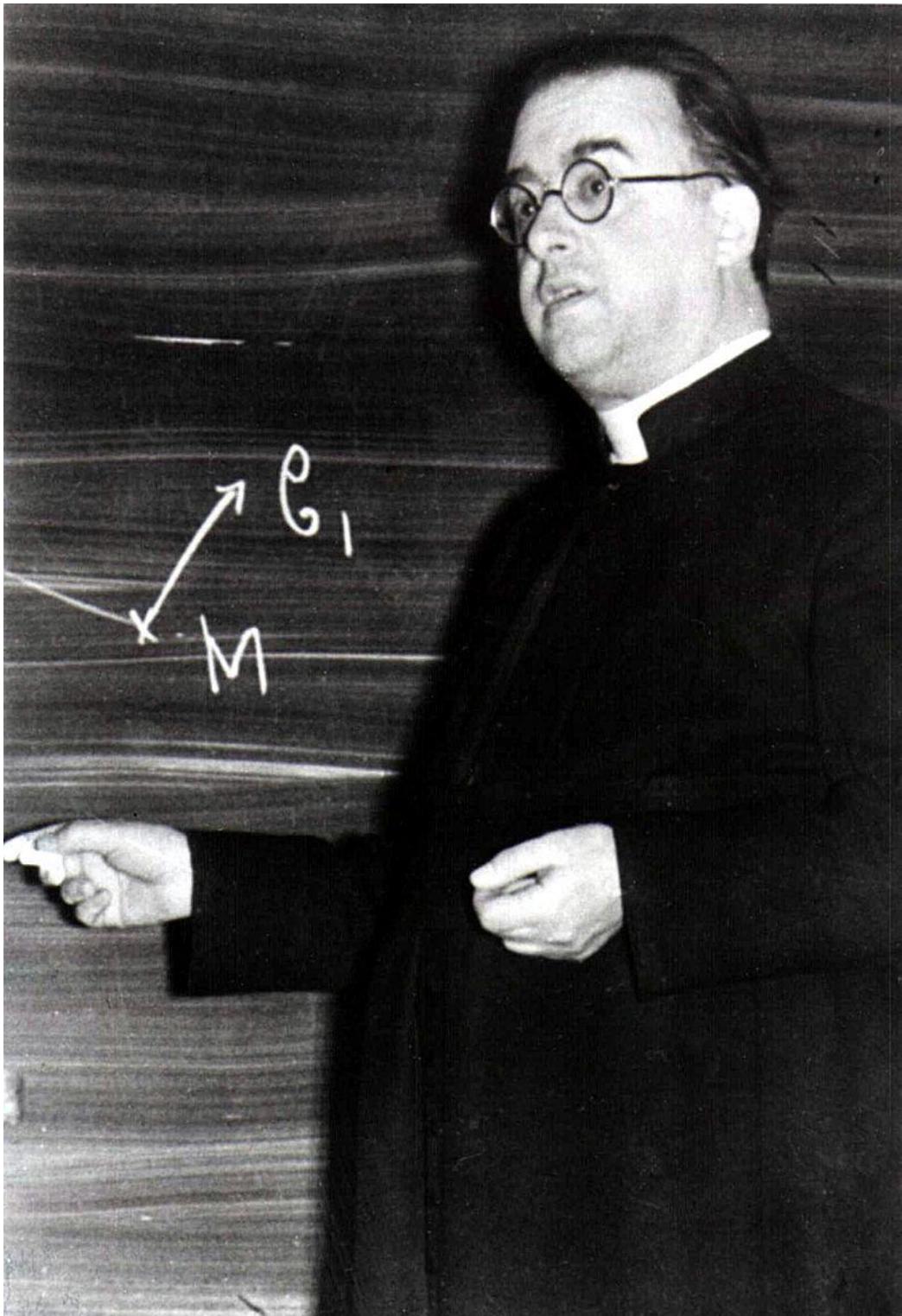
**James Chadwick**  
**(1891-1974)**



**Arthur Compton**  
**(1892-1962)**



**Louis de Broglie**  
**(1892-1987)**



**Georges Lemaître**  
**(1894-1966)**



**Satyendra Nath Bose**  
**(1894-1974)**



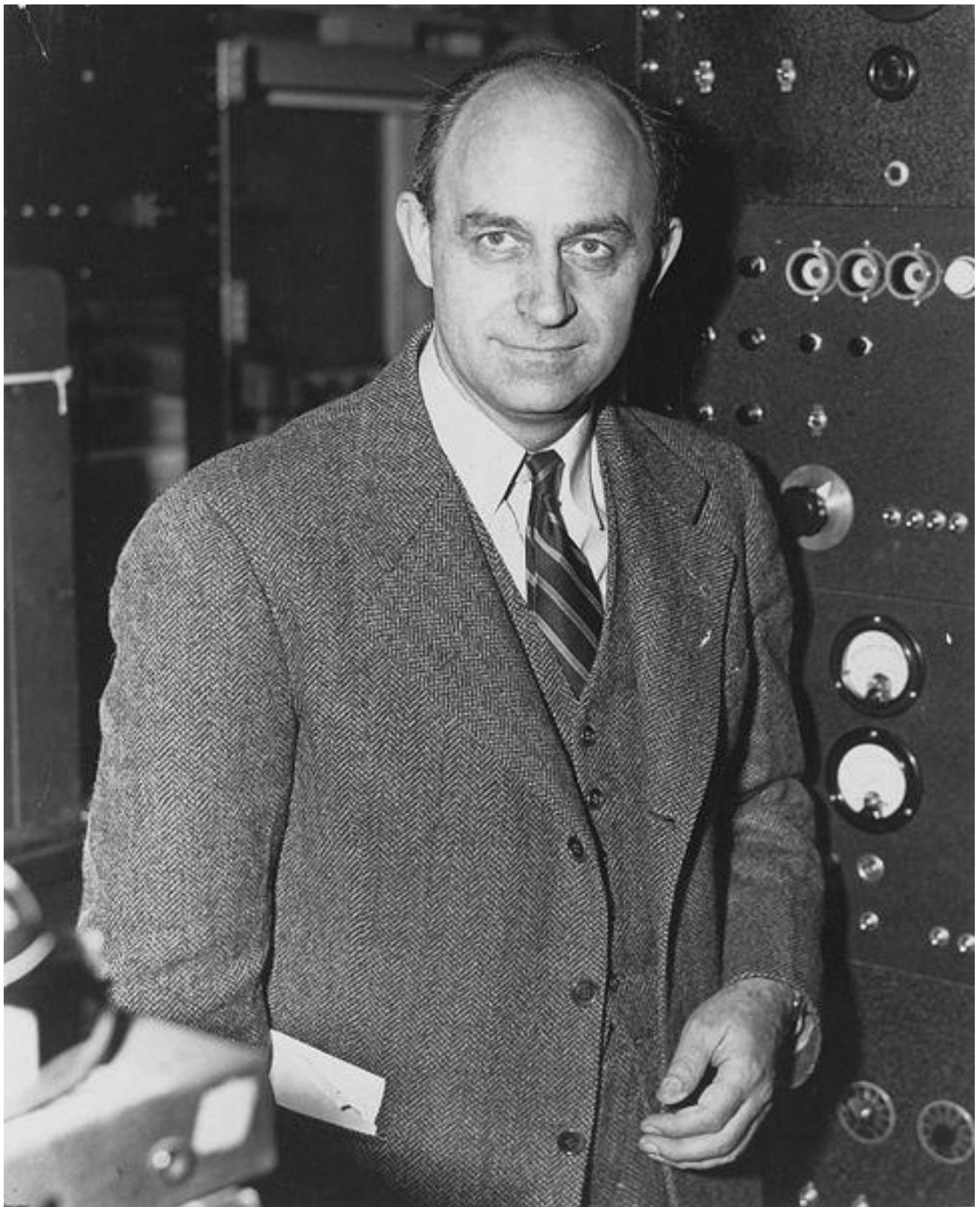
**John Cockcroft**  
**(1897-1967)**



**Wolfgang Pauli**  
**(1900-1958)**



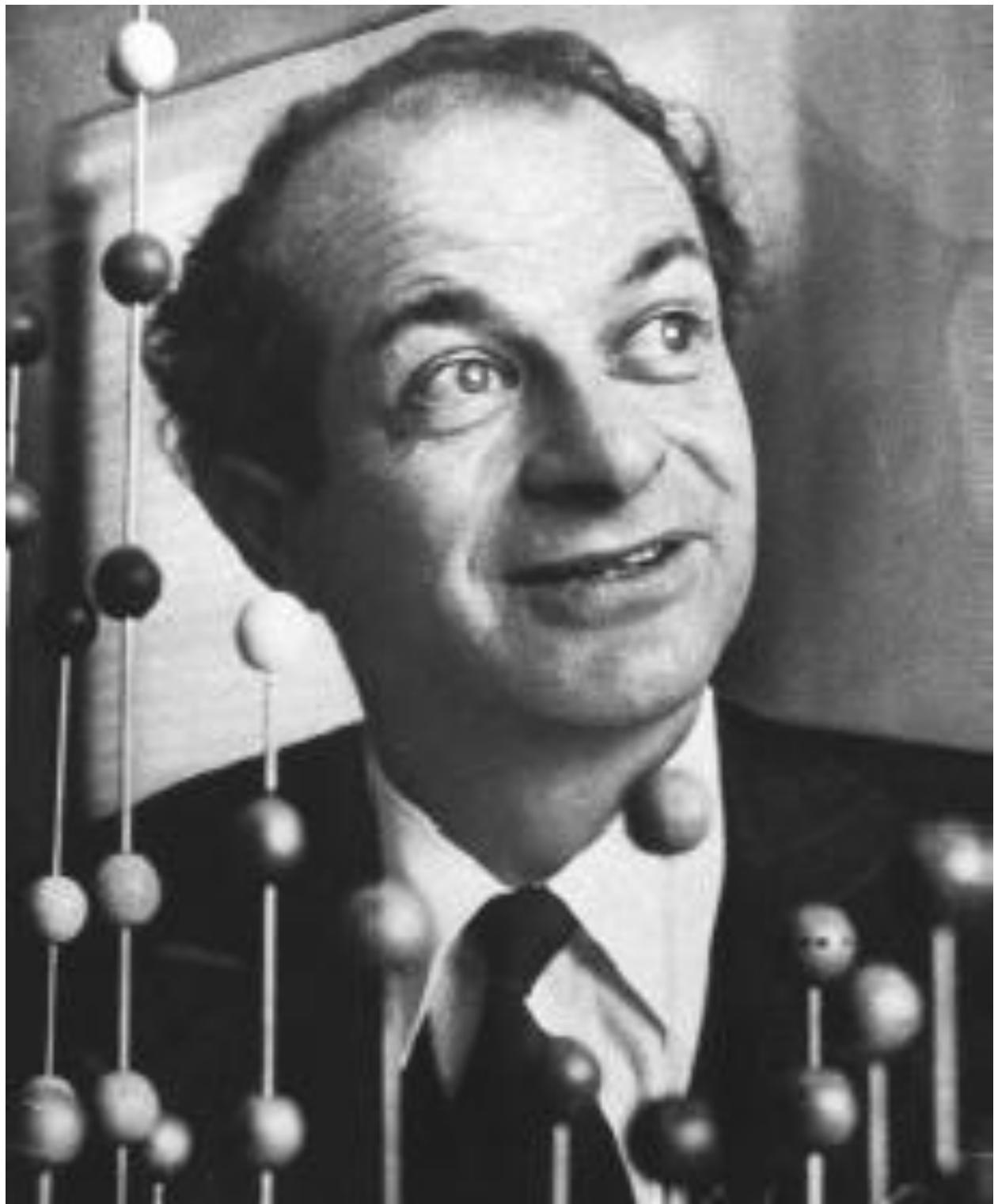
**Charles Francis Richter**  
**(1900-1970)**



**Enrico Fermi**  
**(1901-1954)**



**Werner Heisenberg**  
**(1901-1976)**



**Linus Pauling**  
**(1901-1994)**



**Paul Dirac**  
**(1902-1984)**



**Eugene Wigner**  
**(1902-1995)**



**John von Neumann**  
**(1903-1957)**



**Robert Oppenheimer**  
**(1904-1967)**



**George Gamow**  
**(1904-1968)**



**Sin Itiro Tomonaga**  
**(1906-1979)**



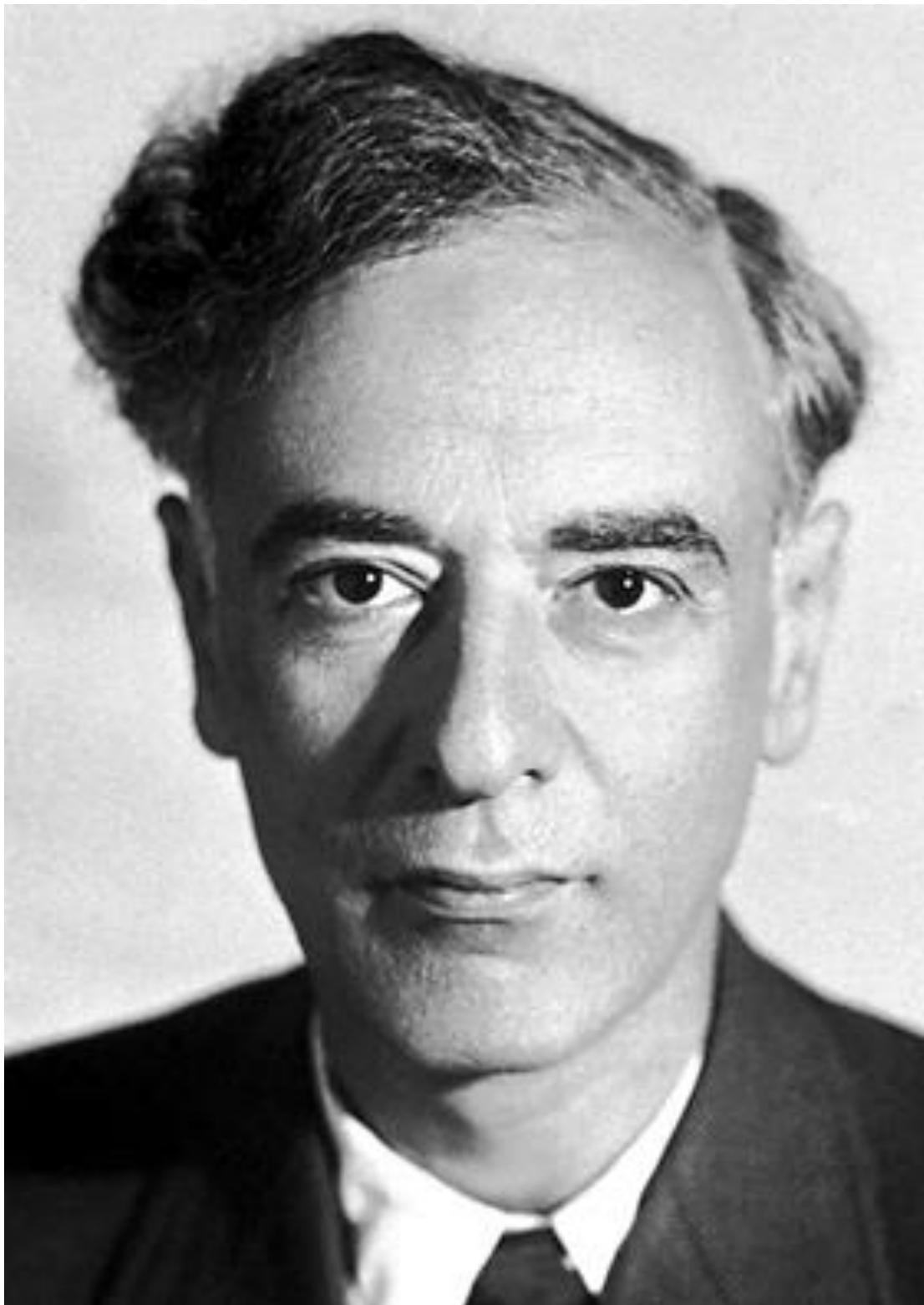
**Maria Goeppert Mayer**  
**(1906-1972)**



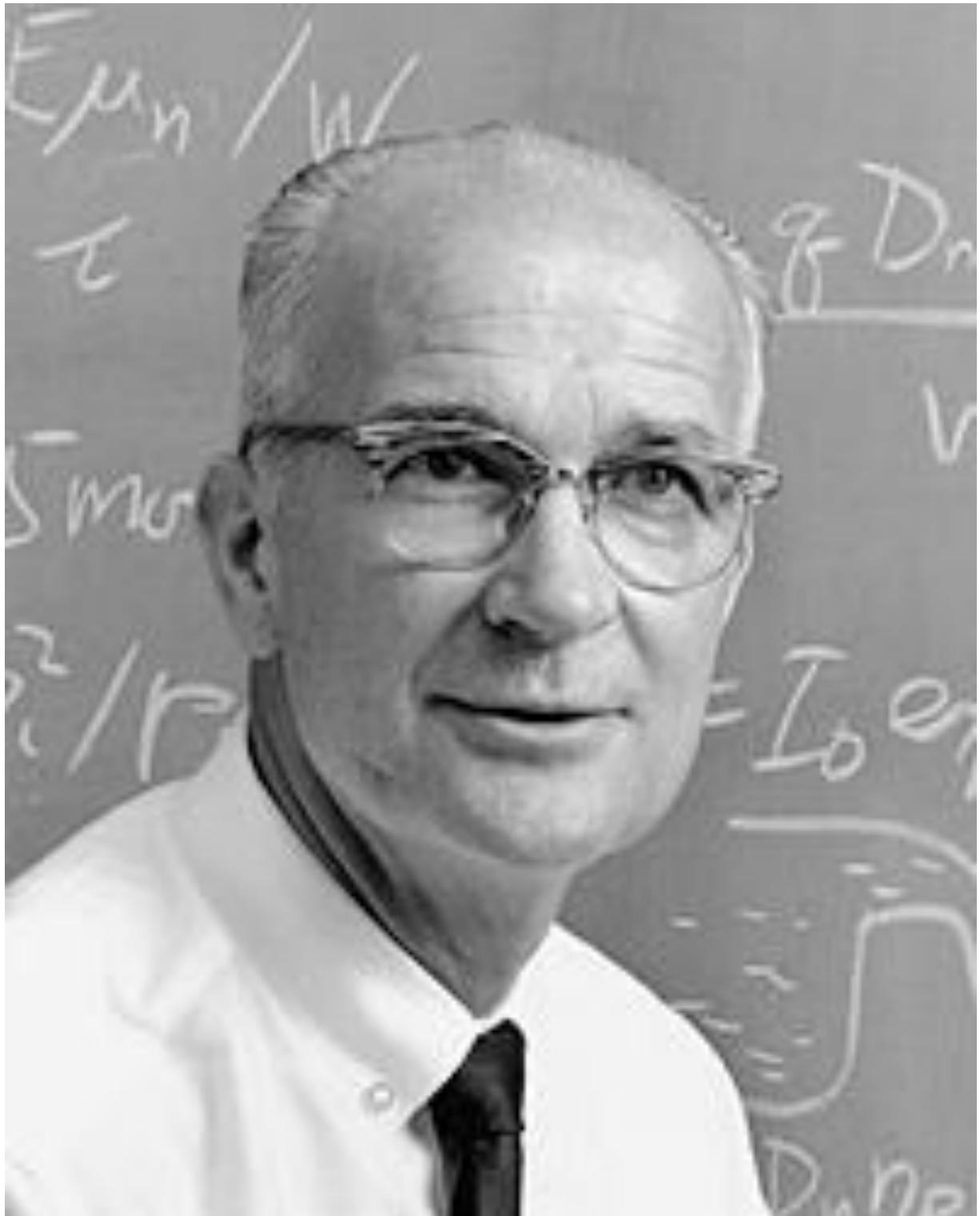
**Hans Bethe**  
**(1906-2005)**



**Hideki Yukawa**  
**(1907-1981)**



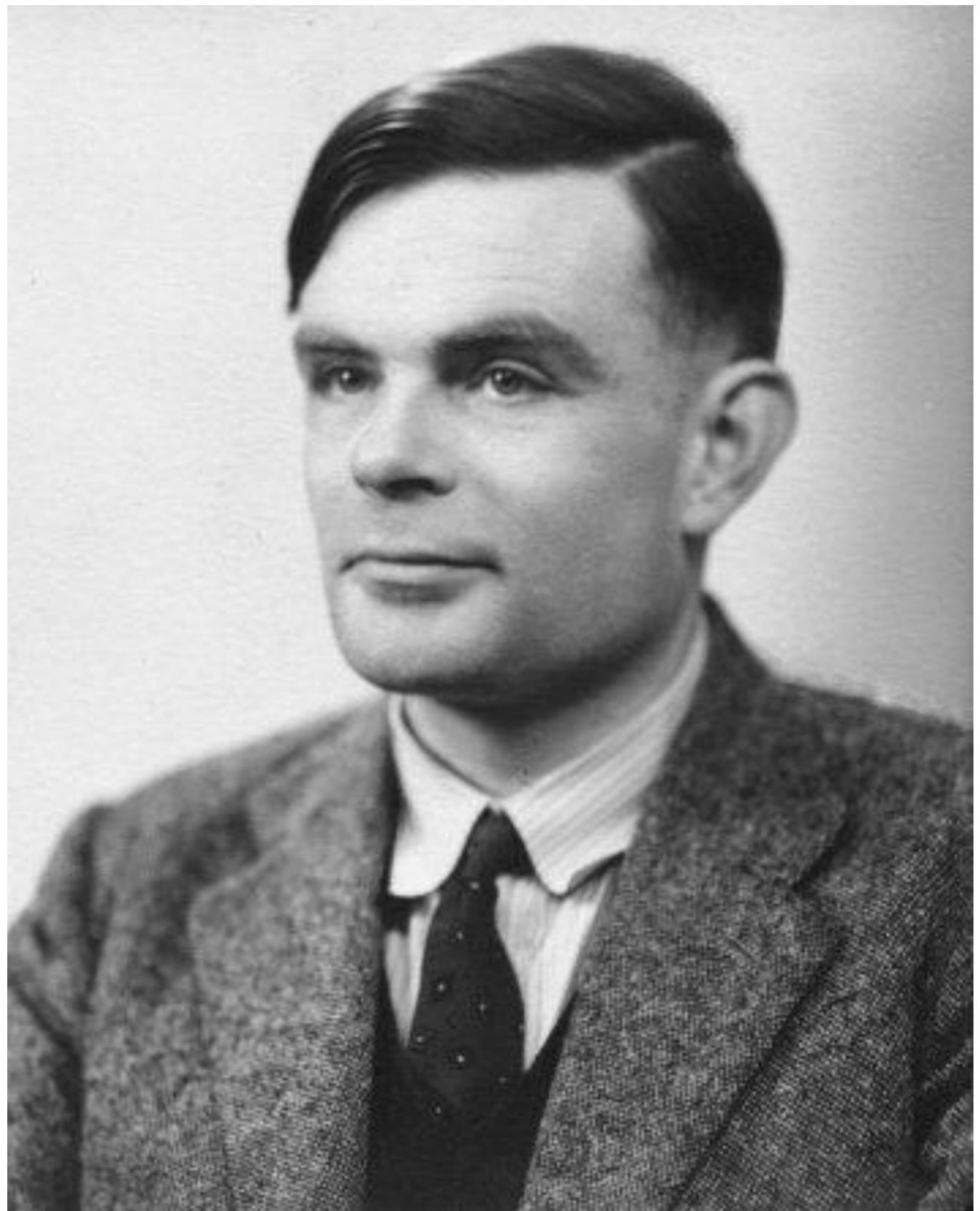
**Lev Davidovich Landau**  
**(1908-1968)**



**William Shockley**  
**(1910-1989)**



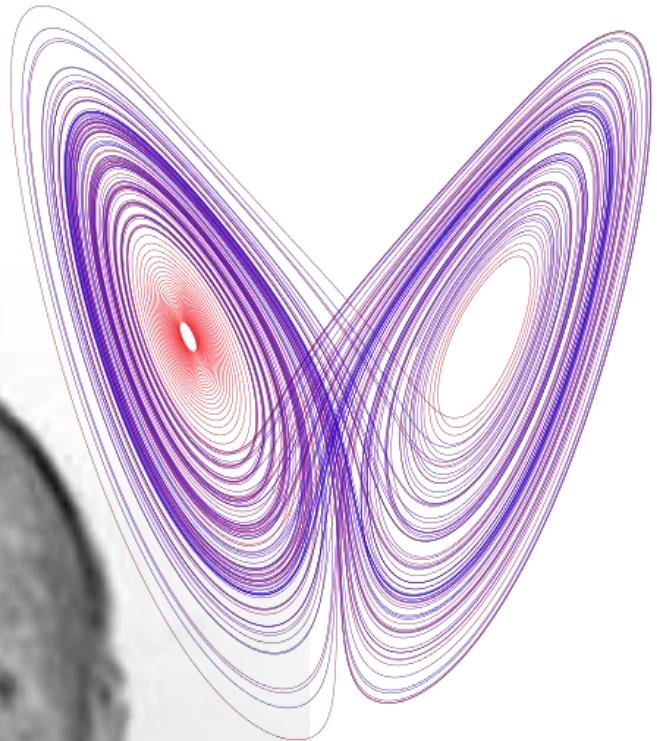
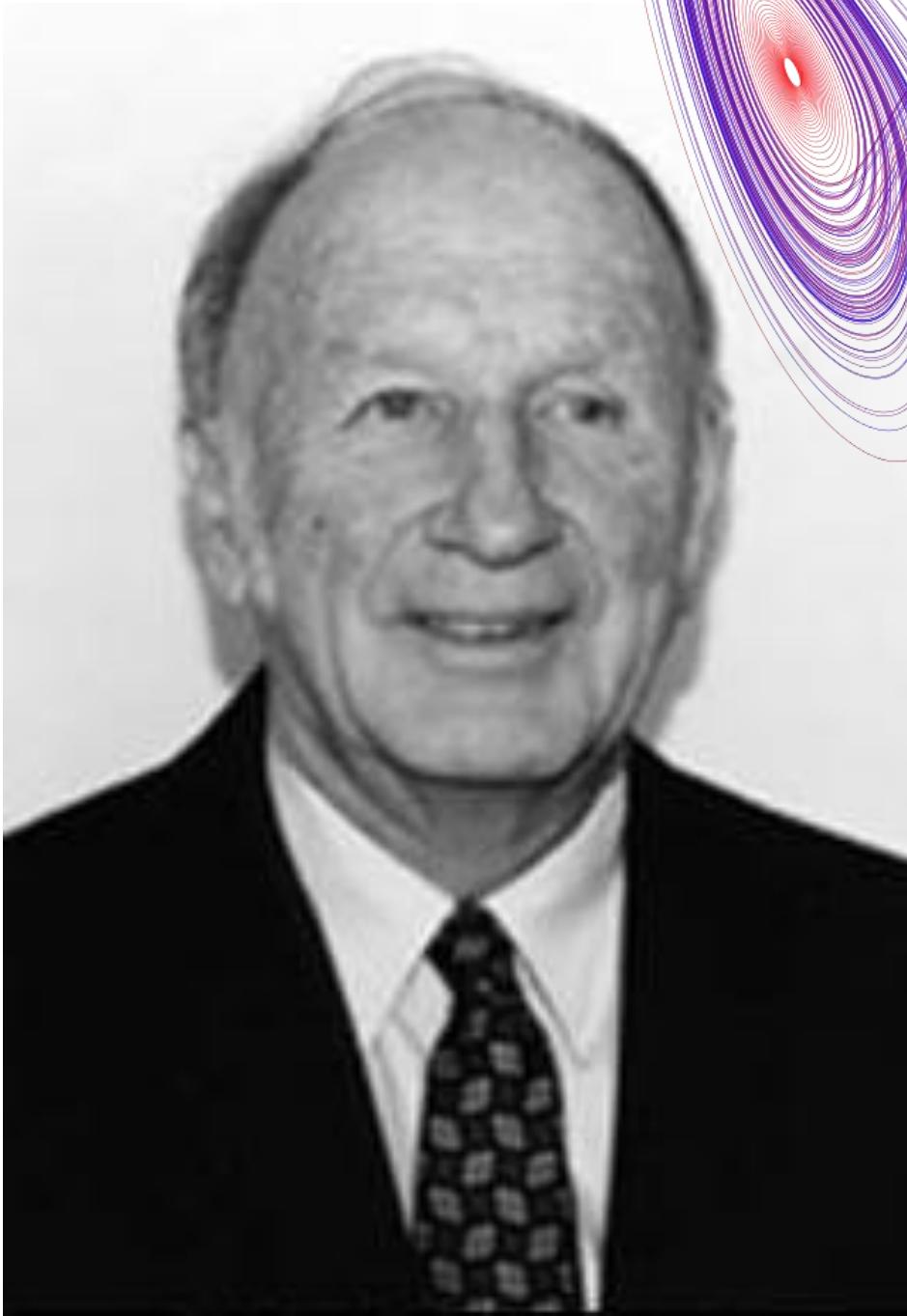
**Subrahmanyan  
Chandrasekhar  
(1910-1995)**



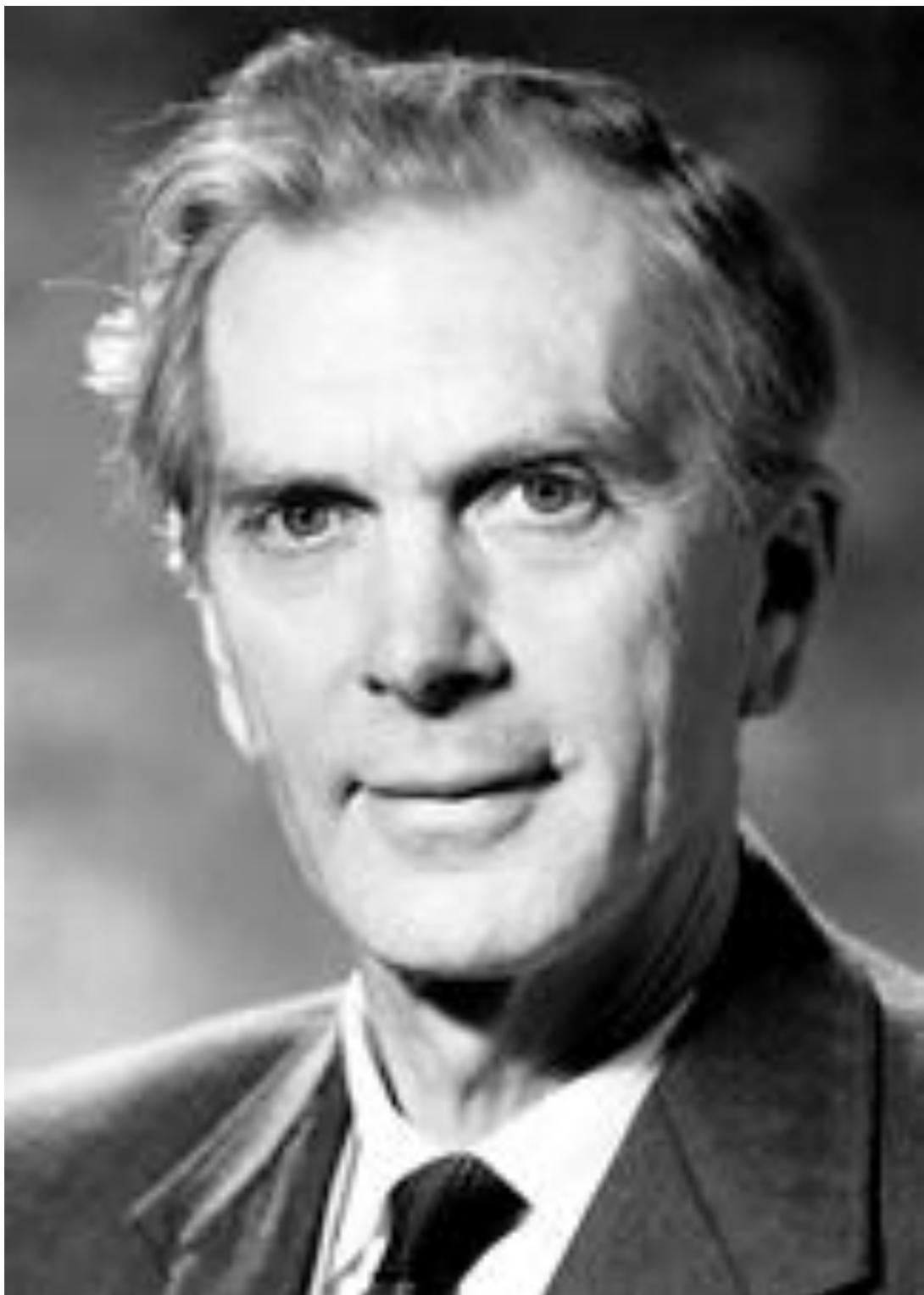
**Alan Turing**  
**(1912-1954)**



**Charles Hard Townes**  
**(1915-2015)**



**Edward Norton Lorenz**  
**(1917-2008)**



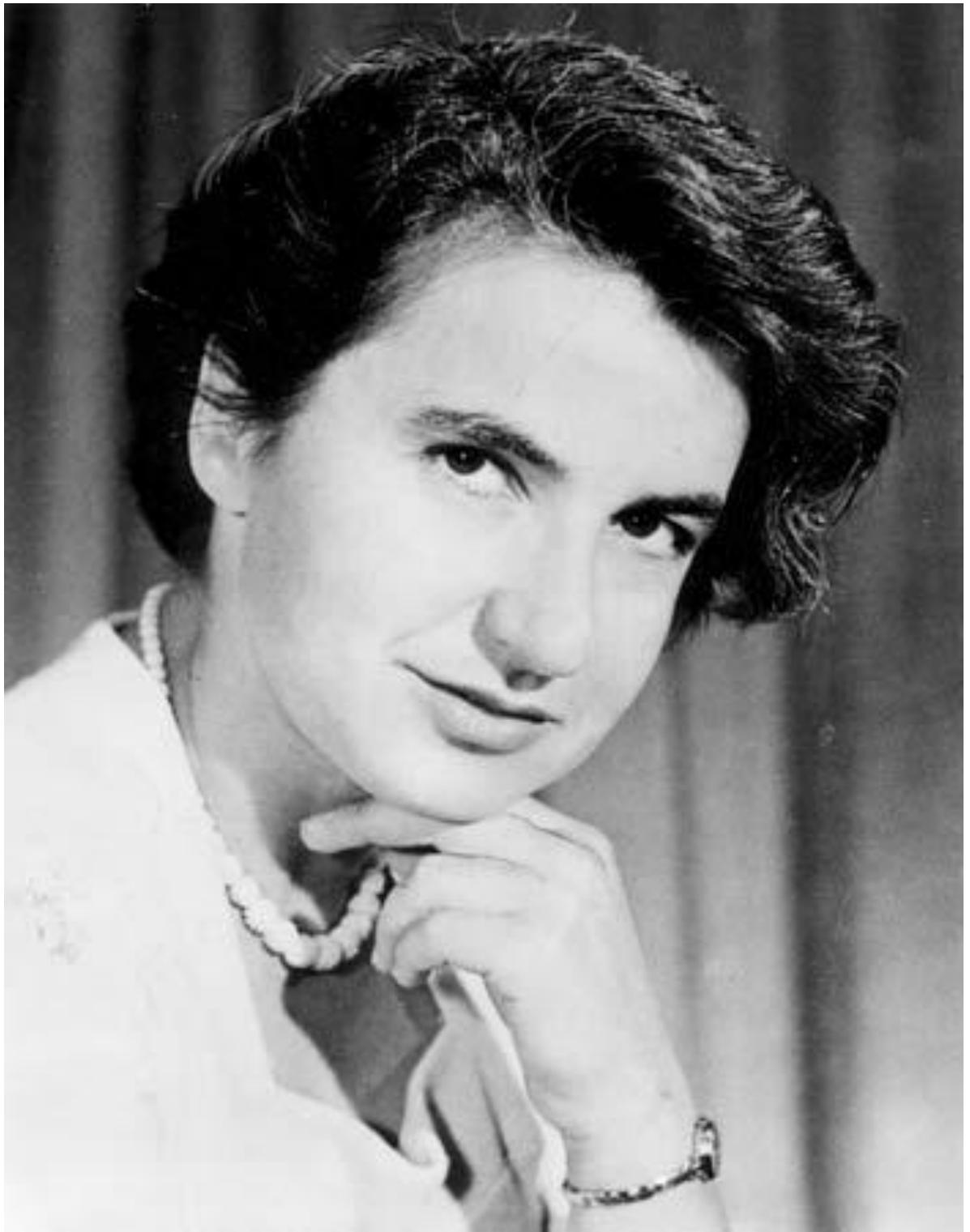
**Martin Ryle**  
**(1918-1984)**



**Julian Schwinger**  
**(1918-1994)**



**Richard Feynman**  
**(1918-1988)**



**Rosalind Franklin**  
**(1920-1958)**



**Arthur Schawlow**  
**(1921-1999)**



**John Stewart Bell**  
**(1928-1990)**



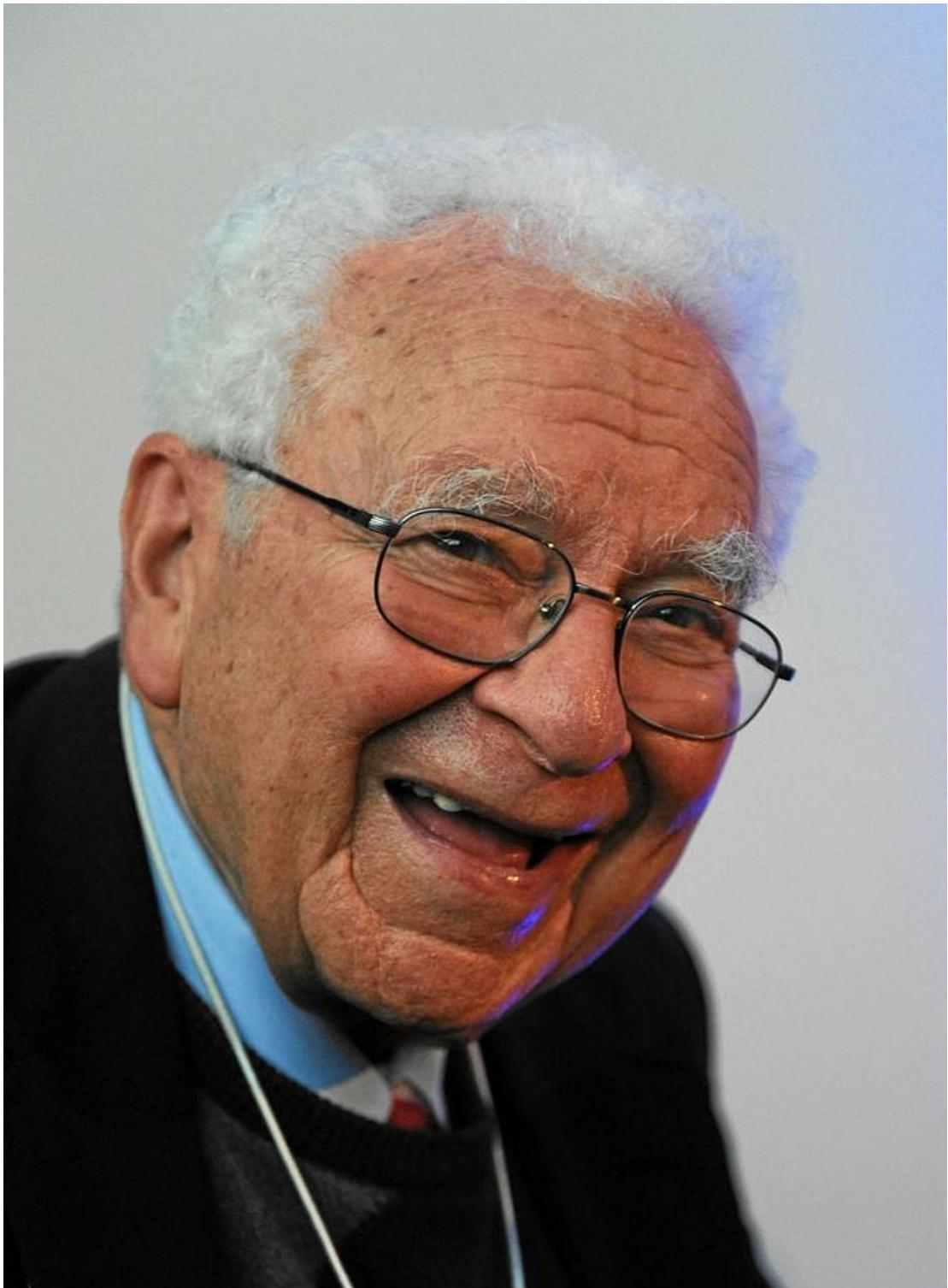
**Steven Weinberg**  
**(1933-2021)**



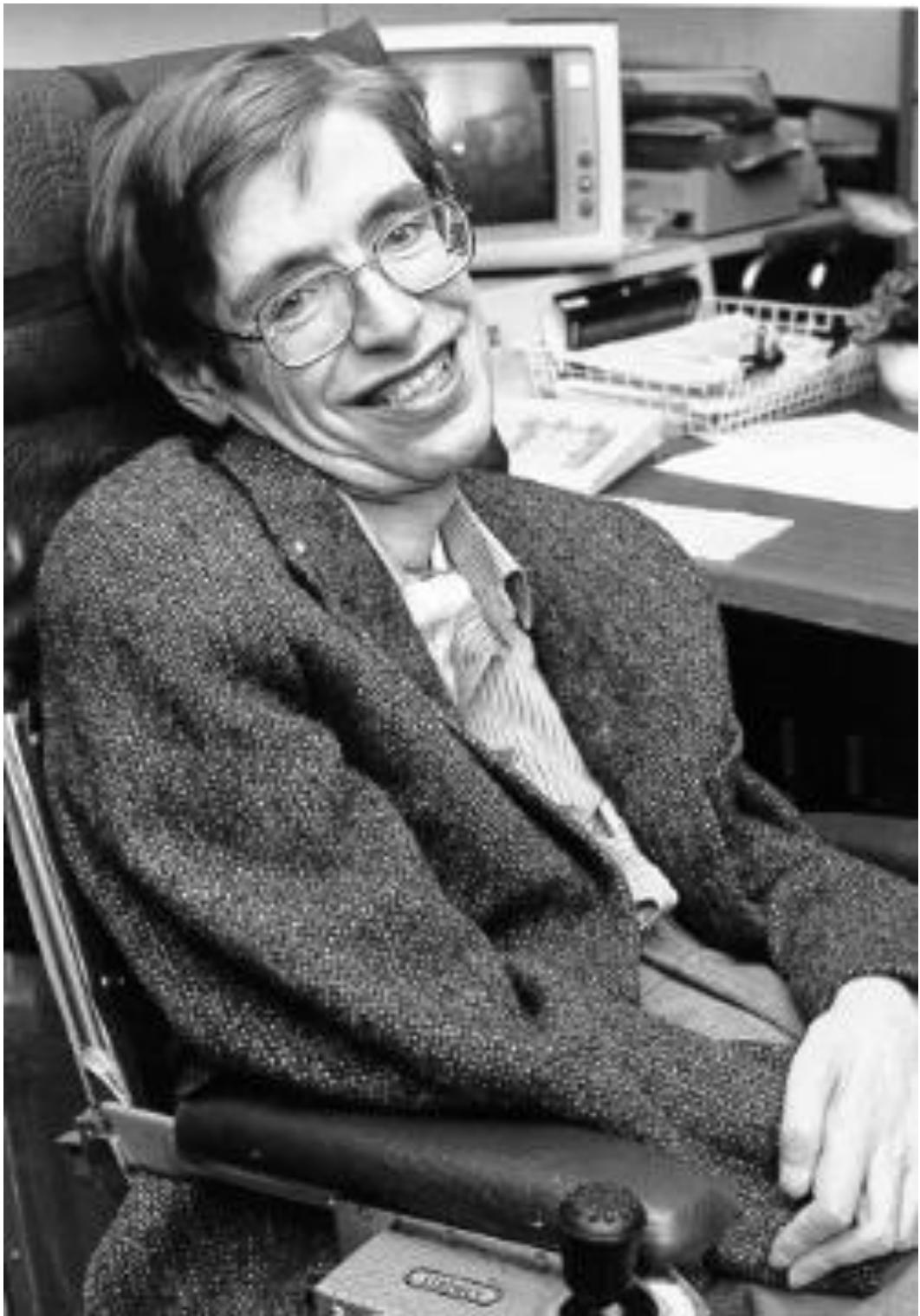
**Carl Sagan**  
**(1934-1996)**



**Kip Thorne**  
**(1940-)**



**Murray Gell-Mann**  
**(1929-2019)**



**Stephen Hawking**  
**(1942-2018)**



**Jocelyn Bell Burnell**  
**(1943-)**