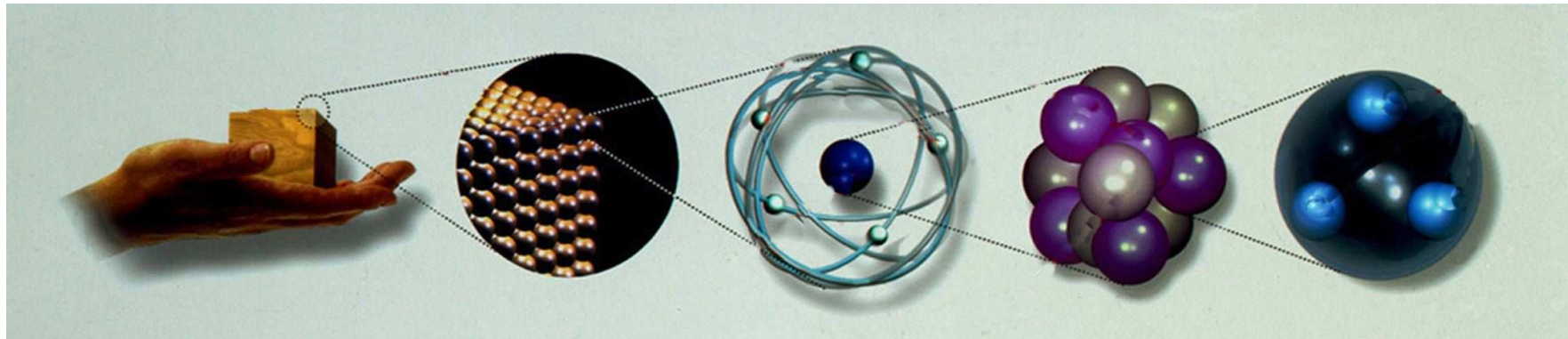
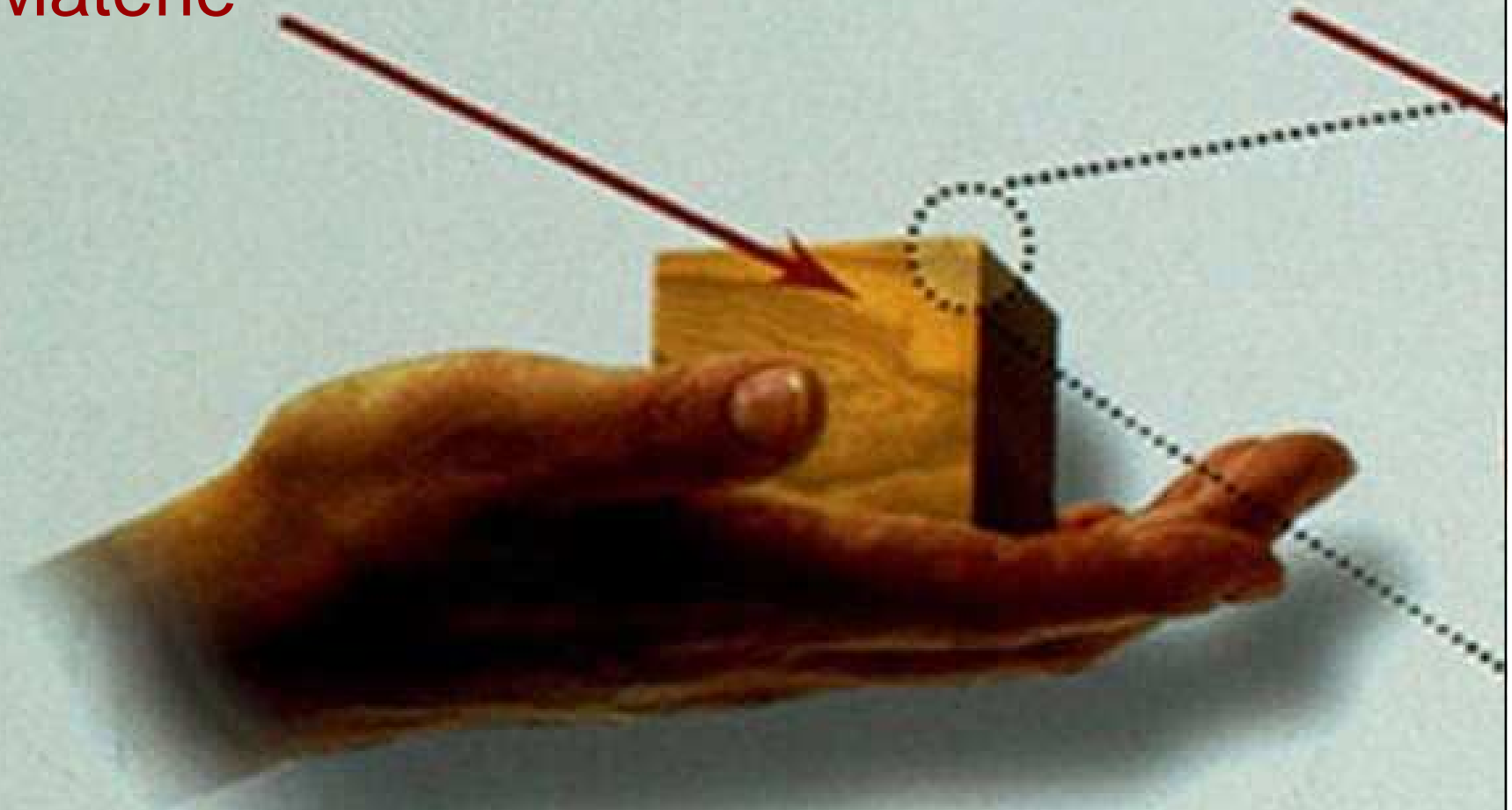


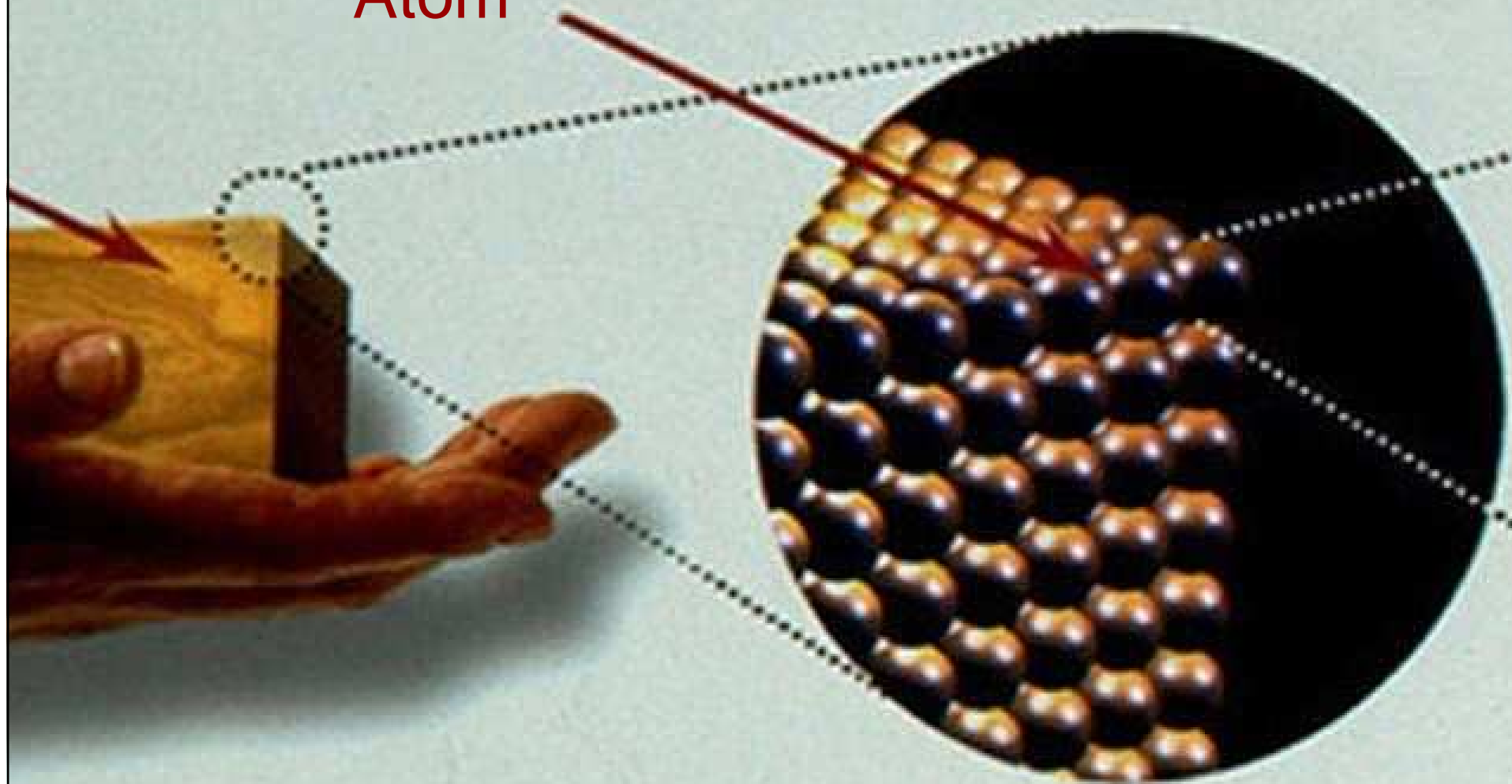
Teil 1: Struktur der Materie



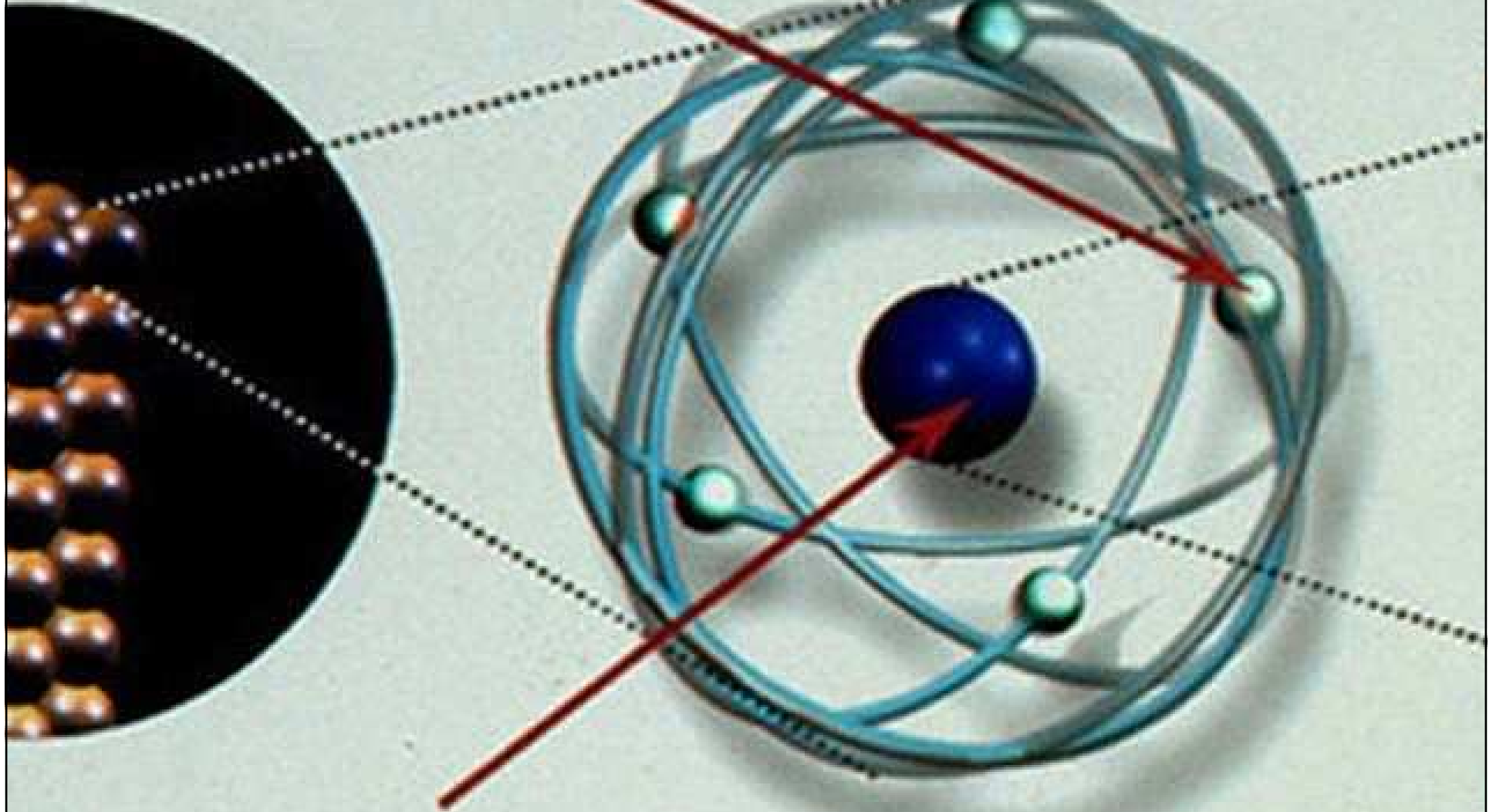
Materie



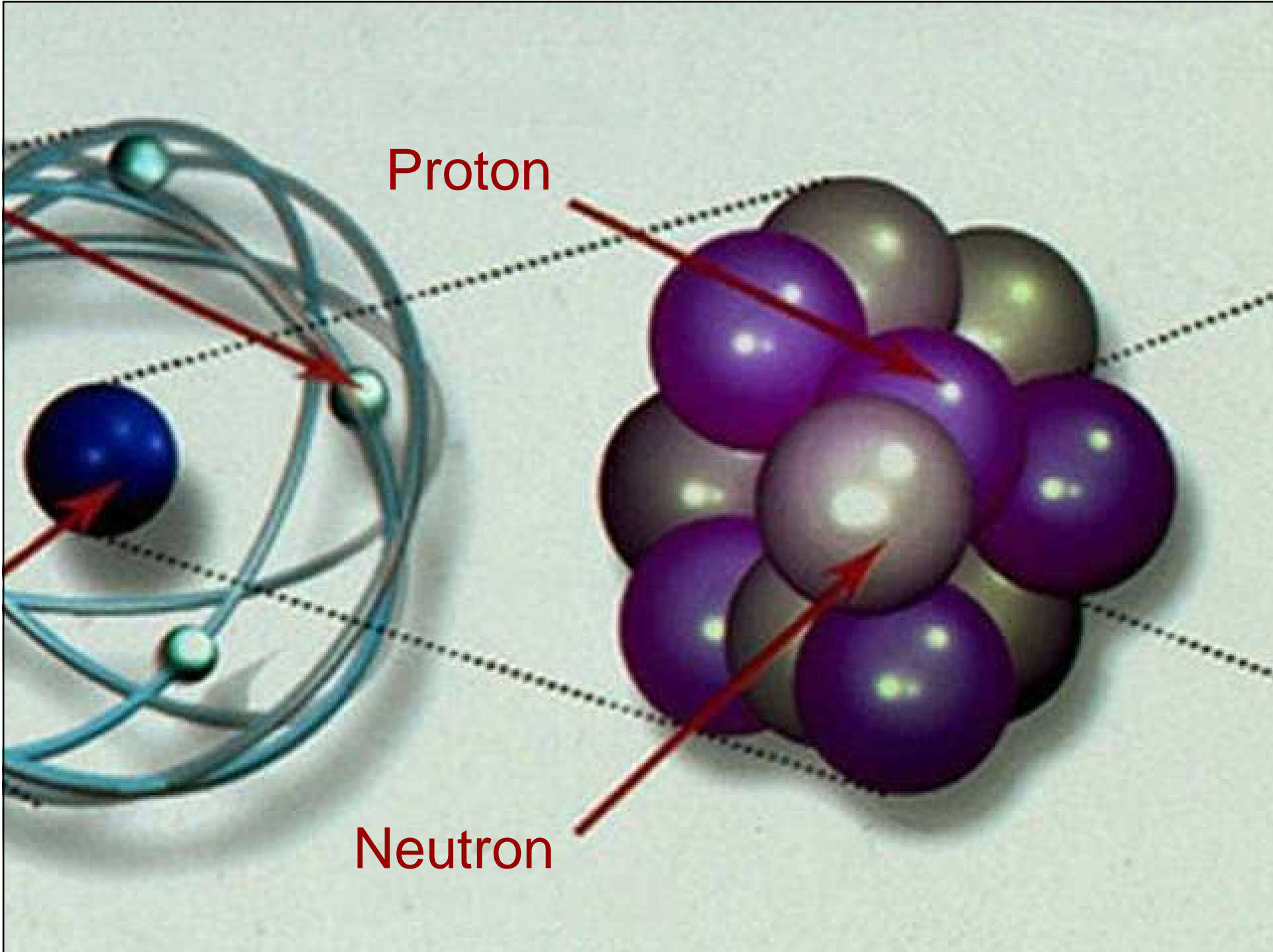
Atom



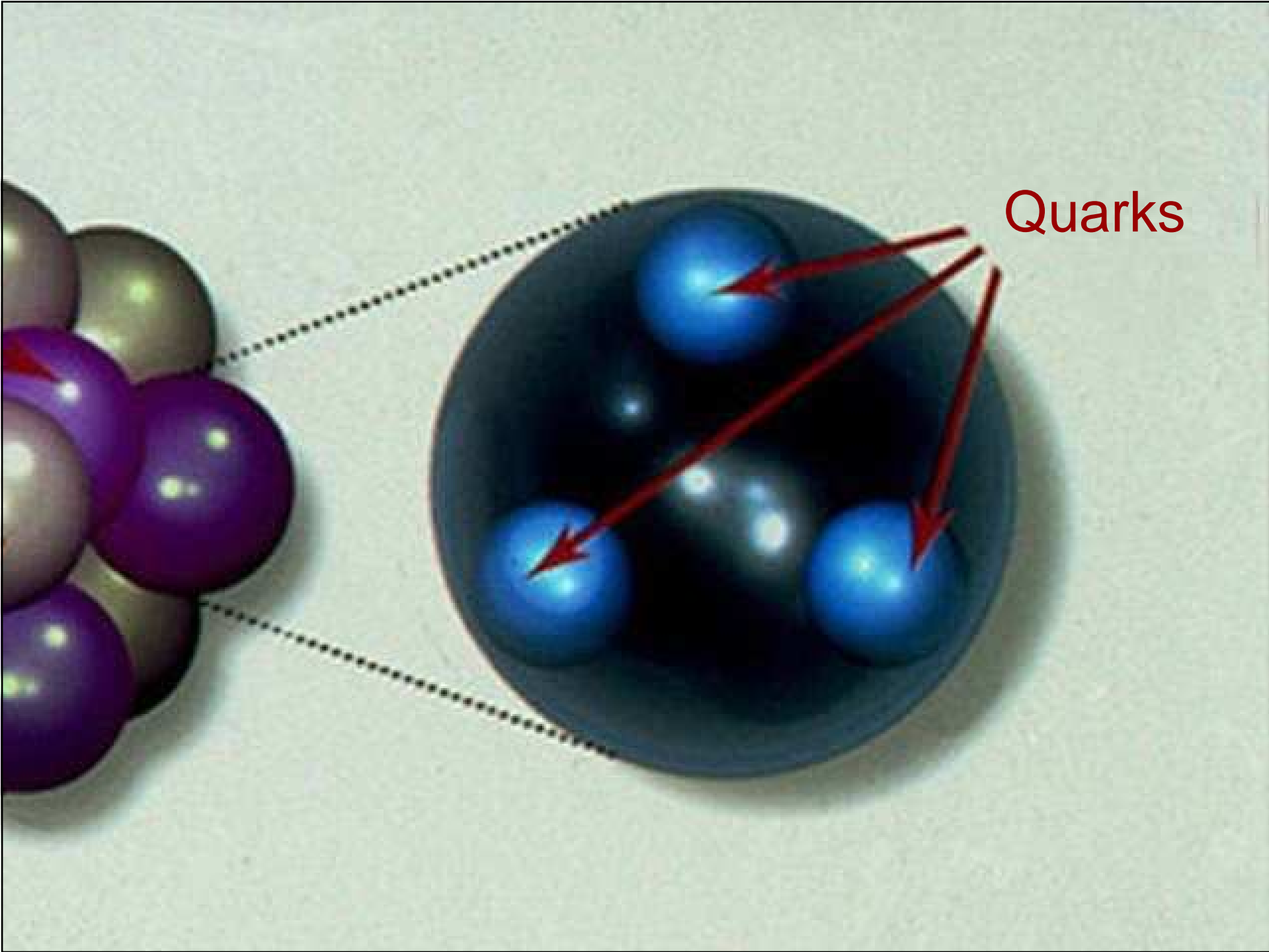
Elektron

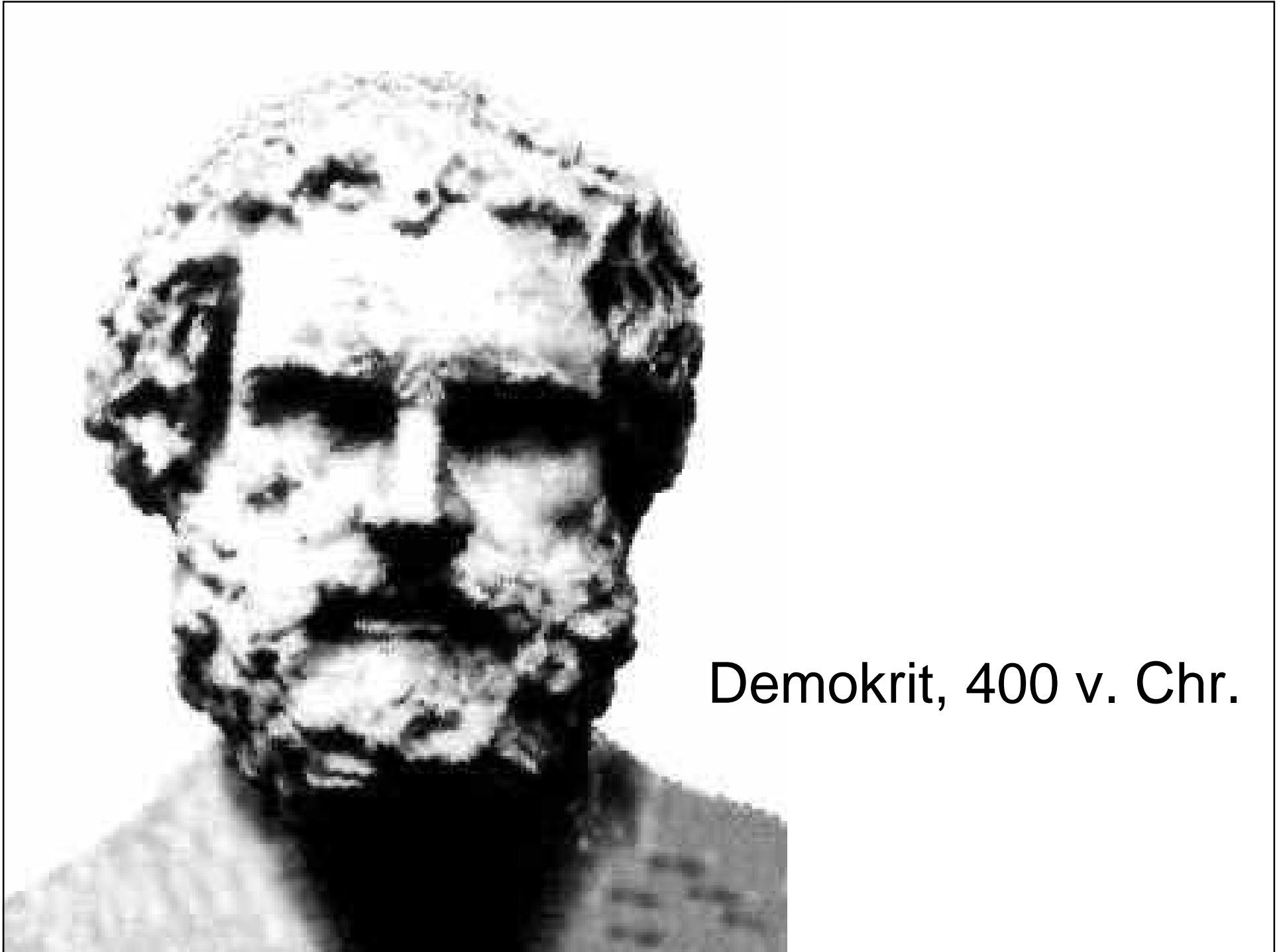


Atomkern

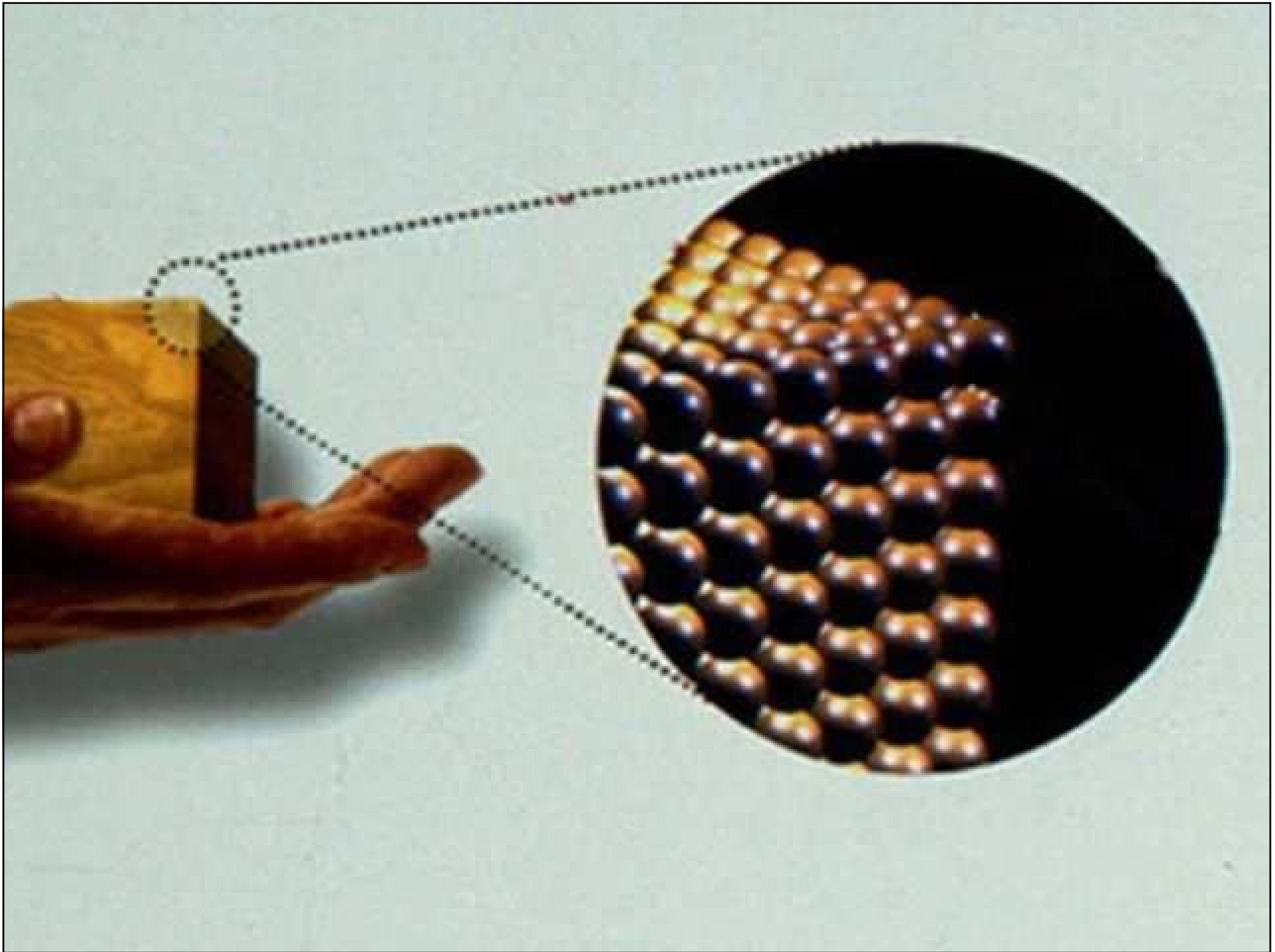


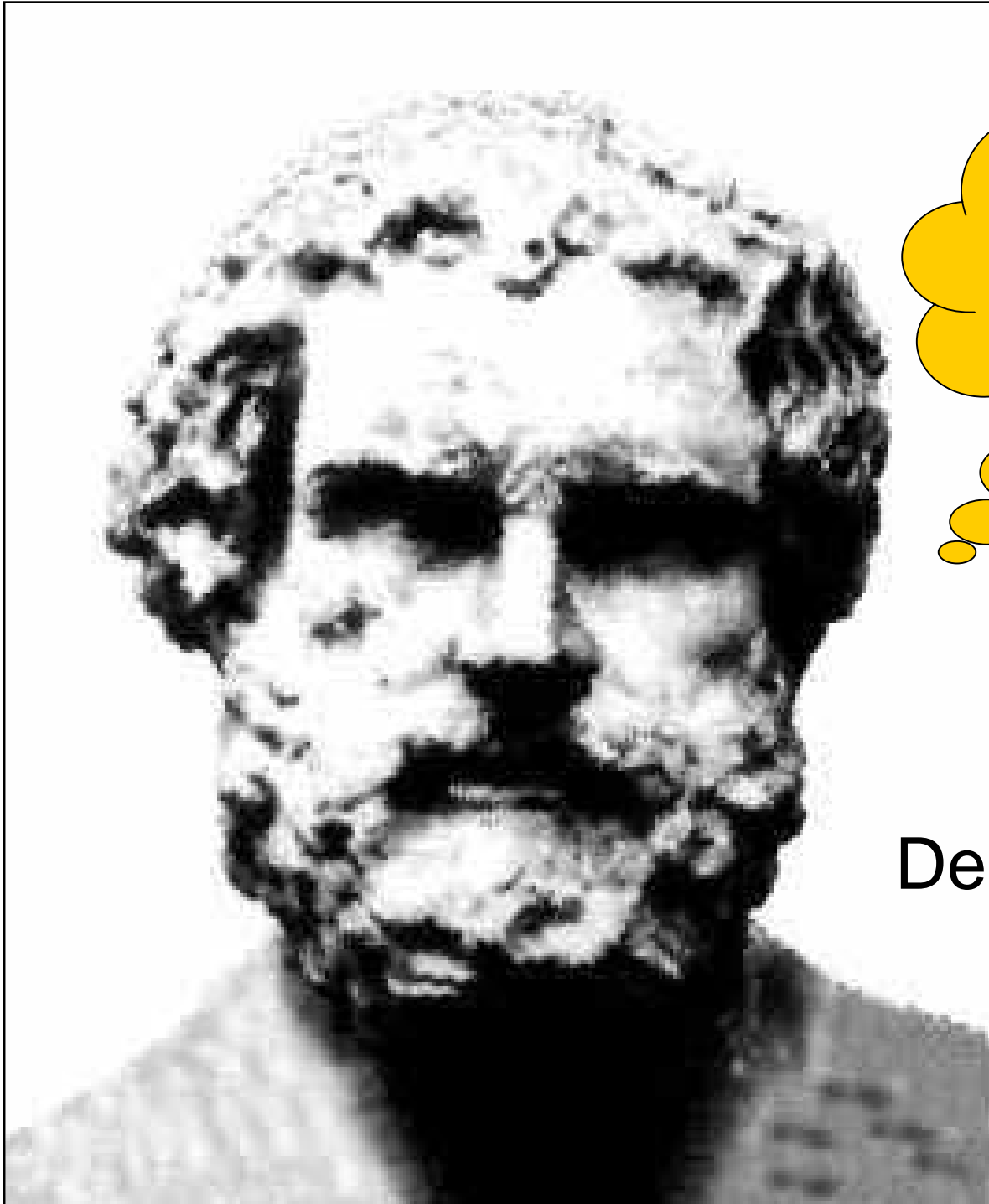
Quarks





Demokrit, 400 v. Chr.

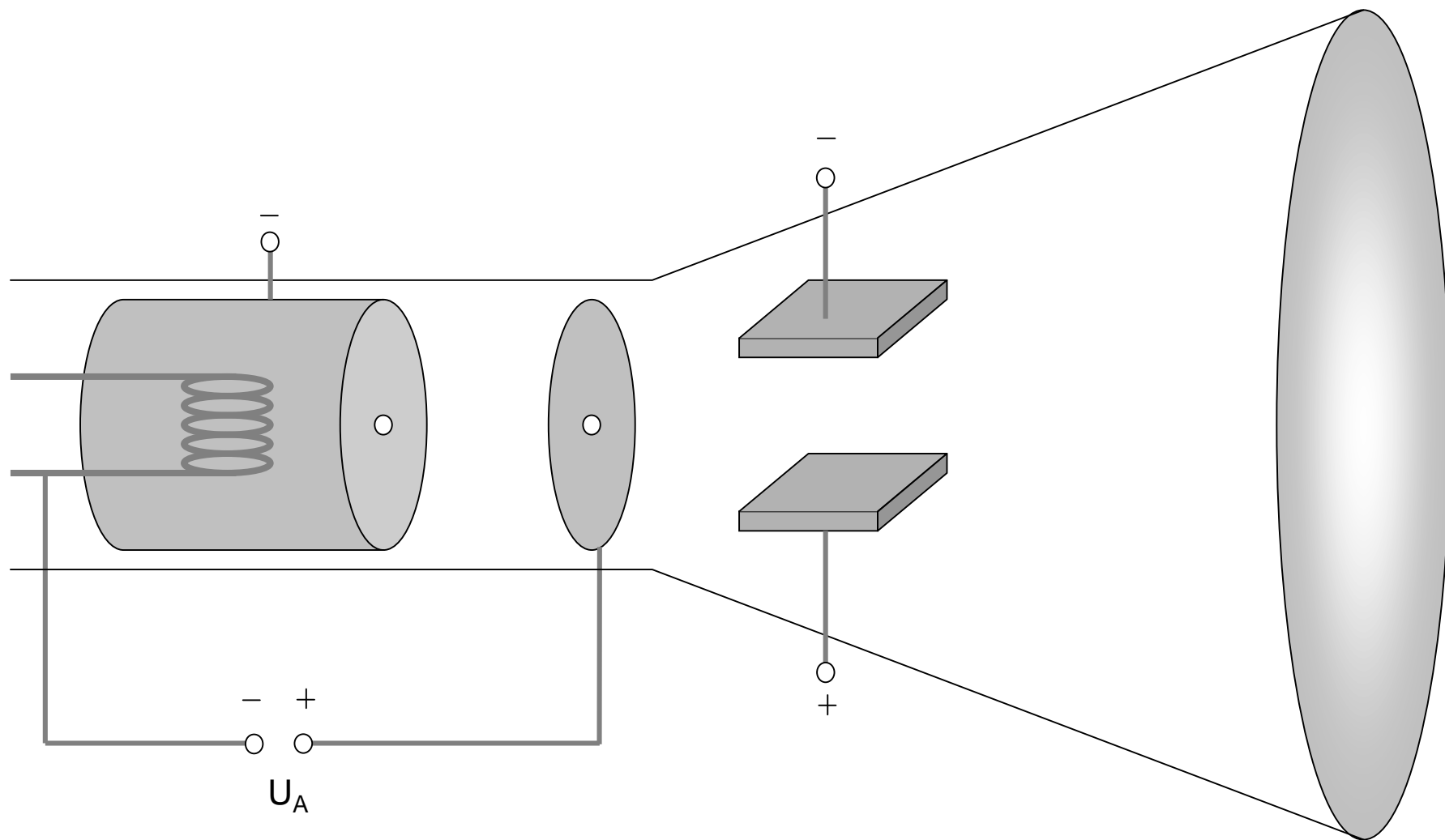




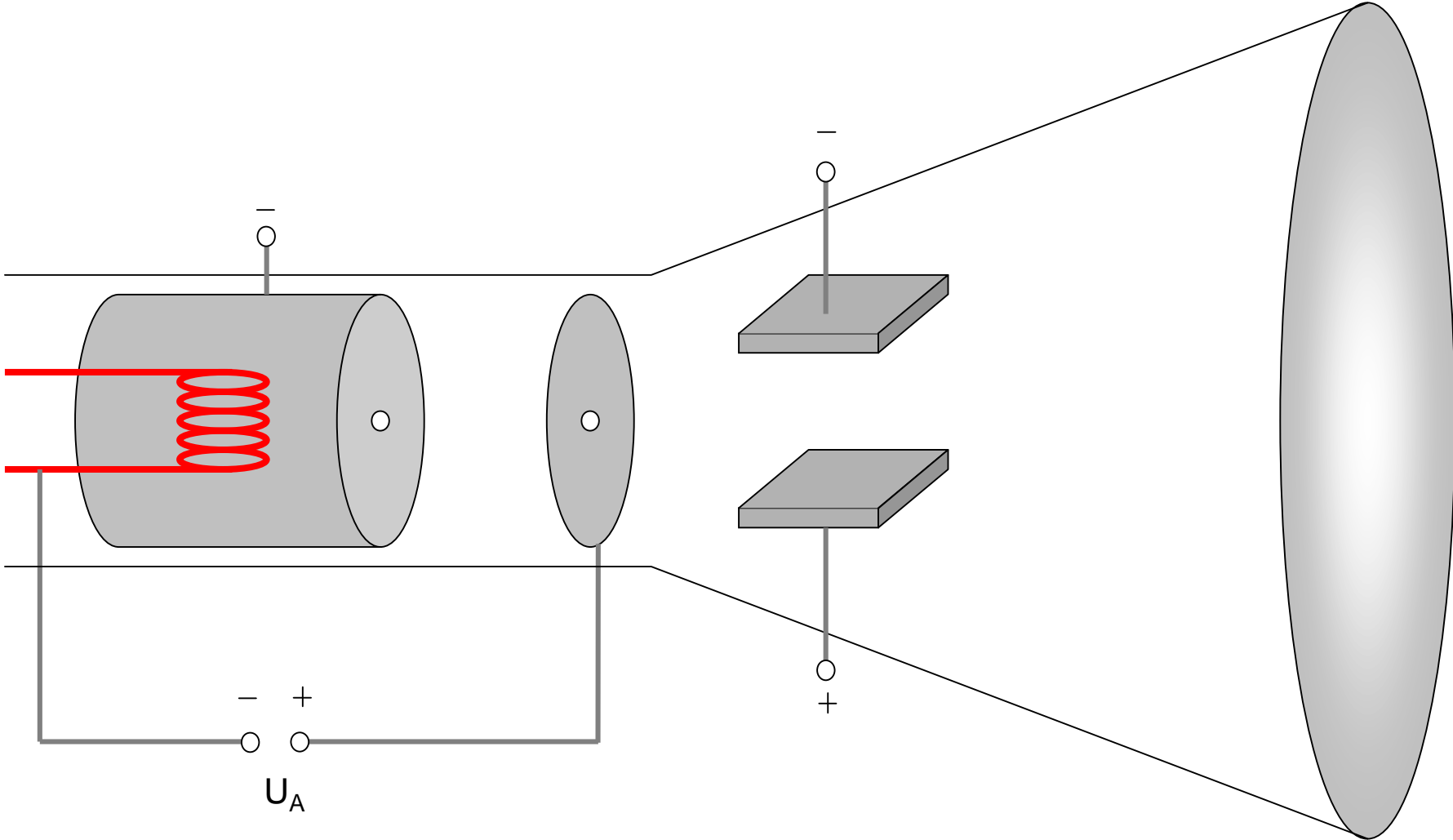
griech.
„atomos“ =
unteilbar

Demokrit, 400 v. Chr.

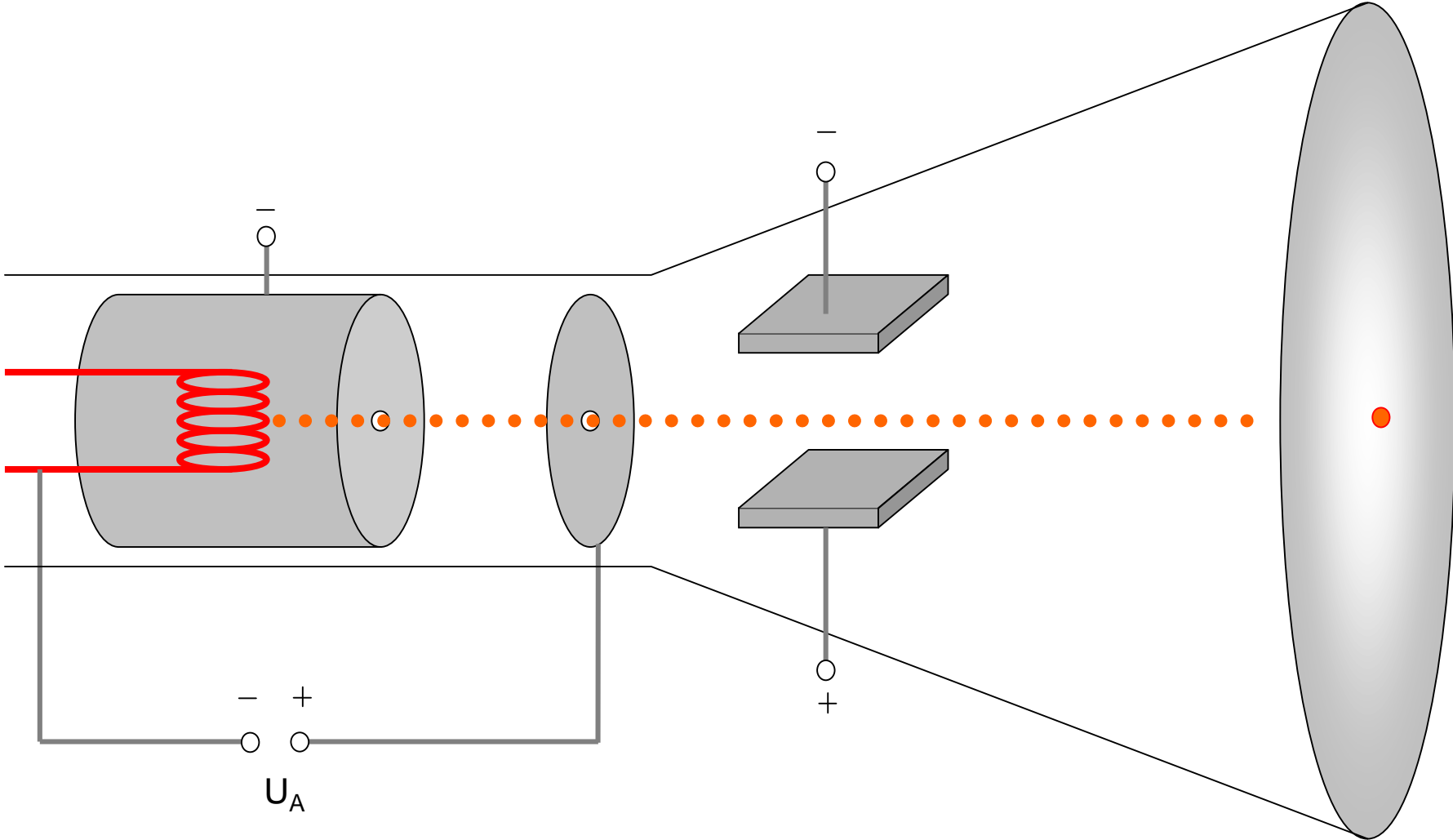
Braun'sche Röhre



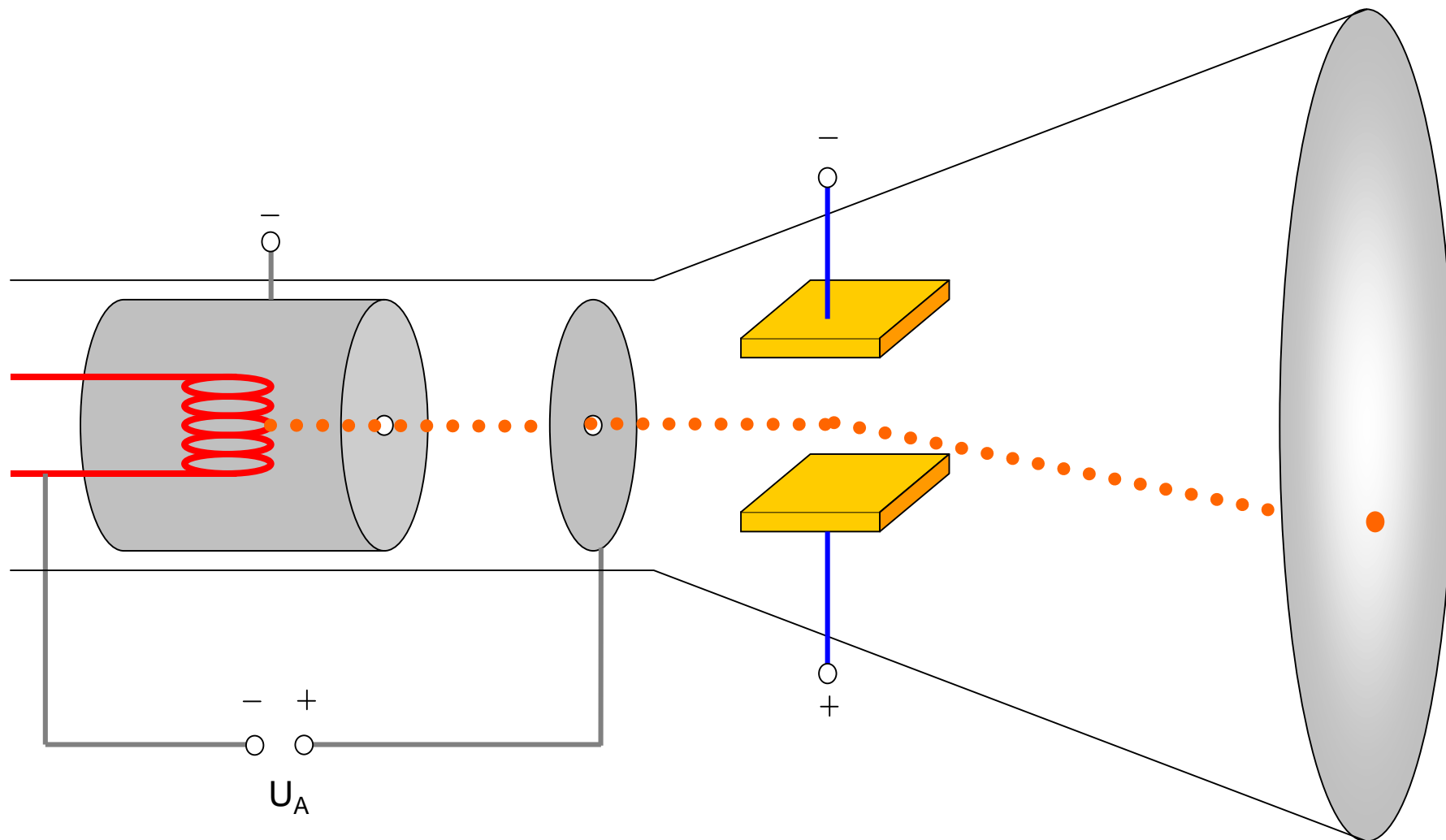
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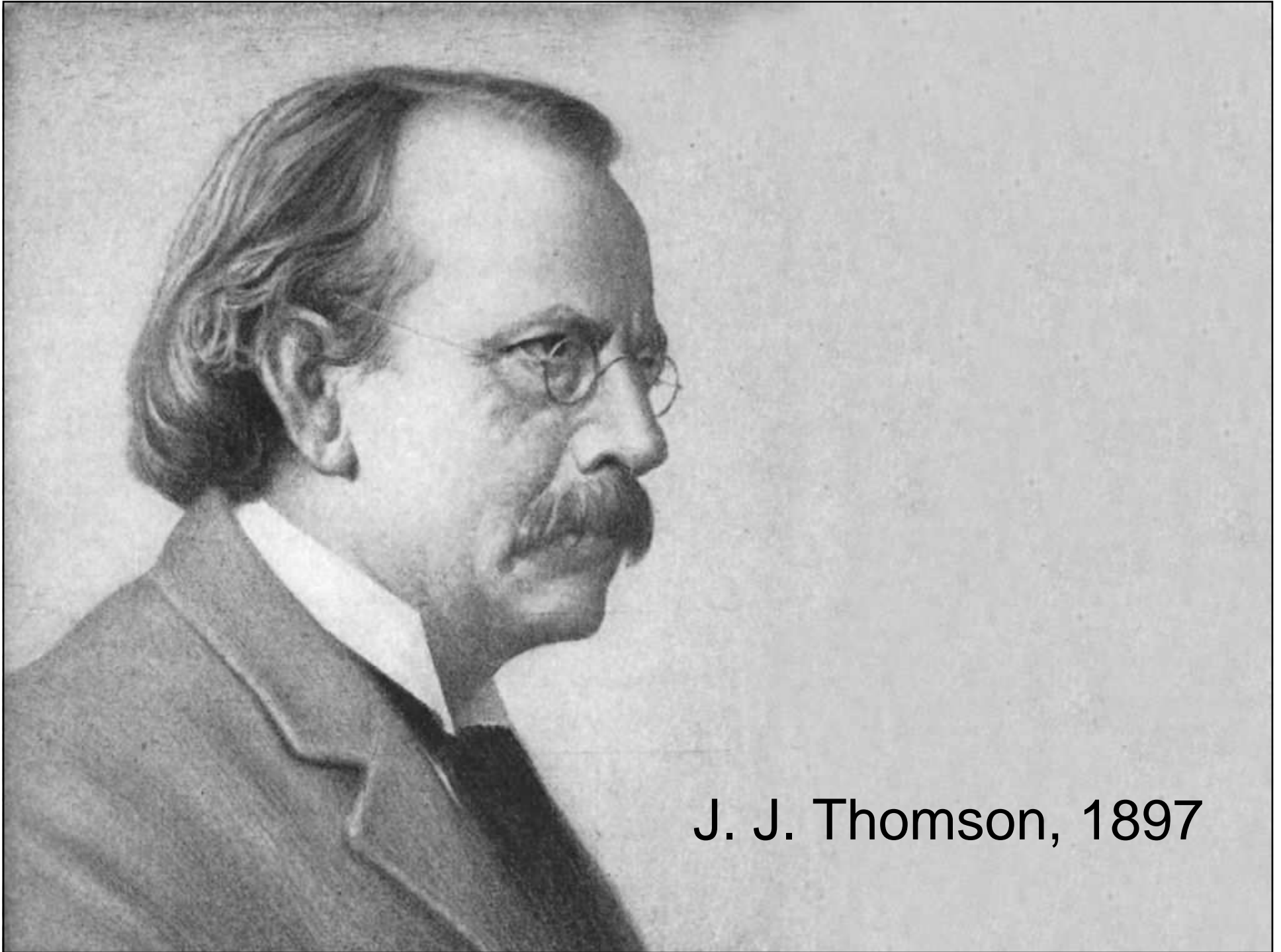


Braun'sche Röhre

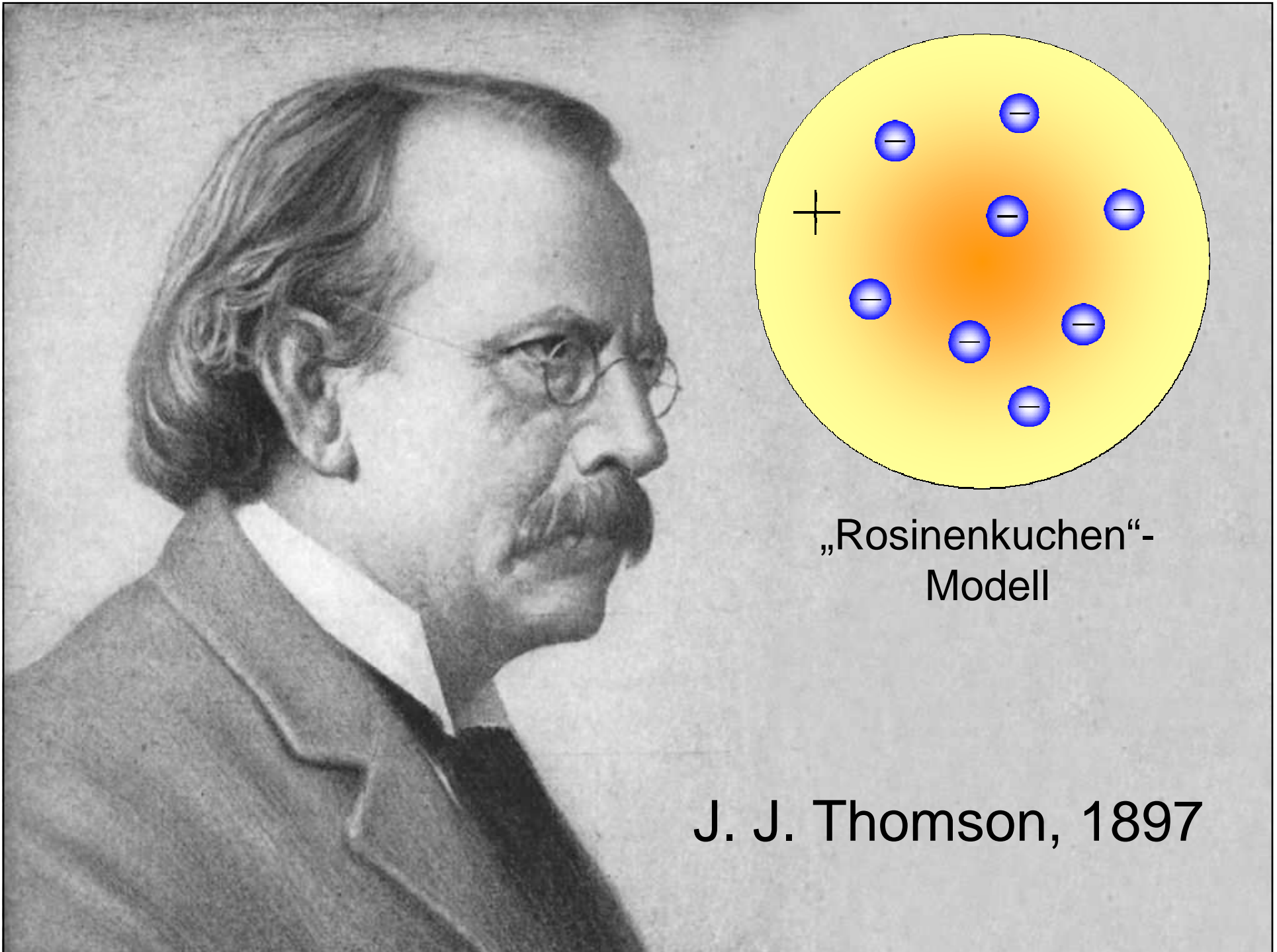


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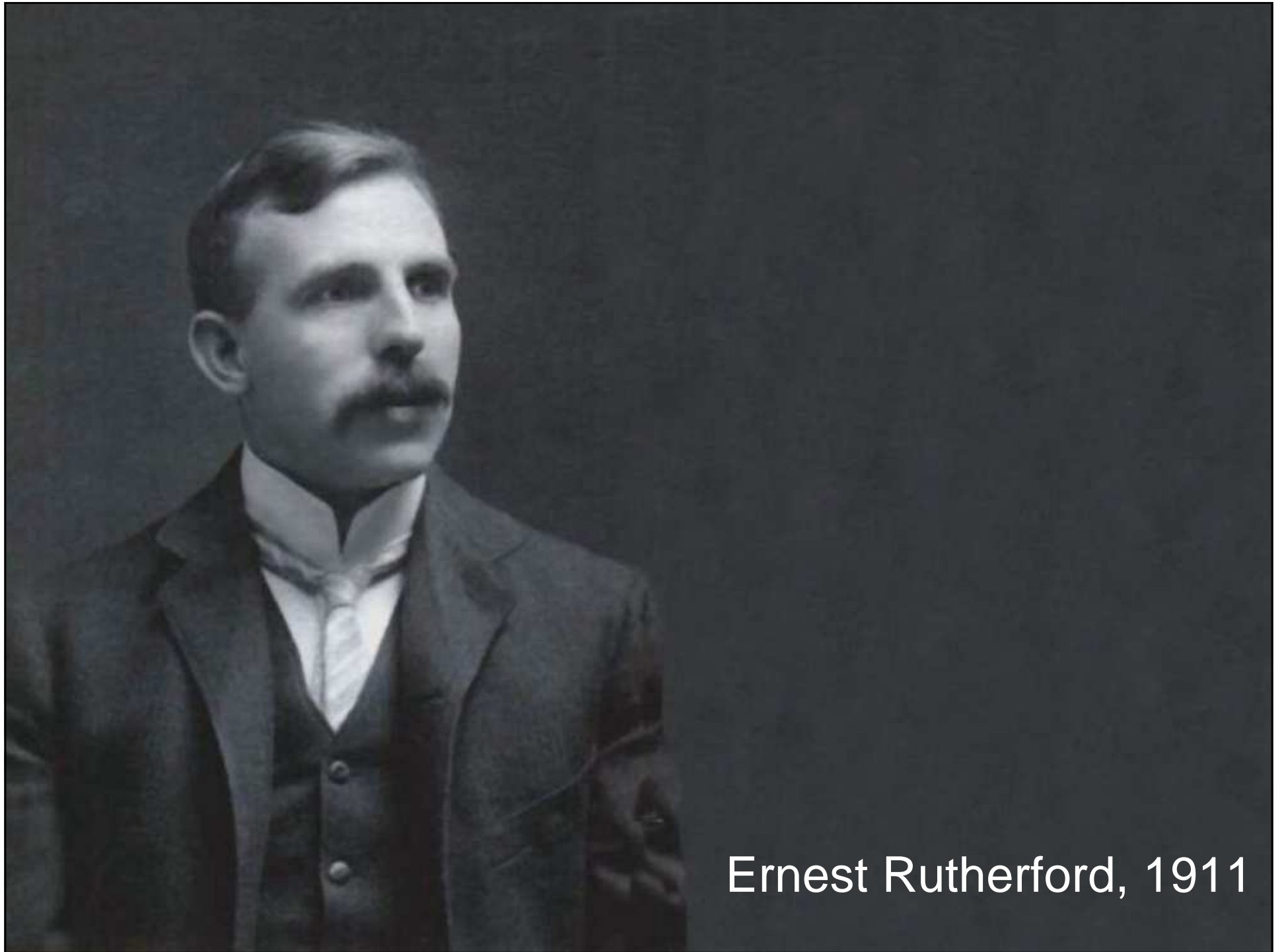


J. J. Thomson, 1897

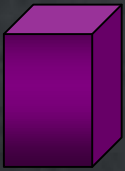
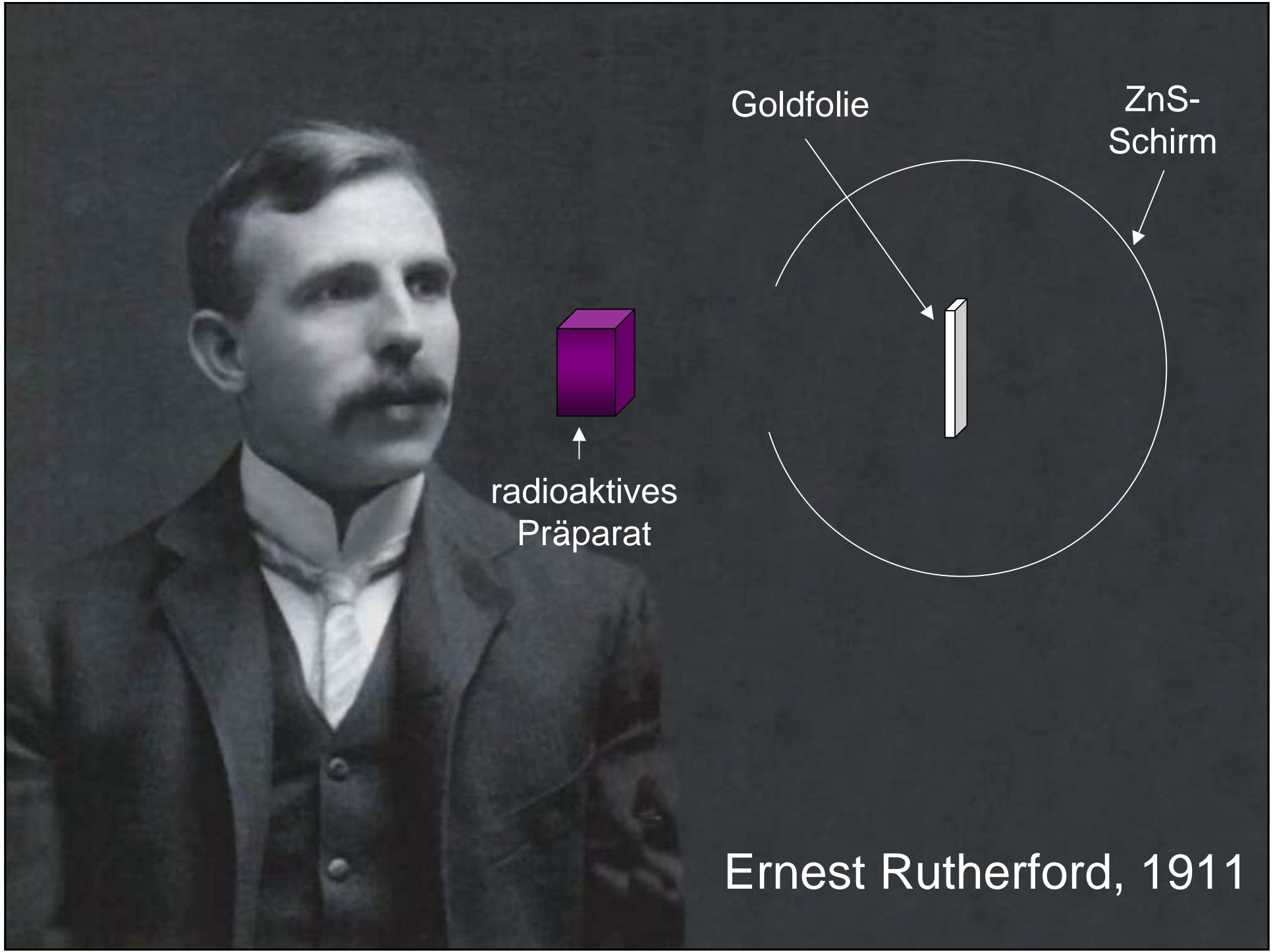


„Rosinenkuchen“-
Modell

J. J. Thomson, 1897



Ernest Rutherford, 1911

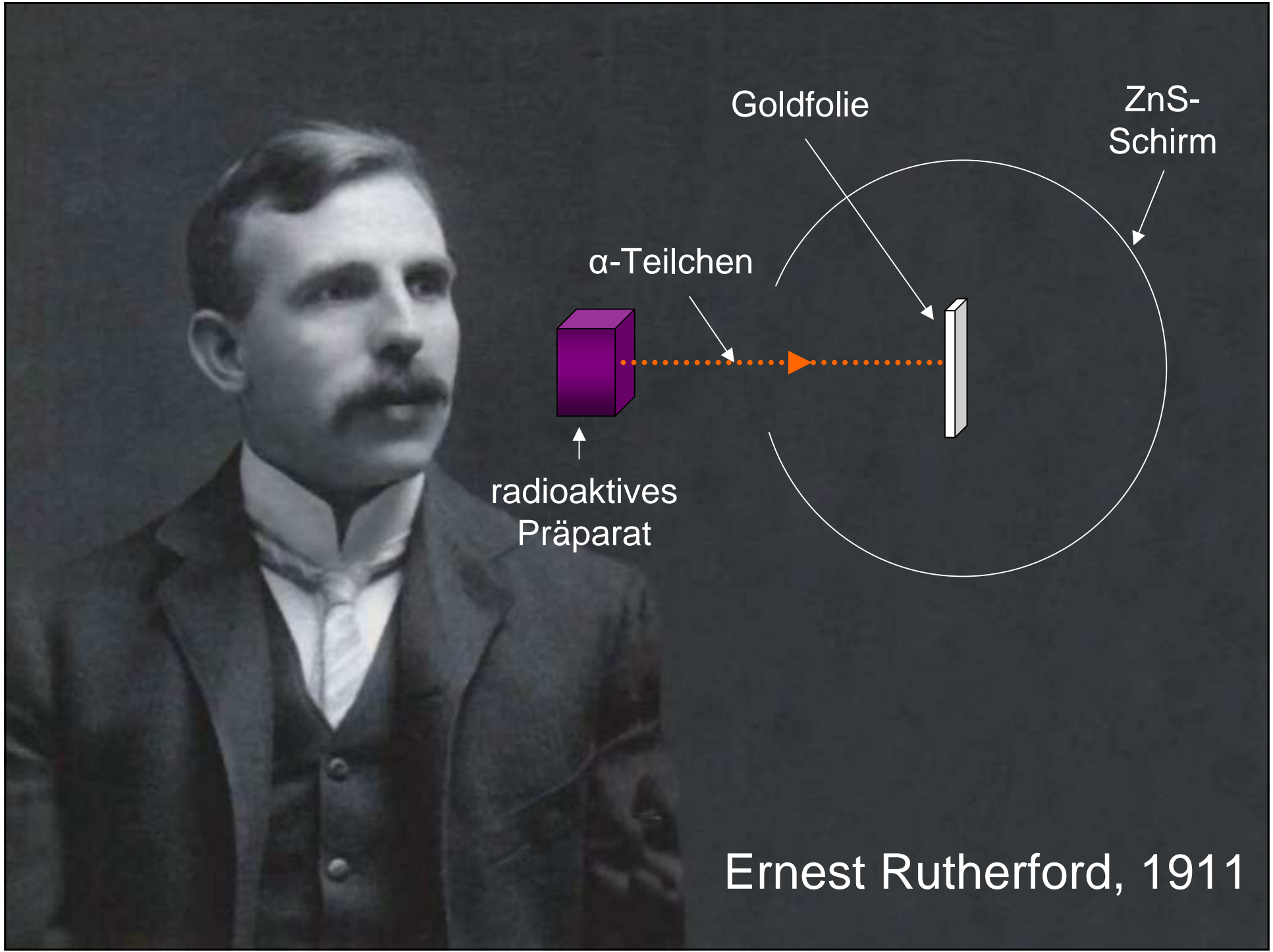


↑
radioaktives
Präparat

Goldfolie

ZnS-
Schirm

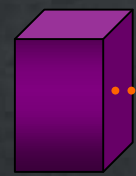
Ernest Rutherford, 1911



Goldfolie

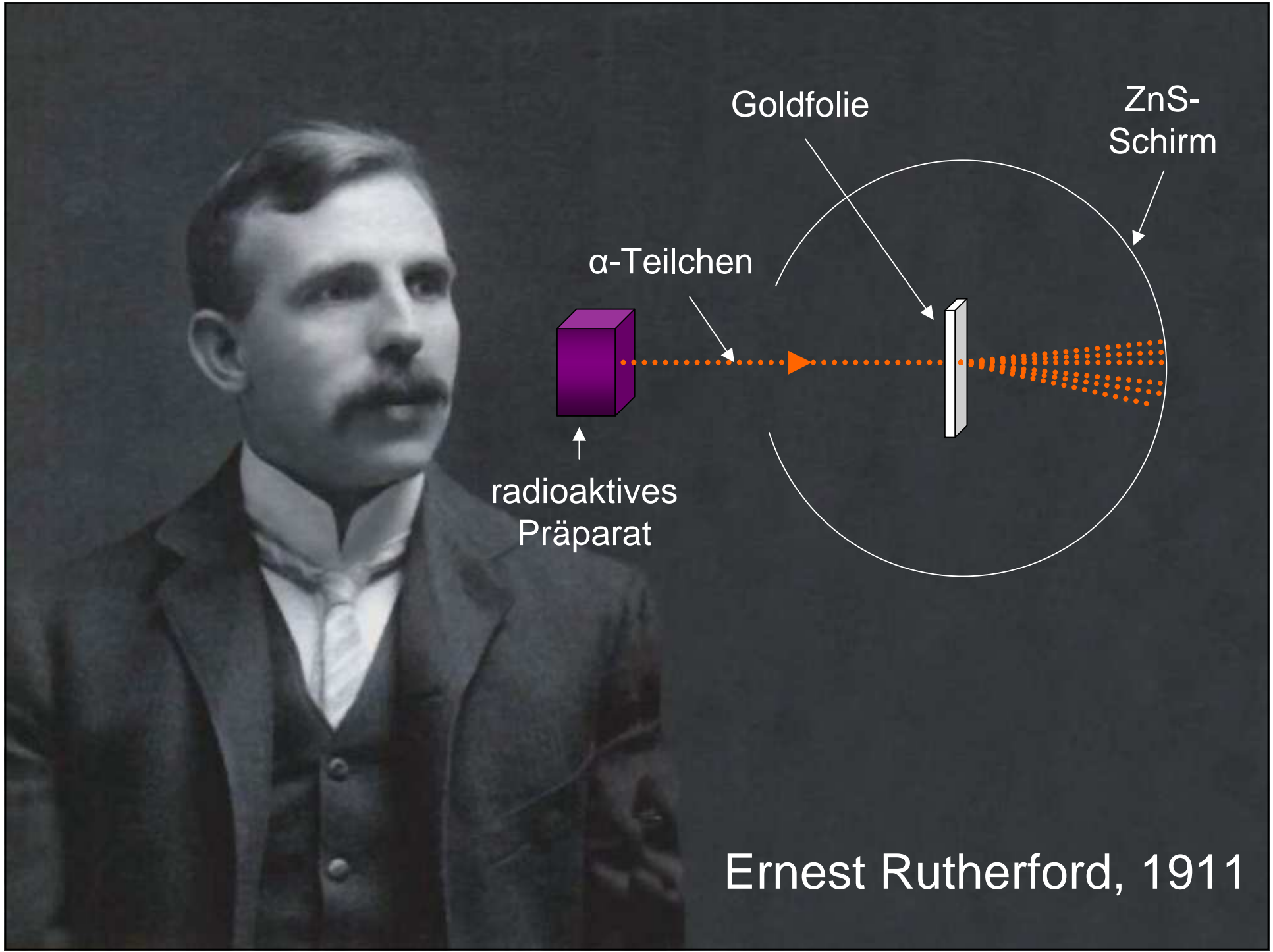
ZnS-Schirm

α -Teilchen

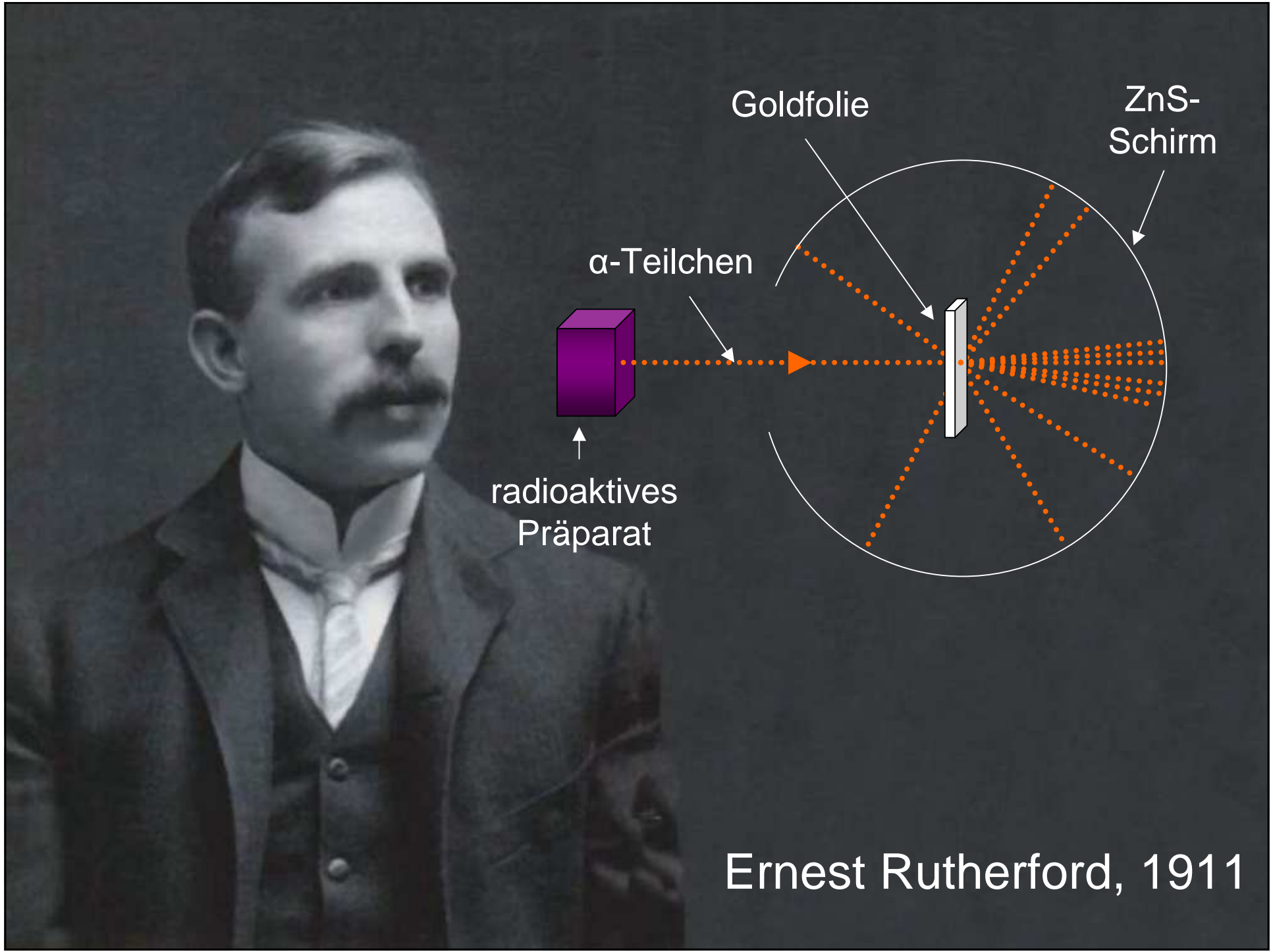


radioaktives
Präparat

Ernest Rutherford, 1911



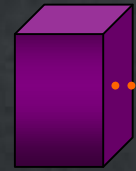
Ernest Rutherford, 1911



Goldfolie

ZnS-Schirm

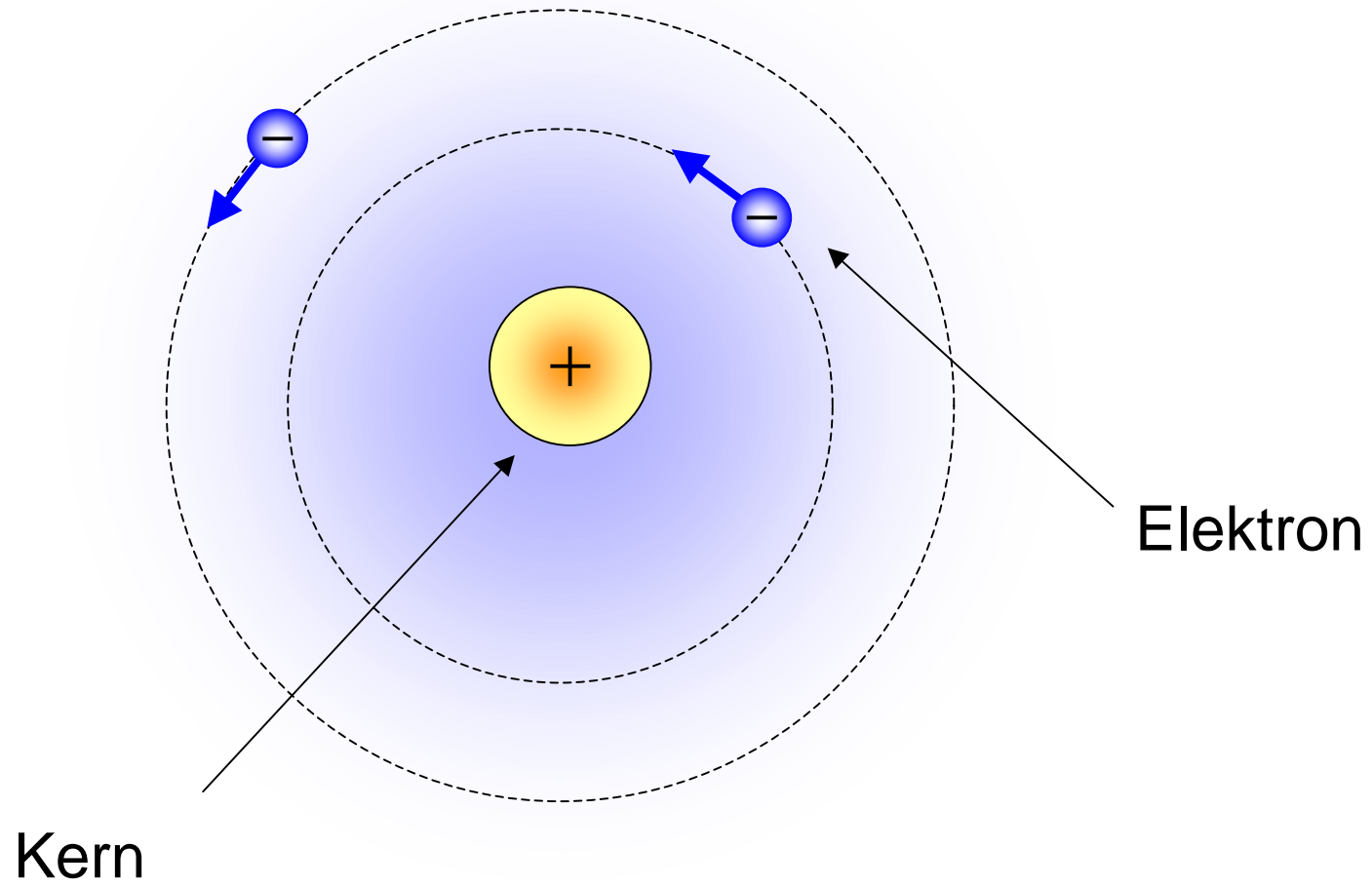
α -Teilchen



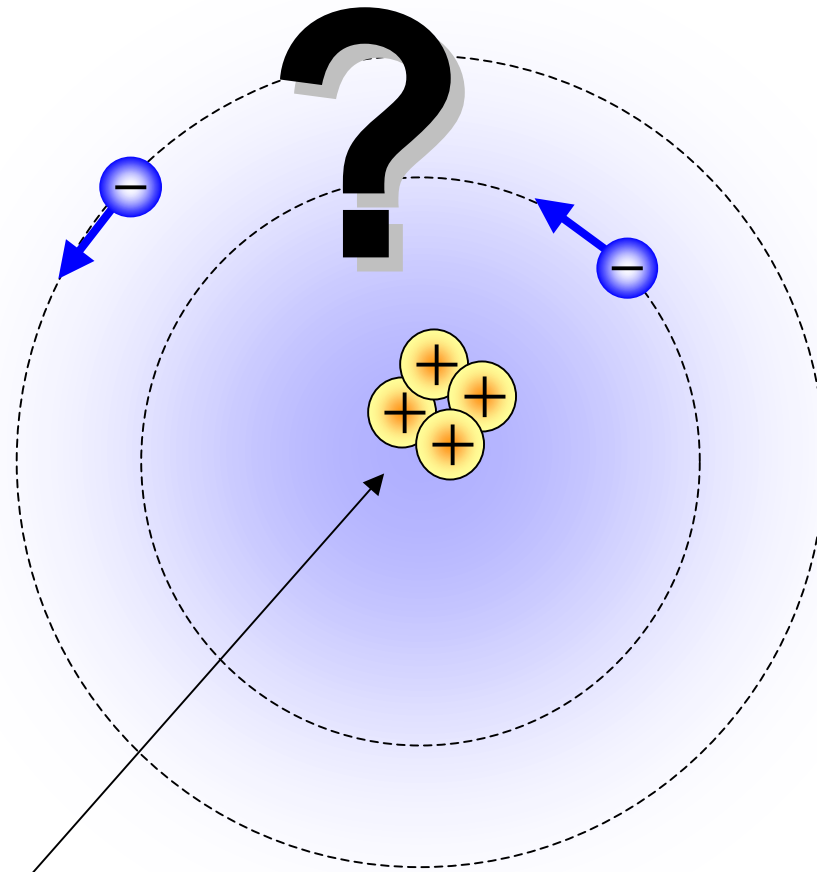
radioaktives
Präparat

Ernest Rutherford, 1911

Rutherford-Modell



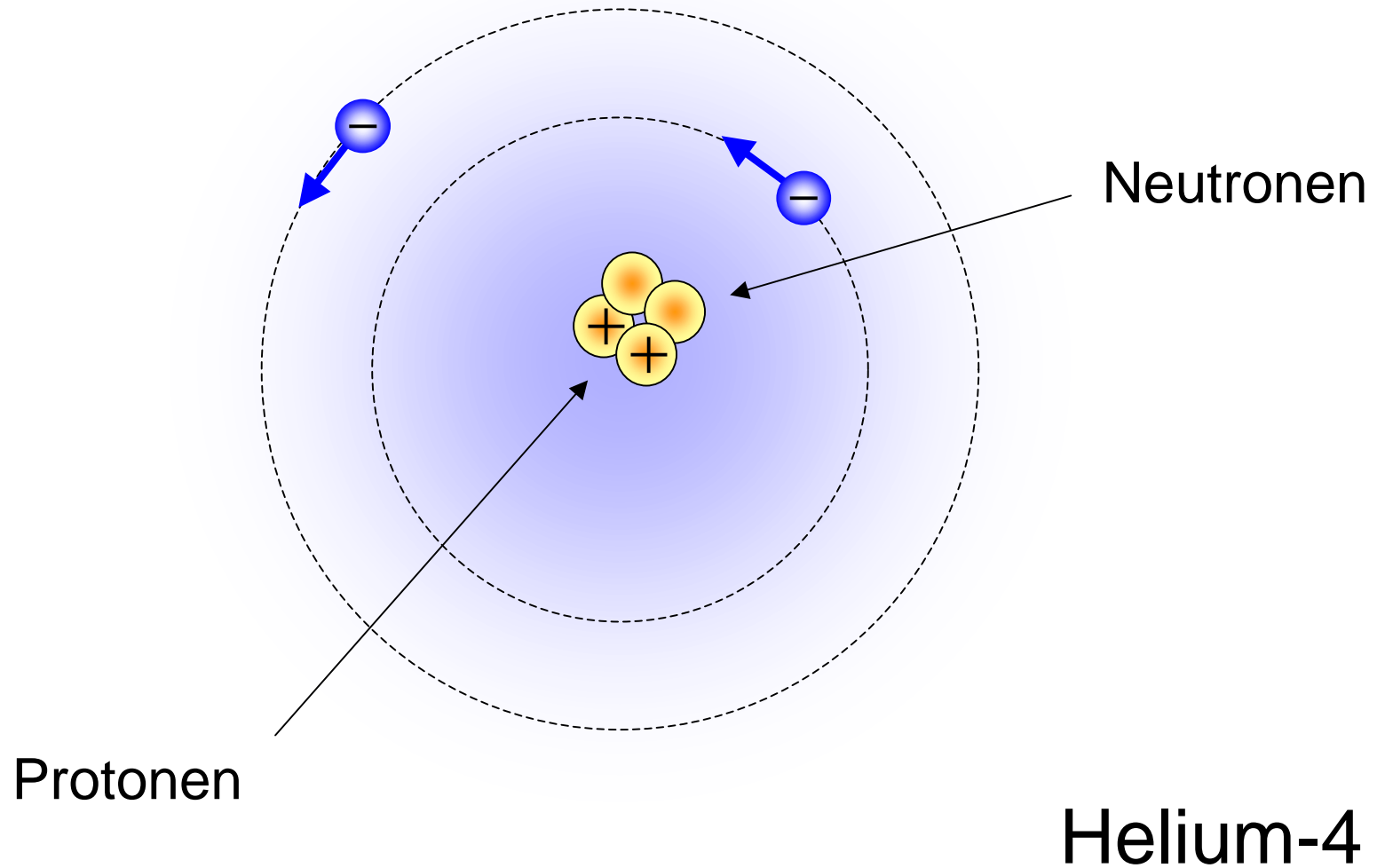
Rutherford-Modell



Protonen

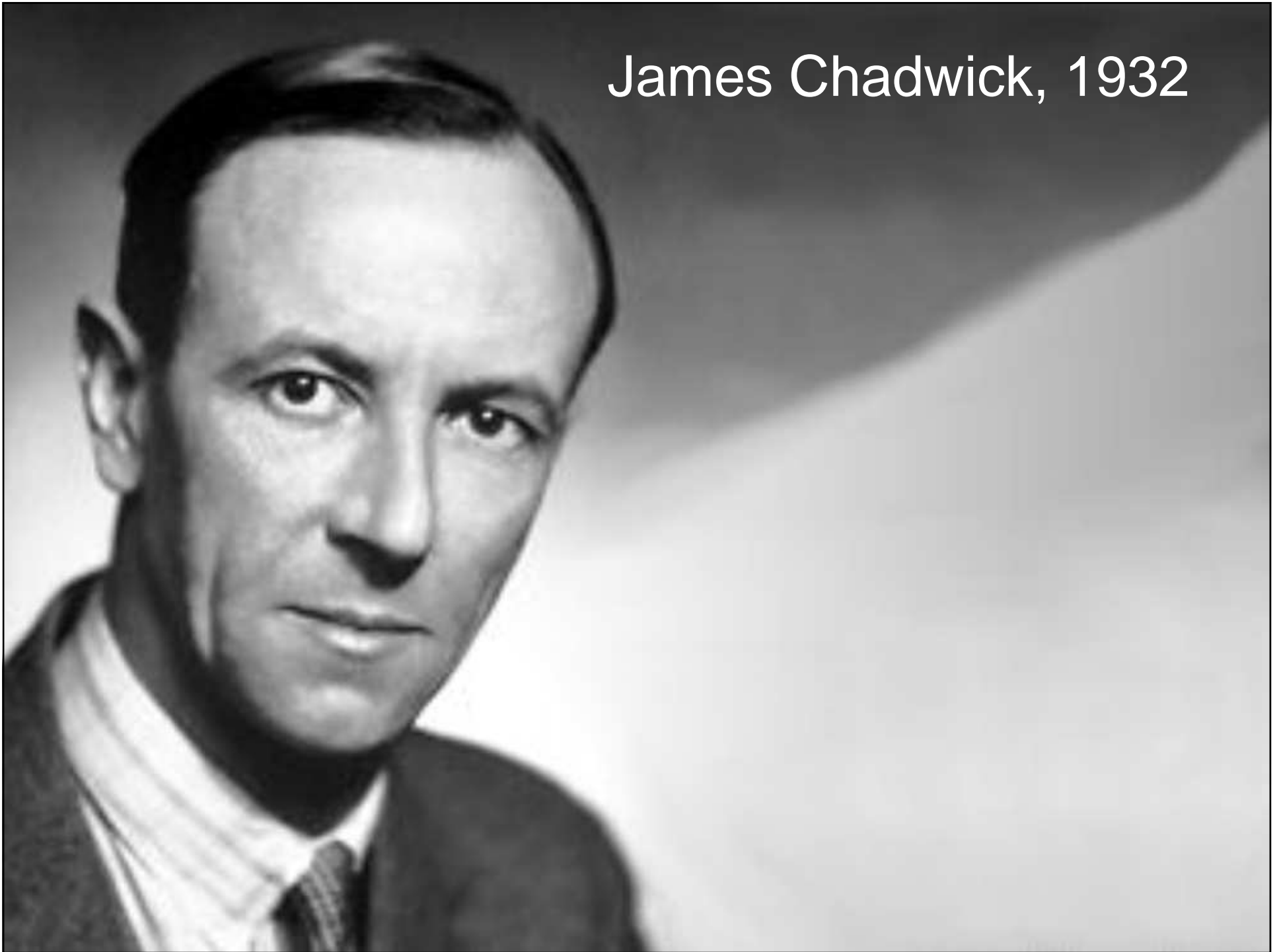
Helium-4

Rutherford-Modell

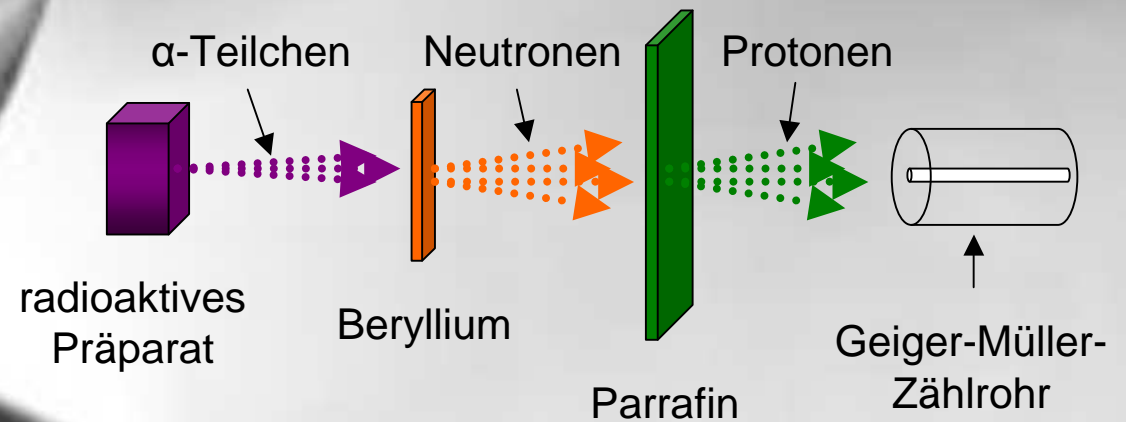


Helium-4

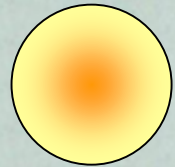
James Chadwick, 1932



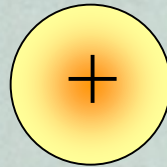
James Chadwick, 1932



Standardmodell 1932



Neutron



Proton



Elektron

