

Departamento de Física
.UBAexactas



Física 3
V-2022
Parte 11



1884

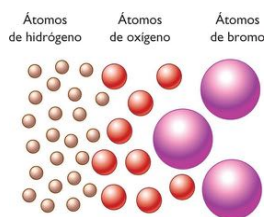


"Try Cocaine."
 To the Editor of The Indianapolis News:
 Under the above head, "Country Cousins," of Bloomington, suggest that our dentists introduce the new anesthetic, and adds that "great will be the reward reaped from" them. Now, I respectfully submit that our country cousins generally ride themselves on their "nerve" when they "come to town," more especially if their pocket books are likely to be affected (so their city cousins think). Hydrochlorate of Cocaine has been in use in the United States for years.





DALTON
(1766-1844)



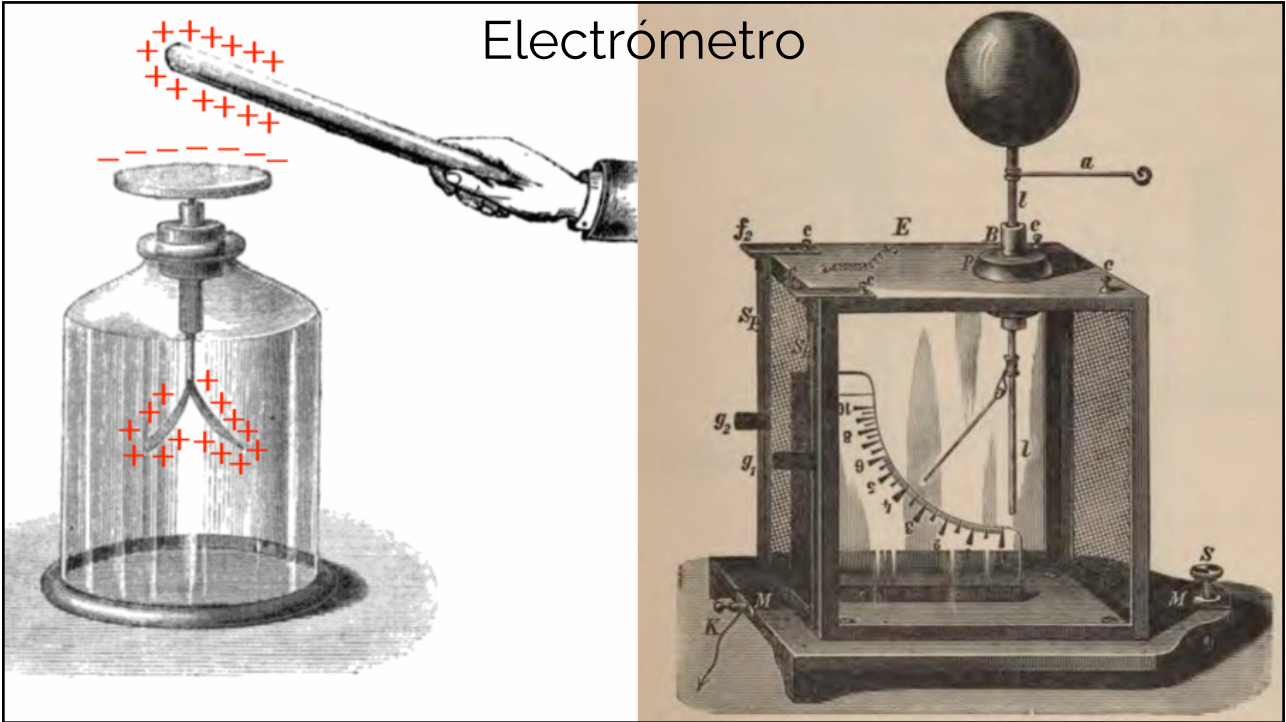
Postulados

1. Cada elemento se compone de partículas extremadamente pequeñas llamadas átomos.
2. Todos los átomos de un elemento son idénticos.
3. Los átomos de un elemento no se transforman en átomos diferentes en las reacciones químicas.
4. Cuando se combinan átomos de más de un tipo de elemento se originan los compuestos, y este tiene el mismo número relativo de la misma clase de átomos.

La corriente eléctrica se divide en porciones finitas que se comportan como átomos de electricidad.

Helmoltz, 1880

Electrómetro



J. J. Thomson #



Laboratorio Cavendish

1871-1879

JC Maxwell



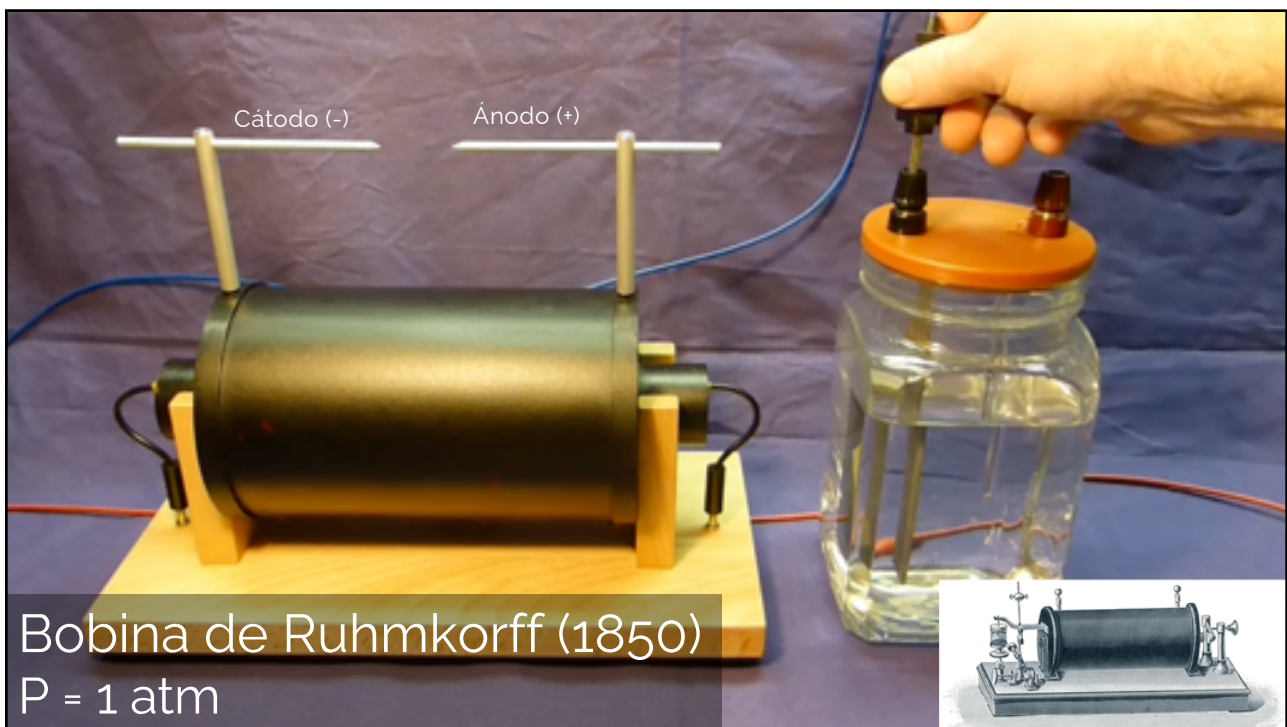
1879-1884

JW Strutt
(Rayleigh)

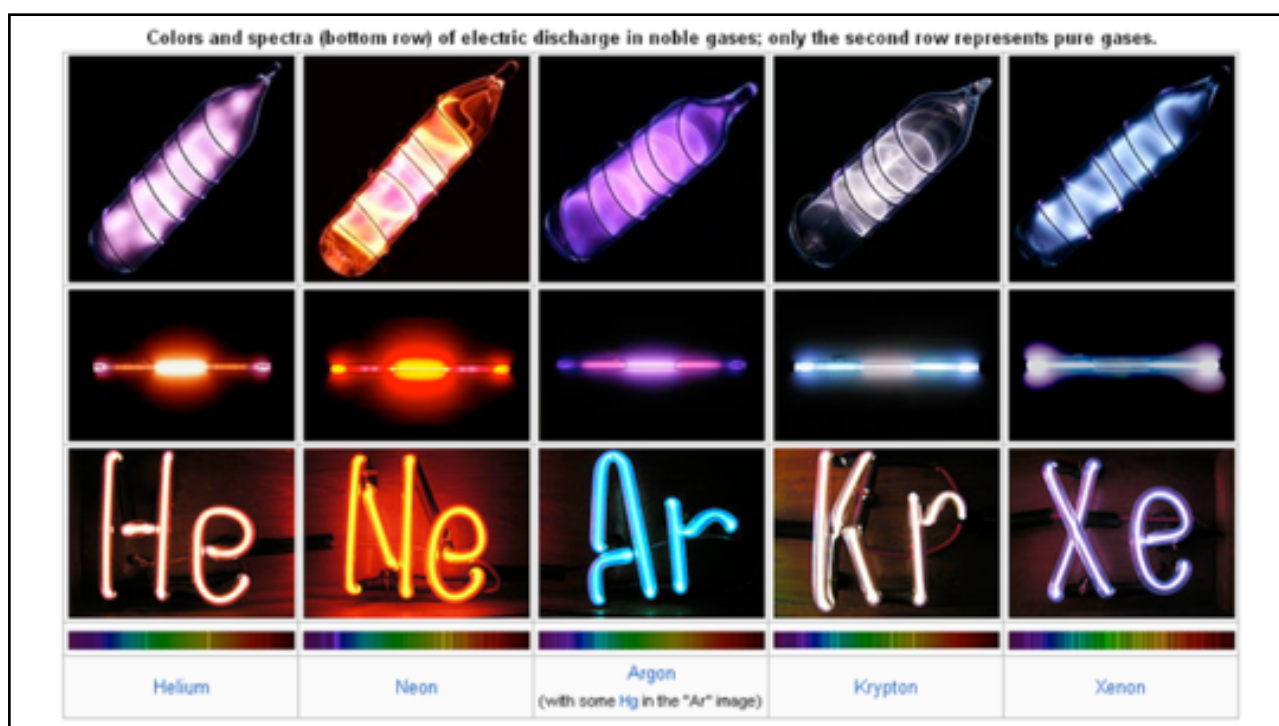
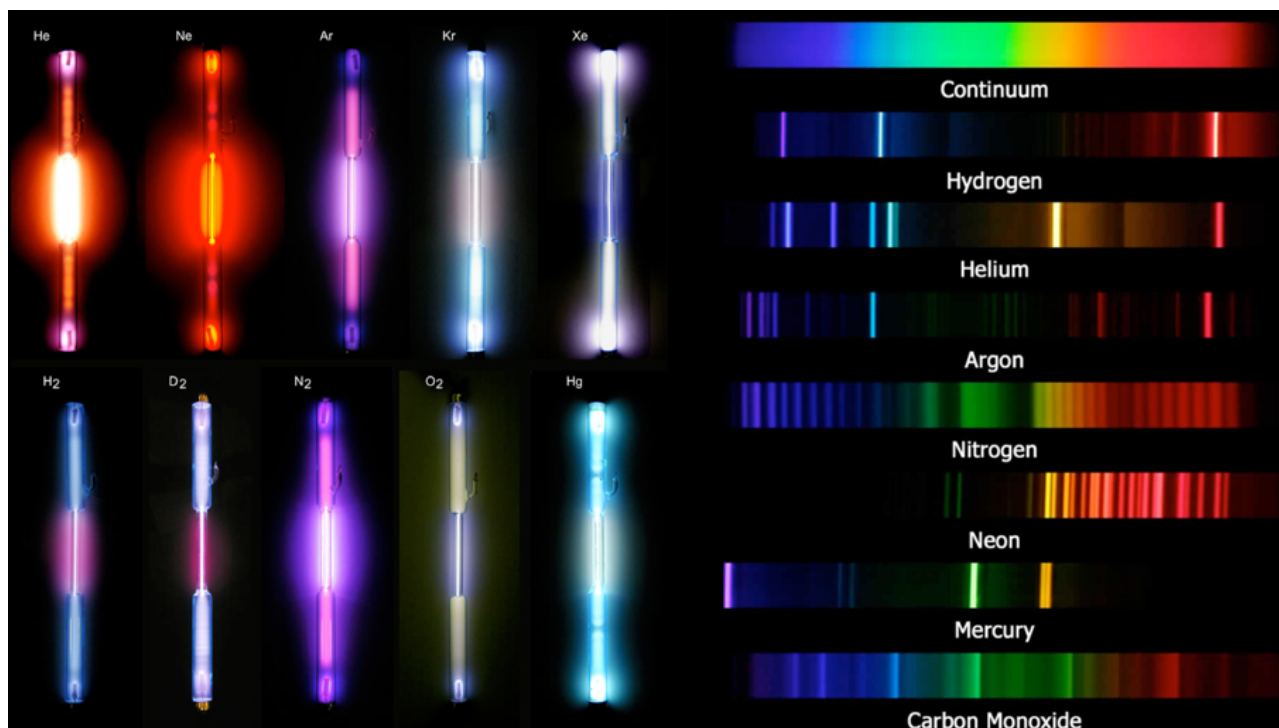


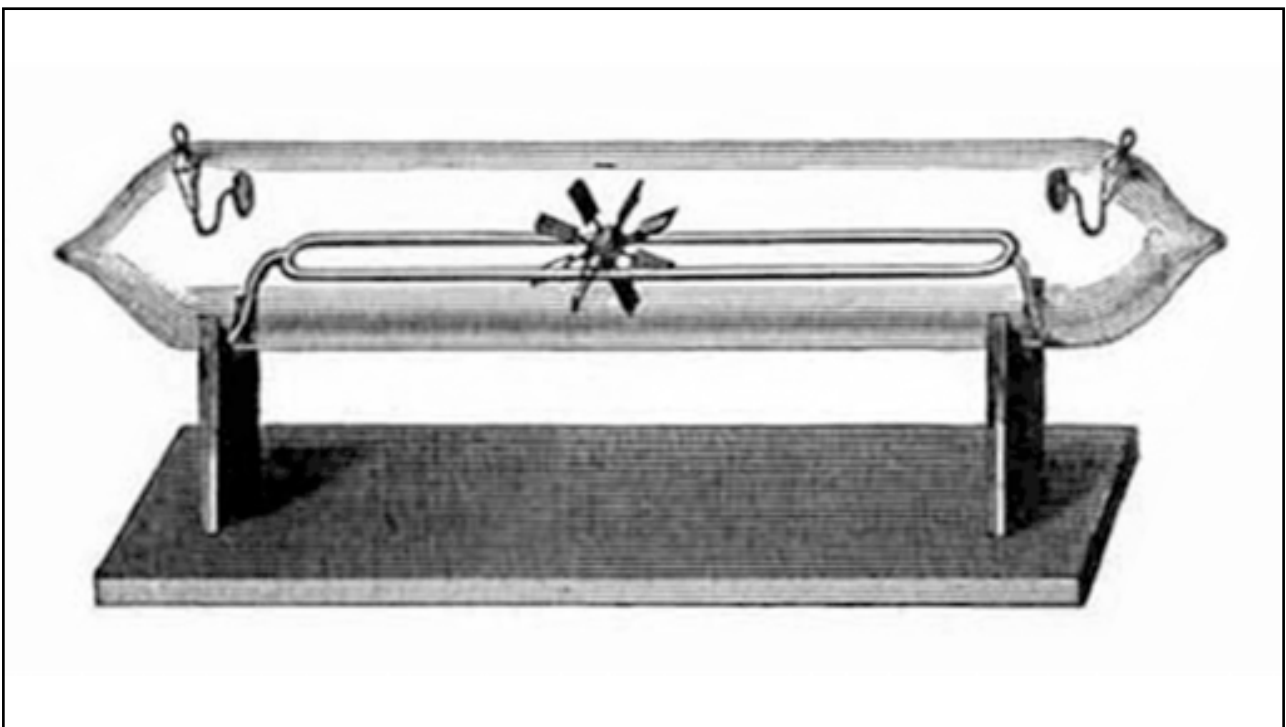
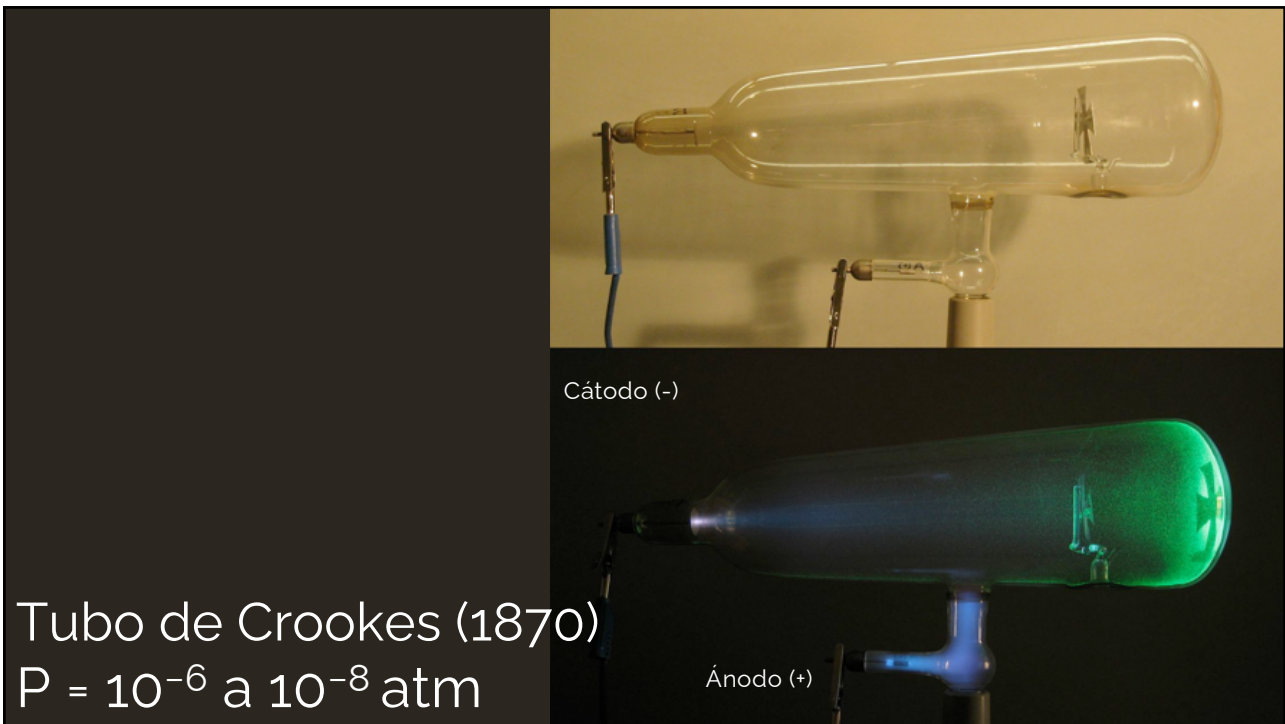
1884-1919

JJ Thomson









Cathode ray tube with a paddle wheel

Laboratorio Cavendish

1871-1879

JC Maxwell



1879-1884

JW Strutt
(Rayleigh)



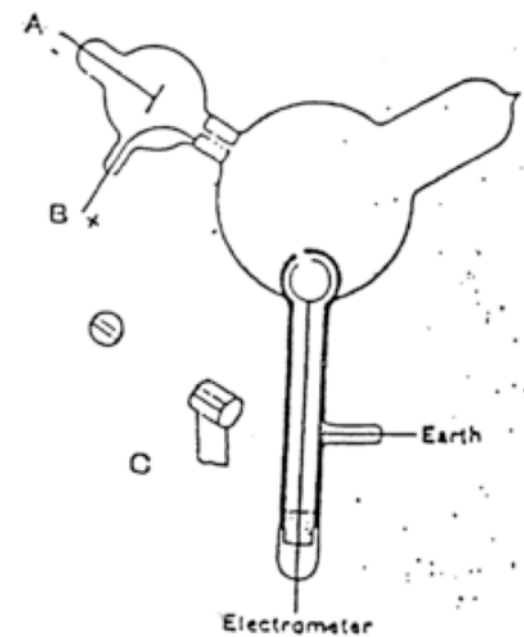
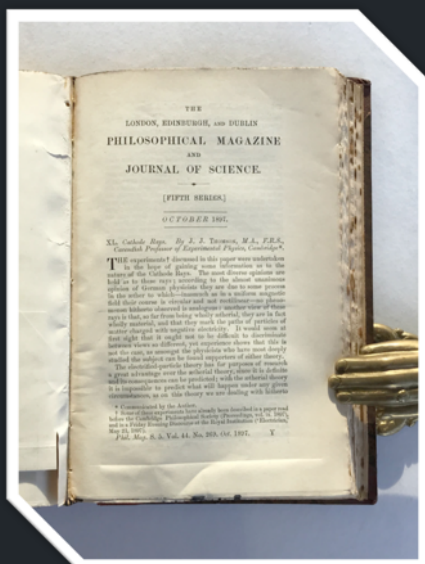
1884-1919

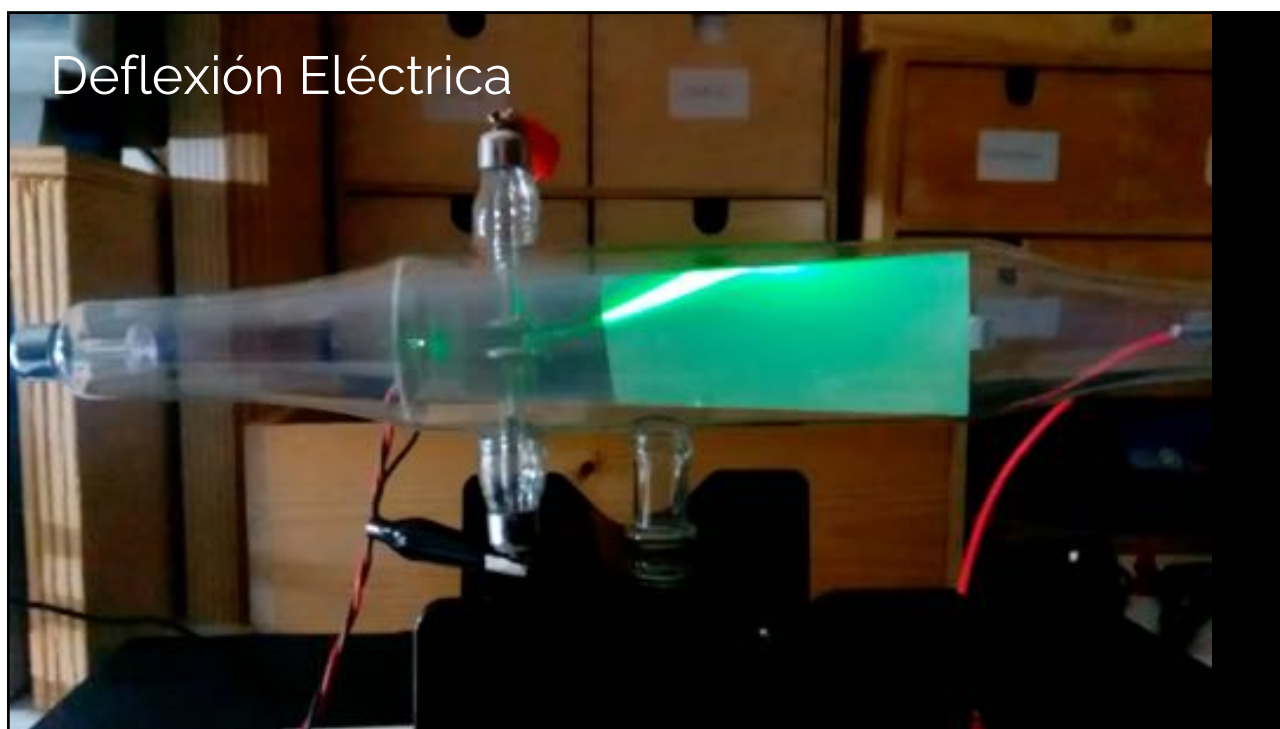
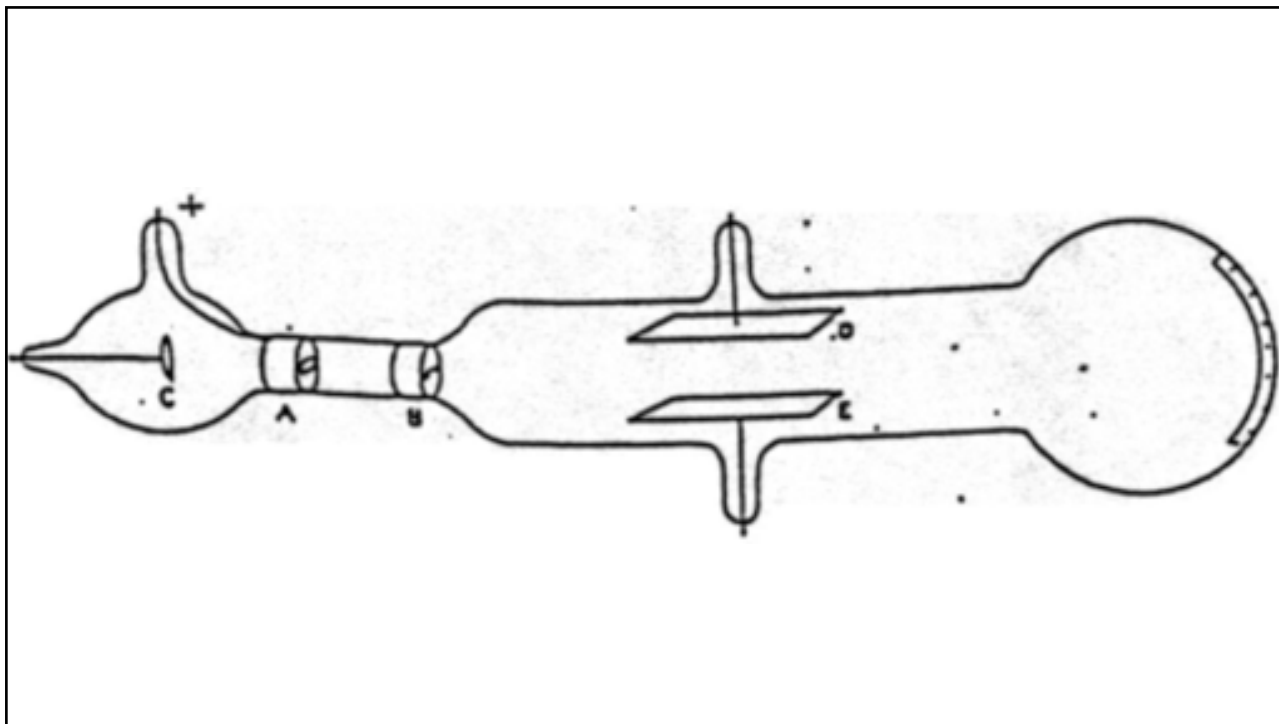
JJ Thomson



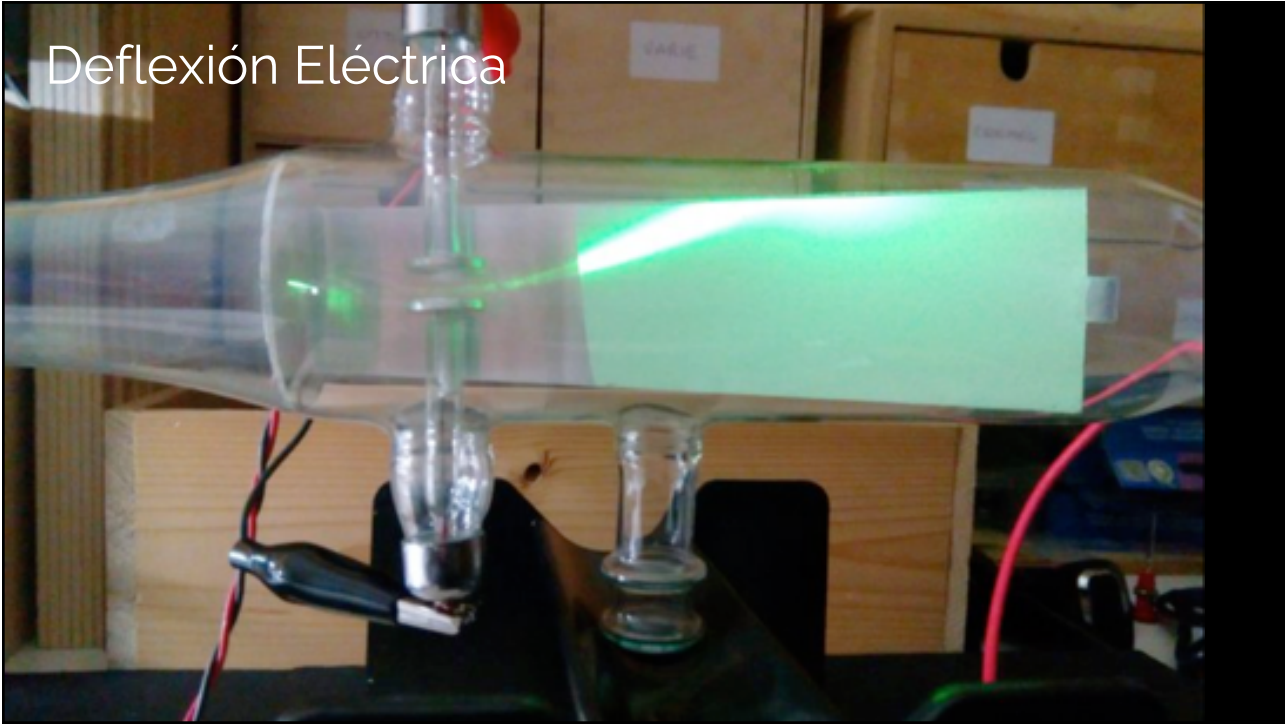


J. J. Thomson @ Cavendish

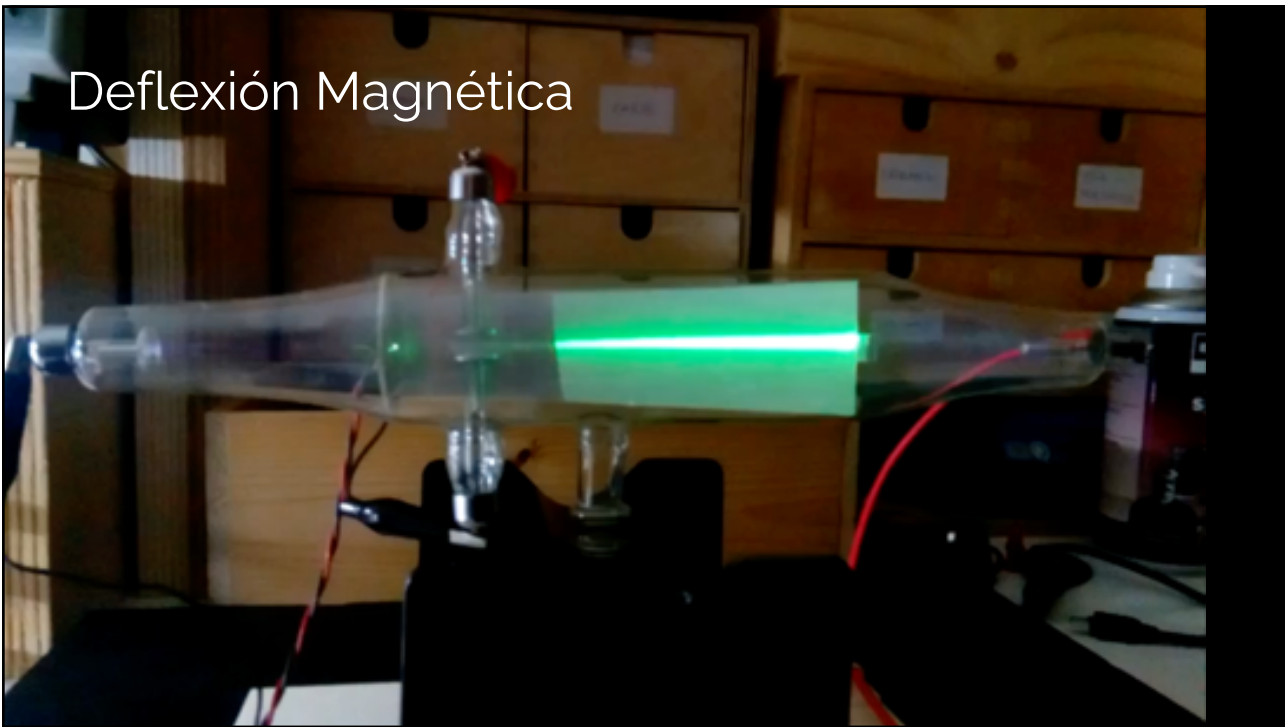




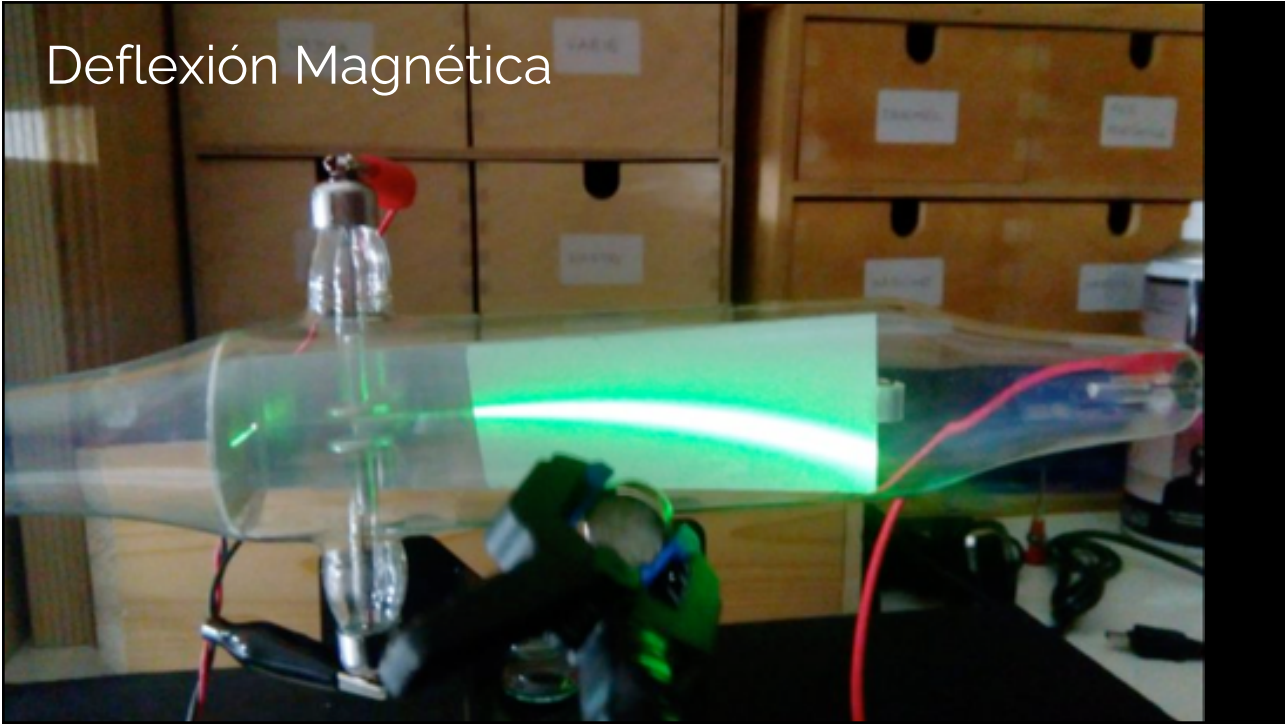
Deflexión Eléctrica



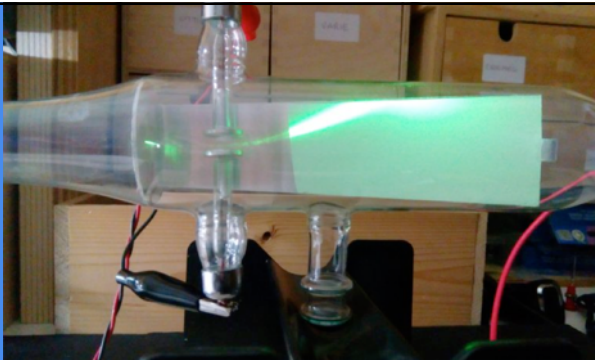
Deflexión Magnética



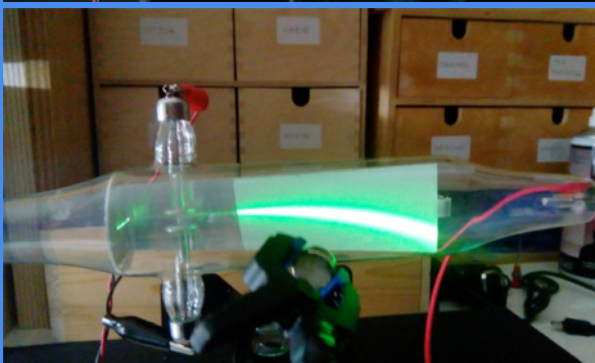
Deflexión Magnética



Eléctrica

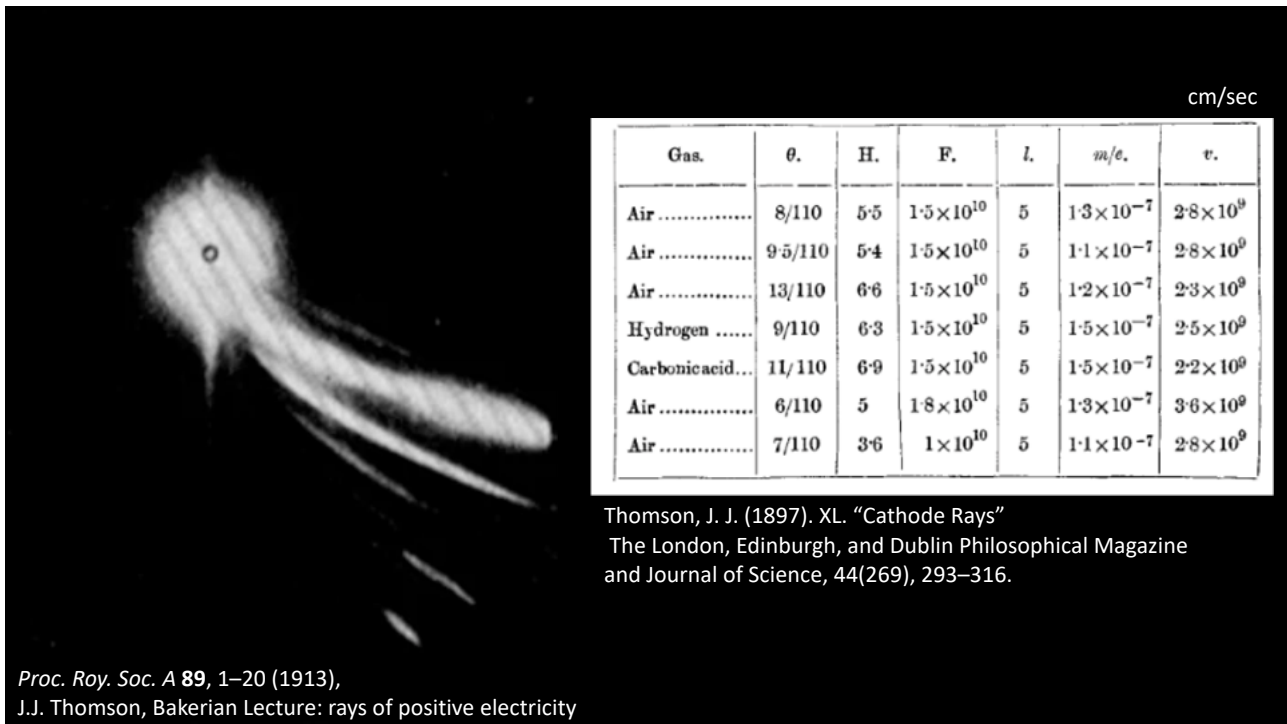


Magnética



$$F = q E = m a$$

$$F = q v B = m a$$



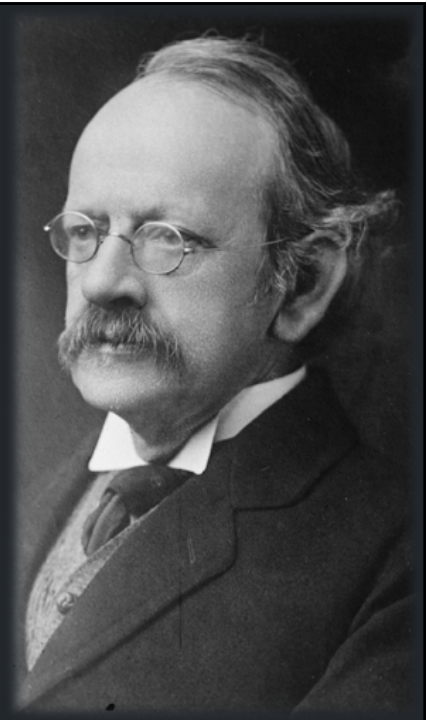
J. J. Thomson @ Cavendish

Los rayos catódicos son partículas de materia que salen del cátodo cerca de él.

El átomo es divisible.

El valor de m/e es el mismo para todos los gases.

(y mucho más chico que el del ion hidrógeno)



J. J. Thomson @ Cavendish

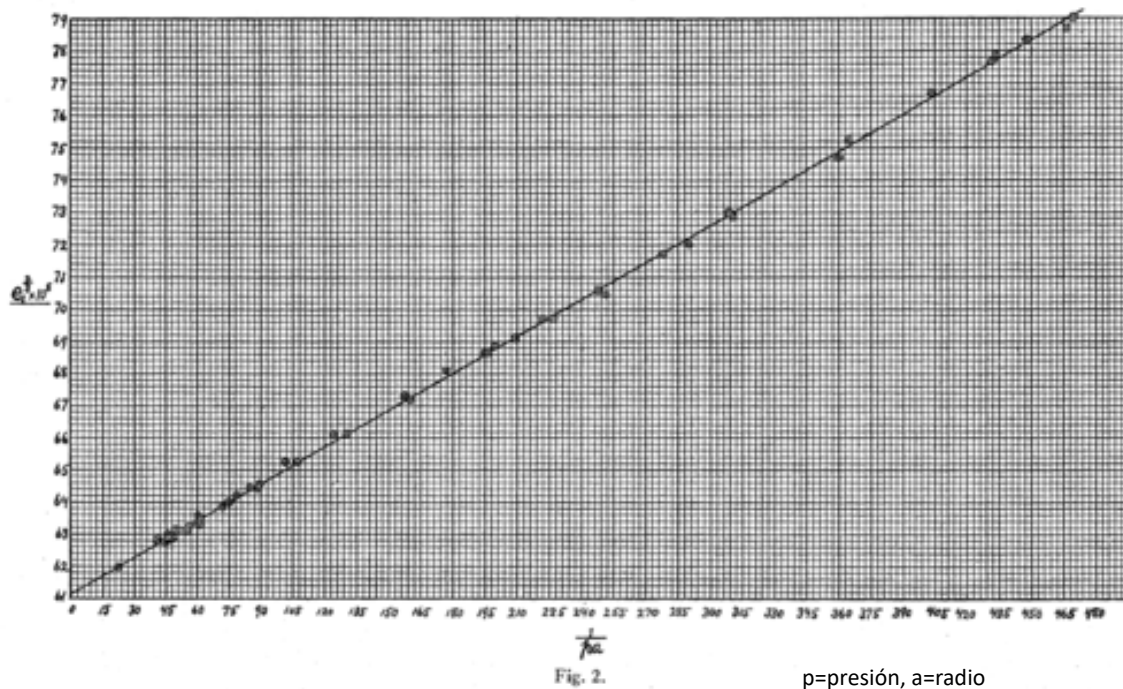
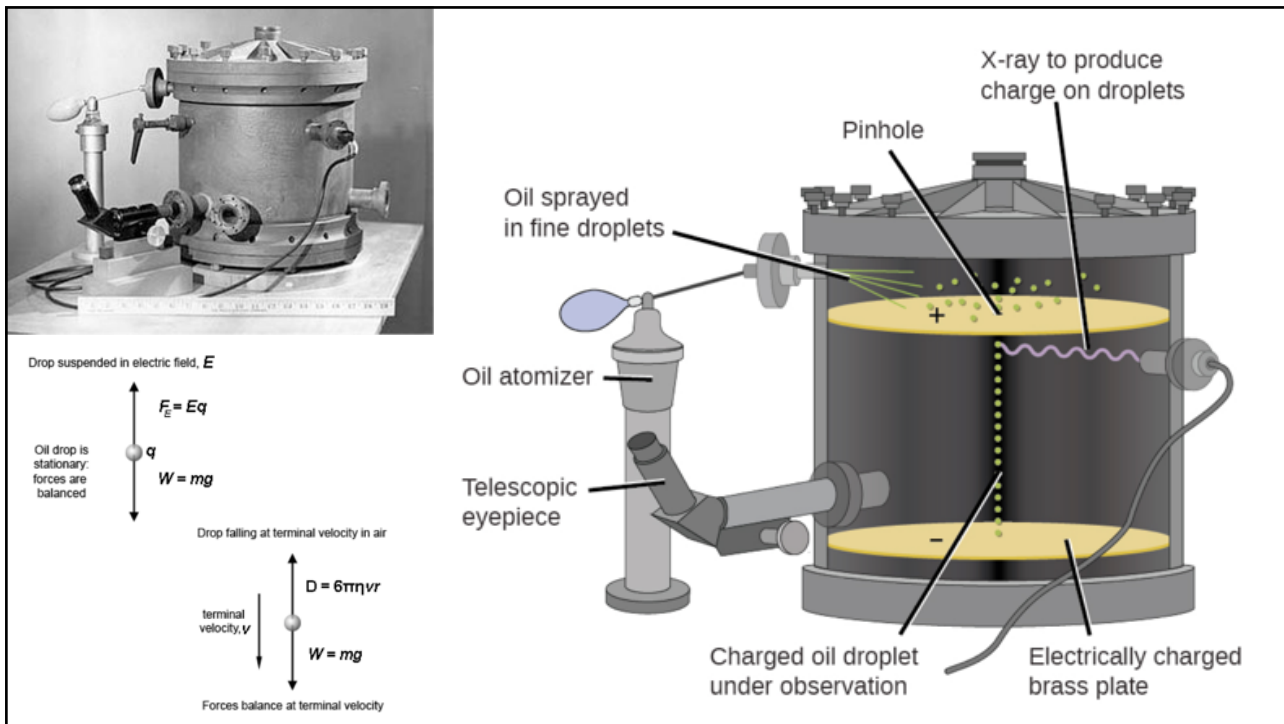
Rutherford (Química, 1908)
Bragg (Física, 1915)
Barkla (Física, 1917)
Bohr (Física, 1922)
Aston (Química, 1922)
Wilson (Física, 1927)
Richardson (Física, 1928)
Born (Física, 1934)
George Thomson (Física, 1937)



(30 en total)

R. A. Millikan @ Chicago







Carga del electrón
 $-1.602\,176\,634 \times 10^{-19} \text{ C}$

Proton Earth, Electron Moon

<https://what-if.xkcd.com/140/>

