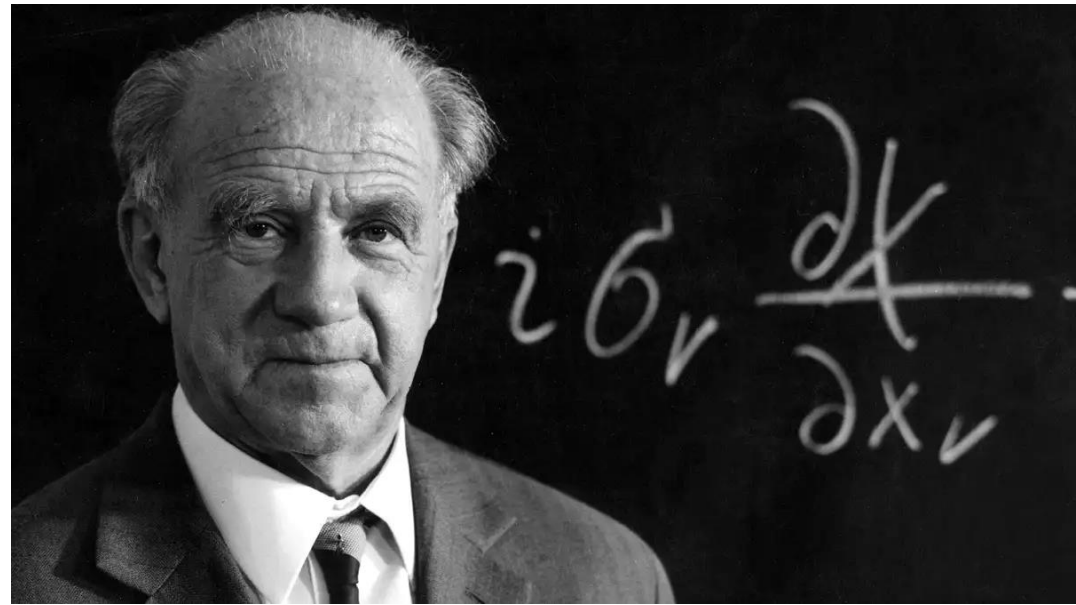


WERNER HEISENBERG

Biography

- Born 1901 in Germany
 - ↳ Dad was a professor of medieval studies
 - ↳ Raised as a Lutheran Christian
- As a teenager, read Plato while hiking in the Bavarian Alps in 1919 (age 18). Arrived in Munich as a member of the Freikorps (to resist perceived Soviet pressures)
- Works as a university professor
- 1932, received Noble Prize for quantum mechanics thought (nominated by Albert Einstein in 1928!)
- 1933, after Hitler comes to power, Heisenberg is attacked in the press as a “white Jew” (an Aryan who acts like a Jew)
- 1937, married Elizabeth
- 1939, worked on the emerging German atomic bomb project. Visited the United States and refused an invitation to immigrate there.
- 1945, arrested at end of war. Kept with other German scientists.
 - ↳ (in secret recordings while held by Allies) Heisenberg told other scientists that he had never contemplated a bomb, only an atomic pile to produce energy.
- Later he promotes international scientific cooperation
- Died 1976 in Germany of kidney cancer

- Well-liked by all who came across him, but his reputation is scarred by his verbal defense of the Nazi regime in the mid-1930s and early 1940s.
- He is a sensitive and apolitical person who – his writings reveal – suffered inwardly for the millions who suffered under the Nazi regime.



Philosophy (major ideas)

The Heisenberg Uncertainty Principle (1927): the act of observing a phenomenon changes it.

- ↳ the principle that the momentum and position of a particle cannot both be precisely determined at the same time.
 - ↳ "In addition, the uncertainty principle of quantum mechanics prevents speculation on times shorter than 10^{-43} seconds after the big bang."