

# Gábor Dénes

(1900-1979)



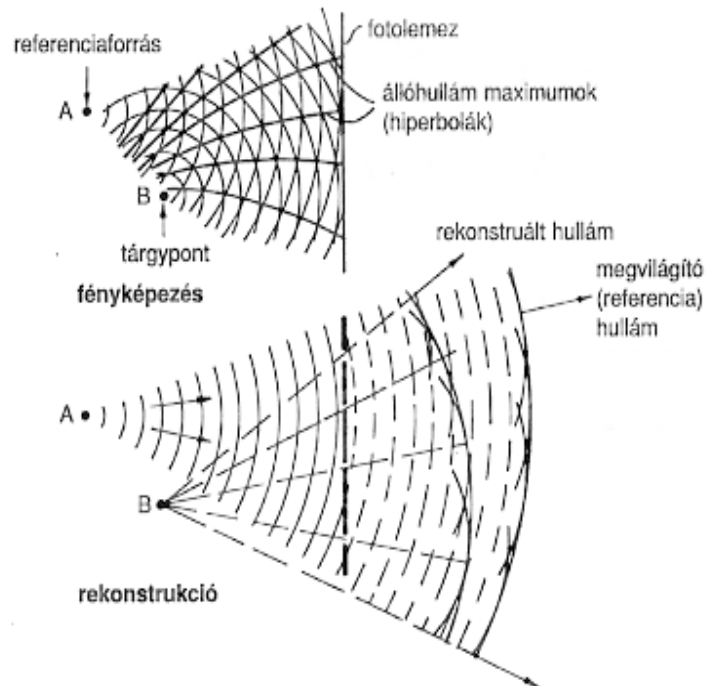
Dennis Gabor (original Hungarian name: Gábor Dénes), (5 June 1900, Budapest– 9 February 1979, London) was a Hungarian electrical engineer and inventor, most notable for inventing holography, for which he later received the Nobel Prize in Physics.

## Studies:

- He learnt in the Szemere streets elementary school ((1906-1910) and the Magyar Királyi secondary school in Budapest (1910-1918).
- Dennis Gabor studied at the Technical University of Budapest and, in Germany, at the Charlottenburg Technical University in Berlin, now known as the Technical University of Berlin.

## Institutions:

- At the start of his career, he analyzed the properties of high voltage electric transmission lines by using cathode-beam oscillographs, which led to his interest in electron optics.
- Studying the fundamental processes of the oscillograph, Gabor was led to other electron-beam devices such as electron microscopes and TV tubes.
- He eventually wrote his Ph.D. thesis concerning the cathode ray tube in 1927, and worked on plasma lamps.
- Gabor was invited to Britain to work at the development department of the British Thomson-Houston company in Rugby, Warwickshire.
- It was while working at British Thomson-Houston that he invented holography, in 1947.
- Gabor's research focused on electron optics, which led him to the invention of holography.
- Gabor also researched how human beings communicate and hear; the result of his investigations was the theory of granular synthesis, although Greek composer Iannis Xenakis claimed that he was actually the first inventor of this synthesis technique.



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- Its first practical applications were realized, though he experimented with a heavily filtered mercury arc light source.
- In 1948 Gabor moved from Rugby to Imperial College London, and in 1958 became professor of Applied Physics until his retirement in 1967.

- He remained connected with Imperial College as a Senior Research Fellow and also became Staff Scientist of CBS Laboratories, in Stamford, Connecticut.
- The International Society for Optical Engineering (SPIE) presents its Dennis Gabor award annually, "in recognition of outstanding accomplishments in diffractive wavefront technologies, especially those which further the development of holography and metrology applications."

### **Awards:**

- 1956 - Fellow of the Royal Society
- 1964 - Honorary Member of the Hungarian Academy of Sciences
- 1967 - Columbus Award of the International Institute for Communications, Genoa
- 1968 - Albert Michelson Medal of The Franklin Institute, Philadelphia
- 1970 - Medal of Honor of the Institute of Electrical and Electronics Engineers
- 1971 - Nobel Prize in Physics, for his invention and development of the holographic method
- 1971 - Honorary Doctorate, Delft University of Technology
- Dennis-Gabor Strasse in Potsdam is named in his honor and is the location of the Potsdamer Centrum für Technologie

### **Biography:**

- His father, Bernát Günszberg was the director of MÁK Rt. and name of his mother was Adél Jabokovits. They was married in 1899 and they had 3 children: Dénes (1900), György (1901) and Endre (1903).
- They changed them name from Dennis to Dénes in 1902.
- Called Gábor in the Hungarian Army in 1918.
- Having fled from Nazi Germany in 1933.
- He met Marjorie Butler, and they married in 1936.
- Dennis Gabor passed away on 9 July 1979 in London. He was survived by his wife and a brother, Andre. In order to recognize outstanding professional achievements related to innovation in Hungary, the NOVOFER Foundation established the Dennis Gabor Award in 1989.

### **Inventions:**

- |                             |                                       |
|-----------------------------|---------------------------------------|
| ➤ Aeroplan-roundabout       | ➤ Electron Optical System             |
| ➤ Electric lamp             | ➤ Magnetic ElectronLenses             |
| ➤ Electric Discharge Device | ➤ Method of Obtaining Enlarged Images |
| ➤ Cathode Ray Device        | ➤ Magnetic Recording Media            |

➤ Electron Multiplier

➤ Composite Fabrics and Manufacturing

➤ Light Relay