

Erwin Chargaff

- Determined amounts of adenine and thymine were equal in DNA
- Determined amounts of cytosine and guanine were equal in DNA

Erwin Chargaff was born in Czernowitz, Austria, on August 11, 1905. He received his doctorate from the University of Vienna in 1928. He conducted research on bacteria in the United States and in Europe and was inspired by Oswald Avery's 1944 paper identifying DNA as the hereditary material to study nucleic acids. By 1950 his research had uncovered a critical clue that Watson and Crick would later use to determine the structure of DNA. Chargaff determined through chemical analysis that in all DNA, the amounts of adenine and thymine were equal, as were the amounts of cytosine and guanine.

In 1952, Chargaff met with Watson and Crick in Cambridge, England. Watson and Crick had some ideas about how Chargaff's work might be represented in the structure of DNA. Chargaff was not impressed with Watson and Crick, finding them both rather lacking in their understanding of chemistry. But it was another year before Watson, playing with cardboard replicas of the nucleic acids, discovered that when adenine and thymine were paired, they were the exact same shape as a guanine-cytosine pair.



Chargaff claimed his visit had helped Watson and Crick in their discovery, though Chargaff had not determined the unique properties of the pairs himself.

Chargaff eventually became a critic of biotechnology, claiming ethics were lacking and raising concerns about cloning and genetic manipulations.

Resource

Erwin Chargaff Papers. American Philosophical Society, Philadelphia. Retrieved March 18, 2005, from: <http://www.amphilsoc.org/library/mole/c/chargaff.htm> - bioghist