

NAMES BEHIND THE DENVER AWARD: Dr. CHARLES S. BARRETT

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Prof. Charles Barrett was a pioneering X-ray Metallurgist who was instrumental in proliferating the use of X-ray diffractometry to characterize metals and alloys at the atomic level. Dr. Barrett earned his B.S. degree at University of South Dakota in 1924, and his Ph.D. at University of Chicago in 1928; his advisor was Professor Arthur Compton at University of Chicago. From 1928 to 1932 he worked in the Metallurgy Department at the Naval research laboratory, which was headed by Dr. Robert F. Mehl. His major contribution was to help establish the basis for a complete theory of age hardening. From 1932 to 1946 he worked at the Carnegie Institute of Technology, there he did research on preferred orientations-textures in metals and alloys. He also established topographic methods for evaluations of metals, what is now known as Berg-Barrett method. Here, he also wrote the classic x-ray diffraction/metallography book entitled “ Structure of Metals.”

He went back to University of Chicago in 1946 and worked with Prof. Cyril Stanley Smith at the “Institute for the Study of Metals” (also known as James Frank Institute). He worked there until 1971 performing cryogenic research establishing phase diagrams for solidified gases. During the Chicago years, he was visiting Professor at the University of Denver many times. He was also a visiting Professor at the University of Birmingham, where he worked with Prof. Dan Hansen. Here, he met with Prof. Thadeus Massalski (who was a graduate student at that time). Dr. Barrett invited Prof. Massalski to Chicago, and at that time he revised his original book and published the 3rd. edition of the “Structure of Metals.” Prof. Barrett did another visiting professorship at Oxford as an “Eastman Professor,” where he worked with Prof. Hume-Rothery.

During his years of “active” early retirement in 1970’s he moved to Denver, where he was a Professor at the University of Denver. He interacted with Professors Clayton O. Ruud, Paul K. Predecki, John B. Newkirk, Lucien F. Trueb, and many other researchers. He was very helpful to graduate students in Denver, and we are all grateful to him. He moved to Arizona in 1980’s, where he passed away in June of 1994. He was a very nice person and a great scholar, and I believe he made significant contributions to the understanding of materials.