



Robert H. Park

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By Charles Concordia

Robert H. Park will long be remembered by electric power system engineers and electrical machine designers as the originator of what are universally known as "Park's equations." These were given in an American Institute of Electrical Engineers technical paper in 1929. Essentially, they provided a set of relations that made practical and simple the calculation of the dynamic performance of electric (ac) generators (and motors). Such a tool was necessary, but not yet available, for the calculation of the dynamic performance of electric power systems to ensure stable and reliable operation in the face of possible disturbances. This seminal paper has been the basis not only for an enormous flood of useful work in the field but also for many careers in the field. It was, and still is, unmatched in that respect. By itself it would have been enough to make Park famous among power system engineers worldwide.

Before Park's work, several papers had been written on electric generator equations. However, they were so complex as to be of little practical use. David M. Jones, for whom Park then worked at General Electric, recognized this and also recognized that Park was the person who could bring order out of chaos. So he assigned the job to Park, with world-shaking results. Incidentally, it is ironic that the resulting paper did not elicit any discussion when it was presented.

Although he fully recognized the significance of his contribution, Park was equally interested in many other things. About the same time, he had made contributions to the determination of switching transient voltages and was a major influence in promoting the importance of, and showing how to produce switch gear with, very much smaller interrupting times than were then thought possible.

During World War II, he served in the Naval Ordnance Laboratory in charge of mine development, resulting in seventeen patents (assigned to the U.S. government).

In the 1950s and 1960s he manufactured plastic bottles, inventing the machinery to automate the process.

Later, his interest returned to electric power. He formed a company, Fast Load Control, Inc., to promote the idea of fast control of turbine valves as a means for improving power system stability, and developed several means for accomplishing this.

Rather late in his life, he was recognized by the Institute of Electrical and Electronics Engineers as a fellow in 1965 and was awarded the Lamme Medal in 1972 "for outstanding contributions to the analysis of a-c machines and systems." He had received (in 1945) the Navy's highest civilian award "for distinguished service to the U.S. Navy in time of war in the designing of magnetic mines." In 1986 he was elected to the National Academy of Engineering.

Perhaps the lateness in recognition by "the establishment" was due to the nature of his contribution. It was not a new machine, nor yet a new method of analysis. It was a new structure particularly well suited to facilitate analysis and application to new problems. It has been said that it was a ladder that others could climb and that it was the opening of a gate so that others could enter and cultivate the garden. Thus, it was appreciated immediately by the young engineers at the bottom of the ladder long before those at the top realized what was going on. "Park" was a household word among the young engineers and students long before any awards came. Even at the Lamme Medal award ceremony in 1972, his contribution was compared with that of two other engineers as being similar, apparently without realization of the difference: their papers remained on the shelf, Park's paper took fire and traveled around the world.

Robert Park was an original thinker, a prolific innovator, and a forceful advocate of his ideas. This was his forte. He did not spend time thinking about his past accomplishments but was more interested in his new projects. He was an inventor and proud that he did not require an attorney to help him prepare his later patents. (He had 64.)

Robert Park was a clear thinker, sure in his opinions (which stood well the test of time) and was neither very diplomatic or sentimental. And he was a valued friend, whose counsel was always sound as well as illuminating.

Park was born in Strassburg, Germany, while his father, the sociologist Robert Erza Park, was studying and teaching at Heidelberg University. He grew up in Wollaston, Massachusetts, and graduated from the Massachusetts Institute of Technology in 1923 in electrical engineering. He did postgraduate work at the Royal Technical Institute in Stockholm, Sweden. He worked on a wide variety of subjects in a wide variety of companies and organizations, among which are General Electric, American Cyanamid, the Naval Ordnance Laboratory, the Bureau of Ordnance, Emhart Manufacturing Company, R. H. Park Company, and Fast Load Control, Inc. He was a private consultant to the end of his life. He is survived by a daughter, three sons, and a nephew.