

In Memoriam—Charles Stark Draper

IN July of 1987, our community lost one of its founders—Charles Stark (Doc) Draper. He succumbed to a series of strokes which were individually unable to stop him. Until the last one, he continued to come to the office. His schedule, even as an octogenarian, was one that most of us would have difficulty keeping. Just before his first serious illness, he arrived on Monday for our regular early morning staff meeting. He had just gotten off an airplane returning from Hungary where he had received the Theodore von Karman Award from the Institute of Aeronautics and Astronautics. Midway through the meeting he excused himself to return to the airport to travel to a guidance symposium at Holloman Air Force Base in New Mexico where he delivered a speech while standing in the rain. There is no doubt he was granted more energy and a tougher constitution than most of us he left behind.

He educated countless people in the intricacies of single-degree-of-freedom, heavily damped, floated gyroscopes and the guidance systems he built around them. He refined that art to a level of precision wherein the dominant errors are the uncertainties in the gravitational field of the Earth. Even this problem he worked through the use of precision accelerometers to measure the gravity gradient. Throughout his career he stayed involved with the technical details. Even in the period where "his Lab" was simultaneously designing the guidance systems for Poseidon, MX, and Apollo, it was not uncommon for him to show up in one of our laboratories and engage in the technical details of component design.

He could also be feisty. This was learned by anyone who was bold enough to attempt to explain to him the virtues of, for example, two-degree-of-freedom gyros, laser gyros, or strapdown inertial systems. I once declined to publish a paper of his in this journal, in the form in which he submitted it. I learned of his displeasure when the eighty-year-old man literally threw the rejection letter onto the table in my office in the middle of a meeting.

The feisty character could be compassionate and lovable. He was always a soft touch for students in need. He personally arranged financial support for 2 years of my own graduate education. At a recent memorial service at MIT, I learned of two other examples. Professor Larry Young spoke at the memorial of his having gone to Doc with an idea for studying human eye movement, a subject far removed from any of the Laboratory's programs at the time. The end result was that Doc personally supported the project. Bob Duffy, who succeeded Doc as president of the Draper Laboratory, related the story of Doc's disappearance during a visit to Duff's home. He found him with his young daughter in his lap reading to her from her first reader.

We have lost one of the giants of our guidance, control, and dynamics specialty. He was absolutely unique, and we will miss him.

Donald C. Fraser
Editor-in-Chief