Weston A. Anderson (1928 – November 3, 2021)

Although his name may not be familiar to younger generations of MR researchers and practitioners, his work laid the foundations of our field.

Wes spent his entire career at Varian, the Palo Alto company that commercialized NMR spectroscopy. As the second graduate student of Stanford University physics professor Felix Bloch, who with Edward Purcell of Harvard would go on to receive the Nobel Prize for NMR, Wes learned about this novel phenomenon. At Varian he built the world's first "high resolution" magnet that enabled the resolution of proton chemical shift spectra. His numerous technical developments included the modern method of shimming the field with electrically powered coils (Anderson WA, Electrical current shims for correcting magnetic fields, Rev Sci Instrum 1961; 32: 241-250), and spinning the sample to improve the resolution by an order of magnitude (Anderson WA, NMR and EPR Spectroscopy [Pergamon Press, New York, 1960], p. 176).

He hired a young Swiss postdoc (Richard Ernst, who would go on to receive his own Nobel in 1991), and assigned him the task of developing a practical means to use the newly discovered Tukey fast Fourier transform algorithm to analyze NMR data acquired as transients following RF pulses rather than as continuous wave signals which was then standard (Ernst RR, Anderson WA, Application of Fourier transform spectroscopy to magnetic resonance, Rev Sci Instrum 1966; 37: 93-102). Most likely, he was also trying to find a good use for the new laboratory digital computer--among the first computers small and inexpensive enough to fit in a lab and be purchased with a research grant (or at least on a chemistry department budget)--that Varian was developing.

Wes Anderson was the intellectual driving force at Varian that transformed the esoteric physical phenomenon of NMR into a practical, commercial, and essential tool of chemistry and biophysics, setting the stage for another NMR spectroscopist, Paul Lauterbur, to demonstrate to the world that NMR could be used to produce images of living subjects, using a Varian spectrometer less than a decade later.

Wes was awarded about 64 US patents, and worked in many technology areas, including ultrasound imaging; x-rays; room temperature, cryogenic and HTS receiver coils for MR; gradient coils; and array RF coils. He did a stint at CERN. He even conceived a method for performing a Fourier transform without needing access to the company's central computer installation by recording the MR signal transient on magnetic tape, pasting the tape into a continuous loop, and playing it back repetitively to extract each frequency component with analog circuitry, one frequency at a time. (We are indeed grateful for the digital version.) More about Weston life achievements can be found at here.

As we are grateful indeed for this warm scientist's foundational contributions to our field.

Jerome Ackerman