

bombarded by 6 MeV deuterons for two years.) Bump-hunting soon became a popular activity, and physicists with access to other bubble chamber film reported the discovery of other resonances, or particles as they now are called; the most important of these was the  $\rho$  meson, discovered by William Walker, at Wisconsin.

Until the population explosion started in the 15-inch chamber, there was only one resonance known in particle physics, and that was Enrico Fermi's famous "3-3 resonance" in the pion-nucleon system. I went to all the Rochester Conferences in this period, and I never heard anyone call the 3-3 resonance a particle; it was always thought of simply as a resonance or bump in a production cross-section curve as a function of energy. But it was clear that the objects we found as bumps in mass plots were really particles; they stayed together long enough for other particles to recoil against them, and then they came apart in times of the order of  $10^{-22}$  seconds, as one could measure from the energy widths of the bumps, using the uncertainty principle. It was soon apparent that the 3-3 resonance was the first of the "new particles," and Rosenfeld started a new cottage industry to keep everyone abreast of the best values of masses, lifetimes, spins, etc. of *all* the particles that gave our profession its name. If the proton had been found to decay, the lifetime range would now span 60 decades!

It wouldn't be fair to say that as soon as all the new particles were found, the theorists came into the picture, and explained their taxonomy — the theorists had various frameworks to codify the particles known before the population explosion started, most notably the "8-fold way" of Gell-Mann and Yuval Ne'eman. They extended these ideas to embrace the newly discovered very short-lived particles. Their most famous prediction was that the  $\Omega^-$  hyperon should exist, with an accurately predicted mass. That prediction came from the equality of the mass spacings of the 3-3 resonance (now known as the  $\Delta$ ), the  $\Sigma$  1385, and the  $\Sigma$  1530. The Bevatron didn't have enough energy to make  $\Omega^-$  hyperons, which was a big disappointment to my group; we had the right detector, but the wrong accelerator. So we had to wait a few years until the 80-inch chamber came into operation, when we sent our congratulations to the Brookhaven group. But we did have the satisfaction of knowing that the important equality in