

volumes for each of the four sections within the division were required. The first annual report of the new CHR, for the period July 1969 through June 1970, listed Stehney as section head and incorporated the staff that had previously reported under "Toxicity of Radioelements." Stehney, who originally had joined the division in 1950 and subsequently had transferred to the Chemistry Division, rejoined the RPY Division in September 1969 to head the new section. In 1976 he was appointed an associate director of the RPY Division.

Another new name appearing in this annual report was that of John Rundo. Rundo, formerly a staff member at the United Kingdom's Harwell Laboratory, had also joined the CHR in September 1969 to assume the responsibility for the whole-body counting activities. He prepared a description for this annual report of the construction of three whole-body counting rooms in the underground vault attached to Building 203. The steel for these rooms came from the two iron rooms previously built by RPY and from the one room that had been constructed in Building 202.

An article in this first annual report, which attempted to fit dose-response functions to the data for the measured radium cases, stated that 777 such cases had been obtained by combining the MIT cases with the Argonne and Argonne Cancer Research Hospital cases transferred to the CHR. Of these, 474 case files were obtained from MIT and 316 from the two Argonne sources; three measured cases had files at both MIT and Argonne.

The second annual report from the CHR, for July 1970 through June 1971, showed several more changes. With the arrival of the case records at Argonne, the staff submitted 20 manuscripts related to the radium cases, in comparison to only 3 such papers in the first annual report. The emphasis of the group had shifted markedly, and the enthusiasm with which the staff tackled the new program was obvious. In addition, for the first time data on all of the measured radium cases (now 955) were included in the annual report. This practice was continued as long as such reports were produced, so that a listing of the cases, with a measure of their radiation doses, was available to all interested readers.

In this second report, Stehney introduced a time-invariant measure of the radium dose, which he called the *initial systemic intake*. When the skeletal dose for a living radium case is expressed in centigrays, the value increases each year. Consequently, two subjects who initially acquired identical levels of radium would have vastly different doses if one lived only a short time after radium acquisition, while the other lived out a full life span. The initial systemic intake, the quantity of radium that entered the circulating fluids, circumvents this problem and gives our two hypothetical cases identical