

subsequent finding, in the paper by Barker and Schlundt (1930) reporting the measurement of the radium contents of ten subjects made available by physicians who used radium in their private practices, that six of the subjects had received their radium from John. In addition, a publication (John 1927) describing the responses of a number of his patients to radium administration reported a case in which a patient apparently recovered from a neurological disorder after several 10- μ g injections of radium. Thus, it is not surprising that in Looney's interview with John in 1951, John stated that he had been the initiator of the study at Elgin.

The concern about additional radium treatments arose from an interview that took place in 1973. Stehney met with a nurse who had worked for John for a period in 1932, after the reported radium injections at Elgin in 1931. The nurse told Stehney that John often went to the Elgin State Hospital and took glass ampoules of "radioactivity" with him. This report was verified in an interview Stehney had with J.T. Nerancy in 1973. Nerancy, who was one of the coauthors of the Schlundt et al. (1933) paper, stated that John had brought the radium to Elgin for the study. Nerancy thought that there might have been another 50 patients at Elgin to whom physicians had given radium. This last statement was partially verified by the discovery of the records of nine patients in which the administration of radium was recorded, in addition to the 32 patients mentioned in the 1933 paper. Many of the group of nine received their radium in 1933, after the 1931 injections reported by Schlundt. The question of whether any of the original 32 patients received additional radium injections after their reported doses in 1931 has not yet been answered.

The major technical accomplishments of the Argonne radium program up to 1956 were summarized by Marinelli in a semiannual report as follows:

- The natural levels of radium in persons living in the Chicago area, evaluated by Stehney and Lucas, were found to lie in the range 0.4×10^{-10} to 3.7×10^{-10} g, with the highest level in individuals who had consumed drinking water with naturally elevated radium levels. This study led to a mapping of the areas in the Midwest with high radium levels in drinking water.
- Efforts to detect radium in the human body at the lowest possible levels, primarily by reducing the gamma-ray background and eliminating radioactive materials from the neighborhood of the detection equipment, fell short of the self-assigned goal of 5×10^{-11} g of radium by about a factor of ten. These efforts included the construction of the first iron room in the basement of Building 203, with its 8-in. steel