

Chapter 6

The Aftermath of the Cambridge-Vienna Controversy: Radioactivity and Politics in Vienna in the 1930s

Consequences of the Cambridge-Vienna episode ranged from the entrance of other research centers into the field as the study of the atomic nucleus became a promising area of scientific investigation to the development of new experimental methods. As Jeff Hughes describes, three key groups turned to the study of atomic nucleus. Gerhard Hoffman and his student Heinz Pose studied artificial disintegration at the Physics Institute of the University of Halle using a polonium source sent by Meyer.¹ In Paris, Maurice de Broglie turned his well-equipped laboratory for x-ray research into a center for radioactivity studies and Madame Curie started to accumulate polonium for research on artificial disintegration. 1

The need to replace the scintillation counters with a more reliable technique also led to the extensive use of the cloud chamber in Cambridge.² Simultaneously, the development of electric counting methods for measuring alpha particles in Rutherford's laboratory secured quantitative investigations and prompted Stetter and Schmidt from the Vienna Institute to focus on the valve amplifier technique.³ Essential for the work in both the Cambridge and the Vienna laboratories was the use of polonium as a strong source of alpha particles for those methods as an alternative to the scintillation technique. 2

Besides serving as a place for scientific production, the laboratory was definitely also a space for work where tasks were labeled as skilled and unskilled and positions were divided to those paid monthly and those supported by grant money or by research fellowships. Pettersson's departure from Vienna meant the loss of the soul of the Viennese group. That led not only to disarray in the study of atomic disintegration but also to the development of a severe financial crisis at the institute. Most deeply affected were the women of the team given the fact that they lacked stable university positions and monthly payments from the state. As soon as the flow of grant money and generous donations ended, the women financed from these sources faced professional and financial instability. It was probably this insecurity that prompted most of them to look for stipendiums and fellowships in other institutes. 3

