



*Lise Meitner and Otto Hahn in their laboratory in the 1930s.*

who, having fled the Nazi-controlled Reich,<sup>6</sup> was working with Niels Bohr in Copenhagen, Denmark.

Miss Meitner was very much interested in this phenomenon and immediately attempted to analyze mathematically the results of the experiment. She reasoned that the barium and the other residual elements were the result of a fission, or breaking, of the uranium atom. But when she added the atomic masses of the residual elements, she found this total was less than the atomic mass of uranium.

There was but one explanation: The uranium fissioned or split, forming two elements each of approximately half of its original mass, but not exactly half. Some of the mass of the uranium had disappeared. Miss Meitner and her nephew O. R. Frisch suggested that the mass which disappeared was converted into energy. According to the theory advanced in 1905 by Albert Einstein in which the relationship of mass to energy was stated by the equation  $E = mc^2$  (energy is equal to mass times the square of the speed of light), this energy release would be of the order of 200,000,000 electron volts for each atom fissioned.

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<sup>6</sup>Germany under Adolf Hitler's Nazi Party rule was known as the "Third Reich" (Third Realm).