Effects of Heavy and Radioactive Atoms on Biological Systems

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A specific group of elements that make up the universe is characterized by a hidden effect on biological systems. The temporal parameterization of this issue spans thousands of years; however, the effects of radioactive isotopes on biological objects became relevant immediately after their discovery, starting from the late nineteenth century. Shortly after the discovery of them in 1896, the dual nature of this phenomenon became known to scientists.

This paper discusses the probabilistic processes caused in the composition of matter by the absorption of radioenergy in organic tissues through analogies. The main part is devoted to understanding the phenomena of direct and indirect ionization, the possible ongoing chemical transformations, their physical analysis, and the biological effect on organic bodies. Here is statistically evaluated the productivity of these two cases for different radiation frequencies. In discussing the consequences of the process there is discussed the so-called “Radium Girls” case, which determined significant aspects of the nature of these elements for society and laid the foundation for one of the first labour regulations in human history.