Paul Émile Lecoq de Boisbaudran Biography

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Biography

Boisbaudran was born into a well-to-do family of wine merchants in Cognac, France, on April 18, 1836. Although he had no formal education, he was personally instructed by his mother, a woman learned in the classics, history, and foreign languages. Boisbaudran became interested in science early in life and taught himself out of textbooks used in the Ècole Polytechnique. He carried out many experiments in a home-built laboratory.

Boisbaudran's special area of interest was spectroscopy, a science developed by Gustav Kirchhoff in 1859. Over more than a decade, Boisbaudran carefully examined the spectral lines produced by 35 different elements. In the process, he discovered, in 1875, a new element that he named gallium. Most people believe that the name was given in honor of his homeland, since the Latin name for France was *Gaul*. Some writers, however, have suggested that he may have named the element after himself since the French word *lecoq* means rooster, which, in Latin, is *gallus*.

The discovery of gallium has added significance. Research soon proved that it was the element predicted by Dmitri Mendeleev four years earlier. Mendeleev referred to the proposed element as eka-aluminum, since it was presumed to be the next element in the aluminum series. The close match between the predicted properties of eka-aluminum and the actual properties of gallium provided a valuable confirmation of Mendeleev's periodic theory.

By 1879, Boisbaudran had shifted his interests to the field of the rare earth elements. Over the next three decades, he examined the spectral lines of ores and compounds of these elements. One of the earliest results of this research was the discovery in 1879 that the didymium discovered by Carl Gustav Mosander a few years earlier actually consisted of two parts, one of which was a new element that Boisbaudran named samarium.

Finally, in 1886, Boisbaudran discovered yet a third element, dysprosium. Boisbaudran recognized the new element from the properties of its compounds and its spectral lines, but never obtained the element itself in pure form.

Boisbaudran's health began to fail after 1895, and he produced relatively few discoveries in the last two decades of his life. He died in Paris, France, on May 28, 1912.