

Smithson Tennant Biography

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Biography

Tennant was largely self-educated and developed an early interest in chemistry as a hobby. He is best known for his discovery of two elements, iridium and osmium.

In 1781 Tennant spent a year studying at Edinburgh University, where he attended lectures given by Joseph Black, a chemist known for his work on carbon dioxide. Tennant then traveled to Sweden, where he met Carl Wilhelm Scheele, another chemist interested in gases. Although Tennant earned his medical doctorate from Cambridge University in 1796, he never practiced medicine, preferring to pursue his interest in chemistry.

In his first notable experiment, Tennant proved that diamonds are composed of pure carbon. French chemist Antoine-Laurent Lavoisier had previously shown that charcoal (carbon) and diamonds were in the same class of combustible materials, but Lavoisier thought that the true nature of diamonds might never be known. When Tennant burned a diamond inside a gold tube, it yielded the same amount of carbon dioxide as that produced from charcoal. Tennant insisted that this meant the two substances were chemically identical.

Tennant is best known, however, for discovering two new elements. For years scientists had tried without success to extract pure platinum from its ore. During his travels in Sweden, Tennant had discussed this problem with Scheele and others. Although other chemists suspected the presence of new metals in the black powder that was left over when platinum ore was chemically treated, it was Tennant who isolated and characterized them in 1803 and 1804. He named one iridium, from the Greek word for rainbow, because of the variety of colors produced by its compounds. The other he called osmium due to its distinctive smell; the Greek word for odor is osme.

Tennant's interest in platinum also led him and his fellow chemist William Hyde Wollaston to set up a business selling platinum boilers for making concentrated sulfuric acid and other products.

Tennant briefly taught chemistry at Cambridge University before he was killed in a horse riding accident in 1815.