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PEDRO PAULET: THE ARCHITECT OF THE WORLD'S FIRST LIQUID-FUELED ROCKET

Abstract

The first practical working liquid propellant rocket engine and spacecraft was invented and designed by Pedro Paulet – a peruvian polymath – as a result of more than eighteen years of studies and practice between Peru, Germany, France, Great Britain and Belgium (1884-1902). He started to experiment with rockets since he was a child in Arequipa and developed his scientific studies in San Vicente de Paul School, with his French professor the Priest Hipólito Duhamel. Then with sixteen years old, he applied to San Agustín University (1890-1893) and studied sciences and letters. He loved chemistry and prepared many experiments in those years. At the same time he practice sculpture, drawing and painting at the Centro Artístico, a cultural center where he was the librarian and the treasurer. In 1894, he applied to San Marcos University to study medicine, but he could not continue because of administrative problems. In the same year, his mother's past away and he returned to Arequipa. In January 1895, he received his science bachelor degree and at the end of the year, he decided to travel alone to France to continue his studies. He did not receive any scholarship from the Peruvian government as many authors said. In 1896 he visited Industrial expositions in Germany to increase his knowledge about engines. In 1897 in Paris he worked as a journalist and become a member of the Société pour la propagation des langues étrangères of France. The same year he applied to the Astronomical Society of France. One of his most important articles was the one, in 1895, when he described the new sensational automobile. This new invention captured the attention of the young Paulet, and impulse to entered to study at the Institute of apply chemist of Paris. Over there he analyses the steam engine, electric engine and others. In the classes of his teacher Marecelin Berthelot he learnt about the force of the explosives materials. In those years the problem was about the found a light engine with lots of power. Paulet thought, the solution was in rockets with constant injection of explosives materials (propellants). He designed and built the first rocket engine of liquid propellant (nitrogen + petrol benzene) approximately in 1897, in accordane with Newton's third law. His teacher Berthelot recommended him to use the panclastitas of Turpin, a powerful explosive material. In 1899 he published an article where he explained his ideas.