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Phot. Scheidhaus, Zürich, 1914

Prof. D. A. Stodola

PROF. DR AUREL STODOLA

Birth Centenary of the Prominent Scientist (1859—1959)

On the 10th of May this year is the hundreth anniversary of the birth of A. Stodola. His name, one of the most prominent in the field of applied science of this century is closely connected with the origin of fundamental theory on the subject of steam and gas turbines and consequently with the development of flow-machines.

The son of the Slovac nation, born at the foot of Tatra Mountains in Sv. Liptovský Mikuláš, he went to schools in Lewoča, Košice and Budapest. Later he entered the Swiss Federal Institute of Technology (ETH) in Zürich, where in 1880 he obtained the degree in Mechanical Engineering with honours. After a short period of studies in physics under prof. Helmholtz in Berlin and also in Paris, he worked for the heavy industry of his country. At Ruston's of Prague he became known as an outstanding designing engineer and theorist, creating new ideas and applying his theoretical knowledge in actual machine designs. In 1892 he was invited to the Swiss Federal Institute of Technology in Zürich where he remained faithfully till the end of his life.

His first scientific work published in 1893 in „Schweizerische Bauzeitung" was the study of turbines' control. It is believed that he was the first to establish the equations of motion of a system consisting of a turbine, speed-regulator, servomotor and slide valve with connecting pipes. Relying on equations established by Stodola, Hurwitz based his well known mathematical criterion for stability of control.

After this first paper a large number of others concerned with problems of indirect control were published. At the same time, following the industrial exhibitions of Geneva (1896), Paris (1900) and Düsseldorf (1902) Stodola drew attention to great importance of high parameters of steam, both pressure and temperature, for thermodynamic cycles of engines. At that time the piston steam engine was universally used and the steam turbine, only just discovered by Parsons and de Laval, was making its first steps, with difficulty finding its way into industrial application. It is undoubtedly to Stodola's credit that thanks to his scientific intuition, he worked out the theoretical basis of this new type

of a thermal engine, both in thermodynamical and dynamical respect. In 1903 Springer printed the first edition of his excellent work under the title: "Dampfturbinen" which was enlarged successively several times with the growth of practical knowledge of steam turbines and in 1926 it reached the sixth edition in German language, while a few years later the two-volume edition in English was printed in U.S.A. The sixth latest German edition of Stodola's "Dampf- und Gasturbinen" has 1157 pages of written word, 1141 diagramms and illustrations and 14 tables. Despite of great strides in development of turbine machinery, the book still provides an inexaustible source of technical knowledge on the subject and is well known to anyone who works in thermal turbines.

A. Stodola has left extremely rich scientific inheritance but the above discussed work alone, known and esteemed all over the world, made his name famous. Today in the century of his birth the World of Science honours the memory of one of its most worthy representatives.

The Polish Science pays homage to the Great Scholar.

Robert Szewalski

Polish Academy of Sciences
Institute of Flow-Machines
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