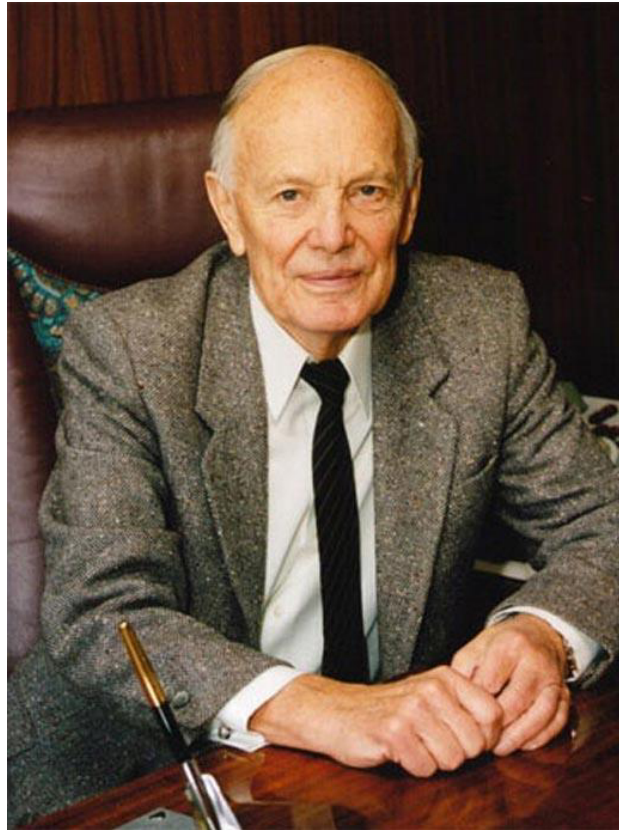


Борис Евгеньевич Патон (Borys Yevhenovych Paton)



(27.11.1918 - 19.08.2020)

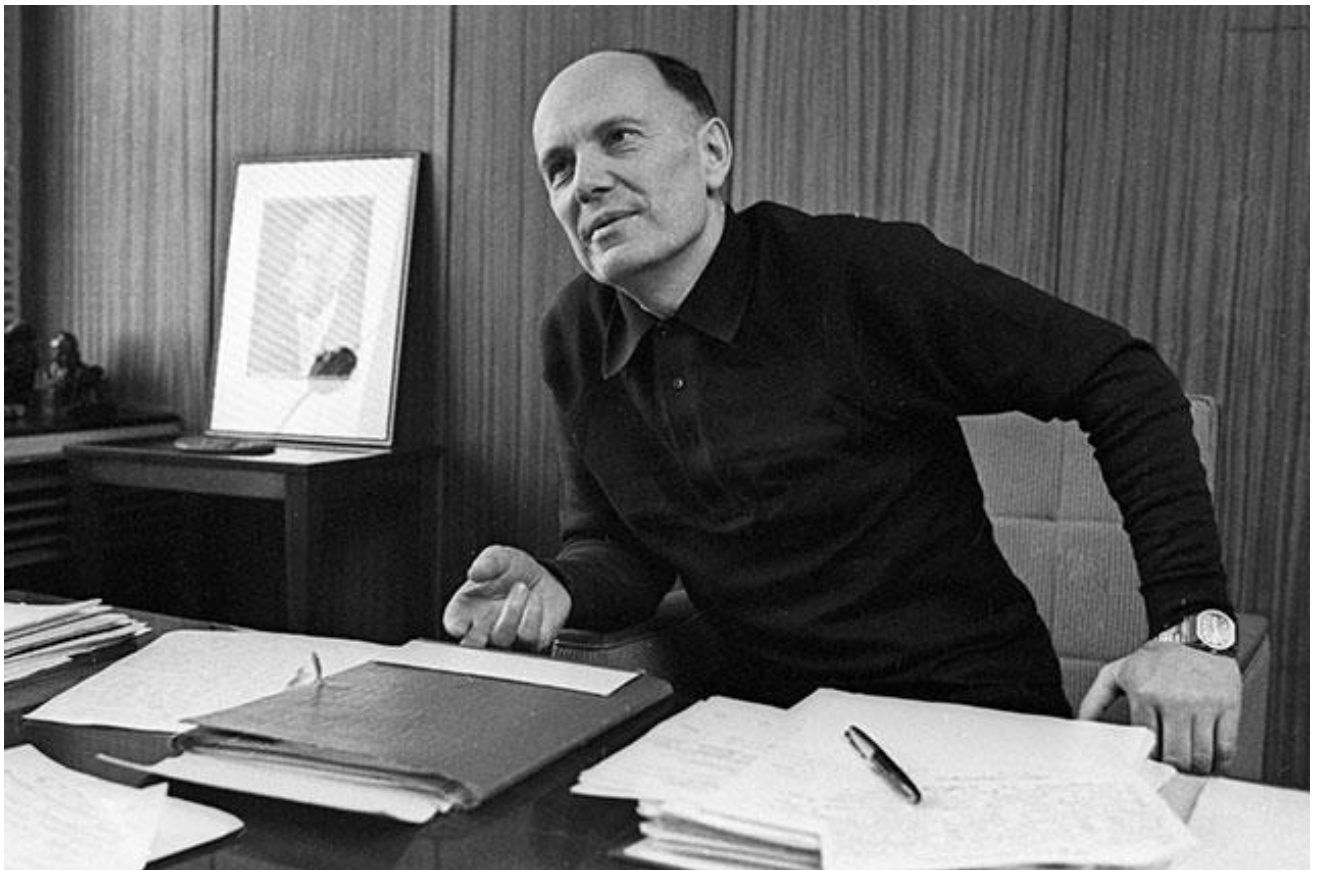
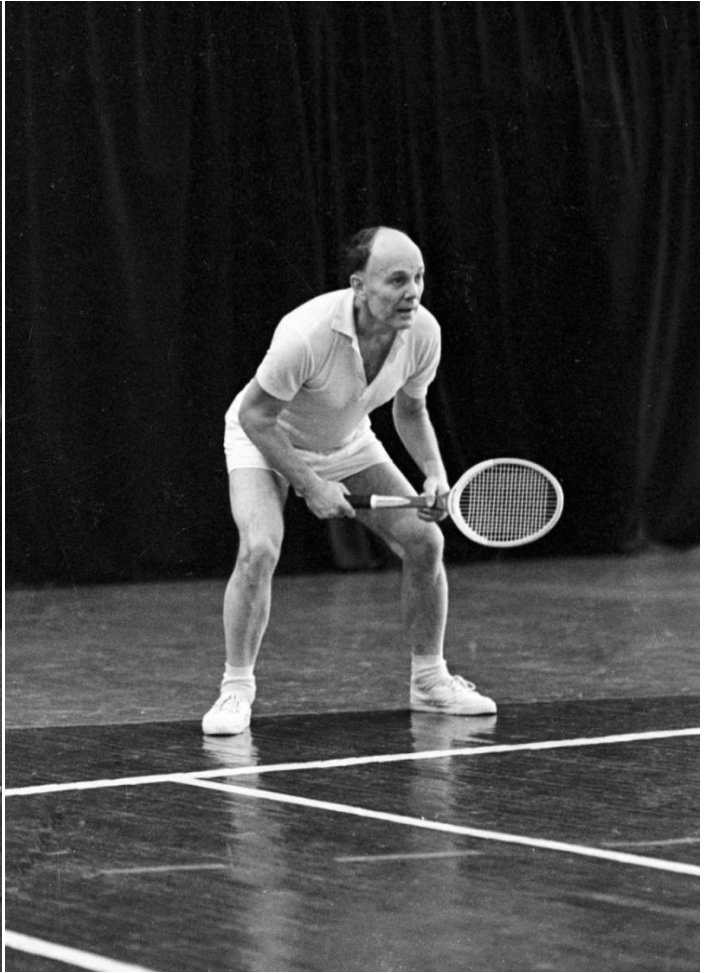
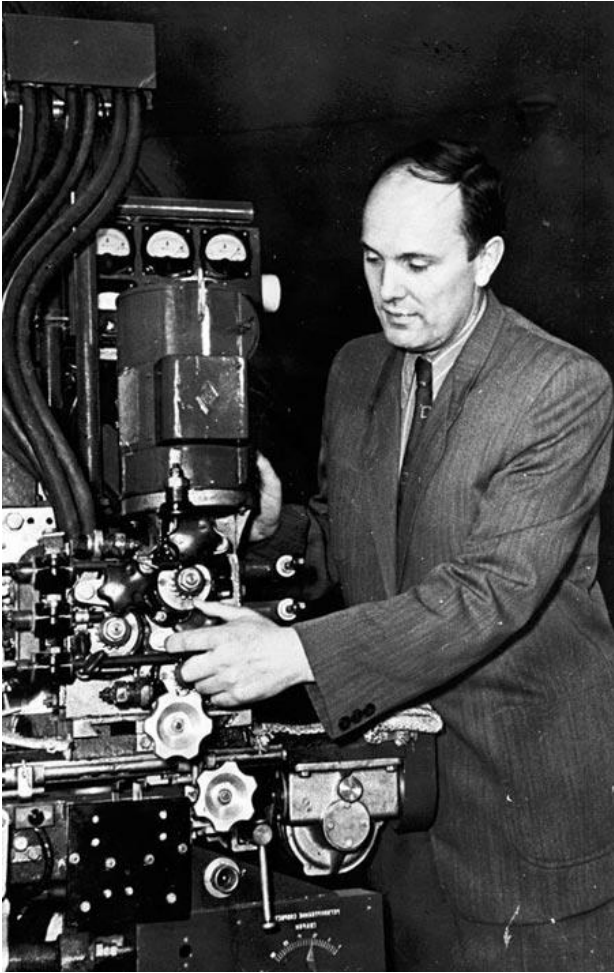
Borys Paton was an outstanding scientist in the field of welding, metallurgy and metals technology, an organizer of science, state and public figure. He served as the President of the National Academy of Sciences of Ukraine (since 1962) and International Association of Academies of Sciences (since 1993), the chairman of E.O. Paton Electric Welding Institute of the National Academy of Sciences, Ukraine (since 1953). B.E. Paton was the academician of NAS Ukraine (1958) and the foreign member of several other Academies of Sciences in a number of countries, the laureate of the Lenin (1957) and Stalin (State) Prizes (1950), the State Prize of Ukraine in Science and Technology (2004), Honoured Worker of Science and Technology of the Ukrainian SSR (1968), Hero of Socialist Labour, twice (1969, 1978), Hero of Ukraine (1998), IEEE Honorary Member (2020) "For lifetime achievements within IEEE technical fields of interest in the development of processes of electrometallurgy, materials science, electric welding of metals, and biological tissues".

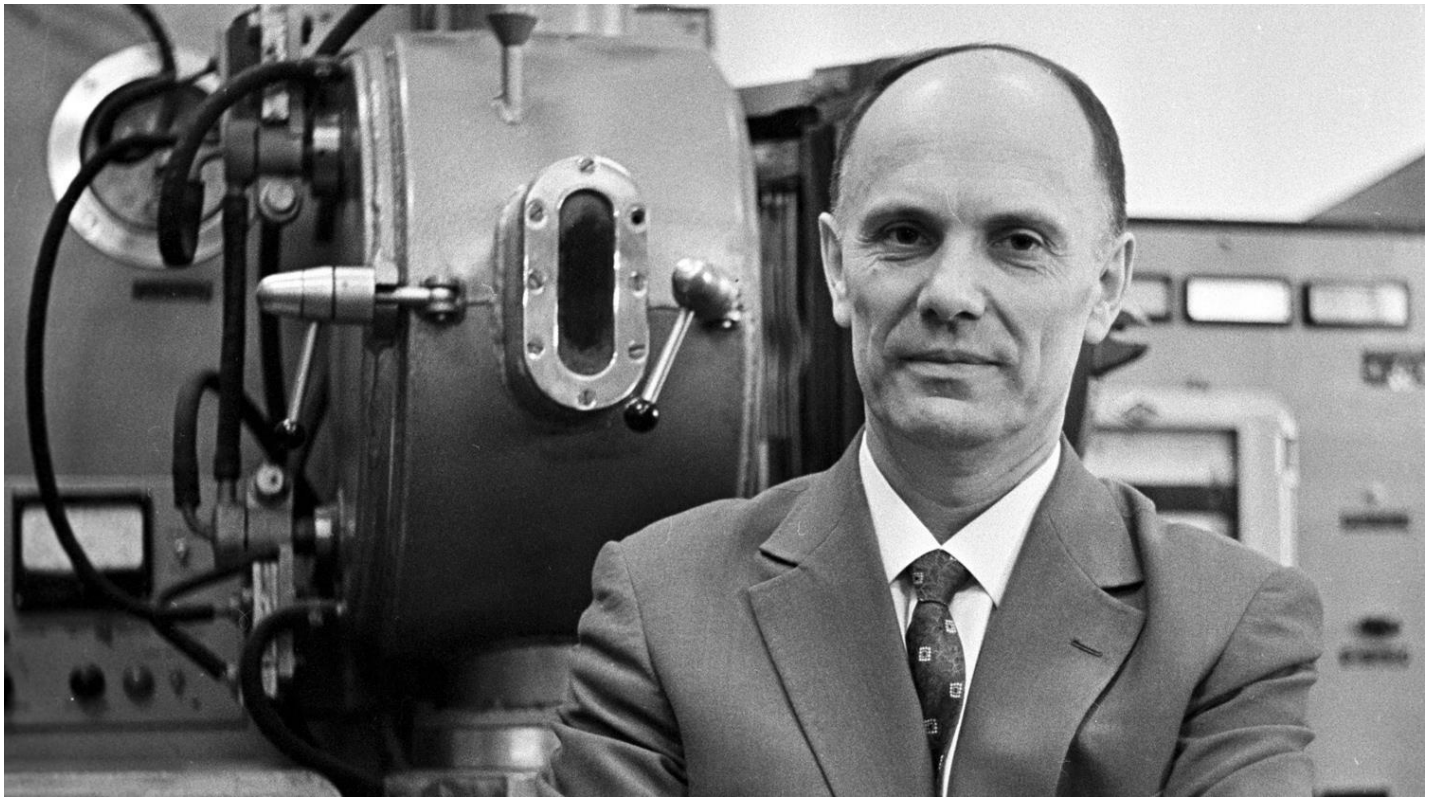
He was born on November 27, 1918 in Kiev in the family of E.O. Paton, the founder of the national metal welding school. In 1941, Borys Paton graduated from the Kyiv Industrial Institute (now the National Technical University of Ukraine "Kyiv Polytechnic Institute"). 1941-1942, he was assigned to electrotechnical laboratory of the plant "Krasnoe Sormovo" in Gorky (now Nizhniy Novgorod) and worked there as an engineer. Since 1942, his was connected with Electric Welding Institute, which was evacuated from Kyiv to Nizhny Tagil. Here he actively participated in development and implementation under extreme conditions in wartime of a legendary technological innovation – automatic armor welding of tank T-34. After the return of the Institute in Kyiv, Borys Yevhenovych defended in 1945 his thesis entitled "Analysis of the welding heads and methods of their supply under the flux welding" for a candidate of technical sciences degree (PhD analogue), and in 1952 – his doctoral thesis (habilitation analogue) "Investigation of burning stability conditions of the welding arc and its regulation". From 1953, he became the Director of Electric Welding Institute, which grew up into a powerful scientific and technical complex. Now it consists of Scientific Research Institute, design, engineering

and experimental departments, 3 pilot plants, and innovative organizations, scientific, engineering and certifying centers.

With countless pioneering achievements in electrometallurgy and materials science, Borys Paton has developed electric welding technologies that are widely used for performing complex operations in space, under water, and in other critical environments including medicine/surgery. His fundamental research into the interaction of welding heat sources with molten metal laid the foundation for a new avenue of metallurgy called special electrometallurgy, which has made possible the casting of super clean special steels and alloys, nonferrous metals, and unique composites. This work has opened prospects for creating advanced structural and functional materials for the 21st Century. Paton was among the first engineers to develop welding processes for space technologies, which were used by cosmonauts first in orbital flights and then in open outer space. He helped develop several devices for welding in space, including the Vulcan (1969), Zarnitsa (1974), and the Isparitel (1979). Paton led the development of electroslag welding in the early 1950s. This progressive method of joining metals has made it possible to fundamentally change the production and installation of large machines and structures, allowing the welding parts of practically unlimited thickness to the assembly site without subsequent machining. Paton has also applied advances in electric welding to medicine, providing a new direction in surgery with tissue-preserving welding and processing of live tissues. Now widely used in practical surgery, this method allows for a quick and almost bloodless cutting and joining of biological tissues. Wound healing after such operations is much quicker compared to conventional surgery, the duration of surgical procedures is considerably shorter, there is less hemorrhaging, and the postoperative rehabilitation of patients is quicker. The results demonstrated by Paton have spurred further development in this important technology for healthcare.









С космонавтами С. Савицкой и В. Джанибековым, 1984 г.

Ссылки

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http://ieee.org.ua/wp-content/uploads/2020/05/ieee_awards_2020.pdf (p.8)

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