

vided a pressure of 50 atmospheres, and was considered a very dangerous instrument.

Ipatieff, undaunted, built a tank with a pressure of 500 atmospheres and then used it to develop a revolutionary industrial process for hydrogenation. This is the method by which organic substances are changed by the injection of hydrogen.

One of his major discoveries—one vital to our war effort and tied in with the development of triptane—occurred when he took paraffins which had been regarded as “dead” or inert to chemical reaction and made them go to work. The product of this job was, in time, high-octane gas.

At a testimonial dinner to Professor Ipatieff on his 75th birthday, tendered by the American Institute of Chemists, Dr. Frank C. Whitmore, dean of Penn State's School of Chemistry, said: “The great triumph of modern internal combustion engines has been the work of thousands of different scientists and engineers. However, if one had to pick out one lone man who was more responsible than any other for our high-octane gasoline, one of our most important weapons in defense and offense, that one man is Ipatieff.”

Earlier in his career Professor Ipatieff had published a paper in which he established the constitution of isoprene, the so-called mother hydrocarbon of natural rubber. In 1928, as consultant for the Bavarian Nitrogen Works, he developed a process for turning phosphorus into phosphoric acid—an achievement of incalculable value to farmers using artificial fertilizer.

When the first World War broke out he was raised to the rank of a general and named director of Russia's chemical industries. He continued in the post after the revolution, building from scratch. Lenin and Trotsky often consulted with this man who had been a frequent guest at the palace of the Czar Nicholas. He was impelled to go on by love for his work and gratitude for the appreciation shown him by the Soviet authorities.

In 1930, Dr. Egloff, then director of research for Universal Oil Products Company, invited the eminent Russian to come to Chicago to organize a laboratory for the study of catalytic problems in the petroleum industry. A passport and a first-class passage were placed in Professor Ipatieff's hands before he had definitely made up his mind, and in 1930 he and his wife set out for the U. S.

Professor Ipatieff liked the United States. When Joseph Stalin asked him to return to Russia, in the belief that the



ITALIAN MIDGET—One of the tiny submarines of Italy's fleet is shown in this official U. S. Navy Photograph. Below the torpedo tubes fixed to the sides, the hull bulges out, making it look like a turnip from a bow-on view.

chemist had developed new formulas for explosives and poison gas, Ipatieff refused. Stalin insisted, once sending Alexander Troyanovsky, Russian Ambassador to the United States and a former pupil of Ipatieff's, to Chicago to persuade him to return.

At that time Ipatieff said: “I am not going back because I prefer American working conditions. I am getting on in years and when the weather is bad and I am feeling ill, I appreciate the privilege of staying away from my laboratory without resorting to a lot of unpleasant red tape to get official permission.”

Stalin's displeasure was definitely revealed in 1937 when at a dinner honoring Ipatieff's 70th birthday, given by the American Chemical Society and attended by scientific notables from every country in the world—one nation was not represented, Soviet Russia. A month later word came that he had been expelled from the Russian Academy of Sciences, that his citizenship had been taken away and his honors revoked.

Shortly afterward, his son and namesake, a professor of chemistry in Leningrad, publicly denounced his father for his refusal to come back to Russia, calling him “an enemy of the proletariat.”

Professor Ipatieff, not without a certain regret, became a citizen of the United States. He had wanted to revisit Russia, to see his children again. But he was

adamant in his love for freedom. When he took his examination for citizenship he was asked if he attended church. “Certainly,” he replied. “What church?” continued the judge. “Any church—this is a free country.” The examination came to an end right there.

Every country in the world has honored him. France gave him the Lavoisier medal for his work on high pressure. The University of Munich gave him an honorary doctorate, Russia the Lenin prize. In 1939 he was elected to the National Academy of Sciences in this country and a year later was named “Modern Pioneer” by the National Association of Manufacturers. That same year, the Willard Gibbs medal, most coveted of American prizes, was bestowed upon him by a committee of scientists.

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