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Chapter 15

Herman Potočnik Noordung: Slovenian Space Visionary^{*}

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Introduction

Slovenia, now an independent state, is proud that one of the fathers of early thinkers on the possibilities of the eventual realization of space exploration, crewed spaceflight, and even the space station—Herman Potočnik Noordung—was one of its important citizens. He contributed a lot with his theoretical and visionary thoughts, even to the present and rapidly developing field of astronautics and space exploration.

Born in 1892 in the now Croatian (Istrian) town of Pulj and educated in Maribor, the second largest city in Slovenia, he continued his education in Vienna and Berlin. In 1929 he published his only known and most important book titled *The Problem of Space Travel: The Rocket Motor* or in German *Das Problem der Befahrung des Weltraums, Der Raketen-Motor*. It was published in 1929 by Carl Schmidt and Company in Berlin. The book was published after Noordung's early death in 1929.

It is a pity that in the area of space research Potočnik is not known enough, even as it is clear that his visionary thinking contributed a lot to the development

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of the modern field of astronautics. For quite a long time his work has not been much known even in Slovenia. The reason for this was the use of his pseudonym, Hermann Noordung, and the different former political, scientific, and cultural climate in Slovenia.

With freedom of thinking, there are also interests and ideas that his important contributions could help place the name of Slovenia among those countries that had thinkers whose contribution to worldwide knowledge is something which should not to be forgotten.

Slovenian Space Visionary

Humans have been interested in space since ancient times. The Chinese were the first nation in the world to develop the solid fuel rocket and thus established a practical basis of rocket propulsion. Much later the interest in rocket propulsion was transferred to other continents, thus to other countries. Of course much time has passed between these first simple Chinese rockets and the serious consideration of space travel and of liquid fuel rockets. Obviously the development of science, technologies, industry, and the daring reflections of individuals were the facts that already in the early 1920s these people developed conceptions and ideas, which some time in the future might pave the way to rockets, crewed spaceflight, and permanent settlements and space stations.

One of these first visionaries was Herman Potočnik Noordung. He was born on 14 December 1892 in Pulj, Istria (present day Croatia); he died on 23 [27, editor] August 1929. He was born to a military family: his father was an Austrian military surgeon from the Slovenian town of Slovenj Gradec and his mother was from Maribor.

Recurrent remarks of Herman Potočnik Noordung being an Austrian engineer of Slovenian origin can be found in the literature. Obvious German influence was present from his mother's side of the family that resulted in the use of his German pseudonym, Noordung. His father Josef Potočnik, military surgeon, died in 1895 when Herman Potočnik was only two years old. His mother moved to Maribor where Potočnik attended a German elementary school. Finishing his elementary education, Noordung enrolled in the Austrian–Hungarian military school in Vienna, where he obtained an engineering degree and attained the rank of lieutenant. The next year he was sent to the front (First World War) as a railway and bridge specialist. He performed his duties in Galicia, Serbia, Bosnia (1915–1917), and finally at the Sonza and Piave front (1917–1918). Due to tu-

berculosis, he retired from the Army in 1919 with the rank of captain. He returned to Vienna after the war.

During his military service, his mother died in 1918. So Potočnik was left alone without parents (he never married). He devoted his life to studying mechanical engineering and earned his degree in 1922. Three years later he was awarded the title of engineer–specialist of rocket technique. During this period he lived with his brother, Adolf, in Vienna and devoted all his attention to space travels. The professional community considered him a dreamer; only a few took him seriously.

Potočnik's book, published in 1929 and titled *Das Problem der Befahrung des Weltraums, Der Raketen-Motor*, places him among the early pioneers of rocket technique and also among the pioneers in the area of geosynchronous satellites. The late scientist and physicist Dr. Lavo Čermelj was the first to mention a few facts about Herman Potočnik Noordung in the ex-Yugoslavia (and the Republic of Slovenia). In his book *To the Space on a Rocket* (66–68), Čermelj stressed briefly the main characteristics of Potočnik's ideas in conceptions.

In 1961 Slovenian engineer Vladimir Ribarič wrote (now for the second time in Slovenia and ex-Yugoslavia) about some new details on Potočnik's visionary work, ideas, and conceptions in his book titled *Objective Space* (278–79). In this book Ribarič published some of Potočnik's illustrations and drawings, unknown to the public until then.

There were no written records until 1969 when the daily newspaper *Delo* published (5 November 1969) an article titled “Countryman—Father of the Artificial Satellite” by journalist Aco Pasternjakt. Several other articles, but not essentially new, about Potočnik were published by the same author, and in other newspapers and magazines in the following years.

At the beginning of the 1980s the author of this article heard some hints that a person in Ljubljana possessed the original of Potočnik's book, “sitting on it,” intending to translate it into the Slovenian language and publish it. The years that followed showed that this person was an art historian and a professional journalist. Besides writing about culture and art, he also wrote about science. It is an interesting fact that this person has no aerospace education or even experience in this area of space studies. Finally, in 1986 Potočnik's book was published in the Slovenian language by a small publishing house Slovenska Matica, sponsored by the then well known Slovenian computer company, Iskra Delta.

The mentioned art historian is introduced in the book as editor and author of the commentary. The book in Slovenian is not subtitled with “Rocket Engine,” but bears the bare title *Problem of Space Travel*, which is not correct. In addition, the concluding remarks of the mentioned editor arbitrarily added material on

some Slovenian inventors, who supposedly dealt with aeronautics and rocket technology in the early 1920s of the 20th century. I believe that an edition of a translated work does not require additional materials with no direct connections to the original. The editor could have published a separate edition, which, of course, would be welcomed.

Let me add that in 1999 (the 70th anniversary of Herman Potočnik Noordung's death) the book was published again. This newer edition is practically a reprint of the mentioned edition with no new elements, additions, or corrections. The only visible change is the omission of the acknowledgment of the earlier mentioned computer company, as it went bankrupt.

Exploitation of Potočnik's Ideas?

As anywhere else, it also happens in this field that people appear who would like to benefit from an idea, even under pretext or with weak arguments. Potočnik was not an exception. There is an artist, actor, and theatre director in our country, who was inspired by Potočnik for some kind of (rather disputable) artistic and theatrical works, and especially for his self-advertising in some media. The mentioned artist has no aerospace education and no practical experience in this field. But he managed to produce artistic achievements within the frame of parabolic flights in Russia by means of talking to the media. He received the financial means for these doubtful artistic achievements, which would be more useful in other aerospace activities where Slovenia is far behind, such as space education with the International Space University (ISU).

Acknowledgment to Potočnik

At the 70th anniversary of Potočnik's death, 9–10 September 1999, an International Scientific Symposium on Herman Potočnik Noordung was organized by the University of Maribor. It was the first scientific and space symposium in the independent Republic of Slovenia. Several participants from Slovenia, Austria, the United States, and Russia attended the symposium and presented several papers, reflecting on Potočnik and space exploration in general. A bust of Potočnik was unveiled at the university. The participants expressed their wishes that the symposium would become a recurring event (annual or at least biennial). I hope this wish will come true in the future.

Potočnik's Fund: A Greater Acknowledgment to Potočnik

This year the Slovenian Science Foundation initiated the foundation of Potočnik's Fund that would provide financial support or scholarships to students of natural sciences, in addition to Slovenian astronautical and rocket experts for their participation at international meetings, conferences, and congresses. Slovenian scientists working for NASA and the author of this article, who is connected to the ISU, take part in the work of this fund. It is expected that the fund may start to operate regularly and to distribute funding beginning in the year 2000.

Final Remarks

Herman Potočnik Noordung has, after long years of neglect and restriction in addition to speculation and exploitation by the media, finally acquired an appropriate and more respectful place in modern Slovenian society. I believe that he will become more important in Slovenia and the world. He is not known well enough in the world. His large contribution to the initial steps of the development of astronautics and the exploration of space and its research are barely known.

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