Professor Radmilo Pešić

Kosta Stojanović
1867-1921

Kosta Stojanović was born on October 2, 1867 in Aleksinac, a small town in Central Serbia. His parents, a mother Stojana and a father Trifun Trpković[1], originally came from the village Malovište, near Bitolj. He attended an elementary school and a lower grammar school in his native town. In 1885, he, as one of the best students, passed the final Grammar School exam in the city of Niš. In the same year, he entered studies on the Department of Sciences and Mathematics, at the Faculty of Philosophy in Belgrade. He graduated in 1889, as the best student in his class. Immediately after that, he became a graduate–assistant in Physics. In May 1890 he passed a teachers' exam, and offered his service to the Ministry of Education.

Soon after that he started career as a teacher of mathematics in the Niš Grammar School. He remained the position until 1898, when he moved to Belgrade, to the Second boys' Grammar School.

After a number of unsuccessful attempts, Stojanović finally succeeded in obtaining a one year grant for scientific training on the Ecole Normale Supérieure. In June 1893 he went to Paris, where he had an opportunity to attend classes in mathematics, astronomy, mechanics and physics, and the lectures given by the internationally well known professors Poincaré, Picard, Apelle, Königs and Lippmann. He was particularly impressed by the lectures of Charles Hermite. During stay in Paris, Stojanović became more acquainted with the views of the nineteenth century French Mechanicism. He was influenced by the concept of a unity between diverse phenomena in the nature and in the society. Such a philosophical background inspired Stojanović for accomplishments in the field of mathematical phenomenology. His most important accomplishment was an attempt to create analogy between thermodynamics and economics, given in the book The Foundations of Economic Value Theory [2].

During stay in Paris he become a member of the French History Society and the French Astronomy Society, revealing both sides of his intellectual interest, for the science and for the society.

In attempt to take a doctoral degree, Stojanović went to Leipzig, in 1897. However, three month later he returned home with no results, disappointed and ill.

At the beginning of 1900 he became a Parliament member, representing the Niš district. That was the beginning of political career, that will end by his life.

In 1903, owing to the professional qualities and efforts, Stojanović became a honorary professor at the Graduate School in Belgrade, jointly with Jovan Žujović and Miloje Vasić. Later on both of them became internationally recognized, in their own fields of science, Žujović as an geologist, and Vasić as an archeologist. Immediately after transforming the Graduate School into the University of Belgrade, Stojanović became an Associate Professor of Applied Mathematics. He put lots of effort on the new job, trying to upgrade his teaching, and making it comparable to the European standards.

Regretfully, his University career ended abruptly. After he had become a Minister of Economy in April 1906, he turned to some other problems. He entered the post during hard times of economic conflict between Belgrade and Vienna. It is worth pointing out that he played a crucial role in the Serbian victory of the conflict. He initiated successfully not only shifts in the Serbian export policy, but advocated, according to his theoretical views, the profound structural changes of the economy. During early days of scientific career in Niš, in 1902, he published an article About Serbian Imports and Exports – analyzed by the new mathematical method [3]. That was the first mathematical economics paper written Serbian. By using mathematics Stojanović, tried to estimate the amount of lost benefit in the international trade. His theoretical approach was similar to the opportunity cost concept.

During his first mandate, as Economy Minister, Stojanović tried not to neglect his scientific opus. He tried to apply mathematics in politics. In 1906, jointly with Mihajlo Petrović, he tried to offer an optimal system for the 1907 parliamentary elections. The results of effort were published in journal "Delo"[4]. That was the only paper they published jointly.

Form 1906 to 1908 he focused on economic problems, preparing his most important text The Foundations of Economic Value Theory . Forming views in the same intellectual environment with Mihajlo Petrović, Stojanović was oriented to the mathematical phenomenology inquiries. He tried to find a common analogy core in mechanisms of heterogeneous phenomena. In contrast to Mihajlo Petrović, who covered a much broader field of analogies, between a variety of phenomena in the nature and society, intending to create a "generalized mechanics of

phenomena", Stojanović tried to analyze an analogy between thermodynamics and economics. The obtained results made him a precedent to cybernetics application in economics. By introducing the entropy law in economics, he anticipated one of the modern concepts in economic and social theory.

After ending the mandate, Kosta Stojanović prepared a book <u>An Interpretation of Physical and Social Phenomena</u>[6]. It was a typical nineteenth century text, in which he tried to explain points from <u>The Foundations of Economic Value Theory</u> , in order to make them more accessible to the broader publicity.

It was favorable for the scientific development in Serbia, that in 1909, an internationally recognized engineer and scientist Milutin Milanković took position of Kosta Stojanović at the University.

At the beginning of the First World War Kosta Stojanović, and his family were in Belgrade. He was a Parliament member. As a person with the international reputation, and a former University Professor, Stojanović was involved in political activities of the Serbian government. In Spring 1915, we went to Rome, intending to use influential political links, with an aim to promote Serbian war objectives. During war, most of the time he spent with his family in Nice, France, actively supporting Serbia's struggle. He published dozens of articles in French British and American Journals. During 1917 and 1918 he worked on national wealth estimations, trying to calculate the amount of war damages in Serbia. His results were used in the course Peace conference, in Paris 1919, for determining the Serbian war reparations,.

Stojanović was a delegate on the Peace Conference, and a representative of the newly formed Kingdom of Serbs, Croats and Slovenians. During stay in Paris, he worked on a book about his former professor, a prestigious French mathematician, Anri Poincaré. Unfortunately he did not finished it.

In 1919 Kosta Stojanović became a Minster of Agriculture, and in 1920 a Finance Minister. He tried to cope with a complexity of economic and social problems of the new state. However, he was not so successful, as he once had been. Disappointed and exhausted, he died suddenly, on January 3, 1921.

Regretfully, Stojanović did not enter the Serbian Academy of Science. Although, during 1919, the Academy President, Jovan Žujović, put forward a proposal for Stojanović to be elected,

jointly with a group of French mathematicians, Aple, Lacroix and Painlevé, he died before the elections.

In September 1922, a collection of his scientific papers was published posthumously. In the book Treatise and Articles in Science and Philosophy[7] a group of ten papers, he worked on during his last days, were collected. Some of them had been published before, others were new, showing his firm intention to stay acquainted with the scientific highlights. This collection of articles, jointly with the textbook Mechanics[8], offers a good starting point for an inquiry of Kosta Stojanović's scientific work. Regretfully, his scientific texts, same as works in economics, were forgotten immediately after his death.

---

[1] Family name Stojanović originally came from Kosta Stojanović's grandfather Stojan. According to the tradition of Slavonic tribes, situated in the Central and Southern Balkan, the second name, was derived from grandfather's first name (a personal communication with Radmilo Stojanović, a son of Kosta Stojanović).

[2] Stojanović, Kosta Osnovi teorije ekonomskih vrednosti. SKA Beograd, 1910.

[3] Stojanović, prof. Kosta O uvozu i izvozu Srbije – pitanje tretirano novim metodom matematičkim. Beograd, 1902.

[4] Petrović, Mihailo; Stojanović Kosta Predstavnički sistem izborni. Delo, 39 (1906) str. 36–84.

[6] Stojanović, Kosta Tumačenje fizičkih i socijalnih pojava, Beograd, 1910.

[7] Stojanović, Kosta Rasprave i članci iz nauke i filosofije (sv. I), Beograd, 1922.

[8] Stojanović, Kosta Mehanika. Beograd, 1912.